Burroughs

B 6700

P NOTES/D NOTES

MERGED DOCUMENTATION

(RELATIVE TO MARK II.7 RELEASE)

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TABLE OF CONTENTS

TABLE OF CONTENTS (Cont)

TABLE OF CONTENTS (Cont)

TABLE OF CONTENTS (Cont)

TABLE OF CONTENTS (Cont)

TABLE OF CONTENTS (Cont)

SOFTWARE IMPROVEMENTS

ALGOL

P3347 ALGOL - POINTER EXPRESSION - 12-11-74

CORRECT CODE IS NOW GENERATED FOR P:A[0]. PREVIOUSLY, A[0] WAS NOT CONSIDERED TO BE A POINTER EXPRESSION.

P3461 ALGOL - ON STATEMENT - 03-28-74

THE ALGOL COMPILER NOW EMITS CORRECT CODE FOR THE ON STATEMENT, IN PARTICULAR FOR THE CASE WHERE THE LAST STATEMENT OF THE ON STATEMENT BLOCK (COLON CASE) IS A "GO TO" TO THE FIRST STATEMENT AFTER THE ON STATEMENT BLOCK. FOR EXAMPLE, ON ANYFAULT: BEGIN ... GO TO L END; L: ; NOW COMPILES CORRECTLY.

P3462 ALGOL - BCL TITLES FLAGGED - 03-28-74

THE ALGOL COMPILER NOW RECOGNIZES IF THE TITLE ASSIGNED TO A FILE IS IN BCL; IF SO THE COMPILER EMITS A WARNING TO THE USER INDICATING THAT THE TITLE MUST BE AN EBCDIC STRING.

P3463 ALGOL - ENTIER OPTIMIZED - 03-28-74

THE ENTIER FUNCTION NO LONGER EMITS AN UNNECESSARY XTND OPERATOR.

P3464 ALGOL - ALGOL ERROR CLEANUP - 03-28-74

THE WORDING OF SOME IPC ORIENTED ERROR MESSAGES HAS BEEN MODIFIED TO MAKE THEM CLEARER.

P3465 ALGOL - ALGOL CORE ESTIMATE - 03-28-74

THIS CHANGE CORRECTS A PROBLEM IN WHICH ALGOL CORE ESTIMATES FOR FILES WITH ONE BUFFER DECLARED EXPLICITLY WERE BEING TREATED AS IF THEY HAD TWO, RESULTING IN CORE ESTIMATES THAT WERE TOO LARGE IN SOME INSTANCES.

SOFTWARE IMPROVEMENTS

P3625 ALGOL - REPLACE BINDING OF VALUE ARRAY - 04-18-74

LOCAL VALUE ARRAYS, TRUTHSETS AND TRANSLATETABLES TAKE UP D1 (AND D0) STACK SPACE. WHEN THE PROCEDURE WAS REPLACED BY BINDING, THE STACK CELLS WERE NOT RE-USED.

P3629 ALGOL - SEPCOMP FACILITY - 04-18-74

WHEN COMPILING AGAINST A HOST HAVING SEVERAL ADDITIONAL ENVIRONMENTS, UNDER CERTAIN CIRCUMSTANCES PATCHES TO MULTIPLE PROCEDURES IN ENVIRONMENTS OF DIFFERENT LEX LEVELS PREVENTED THE "SEPCOMP" FACILITY FROM COMPILING ALL PROCEDURES CHANGES AT THE HIGHEST POSSIBLE LEX LEVEL.

P3630 ALGOL - CONSTANT PARAMETER FOR-LISTS - 05-12-74

PERMITS FOR LISTS WITH ONE ELEMENT CONTAINING ALL CONSTANTS TO EMIT STEP-AND-BRANCH OPERATOR UNLESS THE OPTION "MODEL I" IS COMPILED INTO ALGOL.

P3631 ALGOL - RESERVED WORD SYNTAXING - 04-18-74

THIS PATCH CORRECTS MISLEADING ERROR MESSAGES GIVEN WHEN RESERVED WORDS APPEARED INCORRECTLY IN DECLARATION STATEMENTS AS POTENTIAL VARIABLES.

P3632 ALGOL - ARRAY ID AS POINTER PRIMARY - 04-18-74

AN ARRAY ID, WHEN USED AS A POINTER PRIMARY, COULD IN SOME INSTANCES RESULT IN AN INVALID OP INTERRUPT WHEN THE ARRAY REFERRED TO WAS SEGMENTED. THE ARRAY IS NOW INDEXED; HOWEVER, AT THE REQUEST OF DATAMANAGEMENT, THIS CHANGE IS NOT DONE IN DMALGOL.

P3633 ALGOL - INCORRECT CONSTANT EVALUATION - 04-18-74

THIS PATCH CORRECTS INCORRECT CONSTANT TRUTHSET MEMBERSHIP TESTS WHEN "BCL" OR "ASCII" WAS SET.

SOFTWARE IMPROVEMENTS

P3634 ALGOL - DIRECT I-O SYNTAXING - 04-18-74

THIS PATCH ADDS A SYNTAX ERROR WHEN DIRECT I-O TO A SUBSCRIPTED VARIABLE IS ATTEMPTED.

P3635 ALGOL - MISUSE OF STATION ATTRIBUTES - 04-18-74

THIS PATCH IMPLEMENTS A SYNTAX ERROR MESSAGE IF AN ATTEMPT TO USE THE DATACOM STATION ATTRIBUTES WIDTH, TRANSMISSIONO, SCREEN, ASSIGNTIME, OR DISPOSITION AS FILE ATTRIBUTES IS ATTEMPTED.

P3636 ALGOL - DBLE PRECISION VALUE AS INDEX - 04-18-74

THIS PATCH IS AN INTERIM PATCH TO DETOUR THE HARDWARE INVALID OP INTERRUPT THAT CAN OCCUR WHEN A DOUBLE PRECISION EXPRESSION IS USED TO SUBSCRIPT AN ARRAY.

P3637 ALGOL - INCORRECT RESIZE - 04-18-74

THIS PATCH CORRECTS A SEGMENT ARRAY ERROR WHEN COMPILING LARGE PROGRAMS.

P3712 ALGOL - MAIN PROGRAM FOLLOWING GLOBALS - 05-12-74

A PROGRAM WHICH BEGINS WITH GLOBAL DECLARATIONS MUST BE AN INTRINSIC OR SEPARATE COMPILATION. THIS CHANGE GIVES A SYNTAX ERROR IF THERE IS A "BEGIN" IMMEDIATELY FOLLOWING GLOBAL DECLARATIONS (EXCEPT FOR INITIATION OF A BATCH COMPILE).

P3713 ALGOL - BEGIN-END COUNT IN VECTORMODE - 05-12-74

THIS PATCH CORRECTS BEGIN-END COUNTS THAT WERE BEING PRINTED INCORRECTLY IN LISTINGS CONTAINING VECTORMORE BLOCKS.

P3714 ALGOL - INCLUDE FILES ON TAPE - 05-30-74

THIS PATCH CORRECTS IMPROPER HANDLING OF FILES RESIDING ON TAPE.

SOFTWARE IMPROVEMENTS

P3715 ALGOL - AREACLASS DOLLAR OPTION - 05-30-74

THIS PATCH PREVENTS FILE ATTRIBUTE ERROR #82 FROM OCCURRING POSSIBLY UP TO 40 TIMES IF THE AREACLASS DOLLAR CARD OPTION WAS USED.

P3716 ALGOL - COMPILER HANDLING BIG SEGMENTS - 05-30-74

ON VERY LARGE SEGMENTS, AN INVALID INDEX IN THE OBJECT-CODE ARRAY COULD OCCUR. THIS PATCH REDUCES THE LIKELIHOOD OF SUCH PROBLEMS.

P3717 ALGOL - QUOTES CONTAINED IN PICTURES - 05-30-74

ALGOL STRING SYNTAX WAS NOT BEING FOLLOWED FOR STRINGS IN PICTURES. THIS PATCH NOW ENFORCES THE RULES THAT IF THE CHARACTER FOLLOWING A QUOTE IS ALSO A QUOTE, IT IS INTENDED TO BE THE FIRST CHARACTER OF THE STRING. QUOTES ELSEWHERE ARE TERMINATORS OF THAT STRING. SEVERAL STRINGS MAY BE CONCATENATED, BUT THE MAXIMUM LENGTH OF ONE STRING IS USUALLY 255 CHARACTERS (OCCASIONALLY, UP TO 510 CHARACTERS WILL NOT GENERATE AN ERROR).

P3719 ALGOL - INTRINSIC OPTIMIZATION - 05-20-74

THE ALGOL COMPILER NOW CHECKS IF CALLS ON EITHER USER OR STANDARD INTRINSICS HAVE CALL BY NAME PARAMETERS. IF SO, THE COMPILER WILL NOT ATTEMPT TO OPTIMIZE THESE CALLS OUT OF EXISTENCE AS THIS TYPE OF CALL MAY CAUSE SIDE EFFECTS.

P3794 ALGOL - DEGENERATE IF STATEMENTS - 07-07-74

BAD CODE WAS BEING EMITTED BY THE ALGOL COMPILER FOR <IF STATEMENTS> WHICH COULD BE OPTIMIZED OUT OF EXISTENCE. THESE <IF STATEMENTS> TESTED IN THE <IF CLAUSE> THE SAME VARIABLE THAT APPEARED IN AN ASSIGNMENT, STATEMENT IMMEDIATELY PRECEDING THE <IF STATEMENTS>. FOR EXAMPLE THE STATEMENT PAIR : B:=TRUE; IF B THEN; NOW COMPILES CORRECTLY.

SOFTWARE IMPROVEMENTS

P3795 ALGOL - LOADINFO PROBLEM - 07-07-74

IN SOME RARE INSTANCES, LOADINFO COULD PUT INCORRECT ADDRESS COUPLES ON GLOBAL DATA.

P3796 ALGOL - LARGE ARRAY LOWER BOUNDS - 07-07-74

ARRAY LOWER BOUNDS LARGER THAN 2**18-1 = 262143 WERE BEING CALCULATED INCORRECTLY.

P3892 ALGOL - LOOPS IN LARGE SEGMENTS - 05-30-74

THIS PATCH CORRECTS A PROBLEM IN WHICH IN VERY LARGE SEGMENTS, LABEL FIX-UP CODE COULD CAUSE THE COMPILER TO GO INTO A LOOP OR BAD CODE TO BE EMITTED.

P3893 ALGOL - POINTER VARIABLE REPLACEMENT - 05-30-74

THE ALGOL COMPILER NOW CORRESPONDS WITH ITS DOCUMENTATION AS <VARIABLE>:= * + <EXPRESSION> COMPILES CORRECTLY WHEN <VARIABLE> IS A <POINTER IDENTIFIER>.

P3894 ALGOL - INVALID OP INVALIDATED - 05-30-74

THIS PATCH PREVENTS THE ALGOL COMPILER FROM SUFFERING AN INVALID OPERATOR WHEN COMPILING THE SYNTACTICALLY INCORRECT STATEMENT REPLACE P BY 48"0" WHERE P IS A POINTER. THIS PATCH ALSO PREVENTS A DIVIDE BY ZERO WHEN COMPILING REPLACE P BY 36"" FOR 36.

P3896 ALGOL - COMPILE-TIME DEFINES - 07-07-74

THIS PATCH CORRECTS A PROBLEM IN PARAMETRIC DEFINES OF THE FORM "DEFINE D(X):= ... " IN WHICH THE PARAMETER WAS NOT HANDLED PROPERLY.

P3897 ALGOL - ARRAYS MADE 8-BIT POINTERS - 05-30-74

THE ALGOL COMPILER NOW PASSES TO THE MCP AN 8-BIT POINTER RATHER THAN A WORD POINTER FOR THE STATEMENT

SOFTWARE IMPROVEMENTS

REPLACE A BY FILE.TITLE;

WHERE A IS AN ARRAY DECLARED [0:50]. THIS IS DONE AS THE HARDWARE EXPECTS A CHARACTER POINTER RATHER THAN A WORD POINTER.

P3898 ALGOL - OPTION WORD FOR INTERFACE - 07-07-74

THIS PATCH CAUSES THE OPTION WORD OF THE COMPILATION TO BE ASSIGNED TO DATABASE/INTERFACE, SO THAT THE USER MAY CONTROL PROGRAM DUMPS IN THAT STACK.

P3899 ALGOL - RESIZE INSTACK ARRAYS - 05-30-74

THIS PATCH PERMITS RESIZING AND DEALLOCATION OF ARRAYS ALLOCATED IN THE STACK FOR THE B7700.

P3900 ALGOL - B7700 CODE IMPROVEMENTS - 05-30-74

THIS PATCH IMPROVES CODE FOR THE B7700 AND HAS NO IMPACT ON B6700 CODE.

P3901 ALGOL - FOR STATEMENT OPTIMIZATION - 05-30-74

THIS PATCH OPTIMIZES THE FOR STATEMENT FOR THE CASE OF THE UPPER BOUND BEING AN <ARITHMETIC EXPRESSION>, I.E., FOR <SIMPLE VARIABLE>:= <ARITHMETIC EXPRESSION> STEP <ARITHMETIC EXPRESSION> UNTIL <ARITHMETIC EXPRESSION> DO ....

P3902 ALGOL - IMPROVE POINTER FUNCTION - 05-30-74

THE FOLLOWING CLASS OF POINTER EXPRESSIONS IS OPTIMIZED BY COMBINING SKIP PART AND SUBSCRIPT:

POINTER (ARRAYREF,SZ)+SKP

WHERE SZ AND SKP ARE SIMPLE CONSTANTS.

P3903 ALGOL - CORRECT RESCAN ERROR - 05-30-74

THIS PATCH CORRECTS A PROBLEM IN WHICH CERTAIN EXPRESSIONS COULD

NOT BE PROPERLY COMPILED DURING A RESCAN OPERATION, SUCH AS TASK ATTRIBUTES.

P3904 ALGOL - COMPILER INCORRECT TERMINATION - 05-30-74

THIS PATCH CORRECTS A PROBLEM IN WHICH THE ALGOL COMPILER COULD INCORRECTLY TERMINATE WITH A SEGMENTED ARRAY ERROR WHEN A COMPILATION HAD OVER 256 WORDS OF WFL INFORMATION ASSOCIATED WITH IT.

P3905 ALGOL - FIRSTWORD, SECONDWORD CODE - 05-30-74

THE CODE FOR THE INTRINSIC FUNCTIONS, FIRSTWORD AND SECONDWORD CONTAINED AN UNNECESSARY OPERATOR, XTND, WHICH IS NOW NO LONGER EMITTED BY THE ALGOL OR ESPOL COMPILERS.

P3907 ALGOL - SEPCOMP OF LARGE PROGRAMS - 05-30-74

THIS PATCH ALLOWS LARGE PROGRAMS TO BE SEPCOMPED BY ELIMINATING A TEST FOR THE MAXIMUM DISPLACEMENT AT A GIVEN LEXICOGRAPHICAL LEVEL WHICH IS IRRELEVANT FOR SEPCOMP.

P3908 ALGOL - FILE ATTRIBUTE ASSIGNMENT - 11-10-74

WHEN ASSIGNING A VALUE TO A FILE ATTRIBUTE IN AN ASSIGNMENT STATEMENT USING AN ASTERISK ON THE RIGHT HAND SIDE WITH AN ARITHMETIC EXPRESSION, BAD CODE IS NO LONGER GENERATED.

P3909 ALGOL - SEG ARRAY IN LIBRARY FILES - 07-07-74

THIS PATCH CORRECTS A PROBLEM IN WHICH THE ALGOL COMPILER COULD TERMINATE ABNORMALLY WITH A SEGMENTED ARRAY ERROR FOR LARGE LIBRARY FILES.

P3910 ALGOL - $ MAKEHOST - 07-07-74

THIS CHANGE WILL PREVENT DUPLICATING THE $MAKEHOST TO NEWTAPE IF THE $ APPEARS IN CARD COLUMN THREE OR GREATER.

SOFTWARE IMPROVEMENTS

P3911 ALGOL - LINEINFO W SEPARATE COMPILES - 07-07-74

THIS CHANGE CORRECTS A PROBLEM IN WHICH IN SOME RELATIVELY RARE INSTANCES, SETTING LINEINFO FOR SEPARATE COMPILATIONS COULD CAUSE AN ERRONEOUS FILE ATTRIBUTE ERROR #0.

P3915 ALGOL - COMPILER ABNORMAL TERMINATION - 08-04-74

THIS CHANGE CORRECTS A PROBLEM IN WHICH IN SOME INSTANCES INVOLVING VERY LARGE COMPILATIONS THE COMPILER WOULD TERMINATE ABNORMALLY WITH AN INVALID INDEX.

P3916 ALGOL - SYMBOLIC FILE AND ERROR LIMIT - 08-04-74

THE ALGOL COMPILER NOW DOES NOT LOCK A NEW SYMBOLIC FILE IF DURING THE COMPILATION THE COMPILER ERROR LIMIT IS EXCEEDED. THIS IS DONE SINCE THE NEW SYMBOLIC FILE AT THE TIME OF THE ABORTED COMPILE IS ONLY PARTIALLY COMPLETE.

P3917 ALGOL - DIRECT OWN ARRAYS CORRECTED - 08-04-74

THE ALGOL COMPILER NOW AGREES WITH THE ALGOL MANUAL BY CORRECTLY COMPILING DIRECT OWN ARRAYS.

P3918 ALGOL - SCALELEFT FIX - 08-04-74

THE ARITHMETIC INTRINSICS SCALELEFT AND DSCALELEFT NOW WORK AS DESCRIBED IN THE ALGOL MANUAL.

P4038 ALGOL - COMPLEX SELECTION EXPRESSIONS - 09-16-74

THIS PATCH CORRECTS AN ERROR WHICH CAUSED THE COMPILER TO TERMINATE WITH INVALID INDEX WHEN COMPILING A COMPLEX EXPRESSION WHEN THE KEY ITEMS WERE FIELDS.

P4049 ALGOL - $ PAGE INHIBITED IF VOIDING - 09-16-74

IF THE DOLLAR OPTION VOID OR VOIDT IS SET, THE DOLLAR OPTION PAGE WILL BE IGNORED.

SOFTWARE IMPROVEMENTS

P4110 ALGOL - ERRONEOUS SYNTAX ERROR - 08-04-74

THIS PATCH CORRECTS A PROBLEM WHEREIN THE COMPILER WAS GIVING AN INCORRECT SYNTAX ERROR FOR RELATIONALS BEGINNING WITH VALUE CLAUSES.

P4111 ALGOL - $SET MERGE AFTER POP - 11-17-74

WHEN A TAPE AND CARD FILE WERE MERGED, ONE CARD FROM THE TAPE FILE WAS OMITTED. WHEN MERGE WAS SET THE SECOND TIME, AFTER HAVING BEEN POPPED ONCE, THE NEXT CARD FROM THE TAPE FILE WAS OMITTED. THIS PATCH CORRECTS THE PROBLEM.

P4113 ALGOL - ASSIGNMENT OPERATOR - 08-11-74

THIS PATCH CORRECTS THE INTERNAL PROCESSING OF THE ASSIGNMENT OPERATOR FOLLOWED BY AN ASTERISK (:=*). THERE ARE SEVERAL CASES WHERE THE ASTERISK, IF USED, WAS COMPLETELY IGNORED. NOW IT IS NEVER IGNORED; IF IT IS VALID,IT WILL BE ACCEPTED; OTHERWISE, A SYNTAX ERROR WILL RESULT.

P4115 ALGOL - QUESTION MARK IN STRINGS - 08-11-74

THIS PATCH CORRECTS AN ERROR WHICH CAUSED A SYNTAX ERROR WHEN A STRING CONTAINING A QUESTION MARK WAS ENCOUNTERED BY THE COMPILE-TIME PROCESSOR WHILE SKIPPING.

P4116 ALGOL - BATCH COMPILER FIX - 08-11-74

THIS PATCH FIXES SEVERAL PROBLEMS ASSOCIATED WITH THE BATCH COMPILER.

1. SETTING LIMITS FOR IOTIME OR PROCESSTIME BY DOLLARCARD STATEMENTS OF THE FORM $ PROCESSTIME = 2, NOW COMPILE CORRECTLY.

2. FILES NOW MAY BE DECLARED IN ANY ORDER AND WILL COMPILE CORRECTLY.

3. THE BATCH COMPILER NOW DETECTS IF A BATCH PROGRAM IS MISSING

AND PREVENTS A SUPERHALT.

4. THE VALUE PRINTED FOR THE BATCH PROGRAMS RUN TIME IS NOW CORRECT.

P4117 ALGOL - XREFANALYZER FIX - 08-11-74

THE ALGOL COMPILER NOW PASSES THE CORRECT TIME TO SYSTEM/XREFANALYZER WHEN IT INITIATES AN XREF VIA $ SET XREF.

P4118 ALGOL - ECOLOGICAL PRESERVATION - 08-11-74

THIS PATCH PREVENTS THE UNNECESSARY EJECTION OF PAPER WHEN COMPILING A SEPARATE PROGRAM WITH BRACKED GLOBAL DECLARATIONS, I.E., <GLOBAL DECLARATIONS> .

P4119 ALGOL - REMOVEFILE, CHANGEFILE - 08-11-74

THIS PATCH ALLOWS A <POINTER FUNCTION DESIGNATOR> TO BE USED AS A PARAMETER TO CHANGEFILE OR REMOVEFILE. FOR EXAMPLE: THE STATEMENT CHANGEFILE(POINTER (A),POINTER(B)) NOW COMPILES CORRECTLY.

P4141 ALGOL - DMSII SELECTION EXPRESSION - 11-17-74

THIS PATCH CORRECTS A BUG IN COMPILING SELECTION EXPRESSIONS. AN INCORRECT SYNTAX ERROR WAS PRODUCED IF THE SELECTION EXPRESSION ENDED WITH N=P:RSLT, WHERE N IS A NUMERIC KEY ITEM, P IS A POINTER, AND RSLT IS THE VARIABLE TO BE ASSIGNED THE DM RESULT.

P4169 ALGOL - INFO FILE - 09-16-74

THIS CHANGE PREVENTS ANY ONE EXCEPT A COMPILER FROM WRITING ON AN "INFO" FILE.

P4170 ALGOL - NEW SYMBOLIC TO DISKPACK - 09-16-74

THIS PATCH ALLOWS THE NEW SYMBOLIC FILE CREATED BY ALGOL COMPILER TO BE PLACED ON DISKPACK WITH THE FILE ATTRIBUTE FILEKIND SET TO ALGOLSYMBOL.

SOFTWARE IMPROVEMENTS

P4213 ALGOL - $ STATISTICS - 10-15-74

TWO PROBLEMS WITH STATISTICS HAVE BEEN CORRECTED.

1. SETTING STATISTICS WHEN COMPILING A LARGE PROGRAM WITH MANY PROCEDURES TO TIME NO LONGER PRODUCES AN INVALID OP.

2. TIMING NOW WORKS CORRECTLY (I.E., NO DUPLICATE TIMINGS) WHEN TIMING PROGRAMS CONTAINING CO-ROUTINES.

P4360 ALGOL - REMOVEFILE, CHANGEFILE - 10-15-74

INTRINSICS ARE NOW ABLE TO MAKE CALLS ON THE REMOVEFILE OR CHANGEFILE INTRINSICS.

P4373 ALGOL - OMITTED CARD COUNT - 10-15-74

THE ALGOL COMPILER-S TRAILER NOW INCLUDES THE NUMBER OF OMITTED CARD IMAGES ENCOUNTERED DURING THE COMPILE (IF THE NUMBER OF THESE CARDS IS GREATER THAN ZERO).

P4391 ALGOL - USERDATA STATEMENT - 10-20-74

THE USERDATA STATEMENT WILL NOW ACCEPT A VALUE ARRAY AS ITS LAST PARAMETER.

P4876 ALGOL - TRANSLATETABLE FIX - 10-20-74

THIS PATCH ALLOWS ASCII TRANSLATETABLE DECLARATIONS TO COMPILE CORRECTLY. FOR EXAMPLE, THE DECLARATION TRANSLATETABLE X(ASCII TO 6".", 7"ABC" TO 6"ABC"); NOW COMPILES WITHOUT A SYNTAX ERROR.

P5091 ALGOL - COPYRIGHT II.7 - 11-30-74

THE COPYRIGHT INFORMATION HAS BEEN UPDATED FOR 1975.

ALGOL

D0755 ALGOL - FLEXIBLE NEWSYMBOLIC - 11-03-74

THIS FEATURE WILL ALLOW THE FILE SIZE TO EXPAND TO ANY SIZE NECESSARY THEREBY INCREASING SEGMENTS WHEN REQUIRED.

D0766 ALGOL - EXPANDED CASE STATEMENT - 04-18-74

THIS NOTE CHANGES THE SYNTAX FOR <NUMBERED STATEMENT GROUP> ON PAGE 16 OF DNOTE D0441. IT ALSO REPLACES THE SECOND PARAGRAPH ON PAGE 17 OF DNOTE D0441.

THE NEW SYNTAX IS:

<NUMBERED STATEMENT GROUP>::= <NUMBERLIST> <STMT LIST>
<NUMBER LIST>::= <UNSIGNED INTEGER>: / ELSE : /
<UNSIGNED INTEGER>: <NUMBERLIST> /
ELSE: <NUMBER LIST>

NUMBERED STATEMENTS:

THIS ALTERNATIVE FORM OF THE <CASE STATEMENT> FUNCTIONS SIMILARLY TO THE FORM DESCRIBED ABOVE. THE MAJOR DIFFERENCE IS THAT RATHER THAN IMPLICITLY NUMBER THE <STATEMENT>S IN THE <COMPOUND TAIL> AS THEY APPEAR, THE USER IS REQUIRED TO EXPLICITLY NUMBER THE STATEMENT GROUPS. LET A REPRESENT THE LOWEST NUMBER ASSIGNED TO A STATEMENT LIST, AND B THE HIGHEST VALUE ASSIGNED. A AND B MUST BE NON-NEGATIVE. THE INTEGERIZED VALUE OF THE <ARITHMETIC EXPRESSION> (CALL IT M) MUST FULFILL THE REQUIREMENTS A LEQ M LEQ B. IF THIS IS NOT SO, AN ERROR WILL BE SIGNALED. FURTHERMORE, M MAY NOT TAKE ON ANY VALUES THAT WERE NOT ASSOCIATED WITH SOME <STATEMENT LIST>. IF M CORRESPONDS TO ONE OF THE INTEGERS IN THE <NUMBER LIST> FOR A STATEMENT, THEN CONTROL TRANSFERS TO THE FIRST STATEMENT FOLLOWING THIS <NUMBER LIST>. THE STATEMENTS IN THE <STMT LIST> ARE EXECUTED IN SEQUENCE IN THE NORMAL ALGOL MANNER UNTIL A BRANCH IS TAKEN, OR

D0766 ALGOL - EXPANDED CASE STATEMENT - 04-18-74

THE END OF THE <STMT LIST> IS ENCOUNTERED. IF THE END OF THE <STMT LIST> IS ENCOUNTERED, A BRANCH IS TAKEN TO THE END OF THE <CASE STATEMENT>.

IF M IS OUT OF RANGE OR IF M DOES NOT CORRESPOND TO ONE OF THE NUMBERS IN THE VARIOUS <NUMBER LIST>S, ONE OF TWO THINGS HAPPEN:

A) IF AN "ELSE:" CLAUSE WAS SPECIFIED IN A <NUMBER LIST>, CONTROL IS TRANSFERRED TO THE <STMT LIST> FOLLOWING THE "ELSE:".

B) IF AN "ELSE:" CLAUSE WAS NOT SPECIFIED, AN INVALID INDEX INTERRUPT IS SIGNALED. INVALID INDEX IS CAUSED WHETHER M WAS OUT OF RANGE OR M WAS BETWEEN A AND B, BUT THERE WAS NO CORRESPONDING <NUMBER LIST> VALUE.

ADDITIONAL EXAMPLES

```
CASE I OF
BEGIN
   1:2:5:7:   J:=3;
              Q:=J-1;
   3:4:20:    J:=4;

   ELSE:      GO TO BADCASEVALUE;
END;
```

D0776 ALGOL - DOLLAR CARD IN SYNTACTIC ITEMS - 05-30-74

DOLLAR CARDS ARE RECOGNIZED EITHER UNCONDITIONALLY OR WHEN THE COMPILER IS LOOKING FOR THE NEXT SYNTACTIC ITEM; THE DIFFERENCE IN THE TREATMENT DEPENDS ON THE COLUMN WHERE THE DOLLAR SIGN IS FOUND.

DOLLAR CARDS WITH A DOLLAR SIGN IN EITHER COLUMN 1 OR 2 (IN THE LATTER CASE WITH A BLANK IN COLUMN ONE) ARE UNCONDITIONALLY RECOGNIZED AND PROCESSED. DOLLAR CARDS WITH A DOLLAR SIGN IN COLUMNS 3 THRU 72 WILL ONLY BE RECOGNIZED WHEN THE COMPILER IS EXPECTING A NEW SYNTACTIC ITEM. IN PARTICULAR, SUCH A DOLLAR CARD WILL NOT BE RECOGNIZED IN AT LEAST THE FOLLOWING INSTANCES:

(1) FOLLOWING A "%" ON A CARD.

D0776 ALGOL - DOLLAR CARD IN SYNTACTIC ITEMS - 05-30-74

(2) WHILE PROCESSING FORMAT SPECIFICATION (AN ENTIRE FORMAT SET OF PHRASES IS CURRENTLY TREATED AS ONLY ONE SYNTACTIC ITEM).

(3) WITHIN COMMENTARY.

(4) WHILE OMITTING.

(5) FOLLOWING THE "@" IN A NUMERIC CONSTANT.

D0777 ALGOL - DOLLAR CARD SYNTAX - 05-30-74

IN ALGOL AND DCALGOL, THE "OMIT" DOLLAR CARD OPTION, WHEN SET, WILL CAUSE DOLLAR CARDS IN COLUMNS 3-72 THAT WOULD OTHERWISE BE PROCESSED TO BE IGNORED. HOWEVER, DOLLAR CARDS WITH THE DOLLAR SIGN IN COLUMNS 1 AND 2 WILL CONTINUE TO BE PROCESSED. THIS IS DESIGNED INTO THE "OMIT" OPTION TO PERMIT FLEXIBILITY IN NESTED OMITS.

D0802 ALGOL - STRINGS IN PICTURES - 05-30-74

A STRING CAN NOW BE ENTERED INTO A PICTURE DECLARATION BEGINNING WITH A CHARACTER SIZE DECLARATION OF 6, 7 OR 8.

D0828 ALGOL - POINTER VALUE ADJUSTMENT - 08-11-74

THE DOCUMENTATION ON THE PAGE 6-31 OF THE ALGOL MANUAL 5000649, 20 MAY 74 SHOULD BE CHANGED TO READ:

IF THE <SKIP> CONSTRUCT IS NOT <EMPTY>, THEN IF THE <ARITHMETIC EXPRESSION> IS GREATER THAN ZERO, THE POINTER IS ADJUSTED L CHARACTERS TO THE RIGHT OR LEFT WHERE L IS THE VALUE OF THE <ARITHMETIC EXPRESSION>; OTHERWISE, THE POINTER IS NOT ADJUSTED.

THE NOTE ON PAGE 6-31 SHOULD BE REMOVED.

D0829 ALGOL - ALLOCATION OF ARRAYS - 05-30-74

THIS PATCH CAUSES SHORT ARRAYS TO BE ALLOCATED WITHIN THE STACK FOR THE B7700 IN ORDER TO AVOID PRESENCEBIT INTERRUPTS AND BLOCKEXIT CALLS. A NEW $-OPTION "NOSTACKARRAYS", WHEN SET, SUPPRESSES THE

D0829 ALGOL - ALLOCATION OF ARRAYS - 05-30-74

ALLOCATION OF ARRAYS WITH THE STACK.

D0830 ALGOL - CONDITION BRANCHING - 05-30-74

THIS PATCH IMPLEMENTS A NEW FEATURE CONTROLLED BY THE "OPTIMIZE" DOLLAR CARD OPTION. IF OPTIMIZE IS SET, ADDITIONAL ANALYSIS OF BOOLEAN EXPRESSIONS USED FOR CONDITIONAL BRANCHES IS PERFORMED, AND CODE IS GENERATED TO PERMIT EARLY TERMINATION OF THE EXPRESSION EVALUATION. "AND" AND "OR" OPERATIONS BECOME CONDITIONAL BRANCHES.

D0831 ALGOL - ADD "COMBINEPPBS" - 07-07-74

THIS PATCH ADDS "COMBINEPPBS" TO ALGOL. COMBINEPPBS TAKES TWO ARRAY ROW PARAMETERS, WHICH MUST BE BOOLEAN, REAL OR INTEGER NON-READ ONLY ARRAYS. THIS IS USED FOR COMBINING PROGRAM PARAMETER BLOCKS (PPBS). EACH ARRAY IS ASSUMED TO CONTAIN A PPB. THE TWO ARE COMBINED WITH THE SECOND TAKING PRECEDENCE. THE SECOND ARRAY IS RESIZED, IF NECESSARY. AS A RESULT, THE ARRAYS CANNOT BE DIRECT ARRAYS. THE PROCEDURE RETURNS AS A VALUE THE NEW SIZE OF THE SECOND ARRAY.

IF THE CALLER IS NOT A COMPILER, ANY ATTEMPT TO ACCESS COMBINEPPBS WILL RESULT IN THE STACK BEING DS-ED AT EXECUTION TIME.

D0847 ALGOL - B7700 OPTION - 05-30-74

THIS PATCH PROVIDES A NEW $ OPTION B7700 TOG WHICH CAN BE SET TO GENERATE OPTIMIZED CODE FOR THE B7700. WHEN RUNNING ON THE B6700 SOFTWARE THIS IS RESET BY DEFAULT.

D0848 ALGOL - ASCENDING SEQUENCE NUMBERS - 07-07-74

IF THE DOLLAR CARD OPTION "NEWSEQERR" IS SET, ALGOL WILL NOW FLAG ALL NEWTAPES NOT IN ASCENDING SEQUENCE (I.E., EQUAL NUMBERS WILL NOW BE FLAGGED).

D0872 ALGOL - I-O STATEMENTS AND FORMATS - 11-17-74

D0872 ALGOL - I-O STATEMENTS AND FORMATS - 11-17-74

ALGOL INPUT-OUTPUT STATEMENTS HAVE BEEN ENHANCED. FOR A COMPLETE DESCRIPTION SEE APPENDIX TO THE DNOTES.

ALGOL FORMATS AND I/O STATEMENTS HAVE BEEN EXPANDED AND IMPROVED FOR THE II.7 RELEASE. FOR FURTHER INFORMATION, SEE APPENDIX 3 OF THE II.7 DNOTES - "ALGOL FORMAT SYNTAX".

D0887 ALGOL - FILE MNEMONIC PACK RECOGNIZED - 09-16-74

THE ALGOL AND ESPOL COMPILERS NOW RECOGNIZE "PACK" AS A VALID FILE MNEMONIC MEANING THE SAME AS DISKPACK.

D0898 ALGOL - DCALGOL CONTROLCARD INTRINSIC - 09-16-74

THE MCP PROCEDURE "CONTROLCARD" IS NOW VISIBLE AS AN INTRINSIC IN DCALGOL. THE FACILITY WAS IMPLEMENTED FOR USE IN SYSTEM SOFTWARE, IN PARTICULAR CANDE AND RJE. THE DETAILS OF THE INTERFACE ARE SUBJECT TO MODIFICATION IN SUBSEQUENT RELEASES. "CONTROLCARD" HAS REPLACED THE "WFLCOMPILER" INTRINSIC WHICH WAS IMPLEMENTED IN II.6; THE MCP PROCEDURE WFLCOMPILER HAS BEEN DELETED.

D0982 ALGOL - REPLACE STATEMENT EXTENSION - 10-20-74

THIS PATCH EXTENDS THE SYNTAX OF A <REPLACE POINTER-VALUED ATTRIBUTE STATEMENT> TO ALLOW A <SIMPLE SOURCE> TO ALSO CONTAIN A <POINTER VALUED ATTRIBUTE>. HOWEVER, THE DESTINATION ATTRIBUTE AND THE SOURCE ATTRIBUTE MUST BE THE SAME. FOR EXAMPLE, IF
T AND TS ARE TASKS, THEN REPLACE T.NAME BY TS.NAME ;
NOW IS ALLOWED SYNTAX.

D0983 ALGOL - $ MCP OPTION - 11-03-74

THIS PATCH IMPLEMENTS A NEW DOLLAR OPTION MCP WHICH MUST BE SET FOR ALL ALGOL OR DCALGOL PROGRAMS BOUND INTO THE MCP.

D0983 ALGOL - $ MCP OPTION - 11-03-74

THIS DOLLAR OPTION CAUSES ALL VALUE ARRAYS, TRANSLATE TABLES, THRUTHSETS, AND CONSTANT POOLS TO BE ALLOCATED AT LEVEL 2. THIS OPTION MUST BE SET BEFORE COMPILING THE FIRST SYNTACTICAL ITEM OF A PROGRAM.

D1073 ALGOL - $INCLUDE CARD - 11-17-74

THIS PATCH PERMITS ONE TO SPECIFIY BOTH INTERNAL NAME AND TITLE ON A $INCLUDE CARD. IN THIS WAY A DEFAULT TITLE MAY BE GIVEN BUT LABEL EQUATION MAY ALSO BE USED TO GIVE ANOTHER TITLE OR OTHER ATTRIBUTES.

TO SPECIFY BOTH, THE INTERNAL NAME IS GIVEN FIRST, FOLLOWED BY AN EQUAL SIGN (=), FOLLOWED BY THE TITLE.

FOR EXAMPLE:

```
$ INCLUDE    X = "ABC."
```

BY DEFAULT, THE COMPILER WILL USE FILE "ABC." USING ? ALGOL FILE X = XYZ.

SOFTWARE IMPROVEMENTS

APL-700

P4466 APL-700 - COMP-DECOMP TABLE CLEANUP - 06-10-74

THIS CHANGE REDUCES THE STORAGE USED BY ELIMINATING SEVERAL TABLES USED BY THE COMPILIER AND DECOMPILER.

P4467 APL-700 - CONTEXT CHANGE DETECTION - 06-10-74

THIS CHANGE CAUSES CONTEXT CHANGES TO BE PROPERLY DETECTED. PREVIOUSLY, INCORRECT CONTEXT ERRORS AND ABORTS OCCURRED UNDER SOME CIRCUMSTANCES.

P4468 APL-700 - IMPLEMENT SHARED VARIABLES - 06-10-74

THIS CHANGE IMPLEMENTS THE SHARED VARIABLE FACILITY. COMPLETE INFORMATION ON THE USE OF SHARED VARIABLES IS DESCRIBED IN THE APL/700 USERS MANUAL.

P4469 APL-700 - BASE TIME SLICE ON CPU TIME - 06-10-74

THIS CHANGE CAUSES THE TIME SLICE TO BE BASED ON CPU TIME. PREVIOUSLY, THE TIME SLICE WAS BASED ON ELAPSED TIME.

P4470 APL-700 - REDUCE NO INTERPRETER BUFFERS - 06-10-74

THIS CHANGE REDUCES THE STORAGE REQUIRED BY ELIMINATING SEVERAL ARRAYS. THE INTERPRETER NOW SHARES ARRAYS WITH OTHER SECTIONS OF APL.

P4471 APL-700 - STATISTICS GATHERING - 06-10-74

THIS CHANGE IMPLEMENTS THE PRIVILEGED SYSTEM VARIABLE QUAD-STAT. QUAD-STAT RETURNS A 100 ELEMENT VECTOR OF INFORMATION ABOUT APL. MORE INFORMATION ABOUT QUAD-STAT CAN BE FOUND IN THE APL INSTALLATION MANUAL.

SOFTWARE IMPROVEMENTS

P4472 APL-700 - INSTL. DEFINED SYSTEM FUNCTION - 06-10-74

THIS CHANGE LEAVES SPACE IN THE SYSTEM FUNCTION TABLE FOR INSTALLATION DEFINED SYSTEM FUNCTIONS. THIS CHANGE ALSO PROVIDES AN EXAMPLE, QUAD-GCEX, OF HOW TO INSTALL A SYSTEM FUNCTION.

P4473 APL-700 - QUAD-SVQ FIX - 06-10-74

THIS CHANGE CORRECTS A PROBLEM IN THE PROCEDURE "SVQUERY". THE PROCEDURE "MAKER" IN "SVQUERY" WAS NOT SETTING "RWORDS" SO THE RESULT OF QUAD-SVQ WAS OFTEN DAMAGED.

P4474 APL-700 - IMPLEMENT QUAD-NEWS - 06-10-74

THIS CHANGE IMPLEMENTS THE SYSTEM VARIABLE QUAD-NEWS. ONLY THE PRIVILEGED ACCOUNT MAY SET QUAD-NEWS; ITS CONTENTS ARE PRINTED AFTER EVERY SIGN ON TO APL. ANY APL USER MAY INTERROGATE QUAD-NEWS.

P4475 APL-700 - IMPLEMENT ATOMIC VECTOR - 06-10-74

THIS CHANGE IMPLEMENTS QUAD-AV (ATOMIC VECTOR). QUAD-AV IS A SYSTEM CONSTANT WHICH PRODUCES A 256 ELEMENT CHARACTER VECTOR. ALL CHARACTERS IN THE VECTOR ARE DISTINCT. THE ORDERING WITHIN THE VECTOR CORRESPONDS TO APL(S) INTERNAL COLLATING SEQUENCE.

P4476 APL-700 - APLP INF TO FILE SYSTEM - 06-10-74

THIS CHANGES THE APLP INTERFACE TO THE FILE SYSTEM TO ACCOMMODATE THE NEW FILE SYSTEM RELEASED WITH 2.7.

P4477 APL-700 - REDUCE OUTER BLOCKSIZE OF APLP - 06-10-74

THIS CHANGE REDUCES THE SIZE OF THE OUTER BLOCK OF APLP FROM ABOUT 5000 WORDS TO ABOUT 3000 WORDS.

P4478 APL-700 - GENERAL CODE CLEAN-UP - 06-10-74

THIS CHANGE INCREASES READABILITY OF THE CODE, ELIMINATES UNNECESSARY CODE, REARRANGES CODE, AND IMPROVES THE EFFICIENCY OF

SOFTWARE IMPROVEMENTS

SOME CODE.

P4479 APL-700 - GARBAGE COLLECT BEFORE SWAP - 06-10-74

THIS CHANGE IMPROVES THE EFFICIENCY OF THE PROCEDURE "SLOWCOLLECT". THIS ALLOWS A GARBAGE COLLECT TO BE PERFORMED BEFORE EACH SWAP.

P4480 APL-700 - CHARACTER CLASS TABLES - 06-10-74

THIS CHANGE INCREASES THE SIZE OF A COMPILER TABLE SO MORE INFORMATION MAY BE INCLUDED IN IT.

P4481 APL-700 - DEFAULT FORMAT TIME SLICE - 06-10-74

THIS CAUSES A CHECK TO BE MADE FOR COMPLETION OF A TIME SLICE WHILE THE DEFAULT FORMAT, FOR AN ARRAY, IS BEING DECIDED. THIS ALSO ALLOWS THE DEFAULT FORMATING TO BE INTERRUPTED.

P4482 APL-700 - CPU BOUND COMMON TERMINATE - 06-10-74

THIS CHANGE CREATES A COMMON TERMINATION POINT FOR ALL CPU BOUND SWAPS.

P4483 APL-700 - CLOSE WF AFTER "LIBRARY FAIL" - 06-10-74

WHEN A "LIBRARY FAILURE" OCCURS THE FILE "WORKFILE" WAS NOT BEING CLOSED. ANY ")LOAD"(S) OR ")COPY"(S) AFTER THIS WOULD SET THE ATTRIBUTE "TITLE" FOR THE FILE "WORKFILE" CAUSING THE BAD WORKSPACE TO REPLACE THE EXISTING WORKSPACE. ALL ")LOAD" OR ")COPY" ATTEMPTS WOULD FAIL WITH A "LIBRARY FAILURE" UNTIL A ")SAVE" WAS EXECUTED.

THIS CHANGE CAUSES THE FILE "WORKFILE" TO BE CLOSED AFTER A "LIBRARY FAILURE" OCCURS PREVENTING THE ACCIDENTAL DESTRUCTION OF GOOD WORKSPACES.

P4484 APL-700 - ELIMINATE FUNCTION CHAIN - 06-08-74

THIS CHANGE ELIMINATES THE "FUNCTION CHAIN" WHICH EXISTED UNDER OLDER VERSIONS OF APL. BECAUSE OF THIS CHANGE IT IS IMPOSSIBLE TO USE WORKSPACES SAVED UNDER THIS VERSION OF APL WITH AN OLDER

SOFTWARE IMPROVEMENTS

VERSION (PRE-2.7) OF APL. THERE IS NO PROBLEM USING WORKSPACES SAVED UNDER AN OLDER VERSION OF APL WITH THE PRESENT VERSION OF APL.

P4485 APL-700 - SPEED UP DEFAULT FORMATTING - 06-10-74

THIS CHANGE INCREASES THE EFFICIENCY OF THE DEFAULT FORMATTER.

P4486 APL-700 - ATTENTION-PRINTING STATE IND - 06-10-74

THIS CHANGE CAUSES AN ATTENTION TO BE HANDLED PROPERLY WHILE PRINTING THE STATE INDICATOR.

P4487 APL-700 - LINE IN ERROR VS WIDTH SETTING - 06-10-74

THIS CHANGE CAUSES A WINDOW EQUAL TO THE WIDTH SETTING TO BE DISPLAYED WHEN AN ERROR IS ENCOUNTERED DURING AN "EVALUATE" OR "FIX". IF THE LINE IN ERROR IS LESS THAN WIDTH, THE ENTIRE LINE IS DISPLAYED. PREVIOUSLY, WIDTH WAS IGNORED WHEN AN ERROR OCCURRED. THIS COULD CAUSE THE ERROR TO BE UNREADABLE OR AN ABORT TO OCCUR.

P4488 APL-700 - FIX TO GROUP COPY - 06-10-74

THIS CHANGE CORRECTS A PROBLEM OCCURRING WHILE COPYING A GROUP. IF A MEMBER OF THE GROUP EXISTED IN THE WORKSPACE AND THERE WERE NO REFERANCES TO THE NAME IN THE WORKSPACE WHEN THE COPY WAS EXECUTED THE NAME WOULD BE PURGED FROM THE SYMBOL TABLE. THE WORKSPACE WOULD END UP IN A DAMAGED STATE. A CHECK IS NOW MADE FOR THE NAME BEING PURGED FROM THE SYMBOL TABLE AND IT WILL BE REENTERED IF IT WAS PURGED.

P4489 APL-700 - ELIMINATE SOME LOCAL ARRAYS - 06-10-74

THIS CHANGE INCREASES EFFICIENCY BY ELIMINATING SOME LOCAL ARRAYS.

P4490 APL-700 - TAKE OF A SCALAR - 06-10-74

TAKE OF A SCALAR WITH A LEFT ARGUMENT EQUAL TO IOTA ZERO WAS RETURNING RANDOM RESULTS. THIS CHANGE CAUSES THE PROPER RESULT TO BE RETURNED.

SOFTWARE IMPROVEMENTS

P4491 APL-700 - LOCALIZATION CHECK OF SYS VAR - 06-10-74

THIS CHANGE CORRECTS A PROBLEM WHICH ALLOWED SYSTEM FUNCTIONS TO BE LOCALIZED. THE NAME WOULD BE CHANGED TO THE CORRESPONDING SYSTEM VARIABLE IF ONE EXISTED. IF NO CORRESPONDING SYSTEM VARIABLE EXISTED AN ABORT WOULD OCCUR WHEN THE FUNCTION WAS DISPLAYED OR EXECUTED. THE FUNCTION HEADER COMPILER NOW CHECKS TO MAKE SURE ONLY SYSTEM VARIABLES ARE BEING LOCALIZED.

P4492 APL-700 - IDENTIFIER MAX LENGTH 69 CHARS - 06-10-74

THIS CHANGE LIMITS THE MAXIMUM LENGTH OF AN IDENTIFIER TO 69 CHARACTERS.

P4493 APL-700 - EMPTY SUBSCRIPT ON CONSTANT - 06-10-74

THIS CHANGE ALLOWS A CONSTANT TO BE SUBSCRIPTED BY AN EMPTY SUBSCRIPT LIST.

P4494 APL-700 - SUBSCRIPTING OF FORMATTED LIST - 06-10-74

PARENTHESES AROUND A FORMATTED LIST WERE REMOVED WHEN THAT CONSTRUCT WAS FOLLOWED BY A SUBSCRIPT. THIS CORRECTS THAT PROBLEM.

P4495 APL-700 - SUBSCRIPT SYSTEM NAME - 06-10-74

THIS CHANGE PERMITS A SYSTEM NAME TO BE SUBSCRIPTED.

P4496 APL-700 - DISPLAY FUNCTION HEADER - 06-10-74

THIS CHANGE CORRECTS A PROBLEM OCCURRING WHILE DISPLAYING THE FUNCTION HEADER OF A NILADIC FUNCTION WITH NO LOCAL NAMES. THIS BUG WOULD OCCASIONALLY CAUSE ABORTS.

P4497 APL-700 - SYSTEM LIMIT-TAB PROBLEM - 06-10-74

THIS CHANGE CORRECTS A PROBLEM WHICH WOULD CAUSE A "SYSTEM LIMIT" IF AN ATTEMPT WAS MADE TO OUTPUT THE TAB CHARACTER WITH TABS SET TO ZERO.

SOFTWARE IMPROVEMENTS

P4498 APL-700 - FIX OF LOCAL FUNCTION - 06-10-74

THIS CHANGE CORRECTS A BUG OCCURING WHEN THE FIX PRIMITIVE WAS USED TO CREATE A LOCAL FUNCTION WITH THE SAME NAME AS A GLOBAL FUNCTION.

P4499 APL-700 - RESET RESTARTING ON STACK NAME - 06-10-74

THIS CHANGE CAUSES "RESTARTING" TO BE RESET AFTER THE "STACK NAME" OPERATION ON A SHARED VARIABLE.

P4500 APL-700 - PERMIT ZERO LENGTH DIVIDE - 06-10-74

THIS CHANGE CIRCUMVENTS A BUG IN THE DCALGOL VECTORMODE COMPILER WHICH CAUSED PROBLEMS WHEN A DIVIDE ON STRUCTURES OF LENGTH ZERO WAS EXECUTED. RANDOM ERRORS AND WORKSPACES DAMAGE COULD OCCUR FROM THIS PROBLEM.

P4501 APL-700 - REVERSE ALONG LENGTH ZERO DIM - 06-10-74

THIS CHANGE CORRECTS THE A PROBLEM IN REVERSE ALONG A LENGTH ZERO DIMENSION WHICH IS NOT THE LAST DIMENSION OF THE OBJECT.

P4502 APL-700 - TRANSPOSE OF CHARACTER OBJECT - 06-10-74

THIS CHANGE CORRECTS A PROBLEM IN TRANSPOSE RETURNING BAD RESULTS WHEN USED ON CHARACTER OBJECT.

P4503 APL-700 - LOOP IN LAMINATE - 06-10-74

THIS CHANGE CORRECTS A PROBLEM IN LAMINATE WHEN A SINGLE ELEMENT WAS LAMINATED TO THE LAST DIMENSION OF A VECTOR. RANDOM RESULTS OR AN INFINITE LOOP OCCURRED.

P4504 APL-700 - DYADIC TRANSPOSE-ONE ELEMENT - 06-10-74

THIS CORRECTS A PROBLEM IN DYADIC TRANSPOSE WHICH WAS RETURNING RANDOM RESULT WHILE TAKING THE DIAGONAL OF A ONE ELEMENT OBJECT.

SOFTWARE IMPROVEMENTS

P4505 APL-700 - SELECT NOT CLEARING BACK POINT - 06-10-74

THIS CHANGE CORRECTS A PROBLEM WITH "SELECT" NOT CLEARING THE BACK POINTER IN ITS RESULT. IF A GARBAGE COLLECT OCCURRED DURING EXECUTUION OF A MODIFY INSERT AFTER THE SELECTION HAD BEEN PERFORMED BUT BEFORE THE INSERT WAS COMPLETED AN ABORT, WORKSPACE DAMAGE, OR RANDOM ERRORS COULD OCCUR DUE TO THE PROBLEM.

P4506 APL-700 - REDUCTION-TIME SLICE PROBLEM - 06-10-74

THIS CHANGE CORRECTS SEVERAL PROBLEMS IN THE REDUCTION PRIMITIVE OCCURRING WHEN A TIME SLICE WAS COMPLETED WHILE IN THE MIDDLE OF DOING A REDUCTION.

P4507 APL-700 - NEW MONADIC FORMAT - 06-10-74

THIS CHANGE IMPLEMENTS A NEW DEFINITION OF MONADIC FORMAT TO CORRESPOND TO THE "ACCEPTED" STANDARD USED IN OTHER APL IMPLEMENATATIONS. INFORMATION ON THE NEW DEFINITION OF MONADIC FORMAT CAN BE FOUND IN THE APL/700 USERS MANUAL.

P4508 APL-700 - CALCULATOR MODE SPACE LIMIT - 06-10-74

IF A "SPACE LIMIT" OCCURRED AT THE POINT OF OBTAINING SPACE FOR A CALCULATOR MODE PROCESS, THE WORKSPACE WOULD BE IMPROPERLY CLEANED UP; WORKSPACE DAMAGE WOULD OCCUR. THIS SITUATION IS NOW HANDLED CORRECTLY.

P4509 APL-700 - E FORMAT ZERO DISPLAY - 06-10-74

THIS CHANGE CAUSES THE RESULT OF FORMATTING ZERO WITH "E" TYPE FORMAT TO BE THE SAME AS ANY OTHER NUMBER. THIS CHANGE ALSO CORRECTS A BUG WHICH CAUSED THE RESULT OF FORMAT TO BE LEFT JUSTIFIED AFTER THE FIRST OCCURRENCE OF AN "E" TYPE FORMAT.

P4510 APL-700 - FORMATTING OBJECTS OF ZERO DIM - 06-10-74

THIS CHANGE CORRECTS A PROBLEM OCCURRING WHEN FORMATTING OBJECTS

WITH DIMENSIONS OF LENGTH ZERO.

P4511 APL-700 - DECIMAL PLACES WITH F FORMAT - 06-10-74

THIS CHANGE CAUSES A CHECK TO BE MADE FOR THE NUMBER OF DECIMAL PLACES EXCEEDING THE FIELD WIDTH WITH "F" TYPE FORMAT.

P4512 APL-700 - CLOSE CONTINUE WITH CRUNCH - 06-10-74

THIS CHANGE CAUSES THE "CONTINUE" FILE TO BE CLOSED WITH CRUNCH.

P4513 APL-700 - MAX WIDTH SETTING TO 32,767 - 06-10-74

THIS INCREASES THE MAXIMUM VALUE OF WIDTH TO 32,767.

P4514 APL-700 - CHANGE COMPARISON TOLERANCE - 06-10-74

THIS CHANGE LIMITS THE MAXIMUM VALUE OF COMPARISON TOLERANCE TO LESS THAN 1. PREVIOUSLY, THE MAXIMUM VALUE WAS LESS THAN OR EQUAL TO 1. COMPARISON TOLERANCE DID NOT BEHAVE AS EXPECTED WHEN SET TO 1.

P4515 APL-700 - ELIMINATE UPDATE ON RECOV FAIL - 06-10-74

THIS CHANGE ELIMINATES THE UPDATING OF THE ACCOUNTING FILE WHEN A RECOVERY FAILURE OCCURS. SINCE THE RECOVERY SPACE WAS BAD FOR SOME REASON THERE IS NO REASON TO BELIEVE THE ACCOUNTING INFORMATION IS CORRECT. DAMAGED ACCOUNTING FILES COULD RESULT FROM USING THIS INFORMATION.

P4516 APL-700 - INCREASE MIDLINE SLICE BIAS - 06-10-74

THIS CHANGE INCREASES THE BIAS GIVEN TO TIME SLICING BETWEEN LINES. THIS ENCOURAGES TIME SLICING BETWEEN LINES OF A FUNCTION INSTEAD OF IN THE MIDDLE OF LINES.

P4517 APL-700 - NILADIC BRANCH TAKING NO SPACE - 06-10-74

IT WAS POSSIBLE TO COMPLETLY FILL THE WORKSPACE JUST AS EVALUATED INPUT WAS REQUESTED FROM THE USER. ANY ENTRY THE USER MADE WOULD

CAUSE A "SPACE LIMIT" BECAUSE THERE WAS NO SPACE FOR THE ENTRY IN THE WORKSPACE. ADDITIONAL EVALUATED INPUT WOULD BE REQUESTED WITH THE SAME RESULT. DISCONNECTING THE TERMINAL WOULD SAVE THE CONTINUE SPACE IN THIS STATE. WHEN THE USER SIGNED ON AGAIN THE AUTOMATIC RECOVERY WOULD LEAVE THE USER IN THE SAME "SPACE LIMIT LOOP" STATE. THE ONLY SOLUTION WAS TO DISCONNECT THE TERMINAL AND REMOVE THE CONTINUE FILE EXTERNAL TO APL. THIS CHANGE MAKES THE NILADIC BRANCH TAKE NO SPACE THUS PROVIDING AN ESCAPE FROM THE "SPACE LIMIT LOOP" SITUATUION.

P4518 APL-700 - LINE AT TOP OF STATE IND PROB - 06-10-74

THIS CHANGE CORRECTS A PROBLEM OCCURRING WHEN A BRANCH WAS EXECUTED TO THE LINE AT THE TOP OF THE STATE INDICATOR AND THAT LINE NO LONGER EXISTED IN THE FUNCTION.

P4519 APL-700 - CORRECT MODIFY ASSIGN - 06-10-74

THIS CHANGE CORRECTS A PROBLEM OCCURRING WHEN A MODIFY ASSIGN WAS EXECUTED WITH A LOCAL VARIABLE WHICH PUSHED DOWN A FUNCTION. PREVIOUSLY THE WORKSPACE WOULD BE DAMAGED WHEN THIS OCCURRED.

P4520 APL-700 - TRACE LINE 0-PRINT PAUSE ABORT - 06-10-74

THIS CHANGE CORRECTS A PROBLEM OCCURRING WHEN THE OUTPUT OF TRACING LINE ZERO OF FUNCTION EXCEEDED 1 PRINT QUANTUM (ABOUT 240 CHARACTERS). THE WORKSPACE COULD BE DAMAGED OR AN ABORT COULD OCCUR WHEN THIS HAPPENED.

P4521 APL-700 - CEILING-FLOOR LARGE VALUE FIX - 06-10-74

THE CEILING AND FLOOR FUNCTIONS WERE PRODUCING INCORRECT RESULTS WHEN COMPARISION TOLERANCE WAS SET TO LARGE VALUES (ABOUT 0.1 OR GREATER). THIS CHANGE CORRECTS THAT PROBLEM.

P4522 APL-700 - POSSIBLE TIMING PROBLEM - 06-10-74

THIS CHANGE CORRECTS A POSSIBLE TIMING PROBLEM OCCURRING WITH "APLM" USING A SWAP SLOT BEFORE "APLP" WAS FINISHED PROCESSING IT.

SOFTWARE IMPROVEMENTS

P4523 APL-700 - DOMAIN CHECK OF ZERO CIRCLE - 06-10-74

THE CIRCULAR FUNCTION WAS NOT PROPERLY CHECKING THE DOMAIN WHEN THE LEFT ARGUMENT WAS ZERO AND THE RIGHT ARGUMENT WAS LESS THAN -1. THIS WOULD CAUSE AN ABORT. THIS CHANGE CORRECTS THE DOMAIN CHECK FOR THIS CASE.

P4524 APL-700 - LABEL-LOCAL NAME THE SAME - 06-10-74

THIS CHANGE CORRECTS THE DUPLICATE NAME CHECKER WHICH UNDER CERTAIN CIRCUMSTANCES WAS PERMITTING A LABEL AND LOCAL NAME TO BE THE SAME. A "DUP-NAME ERROR" IS NOW GIVEN.

P4525 APL-700 - CATENATE-ONE ELEMENT OBJECT - 06-10-74

THIS CHANGE CORRECTS A PROBLEM OCCURRING WHEN ONE ARGUMENT TO CATENATE WAS A NON-SCALAR ONE ELEMENT OBJECT. A LENGTH ERROR IS NOW GIVEN, PREVIOUSLY THE RESULTS WERE RANDOM.

P4526 APL-700 - ACCOUNT FILE, WS, FILES MEDIA - 06-10-74

THIS CHANGE CORRECTS A PROBLEM WHICH FORCED THE ACCOUNT FILES, WORKSPACES, AND APL FILES TO BE ON THE SAME MEDIA (E.G. SAME LABELED PACK) FOR QUAD-DACT TO WORK PROPERLY. NOW ONLY WORKSPACES AND APL FILES NEED BE ON THE SAME MEDIA.

P4527 APL-700 - IMPLEMENT SHARED VARIABLES - 06-10-74

THIS PATCH PROVIDES THE SYMBOL/APLM INTERFACE TO THE APL/700 SHARED VARIABLES FACILITIES. REFER TO THE APL/700 USER REFERENCE MANUAL FOR FURTHER INFORMATION.

P4528 APL-700 - QUAD-STAT AND QUAD-NEWS - 06-10-74

ARRAY DECLARATIONS AND APPROPRIATE DEFINES ARE PROVIDED TO IMPLEMENT THE PRIVILIGED SYSTEM VARIABLES: QUAD-STAT AND QUAD-NEWS. REFER TO THE APL INSTALLATION MANUAL FOR FURTHER INFORMATION.

SOFTWARE IMPROVEMENTS

P4529 APL-700 - COMPRESS FOR SWAP - 06-10-74

ELIMINATES SWAP OUT OF EMPTY AREAS OF WORKFILE.

P4530 APL-700 - IMPLEMENT OUTPUT SMOOTHING - 06-10-74

PREVIOUSLY, APL HAD WAITED UNTIL THE LAST OF A SERIES OF OUTPUT MESSAGES HAD BEEN TRANSMITTED BEFORE REACTIVATING A USER. APL NOW REACTIVATES THE USER WHEN ALL MESSAGES EXCEPT ONE HAVE BEEN TRANSMITTED.

P4531 APL-700 - IMPROVE CODE READABILITY - 06-10-74

THESE PATCHES REPRESENT COSMETIC CHANGES TO THE APL SOURCE CODE.

P4532 APL-700 - IMPROVE PERFORMANCE - 06-10-74

THE "HOUSKEEPING" CODE OF APLM IS REARRANGED SOMEWHAT TO PROVIDE BETTER AND FASTER PERFORMANCE.

P4533 APL-700 - ALLOW SWAPPING OFF DISK PACKS - 06-10-74

FOLLOWING A HALT/LOAD OF THE SYSTEM, APL WILL ATTEMPT TO PROVIDE RECOVERY INFORMATION FOR ALL WORKSPACES EXISTING IN THE SWAP FILE. IF THE SWAP FILE RESIDES ON DISK PACK, IT MAY NOT BE IMMEDIATELY AVAILABLE FOLLOWING THE HALT/LOAD OPERATION. THIS PATCH WILL DISPLAY A SPO MESSAGE, IF THE PRECEDING OCCURS, AND AWAIT INPUT MESSAGE FROM THE SPO.

P4534 APL-700 - USER STATE WHEN ATTENTION HIT - 06-10-74

PREVIOUS TO THIS PATCH, IT WAS POSSIBLE FOR A USER HITTING AN ATTENTION KEY TO HAVE A DETRIMENTAL EFFECT ON OTHER USERS. THIS PROBLEM IS NOW CORRECTED.

P4535 APL-700 - TIME SLICE SET FROM SPO - 06-10-74

THIS CHANGE ALLOWS THE MINIMUM TIME SLICE GIVEN TO A USER TO BE SET FROM THE SPO. THE APL/700 SPO DISPLAY COMMAND:

SLICE N

WILL SET THE TIME SLICE TO "N" MILLISECONDS. IF "N" IS OMITTED THE CURRENT VALUE OF THE TIME SLICE IS DISPLAYED ON THE SPO SPECIFIED BY THE "UNIT" COMMAND. THE CONSTANT "TIMEFACTOR" IN SYMBOL/APLM IS NOW CALLED "DEFTIMEFACTOR" AND IS THE VALUE USED FOR THE TIME SLICE WHEN NO VALUE IS SPECIFIED FROM THE SPO.

NOTE: "DEFTIMEFACTOR" IS IN UNITS OF 2.4 MICROSECONDS.

P4536 APL-700 - ADD NATIONAL LETTERS - 06-10-74

THIS PATCH ADDS THREE SWEDISH CHARACTERS TO THE APL CHARACTER SET. THIS SHOULD BE CONSIDERED A TEMPORARY SOLUTION AND WILL BE REPLACED IN THE FUTURE BY A MORE SATISFACTORY WAY FOR A SITE TO PROVIDE UP TO SIX NATIONAL CHARACTERS OF THEIR OWN CHOICE.

P4537 APL-700 - CHARACTER HANDLING - 06-10-74

CORRECTS AN ERROR IN APL(S) CHARACTER CONVERSION TABLES.

P4538 APL-700 - USER STATE ON DISCONNECT-ABORT - 06-10-74

PROVIDES CORRECT HANDLING OF THE USER UPON DISCONNECT OR ABORT.

P4539 APL-700 - ELIMINATE APLM DS AT SIGN-OFF - 06-10-74

PREVIOUS TO THIS RELEASE, THE APLM PROCESS WOULD BE DEACTIVATED WHENEVER ALL APL USERS HAD SIGNED OFF. THE CURRENT PATCH CAUSES APLM (AND ALL OF ITS OFFSPRING) TO BE RETAINED.

P4540 APL-700 - IGNORE INPUT MESS TIL PROMPT - 06-10-74

AN INTERNAL FLIP/FLOP, INDICATING THAT A PROMPT HAD BEEN SENT TO A USER, WAS GETTING SET INPROPERLY IN CERTAIN SITUATIONS.

P4541 APL-700 - STACK DUMP REQUEST COMPLETE - 06-10-74

THIS PATCH PROVIDES A DELAY TO INSURE THAT COMPLETE STACK DUMPS ARE GOTTEN WHEN REQUESTED.

SOFTWARE IMPROVEMENTS

P4542 APL-700 - ATTN FROM INPUT MESSAGE - 06-10-74

APL DOES NOT EXPECT USER INPUT EXCEPT IN RESPONSE TO A "PROMPT" FROM APL. THIS PATCH CAUSES SUCH AN INPUT TO BE TREATED AS AN ATTENTION OR BREAK.

P4543 APL-700 - SPO MESSAGE IF USER ABORTS - 06-10-74

WHENEVER AN APL USER ABORTS, A MESSAGE TO THAT EFFECT WILL BE DISPLAYED ON THE SPO, LISTING USER ID AND LSN.

P4544 APL-700 - MESSAGES TO DIRECT CONNECTS - 06-10-74

THIS PATCH CORRECTS THE PROBLEM THAT KEPT SPO MESSAGES FROM REACHING DIRECT CONNECT TERMINALS.

P4545 APL-700 - OUTER BLOCK INDEX ABORTS - 06-10-74

THIS PATCH PREVENTS INVALID INDEX ABORTS IN THE OUTER BLOCK.

P4546 APL-700 - BR TO LINE IN DIFF. STACK BUG - 06-10-74

THIS CHANGE CORRECTS A PROBLEM WITH BRANCHING TO A LINE MORE THAN ONE STACK BELOW THE CURRENT STACK. THIS COULD OCCUR IF AN EVALUATE OF A BRANCH WAS ENTERED IN CALCULATOR MODE. THIS ALSO PERMITS NESTED EVALUATES TO EXECUTE A BRANCH. THIS PROBLEM COULD CAUSE WORKSPACE DAMAGE AND ABORTS.

P4547 APL-700 - CHECK FOR MAX DIMS IN SELECT - 06-10-74

THIS CHANGE INTRODUCES A CHECK TO MAKE SURE THE SUM OF THE RANKS OF THE OBJECTS IN THE SUBSCRIPT LIST DOES NOT EXCEED 16 (MAX DIMENSIONS). PREVIOUSLY, AN ABORT WOULD OCCUR IF THIS WAS THE CASE.

P4548 APL-700 - CONTEXT CHANGE FIX - 06-10-74

THIS CHANGE CORRECTS A PROBLEM WHERE "PSAVEINTACT" WAS NOT RECOGNIZING A NILADIC NON-RESULT RETURNING FUNCTION AS A SITUATION WHICH REQUIRED A DECOMPILE/RECOMPILE OF THE LINE. THIS PROBLEM

SOFTWARE IMPROVEMENTS

CAUSED ABORTS AND SPERIOUS CONTEXT ERRORS.

P4549 APL-700 - MATRIX DIVIDE-INVERT FIX - 06-10-74

THIS CHANGE CORRECTS TWO PROBLEMS IN MATRIX DIVIDE-INVERT. THE FIRST PROBLEM PREVENTED A MATRIX WITH A ROW OF ALL ZEROS FROM BEING INVERTED. THE SECOND PROBLEM WAS A POOR CRITERIA FOR DETECTING SINGULARITY. SINGULAR MATRICES SHOULD NOW BE REJECTED AND NON-SINGULAR MATRICES ACCEPTED.

NOTE: THE DOMAIN TEST FOR SINGULARITY USES COMPARISON TOLERANCE. IF COMPARISON TOLERANCE IS ZERO ALMOST ALL MATRICES WILL BE INVERTED. IF COMPARISON TOLERANCE IS LARGE MOST MATRICES WILL BE REJECTED.

P4550 APL-700 - LIMIT FILE OPEN PERMISSION - 07-30-74

TEMPORARY PATCH TO THE APL-MCS TO GRANT A FILE OPEN REQUEST ONLY TO TERMINALS THAT ARE APL ACTIVE AND OFFERING SHARED VARIABLES. THIS IS DONE TO ENSURE THAT AN APL USER WHO ACTIVATES AN OBJECT PROGRAM WHILE UNDER CONTROL OF APL, CAN LABEL EQUATE THAT PROGRAMS FILES TO HIS TERMINAL.

P4551 APL-700 - OUTPUT TRANSLATION - 07-30-74

DETECT AND PROPERLY HANDLE, FOR OUTPUT TO TERMINAL, UNDEFINED EBCDIC CHARACTERS.

P4552 APL-700 - USER BOUNCE - 07-30-74

PROVIDES FIX TO PRIVILEGED COMMAND, QUAD-LOCK, SO THAT IT IS CAPABLE OF "BOUNCING" AN APL USER, AS DESCRIBED IN THE APL INSTALLATION MANUAL.

P4553 APL-700 - HANDLE BAD WORKSPACE - 07-30-74

FLAG A POSSIBLY BAD WORKSPACE SO APLP CAN TAKE APPROPRIATE ACTION.

SOFTWARE IMPROVEMENTS

P4554 APL-700 - HANDLE EXCESSIVE INPUT - 07-30-74

PROVIDE HANDLING FOR EXCESSIVELY LONG INPUT MESSAGES.

P4555 APL-700 - SEPARATE COMPILATION - 07-30-74

PROVIDE A $DUMPINFO CARD TO ASSIST IN SEPARATE COMPILATION AND BINDING.

P4556 APL-700 - LOGGING PROVISION - 07-30-74

THIS PATCH PROVIDES A SKELETON OF A PROCEDURE TO MAKE LOG ENTRIES WHEN AN APL USER SIGNS ON OR OFF. THE PROCEDURE IS CALLED WITH AN ASSIGNED SNX AND CODE = 0, WHEN A USER SIGNS ON; THE SAME SNX AND CODE = 1 WHEN THE USER SIGNS OFF.

IT IS EXPECTED THAT AN APL INSTALLATION WILL COMPLETE THE BODY OF THIS PROCEDURE TO PROVIDE LOGGING INFORMATION ABOUT THE APL USER OR TO ENTER COMMENTS INTO THE LOG.

P4557 APL-700 - DO NOT GARBAGE COLLECT BAD WS - 07-30-74

IF APLP DETECTS AN ERROR WHICH MAY LEAVE THE WORKSPACE IN A DAMAGED STATE IT WILL REQUEST THAT ALL CHANGES IT HAS MADE TO THE WORKSPACE BE IGNORED AND RECOVERY BE MADE FROM THE LAST SWAP OUT. THIS MIGHT OCCUR IF A SYMBOLS LIMIT IS ENCOUNTERED DURING A COPY. PREVIOUSLY APLP WOULD TRY TO GARBAGE COLLECT THIS POSSIBLY DAMAGED WORKSPACE AND AN ABORT MIGHT OCCUR. NOW NO GARBAGE COLLECT IS PERFORMED WHEN THIS SITUATION ARISES.

P4558 APL-700 - TIME SLICE EXPUNGE - 07-30-74

THE EXPUNGE PRIMITIVE NOW CHECKS FOR COMPLETION OF THE TIME SLICE WHILE THE EXPUNGE IS BEING EXECUTED. NOTE: A DOUBLE ATTENTION HIT WHILE IN THE MIDDLE OF DOING AN EXPUNGE IS IGNORED UNTIL ALL OBJECTS ARE EXPUNGED.

SOFTWARE IMPROVEMENTS

P4559 APL-700 - SYSTEM NAME ATTRIBUTES - 07-30-74

TWO NEW ATTRIBUTES FOR SYSTEM NAMES HAVE BEEN ADDED. THE ATTRIBUTE "LOCALIZABLE" IS USED TO DETERMINE IF A SYSTEM VARIABLE MAY BE LOCALIZED (QUAD-NEWS AND QUAD-STAT MAY NOT BE LOCALIZED). THE ATTRIBUTE "DYNOPRINT" IS USED TO DETERMINE IF THE DYADIC FORM OF A SYSTEM VARIABLE PRINTS ITS RESULT (NEEDED SO THE DYADIC FORMS OF QUAD-SVO AND QUAD-SVC WOULD NOT PRINT THEIR RESULTS WHEREAS THE MONADIC FORM WOULD). THE OLD ATTRIBUTE "NOPRINT" DETERMINES IF THE MONADIC FORM OF A SYSTEM FUNCTION PRINTS ITS RESULT.

P4560 APL-700 - INCREASE WIDTH IN ACCT FILE - 07-30-74

THE FIELD TO HOLD THE USER WIDTH IN THE ACCOUNT FILE WAS 8 BITS. THIS INCREASES THAT FIELD SO WHEN WIDTH IS GREATER THAN 256 IT IS NOT REDUCED MODULO 256 WHEN THE USER SIGNS OFF.

P4561 APL-700 - CORRECT CHARACTER TABLES - 07-30-74

THIS CHANGE CORRECTS THE CHARACTER CLASSIFICATION TABLE FOR THE CHARACTERS LEFT AND RIGHT TACK. PREVIOUSLY THEY WERE (INCORRECTLY) CLASSIFIED AS DYADIC MIXED PRIMITIVES.

P4562 APL-700 - ADD NATIONAL CHARACTERS - 07-30-74

THIS ADDS THE NATIONAL CHARACTERS TO THE CHARACTER CLASS TABLES.

P4563 APL-700 - LIBRARY FAIL ON CONTINUE LOAD - 07-30-74

IF A LIBRARY FAILURE OCCURS APLP WILL REQUEST RECOVERY FROM THE LAST SWAP OUT. IF THE THE LIBRARY FAILURE OCCURRED WHILE LOADING THE "CONTINUE" WORKSPACE THE USER DID NOT HAVE A VALID WORKSPACE ON THE SWAP FILE AND A MESSAGE ERROR WOULD BE GIVEN. NOW IF A LIBRARY FAILURE OCCURS WHILE LOADING THE CONTINUE WORKSPACE THE MESSAGE "RECOVERY FAILURE - CLR WS" WILL BE GIVEN AND A CLEAR WORKSPACE WILL BE SWAPPED OUT.

SOFTWARE IMPROVEMENTS

P4564 APL-700 - SWAP IO ERROR CHECK - 07-30-74

THIS CHANGE INTRODUCES A CHECK FOR SWAP I/O ERRORS. IF ONE OCCURS THE MESSAGE "SWAP FAILURE - CLR WS" IS SENT AND THE USER IS GIVEN A CLEAR WORKSPACE.

P4565 APL-700 - POWER ABORT - 07-30-74

WHEN A NEGATIVE NUMBER WAS RAISED TO A LARGE INTEGRAL POWER AN ABORT WOULD OCCUR. A NUMBER LIMIT IS NOW GIVEN FOR THAT CASE.

P4566 APL-700 - COMBINATORIAL ABORT - 07-30-74

CERTAIN VERY UNUSUAL ARGUMENTS TO THE COMBINATORIAL FUNCTION WOULD CAUSE AN ABORT. THESE ARGUMENTS ARE NOW HANDLED PROPERLY.

P4567 APL-700 - CHANGE SYSTEM MESSAGES - 07-30-74

THIS CHANGES THE "SYSTEM" MESSAGES "COLLECT LOOP" AND "SLOW COLLECT LOOP" TO "COLLECT FAILURE" AND "SLOW COLLECT FAILURE" RESPECTIVELY.

P4568 APL-700 - INDEXED SCALAR FUNCTN PROBLEM - 07-30-74

IT WAS NOT POSSIBLE TO USE THE INDEXED SCALAR FUNCTIONS WHEN ONE ARGUMENT WAS A ONE ELEMENT OBJECT. IT IS NOW POSSIBLE TO DO THIS.

P4569 APL-700 - DUP NAME CHECK IN FIX - 07-30-74

THIS CHANGE INTRODUCES A CHECK IN THE FIX PRIMITIVE FOR LABEL NAMES THE SAME AS ANOTHER LOCAL NAME. PREVIOUSLY A LABEL COULD HAVE THE SAME NAME AS THE FUNCTION IT OCCURRED IN. THIS COULD CAUSE AN ABORT OR WORKSPACE DAMAGE WHEN THE FUNCTION WAS EXECUTED.

P4570 APL-700 - COPY A FUNCTION PROBLEM - 07-07-74

WHEN A FUNCTION WAS COPIED THE DIRECTORY SIZE WAS INITIALLY SET TO THE NUMBER OF LINES IN THE FUNCTION BEING COPIED. IF IT WAS NECESSARY TO GARBAGE COLLECT THE TOP OF THE WORKSPACE WHILE THE COPY OF THE FUNCTION WAS TAKING PLACE AN ABORT AND/OR WORKSPACE

DAMAGE WOULD OCCUR. THIS CHANGE CAUSES THE DIRECTORY SIZE TO BE INCREASED AS EACH LINE OF THE FUNCTION IS COPIED.

P4571 APL-700 - FIX HEADER DELETE - 07-30-74

THE CODE TO DELETE LINE 0 OF A FUNCTION WAS CHANGING GLOBAL VARIABLES WHICH THE CALLING SECTION EXPECTED WOULD NOT CHANGE. WORKSPACE DAMAGE AND/OR ABORTS WOULD OCCUR UNDER CERTAIN CIRCUMSTANCES. THESE VARIABLES ARE NOW LOCAL TO THE CODE.

P4572 APL-700 - CORRECT CHECK NAME IN LINE 0 - 07-30-74

THE PROCEDURE WHICH CHECKED TO SEE IF A NAME EXISTED IN LINE 0 WAS COUNTING LABELS AS BEING IN LINE 0 OF A FUNCTION AND NOT COUNTING THE FUNCTION NAME. THE EXISTENCE OF A NAME IN LINE 0 IS NOW PROPERLY DETERMINED.

P4573 APL-700 - SET MONITOR ON SINGLE LINE - 07-30-74

THE SET MONITOR ON A SINGLE LINE WAS NOT SETTING A MONITOR ON THE LINE. THIS CHANGE CORRECTS THAT PROBLEM.

P4574 APL-700 - LIMIT FUNCTION SIZE - 07-30-74

THE SIZE OF A FUNCTION IS NOW LIMITED TO 1000 LINES (INCLUDING LINE 0). PREVIOUSLY FUNCTIONS WITH MORE THAN 1024 LINES WOULD NOT EXECUTE PROPERLY AND FUNCTIONS WITH MORE THAN 1000 LINES COULD NOT BE EDITIED PROPERLY.

P4575 APL-700 - DELETE UNUSED CODE - 07-30-74

THIS CHANGE DELETES SOME NON-WORKING, UNDOCUMENTED CODE IN THE FUNCTION EDITOR.

P4576 APL-700 - LIST OUTPUT FIX - 07-30-74

TWO PROBLEMS IN LIST OUTPUT ARE NOW FIXED. ONE PROBLEM OCCURRED IF OUTPUT OF A LIST ELEMENT EXACTLY FILLED A PRINT LINE. ADDITIONAL LIST ELEMENTS WERE NOT PRINTED. THE OTHER PROBLEM CAUSED FOLDING

OF THE FIRST ROW OF A MATRIX OR HIGHER DIMENSIONAL OBJECT TO OCCUR IN THE WRONG PLACE WHEN THE OBJECT WAS NOT THE FIRST LIST ELEMENT.

P4577 APL-700 - ARGUMENTS FREED TOO SOON - 07-30-74

THE PRIMITIVES CANONICAL/VECTOR REPRESENT, SET/RESET TRACE/STOP/MONITOR, NAMELIST, DEAL, AND MATRIX DIVIDE WERE RELEASING THEIR ARGUMENTS WHILE IT WAS STILL POSSIBLE FOR A GARBAGE COLLECT TO OCCUR. THIS WOULD LEAVE POINTERS IN THE EXECUTION STACK POINTING TO THE INCORRECT PLACE AND IF AN ERROR OCCURRED THE PROCESS OF CLEANING UP THE STACK COULD DAMAGE THE WORKSPACE. THIS PROBLEM IS NEW CORRECTED.

P4578 APL-700 - TIME SLICE FIX PRIMITIVE - 07-30-74

A CHECK IS NOW MADE IN THE FIX PRIMITIVE FOR THE COMPLETION OF A TIME SLICE.

P4579 APL-700 - RETURN EXTRA SPACE IN FIX - 07-30-74

THE FIX PRIMITIVE ESTIMATES THE NUMBER OF LABELS IN A FUNCTION BY SCANNING THE STRING TO BE FIXED FOR COLONS AND GETTING THAT MUCH EXTRA SPACE IN THE LOCAL NAMES LIST. COLONS IN STRINGS AND COMMENTS WERE COUNTED AND MORE SPACE THAN WAS NEEDED MAY HAVE BEEN ALLOCATED FOR LABELS. NOW ANY SPACE THAT WAS NOT USED IS RETURNED.

P4580 APL-700 - LOCK ACCOUNT WHEN USER IS ON - 07-30-74

THE PRIVILEGED SYSTEM FUNCTION QUAD-LOCK WAS NOT WORKING CORRECTLY WHEN THE ACCOUNT BEING LOCKED WAS SIGNED ON. THE ACCOUNT SHOULD HAVE BEEN BOUNCED FROM APL BUT INSTEAD WAS LEFT SIGNED ON IN A STATE WHERE THE USER WAS UNABLE TO DO ANYTHING. NOW THE ACCOUNT IS BOUNCED FROM APL.

P4581 APL-700 - QUAD-SVC LEFT ARG TYPE CHECK - 07-30-74

QUAD-SVC WAS NOT CHECKING THE TYPE OF ITS LEFT ARGUMENT. A CHARACTER LEFT ARGUMENT TO QUAD-SVC IS NOW DISALLOWED.

SOFTWARE IMPROVEMENTS

P4582 APL-700 - DIMENSION SIZE OVERFLOW - 07-30-74

THE CATENATE AND TAKE PRIMITIVES WERE NOT CHECKING THE SIZE OF DIMENSIONS TO SEE IF THE SIZE OVERFLOWED 24 BITS. A "SPACE LIMIT" IS NOW GIVEN IF THIS SITUATION OCCURS.

P4583 APL-700 - LAMINATE INFINITE LOOP - 07-30-74

IF AN ATTEMPT WAS MADE TO LAMINATE A SCALAR TO AN EMPTY STRUCTURE OF RANK 2 OR GREATER APLP WOULD GET INTO AN INFINITE LOOP. THIS CHANGE CORRECTS THAT PROBLEM.

P4584 APL-700 - EMPTY OBJECTS WITH LARGE DIMS - 07-30-74

IF AN EMPTY OBJECT WITH LARGE NON-ZERO LENGTH DIMENSIONS WAS PRESENTED TO THE INSERT, SELECT, ROTATE, TAKE, OR DROP PRIMITIVES APLP WOULD CYCLE THROUGH ALL THE POSSIBLE INDICES FOR THE NON-ZERO DIMENSIONS. THIS COULD TIE UP APLP FOR A LONG PERIOD OF TIME. THESE PRIMITIVES CHECK FOR THIS SITUATION AND DO NOT CYCLE THOUGH ALL POSSIBLE INDICES.

P4585 APL-700 - BASE VALUE FIX - 07-30-74

THE BASE VALUE PRIMITIVE WHEN USED ON EMPTY ARGUMENTS WITH NON-ZERO INNER DIMENSIONS WOULD PRODUCE RANDOM "NUMBER LIMITS" AND POSSIBLY DAMAGE THE WORKSPACE. THIS CHANGE CORRECTS THAT PROBLEM.

P4586 APL-700 - CORRECT ERROR MESSAGE - 07-30-74

WHEN AN INSERT INTO A VECTOR WAS PERFORMED AND AN INDEX WAS OUT OF RANGE THE ERROR MESSAGE "DOMAIN ERROR" WAS GIVEN. NOW THE CORRECT MESSAGE "INDEX ERROR" IS GIVEN.

P4587 APL-700 - CHANGE ERROR MESSAGE - 07-30-74

THIS CHANGES THE ERROR MESSAGE GIVEN WHEN A NON-PRIVILEGED ACCOUNT TRIES TO ACCESS QUAD-STAT FROM "VALUE ERROR" TO "SYNTAX ERROR".

SOFTWARE IMPROVEMENTS

P4588 APL-700 - LOG USER SIGN ON AND SIGN OFF - 07-30-74

THIS CHANGE ADDS CALLS TO THE PROCEDURE "LOGGER" WHENEVER A USER SIGNS ON OR OFF.

P4589 APL-700 - MESSAGE AND CONTINUANCE ERRORS - 07-30-74

THE OLD ERRORS "MESSAGE ERROR" AND "CONTINUANCE ERROR" HAVE BEEN COMBINED INTO A SINGLE NEW ERROR "SYSTEM FAILURE". THIS ERROR OCCURS WHEN APLP IS GIVEN A WORKSPACE TO PROCESS THAT BELONGS TO AN ACCOUNT DIFFERENT FROM THE ONE APLP WAS TOLD IT WAS TO BE PROCESSING FOR.

P4590 APL-700 - CORRECT MONITORING - 07-30-74

THE MONITOR VALUES FOR LINES WITH FILE OPERATIONS AND NILADIC USER FUNCTION CALLS WERE INCORRECT. THE MONITOR VALUES FOR THOSE CASES ARE NOW CORRECT.

P4591 APL-700 - ELIMINATE USE OF DIRECTORIES - 09-12-74

THIS ELIMINATES ALL PLACES WHERE APL OPENED A DIRECTORY FILE. THIS IS TO ACCOMIDATE THE NEW DIRECTORY STRUCTURE IMPLEMENTED IN THE 2.7 SOFTWARE.

P4592 APL-700 - CONTROL CHARS IN STRINGS - 09-12-74

THE TERMINAL CONTROL CHARACTERS RETURN, LINEFEED, BACKSPACE, TAB, AND NULL ARE NO LONGER ALLOWED TO BE USED IN COMMENTS, CHARACTER CONSTANTS, OR AS PART OF THE ARGUMENT TO QUAD-ED.

P4593 APL-700 - CORRECT DOMAIN CHECK - 09-12-74

THE COMBINATORIAL PRIMITIVE WAS GIVING A "DOMAIN ERROR" WHEN ITS RIGHT ARGUMENT WAS LESS THAN NEGATIVE 1 AND ITS LEFT ARGUMENT WAS NOT AN INTEGER. THE CORRECT ANSWER IS NOW GENERATED FOR THAT CASE.

SOFTWARE IMPROVEMENTS

P4594 APL-700 - SET CHECK COMP BIT PROPERLY - 09-12-74

THE "CHKCOMPBIT" IN THE EXECUTION STACK WAS NOT BEING SET PROPERLY IN SEVERAL CASES. THIS COULD CAUSE ABORTS AND INCORRECT CONTEXT ERRORS WHEN CODE WHICH WAS NO LONGER VALID WAS EXECUTED. THIS BIT IS NOW SET IN ALL CASES WHERE A CONTEXT CHANGE MAY OCCUR.

P4595 APL-700 - GARBAGE COLLECT STATS - 09-12-74

STATISTICS ARE NOW KEPT ON THE NUMBER OF FAST AND SLOW GARBAGE COLLECTS AND THE TOTAL AMOUNT OF SPACE RECOVERED FROM EACH.

P4596 APL-700 - ERASE FUNCTION WITH SI - 09-12-74

THE)ERASE COMMAND MAY NOW BE USED TO ERASE A FUNCTION WHEN THERE IS A STATE INDICATOR AS LONG AS THE FUNCTION IS NOT SUSPENDED OR PENDENT. ALSO THE)COPY COMMAND CAN BE USED TO COPY AN OBJECT OVER A FUNCTION WHEN THERE IS A STATE INDICATOR. PREVIOUSLY IT WAS NOT POSSIBLE TO DESTROY A FUNCTION WITH A SYSTEM COMMAND WHEN THERE WAS A STATE INDICATOR.

P4597 APL-700 - ERASE SHARED VAR WITH NO VALUE - 09-12-74

THIS ALLOWS ")ERASE" AND "QUAD-EX" TO ERASE A NAME WHICH HAS NO VALUE ASSOCIATED WITH IT. PREVIOUSLY ERASING A SHARED VARIABLE WHICH HAD NO VALUE WOULD NOT RETRACT THE SHARE.

P4598 APL-700 - CLEAR SHARE FLAG ON COPY - 09-12-74

IF A WORKSPACE WAS SAVED WHILE SOME VARIABLES WERE SHARED AND ONE OF THESE VARIABLES WAS COPIED IN ANOTHER WORKSPACE THE VARIABLE WOULD APPEAR TO BE SHARED. THIS COULD CAUSE APLP TO ABORT WITH THE "SV" SYSTEM LOCKED. THIS WOULD HANG THE ENTIRE APL SYSTEM. THE "SHARE FLAG" IS NOW CLEARED WHEN A VARIABLE IS COPIED INTO A WORKSPACE.

SOFTWARE IMPROVEMENTS

P4599 APL-700 - CORRECT ERROR MESSAGE - 09-12-74

THIS CHANGES THE ERROR MESSAGE GIVEN WHEN AN INCORRECT ENTRY IS MADE WHILE CHANGING LINE 0 OF A FUNCTION. PREVIOUSLY "EDIT ERROR" WAS GIVEN. NOW "DEFINITION ERROR" IS GIVEN.

P4600 APL-700 - DISALLOW FIX OVER SHARED VAR - 09-12-74

THIS CHANGE PREVENTS THE FIX PRIMITIVE FROM CREATING A FUNCTION OVER TOP OF A SHARED VARIABLE WHICH HAS NO VALUE.

P4601 APL-700 - SET RECOMPILE ON FIX - 09-12-74

THIS CAUSES THE RECOMPILE BIT TO BE SET ON ALL FUNCTIONS WHEN A NEW FUNCTION IS CREATED WITH THE FIX PRIMITIVE. PREVIOUSLY ABORTS AND INCORRECT ERRORS MIGHT OCCUR FROM FIXING A FUNCTION.

P4602 APL-700 - SV-SPACE LIMIT PROBLEM - 09-12-74

IF A "SV-SPACE LIMIT" OCCURRED WHILE THE VALUE OF A VARIABLE WAS BEING ASSIGNED TO A SHARED VARIABLE WORKSPACE DAMAGE WOULD OCCUR. THIS PROBLEM IS NOW CORRECTED.

P4603 APL-700 - DELETE PRIVILEGED I-BARS - 09-12-74

THIS CHANGE DELETES THE UNDOCUMENTED PRIVILEGED I-BAR FUNCTIONS. THE INFORMATION PROVIDED BY THESE FUNCTIONS IS NOW AVAILABLE IN THE PRIVILEGED SYSTEM VARIABLE QUAD-STAT.

P4604 APL-700 - CONSISTENT SHAPE CHECK - 09-12-74

THIS CHANGE CORRECTS THE SHAPE TEST FOR THE LEFT ARGUMENT TO RESHAPE, TAKE, DROP, INDEX IN, AND COMPRESS IOTA PRIMITIVES. THE TESTS NOW USED ARE CONSISTENT WITH THE TESTS USED IN OTHER PRIMITIVES.

SOFTWARE IMPROVEMENTS

P4605 APL-700 - INNER PRODUCT - TWO EMPTYS - 09-12-74

IF AN INNER PRODUCT WAS EXECUTED BETWEEN TWO STRUCTURES WITH INNER DIMENSIONS EQUAL TO ZERO AND THE RESULT HAS MORE THAN ONE ELEMENT INCORRECT ANSWERS WOULD BE GIVEN AND THE WORKSPACE WOULD BE DAMAGED. THE PROPER RESULT IS NOW GENERATED.

P4606 APL-700 - INCREASE HOURS IN SIGN OFF - 09-12-74

THE NUMBER OF DIGITS DISPLAYED IN THE HOURS OF THE SIGN OFF HAS BEEN INCREASED FROM TWO TO THREE.

P4607 APL-700 - REDUCE SYSTEM OVERHEAD - 10-21-74

THIS CHANGE REDUCES SYSTEM OVERHEAD BY COMBINING SEVERAL SMALL ARRAYS INTO ONE LARGER ARRAY.

P4608 APL-700 - FACTORIAL ABORT - 10-21-74

THIS CORRECTS A PROBLEM WHICH WOULD OCCASIONALLY CAUSE AN ABORT WHEN THE FACTORIAL OF A LARGE NEGATIVE NUMBER WAS TAKEN.

P4609 APL-700 - LOAD OF SMALLER WS - 10-21-74

THIS CORRECTS A PROBLEM OCCURING WHEN A WORKSPACE SMALLER THAN THE WORKSPACE SIZE CURRENTLY BEING USED WAS LOADED OR COPIED. THIS PROBLEM WOULD CAUSE ABORTS OF DAMAGED WORKSPACES.

P4610 APL-700 - CHECK FOR ATTN DURING TRACE - 10-21-74

A CHECK IS NOW MADE FOR AN ATTENTION WHILE TRACING LINES IN A FUNCTION. PREVIOUSLY NO CHECK WAS MADE AND ALL OUTPUT WOULD BE GENERATED. THIS COULD HANG UP THE TERMINAL FOR A LONG PERIOD OF TIME.

P4611 APL-700 - FIX ARROW IN ERROR MESSAGE - 10-21-74

IF A SYNTAX ERROR OCCURRED AT THE RIGHTMOST POINT IN A LINE LONGER THAN THE WIDTH SETTING THE ARROW MAY HAVE NOT BEEN DISPLAYED. THIS

SOFTWARE IMPROVEMENTS

CHANGE CORRECTS THAT PROBLEM.

P4612 APL-700 - FIX EQUAL&NOT EQUAL ON CHARS - 10-21-74

IF AN EQUAL&NOT EQUAL COMPARISON IS DONE BETWEEN TWO 3 OR HIGHER DIMENSIONAL OBJECTS SPURIOUS RANK ERROR AND SHAPE ERROR MESSAGES WERE SOMETIMES GIVEN. THIS CORRECTS THAT PROBLEM.

P4613 APL-700 - VECTORMODE IN DYADIC IOTA - 10-21-74

THIS CHANGE IMPROVES THE EFFICIENCY OF THE INDEX IN (DYADIC IOTA) PRIMITIVE FOR MACHINES WITH VECTORMODE.

P4614 APL-700 - VECTORMODE IN MEMBERSHIP - 10-21-74

THE MEMBERSHIP PRIMITIVE NOW USES VECTORMODE ON MACHINES WITH VECTOR HARDWARE.

P4615 APL-700 - MATRIX DIVIDE PROBLEM - 10-21-74

THIS CORRECTS A PROBLEM IN THE MATRIX DIVIDE PRIMITIVE WHICH COULD CAUSE WORKSPACE DAMAGE IF THE PRIMITIVE WAS INTERRUPTED.

P4616 APL-700 - INSERT PROBLEM - 10-21-74

THIS CORRECTS A PROBLEM IN THE INSERT PRIMITIVE WHICH COULD CAUSE WORKSPACE DAMAGE AND ABORTS IF THE OBJECT BEING INSERTED INTO WAS ALSO IN THE SUBSCRIPT LIST.

P4617 APL-700 - USE VECTORMODE IN REDUCTION - 10-21-74

MAXIMUM AND MINIMUM REDUCTION ARE NOW DONE IN VECTORMODE WHEN POSSIBLE.

P4618 APL-700 - OUTER PRODUCT USE VECTORMODE - 10-21-74

VECTORMODE IS NOW USED TO EXECUTE OUTER PRODUCT MAXIMUM AND OUTER PRODUCT MINIMUM.

SOFTWARE IMPROVEMENTS

P4619 APL-700 - VECTORMODE FOR INNER PRODUCT - 10-21-74

VECTORMODE IS NOW USED IN INNER PRODUCT WHEN THE RIGHT FUNCTION IS MAXIMUM OR MINIMUM.

P4620 APL-700 - SET BIT WHEN DOING DISK IO - 10-21-74

APLP NOW SETS A BIT WHEN IT IS DOING A DISK INPUT/OUTPUT SO APLM CAN NOW SCHEDULE OTHER APLPS.

P4622 APL-700 - KILL SWAP AFTER BLOT IN)ON - 10-21-74

IF A USER ENTERED A)BLOT COMMAND PRIOR TO SIGNING ON AN INVALID WORKSPACE WAS SWAPPED OUT. THIS DID NOT CAUSE ANY PROBLEMS BUT WOULD ADD UNNECESSARY OVERHEAD TO APL. THE SWAP IS NOW "KILLED" WHEN THE USER ENTERS A)BLOT COMMAND PRIOR TO SIGN-ON.

P4623 APL-700 - IMPROVE COMPRESS PRIMITIVE - 10-21-74

THIS IMPROVES THE EFFICIENCY OF THE COMPRESS PRIMITIVE WHEN ITS LEFT ARGUMENT IS A SCALAR AND ITS RIGHT ARGUMENT IS A SCALAR OR VECTOR.

P4624 APL-700 - NEW SWAPPING ALGORITHM - 10-24-74

THE PREVIOUS SWAPPING ALGORITHM EXECUTED A "DIRECT", "READ", OR "WRITE" WHENEVER A SWAP-IN OR SWAP-OUT WAS REQURIED; THE ACTUAL I/O OPERATION WOULD OCCUR WHEN THE I/O CHANNEL BECAME FREE.

THE NEW ALGORITHM ASSUMES THAT A SWAP-IN SHOULD HAVE A HIGHER PRIORITY THAN A SWAP-OUT. THUS, ALL SWAP REQUESTS ARE ENTERED INTO A SWAP-IN OR SWAP-OUT QUEUE. WHEN THE I/O CHANNEL BECOMES AVAILABLE THE TOP ENTRY OF THE SWAP-IN QUEUE IS SELECTED; IF THE SWAP-IN QUEUE IS EMPTY, THE TOP ENTRY OF THE SWAP-OUT QUEUE IS CHOSEN.

IT IS EXPECTED THAT THIS PATCH WILL PROVIDE A BETTER BALANCE OF CPU, I/O ACTIVITY.

SOFTWARE IMPROVEMENTS

P4625 APL-700 - GLOBALIZE TASK DECLARATION - 10-24-74

THE "APLG" TASK WAS PREVIOUSLY NESTED WITHIN "APLF". IT IS GLOBALIZED BY THIS PATCH TO MAKE ITS TASK ATTRIBUTES ACCESSIBLE TO QUAD-INFO.

P4626 APL-700 - GLOBALIZE FILE DECLARATION - 10-24-74

THE FILE "SFILE" IS GLOBALIZED TO INSURE COMMON FILE ATTRIBUTES FOR USE BY BOTH "APLF" AND "APLP", AND TO SIMPLIFY MAKING APPROPRIATE COMPILE TIME "LABEL EQUATION".

P4627 APL-700 - AUTOMATIC DUMP-ON-FAULT - 10-24-74

THIS PATCH WILL FORCE A STACK DUMP OF APLM(S) ENVIRONMENT UPON THE OCCURENCE OF AN APLM FAULT.

P4628 APL-700 - FORCED RESOURCE ALLOCATION - 10-24-74

PREVIOUSLY, WORKSPACE BUFFERS AND A SECOND APLP PROCESS WERE ALLOCATED AS REQUIRED. SINCE WORKSPACE BUFFERS ARE "DIRECT" ARRAYS, AND PROCESS STACKS ARE ALLOCATED "SAVE" MEMORY, "CHECKER-BOARDING" OF MEMORY COULD OCCUR.

THIS PATCH FORCES EARLY ALLOCATION OF THESE ITEMS, ALL AT ONCE, TO REDUCE THE AMOUNT OF "CHECKER-BOARDING".

P4629 APL-700 - REDUCED FULL SWAPS - 10-24-74

WHEN A WORKSPACE IS SWAPPED OUT, IT IS NORMALLY "CRUNCHED", OR REDUCED IN SIZE, FIRST. THE NUMBER OF INSTANCES THAT IT MUST NOT BE "CRUNCHED" IS REDUCED BY THIS PATCH.

P4630 APL-700 - RE-CYCLE SWAP FILE - 10-24-74

PREVIOUS TO THIS PATCH, THE APL SWAP FILE (SWAPF) WAS "PURGED" AND A NEW ONE CREATED, FOLLOWING RECOVERY.

APL NOW REUSES THE SWAP FILE.

SOFTWARE IMPROVEMENTS

P4631 APL-700 - ELIMINATE POTENTIAL FAULT(1) - 10-24-74

THIS PATCH ELIMINATES THE OCCURRENCE OF A FAULT WHEN AN ATTEMPT IS MADE TO BACKSPACE BEYOND THE BEGINNING OF AN INPUT LINE.

P4632 APL-700 - MORE QUAD-STATS(2) - 10-24-74

DECLARATION FOR "STATS" DEFINED IN D0967.

P4633 APL-700 - MORE QUAD-STATS(3) - 10-24-74

DECLARATION FOR "STATS" DEFINED IN D0968.

P4634 APL-700 - MORE QUAD-STATS(4) - 10-24-74

DECLARATION FOR "STATS" DEFINED IN II.7 INSTALLATION MANUAL.

P4635 APL-700 - ELIMINATE POTENTIAL FAULT(2) - 10-24-74

THIS PATCH ELIMINATES A RATHER OBSCURE FAULT THAT COULD OCCUR WITH A VERY LONG INPUT LINE THAT INCLUDED A CHARACTER ERROR.

P4636 APL-700 - DEFINED IDENTIFIER ELIDED - 10-24-74

REFERENCE TO THE DEFINED INDENTIFIER, "APLCENTRAL", IS REPLACED BY "INCLUDE" CARDS.

THIS IS DONE TO OBTAIN A MEANINGFUL "STACK" LISTING OF THE SOURCE CODE.

P4637 APL-700 - "VECTMODE" FIX - 10-24-74

THIS PATCH CAUSES THE DEFAULT SETTING OF "VECTMODE" TO CORRESPOND TO THE DOCUMENTATION.

P4638 APL-700 - LARGE WIDTH ABORTS - 10-28-74

THIS CORRECTS SEVERAL PROBLEMS OCCURING WHEN WIDTH WAS GREATER THAN 250. THESE PROBLEMS WOULD CAUSE APLP TO ABORT.

SOFTWARE IMPROVEMENTS

P4639 APL-700 - FORMAT ABORT - 10-28-74

THIS CORRECTS A PROBLEM WHICH OCCURRED WHEN A LARGE NUMBER WAS FORMATTED WITH A FIXED POINT FORMAT. THIS WOULD CAUSE APLP TO ABORT.

P4640 APL-700 - LIMIT MAX TABS TO 30 - 10-28-74

THIS LIMITS THE MAXIMUM VALUE OF TABS TO 30. PREVIOUSLY LARGE VALUES FOR TABS COULD CAUSE THE DCP TO GO OFF LINE.

APL-700

D0964 APL-700 - SYSTEM NOTE FOR APLF - 06-10-74

SYMBOL/APLF HAS BEEN COMPLETELY REWRITTEN FOR THIS RELEASE. THIS NEW VERSION PROVIDES NEW CONSTRUCTS TO THE APL USER AND IS FASTER AND MORE EFFICIENT THAN THE EARLIER VERSION.

USER DOCUMENTATION WILL BE FOUND IN THE APL/700 USER REFERENCE MANUAL.

D0965 APL-700 - SYSTEM NOTE FOR NEW SYMBOLIC - 06-10-74

THIS RELEASE INTRODUCES TWO NEW SOURCE FILES TO BE "INCLUDE(D)" INTO SOURCE APL:
SYMBOL/APLSV, WHICH PROVIDES THE PROCEDURES, VARIABLES, ETC. FOR HANDLING APL SHARED VARIABLES,
SYMBOL/APLU, WHICH CONTAINS TWO SAMPLE (BUT USEFUL) SHARED VARIABLES UTILITY FUNCTIONS (DOCUMENTED IN THE APL INSTALLATION MANUAL).

THE COMPILE TIME VARIABLES THAT CONTROL LISTING/STACK LISTING ARE AS FOLLOWS:

SYMBOL/APLSV - APLSVL/APLSVS

SYMBOL/APLU - APLUL/APLUS

THE NEXT RELEASE WILL CONTAIN MAJOR REORGANIZING AND RESEQUENCING OF THE SYMBOLIC FILES COMPRISING APL.

D0966 APL-700 - LIMIT QUOTAS - 09-12-74

THIS PLACES UPPER BOUNDS ON THE QUOTAS WHICH CAN BE SET FOR AN ACCOUNT. THE UPPER BOUND FOR THE WORKSPACE QUOTA, TIME LIMIT QUOTA, FILE QUOTA, FILE SIZE QUOTA, AND SHARED VARIABLE QUOTA IS 255, 16777215, 255, 65535 AND 15 RESPECTIVELY. ANY ATTEMPT TO SET

D0966 APL-700 - LIMIT QUOTAS - 09-12-74

THE QUOTA LARGER THAN THESE VALUES WILL GIVE A "DOMAIN ERROR".

D0967 APL-700 - CONNECT AND CPU TIME STATS - 10-21-74

THE CUMULATIVE CONNECT TIME BILLED IN SECONDS IS NOW KEPT IN THE 29 TH ELEMENT (FROM ZERO) OF QUAD-STAT. THE CUMULATIVE CPU TIME BILLED IN MILLISECONDS IS NOW KEPT IN THE 28TH ELEMENT OF QUAD-STAT.

D0968 APL-700 - GIVE CPU BOUND USER EXTRA TIME - 10-21-74

A CPU BOUND USER IS NOW GIVEN UP TO N EXTRA TIME SLICES TO COMPLETE HIS WORK IF NO NON-CPU BOUND USERS ARE WAITING. THREE COUNTS ARE KEPT RELATED TO THIS FEATURE. THE 42ND (FROM ZERO) ELEMENT OF QUAD-STAT CONTAINS THE NUMBER OF TIMES A USER USED ALL N EXTRA SLICES WITHOUT COMPLETING HIS WORK.

THE 43RD ELEMENT OF QUAD-STAT CONTAINS THE NUMBER OF TIMES A USER DID NOT RECEIVE ALL N EXTRA SLICES BECAUSE A NON-CPU BOUND USER WAS WAITING. THE 44TH ELEMENT OF QUAD-STAT IS THE NUMBER OF TIMES A CPU BOUND USER WAS GIVEN AN EXTRA SLICE.

D0969 APL-700 - PROCEDURE CALL COUNTS - 10-21-74

THIS EXTENDS THE STATISTICS VECTOR TO 150 ELEMENTS. 43 OF THE ADDITIONAL ELEMENTS ARE COUNTS OF PROCEDURE CALLS IN APLP. THE 7 OTHER NEW ELEMENTS IN QUAD-STAT ARE NOT USED. THE PROCEDURE CALL COUNTS CLOSELY APPROXIMATE THE USAGE OF CERTAIN APL PRIMITIVES. THE ADDITIONAL QUAD-STAT COUNTS APPEAR BELOW:

NO.	COUNT OF
100	QUAD-NC
101	QUAD-VR & QUAD-CR
102	QUAD-FX
103	QUAD-EX
104	QUAD-NL
105	QUAD-ED
106	QUAD-DL

D0969 APL-700 - PROCEDURE CALL COUNTS - 10-21-74

107	NOT (MONADIC)
108	MONADIC SCALAR FUNCTIONS
109	DYADIC SCALAR FUNCTIONS
110	SHAPE
111	RAVEL
112	RHO-RAVEL
113	IOTA (MONADIC)
114	GRADE UP & GRADE DOWN
115	REVERSE
116	TRANSPOSE (MONADIC)
117	I-BAR
118	MATRIX INVERT
119	RESHAPE
120	CATENATE & LAMINATE
121	INDEX IN (DYADIC IOTA)
122	TAKE & DROP
123	EXPAND & COMPRESS
124	ROTATE
125	PERMUTE (DYADIC TRANSPOSE)
126	MEMBERSHIP
127	DEAL
128	COMPRESS IOTA
129	BASE VALUE
130	REPRESENT
131	SET UNION
132	SET INTERSECTION & SET DIFFERENCE
133	SUBSET & SUPERSET
134	MATRIX DIVIDE
135	SELECT
136	INSERT
137	REDUCTION
138	SCAN
139	OUTER PRODUCT
140	INNER PRODUCT
141	QUOTE (MONADIC FORMAT)
142	FORMAT

D0970 APL-700 - QUAD-INFO AND QUAD-SYST - 10-21-74

D0970 APL-700 - QUAD-INFO AND QUAD-SYST - 10-21-74

THIS IMPLEMENTS TWO NEW PRIVILEGED SYSTEM FUNCTIONS, QUAD-INFO AND QUAD-SYST. BOTH OF THESE FUNCTIONS ARE NILADIC. QUAD-INFO RETURNS A FORTY ELEMENT VECTOR OF INFORMATION ABOUT APL. THE INFORMATION RETURNED IS LISTED BELOW:

NO(S)	MEANING
0	APL VERSION NUMBER
1	USER LOAD (SAME AS QUAD-UL)
2-8	TIME STAMP (SAME AS QUAD-TS)
9-15	TIME STAMP WHEN APL CAME UP
16-18	APLC (MCS) PROCESS&IO&ELAPSED TIME
19-21	APLM PROCESS&IO&ELAPSED TIME
22-24	APLP-0 PROCESS&IO&ELAPSED TIME
25-27	APLP-1 PROCESS&IO&ELAPSED TIME
28-30	APLF PROCESS&IO&ELAPSED TIME
31-33	APLG PROCESS&IO&ELAPSED TIME
34	APLP NUMBER
35	NUMBER OF SWAP SLOTS
36	NUMBER OF APLPS BEING RUN
37	TIME SLICE (IN MILLISECONDS)
38	BYPASS LIMIT SETTING
39	TOP OF QUEUE INSERT LIMIT

PROCESS AND IO TIMES ARE IN MILISECONDS, ELAPSED TIME IS IN SECONDS. QUAD-SYST RETURNS B6700 OPERATIONAL INFORMATION OBTAINED BY THE CALL SYSTEMSTATUS (A, 2, 0); ADDITIONAL INFORMATION ON THE VALUES RETURNED MAY BE FOUND IN THE B6700 SYSTEMSTATUS INTRINSIC MANUAL, FORM NO. 5000425, PP. 16-23.

D0971 APL-700 - RESOURCE SCHEDULING - 10-24-74

TO ASSIST THE APL INSTALLATION MANAGER IN CUSTOMIZING APL/700 FOR HIS USERS, TWO CONTROL PARAMETERS ARE PROVIDED; BOTH DEAL WITH CPU LIMITIED APL USERS AS FOLLOWS: "CPUBPLIM" - MAXIMUM NUMBER OF TIMES

D0971 APL-700 - RESOURCE SCHEDULING - 10-24-74

A CPU-BOUND USER MAY BE BYPASSED, IN FAVOR OF A NON-CPU-BOUND USER, WITHOUT BEING ALLOCATED A WORKSPACE BUFFER; "TOPINSERTLIM" - MAXIMUM NUMBER OF "SLICES" THAT A CPU-BOUND USER WILL BE HELD BY "APLP", PROVIDED NO OTHER NON-CPU-BOUND USER REQUIRES THE WORKSPACE BUFFER, BEFORE BEING RE-QUEUED FOR WORKSPACE. REFER TO D0975 AND D0976 FOR DOCUMENTATION ON HOW TO SET VALUE DYNAMICALLY.

D0972 APL-700 - LARGER DEFAULT LIMITS - 10-24-74

DEFAULT SETTINGS OF "MAXLSN" AND "APLNUMBWS" ARE CHANGED TO MORE REALISTIC VALUES.

D0973 APL-700 - MORE QUAD-STATS (1) - 10-24-74

INTERNAL

NO	NAME	FUNCTION
88	STSUMUL	CUMULATIVE SUM OF USER LOAD
89	STSUMFU	CUMULATIVE SUM OF FILE USER LOAD
90	STWAKEUPM[1]	#TIMES APLM AWAKENED DUE TO TIME OUT
91	STWAKEUPM[2]	#TIMES APLM AWAKENED DUE TO PRODAPLM
92	STWAKEUPM[3]	#TIMES APLM AWAKENED DUE TO I/O COMPLETE
97	STCPUTAKEN	#TIMES CPU-BOUND USER TAKEN DUE TO EXEEDING "CPUBPLIM"
98	SISUMWAKEN	SUM OF TIME THAT APLM WAS AT "WAIT STATEMENT"
99	STAWORDSIN	TOTAL NUMBER OF WORDS SWAPPED-IN

D0974 APL-700 - ONE CPU, TWO APLPS - 10-24-74

THIS PATCH HAS THE FOLLOWING EFFECT: IF THERE IS ONLY ONE PHYSICAL CPU, IE, "NUMBCPUS = 1" AT LINE 27100 OF SYMBOL/APLM, AND THERE IS A REQUEST TO USE TWO APLP(S), IE, "APLNUMBPROC = 2" AT LINE 27000 OF SYMBOL/APLM, THEN APL WILL ASSUME THAT THE SECOND APLP SHOULD BE UTILIZED ONLY WHEN THE FIRST APLP IS BUSY WITH I/O ACTIVITY.

D0975 APL-700 - SET CPU BOUND BYPASS LIMIT - 10-24-74

D0975 APL-700 - SET CPU BOUND BYPASS LIMIT - 10-24-74

THIS IMPLEMENTS THE APL SPO COMMAND)BPL N. THIS IS USED TO SET THE CPU BYPASS LIMIT. N IS AN INTEGER BETWEEN 0 AND 999. IF N IS OMITTED THE CURRENT SETTING OF THE CPU BYPASS LIMIT IS DISPLAYED ON THE SPO. THE DEFAULT VALUE IS 5. THE DEFAULT VALUE MAY BE CHANGED BY CHANGING "DEFCPUBPLIM" AT LINE 00028100 IN SYMBOL/APLM.

D0976 APL-700 - SET TOP OF QUEUE INSERT LIMIT - 10-24-74

THIS ALLOWS THE TOP OF QUEUE INSERT LIMIT TO BE SET FROM THE SPO WITH THE APL SPO COMMAND)TQIL N. N IS AN INTEGER BETWEEN 0 AND 99. IF N IS OMITTED THE CURRENT SETTING OF TOP OF QUEUE INSERT LIMIT IS DISPLAYED ON THE SPO. THE DEFAULT VALUE IS 1. THE DEFAULT VALUE MAY BE CHANGED BY CHANGING "DEFTOPINSERTLIM" AT SEQUENCE NUMBER 00028200 IN SYMBOL/APLM.

BACKUP

P3377 BACKUP - COMPILE ERROR - 05-30-74

A SYNTAX ERROR IN THE BACKUP SYMBOLIC, WHICH WAS NOT PREVIOUSLY DETECTED BY THE ALGOL COMPILER, HAS BEEN CORRECTED.

P3386 BACKUP - VERSION IDENTIFICATION - 09-16-74

SYSTEM/BACKUP NOW PRINTS ITS LEVEL AND CYCLE NUMBER WHEN RUN.

P3617 BACKUP - SCANNER IMPROVEMENTS - 09-16-74

THE SECTION OF BACKUP WHICH SCANS THE INPUT STRING HAS BEEN CHANGED SUBSTANTIALLY, WITH PROCEDURE GETAWORD BEING DELETED AND REPLACED BY A MORE GENERALIZED SCANNER CALLED SCANITEM. THIS RESULTS IN MUCH CLEANER AND MORE STRAIGHTFORWARD CODE AND SHOULD MAKE FUTURE MODIFICATIONS EASIER. ALSO, IT CORRECTS A PROBLEM IN WHICH IF THE KEYLENGTH WERE LESS THAN 3, THE RESERVED WORD "END" WAS NOT ALLOWED AS A RANGE OPTION.

P3720 BACKUP - FIX RANGE CHECK - 05-30-74

THIS PATCH FIXES A PROBLEM IN WHICH BACKUP SOMETIMES WOULD NOT PRINT THE LINES BETWEEN A SPECIFIED RANGE EVEN THOUGH THERE ACTUALLY WERE LINES THERE.

P3721 BACKUP - GETSTATUS INTERFACE - 05-30-74

THIS PATCH CHANGES SYSTEM BACKUP TO PERFORM DIRECTORY SEARCHES BY CALLING GETSTATUS INSTEAD OF BY READING DIRECTORY FILES. THIS IS NECESSARY FOR COMPATABILITY WITH THE 2.7 MCP DIRECTORY STRUCTURE.

P3722 BACKUP - HI MSG PROBLEMS - 05-30-74

THIS PATCH CORRECTS A POSSIBLE INVALID INDEX AND SEG ARRAY ERROR WHICH COULD OCCUR WHEN REPOSITIONING A BACKUP FILE WITH THE HI

OPERATOR INPUT.

P3797 BACKUP - FIX INV INDEX - 07-07-74

THIS PATCH CORRECTS AN INVALID INDEX WHICH COULD OCCUR WHEN USING THE TAPE REPOSITIONING FEATURE (HI MSG).

P3798 BACKUP - FORMMESSAGE ERROR - 07-07-74

THIS PATCH CORRECTS A FILE ATTRIBUTE ERROR WHICH WOULD OCCUR WHEN BACKUP ATTEMPTED TO SET THE FORMMESSAGE ATTRIBUTE WHILE THE PRINTER FILE WAS OPEN.

P3919 BACKUP - RANGE OPTION FIX - 08-04-74

THIS PATCH CORRECTS A PROBLEM WHICH OCCURRED WHEN A RANGE OPTION WAS USED WHICH SPECIFIED PRINTING ONLY A FEW LINES AT THE BEGINNING OF A BACKUP FILE, BACKUP SOMETIMES DID NOT PRINT ANYTHING IN THIS CASE.

P3920 BACKUP - FILE ID ON PUNCH - 08-04-74

THIS PATCH CAUSES BACKUP NOT TO OUTPUT THE FILE ID WHEN GOING TO A PUNCH. PREVIOUSLY, THIS WOULD RESULT IN MANY UNWANTED CARDS BEING PUNCHED. (THIS PATCH AFFECTS BACKUP ONLY WHEN COMPILED WITH IDOPTION SET.)

P4171 BACKUP - BACKUP FILES ON PACK - 09-16-74

SYSTEM/BACKUP WILL NOW AUTOMATICALLY SEARCH SYSTEM RESOURCE PACK FOR BACKUP FILES IF IT DOES NOT FIND THEM ON DISK.

P4172 BACKUP - BFILE LABEL EQUATION - 09-16-74

THIS PATCH CORRECTS A PROBLEM WHICH CAUSED LABEL EQUATION FOR BFILE (FILE USED WITH ND OPTION) TO BE OVERRIDDEN BY SYSTEM/BACKUP.

P4173 BACKUP - PARITY HANDLING - 09-16-74

THIS PATCH CHANGES BACKUP SO THAT INSTEAD OF ATTEMPTING TO INTERPRET A BLOCK WITH A PARITY ERROR , BACKUP WILL NOW PRINT THE BLOCK IN EBCDIC AND HEX AND THEN CONTINUE WITH THE NEXT BLOCK. THIS IS NECESSARY SINCE THE PRINTER IOCW-S IN THE BAD BLOCK MAY BE BAD, POSSIBLY CAUSING SEG ARRAY ERRORS.

P4174 BACKUP - FORTRAN KEY START - 09-16-74

THIS PATCH CHANGES THE VALUE FOR KEY FORTRAN TO BE THE SAME AS KEY 74 8. IT WAS PREVIOUSLY INCORRECTLY DEFINED AS KEY 73 8.

P4175 BACKUP - KEY LENGTH CHECKS - 09-16-74

SPECIFICATION OF A KEY LENGTH GREATER THAN 28 CHARACTERS COULD CAUSE A SEG ARRAY ERROR IN BACKUP. KEYS ARE NOW ALLOWED UP TO 120 CHARACTERS. IF THE RANGE SPECIFIES A NUMERIC RANGE (E.G. RANGE 100 53800000) THE NUMBERS ARE LIMITED TO 12 DIGITS REGARDLESS OF THE KEY LENGTH.

P4220 BACKUP - II.7 COPYRIGHT - 11-23-74

THE II.7 RELEASE COPYRIGHT HAS BEEN UPDATED.

P4255 BACKUP - UNUSED VARIABLES - 01-12-74

SEVERAL VARIABLES WHICH WERE NO LONGER BEING USED HAVE BEEN DELETED.

P4642 BACKUP - COBOL KEYSTART VALUE - 10-27-74

THE DEFINE FOR THE START COLUMN OF THE SEQUENCE NUMBERS ON A COBOL PROGRAM HAS BEEN CHANGED FROM 1 TO 9 TO MATCH A CHANGE MADE TO THE COBOL COMPILER.

P4643 BACKUP - INVALID OP - 10-27-74

THIS PATCH FIXES AN INVALID OP CAUSED BY BACKUP PASSING AN UNINITIALIZED POINTER TO DELTA.

SOFTWARE IMPROVEMENTS

P4644 BACKUP - SCANNER - 11-10-74

THIS PATCH FIXES A PROBLEM IN THE SCANNER REWRITE PATCH WHICH CAUSED INPUT OF THE FORM PB D MIXNO/FILEID TO BE INTERPRETED INCORRECTLY.

P4645 BACKUP - "HI" INPUT - 11-10-74

THIS PATCH ADDS SOME ERROR CHECKS TO THE TAPE REPOSITIONING CODE AND ALSO FIXES A PROBLEM IN WHICH INPUT OF THE FORM AX LP NN MM WAS NOT BEING SCANNED CORRECTLY.

P5105 BACKUP - HI INPUT WHILE PRINTER NOT RDY - 12-22-74

SYSTEM/BACKUP WILL NOW ACCEPT A HI INPUT FROM THE OPERATOR WHILE WAITING ON PRINTER NOT READY, ALLOWING SWITCHING TO ANOTHER PRINTER WHEN THE FIRST CANNOT BE READIED.

P5106 BACKUP - MULTIPLE COPIES - 12-22-74

WHEN PRINTING OUT SEVERAL BACKUP FILES UNDER A DIRECTORY, THE COPIES COUNT WAS ONLY BEING APPLIED TO THE LAST FILE. IT NOW APPLIES TO ALL THE FILES.

P5107 BACKUP - PARITY ERRORR ON B5500 TAPES - 12-22-74

BACKUP CAN NOW RECOVER FROM PARITY ERRORS ON B5500 TAPES.

P5108 BACKUP - MULTIPLE COPIES - 01-12-75

A PROBLEM IN BACKUP INVOLVING MULTIPLE COPIES WITH PRINTER ASSIGNMENT (E.G. ?PB DNNNN COPIES 2 LP13) HAS BEEN FIXED. PREVIOUSLY, ONLY THE FIRST COPY WENT TO THE ASSIGNED PRINTER.

BACKUP

D0832 BACKUP - RANGE CHECKING - 08-04-74

SYSTEM BACKUP HAS BEEN MODIFIED TO PERFORM RANGE CHECKING DIFFERENTLY FROM BEFORE. THE FOLLOWING EXAMPLE WILL ILLUSTRATE THE CHANGE:

SUPPOSE A PRINTER BACKUP FILE CONTAINS THE FOLLOWING RECORDS:

RECORD #	CONTENTS
1	AAAA
2	BBBB
3	EEEE
4	AAAA
5	HHHH
6	DDDD
7	ZZZZ
8	DDDD

AND THE FOLLOWING PB STATEMENT IS USED TO PRINT IT:

```
PB (FILE NAME) KEY 1  4 RANGE  "EEEE" "ZZZZ".
```

SYSTEM BACKUP PREVIOUSLY EXAMINED EACH RECORD INDIVIDUALLY TO SEE IF IT MET THE RANGE CRITERIA, AND THEREFORE WOULD PRINT LINES 3, 5 AND 7. THE CURRENT MODIFICATION CHANGES IT TO PRINT EVERY RECORD FROM THE RECORD WHOSE KEY IS GREATER THAN OR EQUAL TO START VALUE UP TO THE RECORD WITH A KEY GREATER THAN OR EQUAL TO THE STOP VALUE. IT WILL NOW PRINT LINES 3, 4, 5, 6, AND 7.

D0833 BACKUP - PB MT BY NAME - 08-04-74

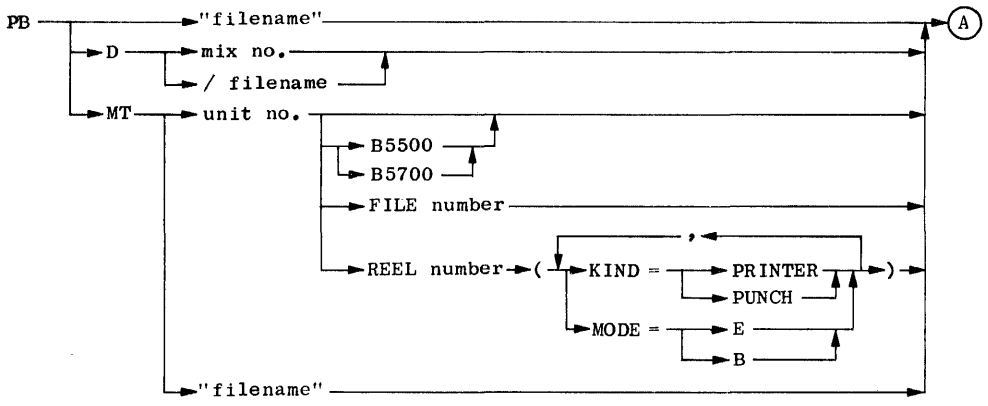
SYSTEM BACKUP NOW ALLOWS BACKUP FILES ON TAPE TO BE PB-ED BY NAME AS WELL AS BY UNIT NO. THE SYNTAX OF THE INPUT IS THE SAME AS FOR TAPE BY UNIT NO. EXCEPT THAT THE FILE NAME (IN QUOTES) FOLLOWS THE

D0833 BACKUP - PB MT BY NAME - 08-04-74

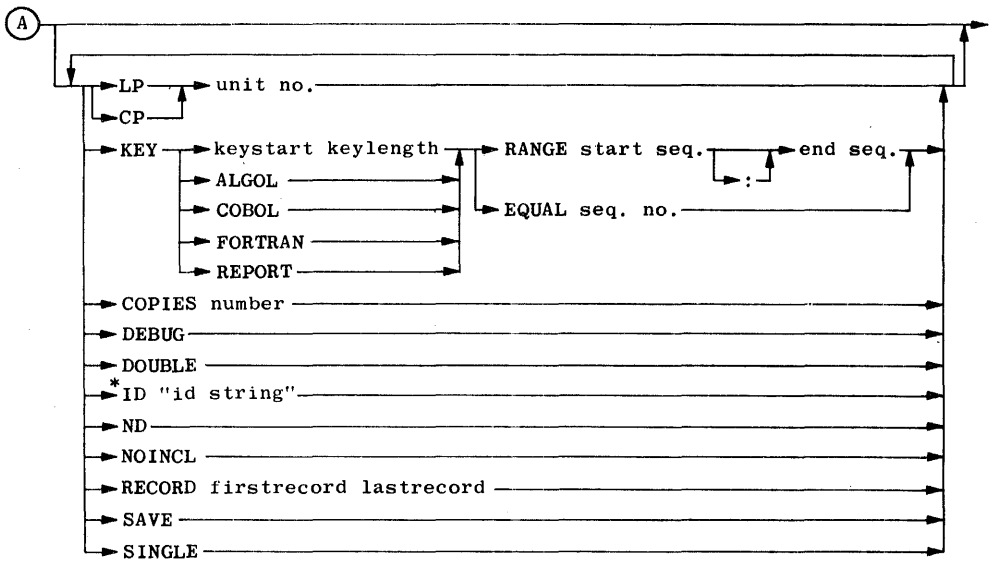
"MT", E.G ?PB MT "LINE";, ?PB MT "PRNT" SAVE LP13. IN CONTRAST TO PB-ING BY UNIT NO, BACKUP WILL ONLY PRINT THE REQUESTED FILE FROM THE TAPE AND WILL NOT PRINT THE OTHER FILES ON THE TAPE.

D0851 BACKUP - INPUT SYNTAX - 08-11-74

THE FOLLOWING IS THE COMPLETE INPUT SYNTAX FOR SYSTEM/BACKUP AS OF II.7:



D0851 BACKUP - INPUT SYNTAX - 08-11-74



*ONLY VALID WHEN COMPILED WITH IDOPTION SET.

EXPLANATION OF TERMS:

<FILE NAME>

THE NAME OF A DISK BACKUP FILE MAY BE SPECIFIED IN TWO WAYS.

1. PB "FILE NAME"

   THE ENTIRE FILE TITLE, INCLUDING THE BACKUP PREFIX (I.E., BD, BP OR WHATEVER WAS IN THE BDNAME STATEMENT USED WHEN CREATING THE FILE) IS ENCLOSED IN QUOTES. IF THIS FILE IS A DIRECTORY THEN EVERYTHING UNDER IT WILL BE PRINTED.

2. PB D FILE NAME

   IN THIS CASE, A PREFIX OF BD OR BP IS ASSUMED. BACKUP CONSTRUCTS THE FILE NAME BY PUTTING BD OR BP FIRST FOLLOWED BY THE MIX NUMBER FOLLOWED BY THE </FILE NAME> EXACTLY AS SPECIFIED.

THE TITLE OF A TAPE FILE IS SIMPLY THE NAME OF THE PRINTER OR PUNCH FILE USED TO WRITE IT, E.G., IF A FILE CALLED LINE WERE USED, THEN PB MT "LINE" WOULD BE THE INPUT TO BACKUP.

<KEYSTART>, <KEYLENGTH>

THESE ARE INTEGERS WHICH SPECIFY THE STARTING COLUMN AND NUMBER OF CHARACTERS IN THE SEQUENCE FIELD TO BE USED IN CHECKING THE RANGE LIMITS. KEYS OF ALGOL, FORTRAN AND COBOL USE THE APPROPRIATE COLUMNS FOR THE SEQUENCE NUMBERS ON COMPILATION LISTINGS GENERATED BY THESE COMPILERS. REPORT USES THE COLUMNS USED BY OUTPUTS GENERATED BY THE COBOL REPORT WRITER FEATURE.

<START SEQ>, <END SEQ>

SEQUENCE VALUES MAY EITHER BE NUMBERS OR QUOTED STRING OF LENGTH NO GREATER THAN <KEY LENGTH>.

SOFTWARE IMPROVEMENTS

BASIC

P3921 BASIC - DUPLICATE SEQUENCE NUMBERS - 08-04-74

THIS CHANGE WILL ELIMINATE DUPLICATE SEQUENCE NUMBERS IN THE BASIC SYMBOLIC.

P4120 BASIC - BASIC SEGMENTATION - 08-11-74

THIS PATCH WILL NOW GENERATE THE CORRECT ADDRESS IN THE PCW FOR BRANCHING FROM ONE SEGMENT TO A DIFFERENT SEGMENT.

P4621 BASIC - DEFINE FUNCTIONS - 11-17-74

THIS CHANGE WILL SYNTAX DEFINE FUNCTIONS THAT ARE USED BUT NOT DECLARED.

BASIC

D0767 BASIC - DELIMITERS BETWEEN LIST ITEMS - 04-18-74

THIS CHANGE WILL USE THE DEFAULT VALUE OF A SEMICOLON IF NO COMMA OR SEMICOLON APPEARS BETWEEN LIST ITEMS IN A PRINT STATEMENT.

BINDER

P3340 BINDER - INCORRECTLY PRINTED MESSAGE - 03-28-74

THIS CHANGE CORRECTS A PROBLEM IN WHICH AN "OFFSET TOO HIGH" ERROR MESSAGE WAS INCORRECTLY BEING PRINTED ON THE LINE PRINTER EVEN WHEN ERRLIST WAS SET AND LIST RESET.

P3638 BINDER - AREASIZE ALTERATION - 04-18-74

THIS PATCH MODIFIES THE ESPOL COMPILER AND BINDER TO PRODUCE ALTERED CODEFILE AREASIZE ATTRIBUTES FOR MCP COMPILATIONS AND BINDS TO PERMIT FLOATING THE MCP.

P3640 BINDER - FORTRAN PARAMETER PASSING - 05-12-74

THIS PATCH CORRECTS THE PROBLEM OCCURING IN SOME INSTANCES WHEN THE BINDER ERRONEOUSLY SYNTAXED FORTRAN SUBROUTINES THAT PASSED DOUBLE PRECISION SUBSCRIPTED VARIABLES TO DOUBLE PRECISION ARRAYS.

P3641 BINDER - DECLARATION OF INPUT ALTERED - 05-12-74

BINDER INPUT FILES HAVE BEEN ALTERED TO ACCEPT CODE FILES WHICH HAVE HAD THEIR BLOCKSIZE CHANGED FROM SYSTEM DEFAULTS.

P3642 BINDER - SEPCOMP OF DCALGOL FILES - 05-12-74

THIS PATCH IMPLEMENTS BINDER SETTING UP DCALGOL FILES FOR REPEATED SEPCOMPS.

P3799 BINDER - OMINFO BIT - 07-07-74

THIS PATCH PRESERVES BIT 44 OF WORD 8 OF SEGMENT 0 OF A CODE FILE FOR USE BY NEW DM CONSTRUCTS.

SOFTWARE IMPROVEMENTS

P3800 BINDER - LOCAL FILES IN INTRINSICS - 07-07-74

IN SOME INSTANCES LOCAL FILES WERE BEING RE-BOUND INCORRECTLY WHEN CREATING NEW INTRINSIC FILES BY REPLACEMENT.

P3922 BINDER - PLI PARAMETERS - 07-07-74

THIS CHANGE CORRECTS A PROBLEM IN WHEN BINDING A PLI PROCEDURE WITH PARAMETERS TO ANOTHER PLI PROCEDURE, THE BINDINFO WAS NOT BEING RECONSTRUCTED CORRECTLY IN THE CODEFILE.

BINDER

D0727 BINDER - ADDITIONAL PARAMETER SYNTAXING - 03-28-74

AN ATTEMPT TO BIND A PARAMETER THAT IS DECLARED CALL BY NAME IN THE HOST AND CALL BY VALUE IN THE PROCEDURE BEING BOUND (OR VICE VERSA) WILL RESULT IN A SYNTAX ERROR IN ALGOL-ALGOL, COBOL-COBOL, OR COBOL-ALGOL BINDING. IN BINDING FORTRAN TO ALGOL, A WARNING WILL BE GIVEN IN ERROR-PRONE SITUATIONS.

D0728 BINDER - "STRICT" DOLLAR CARD OPTION - 03-28-74

THE "STRICT" OPTION KEEPS A CODE FILE FROM BEING LOCKED IF ANY PROCEDURE NAME APPEARING ON AN EXPLICIT BIND CARD IS NOT BOUND FOR ANY REASON.

STRICT MAY BE SET OR RESET LIKE ANY OTHER OPTION;HOWEVER, IF NO EXPLICIT MENTION IS MADE OF THE OPTION ON ANY BINDER DOLLAR CARD, IT WILL BE SET BY DEFAULT FOR MCP BINDS.

D0775 BINDER - SEPARATELY COMPILED PROCEDURES - 05-30-74

SYSTEM MISCELLANEA (PAGES 6-12 AND 6-13) IS IN ERROR IN ITS EXAMPLE AND IMPLICATIONS OF NAME CHANGING IN SEPARATELY COMPILED PROCEDURES. A LEVEL 2 PROCEDURE IS AN EXECUTABLE PROGRAM AND, AS SUCH, THE EXTERNAL NAME OF THE CODEFILE IS NOT CHANGED. THE NAME OF THE CODEFILE IS CHANGED AS DESCRIBED IN THE DOCUMENT FOR COMPILATIONS AT LEVEL 3 OR HIGHER.

D0834 BINDER - PROCESSING OF LABEL-EQUATIONS - 07-07-74

THE BINDER WILL NOW UTILIZE THE FOLLOWING METHOD FOR COMBINING LABEL EQUATION DATA IN BINDING WITH A HOST:

1) IF NEITHER THE HOST NOR THE BIND DECK CONTAINED

LABEL-EQUATION (AND OTHER WFL INFO) NONE WILL BE PLACED IN THE FINAL CODE FIELD.

2) IF EITHER THE HOST OR THE BIND DECK CONTAIN LABEL-EQUATION (BUT NOT BOTH), THAT DATA WILL BE PLACED IN THE FINAL CODE FILE.

3) IF BOTH THE HOST AND THE BIND DECK CONTAIN LABEL-EQUATION THEY WILL BE COMBINED FOLLOWING WFL COMBINING RULES. IN THE EVENT OF CONFLICTS, THE BIND DECK LABEL-EQUATION DATA WILL PREVAIL. THE RESULTING DATA WILL BE PLACED IN THE FINAL CODE FILE.

4) LABEL-EQUATION DATA ASSOCIATED WITH SEPARATE PROCEDURES WILL BE DISCARDED.

SOFTWARE IMPROVEMENTS

CANDE

P3396 CANDE - "TITLE OBJECT" PARSING - 01-12-75

A COMMAND LIKE "TITLE OBJECT/X" WAS GENERATING AN ERROR MESSAGE. THE PARSER HAS BEEN CORRECTED.

P3428 CANDE - STACK2 DS-ED - 03-28-74

AN ERROR IN 2.6 CANDE AND ONE IN THE 2.6 MCP CAUSED STACK2 TO DS ITSELF AFTER DETECTING A "CHAOS", "XSBUF" OR "USURP" ERROR. THE PROBLEMS APPEARED WHEN "?STATUS" WAS INVOKED, AND HAVE BEEN CORRECTED.

P3432 CANDE - AUTORECOVERY: ALTERED STATUS - 01-14-75

WHEN CANDE AUTOMATICALY INVOKES RECOVERY ACTION AFTER A CANDE ERROR OR FAULT, IT HAS BEEN POSSIBLE TO LOSE THE INFORMATION THAT THE WORFILE HAD BEEN ALTERED: AN ATTEMPT TO SAVE OR UPDATE WOULD BE AN ERROR OR NOOP (UNTIL FURTHER CHANGES WERE ENTERED), BUT A LIST WOULD SHOW ALL THE CHANGES. THE ERROR HAS BEEN CORRECTED.

P3468 CANDE - "USURP' ERR WITH MANY CHANGES - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH IF ENOUGH CHANGES (ABOUT 205 NEW LINES) WERE ENTERED TO ALMOST OR EXACTLY FILL A CANDE EDIT CONTROL BLOCK, AN ATTEMPT TO LIST OR UPDATE THE WORKFILE WOULD CAUSE "CANDE ERR:USURP" TO BE DETECTED. CANDE RECOVERED, BUT THE ERROR WAS REPORTED EACH TIME THE RECOVERY FILE WAS USED.

P3489 CANDE - "NON-DIGIT IN SEQ" MESSAGE - 04-18-74

AN ERROR IN 2.6 CANDE HAS BEEN CORRECTED: THE WRONG LINE WAS OFTEN DISPLAYED IN THE "NON-DIGIT IN SEQ" MESSAGE.

SOFTWARE IMPROVEMENTS

P3490 CANDE - DCERRORANNALYSIS - 04-18-74

THE DCERRORANALYSIS INTRINSIC IS NOW BEING USED FOR DISPLAYING DATACOM ERROR MESSAGES ON THE CANDE LOG STATION. A TWO-LINE INTERPRETIVE MESSAGE NOW APPEARS INSTEAD OF THE CRYPTIC "ERROR ABORT" LINE WITH TWO HEX WORDS.

P3491 CANDE - EDIT ABORT - 04-18-74

IF AN UPDATE OPERATION IS ABORTED FOR ANY REASON (USER ?DS, SEQUENCE ERROR, NO FILE, ETC.) WHILE A RESEQ, INSERT, MOVE, MERGE, RMERGE OR EXCLUDE COMMAND IS BEING PROCESSED, THAT COMMAND WILL BE DISREGARDED AND A MESSAGE LIKE "#MOVE NOT DONE" WILL BE DISPLAYED. FORMERLY, THE COMMAND WOULD BE DISREGARDED IN SOME CASES AND RETAINED FOR LATER PROCESSING IN OTHERS; AND THERE WAS NO MESSAGE.

P3492 CANDE - FIX ERRORS VS LIST CHANGES - 04-18-74

WHEN A "FIX OFLO" MESSAGE WAS GENERATED DURING A LIST:CHANGES OR LIST:COMPARE COMMAND, THE CHANGED LINE WAS NOT BEING LISTED. THESE PROBLEMS HAVE BEEN CORRECTED. IF A "NO TARGET TO FIX" MESSAGE WAS DISPLAYED ON ONE LIST OPERATION, THE LINE WOULD APPEAR UNALTERED ON SUBSEQUENT LIST OPERATIONS, EVEN IF IT HAD BEEN INSERTED OR FIXED PRIOR TO THE BAD FIX ATTEMPT.

P3493 CANDE - FILE MODIFIER, LFILES, ETC. - 04-18-74

THERE HAVE BEEN PROBLEMS WITH THE FILE MODIFIER

```
FILE PDQ=123X
```

AND WITH THE LFILES COMMAND

```
LFIL (OZ):ABB ALL
```

BECAUSE OF INCORRECT TRANSCRIPTION AND DEBLANKING OF THESE TEXT STRINGS WITHIN CANDE. (IN THE FIRST EXAMPLE A GRATUITOUS BLANK WAS INSERTED IN "123 X"; IN THE SECOND, THE ")" WAS LOST.) THE PROBLEMS HAVE BEEN CORRECTED BY REDESIGN OF THE TRANSCRIPTION

ALGORITHM USED FOR FILE MODIFIERS AND THE FOLLOWING COMMANDS: LFILES, DCSTATUS, LOG.

P3593 CANDE - GUARDFILE TITLE - 05-12-74

CANDE WILL PRESERVE THE GUARDFILE TITLE (SECURITYGUARD ATTRIBUTE), ALONG WITH OTHER ATTRIBUTES OF THE WORKFILE IN A GET-MODIFY-SAVE SEQUENCE. AN ERROR IN THIS HANDLING HAS BEEN CORRECTED. (THE ERROR CAUSED NO PROBLEM PRIOR TO RELEASE 2.7, BECAUSE IT WAS MASKED BY AN ERROR IN THE MCP.)

P4250 CANDE - STACK2 STACK SIZE - 08-04-74

THE STACKSIZE CALCULATED BY STACK1 FOR STACK2 WAS BEEN INCREASED TO AVOID STACK OVERFLOW WITH THE 2.7 MCP.

P4306 CANDE - AUTORECOVERY OUTPUT - 05-12-74

CANDE NOW RESETS THE OUTPUT-LISTING CONTROLS WHEN ENTERING THE AUTORECOVERY LOGIC, SO SUCH ABERRATIONS AS A "SEQUENCE NUMBER" ON THE "#WORKFILE ... " MESSAGE WILL NOT APPEAR.

P4344 CANDE - LOGANALYZER LINE FILE - 09-29-74

THE OUTPUT FILE OF SYSTEM/LOGANALYZER NOW HAS THE INTNAME "LINE". CANDE LABEL EQUATION FOR THE LOG STATEMENT HAS BEEN CHANGED ACCORDINGLY.

P4354 CANDE - STATION TABLES, CONTROL LOGIC - 08-04-74

THE STATION TABLES AND CONTROL LOGIC IN CANDE (PRIMARY STACK) HAVE BEEN EXTENSIVELY REVISED. THE RESULTS INCLUDE MORE EFFICIENT USE OF CORE MEMORY, BETTER CONTROL OF DATACOM ERRORS AND OTHER EXCEPTIONAL CONDITIONS, AND THE ELIMINATION OF SEVERAL ERRORS AND SHORTCOMINGS IN CANDE OPERATION. A TIMING ABILITY HAS BEEN ADDED; IT IS COARSE (ONE-MINUTE INTERVALS) AND SHORT-RANGE (15 MINUTES) TO MINIMIZE PROCESSING AND STORAGE OVERHEAD.

THOUGH INTERRELATED IN THE CANDE CODE, SEVERAL OF THE AREAS OF

CHANGE ARE LARGELY INDEPENDENT IN THEIR EFFECTS ON THE USER AND THE OPERATOR; THEY HAVE BEEN DOCUMENTED SEPARATELY IN CANDE NOTES D0959 THROUGH D0963, AND D0977. A FEW OF THE CORRECTIONS AND IMPROVEMENTS ARE DESCRIBED HERE.

MULTI-STATION SWITCHED LINES ARE NOW TREATED SPECIALLY: WHEN CANDE IS NOTIFIED THAT A STATION ON THE LINE HAS BEEN CONNECTED OR DISCONNECTED, CANDE TAKES THE APPROPRIATE ACTION FOR ALL STATIONS ON THE LINE. CANDE NEVER DISCONNECTS A MULTISTATION SWITCHED LINE; A "BYE" OR "?CLEAR" AFFECTING ONE STATION WILL NOT AFFECT THE OTHERS.

ON INFREQUENT OCCASIONS, CANDE WAS FAILING TO NOTICE THAT A STATION HAD BEEN DISCONNECTED, BECAUSE THE NOTICE TOOK AN UNUSUAL FORM. UPON BEING RECONNECTED, THE STATION WOULD RETAIN ITS PREVIOUS LOGGED-IN STATUS, EVEN THOUGH CANDE WOULD ASK FOR AND ACCEPT A NEW USERCODE. THIS OVERSIGHT HAS BEEN CORRECTED.

WHEN SEQUENCE OVERFLOW OCCURRED DURING PAPER-TAPE READ ("TAPE SEQ"), THE COUNT OF LOST RECORDS WAS ONE TOO LOW; THIS ERROR HAS BEEN CORRECTED.

CANDE INITIALIZATION IS SOMEWHAT FASTER IN II.7: A READ FROM THE NETWORK INFORMATION FILE FOR EACH STATION IS NOW AVOIDED; THE NEW TANKFILE IS INITIALIZED TEN STATIONS PER WRITE (INSTEAD OF ONE AT A TIME); AND A REDUNDANT FILE-OPEN HAS BEEN REMOVED.

P4383 CANDE - DELETE EVERYTHING - 05-12-74

AN ERROR HAS BEEN CORRECTED WHICH HAD THE FOLLOWING SYMPTOM: IF A WORKFILE FILE-PART EXISTED BUT HAD BEEN ENTIRELY DELETED (E.G., "GET X; DEL 0-END), A LIST COMMAND WOULD STILL LIST THE CONTENTS OF THE FILE. ANY ADDITIONAL EDITING WOULD WORK CORRECTLY AND WOULD CAUSE CORRECT LIST ACTION. (NOTE THAT "DEL ALL" IS DIFFERENT FROM "DEL 0-END" AND HAD NO PROBLEM.)

P4384 CANDE - INTERNAL IMPROVEMENT - 05-12-74

SOME PROCEDURE HEADINGS AND REFERENCES HAVE BEEN MODIFIED TO REDUCE

THE GENERATION OF UNNECESSARY CODE IN PARAMETER PASSING.

P4387 CANDE - DIRECTORY READING - 08-04-74

CANDE NOW USES GETSTATUS TO READ THE DIRECTORY (USERCODE)CANDE/= TO FIND RECOVERY FILES.

P4388 CANDE - OLD RECOVERY FILES - 09-16-74

THE CODE TO ACCOMODATE RECOVERY FILES GENERATED BY VERSIONS OF CANDE OLDER THAN II.5 HAS BEEN REMOVED; SUCH A FILE WILL BE REJECTED AS AN "INCOMPATIBLE RECOVERY FILE". II.7 CANDE WILL ACCOMMODATE RECOVERY FILES GENERATED BY II.6 OR II.5 CANDE; THE REVERSE IS NOT TRUE.

P4389 CANDE - OUTPUT MESSAGES - 09-29-74

OUTPUT MESSAGES FROM THE PRIMARY STACK OF CANDE ARE NOW HANDLED BY A NEW MECHANISM. THE MOST IMPORTANT DIFFERENCE IS THAT LONG MESSAGES ARE FOLDED TO FIT THE TERMINAL, ACCORDING TO ITS WIDTH AS SPECIFIED IN THE NETWORK DEFINITION OR BY A TERM COMMAND.

MESSAGES FROM THE LOGGING ROUTINE FOR THE CANDE SPO ARE NOT AFFECTED.

MESSAGES DISPLAYED ON THE SYSTEM OPERATOR CONSOLE ARE NOT FOLDED.

SOME MESSAGES HAVE BEEN REVISED FOR ACCURACY.

P4390 CANDE - COPYRIGHT NOTICE - 10-15-74

II.7 COPYRIGHT NOTICE.

P4395 CANDE - LOG ELAPSED TIME - 11-03-74

CANDE NOW RECORDS ELAPSED-TIME FOR THE SESSION IN WORD 23 OF THE LOG-OFF AND LOG-TIMES RECORD. THE TIME IS IN CLOCK UNITS (2.4@-6 SEC) AND IS THE TIME FROM LOGON TO LOGOFF. (THE TIMER RESTARTS AT EACH LOGON FOR SPLIT OR CHARGE.)

SOFTWARE IMPROVEMENTS

P4462 CANDE - AUTORECOVERY - 12-11-74

CANDE FAULT AND ERROR HANDLING HAS BEEN MODIFIED TO AVOID A POSSIBLE LOOPING AGAIN AND AGAIN THROUGH THE AUTORECOVERY MECHANISM IF AN ERROR OCCURS WHILE DOING AUTORECOVERY.

P4463 CANDE - "NEXT" VALUE - 12-11-74

THE VALUE OF "NEXT" AS IN "SEQ NEXT", "INS X AT NEXT" IS SET BY AUTOMATIC SEQUENCE MODE OR BY THE "MOVE", "INSERT" OR "RESEQ" COMMAND. THIS VALUE WILL NO LONGER BE LOST BY PERFORMING AN UPDATE NOT INVOLVING THESE COMMANDS.

P5122 CANDE - PROBLEMS WITH "END" - 12-22-74

THREE PROBLEMS HAVE BEEN CORRECTED INVOLVING THE USE OF "END" AS A SEQUENCE RANGE OR BASE:

1="DELETE END", "INSERT END" AND SIMILAR CONSTRUCTS ARE INVALID WHEN THE WORK FILE IS EMPTY. THE PROBLEM WAS THAT CANDE LEFT THE WORK FILE UNUSABLE WITH A PERMANENT "# EMPTY WORK FILE " MESSAGE.

2.="GET <FILENAME><SEQUENCE RANGE LIST>" FOLLOWED BY "SEQ END" CAUSED CANDE TO LOOP.

3.="SEQ END" ON A WORK FILE WITH ALTERATIONS COULD CAUSE A "CANDE ERR:USURP" (IF PEDANTIC IS SET) OR INCORRECT RESULTS.

CANDE

D0743 CANDE - SIMPLIFICATIONS AND SYNONYMS - 04-18-74

THE CANDE LANGUAGE HAS BEEN SIMPLIFIED IN CERTAIN RESPECTS, AND SYNONYMS DEFINED FOR CERTAIN COMMANDS.

RUN = EXECUTE

THE RUN COMMAND IS NOW EXACTLY SYNONYMOUS WITH EXECUTE. THE CHANGES IN THE SEMANTICS INTRODUCED BY THIS SPECIFICATION ARE AS FOLLOWS:

1. AN ATTEMPT TO EXECUTE A WORKFILE WHICH HAS NO OBJECT FILE WILL CAUSE THE WORKFILE TO BE COMPILED, RATHER THAN CAUSING AN ERROR MESSAGE.

2. A RUN COMMAND MAY NOW SPECIFY A FILENAME IN ANOTHER LIBRARY: FOR EXAMPLE, RUN *SYSTEM/CARDLINE OR RUN (HIS)PROGRAM.

3. A RUN COMMAND MAY NOW SPECIFY AN OBJECT PROGRAM WITH NON-STANDARD NAME: RUN $BATCHCOMPILED.

4. A RUN COMMAND MAY NOW SPECIFY A PARAMETER (WHEN AN EXPLICIT FILENAME IS PROVIDED): RUN BLOCKCHAR("BIG SIGN").

5. WHEN A RUN COMMAND SPECIFIES AN EXPLICIT FILE NAME (RATHER THAN THE WORKFILE), IF NO OBJECT FILE EXISTS AN ERROR MESSAGE WILL RESULT AND THE PROGRAM WILL NOT BE COMPILED.

SUMMARY: THE ABILITY TO COMPILE A WORKFILE (BUT NOT AN EXPLICITLY-NAMED FILE) HAS BEEN ADDED TO THE EXECUTE COMMAND, AND THE RUN COMMAND MADE SYNONYMOUS WITH IT. THIS CHANGE ELIMINATES SOME SUBTLE DISTINCTIONS AND IMPROVES COMPATIBILITY WITH THE WORK-FLOW LANGUAGE (WHERE RUN AND

D0743 CANDE - SIMPLIFICATIONS AND SYNONYMS - 04-18-74

EXECUTE ARE SYNONYMOUS, AND HAVE SYNTAX EQUIVALENT TO CANDE IN MANY CASES).

CHANGE = TITLE

THE KEYWORD "CHANGE" (MINIMUM ABBREVIATION "CHAN") IS NOW SYNONYMOUS WITH "TITLE". PREVIOUSLY, "CHANGE" HAS BEEN ACCEPTED AS A NOISE WORD PRECEDING "TITLE", "TYPE" OR "PASSWORD", BUT THIS FEATURE WAS NOT DOCUMENTED. THE NEW SPECIFICATION IS MUCH SIMPLER, AND IMPROVES COMPATIBILITY WITH WFL AND B5700 CANDE.

PRINT = LIST

THE KEYWORD "PRINT" (MINIMUM ABBREVIATION "P") IS NOW SYNONYMOUS WITH "LIST". THESE TWO COMMANDS HAVE SIMILAR PROPERTIES IN B5700 CANDE; THEY ARE IDENTICAL IN B6700/B7700 CANDE.

LOAD = GET

THE KEYWORD "LOAD" (NO ABBREVIITION) IS SYNONYMOUS WITH "GET". THIS FEATURE, FOR B5700 COMPATIBILITY, HAS BEEN PRESENT SINCE THE 2.3 RELEASE, BUT WAS NEVER DOCUMENTED.

D0752 CANDE - RESEQ OVERRIDE - 04-18-74

A CORRECTION AND AN INPROVEMENT HAVE BEEN APPLIED TO THE RESEQ OVERRIDE COMMAND: THE BASE MAY NOW BE LESS THAN 100. THE RESTRICTION THAT THE WORKFILE MUST BE "UNALTERED" HAS BEEN EASED: THERE MUST HAVE BEEN NO CHANGES (NEW LINES, FIXES, DELETIONS) THAT REQUIRE VALID SEQUENCE NUMBERS FOR APPLICATION, BUT SUCH THINGS AS A TYPE CHANGE OR A RESEQ THAT FAILED WILL NO LONGER PREVENT THE RESEQ OVERRIDE.

D0753 CANDE - ?CLOSE CONTROL - 04-18-74

A NEW CONTROL COMMAND "CLOSE" (MINIMUM ABBREVIATION "CLO") HAS BEEN IMPLEMENTED. IT IS VALID FROM A CONTROL STATION OR AN SM OPERATOR

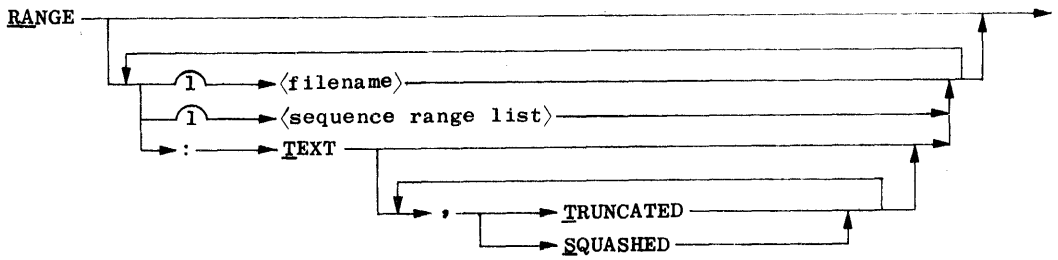
D0753 CANDE - ?CLOSE CONTROL - 04-18-74

INPUT; IT CAUSES THE TASKFILE OF EACH CANDE STACK TO BE CLOSED. THE TASKFILES ACCUMULATE PROGRAM DUMPS AND OTHER DIAGNOSTIC INFORMATION. AFTER THEY HAVE BEEN CLOSED. THEY MAY BE PRINTED WITH A PB OPERATOR INPUT SPECIFYING THE JOB (MIX) NUMBER FOR SYSTEM/CANDE. IF FURTHER DIAGNOSTIC DATA ARE GENERATED, NEW FILES WILL BE CREATED. THIS FEATURE ALLOWS THE DIAGNOSTIC LISTINGS TO BE EXAMINED WITHOUT TERMINATING CANDE.

D0756 CANDE - NEW RANGE COMMAND - 04-18-74

A NEW CANDE OUTPUT COMMAND, "RANGE", HAS BEEN IMPLEMENTED TO ALLOW THE USER TO EXAMINE THE RECORD POPULATION OF SPECIFIED PORTIONS OF FILES. THE SYNTAX CONSISTS OF THE KEYWORD "RANGE" (MINIMUM ABBREVIATION "RA") FOLLOWED OPTIONALLY BY A FILENAME, SEQUENCE RANGE LIST, AND/OR OUTPUT FORMAT OPTIONS.

THE COMMAND SYNTAX IS AS FOLLOWS:



BY DEFAULT, THE CONTENTS OF THE WORKFILE ARE EXAMINED; IF A FILENAME IS SPECIFIED, THEN THIS FILE IS EXAMINED BY THE COMMAND IF THE USER HAS ACCESS PRIVILEGES. WHEN THE WORKFILE IS USED, IT IS UPDATED IF THERE ARE ANY CHANGES OUTSTANDING.

ONE OR MORE SEQUENCE RANGES MAY BE SELECTED; OTHERWISE, A DEFAULT SEQUENCE RANGE OF 0-END IS SUPPLIED.

IF THE SEQUENCE RANGE CONSISTS OF A SINGLE SEQUENCE NUMBER OR THE KEYWORD "END", THE SEQUENCE NUMBERS (AND OPTIONALLY THE TEXT) OF THE ONE TO THREE NEAREST NEIGHBORS OF THE SEQUENCE NUMBER IN THE FILE ARE RETURNED.

IF THE SEQUENCE RANGE CONSISTS OF TWO NONIDENTICAL SEQUENCE NUMBERS, THE NUMBER OF RECORDS WITHIN THE INDICATED RANGE IS RETURNED ALONG WITH THE SEQUENCE NUMBERS (AND OPTIONALLY THE TEXT) OF THE FIRST AND LAST RECORDS WITHIN THAT RANGE.

THE SEQUENCE RANGES SPECIFIED IN THE SEQUENCE RANGE LIST NEED NOT BE DISJOINT.

WHEN THE "TEXT" OUTPUT OPTION IS SPECIFIED, THE TEXT OF THE RESPONSE RECORDS IS DISPLAYED TO THE TERMINAL. TWO OUTPUT FORMAT OPTIONS ARE AVIALABLE AND AFFECT THE TEXT IN THE FOLLOWING MANNER:

1. TRUNCATED IF THE TEXT PORTION OF A RECORD WILL NOT FIT IN THE AVAILABLE SPACE ON A LINE, IT IS TRUNCATED TO ONE LINE.

2. SQUASHED ANY GROUP OF MULTIPLE BLANKS IS REDUCED TO A SINGLE BLANK.

EXAMPLE:

CONSIDER A FILE WHICH CONTAINS THE FOLLOWING THREE RECORDS:

```
100 ONE
200 TWO
300 THREE
```

TYPICAL RANGE REQUEST AND THEIR RESPONSES ARE AS FOLLOWS:

```
RA
# 3 RECORDS: 100 THRU 300
#


RA: T
# 3 RECORDS:
100 ONE
```

D0756 CANDE - NEW RANGE COMMAND - 04-18-74

```
  THRU
300 THREE
#

RA 200, 400-END, 150-250
100, 200, 300
#NO RECORDS IN 400-END
# 1 RECORD: 200
#

RA END, 400, 250: T
200 TWO
300 THREE

300 THREE

200 TWO
300 THREE
#
```

D0760 CANDE - REORGANIZATION AND CLEANUP - 05-12-74

THE SYMBOLIC FILE SYMBOL/CANDE HAS BEEN REORGANIZED TO IMPROVE MAINTAINABILITY. GLOBALS FOR ALL STACKS HAVE BEEN SEPARATED FROM THOSE FOR THE FIRST STACK ONLY, SO ALGOL SCOPE RULES WILL NOW PREVENT SOME INCORRECT REFERENCES FROM BEING COMPILED INADVERTENTLY. ALL THE STACK-1 DECLARATIONS AND SOME PROCEDURES HAVE BEEN RESEQUENCED; MUCH OF THE BODY OF CODE WAS UNAFFECTED. WHEREVER POSSIBLE, PATCH MARKS WERE PRESERVED.

MANY UNNECESSARY DEFINES AND UNUSED DECLARATIONS WERE ELIMINATED. LOCAL IDENTIFIERS WHICH MATCH GLOBAL ONES WITHOUT SPECIFIC REASON HAVE BEEN CHANGED.

THE $NODC COMPILE-TIME OPTION FOR CANDE TESTING HAS BEEN REMOVED.

SOME DEBUG OPTIONS WERE CONSOLIDATED, SEE NUMBERS 14, 15, 17, 18.

D0760 CANDE - REORGANIZATION AND CLEANUP - 05-12-74

THE FORWARD DECLARATIONS IN WORKER AND TASKER ARE NOW COMPLETE AND ALPHABETIZED, AND CONTAIN LINE REFERENCES TO THE PROCEDURES.

D0761 CANDE - FIND-REPLACE TEXT OPTIONS - 05-12-74

THE "SQUASHED" AND "TRUNCATED" OPTIONS ARE NOW APPLICABLE TO THE "TEXT" OUTPUT FROM THE FIND AND REPLACE COMMANDS. THE OPTIONS FUNCTION AS FOR THE LIST COMMAND, COMPRESSING BLANK STRINGS AND SUPPRESSING OVERFLOW OUTPUT LINES. THE SYNTAX PERMITS EITHER OR BOTH OPTIONS TO APPEAR IMMEDIATELY AFTER THE "TEXT" SPECIFICATION, SET OFF BY COMMA.

EXAMPLES:

```
FIND .A+B. :TEXT,SQUASHED
REP .X..Y. :T,T,S  T
```

NOTE THAT IN REPLACE, THESE OUTPUT FORMAT OPTIONS APPLY ONLY TO THE TERMINAL OUTPUT AND DO NOT AFFECT THE LINE IMAGES IN THE WORKFILE. THE "TRUNCATE" AND "SQUEEZE" OPTIONS (NOT PRECEDED BY A COLON) CONTROL THE STORAGE OF TEXT WHICH BECOMES TOO WIDE FOR THE LINE.

D0893 CANDE - FILE ACCESS - 12-11-74

CANDE CAN NOW ACCESS AND MANIPULATE DISKFILES ON FAMILIES (DISKPACKS) OTHER THAN HEAD-PER-TRACK DISK. THE SPECIFICATION OF FAMILY MAY BE EXPLICIT IN THE CANDE COMMAND (E.G. "LIST <FILENAME> ON <PACKNAME>") OR OVERALL FOR THE SESSION. OVERALL SPECIFICATIONS ARE MADE THROUGH THE CANDE "FAMILY" STATEMENT OR BY DEFAULT THROUGH THE USERCODE. FAMILY SPECIFICATIONS ARE DESCRIBED IN MCP NOTE D1075, WHERE THE NOTION OF CANDE "WORKFILE FAMILY" IS DEFINED.

EXPLICIT FILE REFERENCES

THE SUFFIX "ON <PACKNAME>" MAY BE APPENDED TO A <FILENAME> IN THE CANDE SYNTAX WHEREVER ITS INCLUSION IS CONSISTANT WITH THE PHILOSOPHY THAT CANDE CREATES OR MODIFIES FILES ONLY IN THE USER LIBRARY, WHICH IS NOW DEFINED AS THE FILES UNDER HIS USERCODE ON

THE CURRENT WORKFILE FAMILY. CANDE ACCEPTS/REJECTS THE SUFFIX ON FILENAMES IN VARIOUS COMMANDS AS FOLLOWS:

"ON <PACKNAME>" ACCEPTED		"ON <PACKNAME>" REJECTED
COMPILE (SOURCE)		COMPILE AS
COMPILE (COMPILER)		
EXCLUDE		
EXECUTE/RUN		
FILE	[SEE NOTE 2]	
FIND (SOURCE)		FIND :FILE
GET (SOURCE)	[SEE NOTE 1]	GET AS
INSERT		
LFIL	[SEE NOTE 2]	MAKE
LIST		REMOVE
MERGE		REPLACE :FILE
MOVE		SAVE AS
RANGE		SECURITY
RMERGE		TITLE
WRITE		TYPE

NOTE 1: A "GET" COMMAND MAY LOCATE A FILE OUTSIDE THE USER LIBRARY (I.E. ONE NOT UNDER HIS USERCODE OR NOT ON HIS WORKFILE FAMILY), IN WHICH CASE THE RESULTING WORKFILE IS UNNAMED. THE USER MAY "TITLE" THE WORKFILE OR "SAVE AS" TO SAVE THE NEW WORKFILE IN HIS LIBRARY.

NOTE 2: A "FILE" OR "LFIL" COMMAND PERTAINS BY DEFAULT TO THE WORKFILE FAMILY ONLY. IF THE PHRASE "ON <PACKNAME>" APPEARS, THE NAMED FAMILY IS ACCESSED AND FAMILY SUBSTITUTION IS IGNORED.

SEARCH ORDER; SECURITY

WHEN CANDE IS FIRST ASKED TO READ A FILE SPECIFIED BY THE USER, IT TEMPORARILY ASSUMES THE USERCODE AND PRIVILEGES OF THE USER AND CAUSES THE OPERATING SYSTEM TO SEEK THE FILE THROUGH THE NORMAL SEARCH HEIRARCHY (SEE MCP NOTE D1075). THUS A PRIVILEGED USER MAY ACCESS ANY FILE THROUGH CANDE; A NON-PRIVILEGED USER MAY ACCESS ANY

FILE WHOSE SECURITY ATTRIBUTES GRANT HIM READ ACCESS. THESE INCLUDE HIS OWN FILES AND OTHER-USER FILES WHICH ARE CLASSA, OR CLASSB WITH HIS USERCODE VALIDATED IN THE GUARDFILE.

RECOVERY FILES

RECOVERY INFORMATION CONSISTS OF ONE TO THREE FILES: A "RECOVERY" FILE CONTAINS ANY WORKFILE CHANGES SINCE THE LAST UPDATE, AND THE TITLE AND OTHER ATTRIBUTES OF THE WORKFILE. IF THE WORKFILE HAS BEEN UPDATED BUT NOT YET SAVED, THERE WILL BE A "TEXT" FILE. IF THE WORKFILE HAS BEEN COMPILED BUT NOT YET SAVED, THERE WILL BE A "CODE" FILE. A TEXT OR CODE FILE IS GENERATED AT UPDATE OR COMPILATION TIME AND IS WRITTEN ON THE WORKFILE FAMILY. THE RECOVERY FILE IS GENERATED WHEN OR AFTER THE SESSION IS ABORTED, AND MAY BE WRITTEN EITHER OF TWO PLACES: IF POSSIBLE, IT IS PUT ON THE "DEFAULT WORKFILE FAMILY", DEFINED AS THE WORKFILE FAMILY ESTABLISHED AT LOGON TIME BY ANY USERDATA FAMILY SPECIFICATIONS. IF THAT FAMILY IS NOT AVAILABLE, THE RECOVERY FILE IS WRITTEN ON THE FAMILY CONTAINING THE CODEFILE FOR THE CANDE MCS.

THE "RECOVER" COMMAND DISPLAYS AND RECOVERS RECOVERY FILES ON UP TO THREE PLACES, IN THE FOLLOWING ORDER OF PRECEDENCE: THE USERDATA DEFAULT WORKFILE FAMILY, THE CANDE MCS FAMILY, AND THE CURRENT WORKFILE FAMILY. THE "DISCARD" COMMAND REMOVES RECOVERY, TEXT AND CODE FILES WITH THE SPECIFIED NUMBER(S) FROM ALL THREE OF THESE FAMILIES.

A RECOVERY-DATA DISPLAY IS GROUPED ACCORDING TO THE FAMILY CONTAINING THE RECOVERY FILES. IF A RECOVERY FILE PERTAINS TO A WORKFILE ON A DIFFERENT FAMILY, THE PHRASE "ON <FAMILY>" APPEARS IN THE DISPLAY.

RECOVERING A WORKFILE SETS THE SESSION FAMILY SPECIFICATIONS TO THOSE IN EFFECT AT THE TIME THE WORKFILE WAS SAVED; THE NEW SPECIFICATIONS ARE DISPLAYED IF DIFFERENT FROM THOSE IN EFFECT BEFORE RECOVERY.

IF THE FILE PART OF A RECOVERED WORKFILE IS NOT PRESENT, THE

D0893 CANDE - FILE ACCESS - 12-11-74

RECOVERY ACTION IS ABORTED WITH AN APPROPRIATE MESSAGE, BUT THE RECOVERY FILE IS NOT PURGED; ONE MAY MAKE THE MISSING FILE PRESENT AND ATTEMPT THE RECOVERY AGAIN.

D0924 CANDE - $ INTERNAL OPTION - 08-04-74

A NEW COMPILE-TIME OPTION HAS BEEN DEFINED FOR CANDE :

"$ SET INTERNAL"

IT CAUSES A GROUP OF COMPILE OPTIONS TO BE SET AS THEY NORMALLY ARE FOR CANDE COMPILED FOR INTERNAL SOFTWARE- DEVELOPMENT USE. THESE OPTIONS ARE NORMALLY UNSET WHEN CANDE IS COMPILED FOR FIELD RELEASE. THE "INTERNAL" OPTION IS PRIMARILY FOR THE CONVENIENCE OF THE SOFTWARE DEVELOPERS.

D0925 CANDE - FILEDATA AND LFILES - 09-16-74

SYSTEM/FILEDATA HAS REPLACED SYSTEM/LISTFILES AS THE UTILITY PROGRAM CANDE CALLS TO PROCESS "LFILES" COMMANDS. FILEDATA ACCEPTS THE SAME INPUT SYNTAX AND PRODUCES SIMILAR OUTPUT. THE "FILES" COMMAND IS NOW PROCESSED INTERNALLY BY CANDE, WITHOUT CALLING A SEPARATE UTILITY. NEW CAPABILITIES PROVIDED FOR BOTH COMMANDS INCLUDE:

PACK DIRECTORIES MAY BE INTERROGATED; FOR EXAMPLE:

LFIL X/Y ON P

THE NUMBER OF LEVELS OF NAMES TO BE PRODUCED MAY BE SPECIFIED. FOR EXAMPLE :

FILE X : 2

WILL LIST FILES X/Y AND X/A/B, AND WILL LIST DIRECTORY X/P/Q, BUT NOT LIST FILES X/P/Q/F OR X/P/Q/G, SINCE THOSE ARE MORE THAN 2 LEVELS BELOW X. ONE DIFFERENCE BETWEEN FILES AND LFILES SHOULD BE NOTED:

WHEN PAGED OUTPUT IS BEING SENT TO A CRT TERMINAL, "FILES" USES THE SAME MECANISM AS "LIST", SO NON-NULL INPUT LINES WILL BE QUEUED (SEE NOTE D0932). THIS FEATURE IS NOT AVAILABLE WHEN AN EXTERNAL

D0925 CANDE - FILEDATA AND LFILES - 09-16-74

UTILITY IS INVOLVED, AS FOR "LFILES". HENCE, ANY INPUT WILL CAUSE A NEW PAGE AND THE INPUT WILL BE DISCARDED.

D0926 CANDE - USERCODE-PASSWORD HANDLING - 09-16-74

THE HANDLING OF USERCODES AND PASSWORDS IN CANDE HAS BEEN RE-IMPLEMENTED USING THE USERDATA FUNCTION, PERMITTING MORE EFFICIENT CODE, BETTER CONTROL, AND GREATER VERSATILITY. CANDE DOES NOT KEEP A COPY OF THE PASSWORD, NOR IS A PASSWORD EVER WRITTEN IN A RECOVERY FILE.

THE PASSWORD COMMAND HAS BEEN EXTENDED TO ALLOW A USER TO MODIFY A PASSWORD LIST; THIS IS ACCOMPLISHED BY ENTERING THE OPERATOR "+", "-", OR "=" BETWEEN THE FIRST AND SECOND PASSWORD IN THE COMMAND.
TO ADD "PW" TO THE LIST, ENTER :

```
PASSWORD FIRSTPW + PW PW
```

TO DELETE "PW" FROM THE LIST, ENTER :

```
PASSWORD FIRSTPW - PW PW
```

TO REPLACE THE WHOLE LIST WITH THE SINGLE ENTRY "PW", ENTER :

```
PASSWORD FIRSTPW = PW PW
```

TO REPLACE THE PASSWORD "OLDPW" BY "PW", ENTER AS BEFORE :

```
PASSWORD OLDPW PW PW
```

IN EACH CASE, FIRSTPW MUST BE THE FIRST PASSWORD IN THE LIST, WHICH IS THE FIRST PASSWORD THAT WAS DEFINED FOR THAT USERCODE, OR ITS SUCCESSOR IF THAT ONE WAS EXPLICITLY CHANGED. OLDPW MAY BE ANY PASSWORD IN THE LIST. NEITHER OLDPW NOR FIRSTPW IS REQUIRED TO BE THE PASSWORD USED TO LOG ON THIS CANDE SESSION.

AS BEFORE, THE PASSWORD DATA MAY BE ENTERED ALL AT ONCE OR ON SEPARATE LINES, WITH CANDE SUPPLYING BLACKOUT SPACES ON APPROPRIATE DEVICES. A +, - OR = OPERATOR MAY APPEAR AFTER THE FIRST PASSWORD ON ITS LINE, BEFORE THE SECOND PASSWORD ON ITS LINE, OR AS A SEPARATE LINE BETWEEN; IF MULTIPLE OPERATORS OCCUR THE LAST IS USED.

THE + , - AND = OPERATORS ARE CONSTRAINED BY THE MINPW AND MAXPW BOUNDS ESTABLISHED BY THE INSTALLATION FOR THE NUMBER OF PASSWORDS WHICH MAY BE DEFINED FOR THIS USERCODE. FOR FURTHER DETAILS, SEE

D0926 CANDE - USERCODE-PASSWORD HANDLING - 09-16-74

THE USERDATA-MAKEUSER REFERENCE MANUAL (5000797), ESPECIALLY SECTIONS 2.3 AND 3.3.1.

D0927 CANDE - WFM INTERFACE - 09-16-74

CANDE USES WFM INTERFACE FOR ALL TASK CONTROL AND TO RUN SEPARATE JOBS.

JOB AND TASK INITIATION

CANDE NOW USES AN INTERFACE WITH THE MCP TO FACILITATE ALL TASK AND JOB CONTROL. CANDE STILL PROCESSES TASKS DIRECTLY FOR RUN, COMPILE, LFILES, ETC., BUT THE INTERFACE PERMITS CANDE TO ROUTE ALL MCP MESSAGES REGARDING THAT TASK (AND ANY OFFSPRING) TO THE USER"S STATION. IT ALSO PERMITS THE USER TO EMPLOY APPROPRIATE CONTROL COMMANDS LIKE ?AX, ?FA, ?Y TO CONTROL HIS TASK. (SEE "JOB AND TASK CONTROL.")

WFL JOBS (SYNCHRONOUS)

A NEW "WFL" COMMAND PERMITS THE USER TO ENTER JOB STATEMENTS TO BE COMPILED AND RUN BY THE WORK-FLOW LANGUAGE SYSTEM. THE KEYWORD IS SIMPLY FOLLOWED BY THE COMMAND(S) TO BE PERFORMED. CONTINUATION VIA "&" IS ALLOWED, AS FOR COMPILE AND EXECUTE COMMANDS. IF THE FIRST WFL STATEMENT BEGINS "COPY" OR "ADD", THE KEYWORD "WFL" MAY BE OMITTED. EXAMPLES:

```
WFL RUN OBJECT/MYCODEFILE(1,3,"TEXT")
COPY&COMPARE X/=, OBJECT/X/= TO MYPACK(PACK)
```

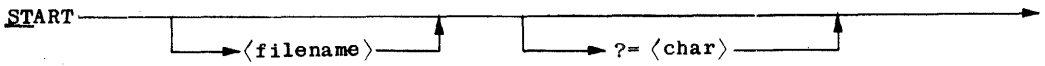
THESE WFL JOBS MAY USE ANY WFL FEATURES EXCEPT DATA (THEY ARE A VARIATION OF THE ALGOL ZIP-WITH-ARRAY CONSTRUCT). CANDE APPENDS "; END JOB" TO THE USER"S INPUT. IN THE FIRST EXAMPLE, WFL PERMITS MORE ELABORATE PARAMETER STRUCTURE THAN CANDE; IN THE SECOND, WFL ALLOWS LIBRARY MAINTENANCE FUNCTIONS. NOTE THAT WFL NAMING CONVENTIONS MUST BE USED. WFL SYNTAX ERRORS ARE REPORTED AT THE TERMINAL.

THESE WFL JOBS ARE PROCESSED SYNCHRONOUSLY AS TASKS OF THE CANDE

SESSION. THIS MEANS THAT THE STATION IS "BUSY" WHILE THE JOB IS IN PROGRESS; ANY REMOTE FILES WILL BE LINKED AUTOMATICALLY TO THE STATION, AND ANY TASK MESSAGES WILL APPEAR AT THE STATION. (SEE "TASK MESSAGES" AND "USER MESSAGE CONTROL.")

START JOBS (ASYNCHRONOUS)

A NEW CANDE COMMAND, "START" (MINIMUM ABBREVIATION "ST"), MAY BE USED TO INITIATE A WORK-FLOW-LANGUAGE JOB TO RUN SEPARATELY FROM THE CANDE SESSION. THE COMMAND MAY SPECIFY A FILENAME OR USE THE WORKFILE. THE FILE USED MUST BE OF TYPE "JOBSYMBOL" AND MUST BE A COMPLETE JOB DECK (I.E., NO CONTROL STATEMENTS ARE SUPPLIED BY CANDE). THE JOB FILE MAY CONTAIN ANY WFL CONSTRUCTS EXCEPT BINARY DATA. BCL DATA MAY OCCUR, BUT THEY MUST BE REPRESENTED IN EBCDIC (WFL WILL TRANS- LATE). (THE START COMMAND IS PROCESSED AS A VARIATION OF THE ALGOL ZIP-WITH-FILE CONSTRUCT.) AN "INVALID CHARACTER" IS OPTIONAL TO START THE JOB BUT IS REQUIRED AFTER A DATA "DECK." BY DEFAULT, A "?" IS USED TO REPRESENT THE INVALID CHARACTER, BUT THE USER MAY SUPPLY AN ALTERNATIVE SPECIFICATION IN THE START COMMAND:



⟨CHAR⟩ IS ANY NON-ALPHANUMERIC CHARACTER.

EXAMPLES:

```
ST
STAR ?=*
ST A/B/JOB
START DAILY/SUMMARY ?=#
```

THE CANDE STATION IS BUSY ONLY LONG ENOUGH FOR WFL TO COMPILE THE

JOB, WHICH THEN GOES INTO A JOB QUEUE AND PROCEEDS INDEPENDENTLY. REMOTE FILES OPENED IN THE JOB WILL NOT AUTOMATICALLY GO TO THE INITIATING STATION (BUT THIS MAY BE ACCOMPLISHED IN THE SAME WAY AS FOR ANY OTHER "FOREIGN" JOB). TASK MESSAGES WILL NOT APPEAR AT THE STATION; THE USER MAY INTERACT THROUGH CONTROL COMMANDS SPECIFYING THE APPRO- PRIATE MIX NUMBER, OR THROUGH ?J. BY DEFAULT, THE JOB WILL BE EXECUTED UNDER THE SESSION USERCODE.

SUCCESSFUL INSERTION OF A JOB INTO A JOB QUEUE IS INDICATED BY A MESSAGE OF THE FOLLOWING FORM:

```
#JOB <JOB #> IN Q <QUEUE #>
```

WFL SYNTAX ERRORS ARE REPORTED AT THE TERMINAL.

THE FOLLOWING IS AN EXAMPLE OF THE GENERATION AND "START"-ING OF A JOB FILE:

```
MAKE FIXCANDE J; S
#WORKFILE FIXCANDE: JOB
100 COMPILE SYSTEM/CANDE DCALGOL LIBRARY;
200 DCALGOL FILE TAPE(TITLE=SYMBOL/CANDE);
300 EBCDIC
400 $MERGE LISTP LISTDELETED
500 REPLACE P(MSG[6]) BY MIXNUMBER FOR 4 DIGITS,VERB FOR 3," ",
600 ??END
700
#
FIX 500 73//58792000
#
ST
#UPDATING
#RUNNING 7239
#JOB 7240 IN Q 00
#
```

JOB AND TASK CONTROL

THE WORKFLOW INTERFACE IMPLEMENTED AT THE II.6 SOFTWARE LEVEL

BETWEEN THE RJE MCS AND THE CONTROLLER HAS BEEN INCORPORATED INTO II.7 CANDE. THE FOLLOWING CONTROLLER KEYINS ARE AVAILABLE TO THE CANDE USER:

1)

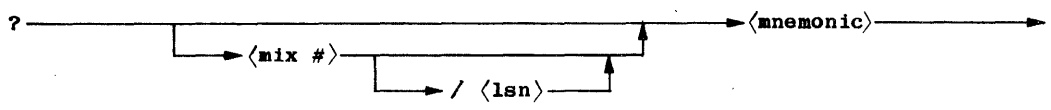
? <MNEMONIC> ---------->

WHERE <MNEMONIC> IS ONE OF THE FOLLOWING STANDARD CONTROLLER COMMANDS (UNDERSCORING INDICATES MINIMUM ABBREVIATIONS):

DC, DM, PC, TF, WD, WI, WM, WS, WT, C, JA, MSG

THE ?J COMMAND PROVIDES A LIST OF THOSE JOBS (NOT CANDE TASKS) INITIATED FROM THE ENQUIRING STATION. ?C AND ?MSG SHOW THE RECENTLY-COMPLETED TASKS AND RECENT MESSAGES FROM JOBS OR TASKS AT THAT STATION.

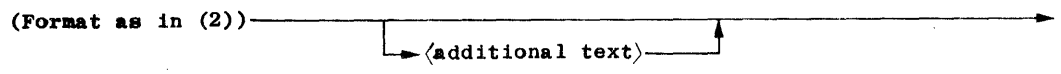
2)



WHERE <MNEMONIC> IS ONE OF THE FOLLOWING:

CU, FR, OF, OK, RM, ST, TI, WHY, Y

3)

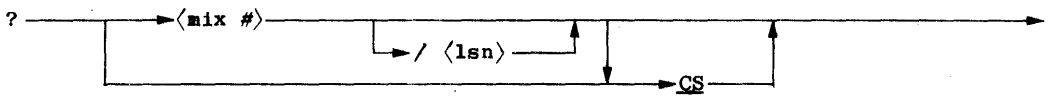


THE ACCEPTABLE <MNEMONIC>S HERE ARE:

AX, DP, DS, FA, HI, OT, US

THE COMMAND MNEMONIC MUST BE SEPARATED BY A SPACE FROM ANY ALPHANUMERIC TEXT THAT FOLLOWS; SUCH BLANKS ARE IGNORED IN PROCESSING THE COMMAND.

4)



THIS COMMAND IS AN EXTENSION OF THE CONTROLLER ABILITY TO INTERROGATE THE STATUS OF A COMPILATION.

WHEN <MIX #> IS OMITTED FROM THE ABOVE COMMANDS, THE MIX NUMBER OF THE CURRENT CANDE-SESSION TASK (IF ANY) IS ASSUMED. IF THE OPTIONAL <LSN> IS SUPPLIED, IT MUST BE THE LSN OF THE CANDE STATION

WHICH INITIATED THE STACK INDICATED BY <MIX #>.

EXAMPLES:

```
?J
?FA TITLE=MY/FILE ON PACK
?WT
?DS BASE FILES
?1234DS ARRAYS
?AX GO
?1388 Y
```

TASK MESSAGES

THE ABILITY HAS BEEN PROVIDED FOR A CANDE USER TO RECEIVE ALL MCP AND CONTROLLER MESSAGES WHICH ARE ISSUED FOR HIS JOBS AND TASKS. CONTROL OVER THE EXTENT TO WHICH THESE MESSAGES ARE ISSUED IS ALSO PROVIDED. (SEE "USER MESSAGE CONTROL.")

MESSAGES GENERATED BY CANDE TASKS AND THEIR OFFSPRING (INCLUDING THOSE STACKS INITIATED VIA THE "WFL", "COPY", AND "ADD" COMMANDS) MAY BE RECEIVED AT THE USER"S TERMINAL. THESE MESSAGES INCLUDE DISPLAYS, ATTRIBUTE ERROR NOTICES, RSVP"S, ETC. IN ADDITION, INITIATION AND TERMINATION OF TASKS WHICH ARE NOT FIRST-GENERATION CANDE TASKS MAY BE NOTED AS THEY OCCUR.

THE TASK INITIATION AND TERMINATION NOTICES ISSUED FOR SUCH TASKS HAVE THE FOLLOWING FORM:

```
#BOT <MIX NUMBER>
#EOT <MIX NUMBER>
```

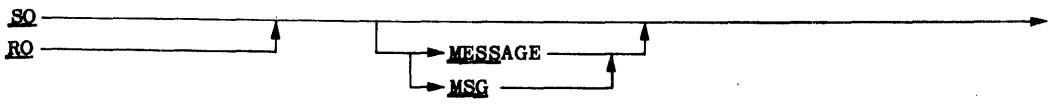
THESE NOTICES ARE NOT ISSUED WHEN THE "MESSAGES" TERMINAL OPTION IS RESET.

MESSAGES ISSUED BY SEPARATE JOBS INITIATED VIA THE "START" COMMAND MAY BE REVIEWED THROUGH USE OF THE "?MSG" COMMAND. SUCH MESSAGES ARE NOT AUTOMATICALLY ISSUED TO THE USER"S TERMINAL.

USER MESSAGE CONTROL

TWO MECHANISMS ARE PROVIDED FOR THE CONTROL OF THE DISPLAY OF TASK-RELATED MESSAGES DURING A CANDE SESSION. DEFAULT CONTROL IS PROVIDED VIA THE STATE OF A BIT IN THE USERDATAFILE, WHILE CONTROL DURING EACH SESSION IS PROVIDED VIA A TERMINAL OPTION WHOSE STATE IS OPTION- ALLY SPECIFIED BY THE USER. IF THE OPTION IS SET, THE ASSOCIATED USER WILL RECEIVE ALL JOB- AND TASK-RELATED MESSAGES WHICH ARISE. OTHERWISE, ONLY A SUBSET INVOLVING RSVP (E.G., "NO FILE" AND "ACCEPT"), FATAL, AND REQUESTED MESSAGES WILL BE ISSUED.

THE DISPLAY OF TASK MESSAGES MAY BE CONTROLLED THROUGH USE OF THE "MESSAGES" TERMINAL OPTION. THIS OPTION MAY BE SET OR RESET VIA THE "SO" AND "RO" CANDE COMMANDS, RESPECTIVELY. THE FORMAT OF THESE COMMANDS IS AS FOLLOWS:



THE CURRENT STATE OF THE OPTION MAY BE INTERROGATED BY ENTERING THE MNEMONIC "SO" OR "RO" ALONE.

A NEW LOCATOR, "CANDEGETMSG," HAS BEEN DEFINED AS A BIT IN THE SYMBOL/UDSTRUCTURETABLE AS DISTRIBUTED IN II.7. CANDEGETMSG MAY BE SET OR RESET VIA SYSTEM/MAKEUSER (IN THE SAME MANNER AS THE "PU"

D0927 CANDE - WFM INTERFACE - 09-16-74

BIT). THE "MESSAGES" OPTION IS SET AT LOG-ON TIME IF THE CANDEGETMSG BIT IS SET IN THE USERDATAFILE ENTRY FOR THE USERCODE.

THE SUPPRESSION OF MESSAGES DUE TO THE "MESSAGES" OPTION BEING RESET DOES NOT PRECLUDE THE APPEARANCE OF THESE MESSAGES IN RESPONSE TO THE "?MSG" COMMAND. THE "MESSAGES" OPTION HAS NO EFFECT ON ?SS OR ?TO MESSAGES.

D0929 CANDE - PRIMARY QUEUE ATTRIBUTES - 09-29-74

THE MEMORY LIMIT OF THE CANDE PRIMARY QUEUE IS NOW SET TO 20 * MAXSTATIONS + 250 WORDS (RATHER THAN THE DEFAULT 256 WORDS), SO THAT UNDER NORMAL CONDITIONS THAT QUEUE SHOULD NOT BE TANKED. SHOULD TANKING OCCUR, THE BUFFER SIZE IS NOW 120 WORDS, RATHER THAN THE DEFAULT 300 WORDS.

D0930 CANDE - RECORD FORMATS - 09-29-74

THE DETERMINATION OF RECORD FORMATS IN CANDE IS BASED UPON THE TYPE (FILEKIND) OF THE FILE, AND UPON THE RECORD LENGTH (MAXRECSIZE) OF PRE-EXISTING FILES. THIS EVALUATION IS NOW PERFORMED IN A COMMON PROCEDURE FOR ALL THE DIFFERENT COMMANDS THAT REQUIRE IT.

JOBSYMBOL

A NEW CANDE TYPE JOB (MINIMUM ABBREVIATION J, FILEKIND MNEMONIC JOBSYMBOL) HAS BEEN DEFINED. IT HAS TEXT IN COLUMNS 1-80 AND SEQUENCE NUMBERS IN COLUMNS 83-90; COLUMNS 81-82 ARE LEFT BLANK. JOB FILES ARE INTENDED FOR USE AS INPUT TO THE WORK-FLOW LANGUAGE COMPILER THROUGH THE CANDE START COMMAND OR THE ALGOL ZIP CONSTRUCT. HOWEVER, JOB FILES MAY FIND APPLICATION WHENEVER IT IS CONVENIENT TO HAVE A FILE OF 80 COLUMN CARD IMAGES HAVING SEQUENCE NUMBERS CARRIED WITH EACH RECORD.

OTHER NEW TYPES

CANDE NOW RECOGNIZES SEVERAL ADDITIONAL TYPES; THEY ARE LISTED HERE WITH THE CORRESPONDING MINIMUM ABBREVIATIONS AND FILEKIND MNEMONICS, AND THE NOTATION "COMPILER" IF CANDE ASSOCIATES A

COMPILER WITH THE TYPE:

NDL	(NDL, NDLSYMBOL)	COMPILER
DCP	(DCP, DCPSYMBOL)	
DMALGOL	(DM, DMALGOLSYMBOL)	COMPILER
DASDL	(DAS, DASDLSYMBOL)	COMPILER

ID FIELDS

SOME COMPILERS MAINTAIN AND DISPLAY IDENTIFYING INFORMATION, SUCH AS PATCH MARKS, IN THE SYMBOLIC CARD-IMAGE RECORDS. CANDE PRESERVES THIS INFORMATION, AND DISPLAYS IT IN PRINTER LISTINGS GENERATED BY THE WRITE COMMAND. TO MAKE THIS USAGE MORE CONVENIENT, CANDE NOW CREATES FILES WITH RECORDS LONG ENOUGH TO CONTAIN ID INFORMATION WHEN THE MAKE COMMAND SPECIFIES TYPE ALGOL, DCALGOL, ESPOL, OR PL/I. AN ID FIELD IS ASSUMED TO BE PRESENT IN SEQDATA FILES WITH RECORDS MORE THAN 14 WORDS LONG, WHEN THEN THESE ARE ENCOUNTERED BY SUCH COMMANDS AS GET OR WRITE, BUT A MAKE COMMAND GENERATES A FILE OF 14-WORD RECORDS.

MINIMUM LENGTHS

CANDE NOW ENFORCES A MINIMUM RECORD LENGTH FOR MOST FILE TYPES; IF MAXRECSIZE FOR A FILE IS TOO SMALL TO INCLUDE THE DEFINED TEXT AND SEQUENCE FIELDS, THE FILE IS REJECTED WITH THE MESSAGE "RECORD TOO SHORT FOR TYPE".

RECORD COMPATIBILITY

WHEN AN EDITING COMMAND LIKE MERGE OR INSERT COMBINES TWO FILES, THE RULE HAS BEEN THAT THE TEXT FIELDS AND SEQUENCE FIELDS OF THE TWO FILES MUST MATCH; OTHERWISE THE COMMAND IS ABORTED WITH THE MESSAGE "RECORD FORMAT INCOMPATIBLE WITH WORKFILE". AN EXCEPTION TO THIS RULE IS NOW PERMITTED IF ALL THE FOLLOWING CONDITIONS ARE MET :

1. THE WORKFILE TEXT FIELD BEGINS IN COLUMN 1 AND IS AT LEAST 80 COLUMNS WIDE (TYPE JOB, DATA, CDATA).

2. THE COMMAND IS INSERT.

3. THE SPECIFIED FILE HAS RECORDS AT LEAST AS WIDE AS THE TEXT FIELD OF THE WORKFILE.

FOR EXAMPLE, ONE MAY INSERT ALL OR PART OF A FILE OF TYPE ALGOL INTO A WORKFILE OF TYPE JOB. NOTE THAT IN THIS CASE THE SEQUENCE NUMBERS OF THE ALGOL RECORDS BECOME PART OF THE TEXT OF THE NEW JOB RECORDS; THUS THE JOB-FILE SEQUENCE NUMBERS MUST BE USED TO REFER TO THOSE RECORDS, AND A FIX OR REPLACE COMMAND THAT ADJUSTS COLUMN POSITIONS MAY MOVE THE ALGOL SEQUENCE NUMBERS.

IF A SEQUENCE RANGE LIST IS PROVIDED IN THE INSERT COMMAND, THE RECORDS ARE SELECTED ACCORDING TO THEIR SEQUENCE NUMBERS IN THE FIELD BEING INSERTED. THEY ARE THEN ASSIGNED NEW SEQUENCE NUMBERS ACCORDING TO THE BASE AND INCREMENT SPECIFICATIONS IN THE COMMAND. (THE MERGE FAMILY OF COMMANDS IS EXCLUDED FROM MIXED-FORMAT OPERATIONS, BECAUSE THESE COMMANDS OPERATE BY COMPARING SEQUENCE NUMBERS IN THE SPECIFIED FILE AND THE WORKFILE).

80-COLUMN DATA FILES

WHEN CANDE ENCOUNTERS A FILE OF TYPE DATA WITH 14-WORD RECORDS, THE RECORD IS NOW ASSUMED TO HAVE 80 COLUMNS OF TEXT FOLLOWED BY FOUR CHARACTERS OF FILL. (THIS ASSUMPTION IS CONSISTENT WITH THE FILES GENERATED BY CANDE WHEN A MAKE COMMAND SPECIFIES TYPE DATA). ANY CHARACTERS IN COLUMNS 81-84 ARE PRESERVED WHEN A WORKFILE IS UPDATED, BUT THEY ARE OTHERWISE IGNORED BY CANDE. FIX COMMANDS WILL AFFECT ONLY THE TEXT FIELD; REPLACE COMMANDS AFFECT THE TEXT FIELD BY DEFAULT, UNLESS A COLUMN RANGE IS EXPLICITLY PROVIDED. IF A USER WISHES TO OPERATE ON 84 CHARACTERS OF TEXT, HE MAY CHANGE THE TYPE TO CDATA: A CDATA FILE WITH UNITS=WORDS IS TREATED AS HAVING MAXRECSIZE*6 CHARACTERS (*8 IF THE MODE IS BCL), SO A 14-WORD EBCDIC CDATA FILE IS TREATED AS HAVING 84 CHARACTERS.

SUMMARY

THE FOLLOWING TABLE SUMMARIZES THE RECORD FORMATS USED FOR EACH CANDE TYPE.

TEXT	SEQUENCE	ID	RECORD-LENGHT	COMPILER

D0930 CANDE - RECORD FORMATS - 09-29-74

TYPE	FIELD	FIELD	FIELD	DEFAULT	MINIMUM	TYPE
ALGOL	1-72	73-80	81-90	15 WD	80 CH	YES
DCALGOL						YES
PL-I						YES
DASDL						YES
DMALGOL						YES
DCP						NO
NDL						YES
COBOL	7-72	1-6	73-80	14 WD	72CH	YES
FORTRAN	1-72	73-80		14 WD	80 CH	YES
XFORTRAN						
XALGOL						
BINDER						
GUARD						
ESPOL	1-72	73-80	81-88	15 WD	80 CH	YES
BASIC	5-72	1-4	73-80	14 WD	72 CH	YES
JOB	1-80	83-90		15 WD	90 CH	NO
DATA	1-80[1]			14 WD		NO
SEQ	1-72	73-80	81-90[2]	14 WD	80 CH	NO
CDATA	1-80[3]			80 CH		NO
CSEQ	7-80[3]	1-5		80 CH		NO

[1]: DATA FILE MAY HAVE ARBITRARY LENGTH; THE TEXT FIELD EXTENDS THROUGH THE END OF THE RECORD WITH ONE EXCEPTION: BY CONVENTION, 14-WORD EBCDIC OR ASCII RECORDS ARE ASSUMED TO HAVE TEXT ONLY THROUGH COLUMN 80.

[2]: SEQ FILES ARE CREATED WITH 14 WORDS AND NO ID FIELD. IF CANDE ENCOUNTERS A SEQ FILE WITH 15 OR MORE WORDS (90 OR MORE CHARACTERS), COLUMNS 81-90 ARE TREATED AS AN ID FIELD. (ONE MAY GENERATE SUCH A FILE BY MAKING A FILE TYPE ALGOL AND CHANGING ITS TYPE TO SEQ, FOR EXAMPLE).

[3]: CDATA AND CSEQ FILES HAVE ARBITRARY LENGTH; THE TEXT FIELD EXTENDS THROUGH THE END OF THE RECORD.

CANDE ALWAYS CREATES FILES IN EBCDIC MODE, BUT IT CAN OPERATE ON FILES IN ASCII OR BCL MODE AS WELL. THE MODE (LIKE MOST OTHER ATTRIBUTES) IS PRESERVED WHEN ONE GETS, EDITS, AND SAVES A FILE

D0930 CANDE - RECORD FORMATS - 09-29-74

THROUGH CANDE. THE FORMATS REMAIN THE SAME IN ALL MODES, BUT IN BCL FILES THERE EIGHT CHARACTERS PER WORD RATHER THAN SIX.

D0931 CANDE - WRITE-COMMAND IMPROVEMENTS - 09-29-74

SEVERAL CORRECTIONS HAVE BEEN MADE IN THE HANDLING OF THE WRITE COMMAND, ESPECIALLY IN THE FORMATTING OF THE LINE-PRINTER OUTPUT. AMONG THE CHANGES ARE THE FOLLOWING:

PRINTER FILES ARE NOW UNLABELLED, SO THERE ARE FEWER ALMOST-BLANK PAGES. THE PAPER IS SLEWED TO TOP-OF-FORM AT THE END OF EACH WRITE INVOCATION THAT PRINTS; IT IS SLEWED AT THE BEGINNING OF THE FIRST LISTING OF THE SESSION (OR AFTER A SPLIT), AND AT THE BEGINNING OF A LISTING WHICH FOLLOWED AN EXECUTION OR COMPILE (WHETHER OR NOT PRINTED OUTPUT WAS GENERATED). LISTINGS FROM SUCCESSIVE WRITE INVOCATIONS FOLLOW WITH NO INTERVENING PAGES.

THE PUNCH FILE FROM A WRITE TO CARDS IS NOW ASSIGNED THE TITLE OF THE FILE OR WORKFILE BEING PUNCHED, SO THAT TITLE APPEARS IN THE EBCDIC LABEL CARD AT THE FRONT OF THE DECK.

WHEN MULTIPLE SEQUENCE RANGES ARE SPECIFIED, A BLANK SEPARATES THE LISTING OF EACH RANGE FROM ITS SUCCESSOR. SOME ERRORS IN SEQUENCE-RANGE PROCESSING HAVE BEEN CORRECTED; "WRITE END" NOW WORKS.

THE PRINTER LINE IS NOW UTILIZED MORE EFFECTIVELY FOR VARIABLE-WIDTH FILES WIDER THAN 100 CHARACTERS. AN UPPER BOUND OF 132 (RATHER THAN 120) CHARACTERS IS NOW ASSUMED; INSTALLATIONS WITH NARROW PRINTERS MAY REDEFINE THE IDENTIFIER PRINTERWIDTH IN THE WRITER PROCEDURE. (ALL THE STANDARD FORMATS FOR CARD- IMAGE AND SYMBOLIC RECORDS STILL FIT WITHIN 120 COLUMNS). AS BEFORE, ALL SEPARATE-FIELD FORMATTING TO THE RIGHT OF THE TEXT FIELD IS OMITTED FOR RECORDS OF TYPE DATA OR CDATA, OR IF A COLUMN RANGE IS SPECIFIED. UNLESS THE RECORD-NUMBERING OPTION IS SELECTED, THE TEXT FIELD MAY EXTEND THROUGH COLUMN 132. IF THE UNSEQUENCED OPTION IS SELECTED, AND NO SEQUENCE OR ID FIELD IS TO BE PRINTED AT THE RIGHT, THE TEXT FIELD BEGINS IN COLUMN 1 OF THE PRINT LINE. THUS, A W:UN COMMAND SPECIFYING A 22-WORD EBCDIC FILE CAN PRINT 132

D0931 CANDE - WRITE-COMMAND IMPROVEMENTS - 09-29-74

COLUMNS PER LINE WITHOUT FOLDING.

ANY FILE OF UNRECOGNIZED FILEKIND OR TOO NARROW FOR ITS TYPE IS LISTED AS THOUGH IT WERE TYPE CDATA.

D0932 CANDE - PAGED OUTPUT - 09-29-74

FOR APPROPRIATE TERMINAL SPECIFICATIONS, CANDE BUFFERS AN ENTIRE PAGE OF OUTPUT INTO ONE OR A FEW TRANSMISSIONS. THIS BUFFERING IS NOW AVOIDED FOR THE OUTPUT OF FIND AND REPLACE COMMANDS. WHEN THE TERMINAL SPECIFICATION SO REQUIRES, CANDE WILL STILL WAIT AFTER SENDING EACH PAGE (SCREEN) OF DATA, BUT THE LINES ARE TRANSMITTED ONE AT A TIME INSTEAD OF BEING SAVED UNTIL A BUFFER IS FULL. THE RESULT IS MORE SATISFACTORY RESPONSE DOING FIND/REPLACE OVER RELATIVELY LARGE FILES.

FOR OUTPUT TO SCREEN DEVICES, CANDE UTILIZES ONE FEWER CHARACTER PER LINE, AND ONE FEWER LINE PER PAGE THAN THE TERMINAL SPECIFICATIONS INDICATE, SINCE MANY SUCH DEVICES REQUIRE THE EXTRA SPACE FOR THE CARRIAGE-RETURN ACTION. THE DETERMINATION THAT THIS REDUCTION SHOULD BE MADE WAS BASED ON THE TERMINAL BUFFERING PARAMETERS; IT IS NOW BASED ON THE SCREEN PARAMETER.

D0933 CANDE - LIST ALTERATIONS - 09-29-74

THE "LIST:CHANGES" AND "LIST:COMPARE" FEATURES HAVE BEEN IMPROVED AND AUGMENTED. SEVERAL ADDITIONAL OPTIONS HAVE BEEN DEFINED TO EXTEND THE FUNCTIONS AVAILABLE AND PROVIDE FINER CONTROL OF THESE FUNCTIONS. BOTH THE NEW AND THE PREVIOUSLY DEFINED FUNCTIONS ARE NOW VERY MUCH FASTER FOR LONG FILES, BECAUSE CANDE SKIPS OVER THE PARTS OF THE WORKFILE WHICH CONTAIN NO CHANGES.

A SET OF OPTIONS IS AVAILABLE TO SHOW THE ALTERATIONS THAT HAVE BEEN MADE TO A WORKFILE, BY FIX, DELETE, AND SINGLE-LINE ENTRY, SINCE THE WORKFILE WAS LAST UPDATED. THESE OPTIONS AND THEIR FUNCTIONS ARE SHOWN BELOW. THERE ARE NO ABBREVIATIONS.

A EACH LINE DELETED BY A DELETE OR SINGLE-LINE ENTRY IS

D0933 CANDE - LIST ALTERATIONS - 09-29-74

LISTED, FLAGGED "-". EACH LINE OF THE OLD WORKFILE WHICH HAS BEEN MODIFIED BY A FIX IS LISTED, FLAGGED "F"; THE LINE BEFORE FIXING IS NOT SHOWN. EACH SINGLE-LINE ENTRY IS LISTED: IF AN OLD LINE WAS REPLACED THE FLAG IS "R"; FOR A NEWLY INSERTED LINE THE FLAG IS "I".

AF THE OUTPUT IS THE SAME AS OPTION A, EXCEPT THAT FIXED LINES ARE ALSO SHOWN BEFORE ALTERATION, FLAGGED "-". THIS OPTION IS IDENTICAL WITH THE FORMER "COMPARE" OPTION, WHICH IS STILL RECOGNIZED.

AN THE OUTPUT IS THE SAME AS OPTION A, EXCEPT THAT THE NEIGHBORING LINES TO AN INSERTION ARE SHOWN WITH BLANK FLAG. THIS OPTION ALLOWS THE USER TO SEE THE EFFECT OF EACH ENTRY, AND DETERMINE THAT INSERTIONS OCCUR BETWEEN THE LINES INTENDED AND WITH THE PROPER COLUMN ALIGNMENT.

ANF COMBINES THE EFFECT OF AN AND AF; LINES ARE SHOWN BEFORE FIXING, AND THE NEIGHBORS OF INSERTED LINES ARE SHOWN.

AFN IS IDENTICAL TO ANF.

WHEN MULTIPLE OPTIONS ARE SPECIFIED, THE LAST-DEFINED TAKES PRECIDENCE (IN THE ORDER DEFINED ABOVE), EXCEPT THAT AF AND AN COMBINE TO AFN. THE "CHANGES" AND "FLAGGED" OPTIONS ARE UNCHANGED.

EXAMPLE: L:AN

D0934 CANDE - ?COUNTS COMMANDS - 09-29-74

A NEW CONTROL COMMAND, COUNTS, HAS BEEN IMPLEMENTED. ITS RESPONSE IS A SUMMARY OF THE CANDE ACTIVITY AT THAT MOMENT.
FOR EXAMPLE:

2 TASKS, 1 WORKER; 7 STATIONS ACTIVE, 12 ATTACHED

IN THIS CASE, THERE ARE TWO STATIONS RUNNING CANDE-PROCESSED TASKS (E.G. RUN, COMPILE, LFILES) AND ONE USING A CANDE "WORKER" TO PERFORM AN EDIT, SEARCH OR OUTPUT FUNCTION (E.G. UPDATE, FIND, LIST). THERE ARE A TOTAL OF 7 STATIONS WHICH ARE ACTIVE (LOGGED

D0934 CANDE - ?COUNTS COMMANDS - 09-29-74

IN, LOGGING IN, OR ASSIGNED TO A REMOTE FILE); THERE ARE 12 ATTACHED TO (CONTROLLED BY) CANDE. THE ATTACHED STATIONS INCLUDE THOSE ACTIVE, WHICH IN TURN INCLUDE THOSE USING TASKS OR WORKERS.

D0935 CANDE - COMPILE FOR SYNTAX - 10-15-74

THE CANDE COMPILE COMMAND NOW RECOGNIZES THE KEYWORD "SYNTAX" TO CAUSE COMPILE-FOR-SYNTAX. THE KEYWORD MAY APPEAR IN ANY ORDER WITH RESPECT TO THE OTHER SYNTACTIC ELEMENTS OF THE COMPILE STATEMENT. IF A SOURCE-FILE NAMED "SYNTAX" IS TO BE COMPILED, ITS NAME MUST APPEAR IN QUOTES.

EXAMPLES:

```
C SYNTAX
C "SYNTAX"
C SYNTAX/CHECK   SYNTAX ALGOL
C WITH MYCOMPILER  SYNTAX
```

ALL BUT THE SECOND EXAMPLE IS A COMPILE-FOR-SYNTAX.

ANY COMPILER INVOKED BY CANDE MUST HAVE BEEN "MC-ED" OR THE COMPILATION WILL BE ABORTED FOR "INVALID COMPILER".

D0936 CANDE - CANDE AND SYSTEM ID - 10-15-74

THE CANDE IDENTIFICATION NOW CONTAINS THE MCS NAME RATHER THAN THE LITERAL STRING "CANDE", SO TEST VERSIONS RUN BY OTHER NAMES WILL SO IDENTIFY THEMSELVES. THE PREFIX "SYSTEM/" IS SUPPRESSED IF PRESENT.

THE SYSTEM SERIAL NUMBER IS INCLUDED IN THE CANDE ID MESSAGE IF THE NEW COMPILE-TIME DOLLAR OPTION "SYSTEMID" IS SET. THIS OPTION IS RESET IN CANDE AS DISTRIBUTED BUT MAY BE SET IN INSTALLATIONS WHERE THE USER MAY BE CONNECTED TO MORE THAN ONE HOST B6700.

D0937 CANDE - TANKFILE, USERCODES - 10-15-74

THE DERIVATION OF THE TANKFILE NAME FROM THE MCS NAME HAS BEEN CHANGED: THE ENTIRE MCS NAME IS APPENDED TO "TANKFILE/", WITHOUT REMOVING "SYSTEM/" AND WITHOUT ADDING PARENTHESES.

D0937 CANDE - TANKFILE, USERCODES - 10-15-74

THUS, THE TANKFILE FOR SYSTEM/CANDE IS NOW:

TANKFILE/SYSTEM/CANDE.

RATHER THAN

TANKFILE/"(CANDE)".

II.7 CANDE CANNOT RECOVER THE TANKFILE FROM ANY EARLIER VERSION, AND VICE VERSA. (ONCE II.6 OR II.5 CANDE HAS PROCESSED ITS TANKFILE INTO SEPARATE RECOVERY FILES FOR EACH USER II.7 CANDE CAN USE THEM.)

CANDE WILL NOW RUN CORRECTLY, WITHOUT "SYNTAX ERROR" DIAGNOSTICS, IF A SYSTEM-DIRECTORY CANDE CODE FILE IS INITIATED UNDER A USERCODE. THE TANKFILE WILL BE FOUND/CREATED IN THE SAME DISK FAMILY (WITHOUT USERCODE) AS THE CODE FILE.

D0956 CANDE - ?TO AND ?SS COMMANDS - 09-29-74

A NEW CONTROL, TO, HAS BEEN IMPLEMENTED. IT FUNCTIONS LIKE THE SS COMMAND, SENDING A MESSAGE TO A USER AT ANOTHER STATION, BUT INSTEAD OF SPECIFYING THE STATION ONE SPECIFIES THE USERCODE OF THE USER TO RECEIVE THE MESSAGE. THE COMMAND MUST ALWAYS BE PRECEDED BY THE CONTROL CHARACTER (ILLUSTRATED AS "?"). FOR EXAMPLE:

?TO HARRISON WE HAVE MET THE ENEMY, AND THEY ARE OURS.

IF MORE THAN ONE STATION IS LOGGED ON WITH THE SAME USERCODE, THE MESSAGE IS SENT TO EACH STATION. IF NO STATION IS LOGGED ON WITH THAT USERCODE, A MESSAGE LIKE "#HARRISON NOT LOGGED ON" IS RETURNED.

MESSAGES SENT BY EITHER THE TO OR THE SS COMMAND NOW CONTAIN THE TIME OF DAY, AND THE USERCODE OF THE SENDING STATION, IF IT IS LOGGED ON. (THE CANDE LOG STATION IS IDENTIFIED AS "SPO" AND ITS USERCODE, IF ANY, IS NOT SENT). FOR EXAMPLE, THE ABOVE MESSAGE COULD APPEAR THUS:

#16:00 FROM PERRY ON 10: WE HAVE MET THE ENEMY, AND THEY
ARE OURS.

LONG MESSAGES ARE FOLDED TO FIT THE RECEIVING TERMINAL.

THE ?TO AND ?WHERE COMMANDS ARE PROCESSED BY THE SAME PROCEDURE.

D0956 CANDE - ?TO AND ?SS COMMANDS - 09-29-74

LOCATION OF THE STATION(S) ASSOCIATED WITH A GIVEN USERCODE IS NOW MUCH MORE EFFICIENT, BEING BASED UPON A CORE-MEMORY ARRAY TO BE MASKSEARCHED RATHER THAN UPON READING THE TANKFILE FOR EACH LOGGED-ON STATION.

THE CONTROL-STATION ?WHERE COMMAND WHICH INTERROGATES ALL STATIONS HAS BEEN REDESIGNED; IT IS DOCUMENTED SEPARATELY (SEE SYSTEM NOTE D0957).

D0957 CANDE - ?WHERE COMMAND - 09-29-74

WHEN A ?WHERE CONTROL COMMAND FROM A CONTROL STATION SPECIFIES NO USERCODE, THE RESPONSE LISTS ALL ACTIVE STATIONS. THE INFORMATION RETURNED HAS BEEN EXTENDED AND REFORMATTED, AS ILLUSTRATED IN THE FOLLOWING SAMPLE.

```
1234 <1       + AX41J ON TTY7(2)
1247:1406       CINDERELLA ON PUMPKIN(7)
1308:REPL       JULIET ON BALCONY(41)
.... LOGIN      ON  OMATOPOEIA(12)
1193 I-O        SPOCK ON ENTERPRISE(14)
1168 >14        "SLEEPING-BEAUTY" ON ICE(19)
.... I-O        ON M333(24)
```

THE FIRST COLUMN SHOWS THE SESSION NUMBER FOR EACH LOGGED-IN STATION. THE SECOND COLUMN INDICATES THE ACTIVITY AT THE STATION. A PLUS SIGN IN THE THIRD COLUMN INDICATES THAT SOME WORKFILE CHANGES FOR THAT STATION HAVE BEEN ENTERED BUT ARE NOT YET RECORDED IN THE TANKFILE. THE FOURTH COLUMN SHOWS THE USERCODE, STATION NUMBER, AND LSN.

A NOTATION LIKE "<3" INDICATES THAT IT HAS BEEN LESS THAN 3 MINUTES SINCE THE STATION WAS BUSY OR THE USER ENTERED A LINE. SINCE THE CANDE TIMING FACILITY IS LIMITED TO 15 MINUTES, THE NOTATION ">14" INDICATES THAT THE STATION HAS BEEN IDLE FOR AT LEAST 14 MINUTES. WHEN A STATION IS BUSY PERFORMING A CANDE COMMAND, THE SESSION NUMBER IS FOLLOWED BY A COLON AND EITHER THE MIX NUMBER OF A CANDE-PROCESSED TASK OR THE NAME OF THE COMMAND (OR OCCASIONALLY THE WORD

D0957 CANDE - ?WHERE COMMAND - 09-29-74

"BUSY"). "I-O" INDICATES THAT THE STATION IS ASSIGNED TO A REMOTE FILE OF SOME JOB NOT OF THAT SESSION; THIS SITUATION MAY ARISE WITH OR WITHOUT THE STATION BEING LOGGED ON. "LOGIN" INDICATES THAT THE STATION IS IN THE LOG-IN SEQUENCE BUT IS NOT YET LOGGED ON.

D0958 CANDE - STATION CAPACITY - 08-04-74

THE COMPILE-TIME DEFINITION "MAXSTATIONS" NOW DETERMINES THE NUMBER OF ACTIVE STATIONS CANDE CAN SERVE; THE TOTAL NUMBER OF STATIONS VISIBLE TO CANDE IS NO LONGER LIMITED. CANDE AUTOMATICALLY ACCOMMODATES AS MANY STATIONS AS ARE PRESENT AT INITIALIZATION OR APPEAR LATER THROUGH STATION TRANSFER OR RECONFIGURATION. A STATION IS CONSIDERED "ACTIVE" WHEN A USER IS LOGGED ON OR A PROGRAM HAS AN OBJECT FILE OPEN AT THAT STATION. AN ATTEMPT TO ACTIVATE A STATION IN EXCESS OF MAXSTATIONS CAUSES A MESSAGE TO BE SENT TO THE STATION, THE OPERATOR CONSOLE, AND THE CANDE LOG STATION (IF ANY):

"#CANDE SERVICE UNAVAILABLE; MAX STATIONS EXCEEDED".

THE MAXSTATIONS VALUE IN II.7 CANDE AS DISTRIBUTED IS 25. (THE VALUE 35 WAS USED IN EARLIER VERSIONS TO ALLOW FOR SOME UNUSED STATIONS.)

II.7 CANDE CAN RECOVER THE TANKFILE GENERATED BY A II.7 CANDE WITH ANY VALUE OF MAXSTATIONS; THE "TANKFILE INCOMPATIBLE; MAXSTATIONS DIFFERENT" SITUATION WILL NOT ARISE.

AN ERROR HAS BEEN CORRECTED WHICH PREVENTED CANDE FROM WORKING WITH MAXSTATIONS SET TO A SMALL VALUE (3*MAXSTATIONS+2*MAXWORKS < 30).

CANDE NOW USES A DIRECT INDEXING FUNCTION (LOGICAL STATION NUMBER MODULO TABLE SIZE), RATHER THAN A MASKSEARCH, TO LOCATE A STATION IN THE CANDE TABLES; MASKSEARCH IS USED IF CONFLICTS ARISE. CONFLICTS MAY BE AVOIDED, WITH A DIVIDEND IN PROCESSOR EFFICIENCY, IF ALL CANDE STATIONS ARE ASSIGNED CONTIGUOUSLY IN THE NETWORK DEFINITION. IT DOES NOT MATTER WHERE THEY LIE WITH RESPECT TO OTHER STATIONS, AS LONG AS THE CANDE STATIONS ARE NOT SCATTERED.

D0959 CANDE - LOGIN CONTROL - 08-04-74

LOGIN STATIONS

ANY INSTALLATION MAY DEFINE "LOGIN" STATIONS, WHICH CAN BE USED ONLY IF SOMEONE IS LOGGED IN. (CANDE ALWAYS REQUIRES A USER TO LOG IN TO PERFORM CANDE COMMANDS, BUT STATIONS ARE SOMETIMES USED WITH OBJECT FILES WITHOUT A LOGGED-IN USER.) IN THE INITIAL IMPLEMENTATION, THE LOGIN ATTRIBUTE IS ASSIGNED TO CLASSES OF STATIONS BY A CANDE COMPILE-TIME DEFINE, "LOGINOPT":

LOGINOPT=0 DEFINES NO LOGIN STATIONS (THE PRE-II.7 SITUATION).
LOGINOPT=1 DEFINES ALL SWITCHED (DIALIN) STATIONS AS LOGIN.
LOGINOPT=2 DEFINES ALL STATIONS AS LOGIN.

IN II.7 CANDE AS DISTRIBUTED, LOGINOPT=1.

SPECIFIC CHARACTERISTICS OF LOGIN STATIONS INCLUDE THE FOLLOWING:

1. WHENEVER COMMUNICATION IS FIRST ESTABLISHED WITH A LOGIN STATION, CANDE DISPLAYS "#ENTER USERCODE PLEASE".

2. IF A USER FAILS TO LOG IN WITHIN A REASONABLE TIME, CANDE WILL DISCONNECT A LOGIN STATION (IF IT IS SWITCHED AND SINGLE-STATION).

3. AN ATTEMPT TO OPEN AN OBJECT FILE AT A LOGIN STATION WHICH HAS NO USER LOGGED IN WILL BE DENIED.

LOG-IN TIMEOUT

ONCE A USER HAS BEGUN OR BEEN REQUESTED TO LOG IN, HE IS EXPECTED TO COMPLETE LOGIN WITHIN A SHORT TIME. IF HE FAILS TO DO SO WITHIN 2-3 MINUTES, CANDE WILL DISPLAY "#LOGIN TIME LIMIT EXCEEDED" AND ABORT THE LOG-IN SEQUENCE. THE STATION IS LEFT INACTIVE (SO CANDE RESOURCES ARE AVAILABLE ELSEWHERE); IF IT IS A SWITCHED (DIALIN) LINE WITH A SINGLE STATION, CANDE DISCONNECTS IT (HANGS UP THE PHONE).

LOGIN CONNECT TIME

D0959 CANDE - LOGIN CONTROL - 08-04-74

THE SYSTEM SUMMARY LOG NO LONGER RECORDS A "CONNECT TIME" FOR A CANDE STATION. WORD 9 OF THE SESSION LOG-ON RECORD IS NOW ZERO. FOR SINGLE-STATION LINES WITH LOGIN SET, THE CONNECT TIME IS CONSTRAINED TO BE LESS THAN 3 MINUTES BEFORE THE TIME OF THE LOG-IN ENTRY.

D0960 CANDE - INPUT: CONTROL, EMPTY, SIGNAL - 08-04-74

SEVERAL CHANGES HAVE BEEN EFFECTED IN HANDLING CANDE INPUT IN EXCEPTIONAL SITUATIONS:

CONTROL INPUT

CONTROL INPUT IS DENOTED BY A "CONTROL CHARACTER" IN THE FIRST COLUMN. THE CONTROL CHARACTER IS DEFINED FOR EACH STATION IN THE NETWORK DEFINITION; IT IS REPRESENTED BY "?" IN THE DOCUMENTATION. CONTROL INPUT IS SPECIAL IN TWO WAYS: IT IS ALWAYS PROCESSED IMMEDIATELY BY CANDE (NEVER QUEUED), AND IT COMES TO CANDE EVEN IF AN OBJECT INPUT FILE IS OPEN.

CANDE WILL NOW RECOGNIZE AS A CONTROL INPUT ANY LINE BEGINNING WITH A SINGLE CONTROL CHARACTER. LINES BEGINNING WITH TWO CONTROL CHARACTERS ARE REGARDED AS NON-CONTROL LINES WITH A CONTROL CHARACTER AS THE FIRST CHARACTER; THUS A LINE BEGINNING WITH QUESTION MARK MAY BE ENTERED IN SEQUENCE MODE WHEN QUESTION MARK IS THE CONTROL CHARACTER. CONTROL AND NORMAL LINES MAY NOW BE INTERMIXED IN THE TRANSMISSION FROM A MULTI-LINE TERMINAL (WHERE EACH LINE IS SEPARATED BY CARRIAGE RETURNS). NOTE THAT THE DISCUSSION IN THIS PARAGRAPH APPLIES ONLY TO INPUT RECEIVED BY CANDE: IF AN OBJECT INPUT FILE IS OPEN AND ALLOWED, NON-CONTROL INPUT IS SENT TO THE OBJECT FILE WITHOUT BEING SEEN BY CANDE; ONLY DCP-RECOGNIZED CONTROL TRANSMISSIONS COME TO CANDE.

EMPTY LINES

EMPTY LINES (WITH NO CHARACTERS) ARE SOMETIMES USED AS SIGNALS IN

D0960 CANDE - INPUT: CONTROL, EMPTY, SIGNAL - 08-04-74

CANDE (TO END SEQUENCE MODE OR TO CALL FOR ANOTHER PAGE OF OUTPUT, FOR EXAMPLE). WHEN AN EMPTY NORMAL-INPUT LINE IS ENCOUNTERED AND NO SIGNAL IS EXPECTED, CANDE WILL NOW RESPOND "#", RATHER THAN "# VERB REQUIRED". AN EMPTY CONTROL INPUT (A LINE CONTAINING ONLY A CONTROL CHARACTER) IS TREATED THE SAME WAY, EXCEPT THAT THE RESPONSE IS IMMEDIATE (THE CONTROL INPUT IS NEVER QUEUED.)

A LINE CONTAINING ONLY BLANKS IS TREATED AS AN EMPTY LINE (EXCEPT, OF COURSE, IN AUTOMATIC SEQUENCE MODE, WHEN A BLANK LINE IS ENTERED INTO THE WORKFILE).

UNRECOGNIZED CONTROL INPUT; ECHO

UNRECOGNIZED CONTROL LINES WILL NOW BE REJECTED WITH A "#VERB EXPECTED" MESSAGE, RATHER THAN BEING COPIED BACK TO THE STATION. AN ECHO FUNCTION MAY BE ACHIEVED BY ENTERING A CONTROL MESSAGE BEGINNING WITH A QUOTE. THUS THE MESSAGE

```
?"HELLOOOOO
```

CAUSES THE TERMINAL TO RESPOND

```
"HELLOOOOO
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D0960 CANDE - INPUT: CONTROL, EMPTY, SIGNAL - 08-04-74

PAGE SIGNALS VS. SIGNIFICANT INPUT

IF CANDE IS EXPECTING A SIGNAL MESSAGE TO PRODUCE ANOTHER PAGE OF OUTPUT, BUT THE USER ENTERS A NON-EMPTY MESSAGE, HIS MESSAGE WILL BE QUEUED (UP TO THE QUEUE LIMIT) WITH A MESSAGE "#QUEUED. SEND NULL INPUT FOR NEXT PAGE." THIS FEATURE ALLOWS CORRECTIONS TO BE ENTERED TO THE PAGE AT HAND, AND AVOIDS THE LOSS OF A COMMAND ENTERED WITHOUT REALIZATION THAT A SIGNAL WAS EXPECTED.

LONG LINES AND LONG TRANSMISSIONS

CANDE LIMITS EACH INPUT LINE TO 255 CHARACTERS. LONGER LINES WILL NOW BE REJECTED WITH AN ERROR MESSAGE, RATHER THAN QUIETLY TRUNCATED.

MULTI-LINE TERMINALS MAY INPUT MORE THAN ONE LINE IN A SINGLE TRANSMISSION. AS LONG AS THE INDIVIDUAL LINES (SEPARATED BY CARRIAGE RETURNS) DO NOT EXCEED 255 CHARACTERS, THERE IS NO LONGER A CANDE-IMPOSED LIMIT ON THE TOTAL TRANSMISSION. (INPUTS FROM LARGE-SCREEN DEVICES WILL NO LONGER CAUSE CANDE FAULTS.)

D0961 CANDE - OBJECT FILES - 08-04-74

OBJECT FILES ARE FILES WITH KIND=REMOTE WHICH PERMIT OBJECT PROGRAMS TO COMMUNICATE WITH DATACOM STATIONS. A STATION MAY BE A MEMBER OF MORE THAN ONE FILE; A FILE MAY COMPRISE MORE THAN ONE STATION. ONLY ONE FILE AT A CANDE STATION MAY BE CAPABLE OF INPUT (MYUSE=IN OR IO); CANDE ALLOWS A STATION TO BE ASSIGNED TO AS MANY AS 100 FILES AT ONE TIME.

WHEN AN OBJECT PROGRAM OPENS A FILE, THE MESSAGE-CONTROL SYSTEM (MCS, E. G. CANDE) IS INFORMED AND MUST RESPOND BEFORE THE PROGRAM CAN READ FROM OR WRITE TO THE STATION. AMONG THE POSSIBLE RESPONSES ARE:

1: ALLOW THE REQUEST (ASSIGN THE STATION TO THE FILE)

2: DENY THE REQUEST

3: POSTPONE THE REQUEST (WITH ALLOWANCE OR DENIAL TO COME LATER)

CANDE ALWAYS ALLOWS ASSIGNMENT TO FILES FROM TASKS RUN BY CANDE FROM THE TERMINAL (VIA SUCH CANDE COMMANDS AS RUN, COMPILE, OR LFILES), UNLESS THE LIMITS ON NUMBER OF FILES HAVE BEEN EXCEEDED OR THE SESSION HAS BEEN ABORTED. THESE TASKS ARE ALL CHARACTERIZED BY HAVING THE CANDE SESSION AS THEIR JOB NUMBER.

TASKS WHICH ARE NOT OF THIS SESSION ARE CONSIDERED "FOREIGN"; THEY MAY COME FROM WFL JOBS OR FROM CANDE SESSIONS AT OTHER STATIONS. FOREIGN FILES ARE NOW SUBJECT TO SPECIAL TREATEMENT, AT INSTALLATION OPTION. THEY MAY BE ANNOUNCED AT THE STATION BY IDENTIFYING MESSAGES; THEY MAY BE LIMITED TO A SINGLE JOB AT A TIME (FOR ALL STATIONS OR FOR LOGGED-IN STATIONS); A LOGGED-IN USER MAY BE ASKED FOR PERMISSION TO ASSIGN HIS STATION TO THE FILE. THESE OPTIONS ARE SELECTED BY THE COMPILE-TIME DEFINE "LAISSEZFILE", WITH THE FOLLOWING VALUES:

0: ANNOUNCE; LIMIT ALL; ASK (IF LOGGED ON)

1: ANNOUNCE; LIMIT AND ASK IF LOGGED ON

2: ANNOUNCE; LIMIT ALL; DO NOT ASK

3: ANNOUNCE; LIMIT IF LOGGED ON; DO NOT ASK

4: LIMIT ALL; DO NOT ANNOUNCE OR ASK

5: LIMIT IF LOGGED ON; DO NOT ANNOUNCE OR ASK

6: DO NOT ANNOUNCE, LIMIT OR ASK

LAISSEZFILE=1 IN II.7 CANDE AS DISTRIBUTED; THIS VALUE PROVIDES FULL LIMITING ON LOGGED-IN STATIONS, BUT PERMITS MULTIPLE JOBS TO HAVE OUTPUT ON A COMMON NON-LOGGED-IN STATION. THE VALUE 0 LIMITS ALL STATIONS TO FILES FROM ONE JOB AT A TIME. THE VALUE 6 ELIMINATES ALL POSTPONEMENT; THE SITUATION IS ESSENTIALLY LIKE THAT IN PRE-II.7 CANDE.

FOREIGN FILES ARE ANNOUNCED WITH A MESSAGE LIKE

"#FILE REM OPEN: USER=ZEUS PROG=THUNDER/BOLT"

OR "#OUTPUT FILE CHIT/CHAT OPEN: PROG=DISCOURSE".

THE MESSAGE DISPLAYS THE WORD "OUTPUT" (FOR AN OUTPUT-ONLY FILE),

THE FILE NAME, THE USERCODE (IF ANY), AND THE NAME OF THE PROGRAM OPENING THE FILE. THE FILE NAME IS THE TITLE ATTRIBUTE, UNLESS THAT IS VERY LONG OR IS IDENTICAL TO THE STATION NAME, IN WHICH CASES THE INTNAME ATTRIBUTE IS SHOWN. WHEN A FILE THAT HAS BEEN ANNOUNCED IS SUBSEQUENTLY CLOSED, A MESSAGE LIKE "FILE REM CLOSED" IS SENT UNLESS THE FILE HAD BEEN EXPLICITLY DENIED BY THE TERMINAL USER.

WHEN LIMITING IS SELECTED, THE STATION MAY BE ASSIGNED TO FILES FROM ONLY ONE JOB AT A TIME. IF THE STATION IS BUSY PROCESSING A CANDE COMMAND, OR A FILE FROM ONE JOB IS ALREADY OPEN AND ALLOWED, FILES FROM ANY OTHER JOB WILL BE POSTPONED. AN ATTEMPT TO READ FROM A FILE THAT HAS ALL ITS STATIONS POSTPONED CAUSES THE PROGRAM TO WAIT INDEFINITELY, UNLESS A TIMEOUT HAS BEEN SPECIFIED FOR THE READ. THE PROGRAM CAN TEST THE DISPOSITION ATTRIBUTE FOR POSTPONEMENT. AN ATTEMPT TO WRITE TO A POSTPONED STATION CAUSES END-OF-FILE ACTION. THE PROGRAM MAY DISCOVER THE THE REASON FOR THE EOF ACTION BY EXAMINING THE DISPOSITION ATTRIBUTE OR FIELD [24:8] OF THE BOOLEAN WRITE VALUE OR OF THE STATE ATTRIBUTE. SEE THE I/O SUBSYSTEM DOCUMENT FOR DETAILS.

BEFORE ASSIGNING A LOGGED-IN STATION TO A FOREIGN FILE, CANDE MAY ASK PERMISSION OF THE USER BY SENDING A FILE-OPEN ANNOUNCEMENT FOLLOWED BY THE MESSAGE "#RESPOND "OK" OR "DENY"." IF HE TRANSMITS "OK", THE ASSIGNMENT IS ALLOWED AND HE WILL USUALLY SEE THE "#?" MESSAGE (FOR AN INPUT OR I/O FILE) OR AN OUTPUT LINE FROM THE PROGRAM. IF HE RESPONDS "DENY", THE ASSIGNMENT IS DENIED AND A "#" ACKNOWLEDGEMENT IS SENT. IF HE INPUTS ANYTHING ELSE, THE "RESPOND" MESSAGE IS REPEATED AND HIS INPUT IGNORED. ONCE A FILE FROM A JOB HAS BEEN ALLOWED OR DENIED, OTHER FILES FROM THE SAME JOB WILL ALSO BE ALLOWED OR DENIED WITHOUT FURTHER INTERACTION, AS LONG AS ANY FILE FROM THAT JOB REMAINS OPEN. FILES BEING AUTOMATICALLY ALLOWED ARE ANNOUNCED; THOSE BEING AUTOMATICALLY DENIED ARE NOT.

WHEN THE STATION HAS BEEN ASSIGNED TO ANY FOREIGN FILE, NORMAL CANDE FUNCTIONS ARE UNAVAILABLE. INPUT GOES TO THE INPUT FILE IF ONE IS ASSIGNED; IF ONLY OUTPUT FILES ARE ASSIGNED, THE INPUT IS REJECTED WITH A "#STATION IS BUSY" MESSAGE.

D0961 CANDE - OBJECT FILES - 08-04-74

AN MCS MAY DENY ASSIGNMENT TO A FILE AT ANY TIME. CANDE DOES SO UNDER CERTAIN CIRCUMSTANCES:

1. ?DENY CONTROL COMMAND DENIES ALL FILES CURRENTLY OPEN AT THE THE STATION (INCLUDING POSTPONED FILES NOT YET ANNOUNCED).

2. THE ?END CONTROL COMMAND DENIES THE CURRENT INPUT FILE, IF ANY.

3. ALL FILES ARE DENIED AT THE TERMINATION OF A SESSION.

D0962 CANDE - CONTROL COMMANDS - 08-04-74

WHILE RETAINING THEIR BASIC FUNCTIONS, SEVERAL CANDE CONTROL COMMANDS NOW HAVE ADDED RESTRICTIONS OR EFFECTS:

?CLEAR

CLEAR NOW ALWAYS LEAVES THE LINE AND STATION READY. (IT MAY STILL BE ENTERED AT ANY TIME TO ABORT ANY ACTIVITY AT A STATION AND RETURN IT TO INACTIVE, READY STATUS.)

?DISABLE

DISABLE IS NOW REJECTED WITH A "#STATION IN USE" MESSAGE IF THE STATION AS ACTIVE WITH A USER LOGGED (OR LOGGING) ON, OR AN OBJECT FILE OPEN.

?ENABLE

THE ENABLE COMMAND NOW SETS FREQUENCY TO THE NDL-DECLARED VALUE RATHER THAN TO ZERO.

?MCS

THE MCS COMMAND WILL NOW TRANSFER CONTROL ONLY WHEN SUCH TRANSFER WOULD NOT BE DISRUPTIVE. UNDER THE FOLLOWING CONDITIONS, CANDE WILL REJECT THE COMMAND WITH THE ASSOCIATED MESSAGE:

PROCESSING A CANDE COMMAND: "#STATION IS BUSY"

UNSAVED WORKFILE PRESENT: "#SAVE OR REMOVE WORKFILE"

OBJECT FILE OPEN: "#STATION IN USE"

IF A USER IS LOGGED ON, THE MCS COMMAND WILL CAUSE HIM TO BE LOGGED

OFF NORMALLY; THE JOB LOG AND SUMMARY LOG WILL NOTE THE SESSION AS TERMINATED BY "STATION RELEASED".

D0962 CANDE - CONTROL COMMANDS - 08-04-74

?READY

THE READY COMMAND, IN ADDITION TO MAKING THE STATION AND LINE READY, WILL PERFORM NEW-STATION INITIALIZATION (INCLUDING SENDING A CANDE ID LINE), IF THE STATION HAD BEEN RECORDED AS UNUSABLE BECAUSE OF ERRORS OR A PRIOR ?SAVE.

?RELEASE

RELEASE IS NOW REJECTED WITH A "#STATION IN USE" MESSAGE IF THE STATION AS ACTIVE WITH A USER LOGGED (OR LOGGING) ON, OR AN OBJECT FILE OPEN.

?SAVE

THE SAVE COMMAND MAY BE ENTERED AT ANY TIME TO MAKE THE STATION NOT READY. HOWEVER, IF THE STATION IS ACTIVE WITH A USER LOGGED (OR LOGGING) ON OR AN OBJECT FILE OPEN, CANDE RESPONDS "#STATION IN USE" (AS A WARNING) AND DOES NOT ABORT THE SESSION OR OBJECT FILE AT THE AFFECTED STATIONS; A ?READY COMMAND WILL THEN CAUSE THE SESSION OR FILE ACTIVITY TO BE RESUMED FROM THE POINT OF INTERRUPTION. IF THE STATION IS INACTIVE; ?SAVE CAUSES CANDE TO RECORD THE STATION AS UNUSABLE.

D0963 CANDE - DATACOM ERROR RECOVERY - 08-04-74

DATACOM ERROR RECOVERY IN CANDE IS DESIGNED TO MAINTAIN MAXIMUM USABILITY OF THE STATION, WHILE AVOIDING THE OVERHEAD OF PROCESING MANY ERROR RESULTS FROM USELESS STATIONS. SOME ERROR RESULTS, SUCH AS BREAK-ON-OUTPUT OR SWITCHED-LINE-DISCONNECT, ARE UNEQUIVOCAL AND CAUSE UNCONDITIONAL RECOVERY OR UNCONDITIONAL SESSION TERMINATION. OTHER ERRORS INDICATE SOMETHING AMISS WITH THE DATACOM NETWORK AND REQUIRE A MORE HEURISTIC RECOVERY APPROACH.

PRIOR TO II.7, CANDE HAS ALWAYS MADE THE "LINE" READY AFTER AN ERROR, BUT HAS LEFT THE "STATION" NOT READY AFTER THE SECOND ERROR. ("LINE" AND "STATION" ARE USED HERE IN THE SENSE OF THE NETWORK DEFINITION LANGUAGE, AS UNIT OR PATH OF COMMUNICATION AND AS THE PARTICULAR INTERACTIVE ENTITY, RESPECTIVELY: A USER LOGS ONTO A

STATION WHICH COMMUNICATES OVER A LINE THAT MAY OR MAY NOT BE SHARED WITH OTHER STATIONS.) THE ERROR TREATEMENT IS NOW MORE SOPHISTICATED; IT INVOLVES THE CURRENT ACTIVITY ON THE TERMINAL, THE NUMBER OF ERRORS, AND THE LAPSE OF TIME.

CANDE WILL MARK AN ACTIVE STATION AS NO LONGER USABLE, AND ABORT ANY SESSION, IF FOUR ERRORS OCCUR WITHIN ABOUT TWO MINUTES WITH NO INTERVENING VALID INPUT. FOR AN INTACTIVE STATION, FOUR ERRORS OVER ANY TIME PERIOD WILL RENDER THE STATION UNUSABLE. IF, WHEN INACTIVE, AN UNUSABLE STATION PRODUCES NO MORE ERRORS, IT IS LEFT READY, SO SUBSEQUENT VALID INPUT WILL BE DETECTED WITHOUT OPERATOR INTERVENTION. (FOR EXAMPLE, A DIRECT-WIRE CURRENT-LOOP CIRCUIT, FOR A TELETYPE OR SIMILAR DEVICE, WILL GENERATE ERRORS IF THE CIRCUIT IS OPEN WHEN CANDE ATTEMPTS TO SEND AN INITIAL IDENTIFICATION MESSAGE. ONCE CANDE RECALLS THE OUTSTANDING MESSAGES AND SENDS NO MORE, THE STATION REMAINS QUIET. COMPLETING THE CIRCUIT AND SENDING INPUT FROM THE TERMINAL WILL THEN CAUSE THE STATION TO BECOME USABLE.) IF ERRORS PERSIST ON THE UNUSED STATION AT A RATE GREATER THAN ABOUT TWO PER MINUTE, THE STATION WILL BE LEFT NOT READY AND MAY NOT BE USED UNTIL THE PROBLEM HAS BEEN CORRECTED AND THE OPERATOR HAS EXPLICITLY READIED THE STATION WITH A ?READY OR ?CLEAR CONTROL MESSAGE. (THIS SITUATION IS TYPICAL OF POLLED LINES WHERE THE MODEM IS NOT CONNECTED TO THE B6700 SYSTEM.)

IF CANDE IS TAKING ACTION AS A RESULT OF ERRORS ON A LINE CONTAINING MORE THAN ONE STATION, THE ACTION IS TAKEN FOR ALL STATIONS ON THAT LINE THAT ARE UNDER CANDE CONTROL. THE LINE ITSELF IS ALWAYS LEFT READY UNLESS CANDE RECEIVES AN ERROR NOTICE FOR A STATION THAT HAS BEEN LEFT NOT READY.

DATACOM ERRORS ARE DISPLAYED ON THE CANDE LOG STATION, IF SELECTED, AND ARE RECORDED IN THE SYSTEM SUMMARY LOG. IN II.7, THIS LOGGING OCCURS ONLY FOR THE FIRST OF A GROUP OF CONSECUTIVE ERRORS, WITH ONE EXCEPTION: WHEN A STRING OF ERRORS CAUSES AN ACTIVE STATION TO BE ABORTED, THE LAST ERROR IS ALSO LOGGED. AN ERROR OCCURRING MORE THAN FIVE MINUTES AFTER THE PREVIOUS ONE IS CONSIDERED TO HAVE BEGUN A NEW SEQUENCE, WHEN THE STATION IS ACTIVE.

D0977 CANDE - DISABLED STATIONS - 08-04-74

D0977 CANDE - DISABLED STATIONS - 08-04-74

IF A STATION DOES NOT HAVE "ENABLE INPUT" SET, THE USER CANNOT ENTER INFORMATION FROM THE STATION. ENABLE INPUT IS NORMALLY SET IN THE NETWORK DEFINITION OF A CANDE STATION, BUT IT MAY BE RESET IF THE STATION IS NOT TO BE USED. ENABLE-INPUT STATUS MAY ALSO BE SET OR RESET EXPLICITLY BY THE ?ENABLE AND ?DISABLE CONTROL COMMANDS.

CANDE NOW REGARDS A STATION WHICH IS NOT ENABLED AS NOT TO BE USED. THEREFORE, CANDE WILL NOT SEND INITIAL IDENTIFICATION TO SUCH A STATION. IF A SWITCHED LINE IS INVOLVED, CANDE WILL NOT ANSWER THE PHONE WHEN IT RINGS. IF AUTOANSWER=TRUE, THE DATACOM PROCESSOR WILL AUTOMATICALLY ANSWER THE PHONE, BUT CANDE WILL NOT ACKNOWLEDGE THE STATION. CANDE WILL DENY A FILE-OPEN REQUEST TO A DISABLED STATION.

IF CONTROL OF A STATION IS TRANSFERRED ("RELEASED") TO CANDE BY ANOTHER MCS, CANDE AUTOMATICALLY ENABLES IT (IF NEEDED) AS WELL AS MAKING IT READY. THIS EXCEPTION TO THE RULE STATED ABOVE IS BASED UPON THE ASSUMPTION THAT ACTIVE TRANSER OF A STATION IMPLIES INTENTION FOR USE.

D1093 CANDE - "OOPS" MESSAGES IN SEQ MODE - 01-12-75

IN AUTOMATIC SEQUENCE MODE ON TERMINALS (SUCH AS TELETYPES) WHERE THE DCP GENERATES SEQUENCE NUMBERS, CANDE VERIFIES THAT THE NUMBER DISPLAYED MATCHES THE NUMBER ASSIGNED BY CANDE. ANY MISMATCH CAUSES CANDE TO DISPLAY A MESSAGE LIKE

#OOPS: DCP DISPLAYED SEQ #123 BUT CANDE ASSIGNED #456

AND THEN RESET THE DCP SEQUENCE NUMBER.

THIS SITUATION SHOULD ARISE ONLY WHEN CANDE AND THE DCP ARE OUT OF PHASE FOR SOME PATHOLOGICAL REASON. IT WAS POSSIBLE TO CAUSE THE PROBLEM BY ENTERING A "SEQ <BASE>" COMMAND, FOLLOWED BY ONE OR MORE INPUT LINES, WHILE THE STATION WAS BUSY; WHEN CANDE PROCESSED THE LINES FROM THE QUEUE IT SENT "OOPS" MESSAGES WITH GARBAGE DCP

D1093 CANDE - "OOPS" MESSAGES IN SEQ MODE - 01-12-75

NUMBERS. SUCH INPUT IS NOW HANDLED MORE GRACEFULLY, WITHOUT "OOPS" MESSAGES.

D1094 CANDE - LOGIN FAILURE - 12-11-74

OCCASIONALLY A CANDE LOGIN IS REJECTED BY THE MCP, PROBABLY BECAUSE LOGGING IS NOT YET INITIALIZED. CANDE HAS BEEN PROCESSING WITH A SESSION NUMBER OF ZERO, WHICH CAUSES PROBLEMS LATER. SUCH CASES WILL NOW BE TRAPPED AS

"CANDE ERR: JOB#=0",

AND THE USER WILL BE ASKED TO "ENTER USERCODE PLEASE" AGAIN.

D1095 CANDE - FORCE INTO SUBSPACE - 01-12-75

A NEW OPERATOR OPTION MAY BE SET TO FORCE ALL SWAPPABLE CANDE TASKS TO HAVE BOTH CODE AND DATA IN THE SUBSPACE (BY DEFAULT, NON-USERCODE FILES SUCH AS COMPILERS AND UTILITIES HAVE DATA BUT NOT CODE IN SUBSPACE). THE OPTION IS RESET BY DEFAULT AT CANDE INITIATION, IT MAY BE SET BY THE CONTROL COMMAND

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? SO 12
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OR THE EQUIVALENT SM INPUT. IT MAY BE RESET BY

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?RO12.
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D1096 CANDE - PRINT-, PUNCH- AND STACKLIMIT - 01-12-75

THE INTEGER-VALUED TASK ATTRIBUTES PRINTLIMIT, PUNCHLIMIT AND STACKLIMIT MAY NOW BE USED AS MODIFIERS IN CANDE COMMANDS LIKE RUN OR COMPILE.

D1097 CANDE - SAVE RECOVERY - 01-14-75

A NEW VARIANT OF THE SAVE COMMAND HAS BEEN IMPLEMENTED TO PERMIT A USER TO VOLUNTARILY CAUSE CANDE RECOVERY ACTION: A "SAVE RECOVERY" COMMAND (MINIMUM ABBREVIATION "SA REC") CAUSES THE WORKFILE TO BE SAVED AS A RECOVERY FILE, JUST AS THOUGH THE SESSION HAD BEEN ABORTED. THE RESULTING FILE MAY THEN BE RECOVERED THROUGH THE

"RECOVER" COMMAND IN THE NORMAL WAY.

A PRINCIPAL UTILITY OF THIS FEATURE IS TO PRESERVE A GROUP OF CORRECTIONS THAT CANNOT BE ASSIMILATED BECAUSE OF AN OPERATIONAL OR SYSTEM MALFUNCTION. FOR EXAMPLE, IF THE WORKFILE FAMILY WERE UNEXPECTEDLY DISMOUNTED OR RENDERED UNUSABLE, AN UPDATE COULD NOT PROCEED. "SAVE REC" COULD BE USED TO SAVE THE CHANGES UNTIL THE ENVIRONMENT IS RESTORED; THE STATION COULD MEANWHILE BE USED FOR OTHER WORK.

THE FEATURE MAY ALSO BE USED TO PRESERVE THE WORKFILE OF A USER WHO MUST INTERRUPT HIS WORK AT A POINT WHERE HE WOULD RATHER NOT DO A CONVENTIONAL "SAVE" AND THEREBY LOSE THE ABILITY TO STUDY HIS RECENT CHANGES VIA "LIST:CHANGES" AND THE LIKE.

THE "SAVE RECOVER" COMMAND IS REJECTED IF THE USER HAS NO WORKFILE. HOWEVER, THE COMMAND WILL WRITE A RECOVERY FILE FOR ANY WORKFILE, INCLUDING AN EMPTY OR SAVED ONE. AUTOMATIC RECOVERY, ON THE OTHER HAND, IS INVOKED ONLY WHEN THERE ARE UNSAVED CHANGES TO BE PRESERVED.

CARDLINE

D0835 CARDLINE - BINARY AND JOB DECK LISTING - 08-04-74

CARDLINE WILL NOW LIST BINARY AND JOB DECKS. THE INPUT FILE "CARD" MUST BE TYPE BINARY AND THE TEN-S PLACE OF THE TASKVALUE MUST BE "1". THE OUTPUT SPACING IS STILL CONTROLLED BY THE UNIT-S PLACE OF THE TASKVALUE. (DEFAULT IS SINGLE-SPACING.)

CCTABLEGEN

P3723 CCTABLEGEN - CCTABLEGEN EXPANSION - 05-30-74

THIS PATCH ALLOWS MORE RESERVED WORDS TO BE ADDED TO CCTABLEGEN.

P3865 CCTABLEGEN - FETCH AND RESOURCE - 05-12-74

THIS PATCH ADDS RESERVE WORDS FOR FETCH AND RESOURCE TO BE IMPLEMENTED IN WFL.

P4121 CCTABLEGEN - UPDATE WFL TABLES - 05-12-74

THIS PATCH ADDS NOSUMMARY AND ABORT TO TABLES.

CCTABLEGEN

D0803 CCTABLEGEN - NEW WFL STATEMENTS - 07-07-74

NEW WFL STATEMENTS VOLUME, CATALOG, RELEASE, PURGE, LOCK AND CRUNCH, HAVE BEEN IMPLEMENTED:

1) RELEASE - SAME AS REWIND EXCEPT DOES CLOSE WITH RELEASE.
2) PURGE - SAME AS REWIND EXCEPT DOES CLOSE WITH PURGE.
3) LOCK - SAME AS REWIND EXCEPT DOES CLOSE WITH LOCK.
4) CRUNCH - SAME AS REWIND EXCEPT DOES CLOSE WITH CRUNCH.

D1035 CCTABLEGEN - VARIATIONS ON TASK HISTORY - 11-10-74

USERS CAN NOW DETERMINE THE CAUSE, TYPE AND REASON OF A TASKS TERMINATION AS CONTAINED IN THE TASK HISTORY WORD VIA WFL STATEMENT.

EXAMPLE: IF "T" IS A TASK I.D THEN,

```
T (HISTORYCAUSE)
T (HISTORYREASON)
T (HISTORYTYPE)
```

ARE 3 NEW TASK ATTRIBUTES (READ ONLY).

```
HISTORYCAUSE  BITS   15-8  OF HISTORY WORD
HISTORYREASON BITS   23-16 OF HISTORY WORD
HISTORYTYPE   BITS   7 -0  OF HISTORY WORD
```

COBOL

P3467 COBOL - COMPILER NEWTAPE FILE - 03-28-74

THIS CHANGE CAUSES THE COMPILER TO LOCK THE NEWTAPE FILE IF THE "NEW" OPTION IS SET, EVEN THOUGH NO "IDENTIFICATION DIVISION" CARD IMAGE IS ENCOUNTERED.

P3648 COBOL - REDEFINES CLAUSE - 04-18-74

THIS PATCH IMPLEMENTS A SYNTAX ERROR WHEN AN ITEM ATTEMPTS TO REDEFINE ITSELF.

P3649 COBOL - ARITHMETIC OPERANDS - 04-18-74

THIS PATCH CORRECTS A PROBLEM WHEREBY NUMERIC EDITED DATA ITEMS IN SOME CASES WERE INCORRECTLY ALLOWED TO BE USED AS OPERANDS IN ARITHMETIC EXPRESSIONS.

P3650 COBOL - MOVE CORRESPONDING - 04-18-74

THIS CHANGE CORRECTS MOVE CORRESPONDING TO DISALLOW THE MOVING OF BOOLEANS AS CORRESPONDING ITEMS.

P3651 COBOL - DUMP STATEMENT - 04-18-74

THIS CHANGE TIGHTENS THE SYNTAX CHECKING FOR THE DUMP STATEMENT, PROHIBITING THE USE OF NON-DATA ITEMS IN THE DUMP LIST AND THE USE OF NEGATIVE LITERALS AS DUMP POINT CONTROL COUNTERS.

P3652 COBOL - COPY REPLACING - 05-12-74

THIS CHANGE ALLOWS A PARAGRAPH-NAME IN A LIBRARY FILE, CONSTRUCTED ENTIRELY OF NUMERIC CHARACTERS, TO HAVE ITS NAME CHANGED VIA THE "REPLACING" OPTION OF A COPY STATEMENT.

SOFTWARE IMPROVEMENTS

P3653 COBOL - FILE-LIMITS - 04-18-74

THIS PATCH ALLOWS FOR UP TO 3 PAIRS OF FILE LIMITS TO BE ASSOCIATED WITH EACH FILE. RANGES OF FILE LIMIT PAIRS MAY OVERLAP OR BE OUT OF ORDER BUT THE PAIRS SHOULD BE ARRANGED SO THAT THE FIRST FILE LIMIT IN EACH PAIR IS LESS THAN THE SECOND.

P3654 COBOL - SAME RECORD AREA FOR SORT FILE - 04-18-74

THIS CHANGE ALLOWS SORT FILE IDENTIFIERS TO APPEAR IN A "SAME RECORD AREA" CLAUSE, ALTHOUGH THESE IDENTIFIERS ARE COMPLETELY IGNORED IN GENERATING A SAME RECORD AREA FOR THE VARIOUS FILES APPEARING IN THE "SAME RECORD AREA" CLAUSE.

P3655 COBOL - LEVEL NUMBERS - 05-12-74

THIS PATCH PREVENTS THE COMPILER FROM ERRONEOUSLY ACCEPTING 50 AS A VALID LEVEL NUMBER.

P3656 COBOL - MOVES TO EDITED ITEM - 05-12-74

THIS PATCH CORRECTS A PROBLEM INCURRED WHEN MOVING A SIGNED DISPLAY NUMERIC ITEM TO A NUMERIC EDITED ITEM (HAVING FEWER DECIMAL PLACES TO THE RIGHT OF THE DECIMAL POINT THAN THE SENDING ITEM), WHICH CAUSED THE ABSOLUTE VALUE TO BE MOVED WHILE LOSING THE SIGN IF THE VALUE WAS NEGATIVE.

P3657 COBOL - COPY - 05-1?-74

THIS PATCH IMPROVES COMPILER RECOVERY FROM SYNTAX ERRORS IN COPY STATEMENTS.

P3658 COBOL - MOVE STATEMENTS - 05-12-74

WITH OPTIMIZE RESET, AS IT WAS IMPLICITLY WHEN USING THE OLD DATA MANAGEMENT SYSTEM OR USING THE MONITOR DECLARATION, MOVING NON-NUMERIC LITERALS HAVING A LENGTH LONGER THAN THE RECEIVING ITEM AND COMPOSED ENTIRELY OF ONE CHARACTER CAUSED THE LITERAL TO BE MOVED

FOR THE LENGTH OF THE LITERAL RATHER THAN THE LENGTH OF THE RECEIVING ITEM.

P3659 COBOL - COMP-1 "STACK" ARRAYS - 05-12-74

ON THE 2.6 COBOL COMPILER, ELEMENTARY SINGLE PRECISION ITEMS WITHIN COMP-1 "STACK" ARRAYS WERE ERRONEOUSLY INITIALIZED TO ZERO REGARDLESS OF ANY VALUE CLAUSE. THIS PATCH CORRECTS THIS.

P3724 COBOL - WRITE STATEMENTS - 05-30-74

THE COMPILER FAILED TO CHECK FOR THE SEMICOLON ALLOWED PRECEDING THE AT END-OF-PAGE... CLAUSE OF THE WRITE STATEMENT.

P3725 COBOL - "MONITOR ALL" - 05-30-74

THIS PATCH PREVENTS PROGRAMS WITH "MONITOR ALL" DECLARATIONS FROM BEING TERMINATED BY INVALID OPERATOR INTERRUPTS AT RUN TIME.

P3801 COBOL - INTERRUPTS - 07-07-74

THIS PATCH CORRECTS THE SYNTAX CHECKING MECHANISM FOR THE "ALLOW" AND "DISALLOW" STATEMENTS. PREVIOUSLY NEITHER "ALLOW INTERRUPT" OR "DISALLOW INTERRUPT" WOULD COMPILE.

P3802 COBOL - REDEFINES - 07-07-74

THIS PATCH TIGHTENS UP THE SYNTAX CHECKING LOGIC FOR THE "REDEFINES" CLAUSE, ELIMINATING SEVERAL PROBLEMS. IN ONE CASE, A SYNTAX ERROR WAS NOT GIVEN WHEN A FILLER ITEM WAS DECLARED BETWEEN THE REDEFINED ITEM AND THE REDEFINING ITEM AND THE SIZE OF THE REDEFINED ITEM PLUS THE SIZE OF THE FILLER EQUALED THE SIZE OF THE REDEFINING ITEM. EVEN THOUGH THIS CAUSED NO PROBLEMS AS FAR AS OBJECT CODE WAS CONCERNED, IT WAS NEVER INTENDED THAT THIS BE ALLOWED. IT IS EXPRESSLY STATED IN THE B6700 COBOL REFERENCE MANUAL, AS WELL AS IN THE USASI 1968 AND CODASYL JOD STANDARDS, THAT A REDEFINING ITEM MUST BE THE SAME "SIZE" AS THE REDEFINED ITEM, UNLESS THE REDEFINITION OCCURS ON THE "01" LEVEL.

IN ANOTHER INSTANCE, AN INCORRECT WARNING MESSAGE STATING "REDEFINED AREA NOT SAME SIZE" WAS GIVEN WHEN AN "01" LEVEL COMPUTATIONAL ITEM REDEFINED A DISPLAY OR COMPUTATIONAL ITEM. EVEN THOUGH BOTH WERE THE SAME "SIZE", I.E., THE SAME NUMBER OF BITS.

IN ANOTHER INSTANCE, THE COMPILER ALLOWED THE REDEFINITION OF ONE "01" LEVEL ITEM BY ANOTHER, EVEN THOUGH A "77" LEVEL ITEM WAS DECLARED BETWEEN THEM. REDEFINING ITEMS MUST BE ADJACENT TO THE AREA THAT THEY REDEFINE.

IN ANOTHER CASE, THE COMPILER PERMITTED THE REDEFINITION OF A DISPLAY "01" LEVEL ITEM BY AN ITEM DECLARED TO HAVE A USAGE OF CONTROL-POINT. WHEN THE TASK VARIABLE WAS SUBSEQUENTLY USED TO FIRED UP A COROUTINE, A CONTROL-STATE LOOP OCCURED. CONTROL-POINT ITEMS ARE NOW ALLOWED TO REDEFINE ONLY OTHER CONTROL-POINT ITEMS.

P3803 COBOL - RELATION CONDITIONS - 07-07-74

THIS PATCH CORRECTS SEVERAL PROBLEMS INVOLVING ALPHANUMERIC COMPARISONS OF GROUP OR ELEMENTARY ALPHANUMERIC ITEMS WITH NUMERIC LITERALS. IN ONE INSTANCE, A SYNTAX ERROR WAS NOT GIVEN FOR THE COMPARISON OF A GROUP COMPUTATIONAL ITEM WITH A NUMERIC LITERAL. GROUP COMPUTATIONAL ITEMS CAN ONLY BE COMPARED WITH THE FIGURATIVE CONSTANT "ZEROS". IN ANOTHER INSTANCE, A SPURIOUS SYNTAX ERROR WAS GIVEN FOR A LEGITIMATE COMPARISON INVOLVING AN ALPHANUMERIC DISPLAY ITEM WITH A NUMERIC LITERAL.

P3804 COBOL - MOVE CORRESPONDING - 07-07-74

THIS PATCH IMPROVES THE SPEED OF THE CODE GENERATED FOR MOVE CORRESPONDING STATEMENTS.

P3805 COBOL - KEY STATEMENTS - 07-07-74

THIS CHANGE CORRECTS A PROBLEM IN KEY STATEMENTS WHERE FIGURATIVE CONSTANTS WERE NOT BEING TRANSLATED INTO LITERAL VALUES.

P3806 COBOL - "COMP-1" SAVEARRAYS - 07-07-74

THIS PATCH CORRECTS A PROBLEM WITH THE ADDRESSING OF ELEMENTARY ITEMS IN "COMP-1" ARRAYS WHICH WERE SUBSCRIPTED BY CONSTANTS.

P3807 COBOL - MOVE TRUNCATION WARNINGS - 07-07-74

THIS PATCH IMPROVES THE ABILITY OF THE COMPILER TO GIVE MEANINGFUL WARNING MESSAGES ABOUT POSSIBLE TRUNCATION OF DIGITS OR OVERFLOWS WHEN SENDING FIELDS ARE MOVED TO SMALLER NUMERIC OR NUMERIC EDITED RECEIVING FIELDS.

P3923 COBOL - ATTRIBUTES - 05-12-74

THIS PATCH ADDS DESTNAME, SOURCESTATION AND DESTSTATION TO THE RECOGNIZABLE LIST OF TASK ATTRIBUTES FOR COBOL. FILE ATTRIBUTE MNEMONIC VALUES HAVE BEEN REVISED TO BE CONSISTANT WITH THOSE IN THE B6700 HANDBOOK.

P3924 COBOL - PICTURE CHARACTER STRINGS - 05-12-74

THE COMPILER NOW PRODUCES A SYNTAX ERROR WHEN A PICTURE CHARACTER STRING CONTAINS MORE THAN 30 CHARACTERS. PREVIOUSLY, PICTURE STRING CHARACTERS BEYOND THE 30TH CHARACTER WERE IGNORED. THIS PATCH ALSO DISABLES A COMPILER FEATURE WHICH ALLOWED PICTURE CHARACTER STRINGS TO BE CONTINUED FROM ONE CARD IMAGE TO THE NEXT. THIS FEATURE WAS NOT DOCUMENTED AND WAS DE-IMPLEMENTED SINCE IT AFFECTED COMPILER SPEED, WAS NOT REQUIRED BY ANY COBOL STANDARD, AND WAS THOUGHT TO BE LESS THAN MARGINALLY USEFUL.

P3925 COBOL - COPY - 05-30-74

THIS PATCH STOPS THE COMPILER FROM LOOPING WHEN A COPY STATEMENT USING THE REPLACING OPTION ATTEMPTS TO REPLACE A WORD BY TEXT THAT HAS, AS ITS LAST SYNTACTICAL ITEM, THE WORD BEING REPLACED.

SOFTWARE IMPROVEMENTS

P3926 COBOL - GLOBAL ARRAYS - 05-30-74

THIS PATCH CORRECTS AN ADDRESSING PROBLEM WHICH OCCURRED INFREQUENTLY WITH GLOBAL ARRAYS WHEN A LOCAL COPY DESCRIPTOR GENERATED FOR THE ARRAY HAD THE SAME DISPLACEMENT AS THE "DUMMY" GLOBAL ADDRESS ASSIGNED TO THE ARRAY.

P3927 COBOL - ERRONEOUS SYNTAX ERROR - 05-30-74

THIS PATCH CORRECTS A PROBLEM IN WHICH AN INCORRECT SYNTAX ERROR WAS EMITTED IF THERE WAS A NUMBER FOLLOWED BY A PERIOD IN COLUMN 72 FOLLOWED BY AN "E" IN COLUMN 73.

P3929 COBOL - INV OP ON SYNTAX ERROR - 05-12-74

THIS CHANGE CORRECTS A PROBLEM IN WHICH THE COBOL COMPILER WAS RECEIVING AN INVALID OPERATOR AFTER A SYNTAX ERROR IN COMPUTE STATEMENTS.

P3930 COBOL - DISPLAY OF NON-NUMERIC LITERAL - 05-30-74

THIS CHANGE IMPROVES THE COMPILER GENERATED CODE FOR DISPLAY STATEMENTS DISPLAYING A SINGLE NON-NUMERIC LITERAL, ELIMINATING THE NEED FOR A COMPILER SUPPLIED NON-REENTRANT ARRAY LOCAL TO THE STACK OF THE PROGRAM.

P3931 COBOL - CONDITION NAMES - 05-30-74

THIS CHANGE CORRECTS A PROBLEM WHEN CONDITION NAMES WERE DECLARED SUBORDINATE TO 01 LEVEL ELEMENTARY NUMERIC COMP OR COMP-1 ITEMS, INCORRECT STACK BUILD-UP OCCURRED DURING THE EVALUATION OF THE CONDITION NAME. EVEN THOUGH THE TRUTH VALUE OF THE CONDITION NAME WAS EVALUATED CORRECTLY, THE STACK BUILD-UP COULD HAVE CAUSED UNPREDICTABLE RESULTS, ESPECIALLY IF PERFORM STATEMENTS WERE USED IN THE PROGRAM.

SOFTWARE IMPROVEMENTS

P3932 COBOL - CONDITION NAMES - 07-07-74

THIS CHANGE CORRECTS A PROBLEM IN WHICH A SYNCHRONIZE CLAUSE ON AN 01 LEVEL DATA ITEM USUALLY CAUSED THE ADDRESSING OF SUBORDINATE CONDITION NAME ITEMS TO BE DONE INCORRECTLY, RESULTING IN UNPREDICTABLE TRUTH VALUES GENERATED FOR THE CONDITION NAMES.

P3933 COBOL - COMMON NAMES IN VRBLE FORMAT - 07-07-74

THIS CHANGE CORRECTS A PROBLEM WHEREBY NAMES COMMON TO MORE THAN ONE VARIABLE FORMAT COULD NOT BE REFERENCED IN COBOL (QUALIFICATION ERRORS COULD OCCUR).

P3935 COBOL - STATISTICS - 07-07-74

THIS CHANGE CORRECTS A PROBLEM IN WHICH A COBOL HOST PROGRAM, COMPILED WITH STATISTICS SET, HAD BOUND TO IT A SUBROUTINE DECLARING OWN VARIABLES, UNPREDICTABLE RESULTS OCCURRED.

P3936 COBOL - ERROR RECOVERY - 07-07-74

THIS CHANGE PREVENTS THE COMPILER FROM BEING DISCONTINUED BY A DIVIDE-BY-ZERO INTERRUPT WHEN COMPILING FILE DESCRIPTION ENTRIES.

P3937 COBOL - BLOCK CONTAINS CLAUSE - 07-07-74

A WARNING MESSAGE IS NOW GIVEN FOR THE OCCURRANCE OF BLOCK CONTAINS CLAUSES IN THE FILE DESCRIPTION ENTRIES OF FILES ASSIGNED TO PRINTERS, READERS, OR PUNCHES.

P3938 COBOL - COMPILER ERROR RECOVERY - 07-07-74

THIS CHANGE ELIMINATES A POSSIBLE COMPILER LOOP CAUSED BY SYNTAX ERRORS IN FILE DESCRIPTIONS.

P3939 COBOL - LINKAGE SECTION - 07-07-74

THIS CHANGE ALLOWS THE SPECIFICATION OF INITIAL VALUE CLAUSES IN THE DATA DESCRIPTION ENTRIES OF THE LINKAGE SECTION. THE COBOL

REFERENCE MANUAL STATES THAT THE LINKAGE SECTION IS HANDLED IN THE SAME MANNER AS THE WORKING-STORAGE SECTION. THE COMPILER IS NOW IN AGREEMENT WITH THIS STATEMENT.

P3940 COBOL - COMP-2 ITEMS WITHIN DISPLAY - 07-07-74

THIS CHANGE CORRECTS A PROBLEM WHEN A DISPLAY GROUP ITEM HAD SUBORDINATE COMP-2 ITEMS DECLARED SUCH THAT THE LAST ITEM IN THE GROUP WAS A COMP-2 ITEM THAT DID NOT END ON A BYTE BOUNDARY, THE COMPILER CORRECTLY PRODUCED A WARNING MESSAGE STATING THAT FILLER WAS ADDED. HOWEVER, THE LENGTH OF THE GROUP ITEM WAS COMPUTED TO BE ONE LESS THAN IT SHOULD HAVE BEEN; AND THE OFFSET (FROM THE BIGINNING OF THE TABLE) OF THE NEXT ITEM (AT THE SAME HIERARCHICAL LEVEL) FOLLOWING THE GROUP ITEM WAS COMPUTED TO BE ONE LESS THAN IT SHOULD HAVE BEEN, CAUSING THIS ITEM TO OVERLAP WITH THE LAST ITEM DECLARED SUBORDINATE TO THE GROUP.

P3941 COBOL - DISPLAY - 07-07-74

THIS CHANGE ELIMINATES THE UNCONDITIONAL INSERTION OF A "+" CHARACTER PRECEDING UNSIGNED NUMERIC LITERALS OR NON-COMPUTATIONAL NUMERIC DATA ITEMS IN DISPLAY STATEMENTS.

P3943 COBOL - NON-EXECUTABBLE STATEMENTS - 07-04-74

THE COMPILER NOW PUTS OUT A WARNING MESSAGE FOR NON-EXECUTABLE STATEMENTS (STATEMENTS FOLLOWING GO, STOP RUN, EXIT PROGRAM, OR EXIT PROCEDURE). THE SYNTAX ANALYSIS LOGIC OF THE COMPILER HAS ALSO BEEN TIGHTENED UP WITH REGARD TO EXIT PARAGRAPHS AND ALTERED PARAGRAPHS. PREVIOUSLY IT WAS POSSIBLE TO ALTER PARAGRAPHS CONTAINING TWO GO STATEMENTS , WITH THE SECOND (OR NON-EXECUTABLE STATEMENT) STATEMENT BEING THE ONE THAT WAS ALTERED.

P3944 COBOL - COMPILER WAITING WITH NO FILE - 07-04-74

THIS CHANGE CORRECTS A PROBLEM IN WHICH IN RARE INSTANCES THE COMPILER WOULD WAIT ON "NO FILE:CARDIMAGE" (ONE OF THE INTERNAL TEMPORARY WORK FILES OF THE COMPILER) WHILE ATTEMPTING TO GIVE A

SYNTAX ERROR.

P3946 COBOL - SEGMENTATION OF WRAP-UP LOOP - 07-04-74

THE MAXIMUM SIZE OF THE COBOL LOCAL STACK BUILDING CODE WAS 4095 WORDS. THIS CHANGE ALLOWS UNLIMITED STACK BUILDING CODE BY SEGMENTATION AT 1000 WORD INTERVALS.

P3947 COBOL - LOCAL-STORAGE ENTRIES - 07-04-74

THE COMPILER NOW GIVES A SYNTAX ERROR WHEN TWO OR MORE 77 OR 01 ITEMS IN ONE "LD" HAVE THE SAME NAME.

P4142 COBOL - FILE RECORD SIZE - 11-10-74

THIS PATCH PREVENTS AN ERRONEOUS WARNING MESSAGE FROM SOMETIMES APPEARING FOR FILE DESCRIPTIONS HAVING A "RECORD CONTAINS" CLAUSE SPECIFICATION IN WORDS AND ON "01" RECORD DESCRIPTION IN CHARACTERS.

P4176 COBOL - ELEMENTARY NUMERIC 01 LEVEL - 09-16-74

THIS PATCH CORRECTS SEVERAL PROBLEMS ASSOCIATED WITH THE ADDRESSING OF ELEMENTARY 01-LEVEL COMP ITEMS, PARTICULARLY WHEN THESE WERE PASSED AS PARAMETERS OR DECLARED AS GLOBALS.

P4177 COBOL - MOVE STATEMENTS: - 09-16-74

MOVING THE NUMERIC LITERAL 0 TO MULTIPLE RECEIVING FIELDS CAUSED BAD CODE TO BE GENERATED FOR ALL ALPHANUMERIC RECEIVING FIELDS IMMEDIATELY FOLLOWING ANY NUMERIC RECEIVING FIELD NOT HAVING THE SAME SIZE AS THE NUMBER OF ZERO CHARACTERS IN THE LITERAL SENDING ITEM.

P4178 COBOL - SORT CAUSES INV. INDEX - 08-11-74

THIS PATCH CORRECTS A PROBLEM WHERE A SORT STATEMENT WITH A KEY HAVING A VERY LARGE OFFSET FROM THE FRONT OF THE RECORD GAVE AN INVALID INDEX IN THE COMPILER WHILE COMPILING THE SORT STATEMENT.

SOFTWARE IMPROVEMENTS

P4179 COBOL - MOVING NON-NUMERIC LITERALS - 09-16-74

IN CERTAIN RARE CASES, MOVING A LONG LITERAL TO MUTIPLE RECEIVING FIELDS CAUSED THE LITERAL TO BE STORED CORRECTLY IN ONLY THE FIRST RECEIVING FIELD.

P4180 COBOL - INV INDEX IN SORT - 09-16-74

THIS PATCH CORRECTS A PROBLEM WHERE A SYNTAX ERROR ON A KEY DECLARATION COULD CAUSE AN INV INDEX WHILE COMPILING A SORT STATEMENT.

P4183 COBOL - COMPUTE STATEMENTS - 09-16-74

THE COMPILER WAS INCORRECTLY SYNTAX CHECKING THE CATEGORY OF DATA ITEMS ALLOWABLE AS A RECEIVING FIELD IN THE COMPUTE STATEMENT, EXTENDING THE PRIVILEGE TO SUCH THINGS AS INDEX DATA ITEMS, ETC. DATA ITEMS WHOSE CATEGORY IS EITHER NUMERIC OR NUMERIC EDITED ARE ALL THAT IS NOW ALLOWED.

P4184 COBOL - IPC PARAMETER MISMATCH - 09-16-74

ON RARE OCCASIONS, WHEN AN ATTEMPT WAS MADE TO FIRE UP AN UNBOUND COBOL SUBROUTINE THRU AN IPC STATEMENT, THE INITIATOR WAS DISCONTINUED BY THE MCP FOR "PARAMETER MISMATCH" , EVEN THOUGH THE PARAMETERS DID INDEED MATCH. THE II.6 COBOL COMPILER DID NOT INSURE THAT THE PROGRAM DESCRIPTION (WHICH CONTAINS PARAMETER INFORMATION) WAS NOT "SPLIT" ACROSS A DISK ROW BOUNDARY IN THE CODE FILE.

P4185 COBOL - TWO DIMENSIONAL ARRAYS - 09-16-74

ALPHANUMERIC MOVES INVOLVING COMP-2 ITEMS DECLARED SUBORDINATE TO AN 01 LEVEL DISPLAY ITEM HAVING AN OCCURS CLAUSE (I.E. A TWO DIMENSIONAL ARRAY), CAUSED AN INCORRECT DESCRIPTOR TO BE BUILT, USUALLY RESULTING IN A "PRESENCE BIT ERROR".

P4186 COBOL - BLANK WHEN ZERO - 09-16-74

IN SOME CASES, MOVING A DATA ITEM, WHOSE VALUE WAS ZERO , TO AN ITEM DECLARED TO BE "BLANK WHEN ZERO", AND HAVING A "LOGICAL" SIZE GREATER THAN 12 DIGITS, DID NOT RESULT IN THE RECEIVING ITEM BEING FILLED WITH SPACES.

P4187 COBOL - MOVING NUMERIC LITERALS - 09-16-74

MOVING NUMERIC LITERALS TO "NUMERIC" COMP-2, DISPLAY, OR DISPLAY-1 ITEMS DESCRIBED BY THEIR PICTURE CLAUSE AS HAVING MORE THAN 23 DECIMAL PLACES (AND HAVING BEEN GIVEN AN ERROR FOR THIS BREACH OF SYNTAX), SOMETIMES CAUSED THE COBOL COMPILER TO TERMINATE WITH AN "INVALID OPERATOR" INTERRUPT.

P4188 COBOL - "J" SIGNED DISPLAY ITEMS - 09-16-74

MOVING NUMERIC LITERALS OR FIGURATIVE CONSTANTS TO NUMERIC DISPLAY OR DISPLAY-1 ITEMS, DESCRIBED AS HAVING THE "J" SIGN, AND SUBSCRIPTED BY NON-CONSTANT SUBSCRIPTS, CAUSED AN INVALID OPERATOR TERMINATION OF THE OBJECT PROGRAM.

P4251 COBOL - REPORT WRITER - 09-29-74

WHEN MULTIPLE DETAIL GROUPS WERE SEPARATED IN THEIR DECLARATION BY OTHER TYPES OF REPORT GROUPS, UNPREDICTABLE RESULTS COULD OCCUR, INCLUDING AN ERROR MESSAGE BEING GIVEN FOR GENERATE STATEMENTS REFERENCING DETAIL GROUPS OTHER THAN THE FIRST DETAIL GROUP DECLARED.

P4356 COBOL - FLOATING-POINT DATA ITEMS - 04-18-74

SEVERAL PROBLEMS OF SCALING ASSOCIATED WITH MOVES OF NUMERIC NON-INTEGER DATA ITEMS TO COMP-4 OR COMP-5 FLOATING-POINT DATA ITEMS HAVE BEEN CORRECTED.

SOFTWARE IMPROVEMENTS

P4392 COBOL - DIVIDE STATEMENTS - 09-29-74

DIVIDE STATEMENTS OF THE FORM "DIVIDE A BY B GIVING C" NO LONGER PRODUCE AN INCORRECT SYNTAX ERROR WHEN THE VARIABLE B WAS DECLARED IN THE CONSTANT SECTION.

P4393 COBOL - COMPILER FILE CARD - 09-29-74

THE COMPILER NOW TERMINATES NORMALLY BY EMITTING A SYNTAX ERROR, RATHER THAN TERMINATING ABNORMALLY WITH AN "EOF-NO-LABEL" WHEN THE COMPILER IS EXECUTED AND GIVEN AN EMPTY CARD FILE.

P4394 COBOL - DECIMAL-POINT IS COMMA - 09-29-74

WHEN THE "DECIMAL-POINT IS COMMA" CLAUSE WAS SPECIFIED, THE COMPILER INCORRECTLY COMPILED COMMAS AS DECIMAL-POINTS IF THE COMMA IMMEDIATELY FOLLOWED A NUMERIC INTEGER LITERAL AND WAS FOLLOWED BY NO OTHER SYNTACTICAL ITEM ON THE SOURCE INPUT IMAGE, AND THE NEXT SOURCE INPUT IMAGE WAS NOT A CONTINUATION CARD.

P4396 COBOL - STATISTICS WITH BINDING - 10-15-74

SETTING STATISTICS FOR ANY PROGRAM COMPILED AT A LEX LEVEL GREATER THAN TWO HAS NEVER BEEN IMPLEMENTED BUT WAS COMPILING CORRECTLY AND GENERATING INCORRECT CODE. THIS PATCH EMITS A SYNTAX ERROR WHEN STATISTICS IS SET FOR PROGRAMS COMPILED AT LEX LEVEL THREE OR HIGHER.

P4397 COBOL - STATISTICS WITH PERFORM - 10-15-74

WITH STATISTICS SET, PERFORM STATEMENTS WERE INCREMENTING THE FREQUENCY COUNT OF THE PARAGRAPH THEY RESIDED IN. THIS WAS INCORRECT AND GAVE A MISLEADING INDICATION OF THE NUMBER OF TIMES THE PARAGRAPH WAS EXECUTED.

P4398 COBOL - INVALID INDEX IN RENAMES - 10-15-74

THE STATEMENT:

SOFTWARE IMPROVEMENTS

66 X RENAMES A THRU FILLER

CAUSED AN INVALID INDEX. IT NOW CAUSES A SYNTAX ERROR.

P4399 COBOL - UNLABELLED FILES - 10-15-74

THE COMPILER NOW GIVES A SYNTAX ERROR WHEN A FILE DECLARATION CONTAINS BOTH A "LABEL RECORDS ARE OMITTED" CLAUSE AND A "VALUE OF ID" CLAUSE.

P4401 COBOL - ERROR RECOVERY - 10-15-74

THIS PATCH IMPROVES THE COMPILERS ERROR RECOVERY IN THE SYNTAX CHECKING OF SORT AND MERGE STATEMENTS.

P4402 COBOL - LARGE PROGRAM SEGMENTS - 10-15-74

THE COMPILER IS NOW PREVENTED FROM ABNORMALLY TERMINATING WITH AN INVALID INDEX INTERRUPT WHEN COMPILING PROGRAMS CONTAINING CODE SEGMENTS WHOSE LENGTH, IN WORDS, WAS ONLY SLIGHTLY SMALLER THAN THE 4095 ALLOWABLE.

P4403 COBOL - FORWARD LABEL - 10-15-74

A QUALIFIED FORWARD REFERENCE TO A PARAGRAPH NAME THAT APPEARED IN A PREVIOUS SECTION NOW WORKS CORRECTLY FOR PERFORM OR ALTER STATEMENTS.

P4404 COBOL - BOOLEAN EXPRESSION SYNTAX - 10-15-74

COMPLICATED BOOLEAN EXPRESSIONS NO LONGER CAUSE ERRONEOUS SYNTAX ERRORS TO BE GENERATED.

P4405 COBOL - EDITED NUMERIC INITIAL VALUE - 10-15-74

A NUMERIC LITERAL INITIAL VALUE FOR AN EDITED ITEM NO LONGER CAUSES AN INVALID OPERATOR INTERRUPT AT RUN TIME.

SOFTWARE IMPROVEMENTS

P4646 COBOL - SECTION AND PARAGRAPH NAMES - 05-12-74

THE COMPILER NOW INSURES THAT SECTION NAMES ARE UNIQUE AND THAT WITHIN ONE SECTION, ALL PARAGRAPH NAMES ARE UNIQUE.

P4647 COBOL - PARTITION QUALIFICATION - 09-29-74

THIS PATCH CHECKS FOR PROPER QUALIFICATION OF PARTITIONAL NAMES IN OPEN.

P4648 COBOL - PACK EQUATE - 09-29-74

THIS PATCH ADDS THE FOLLOWING FILE EQUATE TO COBOL. THE COMPILE DECK WILL ALLOW THE DATA BASE DESCRIPTION DECK TO BE ON PACK.

```
?COBOL FILE DASDL (KIND=PACK,PACKNAME=<PACKNAME>)
```

P4649 COBOL - OBJECT-COMPUTER PARAGRAPH - 09-29-74

THIS PATCH PREVENTS AN ERRONEOUS WARNING MESSAGE FROM APPEARING BECAUSE A LIST OF HARDWARE NAMES APPEARED IN THE OBJECT-COMPUTER PARAGRAPH.

P4650 COBOL - SIGNED NUMERIC CHARACTER DATA - 09-29-74

IN RARE INSTANCES, THE MOVING OF A LITERAL 0 TO AN S-SIGNED NUMERIC CHARACTER DATA ITEM RESULTED IN THE "SIGN" CHARACTER OR ZONE BEING NEGATIVE IF A RECENTLY EXECUTED STATEMENT HAD BEEN MOVING NEGATIVE DATA TO AN UNSIGNED ITEM.

P4651 COBOL - INDEX DATA NAMES - 09-29-74

THIS PATCH FIXES THE CASES WHERE THE COMPILER WAS NOT SYNTAXING THE USE OF AN INDEX DATA NAME IN A PLACE IN THE SYNTAX WHERE ONLY A DATA NAME COULD APPEAR.

P4652 COBOL - REPORT WRITER SOURCE CLAUSE - 10-15-74

WHEN AN ALPHANUMERIC EDITED ITEM IN A REPORT LINE SPECIFIED A

"SOURCE" CLAUSE, THE EDITING WAS NOT BEING DONE IN ACCORDANCE WITH THE "MOVE" RULES (AS THE STANDARD SUGGESTS IS THE WAY THE SOURCE CLAUSE IS SUPPOSED TO WORK). NOTE THAT THIS MEANS THAT IF AN ALPHANUMERIC EDITED ITEM SPECIFIES A GROUP ITEM AS ITS SOURCE, NO EDITING WILL BE DONE SINCE THIS RELATIONSHIP COMES UNDER THE "GROUP" MOVE RULE.

P4653 COBOL - QUALIFICATION - 10-15-74

IN CERTAIN CONDITIONS, THE ABSENCE OF AN UNREQUIRED QUALIFIER IN AN IDENTIFIER WAS NOT GIVEN A SYNTAX ERROR AND THE IDENTIFIER WAS IGNORED. FOR EXAMPLE, IN THE EXPRESSION: "X>1 A OF B OF AND Z" CAUSED X TO BE COMPARED ONLY TO 1 AND Z.

P4654 COBOL - INVALID SYNTAX ERROR ON SEARCH - 10-15-74

ON RARE OCCASIONS, A SUBSCRIPTED MOVE STATEMENT WITHIN THE WHEN CLAUSE OR THE AT END CLAUSE OF A SEARCH STATEMENT CAUSED INVALID SYNTAX ERRORS.

P4655 COBOL - OCCASIONAL MISSING RETURN CODE - 10-15-74

ON RARE OCCASIONS, CODE TO RETURN TO THE STATEMENT FOLLOWING A PERFORM STATEMENT WAS NOT GENERATED.

P4656 COBOL - REPORT WRITER - 10-15-74

WHEN A SOURCE CLAUSE REFERENCED A SUM COUNTER DECLARED SUBSEQUENTLY IN THE SOURCE PROGRAM, THE OBJECT CODE PRODUCED FOR THE SOURCE CLAUSE WAS SOMETIMES INCORRECT, RESULTING USUALLY IN AN ERROR MESSAGE.

P4657 COBOL - GROUP COMP MOVE STACK BUILD-UP - 10-15-74

SOME GROUP COMP MOVES WERE LEAVING DESCRIPTORS IN THE STACK.

P4658 COBOL - CORRECTED J SIGN - 10-15-74

EBCDIC ITEMS DECLARED WITH A J SIGN NOW CONTAIN A 4"C" OVERPUNCH

WHEN POSITIVE, RATHER THAN AN 4"F".

P4659 COBOL - REPORT WRITER CONTROL LEVELS - 10-15-74

THE USE OF COMPUTATIONAL OR COMPUTATIONAL-1 77 LEVEL ITEMS AS THE CONTROLLING DATA ITEMS FOR REPORT CONTROLS NO LONGER CAUSES RUN-TIME SEGMENTED ARRAY ERROR INTERRUPT TERMINATION.

P4660 COBOL - PICTURE SYNTAX CHECKING - 10-27-74

A SYNTAX ERROR IS NOW GIVEN IF AN L, S, OR J PICTURE CHARACTER DOES NOT APPEAR IN THE CORRECT POSITION AS SPECIFIED IN THE COBOL MANUAL.

P4661 COBOL - SERIALNO TO BCL ITEM - 10-27-74

MOVING SERIALNO ATTRIBUTE TO A BCL ITEM NOW LEAVES THE CORRECT RESULT IN THE BCL ITEM.

P4662 COBOL - GROUP INDICATE - 10-27-74

THIS PATCH CORRECTS THE GROUP INDICATE FEATURE IN REPORT WRITER. IN MOST CASES, THE CODE GENERATED WAS INCORRECT.

P4663 COBOL - MOVING ALL LITERAL - 10-27-74

MOVING ALL LITERAL TO PICTURE 9 ITEMS NOW WORKS WHEN THE DOLLAR OPTION "OLDMOVECODE" IS RESET.

P4664 COBOL - FLOATING EDITING PICTURES - 10-27-74

THIS PATCH FIXES A PROBLEM WITH FLOATING EDITED PICTURES.

P4665 COBOL - ALPHA MOVES WITH TRANSLATION - 10-27-74

CERTAIN ALPHA MOVES INVOLVING TRANSLATION WILL NO LONGER BE TERMINATED BY SEGMENTED ARRAY ERROR INTERRUPTS AT RUN TIME.

P4666 COBOL - 2-DIM EDITED ALPHA MOVE - 10-27-74

CERTAIN ALPHA MOVES INVOLVING TRANSLATION, EDITING, AND 01

SOFTWARE IMPROVEMENTS

SUBSCRIPTS NO LONGER GET INVALID OPERATORS WHEN EXECUTED.

P4667 COBOL - INSTALLATION INTRINSICS - 10-27-74

DURING A COMPILATION IN AN ENVIRONMENT IN WHICH NO INTRINSIC FILE HAD BEEN CI-ED, UNDEFINED RESULTS, SUCH AS STACK OVERFLOW, INVALID OPERATOR AND INVALID INDEX, OCCURED WHEN THE COMPILER WAS ATTEMPTING TO SYNTAX CHECK AN INSTALLATION INTRINSIC IN THE COBOL SOURCE PROGRAM.

P4668 COBOL - ERROR FOR ILLEGAL COMPARES - 11-03-74

A SYNTAX ERROR IS NOW GENERATED FOR ILLEGALLY COMPARING A COMP-2 ITEM TO SPACES.

P4669 COBOL - TRUNCATION OF NUMERIC LITERALS - 11-03-74

MOVING NUMERIC LITERALS TO NUMERIC COMPS WILL NO LONGER TRUNCATE THE NUMERIC LITERAL UNLESS THE DOLLAR OPTION USASI IS SET.

P4670 COBOL - BCL SORT KEYS - 11-03-74

SORT STATEMENTS SPECIFYING ONLY ONE ALPHANUMERIC BCL (DISPLAY-1) KEY CAUSED THE DATA TO BE SORTED IN AN INCORRECT SEQUENCE.

P4671 COBOL - SUBSCRIPTS - 11-10-74

THE SYNTAX ERROR MESSAGE GIVEN FOR AN ILLEGAL SUBSCRIPT VALUE NO LONGER PRINTS THE CURRENT PARAGRAPH NAME ON THE END OF THE MESSAGE TEXT.

P4672 COBOL - INSTALLATION INTRINSICS - 11-10-74

THE PASSING OF AN INSUFFICIENT NUMBER OF PARAMETERS TO AN INSTALLATION INTRINSIC COULD HAVE CAUSED THE COBOL COMPILER TO TERMINATE ABNORMALLY WITH AN INVALID INDEX.

SOFTWARE IMPROVEMENTS

P4673 COBOL - FILLER ITEMS - 11-10-74

THIS PATCH PREVENTS THE COMPILER FROM TERMINATING WITH AN INVALID INDEX UNDER SOME CONDITIONS WHEN A FILLER DATA DESCRIPTION ENTRY ERRONEOUSLY CONTAINED AN "OCCURS" CLAUSE WITH AN "INDEXED BY" PHRASE.

P4795 COBOL - NEXT GROUP NEXT PAGE FOR RH - 11-10-74

NEXT GROUP NEXT PAGE ON A REPORT HEADING NOW SKIPS TO NEXT PAGE.

P4880 COBOL - REPORT WRITER ABSOLUTE LINE - 11-10-74

A PROBLEM WITH ABSOLUTE LINE NUMBERS IN REPORT WRITER HAS BEEN CORRECTED.

P4881 COBOL - NO WARNING MESSAGES ON ERRLIST - 11-10-74

WARNING MESSAGES ARE NO LONGER PRINTED ON ERRLIST; HOWEVER, IF LIST IS SET AND SPEC IS RESET THEY WILL PRINT ON THE LINE FILE.

P4882 COBOL - STACK DOLLAR OPTION - 11-10-74

THE STACK DOLLAR OPTION IS NOW INDEPENDENT OF THE LIST DOLLAR OPTION.

P4883 COBOL - MOVING PAGE-COUNTER - 11-10-74

AN INVALID OP NO LONGER OCCURS WHEN MOVING PAGE-COUNTER OF A REPORT TO A NUMERIC ITEM.

P4884 COBOL - LISTING - 11-10-74

THE "C" AND "P" INDICATIONS OF PRIMARY INPUT HAVE BEEN CORRECTED.

P4885 COBOL - PICTURE 99PPP+ - 11-17-74

PICTURE 99PPP+ NO LONGER GIVES A SYNTAX ERROR.

SOFTWARE IMPROVEMENTS

P4888 COBOL - NUMERIC DATA ITEMS - 04-18-74

THE STORAGE ALLOCATION TECHNIQUES OF 77 OR 01 LEVEL NUMERIC ITEMS, PARTICULARLY THOSE WHICH HAVE BEEN PREVIOUSLY KEPT AS CHARACTER DATA (DISPLAY, COMP-2,ETC) HAVE BEEN IMPROVED.

P4895 COBOL - VARIABLE LENGTH ITEMS - 11-10-74

THIS PATCH CORRECTS TWO PROBLEMS INVOLVED WITH VARIABLE LENGTH DATA ITEMS.

1) WHEN ITEMS HAVING A MAXIMUM LENGTH OF LESS THAN 49 BITS WERE COMPARED ALPHANUMERICALLY, THE MAXIMUM LENGTH WAS USED RATHER THAN THE DYNAMIC LENGTH.

2) WHEN A SIZE ERROR CONDITION OCCURRED IN AN ARITHMETIC STATEMENT HAVING A SIZE ERROR CLAUSE AND ONE OR MORE VARIABLE LENGTH RECIEVING FIELDS, "GARBAGE" WAS LEFT ON THE STACK. IF THIS OCCURRED UNDER THE CONTROL OF A PERFORM STATEMENT, THE PERFORM RANGE DID NOT EXIT.

P4955 COBOL - REPORT WRITER - 05-12-74

QUALIFIED DATA ITEMS CAN NOW BE SPECIFIED AS CONTROL ITEMS IN THE CONTROL CLAUSE OF THE REPORT DESCRIPTOR.

P4958 COBOL - INTERNAL COMPILER CHANGE - 04-18-74

THE FILEKIND ATTRIBUTE OF THE COMPILERS FILE "CODE" IS SET TO VALUE (COBOLKIND) IMMEDIATELY AFTER OPENING THE FILE, RATHER THAN JUST BEFORE CLOSING THE FILE.

P4978 COBOL - LABEL PROCEDURES - 10-15-74

LABEL PROCEDURES ARE PREVENTED FROM EXECUTION FOR FILES ASSIGNED TO DISK, PAPER-TAPE OR REMOTE. THESE ROUTINES WOULD NOT BE EXECUTED ANYWAY, UNLESS THE FILE WAS LABEL-EQUATED TO A TAPE AT RUN TIME. LABEL PROCEDURES ARE APPLIED ONLY TO FILES ASSIGNED TO TAPE.

SOFTWARE IMPROVEMENTS

P4980 COBOL - CLOSE STATEMENT - 10-15-74

CLOSE STATEMENTS ARE EXECUTED FOR FILES DECLARED ON MULTI-FILE TAPES TO BE EXECUTED AS "CLOSE WITH NO REWIND" IF THE USASI DOLLAR OPTION IS SET AND NO EXPLICIT "NO REWIND" PHRASE IS GIVEN IN THE CLOSE STATEMENT. THIS PATCH IS PART OF A GENERAL EFFORT TO ACHIEVE A HIGH DEGREE OF COMPATIBILITY, BY MEANS OF THE USASI DOLLAR OPTION, WITH THE USASI 1968 COBOL STANDARDS.

P4983 COBOL - REPORT WRITER - 10-15-74

SEVERAL PROBLEMS ASSOCIATED WITH REPORT WRITER RELATIVE LINE SPACING HAVE BEEN CORRECTED. RELATIVE LINE SPACING IS SPECIFIED BY THE ABSENCE OF A PAGE CLAUSE IN THE REPORT DESCRIPTION. FORMERLY, RELATIVE LINE SPACING DID NOT ALLOW ACCESS TO A LINE COUNTER. THIS HAS BEEN CORRECTED, AS WELL AS ALLOWING ACCESS TO A PAGE COUNTER.

P4984 COBOL - SIZE ERROR CONDITIONS - 11-10-74

WHEN A SIZE ERROR CONDITION OCCURED IN AN ARITHMETIC STATEMENT HAVING A SIZE ERROR CLAUSE AND ONE OR MORE COMP-2 J-SIGNED RECEIVING FIELDS, "GARBAGE" WAS LEFT ON THE STACK. IF THIS OCCURRED UNDER THE CONTROL OF A PERFORM STATEMENT, THE PERFORM RANGE DID NOT EXIT.

P5000 COBOL - FILE DESCRIPTION ENTRIES - 11-10-74

THE PATCH PREVENTS SPURIOUS SYNTAX ERRORS FROM BEING GIVEN FOR CERTAIN FILE DESCRIPTIONS DECLARING RECORD AREAS WITH "SIZE DEPENDING" CLAUSES.

P5001 COBOL - COPYRIGHT II.7 - 11-30-74

THE 1975 COPYRIGHT PARAGRAPH HAS BEEN ADDED TO THE COBOL COMPILER.

P5002 COBOL - LABEL RECORDS - 11-30-74

THIS PATCH CORRECTS A PROBLEM WITH THE DECLARATION OF MORE THAN ONE

LABEL RECORD. THE LABEL RECORD AREA WAS NOT ALLOCATED CORRECTLY, CAUSING THE DATA FOR ALL LABEL RECORDS OTHER THAN THE FIRST TO BE SHIFTED SEVERAL CHARACTERS.

P5003 COBOL - REPORT WRITER - 11-30-74

WHEN PROCEDURE DIVISION STATEMENTS WERE USED TO MODIFY A PAGE-COUNTER, AND A PAGE HEADING REPORT GROUP WAS DECLARED FOR THE REPORT, THE PAGE HEADING FAILED TO PRINT IN MANY CASES.

COBOL

D0733 COBOL - RELATION CONDITIONS - 09-16-74

THIS PATCH CORRECTS THE HANDLING OF RELATION CONDITIONS INVOLVING BOTH LOGICAL "NOT" OPERATORS AND RELATIONAL OPERATORS USING THE WORD "NOT". PREVIOUSLY THE LOGICAL NOT OPERATOR WAS IGNORED. FOR EXAMPLE:

"NOT A NOT > B" WAS COMPILED INCORRECTLY AS

"A NOT > B" RATHER THAN "A > B".

D0769 COBOL - SORT ON DISK-PACK - 05-12-74

THIS PATCH ALLOWS SORT TO USE DISKPACK. THE SYNTAX IS:

ASSIGN TO SORT { **DISK** / **DISKPACK** / **DISKPACKS** } [AND ⟨integer⟩ { **TAPE** / **TAPES** / **SORT-TAPE** / **SORT-TAPES** }]

D0770 COBOL - COMP-1 ARRAYS - 05-12-74

THIS PATCH PREVENTS "COMP-1" STACK OR SAVE ARRAYS FROM BEING INCLUDED IN THE LOCAL OR GLOBAL DIRECTORY OF A COBOL SUBROUTINES PROGRAM DESCRIPTION. "COMP-1" STACK ARRAYS ARE NOT PERMITTED TO BE REFERENCED AS GLOBALS OR PASSED AS PARAMETERS.

D0771 COBOL - NUMERIC CLASS TEST - 05-12-74

D0771 COBOL - NUMERIC CLASS TEST - 05-12-74

THE NUMERIC CLASS TEST HAS BEEN MADE MORE RIGOROUS WHEN USED WITH NUMERIC DISPLAY ITEMS DESCRIBED WITH AN "S" SIGN IN THEIR PICTURE CLAUSE. THE TEST PREVIOUSLY IGNORED THE "ZONE" BITS OF THE LEAST SIGNIFICANT DIGIT. THE TEST NOW REQUIRES THESE BITS TO BE EITHER 4"F", 4"C", OR 4"D", IN ORDER TO QUALIFY THE ITEM AS "NUMERIC".

D0772 COBOL - DISPLAY AND ACCEPT STATEMENTS - 05-12-74

THIS PATCH INCREASES THE NUMBER OF CHARACTERS THAT MAY BE DISPLAYED OR ACCEPTED FROM 25 TO 256.

D0773 COBOL - MEMORY AND DISK SIZE FOR SORT - 05-12-74

THIS PATCH IMPLEMENTS "MEMORY SIZE" AND "DISK SIZE" CLAUSES ON SORT STATEMENTS. THE NEW SYNTAX IS AS FOLLOWS:

D0773 COBOL - MEMORY AND DISK SIZE FOR SORT - 05-12-74

```
SORT file-name-1 ON {ASCENDING } KEY data-name-1 [, data-name-2] ...
                    {DESCENDING}

  [, ON {ASCENDING } KEY data-name-3 [, data-name-4] ... ] ...
        {DESCENDING}

  {USING file-name-2                                                  }
  {INPUT PROCEDURE IS section-name-1 [{THRU   } section-name-2]       }
                                     {THROUGH}

  {GIVING file-name-3                                                 }
  {OUTPUT PROCEDURE IS section-name-3 [{THRU   } section-name-4]      }
                                      {THROUGH}

  [MEMORY SIZE <formula> {CHARACTERS}]
                         {WORDS     }
                         {MODULES   }

  [DISK SIZE <formula> {WORDS  }]
                       {MODULES}

  [RESTART IS {formula   }]
              {data-name-5}
              {literal-1 }
```

IF THE "MEMORY SIZE" AND/OR "DISK SIZE" CLAUSES ARE PRESENT IN A SORT STATEMENT, THEY TAKE PRECEDENCE OVER THE VALUES STATED IN THE OBJECT-COMPUTER PARAGRAPH OF THE ENVIRONMENT DIVISION. THE PRESENCE OF A MEMORY SIZE CLAUSE FOR A SORT STATEMENT HAS NO EFFECT ON THE COMPILERS ALGORITHM FOR ESTIMATING CORE REQUIREMENTS FOR THE OBJECT PROGRAM.

D0809 COBOL - ACCESS MODE CLAUSE - 07-07-74

THIS PATCH ALLOWS ANY FILE, ASSIGNED TO ANY DEVICE TYPE, TO SPECIFY THE ACCESS MODE AS "SEQUENTIAL". PREVIOUSLY, AN ERROR WAS GIVEN UNLESS THE DEVICE TYPE OF THE FILE WAS DISK, DISKPACK, OR REMOTE. NOW ONLY A WARNING MESSAGE IS GIVEN, AND THE CLAUSE IS IGNORED FOR PURPOSES OF CODE GENERATION.

D0836 COBOL - EVENTS - 04-18-74

D0836 COBOL - EVENTS - 04-18-74

THIS PATCH IMPLEMENTS SUPER WAIT AND CAUSE AND RESET IN COBOL.

SYNTAX:

CAUSE [AND RESET] event-identifier-1 [, event-identifier-2] ...

WAIT INTERRUPT

WAIT formula

WAIT [AND RESET] [formula,] event-identifier-1
[,event-identifier-2] ... [GIVING data-name-1]

WAIT control-point-identifier ([subscript,] EXCEPTIONEVENT)

SEMANTICS:

1. "CAUSE AND RESET" WILL CAUSE ALL EVENTS IN THE LIST TO BE "CAUSED" AND "RESET".

2. "WAIT" ON FORMULA FOLLOWED BY ONE OR MORE EVENTS WILL CAUSE A "WAIT" TO BE EXECUTED FOR THE LENGTH OF THE TIME SPECIFIED BY THE FORMULA, OR UNTIL ONE OF THE EVENTS IN THE EVENT LIST IS CAUSED, WHICHEVER HAPPENS FIRST. IF THE "GIVING" OPTION IS USED, THE ORDINAL NUMBER OF THE ITEM IN THE LIST WHICH TERMINATED THE "WAIT" WILL BE STORED IN DATANAME-1, WITH

D0836 COBOL - EVENTS - 04-18-74

THE FORMULA HAVING THE NUMBER 1. IF THE "WAIT AND RESET" OPTION IS USED, ONLY THE EVENT WHICH TERMINATED THE "WAIT" WILL BE RESET.

EXAMPLES:

WAIT E1, E2, E3 GIVING TALLY

WAIT AND RESET X DIV 2, E1, E2, E3.

D0837 COBOL - SORT SYNTAX - 05-30-74

SORT SYNTAX WAS NOT ACCEPTING LEGAL ANSII SYNTAX. ADDITIONAL SYNTAX OF "ASSIGN" IS:

```
ASSIGN TO implementor-name-3 [,implementor-name-4] ...
       [OR implementor-name-5 [,implementor-name-6] ...]
```


D0841 COBOL - RERUN - 07-07-74

THIS PATCH IMPLEMENTS ONE VERSION OF THE "RERUN" CLAUSE IN COBOL. THE SYNTAX IS:

```
[RERUN ON {DISK    } EVERY integer-1 RECORDS OF file-name-1] ...
          {DISKPACK}
```

D0841 COBOL - RERUN - 07-07-74

THIS WILL CAUSE A CHECK POINT TO BE TAKEN EVERY INTEGER-1 READS OR WRITES (OR BOTH) EXECUTED ON FILE-NAME-1.

D0842 COBOL - REDEFINES - 07-07-7'

THIS PATCH ALLOWS REDEFINITION OF AN ITEM HAVING AN "OCCURS ... DEPENDING" CLAUSE. PREVIOUSLY, REDEFINITION OF OCCURING ITEMS WAS RESTRICTED TO ITEMS HAVING A FIXED NUMBER OF OCCURANCES. THE REDEFINITION OF OCCURING ITEMS AND ITEMS SUBORDINATE TO OCCURING ITEMS IS A B6700 EXTENSION TO THE USASI 1968 AND CODASYL STANDARDS.

D0843 COBOL - READ AND WRITE STATEMENTS - 07-07-74

THIS PATCH IMPROVES THE CLARITY OF ERROR MESSAGES PRODUCED FOR INCORRECT OR MISSING "AT END" OR "INVALID KEY" CLAUSES ON READ AND WRITE STATEMENTS. ALSO, EITHER CLAUSE MAY BE USED AS A SYNONYM FOR THE OTHER , REGARDLESS OF THE KIND OF HARDWARE DEVICE OR ACCESS MODE SPECIFIED IN THE ASSIGN CLAUSE. THIS WILL MAKE IT EASIER TO CHANGE A DISK FILE FROM SEQUENTIAL TO RANDOM ACCESS OR VICE VERSA.

D0844 COBOL - MOVING NON-NUMERIC LITERALS - 07-07-74

THIS PATCH ALLOWS A NON-NUMERIC LITERAL LONGER THAN 23 CHARACTERS TO BE MOVED TO A NUMERIC DISPLAY, DISPLAY-1 OR COMP-2 DATA ITEM. PREVIOUSLY THE MAXIMUM ALLOWABLE SIZE WAS 23. THIS CHANGE WAS MADE TO IMPROVE THE COMPATABILITY OF B6700 COBOL WITH OTHER COBOL LANGUAGES. NON-NUMERIC LITERALS OF ANY SIZE MAY NOT BE MOVED TO ANY COMP, COMP-1, COMP-4, OR COMP-5 DATA ITEM.

D0845 COBOL - CALL SYSTEM WITH STATEMENTS - 07-07-74

"CALL SYSTEM WITH" STATEMENTS CAUSED AN INVALID INDEX IN THE MCP WHEN THE ARRAY ROW PASSED WAS A REDEFINITION. THIS PATCH CORRECTS THIS PROBLEM AS WELL AS ALLOWING SUBSCRIPTED 01-LEVEL ITEMS TO BE USED AS THE ARRAY ROW.

D0855 COBOL - TASK ATTRIBUTE FAMILY - 10-15-74

D0855 COBOL - TASK ATTRIBUTE FAMILY - 10-15-74

THIS PATCH ALLOWS THE POINTER-VALUED TASK ATTRIBUTE "FAMILY" TO BE ACCESSED BY COBOL PROGRAMS.

D0874 COBOL - REMAINDER OPTION OF DIVIDE - 09-16-74

A CORRECTION HAS BEEN MADE REGARDING THE ACTION TAKEN WHEN A SIZE ERROR CONDITION OCCURS ON A "REMAINDER" DIVIDE STATEMENT HAVING AN "ON SIZE ERROR" CLAUSE. PREVIOUSLY, A SIZE ERROR CONDITION OCCURING ON THE QUOTIENT WOULD NOT PREVENT AN ATTEMPT TO CALCULATE AND STORE THE REMAINDER. ONLY A SIZE ERROR CONDITION OCCURING ON THE CALCULATION AND STORING OF THE REMAINDER VALUE WOULD PREVENT THE REMAINDER FROM BEING CHANGED.
HOWEVER, A REMAINDER VALUE IS UNDEFINED IN THE EVENT OF A SIZE ERROR CONDITION OCCURING DURING THE CALCULATION AND STORING OF THE QUOTIENT, AND WILL NO LONGER BE STORED.
AS BEFORE, A SIZE ERROR CONDITION OCCURING ON EITHER THE QUOTIENT OR REMAINDER WILL CAUSE THE SIZE ERROR BRANCH TO BE TAKEN.

D0888 COBOL - ASCII DATA ITEMS - 09-16-74

THE MOVING OF A NUMERIC DATA ITEM (OR SPECIAL REGISTER WHOSE IMPLICIT CLASS WAS NUMERIC) TO AN ASCII RECEIVING FIELD PRODUCED INCORRECT RESULTS. THE DATA MOVED WAS STORED AS EBCDIC NUMERIC CHARACTERS. ANY SPACE FILL WAS IN ASCII, HOWEVER, THIS PARTICULAR MOVE IS NOW SYNTAXED WITH AN ERROR MESSAGE STATING "ALPHANUMERIC SENDING FIELD REQUIRED", SINCE THIS MOVE IS NOT EASILY SUPPORTED BY THE HARDWARE.

THE MOVING OF A NUMERIC INTEGER CONSTANT TO AN ASCII RECEIVING FIELD IS ALLOWED. MOVES OF NUMERIC LITERALS TO ALPHANUMERIC RECEIVING FIELDS ARE TREATED AS IF THE LITERAL HAD QUOTATION MARKS AROUND IT (ALPHUNUMERIC MOVES).

D0889 COBOL - ATTRIBUTES - 09-16-74

D0889 COBOL - ATTRIBUTES - 09-16-74

UNTIL NOW, IT HAS NOT BEEN POSSIBLE TO EASILY HANDLE THE SO-CALLED "REAL" ATTRIBUTES IN COBOL (AS DISTINGUISHED FROM THE "INTEGER" ATTRIBUTES). FOR EXAMPLE, AN ATTEMPT TO SET THE TASK ATTRIBUTE "TASKVALUE" TO A VALUE THAT THE COMPILER SUSPECTED OF BEING A FLOATING-POINT OR SCALED VALUE CAUSED THE COMPILER TO GENERATE CODE TO SCALE TO 0 AND INTEGERIZE THE VALUE BEFORE PASSING IT THE MCP TO BE STORED IN "TASKVALUE"

THIS IS NOW NO LONGER THE CASE. CERTAIN ATTRIBUTES ARE NOW RECOGNIZED AS TYPE "REAL", AND CAN BE SET TO NON-INTEGER OR FLOATING POINT VALUES. FOR EXAMPLE, SETTING MYSELF(TASKVALUE) TO X (WHERE X IS DECLARED AS PIC 99V9 VALUE 11.8) WILL NOW STORE THE FLOATING-POINT VALUE 11.8, RATHER THAN THE INTEGER 11, INTO THE TASKVALUE ATTRIBUTE. THE FOLLOWING ATTRIBUTES, CONTRARY TO WHAT IT SAYS IN THE B6700 HANDBOOK, ARE CONSIDERED TO BE TYPE "REAL". THE FILE ATTRIBUTES STATE AND TIMELIMIT; THE DIRECT I-O AREA ATTRIBUTES IOMASK, IOCW, AND IORESULT; AND THE TASK ATTRIBUTES TASKVALUE AND MAXWAIT. IN ADDITION, THE FILE ATTRIBUTE "ATTVALUE" IS CONSIDERED TYPE "REAL" SINCE IT SOMETIMES TAKES ON REAL VALUES. THE SERIALNO FILE ATTRIBUTE, WHICH IS TYPE REAL IN ALGOL IS CONSIDERED TO BE A POINTER ATTRIBUTE IN COBOL SINCE IT CONTAINS EBCDIC CHARACTERS.

D0890 COBOL - $ ANALYZE - 09-16-74

A NEW DOLLAR OPTION, ANALYZE, IS NOW PROVIDED IN AN ATTEMPT TO GIVE MORE INFORMATION ABOUT PROGRAMS WHICH MAY BE OF SOME ASSISTANCE IN DECREASING THEIR DEMANDS UPON SYSTEM RESOURCES. MANY OF THE THINGS FLAGGED ARE NOT NECESSARILY BAD PROGRAMMING PRACTICES, BUT MERELY GIVE NOTICE THAT THE COMPILER IS NOT PRESENTLY EQUIPPED TO HANDLE THEM EFFICIENTLY.

TO USE THE $ ANALYZE OPTION, IT MUST BE SET BEFORE THE IDENTIFICATION DIVISION. THE OUTPUT WILL COME OUT AT THE END OF THE PROGRAM LISTING, GIVING EITHER THE SEQUENCE NUMBER OF THE PROBLEM STATEMENT, OR THE NAME OF THE DATA-ITEM OR LABEL NAME,

WHICHEVER IS APPROPRIATE. THE AREAS WHICH MAY BE FLAGGED AS NEEDING IMPROVEMENT ARE :

- INTER-SEGMENT PERFORM OR GO TO STATEMENTS.

THIS MAY CAUSE REPEATED PRESENCE BIT ACTION ON CODE SEGMENTS.

- SMALL 01-S DEFINED IN WORKING STORAGE.

THIS CAUSES SMALL ARRAYS TO BE CREATED, THUS, DATA ACCESSED BY DESCRIPTORS WHICH MIGHT BE ACCESSED BY FASTER METHODS (VALC).

- SMALL SECTIONS.

THIS AGAIN MAY CAUSE EXCESSIVE PRESENCE BIT ACTION ON CODE SEGMENTS.

- TEMPORARY ARRAY.

THIS STATEMENT CAUSED A TEMPORARY ARRAY TO BE GENERATED. THIS USUALLY HAPPENS WHEN AN ALPHANUMERIC COMPARE IS DONE ON ITEMS OF DIFFERENT LENGTHS.

- DISK FILE NOT BLOCKED OPTIMALLY.

THE COMBINATION OF THE BLOCKSIZE AND THE RECORD SIZE OF THIS DISKFILE DOES NOT LEND ITSELF TO BEING WRITTEN IN 30 WORD PHYSICAL DISK SEGMENTS.

- ALTER STATEMEMTS.

AN ALTER STATEMENT MAKES DEBUGGING VERY HARD.

- DISPLAYS AND ACCEPTS.

THESE STATEMENTS PRODUCE LARGE AMOUNTS OF CODE AND TEND TO SLOW DOWN RUNNING PROGRAMS.

- SORT WITH MULTIPLE KEYS.

MULTIPLE KEYS REQUIRE THAT THE SORT GENERATE A COMPARE PROCEDURE, WHEREAS A SINGLE KEY CAN DO THE SORT WITHOUT A COMPARE PROCEDURE.

- SORT WITH BCL KEYS.

A SORT WITH ALPHANUMERIC BCL KEYS REQUIRES CONVERSION FROM BCL TO EBCDIC BECAUSE OF THE COLLATING SEQUENCE.

D0890 COBOL - $ ANALYZE - 09-16-74

- J-SIGN PICTURES.

J-SIGN PICTURES CAUSE EXTRA CODE TO BE EXECUTED IN ORDER TO KEEP TRACK OF THE SIGN.

- ON SIZE ERROR CLAUSE.

ON SIZE ERROR CLAUSES GENERATE EXTRA CODE WHICH IS USUALLY NOT REQUIRED.

- VARIABLE LENGTH.

VARIABLE LENGTH ITEMS PRODUCE EXTRA CODE FOR MOST OPERATIONS.

- CONVERSION FROM DECIMAL TO BINARY.

THE STATEMENT FLAGGED CAUSED A NUMERIC DISPLAY VALUE TO BE CONVERTED TO BINARY. THIS IS GENERALLY CAUSED BY NUMERIC COMPARES, ARITHMETIC STATEMENTS, OR NUMERIC MOVES.

- CONVERSION FROM BINARY TO DECIMAL.

THE STATEMENT FLAGGED CAUSED A BINARY VALUE TO BE STORED IN A NUMERIC DISPLAY FIELD.

D0891 COBOL - CLASS CONDITIONS - 09-29-74

THE SYNTACTICAL RULES REGARDING THE USAGE OF DATA ITEMS USED IN CLASS CONDITIONS NEED TO BE CLARIFIED. THE COBOL REFERENCE MANUAL SHOULD BE CHANGED TO REFLECT THESE NEW RULES:

1. THE USAGE OF AN OPERAND USED WITH THE NUMERIC RELATION

   CONDITION MUST BE, DISPLAY, DISPLAY-1, ASCII, OR COMP-2. ALL THESE USAGES DECLARE THAT THE DATA IS IN CHARACTERS, AND THE NUMERIC CLASS CONDITION DETERMINES WHETHER OR NOT THE CHARACTERS ARE ALL 0-9. IF THE OPERAND TESTED IS DECLARED AS A SIGNED NUMERIC ITEM, THEN THE SIGN CHARACTER OR ZONE ARE ALSO CHECKED TO MAKE SURE IT IS A VALID BIT PATTERN.

   ALPHABETIC OPERANDS CAN NOT BE USED WITH THE NUMERIC CLASS CONDITION.

   COMPUTATION OPERANDS CAN NOT BE CHECKED WITH THE NUMERIC

D0891 COBOL - CLASS CONDITIONS - 09-29-74

CLASS CONDITION SINCE THEY ALWAYS CONTAIN NUMERIC DATA, REGARDLESS OF THEIR BIT PATTERN.

2. OPERANDS USED IN THE ALPHABETIC CLASS CONDITION MUST BE EITHER DISPLAY, DISPLAY-1, OR ASCII. COMP-2 IS NOT ALLOWED WITH THE ALPHABETIC TEST.

D0938 COBOL - SOURCE INPUT - 10-15-74

THIS PATCH IMPROVES THE ABILITY OF THE COMPILER TO HANDLE THE MORE BIZARRE TYPES OF SOURCE LANGUAGE INPUT DATA FILES, ESPECIALLY DATA FILES WHICH ARE CHARACTER-ORIENTED.

D0949 COBOL - FLOATING-POINT LITERALS - 09-16-74

FLOATING-POINT FORMAT NUMERIC LITERALS ARE NOW PERMITTED TO BE MOVED ONLY TO FLOATING-POINT COMP-4 OR COMP-5 RECEIVING FIELDS.

D0978 COBOL - SAVE DOLLAR OPTION - 10-15-74

THE DOLLAR OPTION "SAVE" FUNCTIONS DIFFERENTLY THAN OTHER OPTIONS. IF THE OPTION IS TRUE, IT IS IMPLICITLY RESET EACH TIME IT IS SET AGAIN, OR A "$ FROM" CARD APPEARS, OR A DOLLAR CARD INITIALIZING ALL DOLLAR OPTIONS APPEARS. POPPING SAVE NOW FUNCTIONS EXACTLY AS "RESET" IN THAT THE OPTION CANNOT BE POPPED TO ITS PRIOR VALUE.

D0985 COBOL - COBOL COMPATIBILITY - 10-15-74

THIS PATCH ALLOWS, FOR SYNTACTICAL COMPATIBILITY PURPOSES, THE STANDARD COBOL "VALUE OF" CLAUSE IN THE FILE DESCRIPTION ENTRY:

VALUE OF ⟨**data-name**⟩ **IS** $\left\{\begin{matrix}\langle\textbf{literal}\rangle \\ \langle\textbf{data-name}\rangle\end{matrix}\right\}$

D0985 COBOL - COBOL COMPATIBILITY - 10-15-74

SUCH A SPECIFICATION IS, HOWEVER, IGNORED FOR PURPOSES OF LABEL RECOGNITION.

D0986 COBOL - REPORT WRITER: - 10-27-74

THIS PATCH IMPROVES THE SYNTAX CHECKING ABILITY OF THE COMPILER WITH REGARD TO THE TYPE OF OPERAND ALLOWABLE IN THE "SOURCE" CLAUSE. THE COMPILER NOW ACCEPTS ANY IDENTIFIER, INTRINSIC FUNCTION, OR SPECIAL-REGISTER (INCLUDING TALLY AND FILE ATTRIBUTES). NOT IMPLEMENTED, HOWEVER, IS THE ABILITY TO SPECIFY THE PAGE-COUNTER OR LINE-COUNTER OF A REPORT NOT YET DECLARED.

D1065 COBOL - REPORT WRITER PAGE CLAUSE - 11-03-74

WHEN A PAGE CLAUSE IS SPECIFIED FOR A REPORT, THE COMPILER NOW COMPUTES, IN THE ABSENCE OF AN EXPLICIT LAST DETAIL CLAUSE, AN IMPLICIT LAST DETAIL VALUE BASED ON THE DEPTH AND POSITION OF ANY PAGE FOOTING GROUP. SIMILARLY, AN IMPLICIT FIRST DETAIL IS CALCULATED BASED ON THE POSITION AND DEPTH OF ANY PAGE HEADING GROUP, IN THE ABSENCE OF AN EXPLICIT FIRST DETAIL CLAUSE.

D1099 COBOL - COBOL-OPTIMIZATION - 07-09-74

SINCE THE MARK II.4 RELEASE, AN "OPTIMIZE" DOLLAR OPTION HAS BEEN AVAILABLE IN COBOL. UP TO NOW, THIS OPTION HAS BEEN RESTRICTED ONLY TO CONTROL THE TYPE OF CODE GENERATED FOR MOVE STATEMENTS.

BECAUSE IT IS GENERALLY FASTER, THIS NEW TYPE OF CODE WAS MADE DEFAULT ON THE MARK II.5 AND MARK II.6 COMPILERS. THIS WIL CONTINUE TO BE THE CASE ON THE MARK 11.7 COMPILER. HOWEVER, THE TYPE OF MOVE CODE WILL BE CONTROLLED ONLY BY THE VALUE OF THE NEW DOLLAR OPTION "OLDMOVECODE", WHICH WILL BE RESET BY DEFAULT. IT SHOULD BE NOT NECESSARY FOR THIS OPTION TO EVER BE EXPLICITLY SET (THE COMPILER WILL "SET" IT IMPLICITLY IF A PROGRAM CONTAINS A MONITOPR DECLARATION OR INVOKES SETS USING THE SYNTAX OF THE OLD DATA MANAGEMENT SYSTEM). ON THE MARK II.8 RELEASE THIS OPTION WILL BE DE-IMPLEMENTED.

THE "OPTIMIZE" DOLLAR OPTION HAS OTHER, LARGER MEANINGS ON THE MARK II.7 COMPILER, MEANINGS THAT ARE MORE CONSISTENT WITH THE MEANING OF THE WORD "OPTIMIZATION". THE VALUE OF THE "OPTIMIZE" OPTION WILL BE RESET BY DEFAULT, BUT, IF SET, SEVERAL ASSUMPTIONS WILL BE MADE BY THE COMPILER IN GENERATING CODE.

FIRST, THE COMPILER MAY GENERALLY ASSUME THAT NUMERIC CHARACTER DATA ITEMS CONTAIN VALID DATA IN THEIR DIGIT POSITIONS. FOR EXAMPLE, CERTAIN NUMERIC COMPARISONS INVOLVING UNSIGNED CHARACTER DISPLAY ITEMS WILL BE COMPARED AS CHARACTERS, RATHER THAN BEING CONVERTED TO BINARY AND THEN COMPARED. ZONES WILL BE MASKED WITH "F"S FOR FOR EBCDIC ITEMS SO THAT UNINITIALIZED ITEMS WILL COMPARE EQUAL TO ZERO. ALSO, CERTAIN SIMPLE "ADD" STATEMENTS INVOLVING EBCDIC NUMERIC UNSIGNED ITEMS WILL BE DONE AS "CHARACTER" ADDS, AGAIN WITH ZONE MASKING SO THAT ONLY THE DIGIT PART OF THE CHARACTER IS ASSUMED TO BE VALID.

SECOND, IN LINE MULTIPLICATIONS AND ADDITIONS WILL BE EMITTED IN PLACE OF "OCCURS - INDEX" OPERATORS IN ORDER TO SPEED ACCESSING OF SUBSCRIPTED VARIABLES, ALTHOUGH INVALID INDEX CHECKING ON INIDIVIDUAL SUBSCRIPTS IS BYPASSED. THE ASSUMPTION HERE IS THAT ALL SUBSCRIPTS EVALUATED BY THE OBJECT PROGRAM WILL BE VALID.

NOTE THAT BOTH OF THES ASSUMPTIONS ARE BASED ON THE GENERAL PREMISE THAT THE VALUES OF INTERNAL PROGRAM VARIABLES ARE BEING CONTROLLED PROPERLY. THIS SEEMS TO BE A REASONABLE EXPECTATION FOR MOST PRODUCTION PROGRAMS, AND THEREFORE HAS A LEGITIMATE ROLE IN AN

D1099 COBOL - COBOL-OPTIMIZATION - 07-09-74

OVERALL OPTIMIZATION STRATEGY ON FUTURE RELEASES. THE "OPTIMIZE" OPTION WILL CAUSE THE COMPILER TO EXAMINE MORE CAREFULLY THE STRUCTURE OF EXPRESSIONS AND PROGRAM CONTROL AND THE RELATIONSHIP BETWEEN THE WAY DATA IS DECLARED AND THE WAY IT IS USED. IT TAKES LONGER TO COMPILE, BUT (HOPEFULLY) IT WILL PRODUCE BETTER CODE.

D1100 COBOL - RELATION CONDITIONS - 01-12-75

THIS PATCH CORRECTS THE HANDLING OF RELATION CONDITIONS INVOLVING BOTH LOGICAL "NOT" OPERATORS AND RELATIONAL OPERATORS USING THE WORD "NOT". PREVIOUSLY, THE LOGICAL "NOT" OPERATOR WAS IGNORED. FOR EXAMPLE, "NOT A NOT > B " WAS COMPILED INCORRECTLY AS "A NOT > B" RATHER THAN "A > B".

COMPARE

P3948 COMPARE - VARIABLE MAXRECORDSIZE - 08-04-74

SYSTEM COMPARE HAS BEEN MODIFIED TO HANDLE FILES WITH ANY MAXRECSIZE.

COMPARE

D0810 COMPARE - SYSTEM COMPARE IMPROVEMENTS - 07-07-74

CHANGES IN SYSTEM COMPARE ARE AS FOLLOWS:

1) BCL, ASCII AND HEX FILES ARE NOW HANDLED CORRECTLY.

2) INPUT DATA CAN NOW BE IN FREE FIELD. THE FILES TO BE COMPARED ARE FIRST FOLLOWED BY -- .

   A) MAXIMUM ERROR DEFAULT THEN SEQUENCE INFORMATION, OR

   B) SEQUENCE INFORMATION THEN MAXIMUM ERROR DEFAULT.

   THE FILE NAMES MUST BE FIRST, EACH FOLLOWED BY A ".".

   THE MAXIMUM ERROR DEFAULT MAY BE <EMPTY> OR AN INTEGER NUMBER. IF <EMPTY> MAXIMUM ERROR DEFAULT IS ASSUMED TO BE 5.

   THE SEQUENCE INFORMATION IS THE COLUMN THE SEQUENCE NUMBERS OF THE FILES BEGIN IN FOLLOWED BY A "-" FOLLOWED BY THE LENGTH OF THE SEQUENCE NUMBERS.

   EXAMPLES:

   ```
   A/B/C.   D/E/F.  50     73  -    8
   A/B/C.              D/E/F.73-8    50
   ```

   BOTH OF THE ABOVE EXAMPLES SPECIFY THAT THE FILES A/B/C AND D/E/F ARE TO BE COMPARED UNTIL 50 DIFFERENCES OCCUR. FURTHER, THEY ARE SPECIFIED TO BE SEQUENCED FILES WITH SEQ. NUMBERS BEGINNING IN COL. 73 FOR A LENGTH OF 8.

   IF NO SEQUENCE INFORMATION IS SPECIFIED, THE FILES ARE COMPARED RECORD BY RECORD, A NEW RECORD READ FOR EACH FILE FOR EACH COMPARISON.

   IF THE FILES ARE SEQUENCED AND THE CORRECT SPECIFICATIONS GIVEN, THE SEQUENCE NUMBERS OF THE FILES ARE USED IN COMPARING THEM.

3) OUTPUT INFORMATION INCLUDES:

   A) THE NAME OF THE FIRST FILE FOLLOWED BY A DESCRIPTION OF IT, THEN THE NAME OF THE SECOND FILE FOLLOWED

BY A DESCRIPTION OF THE SECOND FILE. IF THE FILE IS NOT IN THE DIRECTORY, THEN A MESSAGE IS PRINTED TO THAT EFFECT. OTHERWISE A DESCRIPTION OF THE FILE IS PRINTED CONTAINING THAT FILES INTMODE, CREATION DATE, UNITS, MAXIMUM RECORD SIZE AND BLOCK SIZE.

B) IF THE FILES DIFFER IN BLOCK SPECIFICATIONS (I.E. UNITS, BLOCK SIZE, OR MAXIMUM RECORD SIZE) THEN A MESSAGE IS PRINTED TO THAT EFFECT AND NO COMPARISON IS MADE.

C) THE MAXIMUM ERROR DEFAULT IS PRINTED.

D) IF SEQUENCE INFORMATION IS SPECIFIED THEN IT IS PRINTED, OTHERWISE A MESSAGE IS PRINTED STATING THAT UNSEQUENCED FILES ARE ASSUMED.

E) A LISTING OF THE DIFFERENCES IS THEN PRINTED IF ANY OCCUR.

F) IF THE COMPARISON OF THE FILE IS TERMINATED BECAUSE THE MAXIMUM ERROR DEFAULT IS REACHED, A MESSAGE TO THAT EFFECT IS PRINTED ALONG WITH THE CURRENT RECORD NUMBER OF EACH FILE BEING COMPARED.

G) IF END OF FILE IS REACHED IN ONE FILE BEFORE THE OTHER THEN A MESSAGE IS PRINTED TO THAT EFFECT TELLING WHICH FILE IT OCCURRED IN.

H) THE NUMBER OF DIFFERENCES IS THEN PRINTED.

I) THE NUMBER OF RECORDS IN EACH FILE IS THEN PRINTED.

4) A SUMMATION SECTION IS PRINTED WITH ALL OUTPUT INFORMATION MENTIONED ABOVE EXCEPT A LISTING OF THE DIFFERENCES.

CONTROLLER

P3341 CONTROLLER - JOBSYNC - 03-28-74

THIS PATCH CORRECTS A PROBLEM WHERE A STACK COULD HANG FOR A LONG PERIOD IN THE MCP PROCEDURE MAKEJOBFILE WAITING FOR THE EVENT JOBSYNC.

P3342 CONTROLLER - OT OUTSIDE STACK RANGE - 03-28-74

THIS PATCH CORRECTS A PROBLEM IN WHICH AN OT SYSTEM INPUT MESSAGE FOR A CELL OUTSIDE THE RANGE OF THE STACK COULD CAUSE A CONTROLLER DUMP.

P4000 CONTROLLER - REMOTESPO FILE OPEN - 08-01-74

IF A REMOTE SPO TASK IS INITIATED WITH AN INVALID STATION NAME PRIOR TO THIS FIX, IT WOULD GET AN OPEN ERROR AND NOT TERMINATE. WITH THIS CORRECTION, IF THE OPEN IS NOT SUCCESSFUL THE TASK WILL TERMINATE.

P4001 CONTROLLER - FIX DS A MIX PROBLEM - 08-01-74

THIS PATCH FIXES A PROBLEM WITH DS-ING JOBS OUT OF THE MIX.

P4002 CONTROLLER - REMOVE "REMOTEONLY" OPTION - 08-01-74

THIS PATCH REMOVES OPTION REMOTEONLY. THIS OPTION WAS USED FOR INITIAL DEBUGGING AND IS NO LONGER VALID.

P4003 CONTROLLER - RJE "NEXT" PROBLEM - 08-01-74

THE TERMINAL INFORMATION WAS NOT BEING CORRECTLY INITIALIZED WHEN INPUT WAS RECEIVED FROM AN MCS OR DCKEYIN. THIS COULD CAUSE ERRONEOUS "NEXT" MESSAGES TO BE SENT. ALSO CAUSED LINE LIMITS TO BE IGNORED ON "NEXT".

SOFTWARE IMPROVEMENTS

P4004 CONTROLLER - DUPLICATE SEQUENCE NUMBER - 08-01-74

THIS PATCH CORRECTS DUPLICATE SEQUENCE NUMBERS.

P4005 CONTROLLER - CONTROLLER HEADER CONFLICT - 08-01-74

THIS PATCH INSURES HEADER WAS TRANSLATED FROM DISK FORMAT TO IN CORE FORMAT.

P4253 CONTROLLER - REMOVE JOBDESC. - 09-16-74

CONTROLLER CALLS FILEHANDLER TO REMOVE OR CHANGE JOBDESC.

P4254 CONTROLLER - HEADER ROW ADDRESS - 09-16-74

CONVERT HEADER ADDRESS TO DISK FORMAT BEFORE WRITING HEADER TO JOBDESC (ON MAKEJOBFILE CALL).

P4406 CONTROLLER - CONTROLLER FIXES - 10-15-74

THIS PATCH CORRECTS PROBLEMS WITH PD DISPLAY, FIXES SEGMENTED ARRAY PROBLEM WHEN DS-ING JOB FROM QUEUE AND IMPLEMENTS CATALOG DISPLAY FOR PD.

P4407 CONTROLLER - USERCODE ATTACHED TO TERMINAL - 10-15-74

A PROBLEM WITH USING THE IMPLIED USERCODE ATTACHED TO A TERMINAL HAS BEEN CORRECTED.

P4409 CONTROLLER - PD AND USERCODE - 10-15-74

GETSTATUS IS NOW RETURNING THE USERCODE AS PART OF THE STANDARD FORM NAME. THIS PATCH DELETES CODE WHICH ADDED IT ON. THE INVOCATION OF THE DIRECTORY ANALYSIS ROUTINES WAS INEFFICIENT AND DID NOT USE THE NORMAL CONTROLLER PROCEDURES.

P4410 CONTROLLER - DIR INPUT FOR PACKS - 10-15-74

THIS PATCH CORRECTS A PROBLEM WHEREIN DIR <PACKNAME> DID NOT

ANALYZE THE INPUT STRING CORRECTLY, RESULTING IN THE FAILURE OF FILEDATA.

P4674 CONTROLLER - CONVERSION TO II.7 - 11-03-74

THIS PATCH IMPLEMENTS JOBDESC CONVERSION FROM II.6 TO II.7 MCP.

P4677 CONTROLLER - MISC CONTROLLER FIXES - 11-03-74

THIS PATCH FIXES THE FOLLOWING PROBLEMS:

1. SPEED UP FOR SENDMESSAGE.

2. PROCEDURE HEADING COMMENT CHANGES.

3. USE LSN IN OPENTERMINAL.

P4678 CONTROLLER - PD FIXES - 11-03-74

THIS PATCH DOES THE FOLLOWING:

1) CHANGES COMMENTARY ON CATALOG DISPLAYS TO LOWERCASE.

2) CORRECTS THE DATA DISPLAY FOR CATALOG.

3) CORRECTS GETSTATUS ERROR WHEN ENTERING "LOG MAINT".

4) CORRECTS A BLANK SCREEN RETURN WHEN A PD-ON A FILE THAT DOESNT EXIST.

P4679 CONTROLLER - MISC CONTROLLER CHANGES - 11-03-74

THIS PATCH DOES THE FOLLOWING:

1. PLACES BLANKS AT END OF MESSAGE FOR HARDCOPY.

2. ALLOWS SPECIAL CHARACTERS ON AX EX. 1234AX+.

3. USES THE FILE NAME AS MODIFIED BY THE SYSTEM ON A PD <SIMPLE NAME> REQUEST.

SOFTWARE IMPROVEMENTS

P4680 CONTROLLER - REMOTE SPO FIX - 11-03-74

THIS PATCH TREATS ALL REMOTE SPO TERMINALS AS THOUGH THEY WERE A TELETYPE.

P4681 CONTROLLER - UQ SETSTATUS - 11-10-74

THIS PATCH ELIMINATES ERRONEOUS CALLS ON SETSTATUS BY "UQ" SPO INPUT.

P4682 CONTROLLER - INVALID INDEX COMPUTING DATE - 11-10-74

BAD INFO IN JULIAN DATE CAN CAUSE INVALID INDEX TRYING TO COMPUTE MONTH. THIS PATCH AVOIDS THIS FAULT.

P4683 CONTROLLER - FILE KIND ON PD - 11-10-74

THIS PATCH GIVES CORRECT FILE KIND ON PD REQUEST.

P4684 CONTROLLER - DEFAULT QUEUE - 11-10-74

QUEUE 0 WILL BE MARKED AS DEFAULT QUEUE AND WILL REMAIN SO UNTIL CHANGED BY THE "DQ" MESSAGE.

P4685 CONTROLLER - DIS # SEGS IN "BADDISK" FILE - 11-17-74

THIS PATCH INSURES THE NUMBER OF SEGMENTS DISPLAYED FOR A BADDISK FILE ON A PD <NAME> REQUEST IS CORRECT. (THE ROWSIZE IS DISPLAYED IN LIEU OF THE END OF FILE COUNT).

P4886 CONTROLLER - II.7 COMPATABILITY - 09-16-74

THIS PATCH CONVERTS JOB FILE HEADER ADDRESSES FOR II.7 COMPATABILITY.

P5097 CONTROLLER - CONRAC COMPATABILITY - 12-11-74

CURSOR ALIGNMENT ON CONRAC HAS BEEN CHANGED.

CONTROLLER

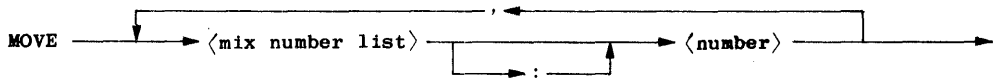
D0744 CONTROLLER - CONTROLLER MESSAGE CHANGES - 04-18-74

CI

TO MAKE OPERATIONS EASIER FOR THE COMPUTER OPERATOR THE FILENAME MAY BE OMITTED IN THE CI INPUT MESSAGE. IN THIS CASE THE NAME SYSTEM/INTRINSICS WILL BE USED. THE DEFAULT IS A DEFINE SUCH THAT AN INSTALLATION MAY CHANGE IT IF SO DESIRED.

MOVE

THIS MESSAGE IS USED FOR CHANGING THE ORDER OF THE MEMBERS IN A QUEUE. ALL THE MIX NUMBERS IN THE <MIX NUMBER LIST> AND THE MIX NUMBER IN <NUMBER> SHOULD BE IN THE SAME QUEUE AND HAVE THE SAME PRIORITY, OTHERWISE NO ACTION WILL BE TAKEN. AFTER A HALT/LOAD THE SEQUENCE WILL RETURN TO THE ORIGINAL ORDER.



EXAMPLE:

MOVE 1969-1971 : 1974

THE ACTION WILL BE AS FOLLOWS:

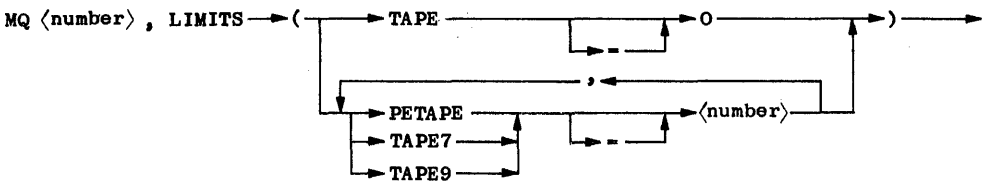
A. 1969 WILL BE PLACED AFTER 1974.
B. 1970 WILL BE PLACED AFTER 1974
C. 1971 WILL BE PLACED AFTER 1974

THERFORE, THE RESULT AFTER THE MOVE COMMAND WILL BE

1974, 1971, 1970, 1969.

MQ

THE CURRENT EXISTING MQ STATEMENT HAS BEEN EXTENDED TO ALLOW TAPE RESOURCE LIMITATION. THE FOLLOWING SYNTAX IS PROVIDED:



THE LIMIT NUMBER SPECIFIES THE MAXIMUM NUMBER OF UNITS OF A PARTICULAR TYPE THAT MAY BE ASSIGNED TO A JOB.

EXAMPLE:

MQ 1,LIM(PETAPE=5,TAPE7=2)

THE LIMITS FOR RESOURCES FOR THIS JOB WOULD BE

PETAPE=5
TAPE7=2
TAPE9=0

EXAMPLE:

MQ 1,LIM(PETAPE=0)

THE LIMITS FOR RESOURCES FOR THIS JOB WOULD BE

PETAPE=0
TAPE7=0
TAPE9=0

EXAMPLE:

MQ 1,LIM(TAPE=0)

THERE ARE NO LIMITS FOR RESOURCES (TAPE).

EXAMPLE:

MQ 1,LIM(PETAPE=5,TAPE=0)

D0744 CONTROLLER - CONTROLLER MESSAGE CHANGES - 04-18-74

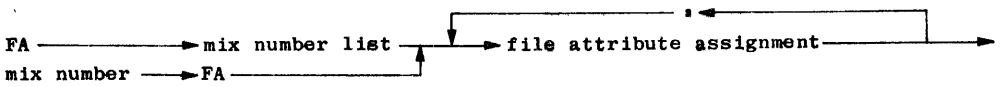
AN UNRECOGNIZED REQUEST WILL BE DISPLAYED.

TD

THE TD SYSTEM INPUT MESSAGE WILL CAUSE SYSTEM/FILEDATA TO BE INITIATED AUTOMATICALLY TO READ THE DIRECTORY OF THE LIBRARY TAPE.

FA

THE FA (ATTRIBUTE) MESSAGE IS USED TO CHANGE ANY ATTRIBUTE ATTRIBUTE WHICH MAY BE SET USING THE WORK FLOW LANGUAGE. IT MAY BE USED IN RESPONSE TO AN RSVP TYPE MESSAGE. THE FA RESPONSE DOES NOT APPLY TO MISSING CODE FILES.



EXAMPLE:

TASK 1234 IS WAITING ON A NO FILE A/B. IF THE CORRECT FILE IS TITLE-D C/D, THEN THE OPERATOR COULD USE THE MESSAGE

FA 1234 TITLE = C/D

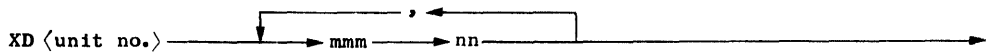
D0781 CONTROLLER - TRAIN ID DISPLAY - 01-12-75

THIS CHANGE DISPLAYS THE TRAIN NAME OF TRAIN INSTALLED ON PRINTER WHEN DOING A PLP.

D0804 CONTROLLER - XD ON IV REQUEST - 07-07-74

ALLOWS AREAS TO BE XD-ED AT PACK INITIALIZATION TIME. THE ADDED SYNTAX TO THE IV MESSAGE IS:

D0804 CONTROLLER - XD ON IV REQUEST - 07-07-74



WHERE MMM IS THE CYLINDER ADDRESS (0-999) AND NN IS THE TRACK NUMBER (0-99).

D0812 CONTROLLER - NOSUMMARY SYSTEM OPTION - 08-01-74

THIS PATCH ADDS A NEW SYSTEM OPTION "NOSUMMARY" WHICH WHEN SET WILL CAUSE THE JOB SUMMARY OUTPUT TO BE SUPPRESSED IF NO BACKUP FILES ARE PRODUCED. THE JOB SUMMARY IS PRINTED IF TASK TERMINATES ABNORMALLY.

D0846 CONTROLLER - CONTROLLER INITIALIZATION - 08-01-74

THE INITIALIZATION PROCESS HAS BEEN DIVIDED INTO TWO PARTS. THE FIRST PHASE SETS UP ALL THE TERMINALS AND STARTS THE DEFAULT ADM. THE SECOND PHASE IS INVOKED WHEN THE MCP NOTIFIES THE CONTROLLER THAT DISK INITIALIZATION IS COMPLETED. THIS ALLOWS THE CONTROLLER TO INTERACT WITH DIRECTORY INITIALIZATION ROUTINES.

D0857 CONTROLLER - DIRECTORY LISTING CONTINUATION - 08-01-74

VERY OFTEN A PD-REQUEST WILL RESULT IN A "NEXT" CONDITION. WITH THESE CHANGES THE NEXT WILL BE CANCELLED ONLY ON CONTROLLER INPUT, HENCE IT IS NOW POSSIBLE TO ENTER CONTROL CARDS (LIKE "REMOVE" OR "CHANGE") BETWEEN PAGES OF OUTPUT.

D0865 CONTROLLER - SUBSPACES QUEUE ATTRIBUTE - 08-01-74

D0865 CONTROLLER - SUBSPACES QUEUE ATTRIBUTE - 08-01-74

THIS PATCH ADDS A NEW JOB QUEUE ATTRIBUTE SUBSPACES WHICH MAY BE SET TO 1, 2, OR 3. THIS WILL CAUSE EVERY JOBS SUBSPACES ATTRIBUTE VALUE TO BE SET. NOTE: THIS ATTRIBUTE PROPAGATES THROUGHOUT THE JOB/TASK STRUCTURE.

IT IS RESET BY SETTING THE ATTRIBUTE TO ZERO.

D0866 CONTROLLER - SS MESSAGE SYNTAX - 08-01-74

THE FORMAT OF THE "SS" INPUT MESSAGE (SEND TO STATION) HAS BEEN MODIFIED SUCH THAT THE COLON (":") PRECEDING THE MESSAGE IS NOW OPTIONAL.

EXAMPLE:
"SS9, M333 HELLO"

D0987 CONTROLLER - TD800 AUTOMATIC LOCAL - 11-03-74

ALL TRANSMISSIONS WILL END IN AN ETX WHICH WILL CAUSE THE TD800 TO GO INTO LOCAL MODE IF THE KEYBORD IS TOUCHED.
CONSEQUENTLY, MESSAGES MAY BE ENTERED WITHOUT FIRST DEPRESSING LOCAL.

D0988 CONTROLLER - FILE ATTRIBUTES - FILEKIND - 11-03-74

THE FOLLOWING NEW FILEKINDS HAVE BEEN ADDED. THEIR MNEMONICS AND VALUES ARE AS FOLLOW:

DCPCODE = 23	DCPSYMBOL = 97	CHECKPOINTFILE = 21
NDLCODE = 24	NDLSYMBOL = 98	CPJOBFILE = 22
DMALGOLCODE = 44		
DASDLSYMBOL = 95		
DMALGOLSYMBOL = 96		

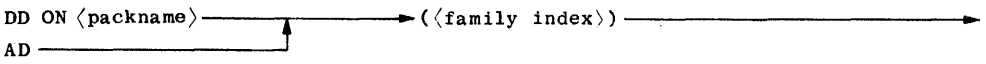
D0989 CONTROLLER - DATE IN GEORGIAN FORM - 10-20-74

D0989 CONTROLLER - DATE IN GEORGIAN FORM - 10-20-74

THE CONTROLLER WILL NOW REPORT GEORGIAN DATE FORMAT RATHER THAN JULIAN.

D0992 CONTROLLER - DD AND AD - 10-27-74

DD (DIRECTORY DUPLICATION) AND AD (ACCESS DUPLICATION COMMANDS HAVE BEEN IMPLEMENTED IN CONTROLLER WITH THE FOLLOWING SYNTAX:



D0992 CONTROLLER - DD AND AD - 10-27-74

THE DD MESSAGE CAUSES THE CONTINUATION UNIT WHOSE INDEX (ES) IS SPECIFIED IN THE ( ) TO GET A BACKUP COPY OF THE DIRECTORY FOR THAT FAMILY. IF UNIT IS DISK, THEN IT MUST HAVE BEEN RESERVED AS LABEL FIRST. THE AD MESSAGE CAUSES THE ACCESS STRUCTURE (CATALOG) TO BE BACKED UP.

D1007 CONTROLLER - STOP MESSAGES - 08-01-74

WHEN A SPO FILE IS OPENED, ADM WILL BE STOPPED AND MESSAGES WILL NOT BE SENT TO THE SPO. TO RESUME ADM USE "ADM GO". TO DISPLAY MESSAGES USE "TERM MSG TRUE". WHEN THE SPO FILE IS CLOSED MESSAGES WILL BE SENT AGAIN UNLESS THE TERM ATTRIBUTE WAS SET FALSE.

D1009 CONTROLLER - MULTIPLE SPO REQUESTS - 11-10-74

A SEQUENCE OF COMMANDS CAN NOW BE ENTERED, EACH SEPARATED BY A CARRIAGE RETURN CHARACTER. THE COMMANDS MAY BE OPERATOR COMMANDS OR CONTROL STATEMENTS.

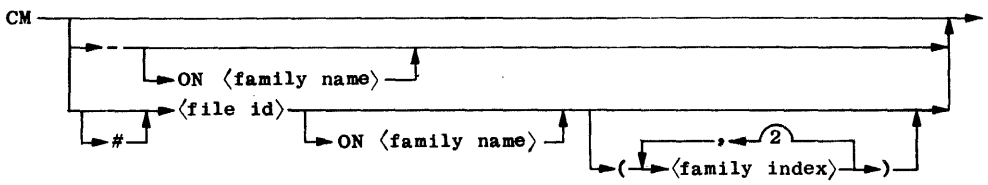
D1036 CONTROLLER - DCALGOL BINDING ENHANCEMENT - 10-27-74

BINDING ENHANCEMENT SETS THE $ MCP OPTION TO ALLOW DCALGOL COMPILER TO OPTIMIZE DATA POOLS.

D1037 CONTROLLER - SYNTAX OF CM MESSAGE - 11-10-74

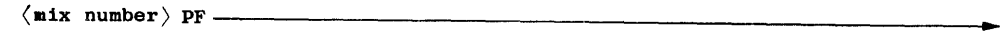
D1037 CONTROLLER - SYNTAX OF CM MESSAGE - 11-10-74

THE NEW SYNTAX IS AS FOLLOWS:



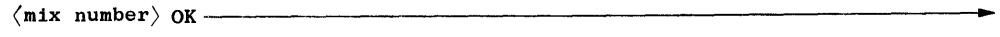
D1050 CONTROLLER - INSTRUCTION BLOCK AND FETCH - 05-30-74

A. FETCH COMMAND



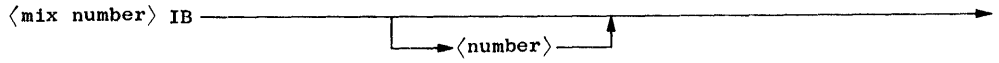
THE OPERATOR CAN ENTER THIS MESSAGE ANY TIME TO INTERROGATE THE FETCH STATEMENT TEXT.

B. RESPONSE TO FETCH STATEMENT.



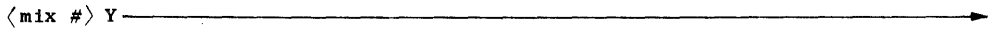
THIS MESSAGE IS USED TO START A JOB WHICH IS WAITING BECAUSE OF A FETCH STATEMENT.

C. INSTRUCT BLOCK



THE IB COMMAND WILL DISPLAY THE REQUESTED INSTRUCTION BLOCK OF THAT JOB.

IF NO BLOCK NUMBER IS SPECIFIED, THE CURRENT BLOCK WILL BE DISPLAYED. IF THE JOB IS STILL IN THE QUEUE THE "CURRENT" BLOCK IS BLOCK 1.



THE FOLLOWING MESSAGES, IF APPLICABLE, WILL ALSO BE DISPLAYED.

1. RESOURCE-REQUIREMENT

D1050 CONTROLLER - INSTRUCTION BLOCK AND FETCH - 05-30-74

2. RESOURCE-USAGE

3. WHY THIS JOB IS STILL WAITING IN Q

4. WHETHER THE JOB HAS A FETCH STATEMENT AND/OR INSTRUCTION BLOCKS.

FOR MORE EXPLANATIONS REFER TO NOTE D0885.

D1072 CONTROLLER - NEW PD FORMAT - 11-23-74

THE SECURITY OF A FILE HAS BEEN ADDED TO THE PD RESPONSE.

THE RESULTS ARE:

SECURITY: <TYPE> - USAGE: <TYPE>

THE "SECURITY LINE" FOR A PD REQUEST ON A NON RESIDENT FILE IS:

"SECURITY: UNAVAILABLE - USAGE: UNKNOWN"

THE FILE MUST BE MADE RESIDENT BEFORE THE PROPER SECURITY CAN BE DISPLAYED.

THIS PATCH ADDS "(NR)" AFTER EACH FILE NAME THAT IS NON-RESIDENT (NO HEADER AVAILABLE) ON A PD= REQUEST. THIS APPLIES ONLY TO A SYSTEM THAT IS ON A CATALOG LEVEL GREATER THAN ZERO.

FILES WHICH ARE IN USE (OPEN COUNT NOT EQUAL TO ZERO) WILL BE MARKED "IN USE" ON THE PD DISPLAY.

D1092 CONTROLLER - CATALOGING OPTION - 01-12-75

THIS CHANGE IMPLEMENTS THE CATALOGING OPTION (SYSTEM OPTION #23). THIS OPTION IS INITIALLY RESET. IT MAY BE SET BY USING THE "SO" SPO COMMAND.

IF OPTION IS SET CATALOGLEVEL WILL BE SET TO CATALOGLEVELSET, A DEFINE IN THE MCP OTHERWISE CATALOGLEVEL IS SET TO ZERO.

D1101 CONTROLLER - MATCH JOB & QUEUE FAMILY - 11-03-74

D1101 CONTROLLER - MATCH JOB & QUEUE FAMILY - 11-03-74

IF A FAMILY STATEMENT IS SET ON A JOB AND ALSO ON THE QUEUE OUT OF WHICH THE JOB WILL RUN THE TWO MUST MATCH. IF THEY DO NOT, THEN THE JOB WILL BE DSED FOR FAILING QUEUE INSERTION.

D1102 CONTROLLER - CATALOG LEVEL - 11-10-74

"CATALOG LEVEL:N" IS NOW DISPLAYED ON A WM MESSAGE.

DATA COMMUNICATIONS

P3344 DATACOM - PROGRAMDUMP IMPROVEMENT - 03-28-74

THE OUTPUT OF A PROGRAMDUMP HAS BEEN IMPROVED FOR REMOTE FILES. IN PARTICULAR, THE STATION LIST OF A REMOTE FILE IS ANALYZED AND EXPANDED, WITH PERTINENT INFORMATION IN THE STATION LIST EXPLICITLY PRINTED OUT IN A PROGRAMDUMP.

P3494 DATACOM - SET LINE TOGGLE DCWRITE - 04-18-74

DCWRITE FUNCTION #103 (SET LINE TOGGLES/TALLIES) NOW WORKS PROPERLY.

P3495 DATACOM - DELETE DCCOMMUNICATE - 04-18-74

SINCE THE FUNCTION OF THE PROCEDURE DCCOMMUNICATE IS NO LONGER REQUIRED, THIS PROCEDURE HAS BEEN DELETED.

P3496 DATACOM - IMPROVE LOCKING CODE - 04-18-74

A NEW LOCKING SCHEME HAS BEEN IMPLEMENTED WITHIN THE DATACOM SUBSYSTEM. THIS NEW METHOD ELIMINATES ONE INTERLOCK WHICH COULD CAUSE DEADLY EMBRACE SITUATIONS INVOLVING THE CONTROLLER.

P3497 DATACOM - DELETE DCMSGFLUSHER - 04-18-74

THE PROCEDURE DCMSGFLUSHER HAS BEEN DELETED IN ORDER TO REDUCE DO STACK CELLS.

P3571 DATACOM - PROPER CLUSTER EXCHANGE INFO - 05-1Y-74

WORD SIX OF A "CLUSTER EXCHANGE RESULT" (TYPE=8) MESSAGE NOW CONTAINS THE PROPER INFORMATION AS DESCRIBED IN THE DCALGOL MANUAL, PAGE D-14.

P3594 DATACOM - QUEUE DISK TANKING ERRORS - 05-12-74

THE FOLLOWING ERRORS INVOLVING DCALGOL QUEUE DISK TANKING HAVE BEEN CORRECTED.

1. TANKING INVOKED VIA A COMBINE FUNCTION WHERE THE RESULT QUEUE IS A QUEUE ARRAY ELEMENT WOULD FAIL;

2. OBTAINING EXTRA DISK TANK ROWS WHILE PERFORMING A COMBINE FUNCTION COULD CAUSE AN MCP FAULT;

3. WAITING FOR DISK SPACE THE FIRST TIME TANKING IS INVOKED COULD CAUSE A FAILURE.

P3702 DATACOM - MAKE STNLIST A REAL ARRAY - 05-30-74

EXCEPT FOR TWO ENTRIES IN A FILE-S STATION LIST, ALL ENTRIES IN IT CONSIST OF OPERANDS (TAG=0). SINCE IT IS MORE EFFICIENT TO WORK WITH A REAL ARRAY INSTEAD OF A WORD ARRAY, THIS PATCH CREATES A REAL ARRAY STATION LIST THAT IS ADDRESS EQUATED TO THE EXISTING WORD ARRAY AND THE MCP USES THE FORMER WHENEVER POSSIBLE.

P3703 DATACOM - BAD REMOTE FILE OPEN - 05-30-74

IF AN MCS HAD ABNORMALLY TERMINATED, INCLUDING DS-ED, AND SUBSEQUENTLY A REMOTE FILE BELONGING TO THAT MCS WERE OPENED, AN MCP FAULT OR DUMP BY UNOWNED LIBERATE COULD RESULT. THIS PATCH CORRECTS THE PROBLEM. PROGRAMS WILL NOW BE TERMINATED WITH FILE OPEN ERROR #9 UNDER THESE CIRCUMSTANCES.

P3704 DATACOM - INSERT USING SEG ARRAY - 05-30-74

USE OF A SEGMENTED ARRAY WITH EITHER THE INSERT OR REMOVE DCALGOL FUNCTION WOULD CAUSE A SEGMENTED ARRAY FAULT. THIS PATCH CORRECTS THE PROBLEM.

P3705 DATACOM - DISK TANKING COMPATIBILITY - 05-30-74

THE QUEUE DISK TANKING ROUTINES HAVE BEEN MODIFIED TO CONFORM TO

SOFTWARE IMPROVEMENTS

CHANGES TO THE GETAREA AND FORGETAREA MCP ROUTINES.

P3726 DATACOM - CORRECT MSG SIZE - 05-30-74

PRIOR TO THIS CHANGE, WRITING TO A REMOTE FIELD MEANT OBTAINING A MESSAGE AREA BASED ON THE SIZE OF LOGICAL I-O BUFFER EVEN THOUGH THE ACTUAL LENGTH OF THE MESSAGE TO BE SENT MAY ONLY BE A FEW CHARACTERS. THE MCP NOW OBTAINS THE MESSAGE AREA SIZE BASED ON THE AMOUNT OF INFORMATION TO BE SENT, THUS MINIMIZING THE AMOUNT OF AREA NEEDED.

P4016 DATACOM - CHANGE ADAPTER TYPE - 08-01-74

DCWRITE TYPE 131 (UPDATE LINE ATTRIBUTES) WAS NOT UPDATING THE ADAPTER TYPE OF A LINE IF A NEW TYPE WAS SPECIFIED IN MSG [8].[22:7]. THIS DCWRITE NOW FUNCTIONS AS DESCRIBED IN THE DCALGOL MANUAL P. B-56.

P4017 DATACOM - HOLD ON EVENT ARRAY ELEMENT - 08-01-74

A POSSIBLE READLOCK LOOP WHICH COULD RESULT FROM PASSING AN EVENT ARRAY TO THE HOLD INTRINSIC HAS BEEN CORRECTED.

P4018 DATACOM - DATACOM FILE PREFIX LENGTH - 08-01-74

A POSSIBLE SEGMENTED ARRAY FAULT WHEN INITIALIZING A DCP WITH A DATACOM FILE PREFIX GREATER THAN 17 CHARACTERS HAS BEEN CORRECTED. NOTE THAT THE MAXIMUM LENGTH OF THE PREFIX IS 20 CHARACTERS INCLUDING SLASHES.

P4019 DATACOM - DCRECON INVALID INDEX - 08-01-74

AN ERROR IN DCRECON WHERE AN INVALID INDEX FAULT COULD OCCUR IF MORE THAN 256 WORDS OF DLS UPDATE (TYPE =12) RESULT MESSAGES WHERE GENERATED DUE TO A RECONFIGURATION HAS BEEN CORRECTED.

P4020 DATACOM - MCP COMPATIBILITY - 08-01-74

THE HOLD INTRINSIC HAS BEEN MODIFIED TO CONFORM TO CHANGES IN THE

MCP.

P4021 DATACOM - RECONFIGURATION RESULT MESSAGE - 08-01-74

IF AN MCS INITIATES A CLUSTER EXCHANGE RESULT (TYPE = 129) DCWRITE IT WILL NOW ALWAYS RECEIVE A CLUSTER RESULT (TYPE = 8) MESSAGE. PREVIOUSLY THE REQUESTING MCS WOULD NOT RECEIVE SUCH RESULTS IF IT DID NOT HAVE ANY STATIONS ATTACHED ON THE CLUSTER(S) BEING EXCHANGED.

P4313 DATACOM - EOF ON DETACHING DATACOM QUEUE - 09-19-74

A REMOTE FILE WILL NOW RECEIVE END-OF-FILE NOTIFICATION ON ITS I/O-S IF THE MCS WHICH CONTROLS THE REMOTE FILE IS DS-ED. THUS, FOR EXAMPLE, IF SYSTEM/CANDE IS DS-ED, THE JOBS DOING I/O THROUGH CANDE WILL RECEIVE EOF NOTICES.

P4316 DATACOM - STATION-ASSIGNMENT-TO-FILE - 09-19-74

STATION-ASSIGNMENT-TO-FILE DCWRITES (TYPE=64) MAY NOW CONTAIN OUTPUT TEXT THAT THE DCP WILL SEND TO THE STATION. THE STATION MUST BE DECLARED OUTPUT CAPABLE IN NDL AND THE DCWRITE MUST INDICATE THAT THE MCS ALLOWS ASSIGNMENT TO FILE (I.E., MSG[0].[39:8]=0). THE REQUIREMENTS OF THE TEXT ARE THE SAME AS OTHER DCWRITES, NAMELY, THE TEXT BEGINS ON THE SEVENTH WORD (MSG[6]) AND THE TEXT SIZE FIELD (MSG[2].[39:16]) MUST CONTAIN A BYTE COUNT OF THE OUTPUT TEXT.

P4326 DATACOM - DIRECT REMOTE FILE - 09-19-74

A PROBLEM WHERE THE MCP COULD FAULT WHEN A DIRECT REMOTE FILE IS READ AND THERE IS NO TEXT IN THE INPUT HAS BEEN CORRECTED.

P4328 DATACOM - SET-APPLICATION-NUMBER DCWRITE - 09-29-74

A PROBLEM WHEREIN THE DCWRITE RESULT INFORMATION MESSAGE IN RESPONSE TO A SET-APPLICATION-NUMBER DCWRITE (TYPE=38) WOULD NOT CONTAIN THE CORRECT ORIGINAL DCWRITE TYPE IN THE RIGHT HALF OF MSG [4] HAS BEEN CORRECTED.

SOFTWARE IMPROVEMENTS

P4330 DATACOM - QUEUE ACTIVATION - 09-29-74

DUE TO A TIMING ERROR, IT WAS POSSIBLE FOR TWO STACKS TO ACTIVATE THE SAME QUEUE SIMULTANEOUSLY. THIS COULD LEAD TO DUMPS BY "BADFORGETSPACE" WHEN THE QUEUE WAS DEALLOCATED. THE PROBLEM HAS BEEN CORRECTED.

P4335 DATACOM - RUNNING MCS FROM PACK - 09-29-74

AN MCS RUNNING FROM DISKPACK MAY NOW SUCCESSFULLY INITIALIZE ITS PRIMARY QUEUE.

P4686 DATACOM - DCALGOL QUEUE STACK - 10-27-74

IF A DCALGOL PROGRAM RUNNING IN SWAPSPACE CAUSED THE DATACOM QUEUE STACK TO BE EXPANDED, THE NEW QUEUE STACK WOULD BE ERRONEOUSLY ALLOCATED WITHIN THE SWAPSPACE WHICH WOULD LEAD TO A FATAL SYSTEM HANG. THIS PROBLEM HAS BEEN CORRECTED.

P4687 DATACOM - INVALID DCP MESSAGE LINKS - 10-27-74

UNDER SOME CIRCUMSTANCES, IT IS POSSIBLE FOR A RUNNING DCP TO DIE, EITHER BY FAULTING OR BY MANUAL CONTROL, AT A POINT WHERE A PARTICULAR STATION QUEUE, THE REQUEST QUEUE OR THE RESULT QUEUE MAY HAVE ITS LINKAGE INCOMPLETE. WHEN THE DCP WAS TERMINATED, THIS COULD LEAD TO DUMPS BY "FORGET AREA". WITH THIS CHANGE, A NON-FATAL DUMP BY "BAD DCP MSG AREA" WILL BE TAKEN, AND THE REMAINDER OF THE DAMAGED QUEUE, IF ANY, WILL BE IGNORED.

P4688 DATACOM - MOVE STATION ERROR - 11-03-74

IF A "MOVE STATION" DCWRITE (TYPE 130) WAS EXECUTED TO MOVE A STATION WITHIN THE SAME LINE, THE DCPCODE TABLES ON DISK WOULD CONTAIN INVALID INFORMATION. THIS COULD YIELD MULTIPLE STATION LINE ASSIGNMENTS WHEN DATACOM WAS REINITIALIZED. THIS ERROR HAS BEEN CORRECTED.

P4689 DATACOM - DCC INVALID INDEX - 11-17-74

AN INVALID INDEX FAULT WHICH COULD OCCUR IN DCCONTROL IF A LINE-ORIENTED DCP RESULT MESSAGE WAS RECEIVED WHICH REFERENCED A NONEXISTENT STATION ON THE LINE HAS BEEN CORRECTED. SUCH RESULT MESSAGES COULD BE GENERATED AS A RESULT OF A RECONFIGURATION REQUEST.

P4730 DATACOM - MCS LOGGER - 11-30-74

THE DCALGOL INTRINSIC MCSLOGGER HAS BEEN MODIFIED TO ALLOW MORE VARIATIONS OF RECORD FORMAT. THE INTRINSIC NO LONGER COMPUTES THE SIZE OF THE LOG RECORD ITSELF; INSTEAD THE EXPLICIT RECORD SIZE SPECIFIED IN RECORD [3].[47:16] IS USED.

DATA COMMUNICATIONS

D0729 DATACOM - ADD JOB NBR TO FILE OPEN MSG - 03-28-74

WITH THIS PATCH, THE JOB NUMBER OF THE PROGRAM OPENING A REMOTE FILE IS INCLUDED IN THE FILE OPEN MESSAGE (CLASS=2). USING THE ESTABLISHED FORMAT, THE FIELD [15:8] OF THE NINTH WORD OF A MESSAGE (MSG[8].[15:8]) CONTAINS THE INDEX OF THE WORD IN THE MESSAGE WHICH HAS THE JOB NUMBER IN BINARY FORM RIGHT JUSTIFIED.

D0730 DATACOM - UPDATE LASTSTATION - 03-28-74

PREVIOUS TO THIS PATCH, A PROGRAM COULD NOT DETERMINE THE RELATIVE STATION NUMBER (RSN) OF THE STATION THAT WAS ADDED TO A REMOTE FILE VIA THE FAMILY ATTRIBUTE. NOW, THE LASTSTATION FILE ATTRIBUTE IS UPDATED AFTER ANY ADDITION OF A STATION OR STATIONS TO A REMOTE FILE. INTERROGATING LASTSTATION WILL RETURN THE RSN OF THE ADDED STATION IF IT WAS SUCCESSFULLY ADDED. LASTSTATION WILL BE SET TO ZERO IF A FAMILY OF STATIONS WAS SUCCESSFULLY ADDED OR IF THE STATION WAS NOT ADDED BECAUSE IT WAS ALREADY IN THE STATION LIST OF THE FILE.

D0745 DATACOM - DCP NOT READY MESSAGE - 02-18-74

THE CONSOLE MESSAGE: "DCP NOT READY" HAS BEEN ENHANCED TO INCLUDE A BRIEF DESCRIPTION OF WHAT PARTICULAR ABNORMAL DCP CONDITION HAS BEEN SENSED BY THE MAIN SYSTEM. IN THE FOLLOWING DESCRIPTION, EACH OF THE "NOT READY" MESSAGES AND THE "NOT ON LINE" MESSAGE IS LISTED ALONG WITH POSSIBLE CAUSES OF THESE MESSAGES AND THE RESULTING DISPOSITION OF THE DCP.

DCP NOT ON LINE

MEANING: THE MAIN SYSTEM CANNOT COMMUNICATE WITH THE DCP VIA THE SCAN BUS.

D0745 DATACOM - DCP NOT READY MESSAGE - 02-18-74

CAUSE: 1. THE DCP TO BE INITIALIZED DOES NOT EXIST.
2. THE "STOP IMM" SWITCH IS IN THE UP POSITION.
3. A DCP FAULT HAS OCCURRED AND THE "STOP IMM" SWITCH IS IN THE "STOP ON FAULT" POSITION (DOWN).

RESULT: 1. IF THE MESSAGE OCCURS DURING DCP INITIALIZATION THE REQUEST IS ABORTED.
2. IF THE MESSAGE OCCURS AFTER INITIALIZATION, THE MAIN SYSTEM WILL CONTINUE TO QUEUE DCP REQUESTS AND ATTEMPT TO COMMUNICATE WITH THE DCP AT ONE SECOND INTERVALS. THIS MESSAGE WILL BE DISPLAYED APPROXIMATELY ONCE EVERY TEN SECONDS UNTIL THE CONDITION IS CLEARED. WHEN AND IF THE DCP RESUMES NORMAL OPERATION, THE MESSAGE: "DCP RUNNING" WILL BE DISPLAYED, AND THE MAIN SYSTEM WILL RETURN TO NORMAL DCP OPERATION.

DCP NOT READY(NO RESPONSE)

MEANING: THE DCP FAILED TO RESPOND TO THE INITIAL CONFIDENCE TEST.

CAUSE: 1. THE "STOP IMM" SWITCH IS IN THE "STOP ON FETCH" POSITION (DOWN).
2. THE MAIN SYSTEM IS NOT PROPERLY SENSING THE DCP HEYU.

RESULT: THE INITIALIZATION REQUEST IS ABORTED.

DCP NOT READY(TIMEOUT ON INITIALIZE)

MEANING: THE DCP FAILED TO RESPOND TO AN INITIALIZATION REQUEST WITH A HEYU INTERRUPT TO THE MAIN SYSTEM.

CAUSE: 1. BREAKPOINT SWITCHES ON THE DCP NOT SET PROPERLY. THE PROPER SETTING FOR THESE SWITCHES IS:
A. "BREAKPOINT CODE" SWITCH IN BRANCH POSITION (DOWN).
B. "BREAKPOINT CODE" SWITCHES (A2, A1, A0) IN OFF (CENTER) OR ZERO (DOWN) POSITION.
2. INITIALIZATION CODE FAULTED OR FAILED TO

D0745 DATACOM - DCP NOT READY MESSAGE - 02-18-74

COMPLETE PROPERLY. COULD BE CAUSED BY IMPROPER NDL MEMORY SPECIFICATION OR DCP HARDWARE MALFUNCTION.

RESULT: THE INITILIZATION REQUEST IS ABORTED.

DCP NOT READY(PROGRAM LOOP)

MEANING: THE DCP HAS STOPPED SENDING HEYU INTERRUPTS TO THE MAIN SYSTEM.

CAUSE: 1. THE DCP PROGRAM MAY HAVE LOST CONTROL DUE TO A HARDWARE MALFUNCTION.

2. THE MAIN SYSTEM CANNOT SENSE THE DCP HEYU SIGNAL.

RESULT: SAME AS FOR THE "DCP NOT ON LINE" MESSAGE.

D0746 DATACOM - FULL DUPLEX LINE SWAP - 04-18-74

PERMORMING A LINE SWAP (DCWRITE TYPE 128) ON A FULL DUPLEX LINE NOW FUNCTIONS PROPERLY. LINE SWAPPING IS ALLOWED ONLY BETWEEN TWO FULL DUPLEX PAIRS. ATTEMPTING TO SWAP A NON-FULL DUPLEX LINE WITH A FULL DUPLEX LINE YIELDS A DCWRITE ERROR (127). THE PRIMARY LINE OF THE FULL DUPLEX PAIR SHOULD BE SPECIFIED IN THE DCWRITE REQUEST. THE RECONFIGURATION WILL SWAP BOTH THE PRIMARY AND THE AUXILIARY LINES.

D0780 DATACOM - ADD JOB NBR TO FILE CLOSE MSGS - 05-30-74

WITH THIS PATCH, THE JOB NUMBER OF THE PROGRAM CLOSING A REMOTE FILE IS INCLUDED IN THE FILE CLOSE MESSAGE (CLASS=4). USING THE ESTABLISHED FORMAT, THE FIELD 15:8 OF THE NINTH WORD OF A MESSAGE (MSG[8].[15:8]) CONTAINS THE INDEX OF THE WORD IN THE MESSAGE WHICH CONTAINS THE JOB NUMBER IN BINARY FORM RIGHT JUSTIFIED.

D0870 DATACOM - ON-LINE DCP TESTING - 08-01-74

SEVERAL NEW DCWRITE FUNCTIONS HAVE BEEN IMPLEMENTED TO PERMIT ON-LINE TESTING OF A DCP. THESE NEW FUNCTIONS ARE PROVIDED TO BE USED IN CONJUNCTION WITH DCP TEST ROUTINES COMPILED WITH A NEW DCP TEST PROGRAM GENERATOR, "SYSTEM/DCPTESTGEN", WHICH CREATES A DISK CODE FILE WHICH IS THEN INVOKED VIA THESE DCWRITE FUNCTIONS. A DESCRIPTION OF "SYSTEM/DCPTESTGEN" IS PROVIDED IN AN ATI BULLETIN.

EACH TEST CODE FILE CONTAINS ONE OR MORE INDIVIDUAL TEST ROUTINES AND A DIRECTORY TO PROVIDE RANDOM ACCESS TO THESE ROUTINES. EACH TEST WITHIN THE TEST CODE FILE MAY BE INVOKED INDIVIDUALLY OR IN SEQUENCE VIA DCWRITE FUNCTION. EACH TEST IS EXECUTED DIRECTLY FROM MAIN MEMORY. SINCE THE DCP IS NOT PERMITTED TO WRITE TO MAIN MEMORY DURING TESTING OPERATIONS, THE SUCCESS OR FAILURE OF EACH TEST IS INDICATED BY USE OF THE DCP "HEYU" INSTRUCTION. AFTER INITIATION OF EACH TEST, THE MAIN SYSTEM WILL WAIT FOR A SPECIFIED LENGTH OF TIME FOR THE DCP TO RESPOND WITH A "HEYU" INTERRUPT. IF THE TEST SUCCEEDS, THE DCP SENDS A "HEYU" AT THE COMPLETION OF THE TEST, IF THE TEST FAILS, THE DCP WILL NOT SEND A "HEYU", BUT WILL "IDLE" INSTEAD. THE ABSENCE OF THE "HEYU" INTERRUPT WILL INDICATE THE FAILURE OF THE TEST.

A STANDARD SET OF DCP TEST ROUTINES ARE PROVIDED IN A DCP TEST CODE DISK FILE CALLED "SYSTEST/DCP/PROC". THESE ROUTINES ARE DESCRIBED IN AN ATI BULLETIN. AN INSTALLATION MAY CHOOSE TO MODIFY THESE ROUTINES OR COMPILE THEIR OWN TESTS, PROVIDED THE TESTS FUNCTION AS DESCRIBED ABOVE.

EXECUTION OF THE DCP TESTS IS PERFORMED BY AN MCP INDEPENDENT - RUNNER STACK WHICH ASSUMES THE NAME OF "DCPTEST/<DCP-NUMBER>" FOR EACH DCP TO BE TESTED. THIS PROCEDURE PERFORMS ALL ACCESS TO THE DCP TEST CODE FILE, AND RETURNS THE RESULTS OF THE TESTS TO THE REQUESTING MCS. THIS INDEPENDENT-RUNNER IS ITSELF CONTROLLED BY THE FOLLOWING NEW DCWRITE FUNCTIONS:

1. ATTACH DCP (TYPE = 164)

   THIS DCWRITE SPECIFIES WHICH DCP IS TO BE TESTED AND WHICH

CODE FILE IS TO BE USED. IT ALSO RESULTS IN THE INITIATION OF THE DCPTEST ROUTINE FOR SERVICING THE DCP BEING TESTED. THE DCP TO BE TESTED MUST BE ON-LINE AND MUST NOT BE INITIALIZED.

2. INITIATE DCP TEST (TYPE = 168)

THIS DCWRITE CAUSES THE DCPTEST ROUTINE TO INITIATE ONE OR ALL TEST ROUTINES IN THE TEST CODE FILE. AT THE COMPLETION OF TEST(S),A SPECIAL RESULT MESSAGE IS RETURNED TO THE MCS.

3. DETACH DCP (TYPE = 165)

THIS DCWRITE INDICATES COMPLETION OF THE TESTS FOR A DCP AND RETURNS THE DCP BACK TO NORMAL SERVICE. THE DCPTEST STACK CORRESPONDING TO THIS DCP IS TERMINATED.

IN ORDER TO USE ANY OF THE ABOVE DCWRITE FUNCTIONS, THE MCS PERFORMING THE TESTS MUST BE DECLARED IN THE CURRENT NDL AS "CONTROL = TRUE" IN THE MCS SECTION. A SPECIAL-PURPOSE MCS HAS BEEN SUPPLIED CALLED "SYSTEST/DCP/MAINTMCS" WHICH MAY BE USED FOR DCP TESTING. THIS MCS IS DESCRIBED IN AN ATI BULLETIN.

FOR EACH OF THE ABOVE DCWRITE FUNCTIONS, THE MINIMUM MESSAGE SIZE IS EIGHT WORDS. A COMPLETE DESCRIPTION OF EACH FOLLOWS:

ATTACH DCP (TYPE = 164)

MESSAGE PARAMETER FORMAT:

MSG[0].[47:08] = 164

.[23:01] = 1

.[22:07] = NUMBER OF THE DCP TO BE TESTED

MSG[6 ==> N] = NAME OF THE DCP TEST DISK FILE

SEMANTICS:

THIS DCWRITE MUST BE EXECUTED BEFORE ANY TESTING OF A DCP MAY BE PERFORMED. THE DCP TO BE TESTED MUST BE ON-LINE BUT MAY NOT BE INITIALIZED (RUNNING).

MSG[0].[22:07] CONTAINS THE NUMBER OF THE DCP TO BE TESTED.

STARTING IN MSG[6], THE NAME OF THE DISK FILE TO BE USED MUST BE SPECIFIED. ANY VALID B6700 FILE TITLE MAY BE USED. THE NAME MUST BE IN EBCDIC AND TERMINATED WITH A PERIOD. OPTIONALLY, A QUEUE PARAMETER MAY BE SPECIFIED IN THE DCWRITE REQUEST. IN THIS CASE, ALL RESULT MESSAGES IN RESPONSE TO "INITIATE DCP TEST" DCWRITE REQUESTS (TYPE = 168) WILL BE FORWARDED TO THE SPECIFIED QUEUE. OTHERWISE, SUCH REQUESTS WILL BE PASSED TO PRIMARY QUEUE OF THE MCS.

THE FOLLOWING NEW DCWRITE ERRORS MAY OCCUR FROM THIS REQUEST:

128 = DCP CANNOT BE ATTACHED: ALREADY INITIALIZED

129 = DCP CANNOT BE ATTACHED: ALREADY ATTACHED (TESTING)

131 = SPECIFIED DCP TEST CODE FILE IS NOT ON DISK

132 = SPECIFIED DCP TEST CODE IS NOT VALID

133 = A DISK ERROR OCCURED READING THE TEST CODE

EXAMPLE:

```
ALLOCATE(MSG, 11);
MSG(0) := 0 & (164)    [47:08]    % DCWRITE TYPE
            & (1)      [23:01]    % DLS VS.LSN
            & (DCPNR)  [22:07]    % NUMBER OF DCP TO BE TESTED
            ;

REPLACE POINTER (MSG[6], 8) BY "SYSTEST/DCP/PROC.";
RESULT := DCWRITE(MSG);
RESULT := DCWRITE(MSG, TESTQUEUE);    % USE "TESTQUEUE"
```

DETACH DCP (TYPE = 165)

MESSAGE PARAMETER FORMAT:

```
MSG[0].[47:08] = 165
      .[23:01] = 1
      .[22:07] = NUMBER OF THE DCP BEING TESTED
```

SEMANTICS:

THIS DCWRITE REQUEST CAUSES TERMINATION OF TESTING ON THE SPECIFIED DCP SUCH THAT THE DCP MAY BE INITIALIZED. THE "DCPTEST" STACK SERVICING THIS DCP FOR TESTING IS TERMINATED.

NO OTHER DCP TESTS MAY BE SENT TO THIS DCP UNLESS THE DCP IS SUBSEQUENTLY RE-ATTACHED.

THE FOLLOWING NEW DCWRITE ERRORS MAY OCCUR FROM THIS REQUEST:

130 = DCP IS NOT ATTACHED

EXAMPLE:

```
ALLOCATE (MSG, 8);
MSG[0] := 0 & (165)     [47:08]    % DCWRITE TYPE
            & (1)       [23:01]    % DLS VS. LSN
            & (DCPNR)   [22:07]    % NUMBER OF DCP BEING TESTED
            ;
            RESULT := DCWRITE(MSG);
```

INITIATE DCP TEST (TYPE = 168)

FORMAT OF MESSAGE PARAMETER:

```
MSG[0].[47:08] = 168
      .[25:01] = CAUSE DCP SAN INTERRUPT AFTER INITIALIZATION
      .[24:01] = EXECUTE ALL TESTS
      .[23:01] = 1
      .[22:07] = NUMBER OF THE DCP BEING TESTED
      .[15:16] = NUMBER OF TEST TO BE EXECUTED
MSG[2].[47:08] = REPEAT COUNT
      .[39:16] = TIMEOUT VALUE (SECONDS)
```

SEMANTICS

THIS DCWRITE REQUEST CAUSES ONE OR ALL TESTS WITHIN THE DCP TEST CODE FILE TO BE PERFORMED ON THE SPECIFIED DCP. THE DCP MUST HAVE BEEN ATTACHED VIA THE "ATTACH DCP" REQUEST (TYPE = 164) ABOVE.

MSG[0].[15:16] INDICATES WHICH OF THE TESTS IS TO BE EXECUTED. THE TESTS WITHIN THE CODE FILE ARE NUMBERED FROM ZERO.

IF MSG[0].[24:01] IS 1, ALL TESTS WITHIN THE CODE FILE ARE EXECUTED IN SEQUENCE.

IF MSG[0] . [25:01] IS 1, A "SYSTEM ATTENTION" SCANOUT WILL BE PERFORMED AFTER EACH TEST IS INITIALIZED. THIS MAY BE DESIRED FOR TESTING THE "SAN" LOGIC IN THE DCP.

MSG[2].[39:16] INDICATES HOW MANY SECONDS TO WAIT FOR A "HEYU" INTERRUPT FROM THE DCP BEFORE DECLARING THE TEST A FAILURE. A NORMAL VALUE OF 5 SECONDS IS SUFFICIENT FOR MOST TESTS. WHEN A FAILURE IS RECOGNIZED, ALL SUBSEQUENT TESTING OF THE CURRENT REQUEST IS TERMINATED.

MSG[2].[47:08] INDICATES HOW MANY EXECUTIONS OF EACH INDIVIDUAL TEST ARE TO BE PERFORMED. A REPEAT COUNT OF ZERO IS THE SAME AS A VALUE OF ONE. THE TEST(S) WILL BE EXECUTED THE NUMBER OF TIMES SPECIFIED BY THE REPEAT COUNT OR UNTIL AN ERROR (DCP TIMEOUT) OCCURS.

EXAMPLE:

```
ALLOCATE(MSG, 8);
MSG[0] := 0 & (168)    [47:08]   % DCWRITE TYPE
            & (1)      [23:01]   % DLS VS. LSN
            & (DCPNR)  [22:07]   % NUMBER OF DCP BEING TESTED
            & (TESTNR) [15:16]   % NUMBER OF TEST TO BE EXECUTED
            ;
MSG[2] := 0 & (2)      [47:08]   % EXECUTE EACH TEST TWICE
            & (5)      [39:16]   % TIMEOUT VALUE
            ;
RESULT := DCWRITE(MSG);
```

DCP TEST RESULT MESSAGE (TYPE = 23)

FORMAT OF MESSAGE:

MSG[0].[47:08] = 23
.[23:01] = 1
.[22:07] = DCP NUMBER
.[15:16] = TEST NUMBER
MSG[1].[47:08] = TEST RESULT VALUE
.[19:20] = CODE MEMORY ADDRESS
MSG[4].[23:24] = CONTENTS OF MSG[0].[47:24] FROM ORIGINAL REQUEST

SEMAMTICS:

FOR EACH "INITIATE DCP TEST" DCWRITE REQUEST (TYPE = 168) ONE DCP TEST RESULT MESSAGE WILL BE RETURNED TO THE MCS. THE RESULT MESSAGE WILL BE SENT VIA THE MCS PRIMARY QUEUE UNLESS

D0870 DATACOM - ON-LINE DCP TESTING - 08-01-74

OTHERWISE SPECIFIED IN THE "ATTACH DCP" (TYPE = 164) DCWRITE REQUEST.

MSG[1].[47:08] WILL BE ZERO IF THE TEST(S) WAS/WERE COMPLETED WITHOUT ERROR. OTHERWISE, MSG[0].[15:16] WILL INDICATE THE OFFENDING TEST NUMBER AND MSG[1].[47:08] WILL INDICATE THE CAUSE OF THE ERROR AS FOLLOWS:

133 = DISK ERROR OCCURED READING DCP CODE FILE

134 = AN INVALID DCP TEST NUMBER WAS SPECIFIED

135 = THE DCP TEST FAILED (TIMEOUT)

MSG[1].[19:20] WILL ALWAYS CONTAIN THE ABSOLUTE MAIN MEMORY ADDRESS OF THE DCP CODE BEING EXECUTED. THIS VALUE CORRESPONDS TO THE SETTING OF THE DCP IBA REGISTER.

D0871 DATACOM - ALLOW 255 STATIONS PER LINE - 08-01-74

THE LIMIT FOR NUMBER OF STATIONS PER LINE HAS BEEN INCREASED FROM 25 TO 255.

D0876 DATACOM - INVALID DLS TO DCWRITE - 08-01-74

THIS PATCH CORRECTS SEVERAL CASES WHERE AN INVALID DLS PASSED TO DCWRITE COULD CAUSE AN INVALID INDEX FAULT.

SEVERAL ERRORS IN THE ANALYSIS OF A DLS PASSED TO DCWRITE HAVE BEEN CORRECTED FOR STATION AND LINE ORIENTED DCWRITE TYPES. IN PARTICULAR, A DLS WHICH REFERENCES A NON-EXISTANT STATION ON A LINE (DLS.[7:8] > MAXSTATIONS) WILL YIELD ERROR # 78 (UNKNOWN STATION). ALSO, ATTEMPTING TO REFERENCE A LINE WITH NO STATIONS (MAXSTATIONS = 0) WILL RESULT IN A NEW ERROR # 136 (INVALID LINE). THIS MEANS THAT NO LINE ORIENTED REQUESTS MAY BE ISSUED FOR:

1. A LINE WITH AN AUTO CALL UNIT;

2. THE AUXILIARY LINE OF A FULL DUPLEX PAIR;

3. ANY OTHER LINE WITH MAXSTATIONS = 0.

NOTE THAT DIALOUT REQUESTS MUST BE ISSUED DIRECTLY TO THE LINE WHICH REFERENCES THE ACU, AND NOT THE ACU LINE ITSELF. SIMILARLY,

D0876 DATACOM - INVALID DLS TO DCWRITE - 08-01-74

REQUESTS FOR AN AUXILIARY LINE, SUCH AS MAKE LINE READY, MUST BE PRESENTED TO THE CORRESPONDING PRIMARY LINE.

D0877 DATACOM - CLUSTER EXCHANGE DCP - 08-01-74

THIS PATCH IMPLEMENTS AUTOMATIC DCP INITIATION WHEN EXECUTING A CLUSTER EXCHANGE DCWRITE.

THE FORMAT AND FUNCTION OF THE "CLUSTER EXCHANGE" DCWRITE (TYPE = 129) HAS BEEN EXTENDED
TO ALLOW AUTOMATIC INITIALIZATION OF A DCP
TO WHICH CLUSTERS ARE BEING EXCHANGED. THE MEANING OF
MSG[0].[36:16] IN THE DCWRITE REQUEST HAS BEEN
MODIFIED AS FOLLOWS:

MSG[0].[24:1]	=	0	LEAVE LINES ON CLUSTERS NOT READY.
		1	LEAVE LINES ON CLUSTERS READY.
MSG[0].[25:1]	=	0	TARGET DCP MAY BE UNINITIALIZED.
		1	INITIALIZE TARGET DCP IF REQUIRED.

SEMANTICS:

IF MSG[0].[25:1] = 0, THE CLUSTER EXCHANGE OCCURS REGARDLESS OF THE STATE OF THE TARGET DCP.

IF MSG[0].[25:1] = 1, THE TARGET DCP WILL BE INITIALIZED IF IT IS NOT RUNNING. IF INITIALIZATION IS REQUIRED BUT FAILS DUE TO A HARDWARE CONDITION, ERROR # 87 (UNINITIALIZED DCP) WILL BE RETURNED.

D0878 DATACOM - ADD STATION TO FILE DCWRITE - 08-01-74

THIS PATCH IMPLEMENTS A NEW DCWRITE FUNCTION TO ALLOW MCS ADDITION OF A STATION TO A FILE.

A NEW DCWRITE FUNCTION "ADD STATION TO FILE" (TYPE = 67) HAS BEEN IMPLEMENTED. THE PURPOSE OF THIS DCWRITE IS TO ALLOW AN MCS TO PERFORM THE EQUIVALENT OF THE ALGOL CONSTRUCT:

```
REPLACE FILEID.FAMILY BY *+"STATIONNAME."
```

D0878 DATACOM - ADD STATION TO FILE DCWRITE - 08-01-74

FORMAT OF MESSAGE PARAMETER (MINIMUM SIZE = 6 WORDS):

MSG[0].[47:08] = 67 (DCWRITE TYPE)

.[39:16] = AS DETAILED IN "STATION ASSIGNMENT TO FILE" DCWRITE

.[23:10] = FILE NUMBER

.[13:14] = NOT USED

MSG[1].[23:24] = LSN OF STATION TO BE ADDED

SEMANTICS:

THIS DCWRITE PERMITS AN MCS TO SPONTANEOUSLY ADD A NEW STATION TO AN OPEN REMOTE FILE CURRENTLY UNDER CONTROL OF THE MCS, AND SIMULTANEOUSLY PERFORM THE NECESSARY ASSIGNMENT OF THE FILE AS WOULD OTHERWISE BE REQUIRED BY THE "STATION ASSIGNMENT TO FILE" (TYPE = 64) DCWRITE. ALTHOUGH SIMILAR IN FUNCTION TO THE TYPE = 64 DCWRITE, THIS DCWRITE MAY NOT BE USED IN RESPONSE TO A "FILE OPEN" (TYPE = 2) RESULT MESSAGE.

THE STATION TO BE ADDED IS SPECIFIED IN MSG[1].[23:24] AND MUST BE CURRENTLY ATTACHED TO THE MCS. THE FILE TO WHICH THE STATION IS TO BE ADDED IS SPECIFIED IN MSG[0].[23:10]. REFER TO THE DESCRIPTION OF THE "FILE OPEN" (TYPE = 2) RESULT MESSAGE FOR THE MEANING AND ORIGIN OF THE FILE NUMBER. IF THE SPECIFIED STATION IS ALREADY A MEMBER OF THE FILE, ERROR # 82 (STATION ALREADY IN FILE) IS RETURNED.

MSG[0].[39:8] INDICATES THE DISPOSITION TO BE ASSIGNED TO THE STATION. REFER TO THE SEMANTICS OF THE TYPE = 64 DCWRITE FOR THE MEANING OF THIS FIELD.

IF NO ERRORS ARE DETECTED BY THE DCWRITE FUNCTION, THE CONTENTS OF MSG[0].[13:14] WILL BE THE RELATIVE STATION NUMBER (RSN) WHICH HAS BEEN ASSIGNED TO THE NEW STATION WITHIN THE FILE.

NO NOTIFICATION OF THE ACTION PERFORMED BY THIS DCWRITE IS GIVEN TO THE OBJECT PROGRAM OWNING THE FILE.

IN PARTICULAR, THE "LASTSTATION" FILE ATTRIBUTE IS NOT ALTERED. THE MCS MAY THEREFORE ELECT TO INFORM THE OBJECT PROGRAM BY ISSUING A "WRITE TO OBJECT JOB" (TYPE = 65) DCWRITE

D0878 DATACOM - ADD STATION TO FILE DCWRITE - 08-01-74

UTILIZING THE RSN VALUE RETURNED.

D0879 DATACOM - STATION WITH NO LINE ASSIGNED - 08-01-74

IN ORDER TO ALLOW AN MCS TO PERFORM A "CHANGE CURRENT QUEUE" (TYPE = 32) DCWRITE ON STATIONS WITH NO LINE ASSIGNMENT, THE "STATION ATTACH" (TYPE = 1) AND "CHANGE CURRENT QUEUE" DCWRITE REQUESTS NOW PERMIT A STATION WITH NO LINE ASSIGNMENT TO BE REFERENCED.

NOTE THAT FOR THE LATTER DCWRITE, IF A NON-ZERO TEXT SIZE (MSG[2].[39:16]) IS SPECIFIED AND THE REFERENCED STATION HAS NO LINE ASSIGNMENT, ERROR #88 WILL BE RETURNED.

D0902 DATACOM - DCWRITE FUNCTIONS - 09-16-74

DUE TO OPERATIONAL DIFFICULTIES WHEN USING CLUSTER ALL-ORDERS TEST IN SYSTEM/DIAGNOSTICMCS, A MAJOR REIMPLEMENTATION OF THE TEST WILL BE DONE FOR THE II.8 RELEASE.

AS A RESULT OF THE NEW DESIGN, THE DIAGNOSTIC DCWRITE FUNCTIONS UTILIZED BY THIS TEST FEATURE WILL BE MODIFIED. THIS INVOLVES DCWRITE TYPES 160 THROUGH 163, AND TYPES 166 AND 167. USERS ARE HEREBY CAUTIONED AGAINST THE USE OF THESE DCWRITE FUNCTIONS, IN THAT THEIR FUNCTION IS SUBJECT TO CHANGE.

D0904 DATACOM - SETUPINTERCOM QUEUE HANDLING - 09-16-74

THE HANDLING OF QUEUES WHICH ARE ESTABLISHED AS INTERCOM QUEUES FOR THE MCS-WFM INTERFACE HAS BEEN CORRECTED AND MODIFIED. IF THERE ALREADY EXIST A QUEUE IN THE SLOT FOR THE MCS WHICH IS SETTING UP A NEW INTERCOM QUEUE, THE MESSAGES FROM THE OLD QUEUE ARE COMBINED INTO HIS NEW QUEUE (AT THE TAIL) AND THE OLD QUEUE IS DETACHED AS AN INTERCOM QUEUE. THE NEW QUEUE RETAINS ALL ITS ATTRIBUTES (INCLUDING THE ATTRIBUTE OF BEING A DATACOM QUEUE), SO IT IS NOW VALID TO USE THE SAME QUEUE FOR BOTH INTERCOM AND PRIMARY- QUEUE. AN ATTEMPT TO ESTABLISH AS AN INTERCOM QUEUE A QUEUE WHICH IS ALREADY AN INTERCOM QUEUE WILL BE REJECTED WITH A ERROR-RETURN

D0904 DATACOM - SETUPINTERCOM QUEUE HANDLING - 09-16-74

VALUE OF 2.

THE INTERCOM QUEUE ARRAY IS NOW PROPERLY COUNTED AS A USER OF THE QUEUES THAT ARE PLACED INTO IT; A QUEUE WILL BE DEACTIVATED IF ITS USERCOUNT GOES DOWN TO ZERO OR IF IT GOES DOWN TO ONE AND THAT ONE IS THE INTERCOM QUEUE ARRAY. QUEUE ACCESSES WITHIN SETUPINTERCOM IS NOW PROPERLY INTERLOCKED.

D0907 DATACOM - INITIALIZE DATACOM PREFIX - 09-29-74

THE DATACOM FILE PREFIX IS NOW INITIALIZED TO "SYSTEM" FOLLOWING A COLD START. THIS MAY BE CHANGED BY USE OF THE DCPREFIX CARD IN THE SYSTEM LOADER OR BY USE OF THE DC SYSTEM MESSAGE.

D0912 DATACOM - CLEAR REMOTE FILES - 09-16-74

THIS PATCH ALLOWS A JOB WHICH HAS BEEN TERMINATED VIA OPERATOR DS TO SUCCESSFULLY GO TO END OF JOB WHEN PART OF ITS REMOTE FILE OUTPUT HAS NOT BEEN COMPLETED. IN PARTICULAR, IF REMOTE OUTPUT CANNOT BE SENT TO A TERMINAL DUE TO A HARDWARE MALFUNCTION, THE OBJECT JOB MAY BE TERMINATED BY THE OPERATOR VIA THE DS COMMAND. ALL PENDING REMOTE FILE OUTPUT WILL BE RETRIEVED FROM THE DCP STATION QUEUES FOR ALL STATIONS CURRENTLY IN THE FILE(S) INVOLVED, AND WILL BE RETURNED TO THE CONTROLLING MCS AS A MESSAGE RECALL (TYPE = 6) RESULT.
NOTE THAT THE DATACOM RECONFIGURATION CONTROL STACK (DCRECON) IS EMPLOYED TO PERFORM THIS FUNCTION, AND WILL BE INITIATED IF NO RECONFIGURATION REQUESTS ARE IN PROGRESS.

AS EACH STATION IN THE FILE IS CLEARED OF OUTPUT, A MESSAGE OF THE FORM:

"STATION <LSN> CLEARED" (WHERE <LSN> IS THE LSN OF THE AFFECTED STATION) WILL BE DISPLAYED.

D0940 DATACOM - SWAP DIALOUT LINES - 10-15-74

D0940 DATACOM - SWAP DIALOUT LINES - 10-15-74

LINES WHICH ARE DECLARED IN NDL AS "TYPE=DIALOUT" MAY NOW BE SWAPPED VIA DCWRITE TYPE #128. NOTE THAT BOTH THE LINES TO BE SWAPPED MUST HAVE DIALOUT CAPABILITIES OR ERR #137 WILL BE GIVEN, (BOTH LINES MUST BE DIALOUT).

D1038 DATACOM - CONSOLE MESSAGE CHANGES - 11-10-74

IF THE DATACOM FILES <PREFIX>/NIF OR <PREFIX>/DCPCODE ARE NOT PRESENT WHEN DATACON IS INITIALIZED, A MESSAGE OF THE FORM:

"<PREFIX>/<FILENAME> (NDL FILE) REQUIRED" WILL NOW BE DISPLAYED, AND THE DCP STACK WILL TERMINATE.

EXAMPLE: "SYSTEM/NIF ON PACK (NDL FILE) REQUIRED".

DM6700 - DDL

P3498 DDL - "%" IN COLUMN 72 - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH A % SIGN IN COLUMN 72 ON A CARD USED FOR INPUT TO DDL WOULD CAUSE THE INFORMATION OF THE SUBSEQUENT CARD TO BE LOST.

DM6700 - DMRECOVER

P3499 DMRECOVER - RECOVERY PROBLEM - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH A VARIABLE WAS NOT ALWAYS BEING INITIALIZED PROPERLY IN DMRECOVER WHEN AUDIT CONTROL WORDS WERE PROCESSED LEADING TO UNPREDICTABLE RESULTS.

P4382 DMRECOVER - NA CHAIN - 10-20-74

NEXT AVAILABLE CHAINS ARE NOW RECOVERED PROPERLY BY DMRECOVER IN ALL CASES.

DM6700 - MONITOR

P3343 DM6700 - AUDIT NSEC DEADLOCK - 03-28-74

THIS PATCH CORRECTS A TIMING PROBLEM IN WHICH AUDITING THE NSEC CONTROL RECORD RESULTED IN A DEADLOCK BETWEEN THE MONITOR AND THE REQUESTHANDLER.

P3500 DM6700 - LOOP ON FIND NTH PAT EOF - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH THE REQUESTHANDLER WOULD LOOP ON A FIND OF THE NTH RECORD IN N WAS GREATER THAN THE END-OF-FILE.

P3501 DM6700 - POP OF FILE WRONG - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH AFTER A HALT/LOAD RECOVERY, IF DELETES WERE BEING DONE ON A FILE, THE POPULATION MIGHT BE RECOVERED AS ONE TO MANY.

P3502 DM6700 - REOCCURRING SEQUENCE NUMBERS - 04-18-74

THIS PATCH ELIMINATES DUPLICATE SEQUENCE NUMBERS IN SYMBOL/DM6700.

P3570 DM6700 - MOD-STR RESIDENT ALTERS LIST - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH A MODIFY OF A RESIDENT FOLLOWED BY CREATES, STORES, AND DELETES OF SUBSUMED SETS IN TURN FOLLOWED BY A STORE ON THE RESIDENT WOULD YIELD UNPREDICTABLE RESULTS WHEN SELECTING THE ALTERED SUBSUMED SETS.

P3747 DM6700 - HOLES IN DATABASE - 05-30-74

WHEN MULTIPLE REQUESTHANDLERS WERE RUNNING IT WAS OCCASSIONALLY POSSIBLE TO GET BAD RECORDS IN THE DATABASE, ESPECIALLY INDEX SEQUENTIAL FILE TABLES. THIS PATCH FIXES THIS PROBLEM.

SOFTWARE IMPROVEMENTS

P3955 DM6700 - LINK NULL - 08-04-74

IF AN EMBEDDED SET CONTAINED AN SREF, IT COULD NOT BE SET TO NULL. THE REQUEST HANDLER WOULD DIVIDE BY 0. THIS PATCH CORRECTS THAT PROBLEM.

P4189 DM6700 - FIX KILL MON IF RQH DIES - 08-11-74

IF A RQD DIED WITH A FAULT DS, THEN THE MONITOR AND OTHER RQH-S WOULD BE USUALLY LEFT WAITING ON OR PROCURING EVENTS TIED UP BY THE DS-ED RQH.

P4190 DM6700 - SET VAR TO MAKE DISP REC WORK - 08-11-74

WHEN THE KEY FOR A RANDOM RECORD WAS MODIFIED, IT WOULD USUALLY CAUSE THIS RECORD TO BE HASHED INTO ANOTHER BLOCK AND INSERTING A LINK INTO THE FORMER RECORD POINTING AT THE NEW RECORD. HOWEVER, THE LINK FIELD WAS NOT SET UP PROPERLY, CAUSING AN INVALID LINK.

P4191 DM6700 - RANDOM TRACE DISP RECS. - 08-11-74

IF A RANDOM RECORD WAS DISPLACED, PROCEDURE "RANDOMFIND" COULD NOT TRACE TO THE DATA RECORD AND RETURNED "NOT FOUND" EXCEPTION.

P4192 DM6700 - BITMSKSIZE WRONG IN RNDMPTRREC - 08-11-74

THE BIT MASK SIZE WAS SET UP WRONG IN PROCEDURE "RANDOMPOINTERREC". OCCASIONALLY AN INVALID LINK COULD OCCUR IN DELETING LIST ELEMENTS AND SREFS POINTING INTO A RANDOM FILE.

P4193 DM6700 - ELIM. WORK AT DJ-DAOPEN - 08-11-74

WHEN MAKING A "DASET" PRESENT AT OPEN TIME, A CALL WAS ALWAYS MADE TO MAKE ITS MASTER SET PRESENT WHETHER IT WAS ALREADY PRESENT OR NOT. THE EFFECT WAS A SUBSTANTIAL AMOUNT OF USELESS RECURSIVE CALLS THROUGHOUT THE MASTER SET COMPLEX.

SOFTWARE IMPROVEMENTS

P4194 DM6700 - CHANGE I-O DIRECT I-O ATTRB. - 08-11-74

WHEN TESTING FOR A SHORT BLOCK, THE RESULT DESCRIPTOR WAS INTERROGATED DIRECTLY. THIS MAY CAUSE HASSLES SINCE THE MEANING OF THE RESULT DESC. DIFFERS FOR EACH I-O UNIT.

P4252 DM6700 - CLOBBERED FINE TABLE - 09-29-74

WHEN AUDITING, FINE TABLES WOULD BE CLOBBERED IN TWO CASES. WHEN DELETING THE LAST ENTRY IN A COARSE TABLE FOLLOWED BY END-TRANSACTION, AND WHEN STORING THE FIRST ENTRY IN A COARSE TABLE FOLLOWED BY ABORT-TRANSACTION.

P4257 DM6700 - NA CHAINS-H-L IN ABORT - 09-29-74

NEXT AVAILABLE CHAINS COULD BE RECOVERED INCORRECTLY IF A HALT/LOAD OCCURRED DURING AN ABORT-TRANSACTION, BECAUSE INCORRECT INFORMATION WAS AUDITED. RECONSTRUCTION WOULD NOT RECONSTRUCT THE NEXT AVAILABLE CHAINS CORRECTLY IF IT SCANNED SUCH A POINT IN THE AUDIT. THE POPULATION COULD ALSO BE RECOVERED INCORRECTLY.

DM6700 - GETDMRSF

P3563 GETDMRSF - APRIL IN GETDMRSF - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH THE PROCEDURE GETDMRESTARTFILE WOULD FAIL IN THE MONTH OF APRIL.

DM6700 - SDLS

P3503 SDLS - SDLS REOCCURING SEQ NUMBERS - 04-18-74

THIS PATCH ELIMINATES DUPLICATE SEQUENCE NUMBERS.

P4411 SDLS - SDL TITLE - 10-20-74

SDL/STRUCTURE AND SDL/INITIALIZE (WHICH ARE COMPILED WITH THE SAME SYMBOLIC) MAKE A CHECK AT THE BEGINNING OF THEIR RESPECTIVE RUNS TO SEE IF THE PROGRAM TITLE MATCHES THE TITLE IN THE SYMBOLIC. THIS IS TO VERIFY IF PROPER $ OPTIONS WERE USED IN COMPILATION. WHEN RUN FROM PACK THE TITLE CHANGES. THIS PATCH ALLOWS FOR THIS CHANGE.

DCALGOL

P3660 DCALGOL - DISKHEADER ARRAYS - 04-18-74

THIS CHANGE WILL ALLOW A DISKHEADER ARRAY TO BE USED AS THE DESTINATION IN REPLACE STATEMENTS.

P3809 DCALGOL - ALLOCATE STATEMENT PARAMETER - 07-07-74

THE ALLOCATE STATEMENT HAS TWO PARAMETERS, THE FIRST IS A MESSAGE TO BE ALLOCATED, AND THE SECOND IS THE SIZE OF A SAVE ARRAY IN CORE TO BE ASSOCIATED WITH THE MESSAGE. THE SECOND PARAMETER IS NOW INTEGERIZED IF IT IS NOT AN INTEGER.

P4889 DCALGOL - REMOVE FILESENTRY - 11-10-74

THIS PATCH ELIMINATES DCALGOL TASK ATTRIBUTE FILESENTRY.

DCALGOL INTRINSICS

P3816 DCALGOLINT - II.7 COPYRIGHT - 12-11-74

THE II.7 COPYRIGHT HAS BEEN ADDED TO THE SYMBOLIC FOR THE DCALGOLINTRINSICS.

DCALGOL INTRINSICS

D0742 DCALGOLINT - DCERRANALYSIS IMPROVEMENTS - 03-28-74

THE DCERRANALYSIS INTRINSIC HAS BEEN IMPROVED TO ALLOW AUTOMATIC FORMATTING OF THE ANALYZED MESSAGE TEXT FOR TELETYPE (72 CHARACTER) LINES. IF BIT ONE OF THE THIRD PARAMETER IS SET, THE INTRINSIC WILL INSERT A CARRIAGE RETURN AND LINE FEED CHARACTERS AT LOGICAL BREAKS IN THE OUTPUT TEXT STRING.

DCP PROGRAM GENERATOR

P3505 DCPPROGEN - ADAPTOR WRITE DCWRITE - 03-28-74

IN SOME INSTANCES WHEN DOING AN ADAPTOR WRITE (TYPE=166) DCWRITE, THE ADAPTOR CLOCK WOULD CAUSE SPURIOUS ERRORS. THE TIMER IS NOW IDLED WHEN THIS DCWRITE IS PERFORMED.

P3506 DCPPROGEN - CLEAR CLUSTERS - 05-12-74

THIS CHANGE CAUSES THE DCP TO GENERATE A "CLUSTER CLEAR" CONDITION IN EACH CLUSTER WHEN THEY ARE INITIALIZED VIA AN "ADD CLUSTER" REQUEST. THIS IS ACCOMPLISHED BY SETTING BIT AC5 WHEN PERFORMING AN ADAPTOR WRITE TO THE CLUSTER AND IMPROVES THE RELIABILITY OF CLUSTER OPERATIONS.

P3507 DCPPROGEN - FULL DUPLEX LINE SWAP - 05-12-74

THE CODE FOR THE DCP BLASTLINE REQUEST NOW HANDLES FULL DUPLEX LINES.

P4258 DCPPROGEN - STATUS ERRORS - 09-29-74

WHEN DOING ACKNOWLEDGE DCWRITES (TYPE 44), SPURIOUS STATUS ERRORS (RESULT BYTE INDEX = 13) COULD HAPPEN IN CERTAIN INSTANCES. THIS PROBLEM HAS NOW BEING CORRECTED.

P4259 DCPPROGEN - DISCONNECT DURING DELAY - 09-29-74

THE DCP WILL NOW RECOGNIZE DISCONNECT INTERRUPTS WHILE EXECUTING A DELAY STATEMENT, AND WILL PERFORM THE PROPER DISCONNECT LOGIC AS WELL AS INFORM THE CONTROLLING MCS OF THE DISCONNECTION. PREVIOUSLY DISCONNECT INTERRUPTS WERE IGNORED IF THEY OCCURRED WITHIN A DELAY STATEMENT.

SOFTWARE IMPROVEMENTS

P4324 DCPPROGEN - TOGGLES IN FULL DUPLEX - 10-27-74

WHEN SETTING OR RESETTING AUXILIARY TOGGLES IN A FULL DUPLEX REQUEST, IT WAS POSSIBLE TO GET THE PRIMARY TOGGLES RATHER THAN THE AUXILIARY TOGGLES. THIS WOULD HAPPEN WHEN AUXILIARY CODE WAS EXECUTING. WHEN PRIMARY CODE WAS EXECUTING, BOTH AUXILIARY AND PRIMARY TOGGLES WERE ACCESSED PROPERLY. THIS IS NOW HANDLED CORRECTLY FOR EACH CASES.

P4690 DCPPROGEN - LINE ABORT ON MULT-DROP LINES - 11-10-74

THE DCP WILL NOW REPORT THE CURRENT STATION INDEX FOR LINE ABORTS OCCURRING ON MULTI-DROP LINES. PREVIOUSLY, THE DCP ALWAYS REPORTED AN ERROR FOR STATION = 0, REGARDLESS OF WHICH STATION HAD THE ERROR. THE ERROR RESULT (TYPE=99) MESSAGE RECEIVED BY AN MCS WILL NOW ALWAYS CONTAIN THE PROPER LSN.

DCP PROGRAM GENERATOR

D0951 DCPPROGEN - STATUS ERROR LOGGING - 09-16-74

ON REJECTING AN ACKNOWLEDGE REQUEST (TYPE 44 DCWRITE) A RESULT BYTE INDEX STATUS ERROR (13) IS RETURNED. TO HELP DEBUGGING, THE LINE TABLE STATUS BITS AND STATION INDEX ARE ALSO RETURNED IN MSG[1] FIELDS [39:8] AND [7:8], RESPECTIVELY, ON THAT ERROR.

DCSTATUS

P3345 DCSTATUS - ERRONEOUS LINE TALLY INFO - 03-28-74

DCSTATUS USED THE WRONG FIELDS IN THE DCP LINETABLE FOR THE VALUES OF THE LINE TALLIES. THE PROPER FIELDS ARE NOW REFERENCED.

P3504 DCSTATUS - COLINE INFORMATION - 04-18-74

THE PROPER VALUE OF THE COLINE FIELD IN THE DCP LINETABLE WILL NOW BE PRINTED. IN ADDITION, THE VALUE OF THE "LINECONTINUE" BYTE IS PROPERLY DESCRIBED.

P4412 DCSTATUS - DCSTATUS WITH DCFILES - 10-20-74

DCSTATUS HAS BEEN CHANGED SO THAT IT CAN CORRECTLY HANDLE THE "ON <PACKNAME>" PART OF FILENAMES FOR DC FILES THAT RESIDE ON DISK PACK. THUS, DCSTATUS CAN BE USED IF THE DC FILES ARE EITHER ON DISK OR PACK.

DCSTATUS

D0950 DCSTATUS - DCSTATUS GRAPH - 08-11-74

A NEW FEATURE HAS BEEN ADDED TO DCSTATUS WHICH WILL PRINT A GRAPH OF THE DATACOM NETWORK. THE NEW KEY WORD IS "GRAPH". SPECIFYING "GRAPH" WILL PRODUCE A PRINTED OUTPUT OF THE DATACOM NETWORK SHOWING THE INTERRELATIONSHIP OF THE DCP-S, CLUSTER-S, LINE-S (NAMES & ADDRESSES) AND STATION-S (NAME & LSN).

SINCE THE GRAPH INFORMATION IS DETERMINED FROM THE DCPCODE AND NIF FILES, THIS GRAPH FEATURE CAN BE USED WHETHER DATACOM IS RUNNING OR NOT. THE DC PREFIX OF THE DATACOM FILES TO BE GRAPHED CAN BE SPECIFIED WITH THE GRAPH SPECIFICATION, IF THE PREFIX IS NOT SPECIFIED, DCSTATUS WILL GRAPH THE NETWORK THAT IS PRESENTLY BEING USED WITH THE RUNNING DATACOM SYSTEM.

THE SYNTAX CHANGES ARE :

<SUBSYSTEM SPECIFICATION> ::= ALL / <DCP DESIGNATE> / TABLES /
<CLUSTER DESIGNATE> / <LINE DESIGNATE> /
<STATION DESIGNATE> / <TERMINAL DESIGNATE> /
<GRAPH DESIGNATE>.

<GRAPH DESIGNATE> ::= GRAPH <DCPREFIXOPTION>

<DCPREFIXOPTION> ::=<EMPTY> / <PREFIX NAME OF DATACOM FILES.
PRODUCED BY NDL>.

DIAGNOSTIC MCS

P3592 DIAGNOSTMCS - CORRECT STATION NAME - 05-12-74

A PROBLEM IN WHICH ATTACHING A STATION BY DLS IN DIAGNOSTICMCS WOULD RESULT IN THE STATION HAVING THE INCORRECT STATION NAME HAS BEEN CORRECTED

P3595 DIAGNOSTMCS - CLUSTER ALL ORDERS UPDATE - 12-11-74

THE CLUSTER ALL-ORDERS TEST HAS BEEN UPDATED TO CONFORM TO RECENT CLUSTER HARDWARE MODIFICATIONS.

DIAGNOSTIC MCS

D0922 DIAGNOSTMCS - CLUSTER ALL ORDERS TEST - 10-15-74

THE CLUSTER ALL-ORDERS TEST HAS BEEN CHANGED TO FACILITATE EASE OF ERROR ANALYSIS.

THE TEST IS INITIATED AS BEFORE; HOWEVER, WHEN THE FIRST ERROR OCCURS - IF ANY - IN EACH CLUSTER, THE FOLLOWING MESSAGE WILL APPEAR AT THE SITE DISPLAY:

*** ALORDS ERROR: CLUSTER #<MN>

*** ERROR LISTING WANTED

WHERE: M= DCP NUMBER

N= CLUSTER NUMBER (IN HEX)

WHEREIN THE USER MUST ANSWER:

<MIX#>AX YES/NO

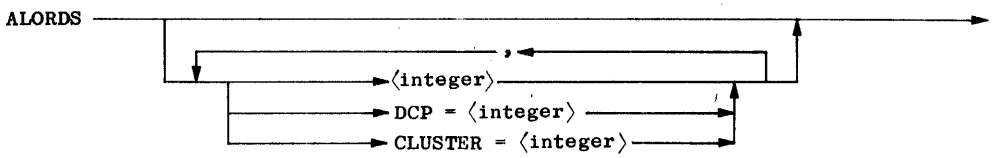
IF A LISTING WAS REQUESTED, ALL CLUSTER ERRORS WILL BE SHOWN AT THE END OF THE RUN. IF NOT, ONLY THE ERROR ANALYSIS OF EACH CLUSTER WILL BE LISTED, SHOWING THE ERROR PERCENTAGE OF SIGNIFICANT HARDWARD CONTROLS.

THE ERROR LISTING ITSELF IS BROKEN DOWN INTO A MORE DESCRIPTIVE ANALYSIS OF SPECIAL FIELDS AND BITS WITHIN THE BUFFER ASSOCIATIVE REGISTER. THE OTHER FACTORS IN THE LISTING ARE THE SAME AS DESCRIBED PREVIOUSLY.

AN INCLUDED FEATURE IS THE OPTION OF CHECKING ALL THE CLUSTERS DURING A RUN, OR TESTING THEM INDIVIDUALLY. IT SHOULD BE NOTED THAT TO TEST THE WHOLE ARRAY OF CLUSTERS ON A SUB-SYSTEM, ONLY ONE PASS IS ALLOWED. WITH INDIVIDUAL CLUSTERS, THE RANGE IS GREATER THAN ONE, AND UP TO A MAXIMUN OF 999 IN THE NUMBER OF PASSES

ALLOWED.

THE CALL FOR THE CLUSTER TEST AND WHICHEVER ALTERNATIVE IS SELECTED WILL BE DETERMINED BY THE FOLLOWING LOGIC:



EXAMPLE: ?RUN SYSTEM/DIAGNOSTICMCS

?DATA

ALORDS 002, DCP=4, CLUSTER = 4; QUIT

?END

DCP CLUSTER ALL-ORDERS ERROR

DCP/CLUSTER #01/01 TRANSLATION TEST *** PASS TALLY = 001 SOURCE WORD NUMBER: 620

	IIC		C		CCC			C			
	RR2	TYPE	T	BC	BI	010	SC	SA	T	BT	C1	IR
	980		1			900			0			
	---	----	-	--	--	---	--	--	-	--	--	--
SOURCE SENT:	000	0A	0	4	0	000	2	0	0	01	02	20
RESULT EXPECTED:	001	0A	0	4	2	000	3	6	0	03	32	N-A
RESULT RECEIVED:	001	0A	0	4	2	000	2	6	0	03	81	N-A

ERROR ANALYSIS

D0922 DIAGNOSTMCS - CLUSTER ALL ORDERS TEST - 10-15-74

ERROR COUNT= 003 ; ERROR PERCENTAGE= 01

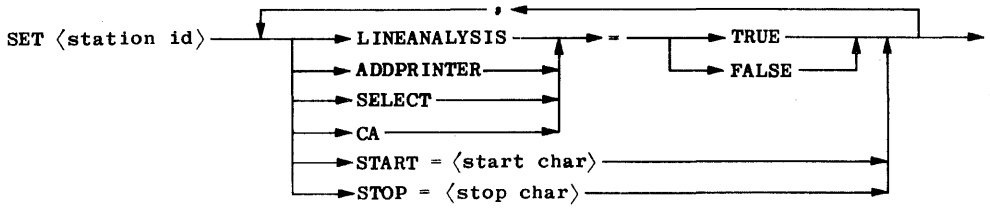
FIELD	BC	BI	SC	SA	BT	C10	C09	C1	C00	IR9	IR8	TYP	CT0	CT1
ERROR %	00	00	00	00	01	00	00	01	00	00	00	00	00	00

D0923 DIAGNOSTMCS - ATTACH STATION BY LSN - 05-12-74

THE "ATTACH" COMMAND IN DIAGNOSTICMCS WILL NOW ACCEPT THE LOGICAL STATION NUMBER (LSN) OF THE STATION THAT IS TO BE ATTACHED. THIS NEW CAPABILITY IS IN ADDITION TO THE PRESENT CAPABILITY OF ATTACHING A STATION BY ITS DLS NUMBER OR ITS STATION NAME.

D1074 DIAGNOSTMCS - THE SET COMMAND - 12-11-74

THE SET COMMAND IN DIAGNOSTICMCS HAS BEEN UPDATED WITH THIS PATCH. SET IS A LINEANALYZER RELATED COMMAND WHICH NOW HAS THE FOLLOWING SYNTAX:



THE SET COMMAND, WHICH IS ONLY AVAILABLE IF DIAGNOSTICMCS IS COMPILED WITH THE COMPILE TIME OPTION NOANALYZER RESET (DEFAULT

STATE), IS USED TO DYNAMICALLY CHANGE THE VARIOUS LINEANALYZER STATION OPTION SETTINGS. THESE LINEANALYZER STATIONS OPTIONS HAVE THE SAME MEANING WHEN USED WITH THE ATTACH COMMAND TO ATTACH THE STATION AND SET UP INITIAL VALUES OF THESE OPTIONS. THE LINEANALYZER OPTIONS ARE:

LINEANALYSIS - SETTING THIS OPTION MARKS THE STATION AS A LINEANALYZER STATION. THE MCS WILL THEN ASSUME THAT MESSAGES RECEIVED FROM THIS STATION ARE GENERATED BY THE DCP WHEN USING ONE OF THE LINEANALYZER REQUEST SETS IN SOURCENDL. SINCE THE FORMAT OF THE TEXT IN THE MESSAGE IS KNOWN, THE MCS WILL INTERPRET THESE MESSAGES AND WRITE OUT THE ANALYZED RESULTS ON THE APPROPRIATE PRINTER FILE. RESETTING THE OPTION MARKS THE STATION AS A REGULAR STATION. SETTING OR RESETTING THIS OPTION NO LONGER ENABLES OR DISABLES INPUT FROM THE STATION; THE ENABLE OPTION IN THE ALTER COMMAND IS AVAILABLE FOR THIS FUNCTION.

ADDPRINTER - SETTING THIS OPTION CAUSES THE MCS TO ALLOCATE A PRINTER FILE FOR THE OUTPUT OF THE ANALYZER RESULTS. THUS, IF SEVERAL LINEANALYZER STATIONS ARE MONITORING AT THE SAME TIME, EACH CAN HAVE ITS OWN PRINTER FILE BY USING THE ADDPRINTER OPTION. RESETTING THIS OPTION CAUSES ALL SUBSEQUENT ANALYZED OUTPUT FOR THAT STATION TO GO TO THE REGULAR PRINTER FILE CALLED LINE.

SELECT - SETTING THE SELECT OPTION CAUSES THE MCS TO INVOKE CHARACTER STRING SELECTION. NORMALLY THIS OPTION IS RESET, HOWEVER SPECIFYING A START OR STOP CHARACTER WILL IMPLICITLY SET THIS OPTION. CHARACTER STRING SELECTION MAY BE DISCONTINUED BY RESETTING THIS OPTION.

CA - THIS OPTION, WHICH USED TO BE A COMPILE TIME ONLY OPTION, CAN NOW BE SET FOR A LINEANALYZER STATION. THIS CAUSES DIAGNOSTICMCS TO INDICATE EVERY LINE TURNAROUND SENSED BY THE LINE MONITOR BY PRINTING "*CA" ON THE LISTING.

START - THIS OPTION AND THE RELATED STOP OPTION ARE USED TO ESTABLISH WHICH PARTS OF THE MESSAGE TO MONITOR BY SPECIFYING THE START AND STOP CHARACTERS. FOR INSTANCE, THE START CHARACTER COULD BE AN 4"02" (STX) AND THE STOP CHARACTER COULD BE AN 4"03" (ETX).

THE START AND STOP CHARACTERS CAN BE WRITTEN IN EBCDIC (E.G. 8"A" OR "A") OR IN HEX (E.G. 4"02"); IN EITHER CASE ONLY 8 BITS ARE ALLOWED.

STOP - THIS OPTION SPECIFIES THE STOP CHARACTER OF MONITORED MESSAGES.

THE STATES OF THESE LINEANALYZER OPTIONS MAY BE INTERROGATED FOR A LINEANALYZER STATION. THE STATUS COMMAND WILL NOW RETURN THE CURRENT STATUS OF THESE OPTIONS IN addition TO THE OTHER INFORMATION NORMALLY RETURNED.

DMS II - ACCESSROUTINES

P3349 ACR - ADDS AUDIT DEBUG FEATURE - 03-28-74

THIS PATCH WRITES THE LINE NUMBER ON THE AUDIT TAPE OF WHERE IN THE DATABASE SYMBOLIC THE FOLLOWING AUDIT RECORD WAS CALLED FOR CREATION.

P3350 ACR - AUDIT PROBLEM - 03-28-74

THIS PATCH FIXES A PROBLEM WITH HANDLING OF LASTRECORD AUDITING WITH STANDARD DATA SETS.

P3351 ACR - FIND VIA LINK - RECORD LOCK - 03-28-74

FIND VIA LINK NO LONGER REQUIRES A LOCK OF A RECORD WHEN LOCK TO MODIFY DETAILS IS SET.

P3352 ACR - JOB IN OPEN - 03-28-74

THIS PATCH CORRECTS A PROBLEM IN WHICH OCCASIONAL HANGS OCCURRED IF AN OPERATOR DS-ED A JOB WHILE THE JOB WAS IN OPEN. THIS WAS PARTICULARLY NOTICEABLE WHEN INDEX RANDOM WAS INVOLVED.

P3353 ACR - RESTART DATA SET FIND - 03-28-74

THIS PATCH FIXES A PROBLEM WHEREBY FIND FIRST OR SET TO BEGINING FAILED TO SET UP AN ADDRESS TO POINT AT THE FIRST RECORD IN THE RESTART DATA SET.

P3354 ACR - FIND FIRST ON EMPTY DATA SET - 03-28-74

THIS PATCH FIXES A PROBLEM FOR STANDARD DATA SETS OF VARIABLE FORMAT IN WHICH A FIND FIRST ON AN EMPTY (NEVER USED) DATA SET WOULD GIVE SPURIOUS RESULTS.

SOFTWARE IMPROVEMENTS

P3355 ACR - AUDIT OF RESTART DATA SET - 03-28-74

THIS PATCH FIXES A PROBLEM WHICH COULD CAUSE A HALT/LOAD RECOVERY TO INCORRECTLY BACKOUT CHANGES TO THE RESTART DATA SET.

P3356 ACR - AUDIT PROBLEMS - 03-28-74

THIS PATCH DOES THE FOLLOWING:

1. WRITES THE BEGIN-TRANSACTIONS BEFORE SAVING THE LAST GOOD RESTART RECORD.

2. FIXES A POTENTIAL LOCK PROBLEM.

3. SWITCHES THE DISK AUDIT FILE ONE BLOCK BEFORE END-OF-FILE.

P3357 ACR - AUDIT REEL SWITCH - 03-28-74

THIS PATCH FIXES A PROBLEM IN WHICH IF WHEN FORCING AUDIT BUFFERS TO TAPE, A TAPE END-OF-FILE WAS ENCOUNTERED, TWO REEL SWITCHES OCCURRED.

P3358 ACR - IMPROVE AUDIT EFFICIENCY - 03-28-74

THIS PATCH REMOVES CODE WHICH CAUSED PROGRAMS TO WAIT FOR A SYNC POINT AT THE END OF A TRANSACTION. PROGRAMS WILL NOW WAIT FOR A SYNC POINT AT ONLY THE BEGINNING OF A TRANSACTION UNLESS END TRANSACTION WITH SYNC IS SPECIFIED.

P3359 ACR - LOCKING CODE - RECORD DELETE - 03-28-74

THIS PATCH CORRECTS A PROBLEM IN WHICH LOCKING CODE SOMETIMES FAILED WHEN RECORDS WERE BEING DELETED.

P3360 ACR - UNLOCK OF DATA SET ON DELETE - 03-28-74

THIS PATCH INSURES THAT A DELETE <DATA SET NAME> DOES NOT UNLOCK THE DATA SET AND THEN RELOCK IT (UNORDERED DATA SET AND VARIABLE FORMAT).

P3361 ACR - MAKES DMSII SWAPPABLE - 03-28-74

THIS PATCH FIXES VARIOUS LOCKING PROBLEMS WITH DMSII INTERFACING WITH SWAPPER.

P3362 ACR - ORDERED INDEX SET AUDIT - 03-28-74

THIS PATCH FIXES A PROBLEM IN THE AUDITING OF BEFORE IMAGES WHEN DOING TABLE INSERT OPERATIONS INTO ORDERED INDEX SETS.

P3363 ACR - FIND NEXT DATA SET - 03-28-74

THIS PATCH FIXES A PROBLEM IN FIND NEXT DATA SET WHERE A DATA SET WAS AN UNORDERED DATA SET WITH VARIABLE FORMAT. THE PROBLEM CAUSED DIFFICULTIES WHEN SEVERAL USERS MODIFIED THE DATA SET SIMULTANEOUSLY.

P3364 ACR - RESTART PROBLEM - 03-28-74

THIS PATCH FIXES A PROBLEM IN WHICH IF A PROGRAM ABORTED WHILE IN THE TRANSACTION STATE AND WAS THEN RESTARTED VIA THE TASK ATTRIBUTE RESTART, IT WAS INITIALIZED AS BEING IN THE TRANSACTION STATE. THIS CAUSED AN EXCEPTION ON BEGIN-TRANSACTION.

P3379 ACR - DMSII DSING STACK - 11-03-74

A STACK WHICH IS IN THE PROCESS OF CAUSING AN ABORT HAS A COROUTINE SON WHICH IS THE ABORT STACK AND IS MARKED "TOBECONTINUED". IF SUCH A STACK IS DSED, KANGAROO WILL RESURECT THE STACK CAUSING AN EARLY RETURN FROM THE CALL STATEMENT IN ABORT. CODE HAS BEEN ADDED TO DETECT AND HANDLE THIS SITUATION IN THE ACCESSROUTINES.

P3383 ACR - CALLS OF BUFFERDUMPER IN CLOSE - 03-28-74

THIS PATCH DISCONTINUES A CALL ON BUFFERDUMPER IN CLOSE.

SOFTWARE IMPROVEMENTS

P3387 ACR - CLEAR MYSIBPLACE AFTER ABORT - 03-28-74

THIS PATCH CLEARS THE "IN TRANSACTION" WORD ONLY AFTER AN ABORT TRANSACTION.

P3399 ACR - CALL ON SYNCPOINT IN CLOSE - 03-28-74

THIS PATCH PREVENTS A POSSIBLE LOCKING PROBLEM BY MOVING THE CALL ON SYNCPOINT IN CLOSE.

P3434 ACR - FIND NEXT DATA SET - 03-28-74

THIS PATCH FIXES A PROBLEM IN FIND NEXT DATA SET WHERE THE DATA SET IS A STANDARD DATA SET WITH VARIABLE FORMAT. THE PROBLEM CAUSED THE WRONG RECORD TO BE RETURNED WHEN SEVERAL USERS WERE UPDATING THE DATA SET SIMULTANEOUSLY.

P3435 ACR - ABORTED TEST IN CLOSE - 03-28-74

THIS PATCH CAUSES THE TEST TO DATABASE ABORTED TO BE MADE CORRECTLY IN CLOSE WHEN MULTIPLE DATABASES ARE OPEN OR JOBS ARE RESTARTED VIA THE WORK FLOW MANAGEMENT OPTION.

P3436 ACR - FREE ALL RECORDS AT ENDTRANS - 03-28-74

THIS PATCH CORRECTS A PROBLEM IN WHICH RECORDS IN RESTART DATA SETS WERE NOT BEING FREED AT ENDTRANSACTION.

P3437 ACR - CALL STORAGEOPENCLOSE AT CLOSE - 03-28-74

THIS PATCH CORRECTS A PROBLEM IN WHICH THE END OF STRUCTURE INFORMATION WAS NOT BEING AUDITED. THIS WOULD OCCUR IF ONLY PART OF THE DATABASE WAS BEING CLOSED.

P3438 ACR - POPULATION DATA ITEM - 03-28-74

THIS PATCH CORRECTS A PROBLEM IN WHICH THE POPULATION ITEM WAS NOT BEING UPDATED CORRECTLY WHEN THE RECORD CONTAINING IT WAS MODIFIED WHILE OTHER USERS PERFORMED OPERATIONS WHICH CAUSED THE POPULATION

VALUE TO CHANGE.

P3439 ACR - AUDIT AFTER DATA RECOVERY - 03-28-74

THIS CHANGE FIXES A PROBLEM WHICH LEFT THE AUDIT FLAG RESET IN THE RESTART DATA SET AFTER DATA RECOVERY (RECONSTRUCTION); THUS PREVENTING FURTHER AUDIT.

P3449 ACR - ABORT CALL FOR SWAPPING - 03-28-74

THIS PATCH CHANGES THE MANNER IN WHICH ABORT IS CALLED FOR SWAPPING.

P3450 ACR - UPDATING EOF IN CLOSE - 03-28-74

THIS PATCH CLOSES ALL FILES IN CLOSE TO PREVENT UNDETECTED DAMAGE TO THE DATA BASE WHEN AUDITING.

P3451 ACR - AUDIT PRIOR TO DUMPBUFFERS - 03-28-74

THIS PATCH INSURES THAT THE AUDIT TRAIL IS DUMPED PRIOR TO DUMPING THE BUFFERS IN CLOSE.

P3452 ACR - HANDLING OF LIMIT ERRORS - 03-28-74

THIS PATCH IMPROVES THE HANDLING OF LIMIT ERRORS.

P3453 ACR - CORRECT AREAS FOR RSD - 03-28-74

THIS PATCH CORRECTS A PROBLEM IN WHICH THE RESTART DATA SET DID NOT HAVE THE CORRECT AREAS AND AREASIZE AFTER ABORT RECOVERY.

P3508 ACR - VERIFY STORE ON BEGINTRANS - 04-18-74

DMSII DID NOT VERIFY THE RESTART DATA SET ENTRY AT BEGINTRANSACTION. THIS COULD CAUSE STORE ERRORS AT HALT/LOAD RECOVERY AND ABORT TRANSACTION TIME. BEGINTRANSACTION NOW RETURNS A DATAERROR IF THE TEXT DOES NOT VERIFY.

SOFTWARE IMPROVEMENTS

P3509 ACR - SWAPPING WITH ABORT - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH ABORT WOULD SOMETIMES CAUSE NO MEM CONDITIONS IN SWAP SPACE.

P3510 ACR - EOF WITH STANDARD DATA SETS - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH A DELETE COULD CAUSE AN END-OF-FILE CONDITION ON STANDARD DATA SETS.

P3511 ACR - ACCESSROUTINE COMPILATION - 04-18-74

THIS PATCH USES THE COMPILE-TIME DISPLAY STATEMENT TO DISPLAY THE NAME OF EACH STRUCTURE WHEN ITS COMPILATION IS STARTED.

P3512 ACR - RESTART DATA SET PROBLEM - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH IF THE RESTART DATA SET WAS INVOKED TWICE AND THE PROGRAM WAS DS-ED WHILE WAITING FOR A HALT/LOAD RECOVERY, IT WOULD HANG.

P3513 ACR - WRITTEN AUDIT NUMBER WRONG - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH THE DATA BASE COULD HANG WHEN THE CORE LIMIT WAS REACHED AND AUDITING WAS OCCURRING.

P3514 ACR - AUDIT OF DATA IN KEY - 04-18-74

THIS PATCH FIXES AN AUDIT PROBLEM WHICH CAUSED RECOVERY (HALT/LOAD AND ABORT) TO PUT ERRONEOUS INFORMATION IN THE INDEX SEQUENTIAL TABLE.

P3548 ACR - UPDATE AUDIT EOF - 05-30-74

AUDIT EOF IN BLOCK 0 WAS NOT UPDATED IN CASES WHEN AUDIT WAS ON DISK OR PACK AN THE VALUE OF THE FIELD IN DASDL WAS 0. THE RECOVERY ROUTINES EXPECT IT TO BE UPDATED.

SOFTWARE IMPROVEMENTS

P3560 ACR - MORE THAN 1000 ROWS - 07-07-74

WHEN COMPILING THE ACCESSROUTINES, A SYNTAX ERROR WILL NOW BE GIVEN IF MORE THAN 1000 ROWS (THE MCP LIMIT) ARE REQUIRED FOR A FILE. (THE ACCESSROUTINES MAY INCREASE THE NUMBER OF ROWS SPECIFIED IN DASDL FOR INTERNAL STORAGE).

P3564 ACR - MOVE MYSELF ABORTED BITS TO D1 - 04-18-74

THE ABORTED BITS WHICH TELL A DATA BASE USER THAT SOME OF HIS TRANSACTIONS MAY HAVE BEEN ABORTED HAVE BEEN TAKEN OUT OF THE DMSBED WORD IN THE FIXED PART OF THE STACK AND PLACED IN THE DBS AT D1. THIS FIXES SOME PROBLEMS RELATED TO IPC.

P3587 ACR - INSERT INVALID TEXT IN GETDATA - 05-12-74

THIS PATCH INSERTS INVALID TEXT IN THE AREA PROCURED BY GETDATAADDRESS WHEN THE AREA IS AT DATA EOF.

P3588 ACR - BUFFER INTERLOCK IN DMSREAD - 05-12-74

THIS PATCH FIXES A PROBLEM CAUSED BY LOSS OF CONTROL WHEN CALLING DMSREAD. THIS WOULD OCCUR WHEN MULTIPROCESSING AND WHEN THE ALLOWED CORE HAD BEEN EXCEEDED.

P3589 ACR - EOF CHECK UNDER DEBUG OPTION - 05-12-74

THIS PATCH ADDS AN END-OF-FILE CHECK AND ERROREXIT UNDER THE DEBUG OPTION.

P3614 ACR - DEBUG COMPILE-TIME OPTION - 05-12-74

THIS PATCH IMPLEMENTS SOME DIAGNOSTIC AIDS IN THE ACCESSROUTINES.

P3615 ACR - DIVEST TOO SOON - 05-12-74

THIS PATCH MOVES A CALL ON DIVEST TO AFTER THE LAST USE OF THE BUFFER.

SOFTWARE IMPROVEMENTS

P3616 ACR - NO AUDIT AT CLOSE - 05-12-74

THIS PATCH FIXES A PROBLEM IN WHICH UPDATE AND RETRIEVAL PROGRAMS WERE RUN AGAINST AN AUDITED DATABASE. IF THE LAST PROGRAM TO CLOSE THE DATABASE WAS A RETRIEVAL PROGRAM WHICH DID NOT INVOKE THE RESTART DATA SET, THEN THE AUDIT ROUTINE WOULD ASK FOR A TAPE WITH THE SAME TITLE AS THE LAST GOOD TAPE, AND WOULD WRITE A FEW BAD RECORDS.

P3618 ACR - ABORT STATE AT OPEN - 05-12-74

THIS PATCH INITIALIZES THE STATE OF A USER TO NOT ABORTED AT OPEN TIME TO PREVENT ERRONEOUS ABORT NOTIFICATION.

P3661 ACR - INVALID UNLOCK IN DATAFINDER - 05-12-74

THIS PATCH FIXES AN INVALID UNLOCK OF THE BLOCK LOCK IN VARIABLE FORMAT DATAFINDER.

P3662 ACR - INITIALIZE RESTART PATH - 05-12-74

THIS PATCH CORRECTLY INITIALIZES THE RESTART DATASET PATH.

P3706 ACR - ADD FREESIB PROCEDURE - 05-30-74

THIS PATCH IMPROVES LOCKING FOR IPC AND LOCK OUTSIDE TRANSACTION STATE.

P3707 ACR - OPEN STRUCTURE LOCKTRACE REC - 05-30-74

THIS PATCH PROTECTS THE OPEN STRUCTURE RECORD PREVIOUSLY NOT PROTECTED BY THE LOCK UNDER THE LOCKMONITORING OPTION.

P3708 ACR - INDEX RANDOM - 05-30-74

INDEX RANDOM SOMETIMES FOUND THE WRONG RECORD. THIS PATCH FIXES THIS PROBLEM.

P3709 ACR - MULTIPLE RECONSTRUCTION - 05-30-74

THIS PATCH FIXES A BUG WHICH MIGHT HAVE CAUSED DATARECOVERY TO BE INITIATED MORE THAN ONCE IF THE RESTART DATA SET HAD SPANNING SETS.

P3710 ACR - INDDX SEQUENTIAL AUDIT PROBLEM - 05-30-74

A SYSTEM WOULD FAIL TO PROPERLY RECOVER THE CASE WHERE IT HAD TO BACK OUT A DELETE FOLLOWED BY AN ADD IF THE DELETE DE-ALLOCATED A TABLE, A SUBSEQUENT ADD RE-ALLOCATED THE TABLE AND THEN A SYSTEM FAILURE OCCURRED PRIOR TO A FOLLOWING SYNC POINT.

P3711 ACR - DELETE OF COUNTED RECORD - 05-30-74

WHEN A DELETE OF A COUNTED RECORD RESULTED IN AN "INUSE" ERROR OTHER THAN 2, SUBSEQUENT ATTEMPTS TO DELETE WOULD ALWAYS RESULT IN INUSE ERROR 2.

P3727 ACR - REMOVE MYSIB, USE SIBINX - 05-30-74

THE SIBINX IS NOW USED TO DETERMINE THE "ABORTED" STATE AS WELL AS THE "IN TRANSACTION MODE" STATE. THE LOGICAL LEVEL OF THE DATABASE SYMBOLIC HAS BEEN INCREASED TO ACCOMODATE SIBINX AT 3,4 IN EACH STRUCTURE. THIS PATCH ALSO SOLVES SOME IPC PROBLEMS.

P3728 ACR - ABORT - 05-30-74

ABORT WAS NOT RESTORING THE ROOT FOR ORDERED LIST. THIS CAUSED ORDERED LIST TO BE RECOVERED INCORRECTLY ON ABORT IF ALL RECORDS DELETED.

P3729 ACR - TABLE CONTROL WORD - 05-30-74

INDEX RANDOM WERE NOT BEING RECOVERED PROPERLY IN CERTAIN SITUATIONS. THIS PATCH CORRECTS THE PROBLEM.

SOFTWARE IMPROVEMENTS

P3730 ACR - RESTORE ADDRESS CHECK WORD - 05-30,74

THIS PATCH FIXES ADDRESS CHECK WORD AFTER ABORT FOR IN USE BUFFERS.

P3731 ACR - LOCKING PROBLEM - 05-30-74

IF THREE OR MORE PROCESSES WERE SIMULTANEOUSLY USING A DATABASE, THE LOCKING SCHEME WOULD NOT ALWAYS WORK. OCCASSIONALLY TWO OF THE PROCESSES COULD BE SUSPENDED FOR AN INDEFINITE TIME PERIOD. THIS PATCH FIXES THIS PROBLEM.

P3744 ACR - LIST + INDEX RANDOM AUDIT - 05-30-74

THIS PATCH CHANGES THE WAY LIST AND INDEX RANDOM IS AUDITED. THE PATCH REDUCES AUDIT OVERHEAD AND THE AMOUNT OF AUDIT TRAIL PRODUCED.

P3810 ACR - SYSTEM RESOURCE PACK - 07-07-74

CORRECTS A SYNTAX ERROR WHICH OCCURRED IN THE ACCESSROUTINES WHEN THE AUDIT TRAIL ATTRIBUTE "KIND = PACK" WAS USED WITH NO PACKNAME.

P3811 ACR - AVOID INVALID INDEX ON DKTABLE - 07-07-74

THIS PATCH FIXES A PROBLEM IN WHICH AN INVALID INDEX COULD RESULT IF THE DKTABLE WAS EXTENDED BEYOND ITS NORMAL SIZE OF 61 WORDS.

P3812 ACR - CORRECT AUDIT - 07-07-74

THIS PATCH CORRECTS AN INVALID OP BY MOVING A PROCEDURE (WRITELASTRESTART) FROM A SIB TO A DBS.

P3813 ACR - COMPUTATION OF SEGSPERBLOCK - 07-07-74

SEGSPERBLOCK IS CHANGED SO THAT IT IS COMPUTED ONCE PER OPEN INSTEAD OF EACH TIME IT IS USED.

P3814 ACR - AUDIT OF LINKS - 07-07-74

AFTER IMAGES FOR LINKS WERE WRONG IN INSTANCES WHERE LINK WAS NOT

ON A WORD BOUNDARY.

P3817 ACR - POTENTIAL DEADLOCK - 07-07-74

POTENTIAL DEADLOCK ON LAST CLOSE OF RESTART DATA SET HAS BEEN ELIMINATED.

P3818 ACR - AUDIT OF BIT VECTORS - 07-07-74

THERE WAS INSUFFICIENT INFORMATION IN AUDIT TO RECOVER BIT VECTORS IN ALL CASES.

P3819 ACR - CORRECT AUDIT OF COARSE TABLES - 07-07-74

THIS PATCH CORRECTS A PROBLEM IN WHICH CHANGES TO COARSE TABLES WERE BEING AUDITED WITH AN INCORRECT AUDIT SERIAL NUMBER, CAUSING RECOVERY TO IGNORE THE CHANGES.

P3820 ACR - FIND PRIOR WITH INDEX RANDOM - 07-07-74

FIND PRIOR S AT N = WHERE S IS INDEX RANDOM DID NOT WORK. THIS PATCH FIXES PROBLEM.

P3821 ACR - NO FILE AUDIT9999 - 07-07-74

IF A HALT/LOAD OCCURRED BEFORE ANY SYNCPOINT, RECOVERY WOULD COME UP WITH "NO FILE AUDIT9999". THIS PATCH CORRECTS THE PROBLEM.

P3822 ACR - ADDRESS CHECK WORD - 07-07-74

ADDRESS CHECK WORD MUST BE FIXED FOR DATA SETS AND INDEX SETS FOR THE IN-CORE "WARM" BUFFERS AFTER AN ABORT.

P3823 ACR - SYMBOLIC LINKS - 07-07-74

IT WAS POSSIBLE FOR A SYMBOLIC LINK TO FAIL TO RETURN "NOT FOUND" FOR DELETED RECORDS.

SOFTWARE IMPROVEMENTS

P3824 ACR - ABORT NOT RESET IOEVENT - 07-07-74

ABORT RECOVERY HAD A TIMING PROBLEM IN WHICH BUFFERS MIGHT BE USED WHILE DISK I-O-S WERE IN PROGRESS ON THEM.

P3825 ACR - CONTROL POINT COUNT - 07-07-74

IF CONTROLPOINT = 1, THEN THE FIRST CONTROLPOINT WOULD NOT OCCUR, INSTEAD, A SYNC POINT WOULD OCCUR.

P3949 ACR - LOCK TO MODIFY DETAILS - 08-04-74

THIS PATCH CORRECTS A SYNTAX ERROR IN THE ACCESSROUTINES WHEN LINKS ARE CONTAINED IN A DATA SET UNDER THE LOCK TO MODIFY DETAILS OPTION.

P3950 ACR - RECONSTRUCT TERMINATION - 08-04-74

THIS PATCH PERMITS THE RECONSTRUCT PROCESS TO TERMINATE "GRACEFULLY" EVEN IF ITS DATARECOVERY CO-ROUTINE SHOULD TERMINATE ABNORMALLY OR BE DS-ED. THIS IS IMPORTANT IN ON-LINE RECONSTRUCTION SO THAT OTHER USERS MAY CONTINUE NORMAL PROCESSING.

P4127 ACR - INVALID OP IN AUDIT CLOSE - 08-11-74

THIS CHANGE PREVENTS AN INVALID OP WHICH MAY HAPPEN IF THE ACCESSROUTINES ATTEMPT TO CLOSE THE AUDIT WHEN IT HAS NOT BEEN OPENED. THIS IS NOT LIKELY TO HAPPEN UNDER NORMAL OPERATING CIRCUMSTANCES.

P4128 ACR - CLOSE AUDIT FILES AFTER ABORT - 08-11-74

THIS PATCH CORRECTS A PROBLEM IN WHICH AUDIT FILES WERE SOMETIMES NOT BEING CLOSED AFTER AN ABORT.

P4129 ACR - CPT POSSIBLE EOF PROBLEM - 08-11-74

THIS PATCH CAUSES CONTROL POINTS TO DUMP BUFFERS BEFORE CALLING STORAGECLOSE. THIS WILL PREVENT A POSSIBLE TIMING PROBLEM RESULTING IN BAD END-OF-FILE.

SOFTWARE IMPROVEMENTS

P4130 ACR - ABORT ERROR STOPS DATABASE - 08-11-74

IF ABORT WAS DS-ED, TASKS WAITING FOR RECOVERY COULD PROCEED. THIS PATCH FORCES THEM TO WAIT AND MODIFIES THE DATABASE TO LOOK AS IF HALT-LOAD RECOVERY WAS REQUIRED.

P4131 ACR - DBPREFIX ARRAY - 08-11-74

THIS PATCH INCREASES THE ARRAY DBPREFEX TO BE LARGE ENOUGH TO HOLD A FILE TITLE IN DISPLAY FORM.

P4132 ACR - OPEN INITIALIZE RDS ON PACK - 08-11-74

OPEN INITIALIZE WOULD NOT REMOVE THE RECOVER VERSION OF THE RESTART DATA SET IF IT WAS ON PACK, THUS RECOVERY MIGHT BE FIRED UP ON THE FIRST OPEN UPDATE. THIS PATCH FIXES THE PROBLEM.

P4133 ACR - AUDIT REEL SWITCH - 08-11-74

THIS PATCH CORRECTS A PROBLEM WHEREIN OCCASSIONALLY AN AUDIT FILE WOULD BE PURGED AND LOST.

P4195 ACR - AUDIT HANG ON SEGMENTS REQD - 08-11-74

ACCESSROUTINES WOULD NOT BE DS-ABLE IF ON OPEN THE AUDIT FILE NEEDED DISK SEGMENTS WHICH WERE NOT AVAILABLE.

P4197 ACR - FIX LOOPING IN INDEX SETS - 08-11-74

THIS PATCH FIXES A PROBLEM IN WHICH PROGRAMS COULD LOOP WHEN DOING FIND NEXT ON UNORDERED, ORDERED, AND INDEX SEQUENTIAL SETS AS DATA MANAGEMENT COULD NOT DETECT THE LAST RECORD.

P4199 ACR - CORRECT REMOVE FOR BIT VECTORS - 08-11-74

THIS PATCH FIXES A PROBLEM IN WHICH REMOVING A NONEXISTENT RECORD FROM A BIT VECTOR COULD CAUSE A BUFFER TO BE LEFT LOCKED.

SOFTWARE IMPROVEMENTS

P4202 ACR - DMSII AUDITFILE EXCLUSIVE - 08-11-74

ABORT RECOVERY COULD NOT SET END OF FILE OF AUDIT IF ON DISK OR PACK IF ANOTHER PROGRAM HAD THE AUDIT FILE OPEN. THIS WOULD CAUSE RECONSTRUCTION TO BOMB LATER.

P4203 ACR - IGNORE CHANNEL BITS IN RESULT - 08-11-74

AUDIT NOW IGNORES THE CHANNEL REPORTING BITS IN RESULT DESCRIPTION WHICH COULD CAUSE ERRONEOUS ERROR HANDLING OF THE AUDIT FILES. ADDITIONALLY, THIS PATCH RELEASES THE DMS BUFFERS AND BLOCK EARLIER IN THE WRITING OF AUDIT FILES, THUS POTENTIALLY REQUIRING LESS CORES.

P4204 ACR - REDUCE DISK-PACK AUDIT SPACE - 08-11-74

THIS PATCH OPTIMIZES THE WAY AUDIT SPACE ON DISK AND PACK IS USED.

P4205 ACR - DMSII BTR DURING ABORT BUG - 08-11-74

BEGIN-TRANSACTION EXECUTED WHILE AN ABORT IS IN PROGRESS WOULD PUT THE STACK IN TRANSACTION STATE, BUT NOT DO THE BEGIN TRANSACTION. THUS THERE WOULD BE NO WAY TO COMPLETE OR ABORT THE TRANSACTION. ALSO, BEGIN-TRANSACTION WAS CLOBBERING THE RESTART TYPE IN THE USER WORKAREA FOR THE RESTART DATASET. ALSO, THE DATA ERROR THAT BEGIN-TRANSACTION RETURNS WAS RETURNING 0 FOR THE STRUCTURE NUMBER RATHER THAN THE STRUCTURE NUMBER OF THE RESTART DATASET.

P4206 ACR - INCLUDED FILES LABEL-EQUATABLE - 08-11-74

THIS PATCH CHANGES THE INCLUDED FILES IN THE DATABASE/SYMBOLIC AND DATABASE/RECOVERYSYMBOLIC TO NON-QUOTED FORM SO THAT THEY MAY BE LABEL-EQUATED. INTERNAL NAMES IN THE DATABASE/SYMBOLIC ARE PROPERTIES AND RECOVERYSYM. INTERNAL NAME IN THE DATABASE/ RECOVERYSYMBOLIC IS PROPERTIES. DASDL HAS BEEN CHANGED TO DO PROPER LABEL-EQUATE ON ZIP.

SOFTWARE IMPROVEMENTS

P4207 ACR - ABORT DIAGNOTICS OPTION - 08-11-74

THIS PATCH ADDS ABORT DIAGNOSTIC DEBUGGING OPTION FOR ABORT TESTING.

P4208 ACR - REOPEN PACK-DISK AUDIT TRAILS - 08-11-74

PRIOR TO THIS PATCH, EACH TIME A DATA BASE WAS OPENED, A NEW AUDIT TRAIL WAS STATED. THIS PATCH WILL, WHEN THE DATA BASE IS OPENED, REUSE THE LAST AUDIT TRAIL IF IT IS STILL PRESENT ON DISK OR PACK.

P4209 ACR - NOTFOUND UNKEYED SETS - 08-11-74

MANUAL UNORDERED LIST AND BIT VECTOR SETS COULD RETURN TRASH RATHER THAN NOTFOUND IF THE RECORD THEY REFERENCED WAS DELETED.

P4210 ACR - LIMIT ERROR - 08-11-74

MORE SPACE MAY BE USED IN INDEX-SEQUENTIAL, ORDERED LIST, AND UNORDERED LIST TABLES BEFORE A LIMIT ERROR IS GIVEN.

P4211 ACR - DMSWAIT INVALID INDEX - 08-11-74

ABORT RECOVERY WAS NOT FREEING THE RESTART DATA SET RECORDS SOON ENOUGH. IT IS POSSIBLE THAT ANOTHER STACK COULD GET AN INVALID INDEX IN "DMSWAIT" AND CAUSE A HALT-LOAD UNDER CERTAIN TIMING CONDITIONS.

P4212 ACR - VARIABLE FORMAT DELETE BUG - 08-11-74

THIS PATCH CORRECTS A BUG IN DELETE FOR VARIABLE FORMAT WHICH MIGHT "LOSE" AVAILABLE ADDRESSES, AND MIGHT EVENTUALLY CAUSE A LIMIT ERROR IF ENOUGH RECORDS ARE DELETED.

P4260 ACR - RECONSTRUCTION - 09-29-74

THIS PATCH CORRECTS A BUG IN AUDIT REEL SWITCH FOR ON-LINE RECONSTRUCTION.

SOFTWARE IMPROVEMENTS

P4261 ACR - TWO STACKS DOING CONTROLPOINT - 09-29-74

THIS PATCH PREVENTS MORE THAN ONE PROCESS FROM EXECUTING A SYNC POINT OR A CONTROL POINT AT THE SAME TIME. MORE THAN ONE CONTROL POINT AT A TIME WOULD CONFUSE RECOVERY.

P4413 ACR - AUDIT I-O CANCEL TIMING - 10-20-74

IF THE AUDIT ROUTINE TIMED OUT ON A TAPE UNIT AND A TAPE PARITY OCCURRED DURING THE CANCELLING OF THE I-O, IT MIGHT OCCUR THAT A SECOND WRITE COULD BE ISSUED WHILE A FIRST WAS IN PROGRESS CAUSING THE ACCESSROUTINES TO BE DS-ED. THIS PATCH CORRECTS THE PROBLEM.

P4414 ACR - IMPLICIT CREATE ON RDS - 10-20-74

SINCE THE USER COULD HAVE SAID BEGIN-TRANSACTION OR END-TRANSACTION AUDIT WITHOUT HAVING "CREATED" THE WORK AREA OF THE RESTART DATA SET, THE WORK AREA FOR IT IS INITIALIZED AT OPEN TO THE INITIAL VALUES THAT CREATE WOULD HAVE PUT THERE.

P4415 ACR - NOT FOUND ON REMOVE - 10-20-74

A SPURIOUS NOT FOUND EXCEPTION GIVEN ON REMOVE CURRENT FROM INDEX SEQUENTIAL AND ORDERED LIST SETS HAS BEEN CORRECTED.

P4641 ACR - CHANGE AUDIT TAPE TITLE - 08-11-74

THIS PATCH CHANGES THE NAME OF AUDIT TAPES CREATED BY DBS USING USERCODES FROM :

<USERCODE>/AUDIT <INTEGER> TO

<DATABASE IO>/AUDIT <INTEGER>

P4691 ACR - DMSII OPEN ATTR ERRS - 11-17-74

OPENING A DATA BASE WOULD RESULT IN FILE ATTRIBUTE ERRORS ON RARE OCCASIONS.

P4692 ACR - DMSII UPDATE EOF - 11-17-74

END-OF-FILE WAS NOT RECOVERED PROPERLY BY AUDIT AND RECOVERY IN ALL CASES. ALSO, APPLYING DATA BASE TO TAPE AFTER A HALT/LOAD WITHOUT RUNNING H/L RECOVERY, RELOADING LATER AND RUNNING H/L RECOVERY WOULD NOT WORK. NOW, THE DATA BASE (EXCEPT FOR AUDIT FILES ON DISK OR PACK) MAY BE DUMPED AFTER A HALT/LOAD WITHOUT RUNNING H/L RECOVERY, AND AT A LATER TIME RELOADED AND RECOVERED.

P4693 ACR - TIMING PBMS IN DUMPBUFFER - 11-17-74

THIS PATCH FIXES TIMING PROBLEMS IN DUMPING OF BUFFERS AT CONTROL POINT TIME AND AT CLOSE TIME.

P4694 ACR - WRITEAHEAD ALGORITHM - 11-17-74

THIS PATCH REDUCES THE AMOUNT OF BUFFER WRITEAHEAD, SINCE IT WAS FOUND TO BE EXCESSIVE FOR DATA BASES WITH LARGE NUMBERS OF BUFFERS.

P4695 ACR - CLOSE PROBLEMS - 11-17-74

THE LAST CLOSE ON A STRUCTURE WAS LEAVING THE BUFFERS AND DCBS FOR THAT STRUCTURE ALLOCATED. THIS PATCH CAUSES CLOSE TO DEALLOCATE BUFFERS AND DCBS ON LAST CLOSE OF A STRUCTURE.

P4696 ACR - INITIALIZATION OF GLOBAL DATA - 11-17-74

THIS PATCH CAUSES THE GLOBAL DATA ITEMS TO BE INITIALIZED TO APPROPRIATE INITIAL OR NULL VALUES WHEN THE DATA BASE IS INITIALIZED.

P4697 ACR - BIT VECTOR - 11-17-74

THIS PATCH FIXES THE FOLLOWING.

1. PRIOR ON BIT VECTORS COULD FAIL TO LOCATE PROPER RECORD.

2. FIXES INVALID OP IN GENERATE IF AUDIT SET.

3. FIXES AUDIT TO RECOVER PRIOR STATE OF BIT VECTOR IF THE

RESULTS OF GENERATE GOT ABORTED.

P4698 ACR - NEW AUDIT REC-TABSN - 11-17-74

THIS PATCH DECLARES A NEW AUDIT RECORD TYPE WHICH INDICATES ONLY THAT THE SERIAL NUMBER HAS BEEN CHANGED.

P4699 ACR - NOTLOCKED EXCEPTION ON FIND - 11-17-74

A DATA SET CONTAINING VERIFIED LINK AND ALSO USING "LOCK TO MODIFY DETAILS" FORCED THE USER TO LOCK THE RECORD IN ORDER TO DO A FIND VIA LINK. THIS PATCH REMOVES THAT REQUIREMENT.

P4701 ACR - OPEN TEMPORARY - 11-17-74

OPEN TEMPORARY IS NOW SIMILAR TO OPEN INITIALIZE EXCEPT THAT THE FILES PROTECTORS ARE ASSIGNED TO VALUE (SAVE) FOR THE OPEN INITIALIZE CASE.

P4703 ACR - WAITING FOR OVERLAYDONE - 11-17-74

IF ONE JOB WAS IN A LOOP WAITING FOR THE EVENT OVERLAYDONE TO BE CAUSED BY ANOTHER JOB OF LOWER PRIORITY, IT WAS POSSIBLE THAT THE LOOPING JOB WOULD NEVER RELINQUISH THE PROCESSOR SO THAT THE SECOND JOB COULD CAUSE THE EVENT.

P4704 ACR - AUDIT FILE REMOVAL - 11-17-74

THIS PATCH CORRECTS THE PROBLEM IN THE REMOVAL OF DISK AUDIT FILES VIA F.PRESENT WHEN TRYING TO REUSE THE AUDIT FILE.

P4705 ACR - DUP AUDIT BLOCK - 11-17-74

IF AN ERROR WAS ENCOUNTERED IN WRITING THE FIRST BLOCK OF A NEW AUDIT FILE, THE FILE WAS NOT PURGED, LEAVING OPEN THE POSSIBILITY OF CONFUSION BECAUSE OF THE DUP FILE CONDITION.

P4706 ACR - BAD ERRXIT CALL - 11-17-74

CERTAIN AUDIT I/O ERRORS WERE NOT HANDLED PROPERLY WHEN OPENING THE FIRST AUDIT FILE, POSSIBLY RESULTING IN A HUNG DATA BASE. THIS PATCH CORRECTS THE PROBLEM.

P4707 ACR - DS IN OPEN-TAPE AUDIT - 11-17-74

WHEN OPENING THE DATA BASE AND AUDITING TO TAPE, A PROGRAM COULD NOT BE DSED.

P4708 ACR - LENGTH TEST AUDIT END CONTROL - 11-17-74

THIS PATCH FIXES A PROBLEM IN WHICH ABORT OR RECOVERY COULD MISS THE FINAL END CONTROL POINT WHEN PROCESSING AFTER IMAGES.

P4878 ACR - TABLE SERIAL NUMBERS - 11-17-74

THIS PATCH CHANGES THE FORMAT OF THE TABLE SERIAL NUMBER TO PREVENT DUPLICATION OF AUDIT RECORDS WITH SOME TSN. THIS DUPLICATION MIGHT CAUSE RECONSTRUCTION TO FAIL IF ONLINEDUMP WERE RUN ABOUT THE TIME THAT AN ABORT OCCURRED.

P4879 ACR - H-L AND ABORT ERRORS - 11-17-74

HALT/LOAD RECOVERY AND ABORT RECOVERY WERE NOT TERMINATING PROPERLY ON ERRORS SUCH AS CREATE/STORE ERRORS ON THE RESTART DATA SET AND PARITY ERRORS ON THE RECOVERY INFO FILE.

P4891 ACR - GLOBAL DATAFINDER - 11-30-74

A FIND OR LOCK ON GLOBAL DATA NO LONGER CONFLICTS WITH ABORT RECOVERY, BECAUSE IT WAS NOT LOCKED OUT DURING ABORT.

P4892 ACR - NO MEM - 11-30-74

THE DATA BASE NO LONGER HANGS IF A PROGRAM WAS DS-ED BECAUSE OF A NO MEM ON A DATA BASE BUFFER.

P4893 ACR - DMSFREE LOCK - 11-30-74

THIS PATCH PREVENTS STACKS FROM TRIPPING ON A DATABASE NOT IN USE.

P4894 ACR - COMPILE-TIME ARRAYS - 11-30-74

THIS PATCH CORRECTS THE DECLARATION OF TWO COMPILE-TIME ARRAYS IN ORDER TO AVOID INVALID INDEX.

P5005 ACR - EXCEPTION EVENT - 12-11-74

WHEN AN ABORT OCCURRED, THE EXCEPTION EVENT OF THE PARENT STACK WAS ERRONEOUSLY BEING CAUSED. THIS HAS BEEN CORRECTED.

P5006 ACR - EXTRA RESTART AREAS - 12-11-74

WHEN THE DATA BASE WAS CLOSED, TEMPORARY RESTART AREAS IN THE RESTART DATA SET WERE NOT DELETED. THUS, THE NEXT TIME THE DATA BASE WAS OPENED, EXTRA RESTART AREAS COULD BE STORED IF AN ABORT OCCURRED.

P5007 ACR - MYUSE - 12-11-74

FILE ATTRIBUTE ERROR 20 (MYUSE) IS NOW PREVENTED DURING OPEN.

P5008 ACR - OPEN ERROR 24 - 12-11-74

OPEN ERROR 24 IS NOW RETURNED IF THE ACCESSROUTINES GET DS-ED OR GET A FILE ATTRIBUTE ERROR WHILE OPENING A DATA BASE FILE.

P5009 ACR - ERROR MESSAGE - 12-11-74

THE ERROR MESSAGE FOR STORE ERROR ON RESTART DATA SET DURING ABORT OR HALT/LOAD RECOVERY HAS BEEN CORRECTED.

P5010 ACR - INFINITE LOOP - 12-11-74

AN INFINITE LOOP IS NOW PREVENTED WHEN DS-ED AND NEED AN AUDIT TAPE OR FILE.

SOFTWARE IMPROVEMENTS

P5011 ACR - RESTART DATA SET - 12-11-74

IF PROGRAM WAS DS-ED ON INITIAL OPEN, A POSSIBLE PROBLEM IN RECOVERY OF THE RESTART DATA SET COULD OCCUR IF A H/L OCCURRED SOON AFTER.

P5012 ACR - WAIT PROBLEM - 12-11-74

CERTAIN CASES WERE HANDLED IMPROPERLY BY THE ACCESSROUTINES WHEN PROGRAMS WERE OPERATOR DS-ED.

DMS II - ACCESSROUTINES

D0805 ACR - ON-LINE DATA RECOVERY - 04-18-74

THIS PATCH EXTENDS THE DATA RECOVERY FACILITIES TO PERMIT DATA RECOVERY WHILE THE DATA BASE IS IN USE BY OTHER USERS.

D0807 ACR - AUDIT AT END TRANSACTION - 07-07-74

THIS PATCH IMPLEMENTS THE ABILITY TO AUDIT THE RESTART AREA AT END TRANSACTION TIME.

D0854 ACR - OPEN INQUIRY - 08-11-74

THIS PATCH IMPLEMENTS OPEN INQUIRY. WHEN A USER OPENS A DATA BASE IN INQUIRY MODE, HE WILL NOT BE ALLOWED TO PERFORM ANY FUNCTIONS WHICH CHANGE THE DATA BASE. THESE FUNCTIONS INCLUDE STORE, DELETE, ASSIGN, INSERT, REMOVE, GENERATE. IF THE DATABASE IS AUDITED, BEGIN AND END TRANSACTIONS ARE ALSO DISALLOWED. A VIOLATION RESULTS IN A "READONLY" EXCEPTION STATUS, WITH SUBCATEGORY = 1 (CHANGE ATTEMPTED WHILE IN INQUIRY MODE). FOR AUDITED DATABASES, NO AUDIT TAPES ARE OPENED IF ALL USERS ARE IN INQUIRY MODE.

D0993 ACR - LOCK RECORDS OUTSIDE OF TS - 08-11-74

THIS PATCH ALLOWS IN LOCKING RECORDS OUTSIDE OF TRANSACTION STATE.

DMS II - BDMSALGOL

P3624 BDMSALGOL - DMSII INTERFACE - 04-18-74

THIS PATCH MODIFIES THE CALLING SEQUENCE FOR DMSII FUNCTIONS THIS CHANGE PERMITS FUTURE FLEXIBILITY WITHOUT RECOMPILING.

P3626 BDMSALGOL - POPULATION ITEM - 04-18-74

THE LISTING OF POPULATION ITEMS, IN A DATABASE, NOW INDICATES THE NAME OF THE STRUCTURE TO WHICH THE POPULATION ITEM REFERS.

P3627 BDMSALGOL - DEFINES IN DMSII STATEMENTS - 04-18-74

THIS PATCH REMOVES THE RESTRICTION AGAINST THE USE OF DEFINES WITH DMSII STATEMENTS. HOWEVER, SINCE THIS FEATURE MAY "DE-IMPLEMENT" SOME PROGRAMS WHICH USE DM ITEM NAMES AS DEFINE IDENTIFIERS, IT MAY BE TURNED OFF BY SETTING A NEW $-CARD OPTION "NODMDEFINES", WHICH IS RESET BY DEFAULT.

P3628 BDMSALGOL - USER WORKAREA DESCRIPTORS - 05-12-74

THIS PATCH MODIFIES THE CODE USED TO CREATE THE USER WORK AREA DESCRIPTORS AS PART OF THE OPEN DB STATEMENT. THIS CHANGE PERMITS FUTURE FLEXIBILITY WITHOUT REQUIRING RECOMPILATION.

P3895 BDMSALGOL - OUTPUT MAPPING - 05-30-74

THIS PATCH CORRECTS A PROBLEM WHICH CAUSED A SYNTAX ERROR WHEN A HEX STRING WAS STORED INTO A NUMERIC ITEM.

P3906 BDMSALGOL - INVOCATION OF ACCESSES - 05-30-74

THIS PATCH IMPLEMENTS THE INVOCATION OF A NEW KIND OF INDEX SET, THE "ACCESS".

SOFTWARE IMPROVEMENTS

P3912 BDMSALGOL - DM PROGRAM IDENTIFICATION - 07-07-74

THIS CHANGE CAUSES BIT 44 OF WORD EIGHT OF SEGMENT ZERO OF AN ALGOL FILE TO BE SET TO ONE IF THE PROGRAM USES DMSII CONSTRUCTS. THE BIT WILL BE ZERO OTHERWISE. THE MCP NEEDS TO BE ABLE TO RECOGNIZE SUCH PROGRAMS.

P3913 BDMSALGOL - DMINTERFACE FIELD DEFINE - 07-07-74

THIS PATCH REDUCES THE SIZE OF A FIELD USED IN COMMUNICATING WITH DATABASE/INTERFACE IN ORDER TO MAKE ROOM FOR OTHER INFORMATION.

P4112 BDMSALGOL - PARAMETRIC DEFINES - 08-11-74

THIS PATCH CORRECTS AN ERROR IN HANDLING DEFINE PARAMETERS IN DATAMANAGEMENT STATEMENTS. THE ERROR CAUSED SYNTAX ERRORS WHENEVER IT WAS ENCOUNTERED.

P4114 BDMSALGOL - INVOKE LARGE DATABASE - 08-11-74

THIS PATCH ALLOWS LARGE DATABASES TO BE INVOKED. WITHOUT IT, AN ARRAY USED TO COMMUNICATE WITH DATABASE/INTERFACE MIGHT BE OVERFLOWED.

P4198 BDMSALGOL - DMSII ERROR MNEMONICS - 10-20-74

THE MANNER IN WHICH THE DMSII ERROR MNEMONICS ARE ENTERED INTO THE COMPILERS INFO TABLES HAS BEEN IMPROVED. THIS ALSO CORRECTS A PROBLEM ENCOUNTERED WHEN THE FIRST DATA BASE DECLARATION OCCURS IN A PROCEDURE OR NESTED BLOCK.

P4370 BDMSALGOL - INVALID INDEX IN DMINTERFACE - 09-29-74

THIS PATCH CORRECTS A PROBLEM WHICH MIGHT CAUSE AN INVALID INDEX TERMINATION OF THE COMPILER WHILE PROCESSING DMSII STATEMENTS.

SOFTWARE IMPROVEMENTS

P4899 BDMSALGOL - BDMS ALGOL VIA CANDE - 11-30-74

THIS PATCH CAUSES BDMSALGOL TO SEND THE SPECIAL DMS-INTERFACE SYNTAX ERRORS TO THE REMOTE TERMINAL, AS OTHER SYNTAX ERRORS ARE, IF USED VIA CANDE.

DMS II - BDMSALGOL

D0850 BDMSALGOL - 23-DIGIT NUMBERS - 08-04-74

THIS PATCH EXTENDS THE MAXIMUM LENGTH OF DATAMANAGEMENT NUMBERS FROM 11 TO 23 DIGITS. NUMBERS WITH MORE THAN 11 DIGITS ARE TREATED LIKE DOUBLE PRECISION VALUES.

D0882 BDMSALGOL - INVOKE LISTING - 12-22-74

THIS PATCH INCLUDES DATA SET TYPES IN THE INVOKE LISTING.

D0918 BDMSALGOL - STRUCTURENUMBER FUNCTION - 09-29-74

THIS PATCH IMPLEMENTS A NEW FUNCTION, "STRUCTURENUMBER", WHICH RETURNS AS AN INTEGER VALUE THE STRUCTURE NUMBER OF THE STRUCTURE SUPPLIED AS THE PARAMETER.

FOR EXAMPLE : IF DS IS A DATA SET WITH INDEX SET S, THEN STRUCTURENUMBER (DS) AND STRUCTURENUMBER (S) RETURN THE STRUCTURE NUMBERS OF DS AND S, RESPECTIVELY.

THE PARAMETER MAY BE QUALIFIED, IF NECESSARY. THUS STRUCTURENUMBER (E OF DS) RETURNS THE STRUCTURE NUMBER OF A STRUCTURE EMBEDDED IN DS.

D0919 BDMSALGOL - INPUT MAPPING - 09-29-74

THIS PATCH CHANGES THE WAY INPUT MAPPING WORKS WITH FIND, LOCK, AND DELETE STATEMENTS. THE INPUT MAPPING WILL NO LONGER BE EXECUTED IF AN EXCEPTION OCCURS. THUS, THE ALGOL VARIABLES REFERENCED IN THE MAPPING WILL NOT BE CHANGED.

D0984 BDMSALGOL - FILE CARDS DATABASE-INTERFACE - 11-03-74

D0984 BDMSALGOL - FILE CARDS DATABASE-INTERFACE - 11-03-74

THIS PATCH PASSES THE COMPILER-S FILE CARDS TO DATABASE/ INTERFACE, PERMITTING ONE TO LABEL-EQUATE FILES DECLARED BY DATABASE/INTERFACE. IN PARTICULAR, THE FILE "DASDL" MAY BE EQUATED TO PACK.

D1055 BDMSALGOL - OPEN INITIALIZE PARTITION - 07-07-74

THIS PATCH IMPLEMENTS THE SYNTAX "OPEN INITIALIZE X" WHERE X IS A PARTITIONED STRUCTURE. FOR A COMPLETE DISCUSSION OF THIS AND RELATED FEATURES, SEE DOCUMENTATION ON PARTITIONED STRUCTURES, DASDL D798.

D1056 BDMSALGOL - CONDITIONAL AUDIT OF RESTART - 08-04-74

THIS CHANGE IMPLEMENTS THE AUDIT AND NOAUDIT OPTIONS OF THE ENDTRANSACTION AND BEGINTRANSACTION STATEMENTS. IF USED, EITHER AUDIT OR NOAUDIT MAY APPEAR IN THESE STATEMENTS PRIOR TO THE NAME OF THE RESTART DATA SET.

AUDIT SPECIFIES THAT THE RECORD USED FOR THE RESTART DATA SET IS TO BE RECORDED IN THE AUDIT FILE. NOAUDIT SPECIFIES THAT IT IS NOT TO BE RECORDED. IF NOT USED, AUDIT IS DEFAULT FOR BEGINTRANSACTION, AND NOAUDIT IS DEFAULT FOR ENDTRANSACTION.

RESTART TYPE FOR RESTART AREAS CAPTURED AT BEGIN-TRANSACTION IS 1; FOR THOSE CAPTURED AT END-TRANSACTION IT IS 2.

D1057 BDMSALGOL - OPEN INQUIRY - 08-11-74

THIS PATCH IMPLEMENTS THE INQUIRY OPTION TO THE DATA BASE OPEN STATEMENT. THE USE OF THIS OPTION SIGNIFIES THAT THE USER INTENDS TO MAKE NO CHANGES TO THE DATA BASE. SEE SYSTEM NOTE D0854 UNDER ACCESROUTINES.

DMS II - BDMSCOBOL

P3643 BDMSCOBOL - ADDRESS CALCULATION - DMS - 04-18-74

THIS CHANGE ALTERS THE CALCULATION DMSII USES TO FIND THE CORRECT DATA MANAGEMENT FUNCTION.

P3644 BDMSCOBOL - CORRECT DMS FIELD MOVES - 04-18-74

THIS CHANGE CORRECTS THE CODE FOR HANDLING "FIELDS" OVER 11 BITS.

P3645 BDMSCOBOL - CORRECT FIELD HIGH-VALUES - 04-18-74

THIS CHANGE CORRECTS THE TEST FOR UPPER-BOUNDS AGAINST FIELDS. THIS TEST IS FOR "ALL BIT ON" FOR FIELD SIZE. IF THE TEST IS OVER 39 BITS, ARITHMETIC TESTS ARE INVALID FOR HIGH-VALUES.

P3646 BDMSCOBOL - DMS COBOL CODE CHANGE - 04-18-74

THIS CHANGE ALTERS THE CODE TO BUILD THE DMS WORK AREA DESCRIPTORS TO ALLOW THE FUTURE ENHANCEMENT TO DMS TO TAKE PLACE WITHOUT RECOMPILATION OF COBOL PROGRAMS.

P3647 BDMSCOBOL - ADD NAME FOR POPULATION COUNT - 04-18-74

WITH THIS CHANGE THE LISTING WILL NOW SHOW THE ORIGIN OF THE POPULATION COUNTER (I.E., TO WHOM IT POINTS).

P3928 BDMSCOBOL - DMSII GENERATE STATEMENTS - 05-30-74

THIS CHANGE CORRECTS CODE GENERATED FOR THE DMSII GENERATE STATEMENT.

P3934 BDMSCOBOL - IMPLEMENT RANDOM IN BDMSCOBOL - 07-07-74

THIS CHANGE CAUSES COBOL TO RECOGNIZE THE ACCESS ASSOCIATED WITH RANDOM DATA SETS.

P3945 BDMSCOBOL - DMS CAPABLE - 07-04-74

THIS CHANGE SETS A BIT IN SEGMENT ZERO TO INDICATE WHETHER OR NOT THE STACK WILL DO ANY DMS OPERATIONS.

P4122 BDMSCOBOL - DON-T SCRAMBLE BIT - 08-04-74

THIS CHANGE PASSES THE DON-T SCRAMBLE BIT FROM DASDL TO COBOL. THIS STOPS SCRAMBLING OR DUPLICATE NAMES ENTERING INTO THE COMPILER-S TABLES.

P4123 BDMSCOBOL - NULL CODE - 08-04-74

THIS CHANGE ALTERS THE HANDLING OF 12 THRU 23 DIGIT NON-DEFAULT NULLS.

P4124 BDMSCOBOL - DATABASE IS TOO LARGE - 08-04-74

THIS CHANGE CORRECTS A PROBLEMS WHEREIN THE OPENING OR CLOSING OF A DATABASE OF 70 OR MORE SETS WOULD CAUSE AN INVALID INDEX TO BE GENERATED IN DATABASE/INTERFACE.

P4125 BDMSCOBOL - PASS OPTION WORD - 08-04-74

THIS CHANGE PASSES THE OPTION WORD TO DATABASE/INTERFACE.

P4126 BDMSCOBOL - SEG ARRAY ERROR - 08-04-74

THIS CHANGE CORRECTS A SEGMENTED ARRAY ERROR IN DMS COBOL FOR AN OPEN OF A LARGE DATA BASE.

P4181 BDMSCOBOL - INVALID SYNTAX ERROR BDMSCOBOL - 09-16-74

THIS PATCH CORRECTS A PROBLEM WHERE A COMPILER ERROR COULD CAUSE THE SYNTAX ERROR "KEY ITEM EXPECTED" IF DMSII ITEMS ARE REFERENCED IN THE REPORT SECTION.

SOFTWARE IMPROVEMENTS

P4182 BDMSCOBOL - DMSII - TASK ATTRIBUTES - 09-16-74

THIS PATCH CORRECTS THE PROBLEM WHERE THE LOCK OF A TEST CAUSED COBOL, IN REMOTE CIRCONSTANCES, TO ATTEMPT TO HANDLE TASK ATTRIBUTE NAMES AS DATA BASE ITEM NAMES.

P4323 BDMSCOBOL - EQUATE INTERFACE TO PACK - 09-29-74

THIS CHANGE CAUSES COBOL TO LOOK FOR DATABASE/INTERFACE ON PACK OR NAMED PACK IF THE COMPILER FILE XCODE IS EQUATED TO PACK OR NAMED PACK.

DMS II - BDMSCOBOL

D0768 BDMSCOBOL - ADD DATA IN KEY TO EXPRESSION - 04-18-74

THIS CHANGE ALLOWS THE USE OF DATA IN THE KEY ELEMENTS AS PART OF THE SELECTION EXPRESSION.

D0838 BDMSCOBOL - ADD SYNTAX FOR PARTITIONED - 07-07-74

THIS PATCH ADDS THE SYNTAX:

OPEN INITIALIZE <id>

D0839 BDMSCOBOL - IMPLICIT QUALIFICATION OF KEYS - 07-07-74

THIS PATCH ALLOWS KEYS IN DM CONDITIONS TO BE IMPLICITLY QUALIFIED BY THE SET NAMES. THE USER MAY QUALIFY KEYS, BUT IT IS NOT NECESSARY. THIS PATCH IS NECESSARY FOR COMPATIBILITY WITH THE B1700 DMS II SYSTEM.

D0840 BDMSCOBOL - NEW DMSTATUS FUNCTION - 07-07-74

THERE WAS NO WAY TO TEST DMSTATUS TO SEE IF IT REPRESENTED AN ERROR. THIS PATCH PROVIDES THIS BY THE SYNTAX:

IF DMSTATUS(DMERROR) ...

D0840 BDMSCOBOL - NEW DMSTATUS FUNCTION - 07-07-74

THIS PATCH IS NECESSARY FOR COMPATABILITY WITH B1700 DMSII SYSTEM.

D0852 BDMSCOBOL - OPEN INQUIRY - 08-04-74

THIS PATCH ALLOWS A DATA BASE TO BE OPENED INQUIRY. THE SYNTAX IS MODIFIED TO READ:

OPEN INQUIRY <data-base name>.

IF A DATA BASE IS OPENED FOR INQUIRIES, THEN ANY ATTEMPT TO EXECUTE A DM FUNCTION WHICH CHANGES THE DATA BASE WILL RESULT IN A DMSTATUS (READONLY) EXCEPTION, DMSTATUS (DMERRORTYPE) WILL BE 1.

D0853 BDMSCOBOL - ACCESS TO STRUCTURE NUMBERS - 08-11-74

THIS CHANGE ALLOWS THE USER TO REFERENCE STRUCTURE NUMBERS SYMBOLICALLY BY THE SYNTAX IN COBOL OF

D0853 BDMSCOBOL - ACCESS TO STRUCTURE NUMBERS - 08-11-74

set-name (DMSTRUCTURE)
data-set-name (DMSTRUCTURE)

D0886 BDMSCOBOL - OUTPUT DMS II DATA SET TYPE - 07-09-74

THIS PATCH WILL INDICATE THE TYPE (RANDOM, STANDARD, ETC.) OF DATA SET ON THE DMSII /AIDES/REMINDS THAT A "FIND" IS NOT ALLOWED ON AN IMBEDDED "STANDARD" DATA SET.

DMS II - COPY AUDIT

P3346 COPYAUD-II - ERROR HANDLING AND MESSAGES - 03-28-74

THIS PATCH IMPROVES ERROR HANDLING AND ERROR MESSAGES IN DATABASE/ COPYAUDITTAPE.

P4420 COPYAUD-II - DATABASE PROPERTIES - 10-20-74

DATABASE PROPERTIES ARE NOW FILE LABEL EQUATABLE.

P4815 COPYAUD-II - EXTRA BLOCKS - 11-30-74

WHEN THERE ARE EXTRA BLOCKS AT THE END OF THE AUDIT TAPE, COPY AUDIT WILL NOW INDICATED IT INSTEAD OF SAYING A NEGATIVE NUMBER OF BLOCKS WAS LOST.

DMS II - COPY AUDIT

D0941 COPYAUD-II - COPY OPTIONS - 10-15-74

COPY AUDIT WILL ELIMINATE DUPLICATE EXTRA BLOCKS AT THE END OF THE TAPE, IF RUN WITH TASKVULUE = -2.

DATABASE/COPYAUDITAPE WILL NOT NORMALLY CREATE A COPY OF AN AUDIT TAPE IF ANY BLOCKS ARE LOST. IT DETERMINES THIS BY READING THE FIRST BLOCK OF THE NEXT AUDIT TAPE BEFORE BEGINNING TO COPY. THIS CHECK MAY BE SUPRESSED BY RUNNING WITH TASKVALUE = -1. HOWEVER, THIS SHOULD BE DONE ONLY UNDER VERY UNUSUAL CIRCUMSTANCES, SUCH AS WHEN THE DATA BASE IS REBUILT FROM A BACKUP DUMP USING THE AUDIT, AND THE TAPE TO BE COPIED IS THE LAST AUDIT TAPE.

DMS II - DASDL

P3382 DASDL - DUP CONFLICT CHECKING - 11-03-74

THE CHECKING OF CONFLICTS OF DUPLICATES AMONG SETS AND SUBSETS AND THEIR DATA SETS WAS INCORRECT. IT WAS ALSO UNNECESSARY, AUTOMATIC SUBSETS MUST ALLOW DUPLICATES AND OTHER CASES DO NOT CAUSE ACCESS ROUTINES PROBLEMS.
THIS PATCH ELIMINATES THE CHECKING.

P3440 DASDL - % IN COLUMN 72 - 03-28-74

THIS PATCH CORRECTS A PROBLEM IN WHICH DASDL WOULD TREAT THE CARD FOLLOWING A CARD WITH A PERCENT SIGN (%) IN COLUMN 72 AS A COMMENT CARD.

P3441 DASDL - LARGE STRINGS CAUSE SEG ARRAY - 03-28-74

QUOTED STRINGS OVER 300 CHARACTERS WOULD CAUSE SEGMENTED ARRAY ERRORS. NOW ALL CHARACTERS OVER 255 ARE JUST IGNORED.

P3442 DASDL - HANDLING OF DECIMALS - 03-28-74

THIS CHANGE CORRECTS THE HANDLING OF NUMBERS WITH A LEADING DECIMAL POINT. PREVIOUSLY THEY WERE NOT HANDLED.

P3443 DASDL - INTEGER OVERFLOW IN DASDL - 03-28-74

DASDL NOW CHECKS NULL VALUES TO SEE IF THEY EXCEED THE FIELD SIZE OF THE NUMBER.

P3444 DASDL - DASDL HUNG IN ERROR CONDITION - 03-28-74

THIS CHANGE CORRECTS SET PROCESSING TO CHECK FOR END-OF-FILE CONDITION WHEN THERE IS AN ERROR.

SOFTWARE IMPROVEMENTS

P3445 DASDL - INVALID INDEX IN DASDL - 03-28-74

THIS CHANGE CORRECTS AN INVALID INDEX CAUSED BY A "NULL" PROGRAM BEING SUBMITTED TO THE DASDL COMPILER.

P3454 DASDL - VF BUFFER TOO SMALL - 03-28-74

THIS CHANGE CHECKS VARIABLE FORMAT BUFFER SIZES TO MAKE SURE THAT THEY HOLD AT LEAST ONE MAXIMUM RECORD SIZE.

P3455 DASDL - CYCLE ADDED TO HEADING - 03-28-74

THIS CHANGE ADDS THE CYCLE NUMBER TO THE LISTING HEADING.

P3515 DASDL - ALLOW FIXED ITEM FOR DEPENDING - 04-18-74

THIS CHANGE CORRECTS THE SYNTAX CHECKING TO ALLOW THE USER TO REFERENCE THE FIXED PART OF A VARIABLE FORMAT RECORD IN AN OCCURS DEPENDING CLAUSE.

P3516 DASDL - EXTRACT KEY PROBLEM - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH IF AN ALPHA KEY ITEM STARTED ON A WORD BOUNDARY, WAS OVER SIX CHARACTERS LONG, AND A MULTIPLE OF SIX CHARACTERS (IF A WORD MOVE WOULD BE GENERATED) WRONG CODE WAS GENERATED TO MOVE THE ITEM TO THE KEY FIELD OR THE DATA IN THE KEY FIELD.

P3517 DASDL - BAD NULL TEST ON SIGNED FIELDS - 04-18-74

THIS CHANGE CORRECTS A PROBLEM IN THE CODE GENERATED FOR A NULL TEST AGAINST A SIGNED NUMERIC FIELD THAT WAS OTHER THAN DEFAULT.

P3557 DASDL - FINDS WRONG DUPLICATE NAME - 04-18-74

THIS CHANGE CORRECTS VARIABLE FORMAT SYNTAX ANALYSIS AND ALLOWS THE OCCURS DEPENDING SYNTAX TO REFERENCE A DUPLICATE NAME.

SOFTWARE IMPROVEMENTS

P3558 DASDL - DASDL LOSING ENTRIES - 04-18-74

THIS CHANGE CORRECTS A PROBLEM WHEREIN AN ITEM OF A GROUP COULD NOT REFERENCE AN ITEM OF HIGHER LEVEL.

P3562 DASDL - RESTART DATASET REQUIRES AUDIT - 07-07-74

THIS CHANGE REQUIRES THAT IF A RESTART DATA SET IS PRESENT THAT THE OPTION AUDIT BE SET.

P3732 DASDL - BOOLEAN IN FIELD PROBLEM - 05-30-74

FOR THE CASE WHEN THERE WAS AN EVEN NUMBER OF DIGITS IN A FIELD (WHOSE BITS WERE NAMED BOOLEANS) AND THE FIELD STARTED AT AN ODD DIGIT BOUNDARY, THE DASDL COMPILER COMPUTED A FIELD SIZE 1 DIGIT LARGER THAN NECESSARY. THIS PATCH FIXES THE PROBLEM.

CAUTION: THE PATCH MAY INVALIDATE DATA. USE THE DASDL $ SET TEST OPTION AND NOTE ON THE DASDL LISTING THE OFFSETS OF EACH ITEM IN A DATA SET (BEFORE PUTTING IN THIS PATCH). AFTER PUTTING IN THE PATCH RE-DASDL WITH SYNTAX AND COMPARE THE ITEM OFFSETS. IF THEY ARE DIFFERENT EITHER THE DATA BASE MUST BE REGENERATED OR A DUMMY NUMBER (1) CAN BE INSERTED TO ACCOUNT FOR THE DIGIT POSITION IN THE DATA.

P3733 DASDL - PARENTHESES COUNTER - 05-30-74

THIS CHANGE ADDS A PARENTHESIS COUNTER ON THE LISTING TO SHOW THE LEVEL OF PARENTHESIS ON THE DASDL PROGRAM BEING COMPILED.

P3734 DASDL - INCREASE FIELD SIZE - 05-30-74

THIS CHANGE INCREASES THE SIZE OF "USERECORDSZ" FROM 12 BITS TO 16 BITS. IT ALSO INCREASES THE PROPERTIES LEVEL FROM 1 TO 2.

P3735 DASDL - DUPLICATE NAME BIT - 05-30-74

THIS CHANGE SETS A BIT IN VARIABLE FORMAT DUPLICATE NAMES TO INDICATE NOT TO ENTER IN DICTIONARY, ELIMINATING QUALIFICATION

PROBLEMS IN THE COMPILERS.

P3736 DASDL - INCREASE TEXT ARRAY SIZE - 05-30-74

THIS CHANGE INCREASES THE SIZE OF THE TEXT ARRAY AND MAKES IT A DEFINE SO THAT LATER CHANGES WILL BE EASIER.

P3737 DASDL - ADD OFFSET PRINTING FOR SETKEY - 05-30-74

PRINTING OF THE OFFSET FOR ITEMS IN A KEY HAS BEEN ADDED TO THE $ STACK OPTION.

P3738 DASDL - CHANGE CODE FOR RESTART - 05-30-74

THIS PATCH FIXES A BUG WHEREBY A DELETE WOULD NOT PROPERLY REMOVE A LAST GOOD RESTART RECORD FROM THE RESTART DATA SET.

P3739 DASDL - TOO LARGE POPULATION - 05-30-74

THIS CHANGE CORRECTS A PROBLEM IN DASDL WHEREIN TOO-LARGE POPULATIONS ON SUCCESSIVE EMBEDDED SETS CAUSE THE COMPILER TO BE FAULT DS-ED WITH INTEGER OVERFLOW.

P3740 DASDL - LINK VERIFY SIZE - 05-30-74

THIS CHANGE CORRECTS A PROBLEM IN LINK VERIFY WHERE THE SIZE OF THE VERIFY ITEM, IF IT WAS A GROUP, WOULD BE ZERO.

CAUTION: THIS PATCH MAY INVALIDATE A DATA BASE SINCE THE PRESENCE OF THE VERIFY ITEM WILL MAKE RECORDS LONGER.

P3826 DASDL - ARRAYS TOO SMALL - 07-07-74

THIS CHANGE CHANGES THE SIZES OF THE DESCRIPTION AND PROPERTIES ARRAYS.

P3827 DASDL - DUPLICATE SEQUENCE - 07-07-74

CORRECT DUPLICATE SEQUENCE NUMBERS.

SOFTWARE IMPROVEMENTS

P3830 DASDL - BLOCKSIZE PRINTOUT - 07-07-74

THE VALUE OF BLOCKSIZE FOR INDEX RANDOM SETS AND RANDOM DATA SETS WAS PRINTED INCORRECTLY UNDER THE DASDL $ SET STORE OPTION. THIS PATCH CORRECTS THE PROBLEM.

P3831 DASDL - CORRECT CONDITIONAL STATEMENTS - 07-07-74

THIS CHANGE CORRECTS A PROBLEM WHEREIN BOOLEANS COULD HAVE BEEN USED WITH RELATIONAL OPERATORS IN CONDITIONAL STATEMENTS WITH "WHERE" CLAUSES.

P3871 DASDL - MOVE SOME PROPERTIES - 01-12-75

THE PROPERTIES SCRAMBLEMODULUS, TOTALPOPSZ, COUNTITINTOT, AND POPITEMNUM WERE OVERLAPPED IN THE PROPERTIES.

P3951 DASDL - STRIP QUOTES - 08-04-74

THIS CHANGE REMOVES UNNECESSARY QUOTE MARKS FROM FILE TITLES.

P3952 DASDL - CORRECT RESTART CODE - 08-04-74

THIS PATCH CORRECTS CODE FOR RESTART DATA SETS VERIFY STORE.

P3993 DASDL - SYNTAX ERROR - 01-12-75

ERROR RECOVERY IN THE CASE OF PARAMETERS OR OPTIONS SYNTAX ERRORS HAVE BEEN IMPROVED.

P4101 DASDL - INCREASE NUMBER OF STRUCTURES - 07-07-74

THIS CHANGE INCREASES THE TOTAL NUMBER OF STRUCTURES ALLOWED IN A DATA BASE TO 250.

P4136 DASDL - VALID RECORD TEXT CODE - 08-11-74

THIS CHANGE CORRECTS VALID RECORD TEXT TO BRING IT MORE IN LINE WITH INVALID TEXT.

SOFTWARE IMPROVEMENTS

P4155 DASDL - GLOBAL ATTRIBUTES - 08-11-74

THIS PATCH CORRECTS A PROBLEM IN SPECIFYING GLOBAL ATTRIBUTES WHEREIN THEY WERWERE ACCEPTED BUT NOT USED. NOTE THAT NOTE THAT GLOBAL ATTRIBUTES ARE SPECIFIED USING THE FORM <DATABASE NAME> (<ATTRIBUTES>) ;.

P4156 DASDL - AUDIT BLOCKSIZE MINIMUM - 08-11-74

THIS CHANGE SETS A MINIMUM OF 90 WORDS ON THE BLOCKSIZE OF AN AUDIT FILE.

P4214 DASDL - CARD SPLIT ACROSS NUMBER - 08-11-74

THIS CHANGE CORRECTS THE HANDLING OF DECIMAL NUMBERS WHERE THE DECIMAL POINT OCCURS BEFORE THE CARD SPLIT.

P4262 DASDL - LOSING FILE ATTRIBUTES - 09-29-74

THIS CHANGES CORRECTS THE LOSS OF BUFFER AND PARTITION ATTRIBUTES WHEN USING THE <DATA-SET NAME> (<FILE ATTRIBUTES>); METHOD OF SETTING ATTRIBUTES.

P4263 DASDL - IMPROVE QUALIFICATION CHECK - 09-29-74

THIS CHANGE NOW ALLOWS PROPER QUALIFICATION CHECKING OF GLOBAL (IE DISJOINT DATA SETS AND GLOBAL DATA) INFORMATION. PREVIOUSLY DUPLICATE NAMES COULD HAVE BEEN INTRODUCED.

P4264 DASDL - BIT VECTOR FILE SIZE - 09-29-74

THIS CHANGE CORRECTS COMPUTATION OF BIT VECTOR FILES, PREVIOUSLY THE FILES WOULD BE MUCH TOO LARGE.

P4265 DASDL - AREA SIZE MIS-COMPUTED - 09-29-74

IF AREA SIZE IN TABLES WAS SPECIFIED IN SEGMENTS, THE CONVERSION TO TABLES WAS ERRONEOUS BY NUMBER OF ENTRIES PER TABLE. THIS CHANGE CORRECTS THE ABOVE CONDITION BY REMOVING THE ERRONEOUS MULTIPLY.

SOFTWARE IMPROVEMENTS

P4266 DASDL - ASCENDING,DESCENDING CHANGE - 09-29-74

ASCENDING, DESCENDING SHOULD ONLY BE ALLOWED ON INDEX SEQUENTIAL AND ORDERED LIST. THIS CHANGE ENFORCES THIS REQUIREMENT.

P4267 DASDL - CORRECT SEQ DOLLAR OPTION - 09-29-74

THIS CHANGE CORRECTS THE $ OPTION "SEQ". PRIOR TO THIS "SEQ" WOULD REMOVE THE DOLLAR OPTIONS THAT FOLLOWED.

P4416 DASDL - LENGTHEN TEST-LINE - 10-20-74

TEST-LINE SHOWING TITLE WAS TOO SHORT FOR LONG TITLES.

P4417 DASDL - $ VOIDT - 10-20-74

$ VOIDT NOW WORKS PROPERLY IF THERE ARE NO RECORDS ON THE TAPE BETWEEN $SET VOIDT AND $POP VOIDT.

P4418 DASDL - INDENTATION - 10-20-74

THIS IS A COSMETIC CHANGE TO THE DASDL COMPILER.

P4419 DASDL - CANDE OPTIONS FOR DASDL - 10-20-74

THIS PATCH ADDS FEATURES FOR EASIER USE WITH CANDE.

P4896 DASDL - PACKNAME IN DBNAME - 11-30-74

THIS PATCH CHANGES THE PROCESSING OF THE CODE FILE TITLE TO HANDLE THE CASE WHERE "ON <PACKNAME>" IS RETURNED.

P4897 DASDL - NULL VALUES FOR ALPHA ITEMS - 11-30-74

VERIFY STORE, CLEARDATA AND INVALID TEXT ARE NOW HANDLED CORRECTLY WHEN A LITERAL IS SPECIFIED FOR AN ALPHA ITEM-S NULL VALUE.

SOFTWARE IMPROVEMENTS

P4898 DASDL - BOOLEAN INITIAL VALUE - 11-30-74

INITIAL VALUES NOW ARE EFFECTIVE WHEN SPECIFIED FOR BOOLEANS.

P4900 DASDL - SMALL TABLE SIZES - 11-30-74

THIS PATCH INSURES THAT FOR A STRUCTURE, THE SPECIFIED LOADFACTOR AND TABLESIZE HAVE A PRODUCT OF AT LEAST 2.

P4901 DASDL - NEW RESERVED WORDS - 11-30-74

THE RESERVED WORD TABLE HAS BEEN UPDATED.

P5013 DASDL - 0 BUFFERS - 12-11-74

PREVIOUSLY, DASDL DID NOT ALLOW THE USER TO SPECIFY 0 BUFFERS AS AN ATTRIBUTE. THIS IS NOW PERMITTED FOR BOTH USER AND SYSTEM BUFFERS.

DMS II - DASDL

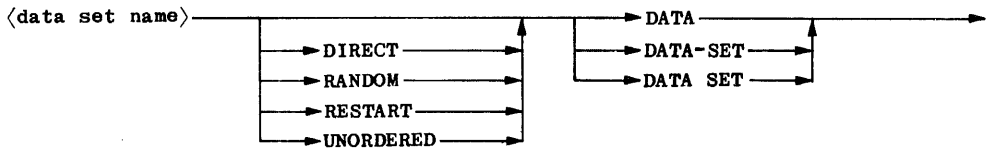
D0754 DASDL - RANDOM AND DIRECT ACCESS - 04-18-74

THIS PATCH IMPLEMENTS RANDOM AND DIRECT DATA SETS. IN THESE STRUCTURES, THE KEY OF THE RECORD IS USED TO SELECT THE LOCATION WHERE THE RECORD ITSELF IS TO GO. FOR A DIRECT DATA SET THE KEY GIVES THE EXACT LOGICAL RECORD NUMBER OF THE RECORD AND MUST BE A POSITIVE FIELD OF TYPE NUMBER. DUPLICATES ARE NOT ALLOWED. FOR RANDOM DATA SETS, THE KEY IS SUBJECTED TO A HASHING ALGORITHM WHICH SELECTS A HOME BLOCK FOR THAT RECORD (AND OTHERS WHOSE KEY HASHES TO THE SAME VALUE). IF THERE IS NO ROOM IN THAT BLOCK, AN OVERFLOW BLOCK IS USED.

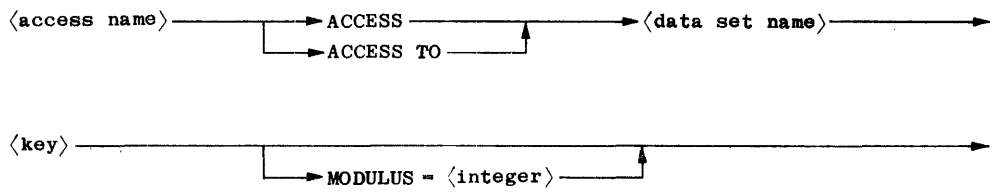
THE KEY FOR A RANDOM OR DIRECT SET IS SPECIFIED BY DECLARING AN ACCESS TO THE DATA SET WITH THE APPROPRIATE KEY. THIS SYNTAX ALLOWS REFERENCING TO THE DATA SET VIA ITS ACCESS TO BE ANALOGOUS TO REFERENCING A DATA SET VIA AN INDEX SET, THUS ENABLING THE DATA SET STRUCTURE TO BE CHANGED WITHOUT REPROGRAMMING.

BOTH THE ACCESS AND THE RANDOM OR DIRECT DATA SET MUST BE DECLARED AS DISJOINT.

⟨data set⟩ ::=



⟨access⟩ ::=



EXAMPLE:

```
D   DIRECT DATA SET (K NUMBER (5) ...);
A   ACCESS TO D KEY K

E   RANDOM DATA SET (KY NUMBER (7) ...);
AX  ACCESS TO E KEY KY MODULES = 5;
```

SEMANTICS:

1. ONLY DISJOINT ACCESSES ARE ALLOWED.
2. THE KEY FOR DIRECT DATA SETS MUST BE A POSITIVE INTEGER.
3. ACCESSES MAY NOT HAVE ANY PHYSICAL OPTIONS DECLARED EXCEPT THAT A MODULUS MAY BE SPECIFIED FOR RANDOM DATA SETS.
4. EACH RANDOM AND DIRECT DATA SET MUST HAVE ONE AND ONLY ONE ACCESS DECLARED AGAINST THEM. AN ACCESS MAY ONLY BE DECLARED FOR A DIRECT OR RANDOM DATA SET.

D0754 DASDL - RANDOM AND DIRECT ACCESS - 04-18-74

5. RANDOM DATA SETS HAVE THE FOLLOWING HASH ALGORITHM ON THE FOLDED KEY PART.

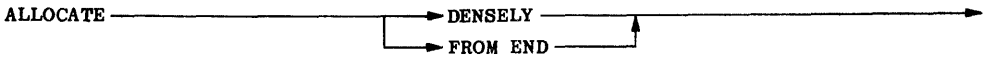
```
WHERE K=FOLDED KEY (BITS 47:7=0) AND A=4"26CE2036255B"

      HASHINDEX:=INTEGER (REAL((K MUX A)MOD 1)*MODULUS+.5)
```

THIS CAUSES THE DISTRIBUTION OF THE HASHINDEX TO BE VIRTUALLY INDEPENDENT OF THE MODULUS.

D0783 DASDL - ALLOCATE OPTION - 11-30-74

THIS PATCH ADDS A NEW PHYSICAL OPTION WHICH APPLIES TO UNORDERED DATA SETS. THIS IS THE NEW SYNTAX FOR THE ATTRIBUTE:

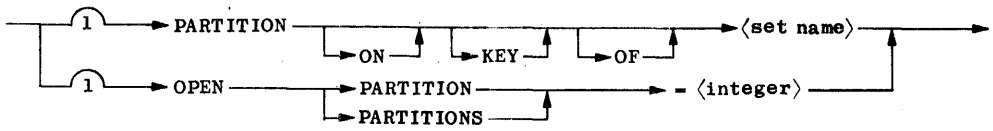


DENSELY IS AS BEFORE. FROM END SPECIFIES THAT THE ONLY BLOCKS TO BE SEARCHED FOR SPACE ARE THE FIRST AND LAST. DENSELY IS THE DEFAULT.

D0798 DASDL - PARTITIONED STRUCTURES - 05-30-74

TWO NEW PHYSICAL OPTIONS ALLOW EMBEDDED SETS AND DATA SETS TO BE PARTITIONED INTO SEVERAL FILES RATHER THAN A SINGLE FILE. IT IS NOT NECESSARY TO HAVE ALL PARTITIONS RESIDENT ON THE SYSTEM, ONLY THOSE ACTIVELY BEING USED.

SYNTAX (ADD TO PHYSICAL OPTIONS AND SET OPTIONS):



PARTITION ON <SET NAME> DEFINES THE "PARTITIONING SET" OF THE EMBEDDED STRUCTURE. THE PARTITIONING SET MUST BE A SPANNING SET OR ACCESS TO THE DISJOINT DATA SET CONTAINING THE STRUCTURE TO BE PARTITIONED. ALTHOUGH AN EMBEDDED STRUCTURE AT ANY LEVEL MAY BE PARTITIONED, ITS PARTITIONING SET MUST BE AN AUTOMATIC SET OF THE LEVEL 1 MASTER. THE KEY OF THE PARTITIONING SET MUST BE A SINGLE KEY OF LENGTH 17 OR LESS OF TYPE ALPHA, NUMBER OR GROUP. IT MUST NOT CONTAIN BLANKS OR SPECIAL CHARACTERS. ALPHA KEYS MUST BE LEFT JUSTIFIED WITH TRAILING BLANKS. THE KEY MAY ASSUME ONLY ALPHANUMERIC VALUES OR A DATA EXCEPTION WILL OCCUR. DUPLICATES MAY BE ALLOWED, BUT THE KEY MAY NOT BE CHANGED BY A MODIFY-STORE.

EXAMPLE:

```
D DATA SET (YEAR NUMBER (4));
           REGION ALPHA (10);
           E DATA SET (X ALPHA (6)),
                  PARTITION ON S;
           SE SET OF E KEY X,
                  PARTITION ON S;
           F UNORDERED DATA SET (Y NUMBER (3)),
                  PARTITION ON T,
                  OPEN PARTITIONS = 3;
           );

S SET OF D KEY YEAR DUPLICATES;
T SET OF D KEY REGION;
```

IF, FOR EXAMPLE, D CONTAINS THREE MASTER RECORDS WITH YEAR = 1973,

1973 AND 1974, THEN THERE WILL BE TWO FILES EACH FOR E AND SE. RECORDS OF S AND E WILL BELONG TO ONE OF THE TWO FILES DEPENDING ON WHETHER THE VALUE IN THEIR MASTER IS 1973 OR 1974.

PARTITIONED FILE NAMES HAVE ONE MORE LEVEL THAN NON-PARTITIONED FILES. THE LAST LEVEL IS THE ACTUAL KEY VALUE. IN THE ABOVE EXAMPLE, DATA SET 3 WOULD BE IN TWO FILES CALLED:

<DATABASE>/D/E/DATA/1973

AND

<DATABASE>/D/E/DATA/1974

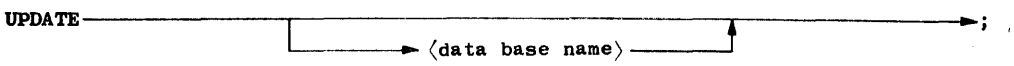
ALL FILE-RELATED ATTRIBUTES, INCLUDING POPULATION, APPLY TO EACH FILE INDIVIDUALLY.

OPEN PARTITIONS SPECIFIES HOW MANY PARTITIONS OF THE STRUCTURE MAY BE IN USE SIMULTANEOUSLY BY ALL USERS. THE DEFAULT IS 1 AND THE MAXIMUM 15. ALL THE VARIABLES AND BUFFERS REQUIRED FOR A STRUCTURE WILL BE DUPLICATED FOR EACH PARTITION, THUS MORE DECLARED OPEN PARTITIONS WILL REQUIRE MORE MEMORY. AN ATTEMPT TO OPEN MORE PARTITIONS THAN SPECIFIED WILL RESULT IN A LIMIT ERROR.

D0799 DASDL - PATCH DATA BASE - 05-30-74

THE UPDATE STATEMENT IN DASDL IMPLEMENTS THE ABILITY TO MAKE CERTAIN TYPES OF CHANGES TO THE DATABASE WITHOUT RECOMPILING USER PROGRAMS. IN GENERAL, ANY CHANGE MAY BE MADE WHICH WILL NOT INVALIDATE EXISTING DATA. SPECIFICALLY, IT IS POSSIBLE TO ADD OR DELETE DATA SETS AND SETS, CHANGE MOST PHYSICAL OPTIONS, CHANGE OPTIONS, CHANGE PARAMETERS, AND CHANGE VERIFY AND REQUIRED CLAUSES.

AN UPDATE CARD IS AS FOLLOWS:



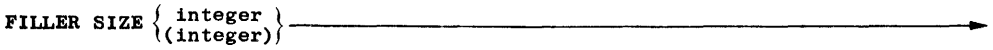
THE UPDATE IS ACHIEVED BY INPUTTING THE NEW DASDL SOURCE; THE OUTPUT FROM THIS SOURCE IS COMPARED AGAINST THE PREVIOUS DESCRIPTION FILE. IF THE COMPARISON SHOWS THAT ONLY VALID CHANGES HAVE BEEN MADE, THE TIME STAMP IS MOVED FROM THE OLD DESCRIPTION TO THE NEW, SO THAT NO PROGRAMS WILL REQUIRE RECOMPILATION. NOTE THAT THE NEW DASDL SOURCE MUST BE SYNTACTICALLY CORRECT. FOR EXAMPLE, IF THE AUDIT OPTION IS TURNED OFF, THE RESTART DATA SET AND AUDIT TRAIL SPECIFICATIONS MUST BE DELETED AS WELL.

IT IS NOT NECESSARY TO DECLARE DISJOINT SETS AND DATA SETS IN THE SAME ORDER AS THE ORIGINAL DASDL. ORDER OF DATA ITEMS SHOULD REMAIN THE SAME SINCE THEIR ORDER AFFECTS THE RECORD FORMAT.

ALL CHANGES REQUIRE THE RECOMPILATION OF THE ACCESSROUTINES.

ALTHOUGH PROGRAMS NEED NOT IN GENERAL BE RECOMPILED AFTER A DASDL UPDATE RUN, THERE WILL BE CASES WHERE THE PROGRAM MUST BE REWRITTEN. FOR EXAMPLE, IF A DATA SET IS DELETED, PROGRAMS USING IT MUST BE ALTERED. SIMILARLY, IF THE OPTION AUDIT IS ADDED, PROGRAMS DOING UPDATES MUST BE CHANGED TO USE BEGIN-TRANSACTION AND END-TRANSACTION LOGIC.

IF A NEW AUTOMATIC SET IS ADDED, THE SYSTEM WILL NOT AUTOMATICALLY INSERT ALL APPLICABLE RECORDS FROM AN EXISTING DATA SET. IT IS POSSIBLE TO DECLARE FILLER ITEMS WHICH WILL BE FILLED IN LATER WITH DATA. THE SYNTAX IS:



D0799 DASDL - PATCH DATA BASE - 05-30-74

1. FILLER MAY BE DECLARED IN THE FIXED PART OR
   THE VARIABLE PART OF A RECORD, BUT ONLY ONE IN EITHER.
   IT MAY ALSO BE DECLARED IN GLOBAL DATA.

2. SIZE IS IN CHARACTERS.

3. ON THE II.7 RELEASE NO MECHANISM FOR USING
   FILLER HAS BEEN IMPLEMENTED.

D0800 DASDL - EXPRESSIONS IN CONDITIONS - 05-30-74

THIS PATCH ALLOWS NUMERIC KEYS AND DATA ITEMS TO BE COMPARED AGAINST ARITHMETIC EXPRESSIONS AS WELL AS LITERALS IN CONDITIONS. THESE MAY BE USED IN BOTH "WHERE" CLAUSES AND "VERIFY" CONDITIONS.

EXAMPLE:

```
VERIFY     A = 10*(B+C)  OR  A = 0
```

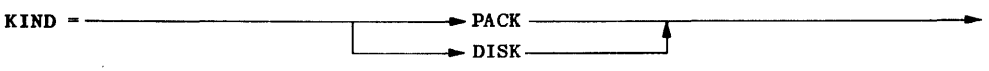
NOTE: THE OPERATOR "/" WILL GENERATE A FLOATING POINT RESULT AND THUS MAY YIELD MISLEADING RESULTS IF USED TO TEST FOR EQUALITY AGAINST PACKED DECIMAL DATA ITEMS.

D0806 DASDL - ALLOW 23 DIGIT NUMBERS - 07-07-74

THIS CHANGE ALLOWS UP TO 23 DIGIT NUMBER FIELDS IN DASDL EXCEPT AS KEY AND DATA IN KEY ITEMS.

D0811 DASDL - MAKE PACKNAME USE CONSISTENT - 07-07-74

THE PHYSICAL AND SET OPTION:



D0811 DASDL - MAKE PACKNAME USE CONSISTENT - 07-07-74

IS NOW ALLOWED.

D0856 DASDL - DEFAULT AUDIT TRAIL ATTRIBUTE - 08-11-74

THIS CHANGE REMOVES THE REQUIREMENT OF SPECIFYING AUDIT TRAIL ATTRIBUTES WHEN THE AUDIT IS SET. THE AUDIT TRAIL ATTRIBUTES WILL BE SET TO DEFAULT VALUES IF NOT SPECIFIED.

D0859 DASDL - DATA CHECK OPTIONS - 08-11-74

THIS PATCH IMPLEMENTS TWO OPTIONS, DATACHECK1 AND DATACHECK2, WHICH INVOKE CERTAIN RUN-TIME CONSISTENCY CHECKS. THESE ALLOW THE DATA BASE ADMINISTRATOR, FOR THE COST OF SOME PROCESSING OVERHEAD, TO DETECT SOME INSTANCES OF DEGENERATING DATA BASES.

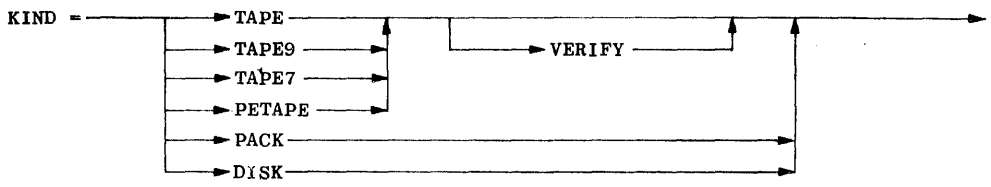
DATACHECK1 WILL VERIFY THAT ADDRESSES ARE PLAUSIBLE, THAT IS, THAT THEY CORRESPOND TO THE START OF A RECORD OR BLOCK.

DATACHECK2 WILL VERIFY THAT THE KEY IN A RECORD FOUND VIA A SET IS THE SAME AS THE KEY IN THE SET. IF EITHER OPTION DETECTS AN ERROR, THE DATA MANAGEMENT SYSTEM WILL PRINT OUT THE CURRENT BUFFERS AND FORCE AN EXPONENT OVERFLOW. THE EXPONENT OVERFLOW MAY LEAVE THE DATA BASE HUNG IN THE MIX UNDER SOME CIRCUMSTANCES.

D0861 DASDL - AUDIT TAPE SYNTAX - 08-11-74

THIS CHANGE ALLOWS THE FOLLOWING ADDITIONAL SYNTAX AFTER THE WORD "KIND" IN AUDIT TRAIL ATTRIBUTES.

D0861 DASDL - AUDIT TAPE SYNTAX - 08-11-74



VERIFY WILL CAUSE THE AUDIT ROUTINES TO ZIP A PROGRAM CALLED DATABASE/VERIFYAUDIT WHENEVER AN AUDIT REEL IS RELEASED.

DMS II - DMALGOL

P3469 DMALGOL - MULTIPLE SIBS PER DBS - 03-28-74

THIS CHANGE EXTENDS THE PRESENT SYNTAX FOR ENVIRONMENT DECLARATIONS, PERMITTING SEVERAL D3 (SIB) ENVIRONMENTS FOR EACH D2 (DBS) ENVIRONMENT. THIS IS REQUIRED FOR FUTURE DEVELOPMENT OF DMSII ACCESS ROUTINES.

P3663 DMALGOL - COMPILE-TIME DISPLAY STATEMENT - 04-18-74

THIS PATCH IMPLEMENTS A COMPILE-TIME DISPLAY STATEMENT SIMILAR IN SYNTAX TO THE COMPILE-TIME PRINT STATEMENT. THIS STATEMENT IS AVAILABLE ONLY IN DMALGOL AND IS USED WHEN COMPILING DMSII ACCESSROUTINES.

P3664 DMALGOL - PROCEDURE REFERENCE ASSIGNMENT - 04-18-74

THIS PATCH ALLOWS "TRIVIAL" PROCEDURES,I.E., THOSE WITH NO PARAMETERS AND NO LOCAL ADDRESS ALLOCATION, TO BE ASSIGNED TO PROCEDURE REFERENCE VARIABLES EVEN THOUGH THE PARAMETERS DO NOT MATCH.

P3665 DMALGOL - CALL OUT OF SWAP SPACE - 04-18-74

THIS PATCH MODIFIES THE CALLING SEQUENCE FOR THE CALL STATEMENT WHEN IT OCCURS IN DMSII ACCESSROUTINES. THE RESULT IS TO ALLOW CO-ROUTINE INITIATION OUT OF A JOB RUNNING IN SWAP SPACE.

P3666 DMALGOL - ENVIRONMENT REFERENCES - 05-12-74

THIS PATCH PERMITS PROCEDURES IN DMSII ACCESSROUTINES TO REFERENCE EITHER SIB OR DBS ENVIRONMENTS.

P3667 DMALGOL - NODE VARIABLE - 05-12-74

THIS PATCH CORRECTS A BUG IN THE SUBSCRIPTED UNIVERSAL NODE

VARIABLE WHICH CAUSED AN INCORRECT SYNTAX ERROR.

P3668 DMALGOL - DM ENVIRONMENT STACK IMAGE - 05-12-74

THIS CORRECTS A BUG IN THE CREATION OF D2 AND D3 STACK IMAGES FOR DMSII ENVIRONMENTS.

P3956 DMALGOL - ATTACHDBS - 04-18-74

THIS PATCH IMPLEMENTS A NEW FUNCTION,ATTACHDBS, TO BE USED ONLY FOR DATAMANAGEMENT ENVIRONMENTS FOR PARTIONED STRUCTURES. SEE DOCUMENTATION ON PARTITIONED STRUCTURES.

P4137 DMALGOL - ENVIRONMENT TYPE - 08-11-74

THIS PATCH PERMITS AN ENVIRONMENT TYPE TO BE OPTIONALLY SPECIFIED IN THE DECLARATION OF A DATAMANAGEMENT ENVIRONMENT. IT IS STRICTLY FOR INTERNAL USE OF THE DATAMANAGEMENT SYSTEM.

P4138 DMALGOL - TRIVIAL PROCEDURES - 08-11-74

THIS PATCH IMPROVES CODE FOR TRIVIAL PROCEDURES ENCOUNTERED IN DATAMANAGEMENT ACCESSROUTINES. TRIVIAL PROCEDURES HAVE NO PARAMETERS AND NO LOCAL STORAGE ALLOCATION.

P4369 DMALGOL - DM STACK IMAGE - 10-20-74

THIS PATCH CORRECTS A PROBLEM WHICH SOMETIMES CAUSED THE SIB OR DBS TO BE SMALLER THAN NECESSARY, RESULTING IN MEMORY PROTECT OR OTHER UNDEFINED ERRORS. THIS IS LIKELY TO HAPPEN IF THE LAST STRUCTURE COMPILED IS A VARIABLE FORMAT DATA SET.

P4371 DMALGOL - DMIO RESTRICTED TO DMALGOL - 09-29-74

THE SPECIAL FILE ATTRIBUTE DMIO, INTENDED FOR DMSII SYSTEM ROUTINES ONLY, HAS BEEN RESTRICTED TO DMALGOL.

P4372 DMALGOL - NODE SYNTAX ERROR - 09-29-74

NO SYNTAX ERROR OCCURS WHEN ACCESSING THE VALUE OF AN UNDEFINED NODE (TO DETERMINE IF IT IS UNDEFINED).

P4421 DMALGOL - LARGE DATABASES - 10-15-74

THE SIZE OF AN ARRAY HAS BEEN INCREASED TO ACCOMODATE THE LARGEST POSSIBLE DATABASE.

P4422 DMALGOL - LARGE TEXT PROPERTIES - 10-15-74

COMPILATION OF ACCESSROUTINES HAS BEEN FACILITATED FOR DATABASES WITH LARGE TEXT PROPERTIES GENERATED BY DASDL.

P4711 DMALGOL - VARIABLE FORMAT TYPES - 11-17-74

THIS PATCH CORRECTS A BUG WHICH CAUSED SYNTAX ERRORS WHEN COMPILING DMSII ACCESSROUTINES FOR A STRUCTURE WITH MORE THAN 32 VARIABLE FORMAT TYPES.

P4712 DMALGOL - SEGMENT LARGE STACK IMAGES - 11-17-74

THIS PATCH ELIMINATES A SYNTAX ERROR AT THE END OF ACCESSROUTINE COMPILATION IF ANY STACK IMAGES OCCUPY MORE THAN A SINGLE ROW OF THE CODE FILE. NOW THOSE STACK IMAGES WILL BE SEGMENTED ACCROSS SEVERAL ROWS, IF NECESSARY.

P4738 DMALGOL - COMPILE TIME ARRAYS - 08-04-74

THIS PATCH CORRECTS SUBSCRIPT BOUND CHECKING FOR COMPILE-TIME ARRAYS. NOTE THAT SUBSCRIPTS MUST BE GEQ 0 AND < ARRAY LENGTH. PRIOR TO THIS PATCH, A SUBSCRIPT COULD BE EQUAL ARRAY LENGTH, BUT RESULTS WERE UNDEFINED.

P4902 DMALGOL - LARGE DATA BASES - 08-04-74

THIS CHANGE PERMITS LARGER DATA BASES TO BE COMPILED SUCCESSFULLY BY INCREASING CERTAIN ARRAYS IN THE COMPILERS.

DMS II - DMDUMPER

P3832 DMDUMPER - INV INX NO SETS ON DATA SET - 07-07-74

IF A DATABASE CONSISTED OF ONLY DISJOINT AND EMBEDDED SETS WITH NO ORDERING ON THEM, THEN DMDUMPER WOULD BLOW UP WITH AN INVALID INDEX.

P4906 DMDUMPER - CHANGE SDL.TITLE TO DISK - 11-30-74

IF THERE WAS SDL FILE ERROR ON DISK PROGRAMS WOULD STOP ON "REQUIRED PACKNAME". THIS NO LONGER OCCURS.

DMS II - DMFILTER

P3365 DMFILTER - FREE GLOBAL - 03-28-74

"FREE GLOBAL" WAS FILTERING STRAIGHT ACROSS, WHICH IS INCORRECT. THE PROBLEM HAS BEEN CORRECTED SO THAT "FREE GLOBAL" NOW FILTERS TO "FREE DATA-BASE-NAME".

P3366 DMFILTER - SETNAME (STATUS) - 03-28-74

SETNAME (STATUS) IS NOW FILTERED CORRECTLY WHEN IT APPEARS AS THE FIRST ITEM ON A CARD FOLLOWING A CARD WITH "ON EXCEPTION" AS THE LAST THING.

P3367 DMFILTER - ON EXCEPTION - SN(STATUS) - 03-28-74

THE CONSTRUCT "MODIFY SN ON EXCEPTION IF SN(STATUS)" IS NOW FILTERED PROPERLY.

P3368 DMFILTER - DELETE SETNAME - 03-28-74

"DELETE SETNAME", WHERE SETNAME HAS KEYS IS NOW FILTERED PROPERLY.

P3518 DMFILTER - CONVERSION OF STATUS TASK ATTR - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH DMFILTER WAS NOT RECOGNIZING THE USE OF "STATUS" AS A TASK ATTRIBUTE AND THEREFORE ERRONEOUSLY CONVERTED THAT ATTRIBUTE TO DMSTATUS.

P3565 DMFILTER - SEG ARRAY ON MANY INVOKES - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH MANY INVOKE STATEMENTS COULD CAUSE A SEGMENTED ARRAY ERROR.

P3566 DMFILTER - CORRECT DM-STAT DECLARATIONS - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH DMFILTER, WHEN ADDING BOTH WORKING-SET STORAGE AND DM-STAT, WAS OUTPUTTING "COMP/1" INSTEAD OF

"COMP-1".

P3746 DMFILTER - FIX DMFILTER ALIAS - 05-30-74

WHEN RENAMING A SET (ALIAS) IN THE DB-SECTION OF COBOL PROGRAMS IN OLD DM, DMFILTER DID NOT GENERATE THE PROPER COBOL STATEMENTS FOR SELECTION EXPRESSIONS USING AN ORDERING SET FOR THIS "ALIAS" DATA SET. DMFILTER WAS GENERATING A KEY NAME FROM THE "ALIAS" SET NAME INSTEAD OF THE ORIGINAL DATA SET NAME.

P3833 DMFILTER - MORE THAN 1 STATUS-CONV-SIM - 07-07-74

OCCASIONALLY, AFTER AN "ON EXCEPTION" IN THE DM PROGRAM SYMBOLIC, DMFILTER WOULD GENERATE 2 CALLS ON DMSTAT-CONVERTER.

P4139 DMFILTER - EXCEPTION CONVERSION - 08-11-74

IF THE WORD STATUS APPEARED ON AN INPUT CARD TO DMFILTER, THEN DMFILTER WOULD DROP THE ON EXCEPTION CLAUSE AND NOT TRANSLATE PROPERLY THE STATUS CONVERSION. THIS WOULD HAPPEN IN A FIND EXPRESSION CONTAINING A KEY. THIS PATCH CORRECTS THE PROBLEM.

P4215 DMFILTER - LOOPING IN DMFILTER - 08-11-74

THIS PATCH CORRECTS A PROBLEM WHERE IN DMFILTER WOULD LOOP IF "(STATUS) WAS THE FIRST SCANNED ITEM ON A CARD.

P4216 DMFILTER - QUALIFICATION LOOK UP - 08-11-74

THIS PATCH IMPROVES THE QUALIFICATION LOOK UP IN THE DM FILTER, PREVIOUSLY, THE FILTER COULD GET LOST QUALIFICATING ITEMS OR A RENAMED SET WITH IMBEDDED SETS.

P4268 DMFILTER - SEG ARRY ACROSS ROW BOUNDARIES - 09-29-74

OCCASIONALLY, DIRECTORYCONTROL WOULD RETURN THE SETINFO ARRAY (ARRY) WITH THE SET ID SEGMENTED ACROSS TWO ROWS OF THIS ARRAY. THIS WOULD CAUSE A SEGMENTED ARRAY ERROR WHEN SCANNING OR REPLACING THE SEGMENTED ID.

P4423 DMFILTER - KEYCOUNT, KEYNUM - 10-20-74

IF A SET WITH AN ORDERING KEY WAS INVOKED AS AN ALIAS, THE KEY NUMBER FOR THIS KEY WAS BE CATALOGUED AND THE KEYCOUNT WAS NOT BUMPED ACCORDINGLY. THIS CAUSED THE GENERATION OF IMPROPER KEY NAMES IN THE PROCEDURE DIVISION. THIS PROBLEM HAS BEEN CORRECTED.

P4424 DMFILTER - FLUSHWORKA - 10-20-74

WHEN THERE WERE NON-BLANK CHARACTERS IN THE WORK ARRAY IN THE FIVE COLUMNS CORRESPONDING TO COLUMNS 68-72 OF THE OUTPUT CARD IMAGE, DMFILTER MIGHT LOSE THESE CHARACTERS IN WRITING THE OUTPUT IMAGE.

P4425 DMFILTER - INVALID POINTER - 10-20-74

AN OLD DM DELETE IASET OR DASET (I.E.,DELETE IASI ON EXCEPTION ...) NO LONGER TRANSLATES THEIR SET TO AN INVALID SET NAME.

P4426 DMFILTER - CATALOGUE ALIAS SIZE - 10-20-74

IF A SET WAS INVOKED UNDER AN ALIAS AND THIS ALIAS NAME WAS GREATER THAN 17 CHARACTERS, THIS ALIAS WOULD BE CATALOGUED AS 17 CHARACTERS WITH A SIZE FIELD OF OVER 17 CHARACTERS, CAUSING NULL LOOKUPS ON THE ALIAS, CAUSING IMPROPER INVOKES. THIS PROBLEM HAS BEEN CORRECTED.

P4427 DMFILTER - CONTIGUOUS CHARACTERS - 10-20-74

A STRING STATEMENT IN THE FILTER CAUSED TWO WORDS TO BE PUT TOGETHER INTO ONE WORD, RESULTING IN A SYNTAX ERROR. THIS PATCH CORRECTS THE PROBLEM.

P4428 DMFILTER - CARDEX TOTAL SIZE FIELD - 10-20-74

THE TOTAL SIZE FIELD WAS NOT LARGE ENOUGH TO REPRESENT THE TOTAL SIZE OF SOME CARDEX ENTRIES. THE RESULT WAS A TRUNCATION OF THAT NUMBER CAUSING ERRONEOUS LOOKUPS. THE PROBLEM HAS BEEN CORRECTED.

SOFTWARE IMPROVEMENTS

P4429 DMFILTER - GLOBAL QUALIFICATION - 10-20-74

IF THE FILTER FINDS A GLOBAL ITEM, IT IS SUPPOSED TO REPLACE ANY QUALIFICATION OF IT BY A QUALIFICATION OF THE PROPER THE FILTER WAS NOT CANNING OF THE ORIGINAL GLOBAL QUALIFICATION COMPLETELY, CAUSING AN ERRONEOUS QUALIICATION AND SYNTAX ERROR, WHICH HAS BEEN CORRECTED.

P4430 DMFILTER - NEXT STATEMENT AFTER CREATE - 10-20-74

IF THE FILTER SAW A CREATE <IASET>... OR CREATE <DASET>... IT WOULD NOT REINITIALIZE PROPERLY FOR THE NEXT STATEMENT. CAUSING IT TO BE SKIPPED. THIS PROBLEM HAS BEEN CORRECTED.

P4903 DMFILTER - FIVE CHARACTER STRING - 11-30-74

THIS PATCH CORRECTS BAD LOOKUPS ON A FIVE CHARACTER STRING, WHICH RESULTED IN NOT FINDING THE CARDEX INFORMATION FOR THE ID AND SUBSEQUENTLY, BAD FILTERING.

P4904 DMFILTER - DASET CONVERSION - 11-30-74

PRIOR TO THIS PATCH, THERE WERE TRANSLATION PROBLEMS WITH DA SETS AND ESPECIALLY ALIASES OF DA SETS.

P4905 DMFILTER - EMBEDDED SET STATUS - 11-30-74

THE STATUS OF AN EMBEDDED SET IS NO LONGER TRANSLATED IMPROPERLY.

DMS II - DMLOAD GENERATOR

P3834 DMLOADGEN - VALIDITY LINKS - 07-07-74

THIS PATCH CORRECTS A PROBLEM WHEREIN DMLOAD WOULD LOAD AN SREF EVEN THOUGH ITS ITEM BIT MARKED IT NULL.

P3835 DMLOADGEN - OVERFLOW PAST COLUMN 72 - 07-07-74

WHEN GENERATING THE CODE FOR A STORE ON A DISJOINT DATA SET WHOSE NAME CONTAINED OVER 14 CHARACTERS, THE STORE SET NAME/ON EXCEPTION CLAUSE WOULD EXCEED THE 72RD. COLUMN OF THE OBJECT CARD YIELDING A BAD COBOL STATEMENT.

P3836 DMLOADGEN - OPEN EXCEPTION - 07-07-74

IF THE PROGRAM GENERATED BY DMLOADGEN RECEIVED AN EXCEPTION AT DATA-BASE OPEN TIME, IT WOULD BLOW UP WITH AN "UNOPENED FILE" WHEN TRYING TO PRINT THE ERROR MESSAGE.

P3837 DMLOADGEN - ELIM SIGNED FIELDS NOT REQ - 07-07-74

DMLOADGEN WAS INSERTING A SIGN FIELD "S" FOR AN UNSIGNED ITEM.

P4907 DMLOADGEN - RESET PATCH NUMBER - 11-30-74

THIS PATCH RESETS PATCH NUMBER PRIOR TO II.7 RELEASE.

P5016 DMLOADGEN - DOLLAR CARDS - 12-11-74

DMLOADGEN PREVIOUSLY GENERATED TWO DOLLAR CARDS ($ BDMS AND $ SKIPFIRST) WITH THE $ IN COLUMN SEVEN. THIS WOULD CAUSE THEM TO BE LOST IN A NEW SYMBOLIC AFTER A COBOL COMPUTATION.

P5017 DMLOADGEN - INVALID MASTER STATUS - 12-11-74

INVALIDMASTER WAS BEEN DE-IMPLEMENTED.

DMS II - DMMAPPER

P3838 DMMAPPER - DUPLICATES FIRST AND LAST - 07-07-74

DMMAPPER DID NOT HANDLE DUPLICATES FIRST OR DUPLICATES LAST.

P4908 DMMAPPER - ERROR MESSAGE FOR RANDOM - 11-30-74

PRIOR TO THIS PATCH, DMMAPPER GAVE A TRANSLATION ERROR FOR RANDOM DISJOINT SETS.

DMS II - INTERFACE

P3519 INTERFACE - POPULATION ITEM AND STRUCTURE - 04-18-74

THIS PATCH ENABLES BDMSALGOL AND BDMSCOBOL TO PRINT WITH EACH ITEM OF TYPE POPULATION THE NAME OF THE STRUCTURE FOR WHICH IT IS A POPULATION.

P3559 INTERFACE - DESCRIPTION TOO BIG - 04-18-74

THIS PATCH FIXES AN INVALID INDEX IN THE INTERFACE CAUSED BY THE FACT THAT A DESCRIPTION WAS TOO BIG FOR THE ARRAY WHICH THE INTERFACE WAS USING.

P3741 INTERFACE - INTERFACE INVOKE LOOP - 05-30-74

USE OF AN IMPROPER INDEX SET NAME RESULTED IN A PERMANENT LOOP IN DATABASE INTERFACE.

P3839 INTERFACE - NULL VALUES - 07-07-74

THE MANNER IN WHICH THE INTERFACE ROUTINE FINDS THE NULL VALUE WHEN ALL "F" IS NOT SET HAS BEEN CHANGED. THE INTERFACE WAS LOOKING AT THE END OF THE PROPERTIES FOR THE DATA ITEM; IT NOW LOOKS THE PLACE IN THE DESCRIPTION SPECIFIED BY NULLITLOC. THESE TWO ARE THE SAME NOW.

P3840 INTERFACE - SEQUENCE ERROR - 07-07-74

THIS PATCH FIXES A SEQUENCE ERROR IN THE SYMBOLIC FOR DATABASE/ INTERFACE.

P3841 INTERFACE - COMPATABILITY - 07-07-74

THIS PATCH MAKE THE INTERFACE UPWARD COMPATIBLE WITH FUTURE COMPILERS.

SOFTWARE IMPROVEMENTS

P3842 INTERFACE - MULTI-SIB OPERATIONS - 07-07-74

THIS PATCH DISALLOWS DATAMANAGEMENT OPERATIONS INVOLVING MORE THAN ONE SIB. OPERATIONS INVOLVING STRUCTURES IN MORE THAN ONE SIB CREATE SERIOUS IF NOT INSURMOUNTABLE PROBLEMS FOR AUDIT AND RECOVERY.

P4140 INTERFACE - SEGMENTED ARRAY ERROR ON OPEN - 08-11-74

THIS PATCH CORRECTS A PROBLEM WHICH WOULD CAUSE THE INTERFACE TO GET A SEGMENTED ARRAY ERROR WHILE PROCESSING AN OPEN STATEMENT.

P4217 INTERFACE - WAIT FOR DASDL - 08-11-74

A COMPILE TIME OPTION HAS BEEN ADDED TO DATABASE/INTERFACE. THE OPTION IS CALLED WAITFORDASDL. IF IT IS SET, THE INTERFACE WILL OPEN THE DESCRIPTION FILE WITH AN OPEN INSTEAD OF A PRESENT.

P4218 INTERFACE - WRONG DATASET PROBLEM - 08-11-74

THE ERROR "WRONG DATA" SET WAS BEING GENERATED UNCONDITIONALLY FOR FIND VIA STATEMENTS INVOLVING SYMBOLIC LINKS AND SELF CORRECTING LINKS.

P4219 INTERFACE - TOO MANY STRUCTURES - 08-11-74

THIS PATCH IMPLEMENTS A CHECK FOR MORE THAN 256 STRUCTURES IN A SIB. IF MORE THAN 256 STRUCTURES ARE INVOKED A SYNTAX ERROR WILL RESULT.

P4713 INTERFACE - PLI INTERFACE - 11-17-74

PLI CHANGES ITS INFO INDICES BETWEEN PASS 1 AND PASS 2. A NEW VARIANT OF THE BLOCKV MACRO HAS BEEN IMPLEMENTED TO ALLOW PLI TO COMMUNICATE THESE CHANGES TO THE INTERFACE.

P4909 INTERFACE - COMPILER LEVEL NUMBER - 11-30-74

THIS PATCH CHANGES THE COMPILER-INTERFACE LEVEL NUMBER TO 4 IN THE INTERFACE. THIS WILL PREVENT II.7 INTERFACE FROM RUNNING WITH II.6

COMPILER.

DMS II - ONLINEDUMP

P3520 ONLINEDUMP - REEL SWITCH ERROR - 04-18-74

THIS PATCH FIXES A PROBLEM IN WHICH AN INVALID INDEX COULD OCCUR JUST AFTER A REEL SWITCH ON A RECONSTRUCT IF NOT ALL FILES ON THE TAPE WERE SPECIFIED.

P3619 ONLINEDUMP - INVALID INDEX A REEL SWITCH - 05-12-74

THIS PATCH FIXES AN INVALID INDEX WHICH OCCURRED WHEN REEL SWITCHING IF THE MAXIMUM NUMBER OF VOLUMES WERE USED.

P3620 ONLINEDUMP - PREVENT COPY OF EMPTY FILES - 05-12-74

THIS PATCH PREVENTS COPIES OF EMPTY FILES FROM BEING DUMPED TO TAPE.

P3669 ONLINEDUMP - EXPAND INTERNAL ARRAY SIZES - 05-12-74

THIS PATCH EXPANDS THE SIZE OF INTERNAL ARRAYS TO ALLOW COPYING MORE THAN 1000 ROWS.

P3671 ONLINEDUMP - FIX INV INDEX AT REEL SWITCH - 05-12-74

THIS PATCH FIXES AN INVALID INDEX WHEN REEL SWITCHING ON DUMP OR COPY TO TAPE.

P3672 ONLINEDUMP - INCREASE SAVE FACTOR - 05-12-74

THIS PATCH INCREASES TAPE SAVE FACTOR FROM 1 TO 999.

P3673 ONLINEDUMP - QUOTED STRING ON DUMP <ID>= - 05-12-74

ONLINEDUMP NOW WORKS PROPERLY IN REGARD TO QUOTED STRING IDENTIFIERS FOUND ON A DUMP OR COPY TO DISK WHEN THE SPECIFIED FILE IS AN "EQUAL".

SOFTWARE IMPROVEMENTS

P3742 ONLINEDUMP - FIX LARGE DIRECTORY - 05-30-74

WITH LARGE DIRECTORIES, ONLINEDUMP WOULD SOMETIMES FAIL TO FIND A FILE ON THE TAPE. THIS PATCH CORRECTS THIS. (NOTE: TAPE WERE BEING CREATED PROPERLY, ONLY THE COPY FROM TAPE ACTION FAILED).

P3743 ONLINEDUMP - CANCEL I-O PENDINGS - 05-30-74

THIS PATCH IMPLEMENTS AN I-O CANCEL ON BUFFERS WHICH DO NOT GET I-O RESULTS WITHIN 20 SECONDS.

P4221 ONLINEDUMP - FIX PROBLEM WITH ROWS COPIED - 08-11-74

THIS PATCH FIXES VARIOUS PROBLEMS (ATTRIBUTES ERRORS, NO FILES, NO 7 TRK. MT., INV. INDEX, DIVIDE BY ZERO) WHEN COPING FROM A TAPE TO WHICH A LARGE NUMBER OF ROWS WERE COPIED.

P4269 ONLINEDUMP - WAIT FOR EXCLUSIVE FILES - 09-29-74

THIS PATCH CORRECTS A BUG WHICH TREATS FILES IN USE BY OTHER PROGRAMS WHERE THEY ARE "EXCLUSIVE" AS IF THEY WERE NOT PRESENT. NOW ONLINEDUMP WILL WAIT.

P4408 ONLINEDUMP - ERROR FOR RECON ONTO ITSELF - 08-11-74

A SYNTAX ERROR IS GIVING WHEN ATTEMPTING TO RECONSTRUCT A DATABASE ONTO ITSELF.

P4890 ONLINEDUMP - DUMPING EMPTY DIRECT DATA SETS - 11-30-74

THIS PATCH ALLOWS DUMPING OF EMPTY DIRECT DATASETS.

DMS II - ONLINEDUMP

D0952 ONLINEDUMP - RECONSTRUCT "ONTO" FILE - 08-11-74

THIS PATCH ALLOWS THE USER TO SPECIFY THE FILES ONTO WHICH THE ROWS ARE COPIED PRIOR TO THE RECONSTRUCTION. A FILE MAY NOT BE COPIED ONTO ITSELF UNLESS A REBUILD OPERATION IS PERFORMED. (SEE D0897).

THE SYNTAX IS EXTENDED TO INCLUDE:

"ONTO <FILE ID>" AFTER PACK FILE SPECIFICATION.

EXAMPLES: RECONSTRUCT A/=(KIND=PACK) ONTO B/=FROMX

RECONSTRUCT A ONTO C FROM TAPEID

RECONSTRUCT A/B ONTO C/B, B/D ONTO C/D FROMX

D0953 ONLINEDUMP - ADD FAMILYINDEX - 08-11-74

THIS PATCH ADDS FAMILYINDEX TO ONLINEDUMP.

"FAMILYINDEX" MAY NOW BE USED IN AN OPTION LIST IN CONJUNCTION WITH OTHER ROW OPTIONS.

EXAMPLE :

RECONSTRUCT A/= (FAMILYINDEX = 2) FROM TAPE.

D0979 ONLINEDUMP - ONLINEDUMP TAPE COMPARE - 05-12-74

THIS PATCH ALLOWS USER TO RESET THE TAPE COMPARE FUNCTION OF ONLINEDUMP. TO DO THIS, SET THE DOLLAR OPTION "NOTAPECOMPARE" WHEN COMPILING ONLINEDUMP.

D0980 ONLINEDUMP - ADD DIRECTORY FOR PACKS - 08-11-74

THIS PATCH ADDS COPY DIRECTORY /= FOR PACKS.

D0981 ONLINEDUMP - RECOVER TAPE IO ERRORS ON DUMP - 07-07-74

D0981 ONLINEDUMP - RECOVER TAPE IO ERRORS ON DUMP - 07-07-74

DURING A DUMP OR COPY TO TAPE OPERATION, TAPE IO ERRORS CAUSED TERMINATION OF ONLINEDUMP. WITH THIS PATCH ONLINEDUMP HALTS AND DISPLAYS A MESSAGE INDICATING THAT AN ERROR HAS OCCURRED AND THAT ONLINEDUMP WILL TRY A NEW REEL IF <MIX>AXOK IS ENTERED. IF OK IS ENTERED A CLOSE PURGE ON THE REEL CAUSING THE ERROR IS DONE AND A NEW REEL IS SOUGHT.

SOFTWARE IMPROVEMENTS

DMS II - PRINTAUDIT

P3621 PRINTAUDIT - AUDITYPE INITIALYZE ERROR - 05-12-74

THIS PATCH FIXES A PROBLEM IN WHICH AUDTYPE WAS NOT BEING INITIALIZED WHEN THE USER WAS SELECTING ONLY CERTAIN RECORDS TO PRINT.

P4222 PRINTAUDIT - WAIT IF NO FILES - 08-11-74

PRINTAUDIT NOW WAITS IN A "NO FILE" CONDITION, INSTEAD OF TERMINATING WITH ERROR 9 WHEN THE AUDIT FILE IS NOT PRESENT.

P4431 PRINTAUDIT - SPO INPUT - 10-20-74

IF RUN WITH TASKVALUE = 1, PRINTAUDIT WLL NOW TAKE A LINE OF INPUT FROM THE SPO INSTEAD OF THE CARD FILE.

P4432 PRINTAUDIT - PARTIAL RECORDS - 10-20-74

THE PRINTING OF PARTIAL RECORDS HAS BEEN CORRECTED.

P4433 PRINTAUDIT - "*" SYNTAX - 10-20-74

THIS PATCH FIXES SYNTAX USING "*" IF AUDIT FILE IS ON TAPE.

P4714 PRINTAUDIT - NEW TITLE FOR PACK - 11-17-74

THIS PATCH REQUIRED BY CHANGE IN TITLE FORMAT FOR PACK FILES.

P4910 PRINTAUDIT - TAPE READ TWICE - 11-30-74

THIS PATCH OPTIMIZES "*" SYNTAX IF ON TAPE.

DMS II - PRINTAUDIT

D0747 PRINTAUDIT - PRINTAUDIT DESCRIPTION - 04-18-74

PRINTAUDIT PRINTS SELECTED PARTS OF DMS II TAPES (OR FILES). THE AUDIT MAY BE ON TAPE, DISK, OR PACK.

INPUT:

LABEL EQUATE FILE TAPE (OR AUDIT OR AUDITFILE) TO THE AUDIT FILE TO BE SCANNED.

FILE CARD:

IF THIS FILE IS NOT PRESENT, THE ENTIRE AUDIT FILE IS LISTED.

IF "CARD" IS PRESENT, THE FIRST CARD MUST GIVE THE STARTING AND ENDING BLOCK NUMBERS TO BE SCANNED. IF ONLY CERTAIN RECORDS ARE TO BE PRINTED, THE FIRST CARD INDICATES THAT ALL SUBSEQUENT CARDS WILL BE USED TO SELECT ALGOL TEXT, AND A COMPILE WILL BE ZIPPED CONTAINING THEM PLUS THE PROCEDURES OF THIS PROGRAM. THEY SHOULD INCLUDE A DEFINE OR PROCEDURE CALLED "USERPROCEDURE" WHICH WILL BE EXECUTED ONCE AS EACH AUDIT RECORD IS SCANNED. "USERPROCEDURE" SHOULD BE CODED TO EXAMINE THE AUDIT RECORD AND SET THE GLOBAL BOOLEAN VARIABLE PRINTIT TO TRUE OR FALSE, ACCORDING TO WHETHER THE AUDIT RECORD SHOULD BE PRINTED OR NOT. IF TASKVALUE IS NOT EQUAL TO ZERO THEN THE COMPILE IS ZIPPED WITH CLASS EQUAL TO ABS(TASKVALUE). IF TASKVALUE IS LESS THAN ZERO, THE CARDS WHICH ARE ZIPPED ARE LISTED.

SYNTAX OF FIRST CARD:

<FIRST CARD>::= <SERIAL SPEC> <BLOCK NUMBERS SPEC> <ALPHA SPEC> <SELECT SPEC>

<SERIAL SPECK>::= SERIAL / <EMPTY>

<BLOCKNUMBERS>::= <BLOCKNUM> <BLOCKNUM>

<BLOCKNUM>::= <UNSIGNED DECIMAL INTEGER> / (<HEX INTEGER>) /
* / * - <UNSIGNED DECIMAL INTEGER>

<ALPHA SPEC>::= ALPHA / NOALPHA / <EMPTY>

<SELECT SPEC>::= SELECT / <EMPTY>

SEMANTICS:

IF <SERIAL SPEC> IS EMPTY, THE BLOCKNUMBERS ARE THE MCP RECORD NUMBERS OF THE AUDIT FILE. THE FIRST BLOCK OF THE FILE IS BLOCK ZERO, THE NEXT IS BLOCK ONE, ETC., AND THE LAST BLOCK IS REFFERRED TO BY "*".

IF <SERIAL SPEC> IS "SERIAL", THEN THE FORMS USING "*" ARE ILLEGAL. IN THIS CASE THE BLOCK NUMBERS ARE THE STARTING AND ENDING AUDIT BLOCK SERIAL NUMBERS. IN THIS CASE (ONLY), REEL SWITCHING OF THE AUDIT FILE IS ALLOWED (AND WILL BE PERFORMED AUTOMATICALLY WHEN NECESSARY).

THE FIRST BLOCK NUMBER MUST BE LESS THAN OR EQUAL TO THE SECOND.

<ALPHA SPEC> DETERMINES WHETHER THE AUDIT RECORDS ARE DUMPED IN ALPHA AS WELL AS HEX. THE DEFAULT IS NOALPHA.

IF <SELECT SPEC> IS NULL, THEN ALL THE AUDIT RECORDS IN THE SPECIFIED BLOCKS ARE LISTED, AND ALL SUBSEQUENT CARD IMAGES IN "CARD" ARE IGNORED.

IF <SELECT SPEC> IS "SELECT", THE SUBSEQUENT CARDS MUST BE ALGOL STATEMENTS. IN THIS CASE A COMPILE WILL BE ZIPPED. THE SYMBOLIC FILE WHICH WILL BE USED AS INPUT TO THE ALGOL COMPILER (ALGOL FILE TAPE) MAY BE SPECIFIED BY LABEL EQUATING THE FILE SOURCE. THE DEFAULT IS SYMBOL/PRINTAUDIT. THE ALGOL TEXT SHOULD CONSIST OF DECLARATIONS FOLLOWED BY INITIALIZATION (IF ANY). ONE OF THE DECLARATIONS MUST BE A DEFINE OR PROCEDURE CALLED "USERPROCEDURE". IT WILL BE EXECUTED ONCE AS EACH AUDIT RECORD IS SCANNED. IT SHOULD SET THE BOOLEAN GLOBAL VARIABLE "PRINTIT" TO INDICATE WHETHER OR

NOT TO PRINT THE AUDIT RECORD UNDER SCAN. THE DECLARATIONS MAY ALSO OPTIONALLY INCLUDE A DEFINE OR PROCEDURE CALLED "USERWRAPUP". IT WILL BE CALLED ONCE AFTER THE LAST AUDIT RECORD HAS BEEN PROCESSED, JUST BEFORE EOJ. SINCE DECLARATIONS, INITIALIZATION CODE, INNER LOOP CODE, AND WRAPUP CODE MAY BE INCLUDED, THE USER MAY PROCESS THE AUDIT TRAIL WITH THIS PROGRAM AS WELL AS PRINT IT.

RELEVANT GLOBAL VARIABLES:

```
DEFINE AUDREC(X) = AUDIT[USERAUDINX+(X)]#;
```

AUDREC[0] IS THE ZEROTH WORD OF EACH AUDIT RECORD.

```
BOOLEAN PRINTIT;
```

INITIALLY TRUE FOR EACH AUDIT RECORD. THE USER MUST SET IT TO FALSE TO SUPPRESS PRINTING OF THE LOGICAL AUDIT RECORD UNDER SCAN.

```
REAL BLOCKADDR;
```

BLOCKADDR IS SET TO AUDREC[1].[47:28], WHICH IS (FOR MANY AUDIT RECORD TYPES) THE SEGMENT ADDRESS OF THE BLOCK IN THE DATABASE DATA FILE WHICH WAS CHANGED.

```
REAL WORDOFST;
```

WORDOFST IS SET TO AUDREC[1].[15:16], WHICH IS (FOR MANY AUDIT RECORD TYPES) THE WORDOFST INTO THE BLOCK OF THE PART WHICH WAS CHANGED.

```
REAL AUDITSNR;
```

CONTAINS THE STACK NUMBER IN THE AUDIT CONTROL WORD OF THE LOGICAL AUDIT RECORD.

```
REAL AUDITSN;
```

CONTAINS THE STRUCTURE NUMBER IN THE AUDIT CONTROL WORD.

```
REAL AUDITSZ;
```

CONTAINS THE SIZE IN WORDS OF THE LOGICAL AUDIT RECORD.

REAL AUDTYPE;

CONTAINS THE LOGICAL AUDIT RECORD TYPE.

ALL THE AUDIT DEFINES IN DATABASE/PROPERTIES MAY BE REFERENCED (E.G., THE AUDIT RECORD TYPES).

EXAMPLES:

```
<I>RUN DATABASE/PRINTAUDIT
<I>FILE TAPE=DB/AUDIT3
<I>END
```

THE ABOVE PROGRAM WILL PRINT ALL OF THE DISK AUDIT FILE DB/AUDIT3.

```
<I>RUN DATABASE/PRINTAUDIT
<I>FILE AUDIT(TITLE=TESTDB/AUDIT4, CYCLE=4, KIND=PETAPE)
<I>DATA CARD
      SERIAL (04FA) (0590) SELECT
DEFINE USERPROCEDURE=
BEGIN
     PRINTIT := FALSE;
     IF AUDITSN = 3 AND AUDTYPE = AISE THEN PRINTIT := TRUE;
END#;
<I>END
```

THE ABOVE PROGRAM WILL CAUSE A COMPILE AND GO TO BE ZIPPED WHICH WILL PRINT ONLY AISE (ADD INDEX=SEQUENTIAL ENTRY) AUDIT RECORDS FOR STRUCTURE THREE WHICH ARE CONTAINED IN THE AUDIT BLOCKS WITH SERIAL NUMBERS 04FA THROUGH 0590 (HEX) OF AUDIT TAPE FILE TESTDB/AUDIT4.

DMS II - PRINTIT

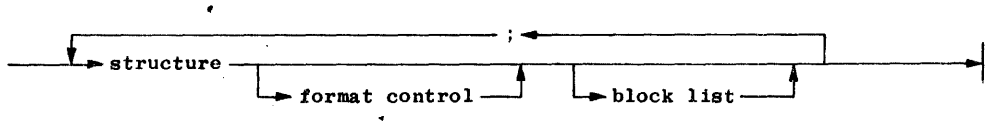
D0896 PRINTIT - DATA BASE PRINT PROGRAM - 01-12-75

DATABASE/PRINTIT

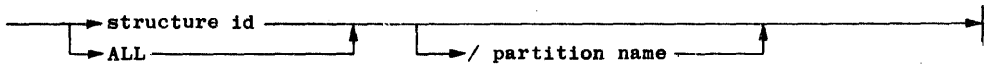
DATABASE/PRINTIT ALLOWS STRUCTURAL PRINTOUTS OF A DATABASE IT MUST BE COMPILED ONCE FOR EACH DATA BASE SINCE IT USES THE DESCRIPTION TO DETERMINE THE FORMAT OF THE DATA BASE FILES.

THE PROGRAM IS WRITTEN TO RUN FROM BATCH INPUT OR A REMOTE TERMINAL. IT CAN BE RUN AS A REMOTE PROGRAM BY LABEL-EQUATING FILES "CARD" AND "LINE" TO BOTH HAVE KIND = REMOTE.

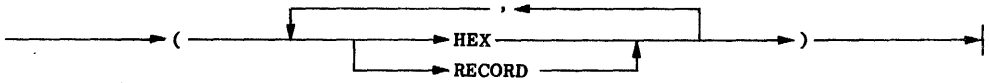
THE SYNTAX IS AS FOLLOWS:



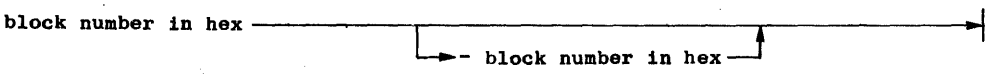
where structure:



format control:



block list:



THE STRUCTURE ID SELECTS WHICH STRUCTURE IS TO BE PRINTED.
THE DEFAULT PRINTOUT IS ACCORDING TO THE STRUCTURE OF THE FILE.
FOR EXAMPLE, IF A STANDARD DATA SET IS PRINTED, THE
DATA BLOCKS WILL BE PRINTED, SPLIT INTO RECORDS AND AVAILABLE
SPACES, FOLLOWED BY THE "DKTABLE" BLOCKS, WHICH GIVE THE

LOCATIONS OF THE AVAILABLE SPACES.

IT IS POSSIBLE TO GET A HEX PRINT OUT OF THE FILE BY SPECIFYING "HEX". IN THAT CASE, THE STRUCTURE-ORIENTED PRINTOUT IS NOT PROVIDED UNLESS "RECORD" IS ALSO SPECIFIED. THE DEFAULT IS "RECORD" ONLY.

THE BLOCK LIST GIVES THE BLOCK OR RANGE OF BLOCKS TO BE PRINTED. IF IT IS NOT SPECIFIED, ALL BLOCKS WILL PRINTED.

THE INPUT IS VIA QUOTED STRING AS A PARAMETER UNLESS THE FIRST CHARACTER OF THE QUOTED STRING IS AN "*". IN THIS CASE INPUT IS READ FROM "CARD".

SEVERAL FILES OR PIECES OF FILES MAY BE PRINTED IN THE SAME RUN BY SEPARATING STATEMENTS WITH SEMICOLONS. THERE IS AN IMPLIED SEMICOLON AT THE END OF EACH INPUT RECORD. AN END OF FILE WILL TERMINATE THE INPUT.

TO COMPILE THE PROGRAM FOR A PARTICULAR DATA BASE, COMPILE THE TAPE SOURCE "DATABASE/PRINTIT" WITH DMALGOL LABEL-EQUATING THE ALGOL FILE "DASDL" TO THE APPROPRIATE DESCRIPTION FILE. IT IS A GOOD IDEA TO CHOOSE A CODE FILE NAME INDICATING THE DATA BASE NAME.

EXAMPLE FOR DATA BASE MYDB:

```
? COMPILE PRINTIT/MYDB WITH DMALGOL LIBRARY
?ALGOL FILE TAPE (TITLE=DATABASE/PRINTIT),
   DASDL( TITLE=DESCRIPTION/MYDB)
? DATA
$MERGE
? END
```

NOTE: "DATABASE/PRINTIT" INCLUDES PIECES OF THE "DATABASE/PROPERTIES" AND THE "DATABASE/SYMBOLIC". THEIR INTERNAL NAMES ARE "PROPERTIES" AND "SYMBOLIC", RESPECTIVELY.

DMS II - PROPERTIES

P3446 PROPERTIES - STOP LISTING - 03-28-74

WHEN A NEW PROPERTIES FILE IS GENERATED IT WILL BE LISTED BY THE PROPERTY GENERATION PROGRAM BUT NOT BY THE ALGOL COMPILER.

P3954 PROPERTIES - FIX SEQUENCE ERROR - 08-04-74

THIS PATCH CORRECTS SEQUENCE ERROR IN THE SYMBOLIC.

P4223 PROPERTIES - ERRORTYPE MNEMONICS - 08-11-74

THE COMPILERS NEED TO GET THE ERRORTYPE MNEMONICS BEFORE THE CALL THE INTERFACE. THIS PATCH ADDS A NEW SECTION TO DATABASE/ PROPERTIES WHICH WILL BE INCLUDED WHEN THE COMPILERS ARE COMPILED.

DMS II - RECOVERY

P3369 RECOVERY - ERASE PARTIAL AUDIT RECORD - 03-28-74

THIS PATCH FIXES A PROBLEM IN WHICH HALT/LOAD RECOVERY WAS NOT ALWAYS PROPERLY ERASING THE LAST PARTIAL RECORD AT THE END OF THE AUDIT FILE, IF ANY. DATA RECOVERY WOULD ABORT USING SUCH AN AUDIT TRAIL.

P3370 RECOVERY - AUDIT COMMENT RECORD - 03-28-74

THIS PATCH IMPLEMENTS THE AUDIT COMMENT RECORD.

P3371 RECOVERY - COSMETIC PATCH - 03-28-74

THIS PATCH MAKES COSMETIC CHANGES TO THE LISTING.

P3372 RECOVERY - DEBUG TRACE - 03-28-74

THIS PATCH IMPLEMENTS SOME ADDITIONAL DIAGNOSTIC TRACES IN THE RECOVERY SYMBOLIC.

P3373 RECOVERY - DATA SET CREATE-DELETE - 03-28-74

THIS PATCH FIXES PROBLEMS IN THE APPLICATION OF AUDIT BEFORE IMAGES FOR DATA SET CREATE AUDIT RECORDS, AND FOR APPLICATION OF AFTER IMAGES FOR DATA SET DELETE AUDIT RECORDS.

P3374 RECOVERY - STORAGE ALLOCATION TABLES - 03-28-74

THIS PATCH FIXES A PROBLEM IN WHICH THE STORAGE ALLOCATION TABLE FOR STANDARD DATA SETS WAS NOT ALWAYS BEING RECOVERED PROPERLY.

P3375 RECOVERY - AUDIT MISPOSITION AND LGRA - 03-28-74

THIS PATCH FIXES A PROBLEM IN WHICH IT WAS POSSIBLE FOR HALT/LOAD RECOVERY OR ABORT RECOVERY TO GET POSITIONED IMPROPERLY IN THE AUDIT TRAIL WITH UNPREDICTABLE RESULTS. ALSO, IT WAS POSSIBLE TO

SOFTWARE IMPROVEMENTS

GET AN EXTRA "LAST GOOD" RESTART AREA IN THE RESTART DATA SET UNDER SOME RARELY OCCURRING CONDITIONS.

P3376 RECOVERY - UPPER BOUND OF ABORT ARRAY - 03-28-74

THIS PATCH FIXES SEGMENTED ARRAY ERRORS IN ABORT WHEN THE DATA BASE CONTAINS VERY LARGE RECORDS IN THE RESTART DATA SET.

P3447 RECOVERY - REVERSE REELSWITCH - 03-28-74

THIS CHANGE CORRECTS A PROBLEM IN WHICH IF ABORT OR HALT/LOAD RECOVERY FOUND IT NECESSARY TO READ THE PREVIOUS AUDIT TAPE WHILE SCANNING THE AUDIT TRAIL IN THE REVERSE DIRECTION, IT WOULD DIVIDE BY ZERO.

P3448 RECOVERY - LASTRECORD DIAGNOSTIC - 03-28-74

THIS PATCH IMPLEMENTS A DIAGNOSTIC CHECK ON THE LASTRECORD ATTRIBUTE.

P3456 RECOVERY - STOP EXTRA RESTART AREAS - 03-28-74

THIS PATCH CORRECTS A PROBLEM IN WHICH ABORT RECOVERY WAS PUTTING IN A LAST GOOD RESTART AREA FOR EVERYONE WHO WAS RUNNING INSTEAD OF JUST THOSE JOBS WHICH WERE ABORTED.

P3457 RECOVERY - DMSII ZEROES FOR COMPATABILITY - 03-28-74

CERTAIN WORDS OF EACH DATA BASE FILE ARE ZEROED DURING RECOVERY IN ORDER TO BE ABLE TO TELL 2.6 FILES FROM FUTURE VERSIONS.

P3458 RECOVERY - RECOVERY OF RSD - 03-28-74

THIS PATCH CORRECTS A PROBLEM IN WHICH THE RESTART DATA SET WAS NOT RECOVERED PROPERLY BY HALT/LOAD OR ABORT RECOVERY.

P3459 RECOVERY - RECOVERY WITH LONG FILE TITLES - 03-28-74

THIS PATCH CORRECTS A PROBLEM WHICH CAUSED A SEGMENTED ARRAY ERROR IN RECOVERY, ABORT, OR RECONSTRUCTION WHEN THE RESTART DATA SET HAD

A LONG FILE TITLE.

P3460 RECOVERY - REQUIRE AUDITED DATABASE - 03-28-74

IT IS MEANINGLESS TO ATTEMPT TO COMPILE ANY OF THE RECOVERY ROUTINES WHEN AUDIT HAS NOT BEEN SET FOR A DATA BASE. THIS PATCH IMPLEMENTS A CHECK FOR THAT SITUATION.

P3561 RECOVERY - STAT OPTION FOR RECOVERY - 07-07-74

THIS PATCH IMPLEMENTS STAT COMPILE TIME OPTION IN RECOVERY FOR DEBUGGING PURPOSES.

P3567 RECOVERY - HL AFTER RECENT ABORT OR HL - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH IF A HALT/LOAD OCCURRED VERY SOON AFTER AN ABORT OR A PREVIOUS HALT/LOAD RECOVERY, HALT/LOAD RECOVERY WOULD NOT RECOVER THE DATA BASE PROPERLY.

P3568 RECOVERY - SECURITY ERR ON DATA SET PURGE - 04-18-74

THIS PATCH DELETES A SECURITY ERROR PROBLEM CAUSED BY TRYING TO DO A CLOSE-PURGE ON A FILE NOT IN THE DBS STACK.

P3591 RECOVERY - REELSWITCH LINKAGE - 05-12-74

IF BCP AND ECP (AND ALSO SPT) AUDIT RECORDS ARE IN THE SAME BLOCK AND AUDIT REELSWITCH OCCURS, THE ECP (AND SPT) RECORDS POINT BACK TO THE CONTROL RECORD INSTEAD OF THE BLOCK THEY ARE IN. THIS PATCH COMPENSATES FOR THIS CONDITION.

P3622 RECOVERY - NO NOTIFICATION OF ABORT - 05-12-74

THIS PATCH CORRECTS A PROBLEM IN WHICH SOME USERS WERE NOT NOTIFIED OF AN ABORT.

P3674 RECOVERY - BLOCK FOR VARIABLE FORMAT - 05-12-74

WHEN ADDRESS CHECK WAS SET, BLOCK 0 OF VARIABLE FORMAT DATA SETS WAS RECOVERED INCORRECTLY (IT HOLDS THE BEGINNING OF THE STORAGE

TABLES). THIS PATCH CORRECTS THIS PROBLEM.

P3745 RECOVERY - SINGLE STRUCTURE TRACE - 08-11-74

THIS PATCH IMPLEMENTS SINGLE STRUCTURE DIAGNOSTIC TRACE FOR RECOVERY.

P3846 RECOVERY - LOST RESTART AREAS - 07-07-74

H/L AND ABORT RECOVERY DID NOT PRESERVE RESTART AREAS WHICH HAD A TRANSACTION COUNT OF ALL BITS ON (WHICH IS THE CASE IMMEDIATELY AFTER A CREATE IS EXECUTED.)

P4143 RECOVERY - ETR AND CLOSE FOR ABORT - 08-11-74

ABORT RECOVERY WAS NOT INSURING THAT THE EOF OF THE RESTART DATA SET AND ITS SPANNING SETS WERE BEING UPDATED ON DISK. THUS, IF A HALT LOAD OCCURRED AFTER AN ABORT, THE EOF OF THE RESTART DATA SET AND IT SETS WOULD BE INCORRECT. THIS WOULD PROBABLY CAUSE A FAULT IN THE ACCESSROUTINES WHEN THE RESTART DATA SET WAS OPENED.

P4144 RECOVERY - MISSING CONTROL WORD - 08-11-74

HALT/LOAD AND ABORT RECOVERY WOULD BOMB IF THERE WERE NO CONTROL WORD IN THE LAST BLOCK OF THE LAST AUDIT TAPE. THIS PATCH FIXES THE PROBLEM.

P4145 RECOVERY - AUDIT SERIAL NUMBER - 08-11-74

THIS PATCH IMPLEMENTS A CHECK ON THE AUDIT BLOCK SERIAL NUMBERS AT REEL SWITCH TIME TO INSURE THAT NO BLOCKS ARE LOST.

P4224 RECOVERY - DMSII AUDIT NOT CLOSED IN TIME - 08-11-74

IN RECOVERY THE AUDIT FILE WAS NOT CLOSED SOON ENOUGH. IF AUDITING TO DISK OR PACK AND A HALT/LOAD OCCURS DURING RECOVERY AT THE WRONG TIME, THE END OF FILE OF THE AUDIT WOULD BE WRONG. RECONSTRUCTION WOULD FAIL IF IT NEEDED THIS AUDIT FILE.

SOFTWARE IMPROVEMENTS

P4225 RECOVERY - FUTURE IMPLEMENTATION - 08-11-74

THIS PATCH LAYS THE GROUNDWORK FOR FUTURE DEVELOPMENT.

P4226 RECOVERY - EXTEND AUDIT-RECOVERY FOR RDS - 08-11-74

THIS PATCH EXTENDS AUDIT/RECOVERY FOR RESTART DATA SETS AND SPANNING SETS.

P4270 RECOVERY - IMPROVE CODE SEG SIZES - 09-29-74

THIS PATCH ADJUSTS THE SIZES OF SOME CODE SEGMENTS.

P4271 RECOVERY - RECOVER NA CHAINS-LIM ERR - 09-29-74

THIS PATCH CORRECTS RECOVERY OF NEXT AVAILABLE CHAINS, (E.G. INDEX-SEQUENTIAL, ETC.) WHEN LIMIT ERRORS HAVE OCCURRED.

P4272 RECOVERY - DUP FILES - 09-29-74

THIS PATCH CHANGES FILE DECLARATION TO AVOID "DUP FILE" MESSAGES BETWEEN PACK AND TAPE.

P4273 RECOVERY - ABORT DS-ABLE ON NO FILE - 09-29-74

ABORT RECOVERY CAN NOW BE DS-ED IF IT HANGS IN A "NO FILE" ON THE AUDIT FILE.

P4434 RECOVERY - RESTART AREA - 10-20-74

WHEN A HALT-LOAD OCCURS AFTER THE DATABASE IS CLOSED, RECOVERY IS NOW PREVENTED FROM STORING THE LAST GOOD RESTART AREA FOR THE PROGRAM THAT CLOSED IT.

P4715 RECOVERY - UNNECESSARY RECONSTRUCTION - 11-17-74

IF RECONSTRUCTION IS ATTEMPTED AFTER AN ONLINEDUMP AND BEFORE ANY NEW AUDIT IS PRODUCED (E.G. WHEN DATA BASE CLOSED), RECONSTRUCTION IS NOT NECESSARY, IN FACT, NOT POSSIBLE. A MESSAGE TO THIS EFFECT

IS DISPLAYED, RATHER THAN THE PREVIOUS DIVIDE BY ZERO TERMINATION.

P4716 RECOVERY - AUDIT ERROR MESSAGES - 11-17-74

AN ERROR MESSAGE IS NOW DISPLAYED INSTEAD OF DIVIDING BY ZERO ON CERTAIN AUDIT ERRORS. ON CERTAIN AUDIT FAILURES ON TAPE IT IS ASSUMED THAT THE SITUATION IS THAT TAPE MARKS WERE NOT WRITTEN AFTER A HALT/LOAD AND AN ATTEMPT IS MADE TO CONTINUE.

P4911 RECOVERY - DISE, AISE-ONLY ENTRY - 11-30-74

PRIOR TO THIS PATCH, RECOVERY WOULD GET AN INVALID INDEX IN I-SEQ TABLE WHEN DELETING THE LAST ENTRY IN A TABLE OR BACKING OUT THE FIRST ADD OF AN ENTRY.

P4912 RECOVERY - ATTRIBUTE ERROR 64 - 11-30-74

RECOVERY WOULD GET FILE ATTRIBUTE ERROR 64 WHEN ALL ROWS OF THE LAST AUDIT FILE (ON DISK OR PACK) WERE ALLOCATED.

P4913 RECOVERY - ADDRESSCHECK WORD - 11-30-74

PRIOR TO THIS PATCH, ADDRESSCHECK WORD WAS NOT RECOVERED PROPERLY FOR BVEOF RECORDS.

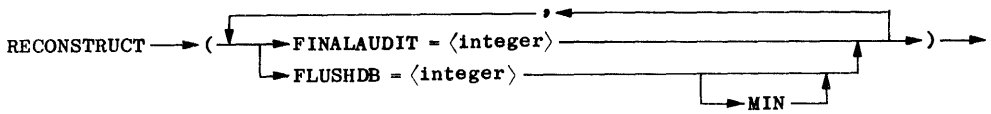
P5018 RECOVERY - STORAGE TABLES - 12-11-74

THIS PATCH FIXES THE STORAGE TABLES PROPERLY FOR STANDARD DATASETS WHEN THE RECORDS PER BLOCK = 1 AND ANY RECOVERY HAS OCCURRED.

DMS II - RECOVERY

D0897 RECOVERY - DMSII REBUILD DATABASE - 08-11-74

THIS PATCH ADDS THE FACILITY TO BRING THE DATABASE FORWARD FROM AN ONLINEDUMP TO A SPECIFIED AUDIT. THE SYNTAX TO INVOKE THIS IS:



THE FINAL AUDIT NUMBER IS THE NUMBER OF THE LAST TAPE OR DISK FILE TO BRING THE DATABASE THROUGH. FLUSHDB GIVES THE MAXIMUM NUMBER OF MINUTES LOST IF A HALT/LOAD OCCURS DURING THIS PROCESS. ONTO MAY BE SPECIFIED BUT BOTH FILE ID-S MUST BE THE SAME.

APPLYING THE AFTER IMAGES IN THE AUDIT TRAIL TO A BACKUP DUMP OF THE DATA BASE SHOULD BRING IT UP TO DATE FASTER THAN REPROCESSING ALL TRANSACTIONS SINCE THE BACKUP DUMP WAS TAKEN. REBUILDING THE DATA BASE MAY BE DONE IF THE DATA BASE WAS DUMPED WITH ONLINEDUMP, EVEN IF PROGRAMS WERE USING THE DATA BASE AT THE TIME OF THE DUMP.

NO PROGRAMS WILL BE PERMITTED TO USE THE DATA BASE DURING THE REBUILDING PROCESS. THE DATA BASE CANNOT BE REBUILT UNLESS THE ENTIRE DATA BASE WAS DUMPED.

FOR EXAMPLE, SUPPOSE THE DATA BASE IS "DB". THE FOLLOWING PROGRAM WILL DUMP THE ENTIRE DATA BASE TO TAPE :

```
?RUN DATABASE/ONELINEDUMP ("*")
? DATA CARD
      DUMP  DB/= TO DUMPTAPES
? END
```

SUPPOSE THE CURRENT AUDIT FILE NUMBER IS 4526. (THE LAST AUDIT FILE IS DB/AUDIT4526.) THEN, THE FOLLOWING PROGRAM WILL CAUSE THE DATA BASE TO BE REBUILT UP TO THE CURRENT TIME.

```
? RUN DATABASE/ONELINEDUMP ("*")
? DATA CARD
      RECONSTRUCT (FINALAUDIT = 4526)
                  = FROM DUMPTAPES
? END
```

ONELINEDUMP WILL LOAD THE DATA BASE AND FIRE OFF RECOVERY/DB. RECOVERY WILL FLUSH ALL ITS BUFFERS TO DISK APPROXIMATELY EVERY 20 MINUTES, SO THAT IN CASE THERE IS A HALT/LOAD, IT WILL NOT LOOSE MORE THAN 20 MINUTES WORTH OF PROCESSING. TO CHANGE THIS INTERVAL TO SAY, 10 MINUTES, THE FOLLOWING STATEMENT COULD BE USED :

```
RECONSTRUCT (FINALAUDIT=4526, FLUSHDB=10) = FROM DUMPTAPES
```

WHEN THE FINAL AUDIT FILE HAS BEEN PROCESSED, THE REBUILD PROCESS PERFORMS THE SAME FUNCTION AS HALT/LOAD RECOVERY. CONSEQUENTLY, THE LAST GOOD RESTART AREAS WILL BE STORED IN THE RESTART DATA SET FOR PROGRAMS THAT WERE ACTIVE AT THE POINT IN TIME OF THE LAST AUDIT FILE, IF ANY. ALSO, SINCE HALT/LOAD RECOVERY WRITES ON THE END OF THE AUDIT TRAIL, THE REBUILD PROCESS INTRODUCES A DISCONTINUITY AT THE END OF THE FINAL AUDIT FILE AND THUS CANNOT BE RERUN PAST THAT POINT AGAIN.

ANY PROGRAMS ATTEMPTING TO USE THE DATA BASE WHILE RECOVERY IS RUNNING WILL DISPLAY, "WAITING ON RECOVERY" AND WILL WAIT UNTIL RECOVERY COMPLETES SUCCESSFULLY.

IF RECOVERY IS DS-ED FOR ANY REASON, ANY SUBSEQUENT COPY OF THE RECOVERY FIRED UP WILL ATTEMPT TO CONTINUE THE REBUILDING PROCESS TO THE AUDIT FILE ORIGINALLY SPECIFIED.

THE REBUILDING PROCESS MAY BE USEFUL IF THE CURRENT DATA BASE BECOMES CORRUPTED FOR ANY REASON.

DMS II - VERIFYAUDIT

D0862 VERIFYAUDIT - VERIFYAUDIT PROGRAM - 08-11-74

THE PURPOSE OF THIS PROGRAM IS TO INSURE THAT THE HARDWARE CAN READ AUDIT TAPE BOTH FORWARDS AND BACKWARDS, AND THAT NO BLOCKS HAVE BEEN LOST WITHIN AN AUDIT TAPE FOR ANY REASON. THIS PROGRAM IS ZIPPED AS EACH AUDIT TAPE IS CLOSED BY THE ACCESSROUTINES IF THE VERIFY SYNTAX FOR AUDIT TAPES IS USED IN THE DASDL SPECIFICATION OF AUDIT TRAIL ATTRIBUTES. (SEE PRI 17131.)

THE OPERATION IS AS FOLLOWS. VERIFYAUDIT READS THE TAPE FORWARD TO THE END, CHECKING FOR:

1) I-O ERRORS
2) THAT THE AUDIT BLOCK SERIAL NUMBERS INCREASE BY ONE FOR EACH BLOCK, AND
3) THAT THERE IS NO DISCONTINUITY IN THE TIME STAMPS BETWEEN BLOCKS.

ON THE FORWARD PASS IT ALSO COMPUTES A CHECKSUM FOR EACH BLOCK AND SAVES THEM. UPON REACHING THE END OF FILE, VERIFYAUDIT READS THE ENTIRE TAPE BACKWARDS. AS IT DOES SO, IT RECOMPUTES THE CHECKSUM COMPUTED ON THE FORWARD PASS. ANY ERRORS WILL CAUSE AN APPROPRIATE MESAGE TO BE DISPLAYED. A REPORT IS PRINTED UPON COMPLETION.

IF A CHECKSUM MISMATCH OCCURS, THE DATA BASE MAY BE CLOBBERED BECAUSE THE HARDWARE IS LOSING BITS SOMEWHERE. IF THE TAPE UNIT IS AT FAULT, AN ON-LINE DUMP OF THE DATA BASE SHOULD BE STARTED AND PROCESSING CONTINUED. IF THE MULTIPLEXOR IS AT FAULT:

1) IT SHOULD BE FIXED,
2) A BACKUP DUMP OF THE ENTIRE DATA BASE SHOULD BE LOADED, AND
3) THE DATA BASE SHOULD BE BROUGHT FORWARD.

THE AUDIT TAPES MAY BE USED FOR THIS BY USING THE RECONSTRUCT SYNTAX IN ONLINEDUMP AND SPECIFYING A FINAL AUDIT FILE. AUDIT

TAPES WHICH HAD CHECKSUM MISMATCHES WHEN VERIFIED SHOULD BE ASSUMED TO HAVE BAD DATA, AND THE DATA BASE SHOULD BE BROUGHT FORWARD SHORT OF THE FIRST SUCH TAPE. SUBSEQUENT TRANSACTIONS WILL THEN HAVE TO BE RESUBMITTED.

DUMPALL

P3847 DUMPALL - TAPEMARK SKIP USING LIST OPT. - 07-07-74

THIS PATCH CORRECTS A ERROR THAT DUMPALL WILL NOT SKIP MORE THAN ONE TAPEMARK WHEN USING THE LIST OPTION.

P3848 DUMPALL - D-DSED MTPDPK ROUTINE - 07-07-74

THIS PATCH CORRECTS A D-DSED WITH A SEGMENT ARRAY ERROR WHEN USING THE TAPE TO DISK PACK ROUTINE WHILE SKIPING 1 TAPEMARK.

P3849 DUMPALL - CODE CLEAN-UP IN MARK FIELD - 07-07-74

THIS PATCH REMOVES GARBAGE CODE FROM THE MARK FIELD.

P3850 DUMPALL - CORRECTS CHARACTER SIZE ERROR - 07-07-74

THIS PATCH CORRECTS THE CHARACTER SIZE FOR AN EBCDIC FILE WITH A 10 OR 11 WORD MAXRECSIZE, WHICH DUMPALL LISTED AS BCL.

P4227 DUMPALL - BNF SYNTAX CORRECTION OF TEACH - 09-16-74

THIS PATCH CORRECTS AN ERROR IN THE BNF SYNTAX OUTPUT OF THE TEACH OPTION.

P4228 DUMPALL - OPTIMIZE SKIP IN LIST ROUTINES - 09-16-74

THIS PATCH OPTIMIZES THE SKIP OPTION OF THE LIST COMMAND.

P4229 DUMPALL - FILE ATTRIBUTE ERROR 49 - 09-16-74

THIS PATCH CORRECTS THE FILE ATTRIBUTE ERROR 49 WHEN LISTING FILES THAT ARE NOT OF THE KIND DISK OR PACK.

P4717 DUMPALL - PACK OPTIONS - 11-03-74

THIS PATCH MAKES SEVERAL CHANGES TO DUMPALL TO CORRECT ITS HANDLING

OF PACKS. THE OPTION "FILE" WILL NOW LIST VALUES FOR AREAS, AREASIZE, LASTRECORD, CREATIONDATE FOR FILES ON PACKS.

P4718 DUMPALL - SPECIAL CHARACTERS - 11-03-74

DUMPALL WILL NOW HANDLE FILE TITLES WHICH CONTAIN SPECIAL CHARACTERS.

SPECIAL CHARACTERS NOT ALLOWED ARE BLANK, ", #.

P4719 DUMPALL - CORRECT IOWORDS FOR 80 CHAR - 11-03-74

DUMPALL WILL NOW LIST THE CORRECT NUMBER OF IOWORDS FOR 80 CHARACTER RECORDS WITH THE "DMPMT" OPTION.

P4720 DUMPALL - ENTIRE DIRECTORY WITH LIBMT - 11-03-74

THIS PATCH CORRECTS THE PROBLEM WHERE ONLY 54 WORDS OF THE TAPE DIRECTORY WERE BEING LISTED WITH THE "LIBMT" OPTION.

P4735 DUMPALL - INPUT SCANNER CLEAN-UP - 11-17-74

THIS PATCH CORRECTS MANY F-DS BECAUSE OF ERRONEOUS INPUT PARAMETER STRINGS.

P4736 DUMPALL - CRUNCH OPTION - 11-17-74

THE CRUNCH OPTION FOR OUTPUT DISK OR PACK FILES HAS BEEN IMPLEMENTED.

P4737 DUMPALL - II.7 COPYRIGHT - 11-23-74

THE II.7 COPYRIGHT HAS BEEN UPDATED.

P4739 DUMPALL - PRINT DELIMITER CHAR OVERRIDE - 11-17-74

THIS PATCH WILL OVERRIDE THE PRINT DELIMITER CHARACTER, 4"CF", IN AN INPUT RECORD TO ALLOW THE LISTING OF THE COMPLETE RECORD.

DUMPALL

D0996 DUMPALL - PROTECTION OUTPUT FILES (DK) - 11-03-74

THE PROTECTION ATTRIBUTE FOR ALL OUTPUT DISK AND PACK FILES IS NOW SET TO TEMPORARY. PARTS OF FILES WILL NO LONGER BE LEFT ON DISK OR PACK DUE TO DUMPALL BEING DS-ED.

D0997 DUMPALL - AREAS AND AREASIZE INCREASE - 11-03-74

THE DISK ATTRIBUTE FLEXIBLE IS SET TRUE FOR ALL OUTPUT DISK AND PACK FILE TO ALLOW FOR VERY LARGE FILES.

DUMP ANALYZER

P3380 DUMPANALY - PREVENT NO FILE HANG - 03-28-74

THIS PATCH CORRECTS A PROBLEM IN WHICH DUMPANALYZER WAS HANGING ON A NO FILE "MCPNAMES".

P3381 DUMPANALY - PRINTING OVERLAYED HEADERS - 03-28-74

THIS PATCH PREVENTS USING AN ABSENT DESCRIPTOR FOR A HEADER WHICH HAS BEEN OVERLAYED AS A PRESENT DESCRIPTOR. THE HEADER IS MARKED AS "OVERLAYED" IN THE HEADER STACK ANALYSYS.

P3384 DUMPANALY - REDUCE CORE REQUIREMENT - 03-28-74

THIS PATCH REDUCES THE CORE REQUIREMENT OF DUMPANALYZER.

P3385 DUMPANALY - CHECKING TIMESTAMP-PRE 2.7 - 03-28-74

THE TIMESTAMP CHECKING IMPLEMENTED ON 2.7 DUPLICATE TAPES IS BYPASSED FOR PRE-2.7 TAPES, WHICH DO NOT CONTAIN SUFFICIENT INFORMATION FOR AN ACCURATE CHECK.

P3521 DUMPANALY - RECOVER BAD TAPES - 11-17-74

ATTEMPTS RECOVERY OF CERTAIN INFORMATION ERRORS ON DUMP TAPES. A MEMORY FAILURE CAUSED A ZERO TO BE PLACED IN A BUFFER WHERE INFORMATION BELONGED. THIS PATCH ATTEMPTS TO CORRECT THE ERROR BASED ON REDUNDANCIES IN THE REST OF THE BUFFER. CHANCES OF RECOVERY ARE ABOUT 90%.

P3596 DUMPANALY - QUEUE ANALYSIS - 05-12-74

THIS PATCH CORRECTS A PROBLEM IN WHICH DUMPANALYZER WOULD GET AN INVALID INDEX FAULT WHEN ATTEMPTING TO ANALYZE A LOCKED QUEUE DESCRIPTOR.

SOFTWARE IMPROVEMENTS

P3597 DUMPANALY - LOST GLOBAL IDENTIFIERS - 05-12-74

THIS PATCH CORRECTS A PROBLEM IN WHICH RECENT CHANGES TO COBOL CAUSED THE DUMPANALYZER TO THINK THE GLOBAL IDENTIFIERS WERE MISSING FROM THE MCP CODE FILE.

P3609 DUMPANALY - NO FILE HANG - 09-16-74

IF THE MCP CODE FILE NAME IS NOT ON THE DUMP TAPE (IF E.G. MCPINFO IS CLOBBERED), THEN THE NO FILE RSVP FOR THE DUMPANALYZER CODE FILE SAYS NOFILE MCPCODEFILE (PK) WHEREAS THE KIND SHOULD BE DK .
NOTE THAT A FA COMMAND MAY BE USED TO EQUATE THE PROPER CODE FILE AT RUN TIME.

P3639 DUMPANALY - NON-SPECIFIED INTRINSICS - 09-16-74

THE DUMPANALYZER NOW SAYS "NOT SPECIFIED" WHEN NO INTRINSICS WERE LOADED AT THE TIME A MEMORY DUMP WAS TAKEN. IT PREVIOUSLY PRINTED A NULL NAME.

P3748 DUMPANALY - NEW TASK ATTRIBUTES - 05-30-74

THIS PATCH IMPLEMENTS NOTATION FOR TASK ATTRIBUTES "TAPECOUNT" AND "TAPEPOOL" TO THE TASK EXPANSION OF STACK PRINTOUT.

P3768 DUMPANALY - NEW COMPILE-TIME OPTIONS - 09-29-74

THIS PATCH ADDS NEW MCP COMPILE TIME OPTIONS TO THE LIST KEPT BY THE DUMPANALYZER. ALSO CHARGES THE ALGORITHM USED TO PRINT OPTIONS OUT IN ALPHABETIC ORDER, SO THAT ADDING NEW OPTIONS TO THE MCP IS A MINOR PATCH RATHER THAN A MAJOR ONE.
ALSO CLEANS UP A SLIGHT BUG IN THE FORMATING OF THE "UNKNOWN OPTION" MESSAGE.
OPTIONS ADDED ARE :
DISKCHECK, LOCKTRACE, CATALOGALL, CATALOGLEVEL, AND USECATALOGDEFAULT.

SOFTWARE IMPROVEMENTS

P4009 DUMPANALY - LABELLED HEAD PER TRACK - 08-01-74

WHEN PRINTING THE LABEL INFORMATION FOR HEAD PER TRACK, THE PACK FORMAT IS USED FOR UINFO RATHER THAN THE TAPE FORMAT. SINCE THE LABELLED HEAD PER TRACK IS NEW, DUMPANALYZER WAS USING DEFAULT UINFO RATHER THAN PACK FORMAT.

P4010 DUMPANALY - FAULTS ON BAD CODE FILES - 08-01-74

THIS PATCH CORRECTS NUMEROUS FAULTS THAT CAN OCCUR IF A BAD CODE FILE IS USED FOR CERTAIN INFORMATION.

P4012 DUMPANALY - WRONG NUMBER OF DO CELLS - 08-01-74

INFORMATION IN CODEFILES CONCERNING THE NUMBER OF DO CELLS IN AN MCP WAS BEING TREATED IMPROPERLY. THIS RESULTED (AFTER HAVING WORKED FOR SOME TIME) IN PREMATURE END OF FILE ON AN INTERNAL DUMPANALYZER FILE. THE RESULT WAS THAT GLOBAL IDENTIFIERS WERE BEING SHOWN AS NOT AVAILABLE. THIS PATCH CORRECTS THE PROBLEM.

P4013 DUMPANALY - BAD INDEX ARRAXS - 08-01-74

WHEN A BAD CODE FILE CAUSES THE STACK, TASK AND FIB ARRAYS TO BE INVALID, FLAGS ARE SET BY THE DUMPANALYZER TO PREVENT THEIR USE. THESE FLAGS WERE NOT BEING TESTED PROPERLY, WITH THE RESULT THAT FAULTS COULD OCCUR. THIS PATCH CORRECTS THE PROBLEM.

P4014 DUMPANALY - IL, FA CODE FILES - 08-01-74

THIS PATCH DELETES SOME CODE WHICH IS RENDERED SUPERFLUOUS BY EXPANDED IL COMMAND AND BY NEW FA COMMAND. ALSO PREVENTS SPURIOUS FILE TITLE CHANGES ON IL-S.

P4274 DUMPANALY - ESCAPE CASE STMT - 09-16-74

USES THE ESCAPE "ELSE" FEATURE OF ALGOL NUMERIC CASE STATEMENT TO SIMPLIFY CODE WHICH DETERMINES LANGUAGE FOR A STACK.

SOFTWARE IMPROVEMENTS

P4275 DUMPANALY - UNIT TABLE ABOVE MAXUNIT - 09-16-74

THE UNIT TABLE ENTRIES ABOVE MAXUNIT CONTAINS INFORMATION RELATIVE TO FILE CATALOGING.
THIS PATCH PREVENT DUMPANALYZER FROM ERRONEOUSLY ANALYZING THESE WORDS.
SIDE EFFECT - MOVES DATACOM INFO TO START AT 75 INSTEAD OF 47 TO MAKE ROOM FOR THIS, AS WELL AS OTHER NEW INFORMATION.

P4276 DUMPANALY - PRINT NAME IN HEADERS - 09-16-74

THE HEADER FOR A II.7 DISK FILE CONTAINS THE FILE NAME. THIS PATCH PRINTS THAT NAME.

P4277 DUMPANALY - NEW DISK HEADER FORMATS - 09-16-74

THIS PATCH CHANGES ANALYSIS OF DISK HEADERS TO REFLECT II.7 FORMATS.

P4278 DUMPANALY - NEW HEADER WORD - 09-16-74

THIS PATCH PRINTS NEW HEADER WORDS BEYOND THE OLD FIRSTROWINDEX WHICH HAVE NO FUNCTION AS YET.

P4279 DUMPANALY - FAULT IN STACK ANALYSIS - 09-16-74

A FAULT STATEMENT IS ADDED TO HANDLE FAULTS IN STACK ANALYSIS INITIALIZATION.

P4280 DUMPANALY - SEG ARRAY IN LONG JOB MESSAGES - 09-16-74

VERY LONG JOB MESSAGES (AX, DISPLAY, RSVP) COULD CAUSE SEG ARRAY ERRORS AND RESULTANT LOSS OF STACK ANALYSIS. THIS PATCH CORRECTS THE PROBLEM.

P4281 DUMPANALY - NEW HEADER FORMATS - 09-29-74

MORE CHANGES TO HEADER STACK ANALYSIS TO REFLECT II.7. HEADER FORMAT CHANGES. THIS PATCH COVERS CHANGES TO "FIBINFO" (ADDS "SYSTEMFILE" FIELD), "SCRAMBLEMOD" (DELETES "SCRAMBLEMOD",

"BDNAME", ADDS "DMTIMESTAMP"), ADDS "TIMESTAMP", DELETES "NEXTAVAIL", ADDS "CYCLE" AND "VERSION".

P4282 DUMPANALY - NON-TAG-3 WORDS IN CODE AREA - 09-16-74

THIS PATCH FIXES THREE PROBLEMS IN AN EARLIER PATCH WHICH WAS SUPPOSED TO PRINT OUT A CODE AREA IF NON-TAG-3 WORDS ARE PRESENT, REGARDLESS OF THE "CODEDUMP" OPTION.

1) NOT ALL OF THE AREA WAS BEING SCANNED.
2) ONCE SUCH AN AREA WAS FOUND, THE ANALYZER THOUGHT ALL AREAS HAD THIS PROBLEM.
3) IT IS POSSIBLE TO HAVE NON-TAG-3 WORDS IN SEGMENT 5, SO THE CHECK IS OMITTED FOR THIS AREA.

P4283 DUMPANALY - ANALYSIS OF TASKFILE - 09-16-74

IF DUMPANALYZER IS RUN WITH THE FILE OPTION SET, THE TASKFILE IN THE BASE OF THE STACK WAS NOT BEING ANALYZED AS A FILE.

P4284 DUMPANALY - ONE CARD DUMP COMPATIBILITY - 09-16-74

A PAIR OF PATCHES WHICH MAKE THE MCP AND DUMPANALYZER COMPATIBLE WITH A ONE CARD TAPEDUMP PROGRAM WRITTEN BY "LARGE SYSTEMS SUPPORT GROUP".

P4285 DUMPANALY - RUNNING OFF END OF PROC DIR - 09-16-74

IN VERY RARE CASES, AN INVALID INDEX COULD OCCUR IN THE PROCEDURE "CREATEMCPNAMES".
THIS PATCH CORRECTS THE PROBLEM.

P4286 DUMPANALY - RESEQUENCE CREATEMCPNAMES - 09-16-74

THIS PATCH RESEQUENCES THE PROCEDURE "CREATEMCPNAMES", WHICH HAD RUN OUT OF ROOM IN SEVERAL PLACES.

SOFTWARE IMPROVEMENTS

P4287 DUMPANALY - DELETE ALL ZERO SEQ NUMBER - 09-16-74

THIS PATCH DELETES THE ALL ZERO SEQUENCE NUMBERS WHICH CAUSES PROBLEMS WITH COMPILING FROM REMOTE AND GIVES NEWTAPE SEQUENCE ERROR.

P4288 DUMPANALY - RESEQUENCE DUMPANALYZER - 09-16-74

DUMPANALYZER IS RESEQUENCED TO MAKE ROOM FOR FUTURE EXPANSION.

P4289 DUMPANALY - JOBDESC LINK IN WORD 0 OF HDR - 09-16-74

WORD ZERO OF A DISK HEADER FOR A JOBFILE IS NOT A DISK ADDRESS, BUT IS A LINK WITHIN THE JOBDESC FILE OF THE CONTROLLER. THIS SITUATION COULD CONFUSE THE UNWARY, SO THE ANALYSIS OF HEADERS HAS BEEN CHARGED TO SHOW THIS WORD AS A "JOBDESC LINK".

P4290 DUMPANALY - GARBAGE AFTER INTRINSIC NAME - 09-16-74

THIS PATCH CORRECTS A BUG WHICH CAUSED GARBAGE TO FOLLOW THE INTRINSIC NAME ON THE HEADER PAGE.

P4291 DUMPANALY - TOO FEW UNIT ENTRIES - 09-16-74

THIS PATCH FIXES A BUG WHICH CAUSED PREMATURE TERMINATION OF UNIT TABLE ANALYSIS.

P4292 DUMPANALY - SIB PRINT - 09-16-74

THIS PATCH ALLOWS SIB-S TO BE PRINTED WHEN THE "ARRAY" OPTION IS SET.

P4293 DUMPANALY - HDRO ADDRESS PRINT - 09-16-74

THIS PATCH PRINTS THE ADDRESS OF THE HDRO VECTOR WHEN ANALYZING DISKFILEHEADERS STACK.

SOFTWARE IMPROVEMENTS

P4295 DUMPANALY - UNIT TYPE CHANGE - 09-29-74

THIS PATCH CHANGES ARRANGEMENT OF DISK TYPE TABLE IN DUMPANALYZER TO CORRESPOND TO NEW VALUES OF DENSITY FIELD IN UNIT TABLE ENTRY.

P4296 DUMPANALY - BUG CAUSED BY RESEQUENCING - 09-29-74

A CONFLICT IN PATCH ORDER CAUSED TWO CARDS FROM A LATER PATCH TO BE PUT IN THE WRONG PLACE.

P4297 DUMPANALY - NON-PRESENT ARRAYS - 09-29-74

THIS PATCH FIXES A BUG WHICH CAUSED A USELESS AND UNNECESSARY RECURSION WHEN PRINTING THE DESCRIPTOR FOR AN ABSENT ARRAY.

P4298 DUMPANALY - MIX ALL-ACTIVE-DUMPING - 09-29-74

THIS PATCH FIXES A BUG CONCERNING TEMPORAL ORDER OF MIX ALL OR ACTIVE OR DUMPING CARDS.

P4299 DUMPANALY - TASK WORD "FAMILY" - 09-29-74

THIS PATCH PRINTS THE TASK ATTRIBUTE "FAMILY" INTO THE DUMPANALYZERS TABLES.

P4300 DUMPANALY - NEW HEADERS FORMATS - 09-29-74

THIS PATCH SWAPS THE LOCATION OF THE GENEALOGY WORD AND BDINFO WORD IN DISK FILE HEADERS.

P4301 DUMPANALY - ARRAY PRINT FIXES - 09-29-74

THIS PATCH CHANGES THE ARRAY PRINTING ROUTINE, SO THAT CHOOSING MEMORY AREAS WHOSE MOMS ARE ONE OR MORE LEVELS FROM THE STACK, IS MADE SOMEWHAT LESS TEDIOUS. MOST NOTABLY LEB-S FROM FIB-S WILL BE PRINTED IN MEMORY AS WELL AS IN STACKS.

SOFTWARE IMPROVEMENTS

P4302 DUMPANALY - UNIT TABLE UPDATE - 09-29-74

THIS PATCH BRINGS THE UNIT TABLE ANALYSIS UP TO DATE TO REFLECT CURRENT ALLOCATION OF BITS IN THE UNIT TABLE.

P4303 DUMPANALY - RESIDENT CHANGED TO PRESENT - 09-29-74

THE TEST "OPTIONS.RESIDENT" IS CHANGED TO "OPTIONS.PRESENT" IN THE CHECK FOR USER OPTIONS. THIS CHANGE WAS MADE BECAUSE A FILE "RESIDENT" TEST WOULD CAUSE A LABELLED SPO FILE TO BE CLOSED (WITH LOSS OF THE LABEL). HENCE, TO RUN DUMPANALYZER WITH A SPO INPUT FILE, IT WAS NECESSARY TO LABEL THE SPO TWICE. WITH THIS PATCH, IT IS ONLY LABELLED ONCE.

P4348 DUMPANALY - OPTION LISTING - 09-29-74

THIS PATCH ADDS LISTINGS OF THE VALUES OF THE FOLLOWING OPTIONS TO THE HEADING PAGE :

MIX = ACTIVE, MIX = DUMPING, AND UINFO.

P4435 DUMPANALY - BUFFS OPTION - 10-20-74

THE LAST WORD OF A FILE BUFFER IS PREVENTED FROM BEING LOST WHEN THE BUFFS OPTION IS SET.

P4436 DUMPANALY - LOCK ANALYSIS - 10-15-74

THIS PATCH IMPROVES ANALYSIS OF THE GLOBAL LOCKS AND REFLECTS RECENT ADDITIONS TO FIELDS WITHIN LOCK WORDS. THESE INCLUDE THE READER/WRITER BITS, THE SOFTWARE INTERRUPT ATTACH BITS AND THE SEGMENT NUMBER AT WHICH THE LOCK WAS PROCURED.

P4437 DUMPANALY - PATHCONTROL - 10-15-74

ANALYSIS OF THE PATHCONTROL WORD IN THE TASK HAS BEEN CORRECTED.

P4721 DUMPANALY - STATUS BROKEN - 10-15-74

THIS PATCH FIXES A BUG INTRODUCED IN A PREVIOUS PATCH. INFORMATION CONCERNING STACK KIND AND LANGUAGE WAS BEING THROWN AWAY.

P4722 DUMPANALY - TASK ARRAY - 10-27-74

THE ENTIRE TASK ARRAY, INCLUDING THE INFORMATION AT THE END, WILL BE PRINTED WHEN THE ARRAY OPTION IS SET. THIS IS DONE BECAUSE THE TASK ARRAY WILL NOT BE PRINTED IN MEMORY WHEN ARRAYPRINT IS SET.

P4723 DUMPANALY - BEDWORD IN STACK BASE - 10-27-74

THIS PATCH ADDS BEDWORD TO ANALYSIS OF STACK BASE.

P4724 DUMPANALY - VERIFYFAMILY CHANGES - 11-10-74

THIS PATCH INVOLVES CHANGE ANALYSIS OF HEAD-PER-TRACK/PACK UINFO WORD 0 TO ADD NEW FIELDS NEEDED BY VERIFYFAMILY: UBEINGVERIFYED, UBEENVERIFYED, AND UNEEDSVERIFYING.

P4725 DUMPANALY - ALL UINFO ENTRIES PRINTED - 11-10-74

THIS PATCH EXPANDS PRINTUINFO TO PRINT UINFO ENTRIES FOR NON DISK UNITS, SUCH AS TAPES AND PRINTERS.

P4726 DUMPANALY - USEGOLOC AND DACTIMESTAMP - 11-10-74

THIS PATCH ADDS USEGOLOC AND PACTIMESTAMP TO UINFO PRINTOUT. IT ALSO FIXES A BUG WHICH CAUSED THE LAST WORD OF AN INFO ENTRY TO BE LOST.

P4727 DUMPANALY - EXIT AFTER RAW DUMP - 11-17-74

THIS PATCH BYPASSES DESCRIPTOR ANALYSIS WHEN LISTING A RAW DUMP.

P4914 DUMPANALY - PRIORITY FOR OVERLAY PRINTOUT - 11-30-74

THIS PATCH ADDS THE PRIORITY NEEDED TO OVERLAY AREAS TO THE HEADING

INFO OF MEMORY AREAS.

P4915 DUMPANALY - LARGE ARRAYS FOR PROGRAMDUMP - 11-30-74

THIS PATCH MOVES LARGE ARRAYS TO LOWEST NUMBERS IN STACK SO THAT A PROGRAMDUMP CAN BE TAKEN WITH ARRAYS SET AND CLEARED AFTER GETTING ALL INFORMATION EXCEPT MEMORY.

P5020 DUMPANALY - SEQUENCE NUMBERS - 11-30-74

SEQUENCE NUMBERS ARE NOW PRINTED FOR USER FILES, THE INTRINSICS AND DATA MANAGEMENT ACCESSROUTINES IN STACKS.

P5021 DUMPANALY - COMPILER COMPATABILITY - 11-30-74

THIS PATCH ENHANCES COMPILER COMPATABILITY.

P5022 DUMPANALY - INDEX ARRAYS - 11-30-74

FLAGS INDICATING BAD INDEX ARRAYS, WHICH SHOULD HAVE BEEN SET FOR NON-PRESENT CODE FILE, WERE NOT BEING SET.

P5025 DUMPANALY - GRAPHICS FOR FILE BUFFERS - 11-30-74

THIS PATCH PRINTS GRAPHICS FOR FILE BUFFERS BESIDE THE BUFFERS NUMBER RATHER THAN INTERLINEARLY. THIS SAVES PAPER AND IS EASIER TO READ. ALSO, THE CALCULATION OF THE NUMBER OF WORDS PRINTED ON A LINE FOR BOTH ARRAYS AND FILE BUFFERS HAS BEEN CHANGED. CALCULATION IS NOW DYNAMIC, BASED ON COMPILE-TIME OPTION LONGPRINTER.

P5026 DUMPANALY - PRINT LINE - 12-30-74

THIS PATCH FIXES A PROBLEM WHICH CAUSED THE LAST OF A UINFO ENTRY FOR A NON-DRIVE DEVICE TO BE LOST.

P5027 DUMPANALY - ERROR CHECKING & NOTIFICATION - 12-11-74

THIS PATCH CHECKS FOR CERTAIN ERRORS WHICH CAUSED ABNORMAL DUMPANALYZER TERMINATIONS. ALSO, IT PUTS IN DISPLAYS TO NOTIFY

OPERATOR AND USER OF PROBLEMS. ONE OF THESE PROBLEMS IS THAT THE LAST MOD OF MEMORY MAY NO LONGER CONTAIN THE MCPSTACK ARRAY. THE SITUATION CAN BE PARTIALLY SALVAGED BY USING THE "RAW DEBUG" OPTIONS TO GET A RAW DUMP OF WHAT REMAINS.

P5095 DUMPANALY - PATCH NUMBER WRAPAROUND - 12-11-74

THE BACKWARD COMPATABILITY TEST HAS BEEN CHANGED.

P5104 DUMPANALY - FIELD SPECIFICATION - 12-11-74

TWO FIELDS IN THE JOB FILE HEADER ARE NOW BEING EXPANDED CORRECTLY.

P5109 DUMPANALY - DYING STACKS - 01-12-75

THIS CHANGE PREVENTS CERTAIN DUMPANALYZER FAULTS WHICH CAN OCCUR WHEN ANALYZING A STACK WHICH HAS JUST BEEN TERMINATED.

DUMP ANALYZER

D0731 DUMPANALY - DATACOM ANALYSIS - 03-28-74

THE DATACOM ANALYSIS SECTION OF DUMPANALYZER HAS BEEN REWRITTEN. THE NEW FORMAT IS MORE CONCISE AND EASIER TO READ. IN ADDITION, THE FOLLOWING DUMPANALYZER OPTIONS HAVE BEEN IMPLEMENTED:

1. NODATACOM - SUPRESS DATACOM ANALYSIS
2. STACKS - ALLOWS THE USER TO SELECT ANALYSIS OF SPECIFIC STACKS (E.G., STACKS 12,13,47).

THE STACK NUMBERS ARE SPECIFIED IN HEXADECIMAL.

D0732 DUMPANALY - LABEL EQ IN - PACK HANDLING - 03-28-74

THE HANDLING OF LABEL EQUATED CODE FILES AND CODE FILES ON DISK PACKS HAS BEEN IMPROVED. IT IS NOW POSSIBLE TO LABEL EQUATE ONLY THE KIND OF A FILE (E.G., USE A PACK COPY OF AN MCP OR DISK), WITHOUT HAVING TO SPECIFY THE TITLE. IT ALSO PROVIDES FOR CHECKING THE CREATION DATE AND TIME OF THE MCP CODE FILE. IF THE CODE FILE FOUND OR THE ONE LABEL EQUATED DOES NOT MATCH AS TO CREATION DATE AND TIME, OPERATOR INTERVENTION IN THE FORM OF AN AX INPUT MESSAGE IS REQUIRED.

D0748 DUMPANALY - MEMSTATS AND BAD LINKS - 04-18-74

THE HANDLING OF THE MEMORY STATISTICS AND STACK NAME PRINTOUT WHEN BAD LINKS ARE FOUND IN MEMORY HAS BEEN CHANGED. PREVIOUSLY, THIS SUMMARY WAS SUPPRESSED SINCE THE INFORMATION IT CONTAINED MIGHT NOT BE ACCURATE. IT WILL NOW BE PRINTED (WITH A WARNING MESSAGE) SO THAT THE NAMES AND NUMBERS OF STACKS WILL BE AVAILABLE.

D0762 DUMPANALY - RCW TRACE OF FORGOTTEN AREAS - 05-12-74

D0762 DUMPANALY - RCW TRACE OF FORGOTTEN AREAS - 05-12-74

WITH THIS CHANGE A TRACE OF THE RCW"S IN A STACK WHICH FORGETS A MEMORY AREA IS PRINTED. THE TRACE WILL BE DONE WHEN "LINKDUMP" IS SPECIFIED AND "DABMEM.DABTRACEF" IS TRUE. THE RCW ANALYSIS IS THE SAME AS FOR ONE IN THE STACK, I.E., THE EXPANDED RCW, THE LINE NUMBER (IF LINEINFO IS SET) AND THE NAME OF THE MCP ROUTINE IF MCP CODE. ADDITIONALLY THE STACK NUMBER IS ALSO PRINTED. THIS OPTION CAN BE USED WHEN TRYING TO FIND OUT HOW A MEMORY AREA CAME TO BE FORGOTTEN.

D0779 DUMPANALY - ARRAY PRINT FOR MOMS IN STACKS - 05-30-74

THIS FEATURE ADDS THE CAPABILITY OF PRINTING ARRAYS FOR WHICH THE MOMS EXIST IN STACKS AND ARE PRESENT. THE FORMAT USED IS THAT OF PROGRAMDUMP. THE ARRAY IS NOT PRINTED WHEN MEMORY IS ANALYZED IF IT WAS PRINTED IN A STACK. THE ARRAY PRINT OPTION IS EXERCISED BY THE USE OF THE WORD "ARRAY" ON THE DATA CARDS FOR DUMPANALYZER.

D0808 DUMPANALY - FILES OPTION - 07-07-74

A "FILES" OPTION FOR THE DUMPANALYZER HAS BEEN IMPLEMENTED. THE OPTION IS INVOKED BY USING THE WORD "FILES" AS ONE OF THE DUMPANALYZER INPUT OPTIONS. THE RESULT IS AN EXPANDED F.I.B. JUST LIKE THAT PRODUCED BY PROGRAM DUMP FOR ALL ACTIVE FILES IN THE ANALYZED STACKS.

A BACKWARD COMPATIBILITY TEST HAS ALSO BEEN IMPLEMENTED. THE DUMPANALYZER WILL REFUSE TO ANALYZE DUMPS TAKEN ON MCP LEVELS PRIOR TO THE VALUE COMPILED INTO IT.

D0858 DUMPANALY - PRINT LENGTH OF STACK - 05-12-74

DUMPANALYZER WILL NOW PRINT THE LENGTH OF THE STACK IN HEX AND DECIMAL FOLLOWING THE ADDRESS OF BOSR AND LOSR.

D0860 DUMPANALY - FULLDUMP SETS STACKDUMP - 08-01-74

D0860 DUMPANALY - FULLDUMP SETS STACKDUMP - 08-01-74

THE STACK OPTION IS NOW SET WHEN THE FULLDUMP OPTION IS USED; OTHERWISE, THE STACKS WOULD NOT BE DUMPED.

D0867 DUMPANALY - CODEDUMP OF BAD CODE AREAS - 08-01-74

CODE AREAS WHICH ARE NOT ENTIRELY TAG 3 WORDS, WILL BE DUMPED REGARDLESS OF THE SETTING OF CODEDUMP.

THE DEFAULT SETTING OF CODEDUMP IS CHANGED FROM TRUE TO FALSE.

D0868 DUMPANALY - BUFF AND NO INTRINSICS OPTIONS - 08-01-74

TWO NEW OPTIONS HAVE BEEN IMPLEMENTED:

1. - BUFF - MUST FOLLOW THE FILES OPTION, IF USED, OTHERWISE THESE WILL NOT BE PRINTED.

2. - NOINTRINSICS - SUPPRESSES DUMP OF THE INTRINSIC STACK.

D0869 DUMPANALY - NEW RUN-TIME OPTIONS - 08-01-74

THE NEW RUN-TIME MCP OPTIONS

"NOFETCH"

"RESOURCECHECK", AND

"NOSUMMARY" HAVE BEEN ADDED TO THE DUMPANALYZER.

D0875 DUMPANALY - ERRORTYPE IN CREATEMCPNAMES - 11-23-74

THE MCP NAME CREATION PROCEDURE NOW ATTEMPTS TO GIVE A REASON WHEN IT FAILS TO CREATE THE MCP NAMES. THE REASON IS DISPLAYED AS A KEYWORD AT THE SPO AND WRITTEN TO THE PRINTED DUMP. THE KEYWORDS MEANINGS ARE:

LEVEL - INCORRECT ESPOL LEVEL FLAG.

SIZE - THE BINDINFO SIZE IS NOT CONSISTENT WITH CURRENT

D0875 DUMPANALY - ERRORTYPE IN CREATEMCPNAMES - 11-23-74

ESPOL LIMITATIONS.

RDMCP - AN EXCEPTION OCCURRED WHEN READING THE MCP CODE FILE.

RDFILE - AN EXCEPTION OCCURRED ON I/O TO AN INTERNAL FILE.

D0894 DUMPANALY - DESCRIPTOR ANALYSIS - 09-16-74

A PATCH SUBMITTED BY U.C.DAVIS WHICH PERFORMS DESCRIPTOR ANALYSIS, HAS BEEN ADDED. A LIST IS KEPT OF MEMORY AREAS AND THE DESCRIPTORS WHICH POINT TO THEM. ON COMPLETION OF MEMORY ANALYSIS, THE DESCRIPTORS ARE SORTED AND PRINTED AS A TABLE. THE ENTRIES CONSIST OF LISTINGS OF AREAS AND THE DESCRIPTORS POINTING TO THEM. THUS, SPURIOUS DESCRIPTORS MAY BE LOCATED, AS WELL AS AREAS WHICH NO LONGER HAVE MOMS. A LISTING IS ALSO GIVEN OF "UNUSUAL" DESCRIPTORS - THOSE WHICH DO NOT POINT TO ANY CURRENT MEMORY AREA. A NEW INPUT OPTION "NOSAVE" IS IMPLEMENTED. THIS OPTION, WHEN SET, INHIBITS ANALYSIS OF DESCRIPTORS TO SAVE AREAS.

D0899 DUMPANALY - INPUT OPTION DUMPING - 09-29-74

A NEW OPTION, DUMPING, IS IMPLEMENTED. THIS OPTON IS LIKE MIX = ACTIVE EXCEPT THAT ON A MULTI-PROCESSOR SYSTEM, THE STACK DUMP FOR STACKS ON PROCESSORS NOT INVOLVED IN THE DUMP WILL BE SUPPRESSED IF THEY ARE IN A NORMAL STATE. THUS, A VERY LARGE JOB WHICH HAPPENED TO BE EXCECUTING ON ONE PROCESSOR WHEN ANOTHER JOB IN ANOTHER PROCESSOR FAILED WILL NOT BE PRINTED, ASSUMING IT WAS IN A NORMAL STATE.

THE OPTION IS INVOKED BY THE USE OF THE FOLLOWING OPTION STATEMENT

MIX = DUMPING

MEMORY AREA FOR THIS STACK WILL NOT BE PRINTED.

D0954 DUMPANALY - NEW DUMPANALYZER OPTIONS - 09-16-74

TWO NEW DATACOM RELATED OPTIONS FOR SYSTEM/DUMPANALYZER, HAVE BEEN IMPLEMENTED. THE TWO NEW OPTIONS ARE DCPANALYSIS AND MSGANALYSIS, AND THEIR DEFAULT STATE IS RESET (FALSE). SETTING THESE TWO

D0954 DUMPANALY - NEW DUMPANALYZER OPTIONS - 09-16-74

OPTIONS IS ONLY MEANINGFULL IF THE OPTION NODATACOM IS NOT SET.

SETTING DCPANALYSIS WILL PRODUCE AN EXTRA LISTING AND ANALYSIS OF THE DCP TABLES. INCLUDED IN THE ANALYSIS ARE THE DCP LINE VECTORS, DCP LINE TABLES, AND DCP STATION TABLES. THIS OUTPUT IS IN ADDITION TO THE REGULAR DCC TABLE ANALYSIS BY DUMPANALYZER.

SETTING MSGANALYSIS WILL PRODUCE AN EXTRA LISTING AND ANALYSIS OF THE MESSAGES IN MEMORY AT THE TIME OF THE MEMORY DUMP. MESSAGES IN NON-TANKED DATACOM QUEUES IN THE DCALGOL QUEUE STACK WILL BE ANALYZED. IN ADDITION, IF DCPANALYSIS IS SET, MESSAGES IN THE DCP STATION TABLES WILL BE ANALYZED.

D0955 DUMPANALY - UINFO ANALYSIS -- 1 - 09-16-74

UINFO ANALYSIS WHEN PRINTING THE UNIT TABLE HAS BEEN IMPLEMENTED. EACH UINFO ENTRY IS PRINTED ALONG WITH THE UNIT ENTRY. A NEW OPTION UINFO IS PROVIDED. THIS OPTION IS SET BY DEFAULT.

D0998 DUMPANALY - STACK NUMBERS - 10-27-74

STACK NUMBERS, GIVEN WITH THE "STACK" OPTION, WILL BE IN HEXADECIMAL INSTEAD OF DECIMAL SO THAT THE "STACK" OPTION CAN BE MORE EASILY USED.

D1005 DUMPANALY - INNER BLOCK NAMES - 03-28-74

THE NAMES OF MANY INNER BLOCKS WHICH WERE NOT PREVIOUSLY AVAILABLE, (LISTED AS "** UNKNOWN/INNER BLOCK **") ARE NOW PRINTED. MULTIPLE PROCEDURES IN A USER SEGMENT AND PROCEDURES WITH NO LOCALS WILL BE LISTED AS "MULTPROC SEGMENT" AND THE NAME OF THE ENCLOSING BLOCK OR PROCEDURE RESPECTIVELY.

D1011 DUMPANALY - PRINT SEG5 PROCEDURE NAMES - 03-28-74

THE DUMPANALYZER WILL PRINT THE NAMES OF PROCEDURES WHEN ANALYZING RETURN CONTROL WORDS. THIS WILL BE DONE ONLY IF THE VARIABLE

D1011 DUMPANALY - PRINT SEG5 PROCEDURE NAMES - 03-28-74

"MCPNAMESAVAIL" IS SET, I.E., ONLY WHEN OPTION "NONAMES" IS RESET.

D1033 DUMPANALY - PROGRAMDUMP CREATING GLBL ID - 08-01-74

FIXES NUMEROUS SMALL PROBLEMS WITH THE DUMPANALYZER, NOTABLY THE HANDLING OF UNRECOGNIZED OPTIONS AND THE FIRST PAGE FORMAT. THE SETTING OF THE ARRAY AND FILES OPTION ARE NOW GIVEN.

WITH THE DEBUG OPTION SET, THE DUMPANALYZER WILL NOW TAKE A PROGRAMDUMP WHEN IT FINDS THAT IT CANNOT PROCESS THE GLOBAL IDENTIFIERS FOR SOME REASON. THIS WILL HELP IN THE SOLUTION OF FREQUENT LOSS OF THE GLOBALS WHENEVER COMPILER OR BINDER CHANGES ARE MADE.

D1034 DUMPANALY - DISK-PACK HEADER ANALYSIS - 03-28-74

THE ANALYSIS OF THE DISK-PACK WORD OF THE HEADER HAS BEEN REFINED DUE TO CHANGES TO DISK ROW ADDRESS WORD FORMAT, IT ADDS DECODING OF WRITENON, WROTELASTROW AND CHECKEOF BITS AND NAMEDPACK BIT OF ACCESSDATEWORD. IT USES NEW FORMAT FOR ALLOCATEDROWF AND INDEXWASSETF IN MASS ADDRESS WORDS. IT PRINTS THE FILE KIND (E.G., DCALGOLCODE) AND WILL ALSO PRINT OUT MASS ADDRESS WORDS IN HEX IF DEBUG IS SET.

D1039 DUMPANALY - RAWDUMP AND DEBUGGING - 11-10-74

MOST NORMAL PROCESSING IS NOW BYPASSED IF BOTH RAWDUMP AND DEBUGGING ARE SET. THIS WOULD USUALLY BE DONE IF A PROBLEM WITH THE DUMP TAPE WAS SUSPECTED. FORMERLY, INVALID JOB TERMINATION MIGHT RESULT WITH LOSS OF RELEVANT INFORMATION REGARDING TAPE - NOW IT WILL BE DUMPED FOR ANALYSIS.

D1042 DUMPANALY - STACKLIMIT TASK WORD - 04-18-74

THE STACKLIMIT WORD IN THE TASK ARRAY IS NOW ANALYZED.

D1049 DUMPANALY - FAULT DISPLAY CHANGE - 03-28-74

D1049 DUMPANALY - FAULT DISPLAY CHANGE - 03-28-74

THE MANNER IN WHICH FAULT MESSAGES ARE DISPLAYED BY THE DUMPANALYZER HAS BEEN CHANGED.

THE MESSAGE "DUMPANALYZER FAULT # NNN" WILL BE DISPLAYED. THE MESSAGE IS DISPLAYED FOR FAULTS #1, #2, #3, #4 AND THOSE DIVISIBLE BY 10 THEREAFTER. WHEN THE "HI" OPERATOR INPUT MESSAGE IS DIRECTED TO THE DUMPANALYZER, THE DISPLAY WILL CONTAIN THE NUMBER OF FAULTS IN ADDITION TO THE PREVIOUS STATUS INFORMATION, SO THAT IT IS ALWAYS POSSIBLE TO DETERMINE THE FAULT STATUS OF THE DUMPANALALYZER.

D1054 DUMPANALY - PATHCONTROL ANALYSIS - 03-28-74

THE PATHCONTROL TASK WORD OF TASKS IS NOW ANALYZED. THIS PROVIDES USEFUL INFORMATION AS TO ORIGINATION AND DESTINATION MCS AND LSN.

D1071 DUMPANALY - P-BIT ANALYSIS - 04-28-74

LINK C OF OVERLAYABLE DATA AREAS TO DETERMINE WHERE P-BIT LAST OCCURRED ON THE AREA IS NOW ANALYZED. THE RESULT IS AN RCW AND LINE NUMBER (IF LINEINFO SET).

D1076 DUMPANALY - NEW DEFAULTS FOR OPTIONS - 12-11-74

THE FOLLOWING ARE MADE DEFAULT OPTIONS:

UINFO, LINKDUMP, AND FILES.

THESE ARE PERMANENT DEFAULTS, I.E. A NEW DUMPANALYZER MUST BE COMPILED TO MAKE THEM OPTIONAL. HOWEVER, IT IS SUGGESTED THAT THIS NOT BE DONE FOR DUMPS TO BE SUBMITTED TO THE LARGE SYSTEMS PLANT FOR ANALYSIS.

D1085 DUMPANALY - NO FILE RESTART-TIMESTAMP - 11-23-74

D1085 DUMPANALY - NO FILE RESTART-TIMESTAMP - 11-23-74

1. ALLOWS OPERATOR TO ENTER "RESTART" TO THE WRONG CODE FILE MESSAGE. THIS WILL CAUSE THE DUMPANALYZER TO CLOSE THE CODE FILE AND SUSPEND ITSELF WHILE OPERATION INTERVENTION TAKES PLACE. WHEN THE JOB IS OK-ED, THE CODE FILE CHECKED AGAIN.

2. FIXES A ERROR WHICH CAUSED THE MCP TIMESTAMP NOT TO BE CHECKED OCCASIONALLY.

D1086 DUMPANALY - ARRAY LIMITS - 11-23-74

IT IS NOW POSSIBLE TO LIMIT THE NUMBER OF LINES PRINTED WITHIN A PARTICULAR ARRAY WHEN THE ARRAY OPTION IS SET WHICH WILL PRINTS ARRAYS WHILE ANALYZING STACKS. THIS WILL SERVE TO PREVENT THE DUMPANALYZER FROM PRINTING MANY PAGES OF OUTPUT, WHICH IS USUALLY IGNORED.
THE ARRAY WILL BE PRINTED IN THE MEMORY ANALYSIS SECTION OF THE DUMP.
THE SYNTAX OF THE ARRAYLIMIT OPTION IS: A&&&&&&&

ARRAYLIMIT = <POSITIVE INTEGER>.

NOTE THAT IF STACK ONLY IS SET, THEN THE INFORMATION IN THE STACK SUPPRESSED BY THE ARRAYLIMIT WILL BE LOST. THE DEFAULT VALUE OF THE LIMIT IS SET VERY LARGE TO ENSURE THAT ALL ARRAY WILL BE PRINTED IF THE USER DOES NOT SET A LIMIT.

D1113 DUMPANALY - DUMPANALYZER MESSAGES - 01-14-75

1. ACCEPT: WRONG CODE FILE -- OK OR RESTART.

TIMESTAMP OF CODE FILE ON DISK DOES NOT MATCH THAT RECORDED ON DUMP TAPE. OK TO USE CODE FILE ON DISK, RESTART TO CAUSE CODE FILE TO BE CLOSED, DUMPANALYZER TO SUSPEND, AND TRY AGAIN WHEN OKED.

2. DISPLAY: DUMP TAPE HAS BAD INFORMATION IN RECORD <#>, AT LOCATION <#>.

   DATA ON THE DUMP FAILED CONSISTENCY CHECK. DUMPANALYZER TERMINATES.

3. DISPLAY: BAD DATA RECOVERY IN RECORD <#>, AT LOCATION <#>,

   DATA ON THE DUMPTAPE FAILED CONSISTENCY CHECK, BUT REDUNDANCIES IN THE METHOD DATA IS STORED ON THE TAPE ALLOW RECOVERY OF DATA TO SOME EXTENT. DUMPANALYZER PROCEEDS.

4. NEW RESPONSE TO "HI".

   DUMPANALYZER NOW RESPONDS TO A "HI" WITH THE AREA IT IS ANALYZING, AS BEFORE. ADDITIONALLY, THE CURRENT FAULT COUNT IS GIVEN.

   **DUMPANALYZER FAULT <#> MESSAGES ARE ONLY GIVEN FOR FAULT #L,2,3,4,10,20,30...

   TWO NEW AREAS ARE LISTED: LINEINFO/NAMES AND READING MT <#>, S/N <S/N>.

5. DISPLAY: ERROR UNABLE TO GENERATE GLOBAL IDENTIFIERS, CAUSE= <CAUSE>.

   ONE OF FOUR <CAUSE>ES HAS CAUSED FAILURE IN THE MCP GLOBAL IDENTIFIER ROUTINE. TWO ERRORS INDICATE IMPROPER COMPILATION, DUMPANALYZER BUG, OR CODE FILE CORRUPTION: LEVEL AND SIZE. I/O EXCEPTIONS CAUSE THE OTHER TWO RDMCP (CODE FILE) AND RDFILE (INTERNAL FILE). GLOBAL NAME GENERATION IS TERMINATED, NONAMES IS "SET" AND ANALYSIS PROCEEDS. RERUN WITH DEBUG SET TO GET PROGRAM DUMP OF FAILURE.

6. DISPLAY: CANNOT ANALYZE -- USE PREVIOUS DUMP ANALYZER

   THE LEVEL OF THE MCP AS RECORDED ON DUMP TAPE IS LOWER THAN A VALUE COMPILED INTO DUMPANALYZER. DUMPANALYZER TERMINATES AND PROPER LEVEL DUMPANALYZER MUST BE USED FOR RERUN. IN SHORT, II.7 DUMPANALYZER WILL NOT ANALYZE A II.6

OR PREVIOUS DUMP.

7. DISPLAY: BAD DUMPANALYZER INPUT CARDS

DUMPANALYZER WAS UNABLE TO DECIPHER INPUTCARD. CARD IMAGE IS LISTED ON PRINTER AND LINE OF ASTERISKS POINTS TO UNKNOWN WORD. PROCESSING TERMINATES.

8. DISPLAY: BAD MCP STACK POINTER

DUMPANALYZER FOUND THAT THE STACK VECTOR DESCRIPTOR AT D0+2 DID NOT ADDRESS PRESENT MEMORY. USUALLY DUE TO PREMATURE EOF ON DUMP TAPE OR TO IMPROPERLY TAKING LAST MOD OFF LINE WHEN NO MEMDUMP DISK IS AVAILABLE. PROCESSING IS TERMINATED. RERUN WITH RAW AND DEBUG SET. DUMPANALYZER WILL PRODUCE A RAW DUMP FOR WHAT IS ON TAPE WITHOUT CHECKING D0 2.

9. ACCEPT: BAD INDEX ARRAY

ONE OF THE THREE ARRAYS FOR TASKS, STACKS, AND FIBS DOES NOT HAVE THE PROPER CHECK FLAG. ANY RESPONSE CAUSES THAT ARRAY TO BE MARKED BAD AND PROCESSING TO CONTINUE.

10. FILE NOT PRESENT/IN ERROR: <FILE NAME>

A USER FILE IS NOT PRESENT FOR THE PURPOSE OF READING ITS LINEINFO, OR THE LINEINFO IS INCONSISTENT. PROCESSING CONTINUES. (THIS MESSAGE IS NOT DISPLAYED, BUT IS PRINTED IN THE STACK AT THE FIRST REFERENCE TO THE USER FILE.)

ESPOL

P3466 ESPOL - WAIT STATEMENT - 03-28-74

THE WAIT STATEMENT, FOR THE CASE WAIT(ON TIME), NOW WORKS AS STATED IN THE ESPOL MANUAL, FOR EXAMPLE:

```
WAIT((2));
```

NOW COMPILES CORRECTLY.

P3470 ESPOL - ARRAY DECLARATION SYNTAX ERR - 03-28-74

ESPOL NOW ACCEPTS AN ARRAY DECLARATION WITH A COLON, IF THE LOWER BOUND IS ZERO AND THE ARRAY IS SINGLE-DIMENSION. FOR EXAMPLE:

```
ARRAY A[0:5]
```

NOW IS THE SAME AS ARRAY A[6]. A SYNTAX ERROR IS GENERATED IF THE LOWER BOUND IS NOT ZERO.

P3471 ESPOL - VERSION - 03-28-74

THIS CHANGE UPDATES THE VERSION CORRECTLY ON THE NEW SYMBOLIC FILES.

P3472 ESPOL - DEFAULT LABEL DECLARATION - 03-28-74

THIS CHANGE CORRECTS A PROBLEM IN WHICH ESPOL WAS GIVING AN ERRONEOUS SYNTAX ERROR WHEN A LABEL DECLARED BY APPEARANCE WAS PRECEDING THE FIRST EXECUTABLE STATEMENT OF A BLOCK.

P3473 ESPOL - VECTORMODE CODE PRINTOUT - 03-28-74

THIS CHANGE CORRECTS A PROBLEM IN WHICH VECTORMODE FTCH AND STOR WERE NOT BEING PRINTED AS SUCH AND VECTORMODE VMOS WAS APPEARING AS VGET.

P3474 ESPOL - LONG ID"S IN VECTORMODE - 03-28-74

THIS CHANGE CORRECTS A PROBLEM IN WHICH LONG IDENTIFIERS AS VECTORMODE "PARAMETERS" WERE ERRONEOUSLY BEING ENTERED IN THE SYMBOL TABLE, THUS CAUSING INCORRECT SYNTAX ERRORS WHEN REFERENCED LATER IN THE VECTORMODE LOOP.

P3475 ESPOL - INCORRECT CODE LISTINGS - 03-28-74

THIS CHANGE CORRECTS A PROBLEM IN WHICH ESPOL WAS LISTING INCORRECT CODE WHEN THE DOLLAR OPTION "CODE" WAS SET FOR THE OPERATORS, VERBR AND VXIT. THE CODE FILE, HOWEVER, CONTAINED CORRECT CODE.

P3476 ESPOL - MULTIPLE VECTORMODE INCREMENTS - 03-28-74

THIS CHANGE CORRECTS A PROBLEM WHICH OCCURRED WHEN THE SAME ARRAY WAS INCREMENTED TWO OR MORE TIMES WITHOUT AN INTERVENING FETCH OR STORE, RESULTING IN EMISSION OF BAD CODE.

P3477 ESPOL - INVALID VECTORMODE SYNTAX - 03-28-74

THIS CHANGE ADDS SYNTAX ERRORS FOR A NUMBER OF CASES PREVIOUSLY UNSYNTAXED IN VECTORMODE. IN PARTICULAR, FIRSTWORD, SECONDWORD, JOIN, ALLOW, DISALLOW, SCANIN, SCANOUT, HEYOU, PAUSE, TIMER, AND MYSELF ARE NO LONGER PERMITTED.

P3478 ESPOL - VECTORMODE MULTIPLE ASSIGNMENT - 03-28-74

THIS CHANGE CORRECTS A PROBLEM IN WHICH MULTIPLE ASSIGNMENT STATEMENTS IN VECTORMODE WOULD ERRONEOUSLY NOT DO THE SECOND (AND ALL SUBSEQUENT) STORES, CUTTING BACK THE STACK IMPROPERLY INSTEAD.

P3675 ESPOL - RESIZE SAVE PROCEDURE ARRAY - 05-12-74

THE ESPOL COMPILER WAS INCORRECTLY RESIZING THE ARRAY WHICH HELD INFORMATION ABOUT SAVE PROCEDURES. THIS ARRAY IS NOW RESIZED CORRECTLY.

SOFTWARE IMPROVEMENTS

P3957 ESPOL - CASE EXPRESSION - 04-18-74

CASE EXPRESSIONS ARE NOW OPTIMIZED INTO AN INLINE COMPUTATION (NO BRANCHING) FOR CERTAIN COMMON CASES.

P3958 ESPOL - BINDINFO CORRECTED - 04-18-74

CORRECT INFORMATION IS NOW PASSED TO THE BINDER FOR THE CASES OF VARIABLES OF TYPE INTERRUPT AND COMPILE TIME VARIABLES.

P3959 ESPOL - NUMBERED CASE STATEMENTS - 08-04-74

THIS PATCH IMPLEMENTS NUMBERED CASE STATEMENTS, AS IN ALGOL.

P3960 ESPOL - INCREASE SIZE OF EDOC - 08-04-74

THIS CHANGE PREVENTS AN INVALID INDEX WHILE COMPILING AN MCP.

P4146 ESPOL - SCANNER CORRECTED - 08-04-74

THE SCANNER NOW COMPILES CORRECTLY SOURCE IMAGES WITH A % IN COLUMN 72.

P4147 ESPOL - NEWTAPE, CODE FILES CRUNCHED - 08-11-74

THE NEW SYMBOLIC FILE AND THE CODE FILE PRODUCED AS OUTPUT BY THE ESPOL COMPILER ARE NOW CRUNCHED IN ORDER TO CONSERVE DISK SPACE.

P4230 ESPOL - ON STATEMENT FIX - 09-16-74

AN ON-STATEMENT-WITH-A-COMMA DECLARED IN AN INNER BLOCK NOW COMPILES CORRECTLY AND DOES NOT WIPE OUT THE BLOCK-S TAG SIX WORD.

P4231 ESPOL - NAME (STRING ARRAYS) - 09-16-74

THIS PATCH ALLOWS THE ESPOL COMPILER TO CORRECTLY COMPILE A STRING ARRAY PARAMETER PASSED TO THE NAME FUNCTION.

SOFTWARE IMPROVEMENTS

P4232 ESPOL - PASS H-L UNIT TO MCP - 09-16-74

CHANGEMCP AND LOADER WRITE THE HALT/LOAD UNIT INTO WORD 2 OF DISK BOOTSTRAP; HOWEVER, IN THE CASE OF DISPACKS IF THE PACK IS MOVED, WORD 2 STILL POINTS TO THE ORIGINAL PACK AND THE MCP CONSIDERS THE PREVIOUS PACK AS THE HALT/LOAD PACK. THIS PATCH ENSURES BY PICKING OUT THE UNIT IN THE RESULT DESCRIPTOR, THAT THE ABOVE DOES NOT OCCUR .

P4385 ESPOL - LAYOUT SYNTAX ERROR - 04-18-74

THE ESPOL COMPILER NOW GENERATES A SYNTAX ERROR FOR LAYOUT DECLARATIONS OF THE FORM LAYOUT LAT (47:20=5) WHERE A ":=" RATHER THAN AN "=" IS EXPECTED.

ESPOL

D0740 ESPOL - $EXCLUDE EXTENSION - 03-28-74

$ EXCLUDE HAS BEEN EXTENDED TO ALLOW TYPED PROCEDURES TO BE EXCLUDED IF THEY ARE ASSIGNED A VALUE ON THE $ EXCLUDE CARD. FOR EXAMPLE IF PROC1 IS A TYPED PROCEDURE THEN IT MAY BE EXCLUDED BY SAYING $ EXCLUDE (PROC1 = <INTEGER VALUE>) WHERE <INTEGER VALUE> MUST EVALUATE TO AN INTEGER AT COMPILE-TIME.

D0741 ESPOL - ONEPROCESSOR OPTION - 03-28-74

THIS CHANGE IMPLEMENTS THE "$ ONEPROC" MCP COMPILE-TIME OPTION. IF "ONEPROC" IS SET NO CODE IS EMITTED FOR BUZZ AND UNLOCK CONSTRUCTS. HOWEVER, IF A BUZZ OCCURS OUTSIDE SEGMENT FIVE OF THE MCP A "DEXI" IS EMITTED.

D0758 ESPOL - "MCP" DOLLAR CARD OPTION - 05-12-74

THIS PATCH ADDS THE DOLLAR CARD OPTION "MCP" TO ESPOL. THE OPTION IS INTERROGATED AT THE BEGINNING OF EACH GLOBAL OR SEPARATE PROCEDURE, AND ITS STATUS IS ESTABLISHED FOR THE DURATION OF THAT PROCEDURE.

WHEN MCP IS ESTABLISHED TO BE TRUE, THE FOLLOWING EFFECTS OCCUR:

1. VALUE ARRAYS, TRUTHSETS, AND TRANSLATE TABLES ARE CREATED LOCALLY TO THE PROCEDURE OR BLOCK WHERE DECLARED, RATHER THAN ALWAYS AT D0.

2. POOL DATA IS PUT AT D1 RATHER THAN D0. THE EFFECT OF THIS CHANGE IS TO FREE D0 SLOTS AND REDUCE STORAGE NEEDED FOR SOME CONSTANT DATA. THE COST OF THIS CHANGE IS TO REQUIRE PROCEDURES TO OBTAIN AND FORGET MEMORY FOR POOL AND CONSTANT DATA EACH TIME THEY ARE REFERENCED. IN SOME INSTANCES, THIS CAN BE SLOWER. THE RESULT OF SETTING THE

D0758 ESPOL - "MCP" DOLLAR CARD OPTION - 05-12-74

OPTION IS IN ESPOL IS TO FREE SPACE IN THE MCP STACK FOR EXPANSION.

SEPARATELY COMPILED PROCEDURES COMPILED AT A LEXICOGRAPHIC LEVEL HIGHER THAN ONE WILL STILL HAVE POOL DATA PLACED AT D0, EVEN IF "MCP" IS TRUE. VALUE ARRAYS, TRUTHSETS, AND TRANSLATETABLES WILL STILL BE CREATED LOCALLY TO THE PROCEDURE OR BLOCK IN WHICH THEY ARE DECLARED IN THIS CASE AS WELL AS IF MCP IS TRUE.

D0774 ESPOL - EXTRA PARAMETERS TO DEFINES - 03-28-74

PARAMETRIC DEFINES NOW MAY HAVE UP TO 25 PARAMETERS. IN THE PAST THIS NUMBER WAS LIMITED TO 9.

ESPOL INTRINSICS

P3431 ESPOLINTRN - MARGIN IN BASIC - 03-28-74

IN SOME INSTANCES WHEN SETTING MARGIN IN A BASIC PROGRAM THIS CAUSED A SYSTEM HANG. THIS CHANGE PRECLUDES FROM OCCURRING.

P3479 ESPOLINTRN - BASIC INTRINSICS - 03-28-74

THIS CHANGE PREVENTS THE MAXRECSIZE OF A FILE FROM INCREASING BY SIX EVERY TIME THE FILE IS SCRATCHED AND REOPENED.

P3480 ESPOLINTRN - FORGETSPACE CALL - 03-28-74

THIS CHANGE ELIMINATES A SEQUENCE OF "BAD" FORGETSPACE CALLS IN THE INTRINSICS.

P3481 ESPOLINTRN - BINARY I-O WITH COMMON VAR - 03-28-74

THIS CHANGE CORRECTS A PROBLEM WITH BINARY I/O TO/FROM VARIABLES IN COMMON.

P3676 ESPOLINTRN - FORMATENCODER - BCL - 04-18-74

THIS CHANGE CORRECTS HANDLING OF BCL FORMATS INTERPRETED AT RUN-TIME. PREVIOUSLY, A SEG ARRAY ERROR FAULT WOULD OCCUR IF CHARACTERS/WORD > 6 AND THE SIZE OF THE SOURCE FORMAT WAS GREATER THAN 12 CHARACTERS.

P3677 ESPOLINTRN - FORMATENCODER - FORMAT SPECS - 04-18-74

THIS CHANGE REMOVES A FORMAT ERROR INDICATION IF AN EMPTY FORMAT SPECIFICATION IS ENCOUNTERED IN A FORTRAN PROGRAM. THIS WILL NOW CAUSE A RECORD SKIP; AN EMPTY FORMAT GROUPING WILL BE ALLOWED BUT NO OVERT ACTION IS GIVEN.

P3678 ESPOLINTRN - FORMATENCODER - VARIANCES - 04-18-74

THIS CHANGE ALLOWS 2.5 VERSION OF RUN-TIME FORMATTING TO CORRECTLY HANDLE EARLIER COMPILED PROGRAMS.

P3679 ESPOLINTRN - PARAMATCH - 04-18-74

THIS CHANGE IMPROVES THE POLICING OF MISMATCHED PARAMETERS.

P3680 ESPOLINTRN - FORMATENCODER - INPUT WARNING - 05-12-74

THIS CHANGE ELIMINATES WARNING 505 WHEN FIELD WIDTH IS EQUAL TO DECIMAL POINT WIDTH DURING INPUT.

P3749 ESPOLINTRN - BASIC INTRINSICS - 05-30-74

THIS CHANGE GENERATES THE CORRECT CODE FOR FORGETTING SPACE WHILE RESIZING AN ARRAY IN A BASIC INTRINSIC.

P3961 ESPOLINTRN - FORTALG FORMATENCODER - 07-07-74

THIS CHANGE PREVENTS A LOOP WHICH OCCURRED IF AN ERROR OCCURRED ON THE LAST PHRASE OF A FORMAT CONSISTING OF ...F=10.0).

P3962 ESPOLINTRN - PARAMATCH INTRINSIC CHANGES - 07-07-74

IN ORDER TO IMPLEMENT PARAMETERS TO THE MAIN PROCEDURE OF A PL-1 PROGRAM, CHANGES WERE MADE TO THE PARAMETER MATCHING INTRINSIC. THESE CHANGES ALLOW MAIN PROCEDURES OF A PL-1 PROGRAM TO HAVE PARAMETERS OF TYPE CHARACTER VARYING AND/OR DECIMAL FIXED. A COMPLETE EXPLANATION OF PL-1 PARAMETERS TO THE MAIN PROCEDURE MAY BE FOUND IN THE PL-1 SYSTEM NOTES.

P3963 ESPOLINTRN - FORTRAN FREEFIELD OUTPUT - 07-07-74

THIS CHANGE IMPLEMENTS SOME MINOR IMPROVEMENTS TO FORTRAN FREEFIELD OUTPUT.

SOFTWARE IMPROVEMENTS

P3964 ESPOLINTRN - SEQUENCE ERROR CORRECTION - 08-14-74

THIS CHANGE REMOVES THE TWO REMAINING SEQUENCE ERRORS IN THE ESPOLINTRINSICS SYMBOLIC.

P4148 ESPOLINTRN - FORTRAN-ALGOL FREEFIELD OUTPUT - 08-11-74

THIS CHANGE IMPROVES THE PERFORMANCE AND DOCUMENTATION OF THE FORTRAN-ALGOL FREEFIELD OUTPUT INTRINSIC.

P4233 ESPOLINTRN - IMPROVES FREE FIELD OUTPUT - 09-16-74

FREE FIELD OUTPUT HAS BEEN CHANGED TO PRODUCE "1.0" FOR CERTAIN NUMBERS SLIGHTLY LESS THAN UNITY. PREVIOUSLY, "0.0" WAS OUTPUT FOR THE NUMBERS MENTIONED.

P4234 ESPOLINTRN - BASIC FILE STATEMENT - 09-16-74

THIS CHANGE WILL ALLOW THE TITLE TO BE CHANGED IN A FILE STATEMENT WITHOUT CAUSING THE ERROR "ILLEGAL FILE STATE" TO OCCUR DURING EXECUTION.

P4381 ESPOLINTRN - FREEFIELD FORMATTING - 09-29-74

THIS PATCH RETURNS THE PROPER VALUES FOR STARTING CHARACTER POSITION AND LENGTH OF FORMATTED STRING PRODUCED BY FREEFORMNUMBEREDITOR FOR ARITHMETIC ZERO.

P4438 ESPOLINTRN - WRITEAFTER FOR FORTRANMONITOR - 10-15-74

FORTRANMONITOR NOW EXECUTES WRITE-AFTER-CARRIAGE-ACTION FOR COMPATIBILITY WITH OTHER FORTRAN OUTPUT.

P4439 ESPOLINTRN - ERROR CHECK ON MONITOR OUTPUT - 10-15-74

THE MONITOR INTRINSICS (FORTRANMONITOR, SUPERMON, AND MONITER) NOW CHECK ERROR CONDITIONS ON OUTPUT.

P4440 ESPOLINTRN - ONE (1) RAISED TO A POWER - 10-15-74

RTOR INTRINSIC HAS BEEN CHANGED TO CHECK FOR ONE BEING RAISED TO A POWER AS A SPECIAL CASE, RETURNING ONE IF THIS IS THE CASE.

P4441 ESPOLINTRN - NAMELIST OUTPUT - 10-15-74

THE NAMELISTINT INTRINSIC WAS CHANGED TO FORMAT THE VALUE OF "1.0" CORRECTLY, PREVENTING THE LOSS OF OUTPUT WHICH HAD OCCURRED.

P4442 ESPOLINTRN - REMOVE FILE ON PACK - 10-15-74

REMOVEFILE INTRINSIC NO LONGER FAILS WHEN REMOVING A FILE ON PACK.

P4443 ESPOLINTRN - FORERR-S RCW - 10-15-74

THE FORERR INTRINSIC NOW OBTAINS ITS RCW FROM LOCATION D2+1.

P4728 ESPOLINTRN - REPLACEMENT OF NUMBERCONVERT - 10-20-74

THIS PATCH REMOVES NUMBERCONVERT, HEXOUT, AND OCTL FROM THE ESPOLINTRINSICS.

P4729 ESPOLINTRN - IMPROVED DOCUMENTATION - 10-20-74

THIS PATCH MAKES AN IMPROVEMENT IN ESPOLINTRINSICS INTERNAL DOCUMENTATION.

P4750 ESPOLINTRN - FORTRAN FORMATTED OUTPUT - 10-27-74

THIS PATCH IMPROVES FORTRAN FORMATTED OUTPUT IN SEVERAL SMALL WAYS: 1) IMPROVED DOUBLE PRECISION F-FORMAT, 2) REPEAT COUNT PROBLEM FIXED, 3) *,V FOR CORE-TO-CORE FIXED, 4) SOME STACK OVERFLOW PROBLEMS FIXED, 5) IMPROVED EDITING OF SMALL NUMBERS, AND NUMBERS NEAR UNITY, 6) IMPROVED CHECKING FOR ILLEGAL FORMATS, E.G., E.W.O, 7) PROBLEM WITH A FORMAT UNDER B5500 AND BCD OPTIONS IS FIXED, 8) MISCELLANEOUS FIXES.

SOFTWARE IMPROVEMENTS

P4751 ESPOLINTRN - FORTRAN&FREEFIELD FORTRAN I-O - 10-27-74

THIS PATCH IMPLEMENTS A VARIETY OF MINOR AND PRIMARILY TRANSPARENT IMPROVEMENTS TO THE FORTRAN I/O INTRINSICS.

P4916 ESPOLINTRN - BINARY I-O - 11-17-74

THIS PATCH ALLOWS NEW LIST IN ALGOL TO USE BINARY I-O. ALL OPERATIONS ARE IN WORD MODE. ANY CHARACTER COUNTS ARE ROUNDED UP TO THE NEAREST WORD.

P5028 ESPOLINTRN - COPYRIGHT II.7 - 12-11-74

THIS PATCH UPDATES THE COPYRIGHT INFORMATION FOR 1975.

P5093 ESPOLINTRN - CANDEFILEHANDLER - 11-30-74

A NEW DCALGOL INSTALLATION-1 INTRINSIC HAS BEEN PROVIDED TO FACILITATE DIRECTORY-ORIENTED FUNCTIONS IN SYSTEM/CANDE.

ESPOL INTRINSICS

D0921 ESPOLINTRN - OUTPUT MEDIA DIGIT 32 - 09-29-74

THIS CHANGE WILL ALLOW THE OUTPUT MEDIA DIGIT 32 (SPECIAL FORMS REQUIRED) TO BE SPECIFIED AT FILE DECLARATION OR FILL STATEMENT. IF THE OUTPUT MEDIA DIGIT IS 32 THEN, WHEN THE FIRST I/O IS DONE TO THAT FILE, THE SPO WILL DISPLAY "FORMS REQD." MESSAGE AND THE LINE PRINTER WILL WAIT FOR A REPLY FROM THE SPO.

D0942 ESPOLINTRN - DISPLAY MESSAGES - 10-15-74

THE DISPLAY INTRINSIC WILL NOW ALLOW MESSAGES OF UP TO 430 CHARACTERS TO BE DISPLAYED ON THE SPO.

D0948 ESPOLINTRN - FORTRAN FORMAT ERROR MESSAGES - 11-10-74

THE MEANINGS OF THE VARIOUS FORMAT ERROR NUMBERS PERTAINING TO FREEFIELD INPUT ARE AS FOLLOWS:

#	ERROR MESSAGE
15	DATA MAGNITUDE TOO LARGE (=>8**64) FOR PHRASE OR LIST ITEM.
30	STRING TOO LONG.
32	ARRAY SOURCE ALL BLANKS (INTERNAL DATA TRANSFER).
64	AN ERROR ON INPUT OCCURRED WHEN THE INTRINSIC DID A LOGICAL I/O.
84	AN EXPRESSION AS A LIST ELEMENT WHICH RECEIVES A VALUE ON INPUT IS NOT ALLOWED.

THE MEANING OF THE VARIOUS FORMAT ERROR NUMBERS PERTAINING TO OUTPUT ARE AS FOLLOWS:

#	ERROR MESSAGE

100 AN ERROR ON OUTPUT OCCURRED WHEN THE INTRINSIC DID A LOGICAL I/O.

102 FORMAT WAS V SPECIFIER, AND LIST ELEMENT DID NOT PRODUCE AN A,C,D,E,F,G,H,I,J,K,L,O,P,T,U,X, OR Z. [NOTE: IF THE LIST ELEMENT IS SINGLE PRECISION, THE RIGHTMOST CHARACTER IS USED. IF THE LIST ELEMENT IS DOUBLE PRECISION, THE RIGHTMOST CHARACTER OF THE FIRST (MOST SIGNIFICANT) WORD IS USED.]

103 FORMAT WAS V SPECIFIER OF THE FORM RV, AND THE RESULTANT SPECIFIER NEEDED A FIELD WIDTH: E.G., 2V=>2I.

104 FORMAT WAS V SPECIFIER OF THE FORM RV, AND THE RESULTANT SPECIFIER NEEDED A FIELD WIDTH AND DECIMAL PLACES: E.G., 2V=>2E.

105 FORMAT WAS V SPECIFIER OF THE FORM RVW, AND THE RESULTANT SPECIFIER NEEDED DECIMAL PLACES: E.G., 2V*=>2F6.

106 FORMAT SPECIFIER EVALUATED TO FW.D FORM, AND D<0.

107 FORMAT SPECIFIER EVALUATED TO EW.D OR DW.D, AND D<0.

109 FORMAT SPECIFIER EVALUATED TO GW, AND CORRESPONDING LIST ELEMENT WAS NEITHER OF TYPE INTEGER NOR TYPE LOGICAL (EXPRESSIONS OF TYPE INTEGER OR LOGICAL ARE EDITED UNDER GW.D AS IW OR LW, RESPECTIVELY). THEREFORE, THE DECIMAL PLACES ARE CONSIDERED MISSING.

110 THE LIST CONTAINS AN ELEMENT WHOSE TYPE IS INAPPROPRIATE FOR ITS ASSOCIATED FORMAT PHRASE. [NOTE THAT A LONG (>48 BITS) STRING CANNOT BE USED WITH A NUMERIC EDITING PHRASE.]

111 FORMAT SPECIFIER EVALUATED TO GW.D, AND GW.D LOGIC CHOSE TO EDIT THE EXPRESSION UNDER EW.D, BUT D<1.

112 FORMAT STATEMENT HAD NO FORMAT SPECIFIERS REQUIRING LIST ELEMENTS, AND FORMAT WAS USED WITH A LIST.

113 FORMAT SPECIFIER EVALUATED TO EW.D OR DW.D, AND

W LEQ D.

114 DYNAMIC W OR D PART OF FORMAT SPECIFIER EVALUATED TO A VALUE GREATER THAN THE MAXIMUM INTEGER ALLOWED, 549755813887.

116 ATTEMPTED RECURSIVE I/O -- EVALUATION OF A LIST ELEMENT CAUSED A READ/WRITE/CLOSE ON THE CURRENT FILE.

117 RECORD OVERFLOW -- AN ATTEMPT WAS MADE TO OUTPUT MORE CHARACTERS THAN THE RECORD CONTAINS.

120 FORMAT SPECIFICATION REQUIRES OUTPUT OF MORE THAN ONE RECORD WHEN PERFORMING INTERNAL DATA TRANSFER.

131 DYNAMIC R PART OF FORMAT SPECIFIER EVALUATED TO A VALUE GREATER THAN THE MAXIMUM REAL ALLOWED, 4.31359146673*10**68.

132 DYNAMIC W PART OF FORMAT SPECIFIER EVALUATED TO A VALUE GREATER THAN THE MAXIMUM INTEGER ALLOWED, 549755813887.

133 DYNAMIC D PART OF FORMAT SPECIFIER EVALUATED TO A VALUE GREATER THAN THE MAXIMUM INTEGER ALLOWED, 549755813887.

163 MAXRECSIZE NOT LARGE ENOUGH TO ALLOW FREEFIELD WRITE.

THE MEANING OF THE VARIOUS FORMAT ERROR NUMBERS PERTAINING TO FORMATTED INPUT ARE AS FOLLOWS:

#	ERROR MESSAGE

200 AN ERROR ON INPUT OCCURRED WHEN THE INTRINSIC DID A LOGICAL I/O.

202 FORMAT WAS V SPECIFIER, AND THE LIST ELEMENT DID NOT PRODUCE AN A,C,D,E,F,G,H,I,J,K,L,O,P,T,X, OR Z. [NOTE: IF THE LIST ELEMENT IS SINGLE PRECISION, THE RIGHTMOST CHARACTER IS USED. IF THE LIST ELEMENT IS DOUBLE PRECISION, THE RIGHTMOST CHARACTER OF THE FIRST (MOST SIGNIFICANT) WORD

IS USED.]

203 FORMAT WAS V SPECIFIER OF THE FORM RV, AND THE RESULTANT SPECIFIER NEEDED A FIELD WIDTH: E.G., 2V=>2I.

204 FORMAT WAS V SPECIFIER OF THE FORM RV, AND THE RESULTANT SPECIFIER NEEDED A FIELD WIDTH AND DECIMAL PLACES: E.G., 2V => 2E.

205 FORMAT WAS V SPECIFIER OF THE FORM RVW, AND THE RESULTANT SPECIFIER NEEDED DECIMAL PLACES: E.G., 2V*=>2F6.

206 FORMAT SPECIFIER EVALUATED TO FW.D FORM, AND D>0.

207 FORMAT SPECIFIER EVALUATED TO EW.D OR DW.D, AND D<0.

209 FORMAT SPECIFIER EVALUATED TO GW, AND CORRESPONDING LIST ELEMENT WAS NEITHER OF TYPE INTEGER NOR TYPE LOGICAL (EXPRESSIONS OF TYPE INTEGER OR LOGICAL ARE EDITED UNDER GW.D AS IW OR LW, RESPECTIVELY). THEREFORE, THE DECIMAL PLACES ARE CONSIDERED MISSING.

210 THE LIST CONTAINS AN ELEMENT WHOSE TYPE IS INAPPROPRIATE FOR ITS ASSOCIATED FORMAT PHRASE. [NOTE THAT A LONG (>48 BITS) STRING CANNOT BE USED WITH A NUMERIC EDITING PHRASE.]

213 FORMAT SPECIFIER EVALUATED TO EW.D OR DW.D, AND W LEQ D.

214 DYNAMIC W OR D PART OF FORMAT SPECIFIER EVALUATED TO A VALUE GREATER THAN THE MAXIMUM INTEGER ALLOWED, 549755813887.

216 ATTEMPTED RECURSIVE I/O -- EVALUATION OF A LIST ELEMENT CAUSED A READ/WRITE/CLOSE ON THE CURRENT FILE.

217 RECORD OVERFLOW -- AN ATTEMPT WAS MADE TO INPUT MORE CHARACTERS THAN THE RECORD HAS.

218 INVALID DATA FOR O OR Z FORMAT PHRASE.

220 FORMAT SPECIFICATION REQUIRES INPUT OF MORE THAN ONE RECORD WHEN PERFORMING INTERNAL DATA TRANSFER.

D0948 ESPOLINTRN - FORTRAN FORMAT ERROR MESSAGES - 11-10-74

231 DYNAMIC R PART OF FORMAT SPECIFIER EVALUATED TO A VALUE GREATER THAN THE MAXIMUM REAL ALLOWED, 4.31359146673*10**68.

232 DYNAMIC W PART OF FORMAT SPECIFIER EVALUATED TO A VALUE GREATER THAN THE MAXIMUM INTEGER ALLOWED, 549755813887.

233 DYNAMIC D PART OF FORMAT SPECIFIER EVALUATED TO A VALUE GREATER THAN THE MAXIMUM INTEGER ALLOWED, 549755813887.

250 THE U FORMAT PHRASE HAS YET TO BE IMPLEMENTED FOR INPUT.

271 THE $ AND K FORMAT MODIFIERS ARE NOT ALLOWED ON INPUT.

281 INVALID DATA FOR I FORMAT PHRASE.

284 AN EXPRESSION AS A LIST ELEMENT WHICH RECEIVES A VALUE ON INPUT IS NOT ALLOWED.

285 THE LIST ELEMENT WAS TYPE REAL, BUT THE INPUT VALUE EXCEEDED THE MAXIMUM REAL ALLOWED, 4.31359146673*10**68.

286 THE LIST ELEMENT WAS TYPE INTEGER OR LOGICAL, BUT THE INPUT VALUE EXCEEDED THE MAXIMUM INTEGER ALLOWED, 549755813887.

291 WHILE INPUTTING A CONSTANT USING A NUMERIC EDITING PHRASE, A NON-DIGIT WAS DETECTED IN THE EXPONENT PART FOLLOWING AT LEAST ONE LEGITIMATE DIGIT.

292 WHILE INPUTTING A CONSTANT USING A NUMERIC EDITING PHRASE, TWO OR MORE EXPONENT SIGNS WERE DETECTED.

293 WHILE INPUTTING A CONSTANT USING A NUMERIC EDITING PHRASE, AN ILLEGAL CHARACTER WAS DETECTED AFTER THE EXPONENT SIGN AND BEFORE THE EXPONENT VALUE.

294 WHILE INPUTTING A CONSTANT USING A NUMERIC EDITING PHRASE, AN ILLEGAL CHARACTER WAS DETECTED PAST THE DECIMAL POINT.

295 WHILE INPUTTING A CONSTANT USING A NUMERIC EDITING PHRASE, TWO OR MORE MANTISSA SIGNS WERE DETECTED.

THE MEANINGS OF THE VARIOUS FORMAT ERROR NUMBERS PERTAINING

D0948 ESPOLINTRN - FORTRAN FORMAT ERROR MESSAGES - 11-10-74

TO FORMAT SPECIFICATIONS IN ARRAYS ARE AS FOLLOWS:

#	ERROR MESSAGE
500	LEFT PARENTHESIS EXPECTED.
501	ILLEGAL FORMAT CHARACTER.
502	INTEGER TOO LARGE -- TRUNCATED TO 65535.
503	INTEGER CONSTANT EXPECTED.
504	UNSPECIFIED FIELD WIDTH.
505	DECIMAL FIELD NOT COMPATIBLE WITH FIELD WIDTH.
506	MISSING DECIMAL POINT IN F, E, D, OR G FORMAT.
507	EMPTY EDITING SPECIFICATIONS.
508	ILLEGAL REPEAT COUNT.
509	ERROR IN HOLLERITH CHARACTER COUNT.
510	ILLEGAL INCREMENT FOR T FORMAT.
511	UNSPECIFIED DECIMAL FIELD.
512	UNSPECIFIED SCALE FACTOR.
513	UNMATCHED QUOTE OR APOSTROPHE.
514	TOO MANY RIGHT PARENTHESES.
515	COMMA EXPECTED.

FILEDATA

D0873 FILEDATA - RELEASE DOCUMENTATION - 12-11-74

THIS DISCUSSION DESCRIBES THE PROGRAM "SYSTEM/FILEDATA" WHICH WILL REPLACE "SYSTEM/LISTDIRECTORY". "SYSTEM/PACKDIR", "SYSTEM/LISTFILES", AND "SYSTEM/TAPEDIR" FOR THE MARK II.7 RELEASE. THIS NOTE IS INTENDED TO INTRODUCE THE FEATURES AND OPERATING PROCEDURES OF "SYSTEM/FILEDATA" AND NOT TO DESCRIBE THE INTERNAL WORKINGS. DUE TO EXTENSIVE MCP CHANGES DEALING WITH FILE STRUCTURES, YOU MUST USE THIS PROGRAM, AS LISTDIRECTORY, PACKDIR AND LISTFILES WILL NOT WORK ON MCP II.7 AND WILL NOT BE SUPPORTED BEYOND MCP II.6. SYSTEM/TAPEDIR WILL CONTINUE TO WORK ON MCP II.7.

SYSTEM/FILEDATA IS A PARAMETER-DRIVEN UTILITY PROGRAM WHICH CURRENTLY PERFORMS THE FOLLOWING FUNCTIONS AND PRODUCES:

1) A HIERARCHICAL LIST OF FILES. INCLUDING ACCESS AND CREATION DATES, SIZE IN SEGMENTS, AND SECURITY CLASS. THIS IS BASICALLY THE STANDARD "SYSTEM/LISTDIRECTORY" REPORT.

2) A MAP OF REQUESTED FILES SHOWING THEIR STORAGE LAYOUT BY FAMILYINDEX AND ADDRESS.

3) A DISK CHECKERBOARD INVOLVING LOCKED FILES AND THE UNALLOCATED (OR IN-USE BY MCP) SPACE AROUND THEM.

4) A REPORT ON THE STATUS OF ALL HPT DISK ATTACHED TO THE SYSTEM.

5) A REPORT GIVING VARIOUS (REQUESTED) ATTRIBUTES OF A FILE OR GROUP OF FILES.

6) A REFORMATTED, NON-INTERACTIVE TAPEDIR.

7) A METHOD OF PUNCHING LIBMAINT COPY DECKS.

8) A METHOD OF SPECIFYING REPORTS OR COMBINATIONS THEREOF BY

NUMBER.

9) A SHORT METHOD OF SPECIFYING THE OUTPUT MEDIA (USING CERTAIN DEFAULTS) FOR ANY OR ALL OF THE ABOVE REPORTS.

10) A METHOD OF CHANGING THE DEFAULTS USED IN ITEM NINE ABOVE.

11) A HEX DUMP OF FILE HEADERS, ROW ADDRESS WORDS, AND CLASSB SECURITY INFORMATION.

THESE REPORTS MAY BE REQUESTED SINGLY AND IN ANY COMBINATION BY MEANS OF THE FOLLOWING MECHANISM:

```
RUN SYSTEM/FILEDATA (" "); VALUE=<NUMERIC REPORT REQUEST>
                          OR

RUN SYSTEMFILEDATA ("<PARAMETER LIST>")/
                          OR

DIR <INTEGER>
                          OR

DIR -
                          OR

DIR <PARAMETER LIST>
                          OR

DIR ; VALUE=<NUMERIC REPORT REQUEST>
```

EXAMPLES:

```
RUN SYSTEMFILEDATA ("FILENAMES : LEVEL = 2/
         TITLE = SYMBOL")

RUN SYSTEM/FILEDATA ("ST : DIR = SYSTEM/Y/MCP")

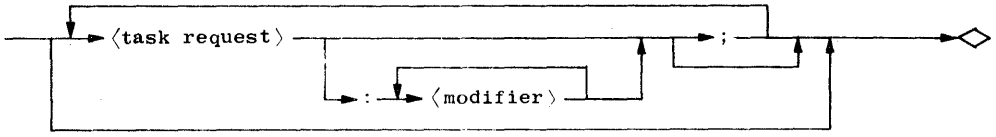
RUN SYSTEM/FILEDATA ("CHECKER")

RUN SYSTEM/FILEDATA ("COPYDECK : TITLE =
         SYSTEM ON MAINPACK")

RUN SYSTEM/FILEDATA ("DEFINEOUTPUT : MEDIA = TTY
         LINE = 120 PAGESIZE=30; ATT:TITLE=SYMBOL/FILEDATA")
```

DIR HEADERCONTENTS : TITLE = MY/TEST/FILE

THE SYNTAX FOR <PARAMETER LIST> IS:



IN THE FOLLOWING INSERT DIAGRAM DISCUSSIONS OF TASK REQUESTS AND MODIFIERS, CERTAIN KEY WORDS ARE LISTED. THERE IS A MINIMUM SPELLING FOR EACH KEY WORD. BEYOND THE MINIMUM, ADDITIONAL LETTERS MAY BE USED UP TO AND INCLUDING THE ENTIRE WORD. IF ADDITIONAL LETTERS ARE USED THEIR SPELLING MUST BE CORRECT. THE MINIMUM LETTERS ARE IN PARENTHESIS IN FRONT OF THE KEY WORDS.

CURRENT <TASK REQUESTS> IMPLEMENTING THE ABOVE FUNCTIONS FOLLOW.

1)=(F) FILENAMES

2)=(S) STRUCTUREMAP

3)=(CH) CHECKERBOARD

4)=(HPT) HPTRESOURCES

5)=(A) ATTRIBUTES

6)=(T) TAPEDIR

7)=(CO) COPYDECK

8)=(DE) DEFINEOUTPUT

9)=(H) HEADERCONTENTS

<MODIFIERS> ARE USED TO ALTER THE SOURCE OF INFORMATION WHICH IS TO BE PROCESSED, THE ACTUAL PROCESSING, AND THE DESTINATION TO WHICH THE FINAL RESULTS ARE TO GO. <MODIFIERS> CURRENTLY ARE:

1) (DA) DATABASE=<FILENAME>. THIS REQUESTS INFORMATION FOR THE <TASK> TO COME FROM AN EXISTING FILE OF RAW INFORMATION WHICH "NEWDATABASE" CREATED AT SOME TIME IN THE PAST.

2) (NE) NEWDATABASE=<FILENAME>. THIS WILL CREATE A FILE CONTAINING FILENAMES AND ASSOCIATED HEADERS FOR SUBSEQUENT USE BY THE "DATABASE" MODIFIER.

3) (TI) TITLE=<FILENAME> OR (DI) DIRECTORY=<FILENAME>. THESE MODIFIERS ALLOW THE USER TO REPORT ON LESS THAN THE FULL DISK SYSTEM.

4) (PA) PACKNAME=<IDENTIFIER>. THIS CHANGES THE SOURCE OF INFORMATION FROM THE HPT DISK SYSTEM TO THE NAMED DISK PACK. THE ENTIRE PACK IS USED IN THE REPORT. THIS MODIFIER OVERRIDES "DATABASE", "DIRECTORY" AND "TAPE".

5) (TA) TAPE=<TAPE ID>.
THIS <MODIFIER> ALLOWS INFORMATION TO BE EXTRACTED FROM LIBRARY DUMP TAPES. THE TAPE MAY BE SPECIFIED BY NAME OR DRIVE NUMBER. THE NAME MAY OMIT THE STANDARD "FILE000" PART OF THE TAPE NAME. CURRENTLY, "NAMESONLY" (BELOW) IS ASSUMED. THIS <MODIFIER> OVERRIDES "DATABASE", "DIRECTORY" AND "PACKNAME". IF REEL "N" OF A MULTIREEL DUMP IS DESIRED, YOU MUST USE THE -TAPE = <INTEGER>- FORMAT.

6) (LE) LEVEL = <INTEGER>. THIS MODIFIER ALLOWS LOOKING AT THE UPPER NAMES ONLY OF A MULTI-LEVEL FILE NAME. I.E., LEVEL = 2 WILL REPORT ON A/B BUT ONLY SHOW THE FACT THAT THE DIRECTORY X/Y EXISTS IF THE FILE X/Y/Z IS ENCOUNTERED.

7) (NA) NAMESONLY, THIS INDICATES THAT HEADER INFORMATION IS TO BE NEITHER EXTRACTED NOR PROCESSED IN ANY REPORT.

8) (CAT) CATALOGUE. REPORTS THE EXISTANCE OF NON-RESIDENT CATALOGUED FILES AS WELL AS (DEFAULT) RESIDENT FILES.

9) (PR) PRINTER. OUTPUT IS TO GO TO THE LINE PRINTER, SINGLE SPACED, 58 LINES PER PAGE (SIX LINES/INCH), 132 CHARACTERS PER LINE.

10) (PU) PUNCH. OUTPUT IS TO GO TO A STANDARD 80-COLUMN CARD PUNCH.

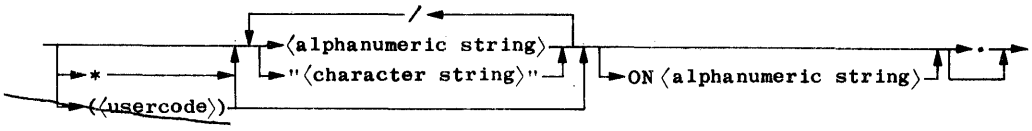
11) (TTY) TTY. OUTPUT IS TO GO TO A HARD-COPY TELETYPE-LIKE DEVICE OF 80 COLUMNS.

12) (SC) SCREEN. OUTPUT IS TO GO TO A DISPLAY-TYPE, CRT-SCREEN DEVICE OF 80 COLUMNS, 24 LINES PER PAGE. A READ WILL BE HUNG ON THE LINE AT THE END OF EACH PAGE TO ALLOW USER ACTION.

13) (SPO) SPO. OUTPUT WILL GO TO THE SYSTEM CONSOLE, ASSUMED TO BE 80 COLUMNS BY 24 LINES PER PAGE.

THESE MODIFIERS ARE GLOBAL, TAKE PLACE IMMEDIATELY, AND APPLY TO ALL SUBSEQUENT REPORTS UNTIL OVERRIDDEN BY ANOTHER <MODIFIER>.

THE SYNTAX FOR A <FILENAME> FOLLOWS:



IN THE ABSENCE OF ANY <MODIFIERS>, EACH TASK IS ASSUMED TO DRAW ITS REQUIRED DATA FROM THE ENTIRE AVAILABLE HPT DISK SYSTEM AND PRODUCE (OR DEFAULT) TO THE LINE PRINTER.

THE FOLLOWING EXCEPTIONS TO THE COMMENT DEALING WITH <MODIFIERS> SHOULD BE NOTED:

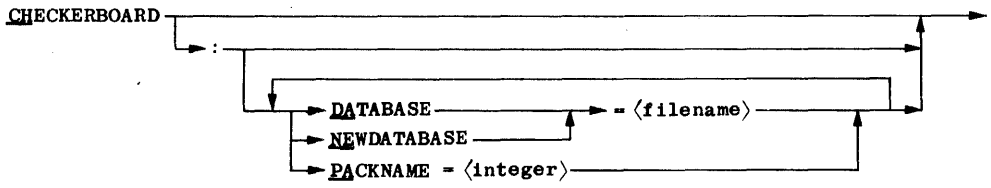
1) "NEWDATABASE" MUST BE EXPLICITLY SET FOR EACH TASK IF THAT IS WHAT IS DESIRED.

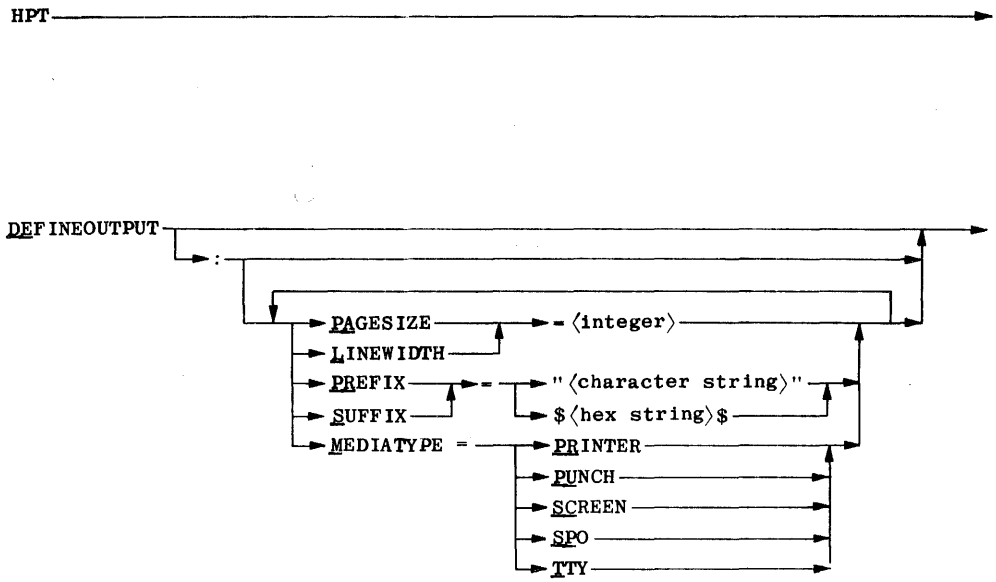
2) THE <TASK> "HPTRESOURCES" ALLOWS NO EXPLICIT <MODIFIERS> AND IGNORES THOSE ALREADY SET. IT DOES NOT RESET THE EFFECT OF ANY PRE-EXISTING <MODIFIER>, HOWEVER.

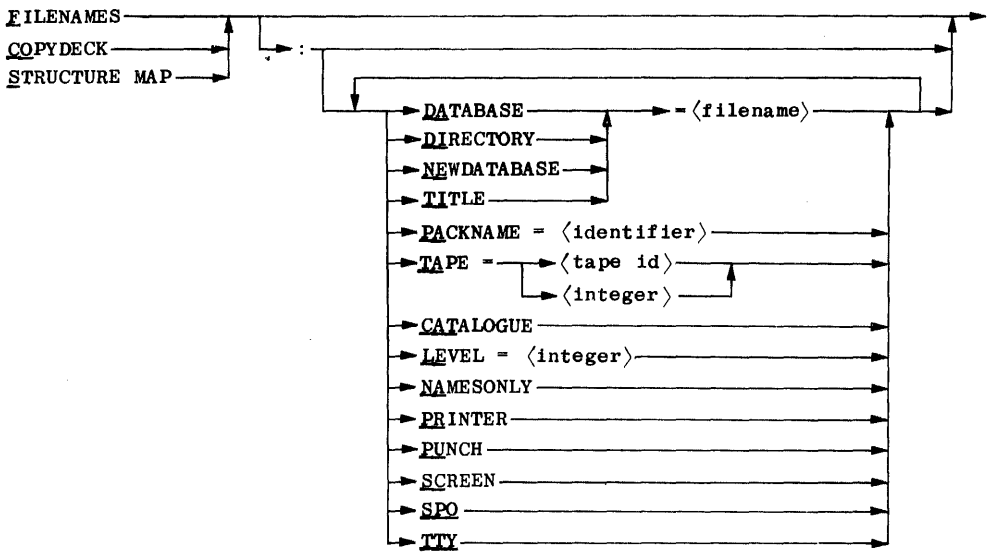
3) THE <TASK> "CHECKERBOARD" ALLOWS ONLY "DATABASE", "NEWDATABASE", AND "PACKNAME" TO EXPLICITLY APPEAR. ALSO, THE ENTIRE CONTENTS OF THE HPT DISK SUBSYSTEM OR AN ENTIRE DISKPACK ARE REQUIRED.

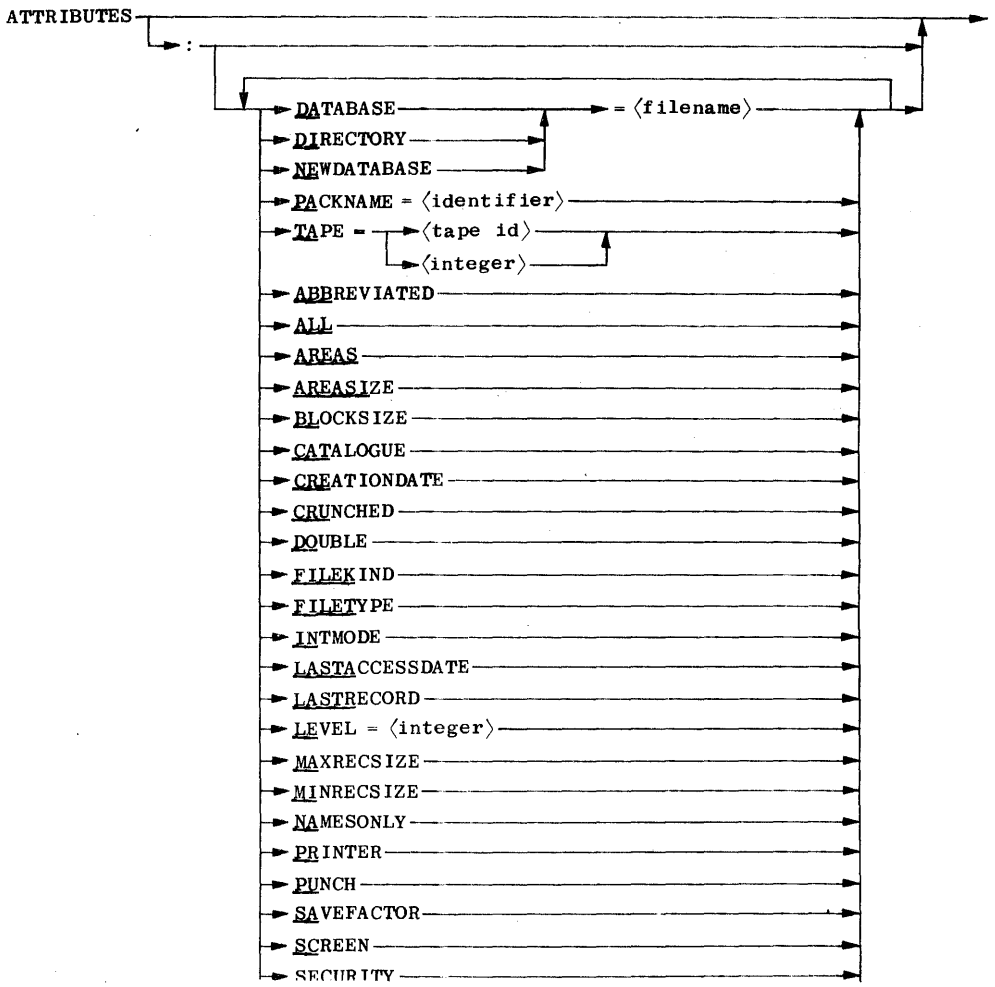
4) THE <TASK> "COPYDECK" WILL CHANGE ITS OUTPUT MEDIA FROM THE LINE PRINTER TO THE CARD PUNCH AND THEN CHANGE IT BACK AGAIN WHEN IT IS DONE. IF THE OUTPUT MEDIA IS NOT LINE PRINTER TO START WITH, THIS CHANGE WILL NOT BE DONE. ALSO, A NEW MEDIA MAY BE SET EXPLICITLY WITHIN THE <MODIFIER> LIST.

SYNTAX FOR EACH OF THE IMPLIMENTED FUNCTIONS FOLLOWS:




HPT
DEFINEOUTPUT
:
PAGESIZE
LINEWIDTH
PREFIX
SUFFIX
MEDIATYPE =
= ⟨integer⟩
= "⟨character string⟩"
= $⟨hex string⟩$
PRINTER
PUNCH
SCREEN
SPO
TTY


FILENAMES
COPYDECK
STRUCTURE MAP
:
DATABASE
DIRECTORY
NEWDATABASE
TITLE
= ⟨filename⟩
PACKNAME = ⟨identifier⟩
TAPE =
⟨tape id⟩
⟨integer⟩
CATALOGUE
LEVEL = ⟨integer⟩
NAMESONLY
PRINTER
PUNCH
SCREEN
SPO
TTY


ATTRIBUTES
:
DATABASE
DIRECTORY
NEWDATABASE
= ⟨filename⟩
PACKNAME = ⟨identifier⟩
TAPE = ⟨tape id⟩
⟨integer⟩
ABBREVIATED
ALL
AREAS
AREASIZE
BLOCKSIZE
CATALOGUE
CREATIONDATE
CRUNCHED
DOUBLE
FILEKIND
FILETYPE
INTMODE
LASTACCESSDATE
LASTRECORD
LEVEL = ⟨integer⟩
MAXRECSIZE
MINRECSIZE
NAMESONLY
PRINTER
PUNCH
SAVEFACTOR
SCREEN
SECURITY

THIS PAGE LEFT BLANK INTENTIONALLY

KEY WORDS (MINIMUM SPELLING)

ABBREVIATED (ABB)

ALL (ALL)

AREAS (AREAS)

AREASIZE (AREASI)

ATTRIBUTES (A)

BLOCKSIZE (BL)

CATALOGUE (CAT)

CHECKERBOARD (CH)

COPYDECK (CO)

CREATIONDATE (CRE)

CRUNCHED (CRU)

DATABASE (DA)

DEFINEOUTPUT (DE)

DIRECTORY (DI)

DOUBLE (DO)

FILEKIND (FILEK)

FILENAMES (F)

FILETYPE (FILET)

HPTRESOURCES (HPT)

INTMODE (IN)

LASTACCESSDATE (LASTA)

LASTRECORD (LASTR)

LEVEL (LE)

LINEWIDTH (L)

MAXRECSIZE (MA)

MEDIATYPE (M)

MINRECSIZE (MI)

NAMESONLY (NA)

NEWDATABASE (NE)

PACKNAME (PA)

PAGESIZE (PA)

PREFIX (PR)

PRINTER (PR)

PUNCH (PU)

SAVEFACTOR (SA)

SCREEN (SC)

SECURITY (SE)

SPO (SPO)

STRUCTUREMAP (S)

SUFFIX (S)

TAPE (TA)

TAPEDIR (T)

TTY (TTY)

UNITS (U)

IN ORDER TO CUT DOWN THE AMOUNT OF INPUT WHICH MUST BE SUPPLIED, ESPECIALLY FOR STANDARD FUNCTIONS SUCH AS LISTDIRECTORY, A NUMERIC REPORT REQUESTOR HAS BEEN INCLUDED. THIS ALLOWS A REPORT OR COLLECTION THEREOF TO BE REQUESTED BY NUMBER. SUCH A NUMBER MAY BE ENTERED VIA A VALUE= REQUEST OR IN THE REGULAR <PARAMETER LIST>. A <TASK> REQUESTED VIA A VALUE= NUMERIC REQUEST IS PERFORMED IMMEDIATELY, BEFORE THE <PARAMETER LIST> (IF ANY) IS PROCESSED. NUMERIC REQUESTS IN THE <PARAMETER LIST> ARE TREATED LIKE ANY OTHER <TASK> REQUEST AS SHOWN:

RUN SYSTEM/FILEDATA ("3;ATTRIBUTES:DIR=MYSELF ALL; 5 ")

NOTE THAT NUMERIC REQUESTS ARE SEPARATED FROM THE OTHER REQUESTS BY SEMICOLONS, JUST LIKE ANY OTHER <TASK>. MOREOVER, THEY MAY NOT CONTAIN <MODIFIERS>. HOWEVER, THE INTERNAL IMPLEMENTATION OF THE NUMERIC REPORT FACILITY DOES ALLOW MODIFIERS. THESE, HOWEVER, ARE ALWAYS USED AND REQUIRE RE-COMPILATION TO CHANGE. CURRENTLY, ONLY 1 AND 0 PRODUCE REPORTS. ALL OTHERS ARE NOT IMPLEMENTED AND DEFAULT TO 0.

IF FUTURE SYSTEMS RELEASES BRING NEW NUMERIC REPORTS, THE REPORTS WILL BE ADDED AT THE -ODD- NUMBERED SLOTS AVAILABLE (3,5,7,...). ANY EXISTING AND FUTURE EVEN-NUMBERED REPORTS ARE RESERVED FOR USER IMPLEMENTATION.

EACH REQUEST, BOTH NUMERIC AND STANDARD, GOES THRU AN

INPUT SCANNER AND THE RESULTS ARE REPORTED PRIOR TO ANY LINE PRINTER LISTINGS. THESE RESULTS INCLUDE THE ASSUMED TASK IDENTIFIER, A LISTING OF INPUT FOR EACH <TASK>, AND ANY ERROR MESSAGES. IF ANY ERRORS DO OCCUR, THIS <TASK> AND ANY SUBSEQUENT <TASK>S ARE CHECKED FOR INPUT SYNTAX ONLY; NO REPORTING IS DONE.

IF THE HEAD OF THE INPUT STRING IS NOT A NUMBER OR A <TASK REQUEST>, THE INPUT WILL BE PROCESSED IN THE MANNER OF SYSTEM/PACKDIR. SYSTEM/PACKDIR UNDERSTANDS ONLY THE KEYWORDS SHOWN BELOW. ANYTHING ELSE IS TREATED AS A FILENAME.

(DISK) DISK: SPECIFIES THAT THE DIRECTORY TO BE LISTED RESIDES ON HPT DISK. DEFAULT IS NATIVE MODE DISK PACKS.

(MAP) MAP: SPECIFIES THAT THE REPORT IS TO INCLUDE A SORTED LISTING OF ALLOCATED DISK SEGMENTS. DEFAULT IS NOMAP.

(NOMAP) NOMAP: SUPRESSES LISTING OF ALLOCATED DISK SEGMENTS (DEFAULT VALUE).

(RAW) RAW: SPECIFIES THAT EACH HEADER IS TO BE PRINTED IN HEX.

(NAME) NAME =DIRECTORYNAME: SPECIFIES THE (QUALIFIED) NAME OF DIRECTORY TO BE LISTED. FOR DISK PACKS, THE FIRST LEVEL OF THE NAME MUST BE THE PACK NAME. NO BLANKS, QUOTES, OR PARENS MAY OCCUR ANYWHERE IN THE NAME.

SOFTWARE IMPROVEMENTS

FORTRAN

P3482 FORTRAN - FORTRAN SCANR AND FORMATER - 03-28-74

THIS CHANGE IMPROVES THE COMPILE RATE OF THE FORTRAN COMPILER.

P3483 FORTRAN - GENERAL IMPROVEMENTS - 03-28-74

THIS CHANGE DELETES UNNEEDED GLOBAL VARIABLES AND SIMPLIFIES INTER-PROCEDURE COMMUNICATION WITHIN THE COMPILER.

P3484 FORTRAN - SPEED UP DIMENSION - 03-28-74

THIS CHANGE SPEEDS UP THE COMPILATION OF DIMENSION STATEMENTS AND IMPROVES ERROR RECOVERY AND CORRECTING CODE THAT PREVIOUSLY ALLOWED ILLEGAL SYNTAX.

P3485 FORTRAN - OPTIMIZATION EQUIVALENCE - 03-28-74

THIS CHANGE FIXES A POSSIBLE INFINITE LOOP CONDITION THAT COULD OCCUR WHILE COMPILING EQUIVALENCE STATEMENTS.

P3486 FORTRAN - COMPILER INITIALIZATION - 03-28-74

THIS CHANGE SIMPLIFIES AND COORDINATES THE INITIALIZATION PROCESSES OF THE COMPILER.

P3681 FORTRAN - PARITY ERROR ON READ STATEMENT - 04-18-74

THIS PATCH CORRECTS A MEMORY PROTECT FAULT WHICH OCCURS ON A READ STATEMENT WITH ERROR HANDLING SPECIFIED WHEN AN ERROR IS DETECTED.

P3682 FORTRAN - BCL INCLUDES - 04-18-74

THIS CHANGE CORRECTS AN INVALID OPERATOR FAULT WHILE COMPILING A PROGRAM UNIT IN WHICH A $ INCLUDE WAS ENCOUNTERED WHERE THE SOURCE TO BE INCLUDED WAS A BCL EXTMODE FILE.

P3683 FORTRAN - SEPARATE COMPILE WITH OPT > 0 - 04-18-74

THIS PATCH CORRECTS A CONDITION IN WHICH AN INVALID INDEX OCCURRED WHILE BINDING A SUBPROGRAM WHICH HAD BEEN COMPILED WITH $OPT > 0.

P3684 FORTRAN - FORMATTED I-O WITH $BCL - 04-18-74

THIS PATCH PREVENTS A POSSIBLE SEG ARRAY ERR FAULT DURING RUN-TIME FORMAT INTERPRETATION IF $BCL IS USED AND THE CHARACTER/WORD IS GREATER THAN 6.

P3685 FORTRAN - LONG STRING INITIALIZING ARRAY - 04-18-74

THIS CHANGE ELIMINATES AN ERRONEOUS SYNTAX ERROR IF AN ARRAY IS INITIALIZED BY A STRING WHOSE SIZE IS GREATER THAN THE REMAINING UNINITIALIZED PORTION OF THE ARRAY. A WARNING MESSAGE WILL NOW BE GIVEN.

P3686 FORTRAN - COMPLX CONSTANT IN OUTPUT LIST - 04-18-74

THIS CHANGE ELIMINATES AN ERRONEOUS SYNTAX ERROR WHEN A COMPLEX CONSTANT WAS ENCOUNTERED IN AN OUTPUT LIST. THIS OCCURRED IN SEVERAL CONTEXTS. THERE IS A FORMAL AMBIGUITY IN THE FOLLOWING: WRITE (6,1) (1,2); THIS COULD BE A COMPLEX CONSTANT OR A NESTED LIST OF 2 INTEGER CONSTANTS - THE DISTINCTION IS SIGNFICANT ONLY WITH THE FREEFIELD OPTION. HEREAFTER, THIS WILL BE INTERPRETED AS A COMPLEX CONSTANT. NOTE THAT THE LIST ELEMENT MUST CONFORM TO THE RULES FOR A COMPLEX CONSTANT.

P3687 FORTRAN - USERCODE HANDLING WITH $XREF - 04-18-74

THIS PATCH CORRECTS THE HANDLING OF EXPLICIT USERCODE INFORMATION PRECEDING THE PROGRAM ID WHEN $XREF WAS USED. PREVIOUSLY, A FILE ATTRIBUTE ERROR 0 OCCURRED WITH SUBSEQUENT INABILITY OF SYSTEM/ XREFANALYZER TO FIND THE INTENDED FILE.

SOFTWARE IMPROVEMENTS

P3688 FORTRAN - CTIME CAUSES SYSTEM HANG - 04-18-74

THIS PATCH PREVENTS A SURE SYSTEM HANG IF A REFERENCE TO THE CTIME INTRINSIC WAS FOLLOWED BY A BINARY I-O OPERATION WITHOUT AN IMPLIED DO-LOOP IN THE LIST.

P3689 FORTRAN - PAUSE SYNTAX ERROR - 04-18-74

THIS PATCH ELIMINATES AN ERRONEOUS SYNTAX ERROR OCCURRING IF THE PAUSE STATEMENT DID NOT INCLUDE A STRING OR INTEGER CONSTANT.

P3690 FORTRAN - CRUNCHING OF INPUT FILES - 05-12-74

THIS PATCH CAUSES THE COMPILER FILES NEWTAPE AND XREFFILE TO HAVE THE CRUNCH OPERATION PERFORMED ON THEM UPON CLOSING, THEREBY REDUCING TO SOME DEGREE THE AMOUNT OF DISK SPACE REQUIRED.

P3691 FORTRAN - SINGLE-BY-DEFAULT COMPILES - 05-12-74

THIS CHANGE ALLOWS SINGLE-BY-DEFAULT TO TAKE PLACE ON COMPILES INTRODUCED VIA CANDE.

P3692 FORTRAN - LIBRARY OPTION W CANDE COMPILE - 05-12-74

THIS CHANGE CAUSES THE LIBRARY OPTION TO BE SET BY DEFAULT WHENEVER $SEPARATE IS USED ON COMPILES INTRODUCED VIA CANDE.

P3693 FORTRAN - ARRAYS WITH VARIABLE BOUNDS - 05-12-74

THIS CHANGE CORRECTS THE COMPUTATION OF SUBSCRIPT EXPRESSION AND BOUNDS INFORMATION FOR ARRAYS WITH VARIABLE BOUNDS - OPT > 0.

P3694 FORTRAN - COMPLEX ACTUAL ARGUMENTS - 05-12-74

THIS CHANGE CORRECTS HANDLING OF COMPLEX TYPE ACTUAL ARGUMENTS. PREVIOUSLY, ERRONEOUS RESULTS WOULD BE OBTAINED WHEN USED IN THE SUBPROGRAM TO WHICH THEY WERE PASSED.

P3695 FORTRAN - SEPARATE COMPILATIONS - 05-12-74

IN SOME INSTANCES, INCORRECT BINDINFO COULD BE CREATED IN MULTIPLE SEPARATE COMPILATIONS LEADING TO AN ERRONEOUS NON-REENTRANT FORMAT BEING PUT INTO PROGRAM DESCRIPTIONS.

P3696 FORTRAN - ARGUMENT MISMATCH SYNTAX ERR - 05-12-74

THIS PATCH IMPLEMENTS A SYNTAX ERROR IF A DUMMY ARGUMENT, WHICH WAS INTERPRETED AS A SUBPROGRAM UNIT, DOES NOT MATCH THE ACTUAL ARGUMENT.

P3697 FORTRAN - ARGUMENT QUANTITY SYNTAX ERROR - 05-12-74

THIS CHANGE CAUSES A SYNTAX ERROR TO BE ELICITED IF TWO OR MORE REFERENCES TO A SUBROUTINE OCCUR WITH AT LEAST ONE HAVING NO ARGUMENTS AND AT LEAST ONE OTHER HAVING ARGUMENTS.

P3698 FORTRAN - HEADINGS FOR BATCHED JOBS - 05-12-74

THIS CHANGE CORRECTS HANDLING OF HEADING LINES FOR BATCHED JOBS WHICH PREVIOUSLY UNDER SOME ERROR CONDITIONS WOULD APPEAR BEFORE TIME INFORMATION FOR THE PREVIOUS JOB.

P3699 FORTRAN - $SEPARATE, $LIBRARY OPTIONS - 05-12-74

THIS CHANGE CORRECTS A POSSIBLE COMPILER NORMAL STATE LOOP IF $ SEPARATE OR $LIBRARY WAS FOLLOWED BY $JOB.

P3700 FORTRAN - TYPE DECLARATION SYNTAX ERROR - 05-12-74

THIS CHANGE CAUSES A SYNTAX ERROR TO BE GIVEN IF A TYPE DECLARATION OCCURS FOR A VARIABLE WHICH WAS PREVIOUSLY REFERENCED IN A DATA STATEMENT IN THE PROGRAM UNIT.

P3701 FORTRAN - $CHECK - 05-12-74

THIS CHANGE REIMPLEMENTS THE COMPILER OPTION CHECK. IT ALSO REINSTATES CODE EMISSION IF A NEW TAPE SEQUENCE ERROR IS NOTED.

SOFTWARE IMPROVEMENTS

P3808 FORTRAN - BATCH COMPILER - 07-07-74

CLEANS UP EXTRANEOUS COMPILER OUTPUT, IMPROVES HANDLING OF $ CARD OPTIONS, ELIMINATES UNNECESSARY PAPER SLUFFS, CORRECTS EXCESS I/O AND/OR PROCESS TIME HANDLING.

P3851 FORTRAN - STRAY ERRORS-EQUIV, VARBOUNDS - 07-07-74

SEEMINGLY STRAY ERRORS WERE ARISING IN SUBROUTINES WITH FORMAL ARRAYS, WHOSE BOUND WAS IN A COMMON BLOCK WHERE SOME OTHER ELEMENT WAS INVOLVED IN EQUIVALENCE. THE ORDER OF PRESENTATION OF THESE DECLARATIONS WAS SENSITIVE. IT NOW NO LONGER IS. ANY ORDER WILL WORK EQUALLY WELL.

P3852 FORTRAN - USER INTRINSIC AFFECTING INFO - 07-07-74

ENTERING A USER INTRINSIC WAS CAUSING THE SAME FILE TO BE ENTERED IN INFO TWICE. THIS COULD HAVE BEEN ANY GLOBAL ENTRY--- SUBROUTINES, FUNCTIONS, USER INTRINSICS, ETC.

THIS IS NOW CORRECTED.

P3965 FORTRAN - LABELLED ATTRIBUTE STATEMENTS - 05-30-74

THIS CHANGE CORRECTS HANDLING OF LABELS IN ATTRIBUTE HANDLING STATEMENTS OPEN, CHANGE AND INQUIRE WITH OPT<1.

P3966 FORTRAN - $DBLTOSNGL - 05-30-74

THIS CHANGE CORRECTS THE RESULTS OF DGAMMA WHEN $DBLTOSNGL OPTION IS USED. IT ALSO IMPLEMENTS SINGLE VERSIONS FOR SNGL AND IDINT THUS ELIMINATING AN ERRONEOUS "ILLEGAL MIXED TYPES" SYNTAX ERROR.

P3967 FORTRAN - DBLE AND CMPLX ENTRY ARGUMENTS - 05-30-74

THIS CHANGE CORRECTS THE HANDLING OF MISMATCHED ARGUMENT LISTS FOR ENTRY POINTS WITH DOUBLE PRECISION AND/OR COMPLEX ARGUMENTS. PREVIOUSLY, A SEQUENCE ERROR OR INVALID OP FAULT CONDITION OCCURRED.

P3968 FORTRAN - B7700 CODE IMPROVEMENT - 05-30-74

THIS PATCH IMPLEMENTS A B7700 FEATURE ONLY AND HAS NO EFFECT ON B6700 CODE.

P3969 FORTRAN - NO ERROR MSG ON ERRONEOUS ASGN - 07-07-74

THE COMPILER WAS GIVING AN INVALID OP ON AN ASSIGNMENT INTO A CONSTANT WHEN OPT=1; IT NOW GIVES AN ERROR MESSAGE.

P3970 FORTRAN - NO ERR MSG FOR MONITOR W OPT=1 - 07-07-74

THE COMPILER PRODUCES NO MONITORING OUTPUT WHEN OPT=1 IS SET. AN ERROR MESSAGE SHOULD EXPLAIN THAT MONITOR IS NOT AVAILABLE WITH OPT =1, AND NOW DOES.

P3971 FORTRAN - DEBUG TRACE CAUSED BAD GO TO - 07-07-74

USE OF DEBUG TRACE () ALL OR DEBUG TRACE () GO WOULD SOMETIMES CAUSE GO TO-S TO EXECUTE IMPROPERLY; THIS CHANGE HAS REMOVED THE PROBLEM.

P3972 FORTRAN - VARIABLE FRMT IN EQUIV: OPT=1 - 07-07-74

VARIABLE FORMATS (ARRAYS) EQUIVALENT TO OTHER ARRAYS OFTEN GENERATED BAD CODE WHEN OPT=1. THIS PATCH CORRECTS THAT PROBLEM.

P3973 FORTRAN - SCANNING OF ERRONEOUS FILES - 07-07-74

IF "DUPLICATE FILE" ERROR MESSAGES OR "FILE DECLARATION SHOULD PRECEED SOURCE DECK" ERROR MESSAGES ARE GENERATED, THE COMPILER DID NOT RECOVER CORRECTLY AND GENERATED MANY ADDITIONAL MISLEADING ERROR MESSAGES. THIS PATCH CORRECTS THE PROBLEM.

P3974 FORTRAN - OPTIMIZED I-O LISTS - 07-07-74

IF AN IMPLIED DO LOOP IN AN I-O LIST CONTAINED MORE THAN ONE EXPRESSION, THE LAST ONE WAS BEING DISCARDED. THIS PATCH CORRECTS THE PROBLEM.

SOFTWARE IMPROVEMENTS

P3975 FORTRAN - FORMAL SUBPROGRAMS WITH OPT=1 - 07-07-74

IF A FORMAL PARAMETER TO A SUBPROGRAM MATCHED THE NAME OF A SUBPROGRAM, AND OPT=1, THEN THE GLOBAL SUBPROGRAM WAS BEING CALLED RATHER THAN THE FORMAL PARAMETER. THIS PATCH CORRECTS THE PROBLEM.

P3976 FORTRAN - FORTRAN COMPILER LOOPING - 07-07-74

CERTAIN FORMS OF EQUIVALENCE CAUSED THE COMPILER TO GO INTO AN INFINITE LOOP WHEN OPT=0. THIS PATCH CORRECTS THIS PROBLEM.

P3977 FORTRAN - DATA STMT MALFUNCTION - 07-07-74

WHEN OPT=1, ENTRY STATEMENTS CAUSED ERRONEOUS FUNCTIONING OF DATA STATEMENT. SEGMENTED ARRAY ERRORS OR BAD DATA RESULTED FROM THIS. THIS PATCH CORRECTS THE PROBLEM.

P3978 FORTRAN - OPT=1 EQUIVALENCE LOOP - 07-07-74

IN VERY SIMPLE PROGRAMS, "EQUIVALENCE" STATEMENTS CAUSED THE COMPILER TO LOOP AT OPT=1. THIS PATCH CORRECTS THE PROBLEM.

P3979 FORTRAN - I-O LIST REFERENCING - 07-07-74

IF THE PROGRAM HAD MORE THAN 2047 D3 OR D2 VARIABLES (OWN VARIABLES) AND ONE OF THE ONES WITH AN ADDRESS OF 4096 OR HIGHER WAS REFERENCED IN AN I-O STATEMENT OR A STMT FUNCTION DEFINITION, BAD CODE WAS GENERATED.

THE PROBLEM ARISES BECAUSE THE LEX LEVEL FENCE IS MOVED OVER ONE BIT AND WHAT USED TO LOOK LIKE (2,801) NOW LOOK LIKE (6,001). TO FIX THIS THE COMPILER HAD TO RESORT TO STUFFED IRW WORDS COMBINED WITH OR-ING IN MASKS. THE CODE GENERATED IS LEGAL, BUT SOMEWHAT INEFFICIENT.

IT WOULD BE WISE TO TRY TO ELIMINATE SO MANY VARIABLES. D2 VARIABLES CAN BE MADE LOCAL, D3 CAN BE ELIMINATED BY BREAKING UP SUBROUTINES OR BY PUTTING THEM IN COMMON.

A WARNING IS GENERATED IN EACH ROUTINE WHERE THIS SEQUENCE OF CODE IS EMITTED.

P3980 FORTRAN - RECURSIVE STATEMENT FUNCTIONS - 07-07-74

THIS PATCH ADDS A SYNTAX ERROR WHEN OPT=0 TO FLAG RECURSIVE STATEMENT FUNCTION DECLARATIONS.

P3981 FORTRAN - ENTRY PARAM IN COMMON OR EQV - 07-07-74

AN ERROR WAS NOT BEING GENERATED FOR AN ENTRY PARAMETER APPEARING IN A COMMON OR EQUIVALENCE STATEMENT. THIS PATCH CORRECTS THE PROBLEM.

P3982 FORTRAN - DO LOOP INCREMENTS - 07-07-74

DO LOOP INCREMENTS CONSISTING OF AN VARIABLE OR A CONSTANT FOLLOWED BY AN ARITHMETIC OPERATOR WERE NOT BEING COMPILED CORRECTLY. THIS PATCH CORRECTS THE PROBLEM.

P3983 FORTRAN - STACK OVERFLOW - 08-04-74

WHEN A LOOP CONTAINING SEVERAL ASSIGNMENTS INTO ONE SIMPLE VARIABLE WAS COMPILED, SOMETIMES THE COMPILER WOULD DELETE EXPRESSIONS BEFORE IT WAS PROPER TO DO SO, YIELDING INVALID OPS OR STACK OVERFLOW CONDITIONS. THIS HAS BEEN CORRECTED.

P3984 FORTRAN - VECTORMODE LOOPS - 08-04-74

VECTOR MODE CODE WAS NOT ALWAYS BEING GENERATED WHEN IT COULD HAVE BEEN. THIS PATCH CORRECTS THE PROBLEM.

P3985 FORTRAN - VRBLE FILES AND READER FILES - 08-04-74

THE USE OF A FILE NAME "READER", "PRINTER" OR "PUNCH" WOULD KEEP VARIABLE FILES FROM WORKING CORRECTLY CAUSING SPURIOUS "UNDEFINED VAR FILE" MESSAGES. THIS PATCH CORRECTS THE PROBLEM.

SOFTWARE IMPROVEMENTS

P3986 FORTRAN - IMPROVE DIAGNOSTICS - 08-04-74

THIS PATCH IMPROVES THE COMPILER DIAGNOSTICS WHEN (OPT=0) THE CARD IMAGE CONTAINS AN EXECUTABLE AND NON-EXECUTABLE STATEMENT. AS A SIDE EFFECT OF THIS PATCH, THE COMPILE RATE OF THE COMPILER HAS BEEN INCREASED AND THE CORE REQUIREMENTS SOMEWHAT REDUCED.

P3987 FORTRAN - XREF OF LABELS - 08-04-74

XREF WOULD NOT ALWAYS CROSS REFERENCE SOME OF THE THREE LABELS IN AN ARITHMETIC IF STATEMENT WHEN ONE OF THOSE LABELS MATCHES THE LABEL ON THE NEXT CARD IMAGE.

P3988 FORTRAN - CHARACTER ORIENTED INPUT FILES - 08-04-74

THE COMPILER WAS NOT CORRECTLY READING CHARACTER ORIENTED FILES. THIS HAS BEEN CORRECTED. AT THE SAME TIME, CONVERSION WAS MADE TO USE THE SOFT TRANSLATION FACILITIES OF THE MCP INSTEAD OF THE "MANUAL" TRANSLATION CURRENTLY BEING PERFORMED.

P3989 FORTRAN - DATA-EQUIV ERRORS - 08-04-74

EQUIVALENCE AND DATA ERRORS INVOLVING STRINGS AND/OR DOUBLE AND COMPLEX ARRAYS HAVE BEEN FIXED.

P3990 FORTRAN - FORTRAN CORE ESTIMATES - 08-04-74

CORE ESTIMATES FOR SEGMENTED ARRAYS USED TO INCLUDE THE ENTIRE SIZE OF THE ARRAY. THIS WAS CONSIDERED UNREASONABLE, SO A SMALLER ESTIMATE REPRESENTING 3 ROWS OF THE ARRAY IS NOW BEING USED. THIS IS A DEFINE AND MAY BE CHANGED BY THE INSTALLATION (SEGARRAYEST).

P3991 FORTRAN - COMPLEX INVALID OP - 08-04-74

THIS PATCH FIXES SEVERAL PROBLEMS CAUSING ERRONEOUS ANSWERS OR INVALID OP-S WHEN PRINTING OR PASSING COMPLEX ARRAYS OR SUBSCRIPTED COMPLEX ARRAY ELEMENTS.

SOFTWARE IMPROVEMENTS

P3992 FORTRAN - CRUNCH CODE FILES - 08-04-74

THE FORTRAN COMPILER NOW CRUNCHES CODE FILES.

P4059 FORTRAN - FIX DOUBLE CONSTANTS - 05-30-74

THE SCANNING OF DOUBLE PRECISION CONSTANTS FROM CARDS HAS BEEN IMPROVED.

P4149 FORTRAN - FORMAT PHASE ENCODING - 05-30-74

THIS PATCH CORRECTS A MINOR FORMAT PROBLEM.

P4150 FORTRAN - FORMAL PARAMETER CALLS - 08-04-74

THIS PATCH CORRECTS A PROBLEM WHEREIN WITH OPT = 1, CALLS ON FORMAL PARAMETERS WHICH WERE PREVIOUSLY DECLARED AS VARIABLES, PRODUCED INVALID CODE.

P4151 FORTRAN - REAL LOWER BOUNDS - 08-04-74

WHEN A FORMAL ARRAY HAD A REAL UPPER BOUND, THE COMPILER WAS NOT INTEGERIZING IT CORRECTLY, CAUSING SPURIOUS ACTION WHEN THE ARRAY WAS PRINTED OUT. THIS INTEGERIZATION IS NOW BEING PERFORMED (TRUNCATION).

P4152 FORTRAN - FORMATTER - 08-04-74

THIS PATCH CORRECTS A SITUATION WHEREIN U OR V CAN HAVE "D" FIELDS GREATER THAN THE "W" FIELD. THE COMPILER WAS FLAGGING THIS AS AN ERROR.

P4153 FORTRAN - FORMAL ARRAYS - 08-04-74

THE LOWER BOUNDS OF A FORMAL ARRAY WERE BEING IGNORED WHEN OPT = 1 AND OWN (NOTOWNARRAYS) WAS SET. THIS HAS BEEN CORRECTED.

SOFTWARE IMPROVEMENTS

P4368 FORTRAN - NEW IMPLEMENTATION OF DATA - 08-11-74

MULTIPLE PROBLEMS WITH THE EXISTING DATA STATEMENT-HANDLING ROUTINES PROMPTED A COMPLETE REWRITE OF THOSE ROUTINES.

P4375 FORTRAN - INFINITE LOOP FROM EQUIVALENCE - 08-04-74

THIS CHANGE PREVENTS THE COMPILER FROM ENTERING AN INFINITE LOOP WHEN AN IDENTIFIER WHICH HAS NOT BEEN DECLARED OR DIMENSIONED IS USED IN AN EQUIVALENCE STATEMENT.

P4376 FORTRAN - OPT=1 IOLIST - 08-04-74

THE IOLIST ROUTINE FOR OPT=1 PREVIOUSLY WOULD NOT HANDLE STRINGS AND COMPLEX CONSTANTS CORRECTLY. THIS ROUTINE NOW YIELDS THE SAME RESULTS AS DOES THE OPT=0 ROUTINE.

P4377 FORTRAN - $ INCLUDE - 09-29-74

$ INCLUDE CARDS NO LONGER CAUSE ERRONEOUS ERROR MESSAGES.

P4378 FORTRAN - INSTALLATION INTRINSICS - 09-29-74

INSTALLATION INTRINSICS ARE NOW RECOGNIZED AS SUCH.

P4379 FORTRAN - OPT=1 PRECEDENCE - 09-29-74

IN OPT 1, UNARY MINUS WAS GIVEN HIGHER PRECEDENCE THAN EXPONENTIATION. FOR EXAMPLE, -2**2 WOULD YIELD THE RESULT 4. EXPRESSIONS ARE NOW EVALUATED CORRECTLY, WITH EXPONENTIATION RECEIVING HIGHEST PRECEDENCE.

P4380 FORTRAN - OPT=-1 SUBSCRIPTS - 09-29-74

IN OPT=-1, SUBSCRIPTS ARE NOW BEING CORRECTLY EVALUATED.

P4444 FORTRAN - OPTLSS1 COMPILATION - 10-15-74

THIS PATCH ELIMINATES SYNTAX ERRORS WHEN COMPILING THE FORTRAN

SOFTWARE IMPROVEMENTS

COMPILER WITH OPTLSS1 SET.

P4445 FORTRAN - $ LEVEL - 10-15-74

DOLLAR OPTION LEVEL IS NO LONGER IGNORED WHEN USED.

P4446 FORTRAN - STEP AND BRANCH - 10-15-74

STEP AND BRANCH IS NOW HANDLED CORRECTLY.

P4447 FORTRAN - INCORRECT EXPRESSIONS - 10-15-74

SOME INCORRECT EXPRESSIONS WERE BEING COMPILED WITHOUT ERROR WHEN OPT=0. FOR EXAMPLE:

```
      IF (ABS(A).NOT..LT.2) GO TO 10
```

WOULD GIVE NO SYNTAX ERROR FOR OPT=0.

A SYNTAX ERROR IS NOW GIVEN.

P4448 FORTRAN - ARRAY SUBSCRIPTS - 10-15-74

ARRAY SUBSCRIPTS WERE NOT BEING TRUNCATED WHEN THEY WERE OF TYPE REAL.

P4702 FORTRAN - COPYRIGHT II.7 - 11-30-74

THE COPYRIGHT INFORMATION FOR II.7 HAS BEEN UPDATED.

FORTRAN

D0778 FORTRAN - SEGMENTATION INFO - 05-30-74

THIS PATCH ADDS A NEW $ CARD OPTION TO FORTRAN:

SEGS

IT IS NORMALLY SET BY DEFAULT. IF RESET, IT SUPPRESSES THE SEGMENTATION INFORMATION PRINTED BY THE COMPILER (EXCEPT THAT WHICH APPEARS ALONGSIDE CARD IMAGES). ADDITIONALLY, THERE IS A NEW COMPILER COMPILE TIME OPTION CALLED:

NOSEGS

WHICH CAUSES THE SEGS OPTION TO BE INITIALLY RESET.

D0849 FORTRAN - ORDER OF DECLARATIONS - 08-11-74

THE FORTRAN MANUAL WILL BE CORRECTED TO NOTE THAT SPECIFICATION STATEMENTS DESCRIBING ARRAYS WITH VARIABLE BOUNDS THAT APPEAR IN COMMON MUST FOLLOW THE COMMON SPECIFICATIONS FOR THE BOUNDS.

D0939 FORTRAN - INTRINSIC NAMES - 10-15-74

THE NAMES OF DOUBLE PRECISION ARC TRIG FUNCTION INTRINSICS DASIN AND DACOS HAVE BEEN CHANGED TO DARSIN AND DARCOS RESPECTIVELY.

HARDCOPY

P5102 HARDCOPY - COPYRIGHT II.7 - 11-30-74

COPYRIGHT INFORMATION HAS BEEN UPDATED FOR II.7.

SOFTWARE IMPROVEMENTS

IADMAPPER

P4304 IADMAPPER - IMPROVE IADMAPPER MESSAGES - 09-29-74

1) ADD NEW "WRITEHEADER" ERROR MESSAGES.

2) PRINT OUT INPUT CARDS.

P4731 IADMAPPER - COYRIGHT II.7 - 11-30-74

COPYRIGHT INFORMATION HAS BEEN UPDATED FOR II.7.

INPUT-OUTPUT

P3388 IN-OUTPUT - COBOL CHARACTER ORIENTED FILES - 03-28-74

THIS PATCH CORRECTS A PROBLEM IN WHICH A COBOL CHARACTER ORIENTED PRINTER FILE WOULD BE CONVERTED INTO A WORD ORIENTED FILE CAUSING PROBLEMS WHEN SHORT RECORDS WERE WRITTEN.

P3390 IN-OUTPUT - TAPE FILE REWIND PROBLEM - 03-28-74

THIS PATCH CORRECTS A PROBLEM IN WHICH IF A TAPE FILE WAS DS-ED BECAUSE OF AN OPEN ERROR, E.G., PARITY ON POSITION, THE TAPE WOULD BE REWOUND AFTER IT HAD BEEN RELEASED TO THE SYSTEM. IF THERE WERE MORE ERRORS WHILE REWINDING THE TAPE THE SYSTEM WOULD HANG.

P3391 IN-OUTPUT - BACKUP TAPE EOT-EOJ LOG ENTRY - 03-28-74

THIS PATCH CORRECTS A PROBLEM WHICH OCCURRED IF AN OUTPUT PRINTER OR PUNCH FILE WAS LABEL-EQUATED TO A BACKUP TAPE; THE "CARDS PUNCHED" AND/OR "LINES PRINTED" VALUES TO THE TASK WERE NOT UPDATED AND CONSEQUENTLY WERE LOGGED INCORRECTLY ON EOT/EOJ LOG ENTRIES.

P3392 IN-OUTPUT - READ NO - 03-28-74

THIS PATCH FIXES A PROBLEM WITH USING COMBINATIONS OF SPACE STATEMENTS AND READ NO STATEMENTS THAT FAILED TO RECOGNIZE END-OF-FILE.

P3394 IN-OUTPUT - IPC-RANDOM BINARY I-O - 03-28-74

THIS PATCH FIXES A PROBLEM WHERE RANDOM BINARY I/O IN AN IPC ENVIRONMENT COULD GET THE WRONG RECORDS.

P3426 IN-OUTPUT - PAPER TAPE PUNCH LOW ON TAPE - 03-28-74

THIS PATCH FIXES A PROBLEM WHEREIN VARIOUS DISASTERS OCCURRED WHEN THE PAPER TAPE PUNCH WAS LOW ON TAPE.

SOFTWARE IMPROVEMENTS

P3523 IN-OUTPUT - TAPE FILES AND CATALOGING - 11-17-74

THIS PATCH IMPLEMENTS THE VERIFICATION CODE THAT REQUIRES THAT AN OUTPUT TAPE FILE THAT REQUESTS TO USE THE CATALOG WILL BE ASSIGNED A TAPE WHICH IS IN THE VOLUME LIBRARY.

P3524 IN-OUTPUT - FILE-TYPE = 6 - 04-18-74

A FILETYPE SIX (FORTRAN LINKED) FILE WITH LESS THAN ONE BLOCK OF DATA NO LONGER MISSES END-OF-FILE WHEN READING IF THE FILE WAS CREATED WITH AN INITIAL SEEK STATEMENT.

P3572 IN-OUTPUT - WFL GLOBAL FILES - DIRECT I-O - 05-12-74

THIS PATCH FIXES A PROBLEM WHERE DIRECT I/O FILES WERE NOT PROPERLY DISALLOWED FROM BEING EQUATED TO A WORK FLOW LANGUAGE GLOBAL FILE.

P3574 IN-OUTPUT - PROTECTED EOF SEARCHING - 05-12-74

THIS PATCH MAKES THE USE OF PROTECTED DISK FILES (PROTECTION = PROTECTED) MORE EFFICIENT BY

1. ONLY SEARCHING FOR END-OF-FILE (AFTER AN UNTIMELY END OF THE SYSTEM OR THE STORAGE MEDIUM) WHEN THE LAST ROW HAS BEEN WRITTEN ON WITHOUT THE FILE BEING CLOSED.

2. SEARCHES THE LAST ROW, READING BLOCKSIZE RECORDS INSTEAD OF SEGMENT SIZED ONES.

P3750 IN-OUTPUT - ERRORTYPE ATTRIBUTE - 05-30-74

THE ERRORTYPE ATTRIBUTE NO LONGER RETURNS A VALUE OF 2 WHENEVER THE BUFFER IS INVALID (AS IN THE CASE OF A READ BEYOND END-OF-FILE) INSTEAD OF ZERO (NO ERROR).

P3751 IN-OUTPUT - DISK FILE RECS NOT WRITTEN - 05-30-74

THIS PATCH FIXES A PROBLEM WHERE SEEKING AWAY FROM A RECORD JUST WRITTEN TO ANOTHER RECORD IN THE SAME BLOCK COULD CAUSE THE FIRST

RECORD NOT TO BE SENT TO DISK.

P3815 IN-OUTPUT - CLOSE HERE - 10-20-74

THIS PATCH FIXES THE FOLLOWING PROBLEM. DOING A CLOSE HERE AFTER READING A SHORT LAST BLOCK WOULD CAUSE THE SHORT BLOCK TO BE REPEATED WHEN THE TAPE WAS EXTENDED.

P3828 IN-OUTPUT - STATE ATTRIBUTE-SHORT BLOCK - 10-20-74

AN INCORRECT SHORT BLOCK INDICATOR NO LONGER IS RETURNED ON CHARACTER ORIENTED TAPE FILES WHEN THE NUMBER OF CHARACTERS IN A BLOCK DOES NOT ROUND UP TO A WORD BOUNDARY.

P3829 IN-OUTPUT - FILE ATTRIBUTE-COPIES - 10-20-74

THE COPIES FILE ATTRIBUTE WILL NOW RETURN THE VALUE OF 2 WHEN THE LOGICAL FILE IS UNASSIGNED AS ITS DEFAULT VALUE.

P3843 IN-OUTPUT - REWIND AND LOCK - 10-20-74

THE NEW PE TAPE DRIVES LOWER THE WINDOWS WHEN REWINDIT IS TOLD TO ALSO LOCK THE UNIT.

THE UP-TAPE SEARCH ROUTINE IN FINDINPUT WILL NO LONGER CAUSE THE NEW PE TAPE DRIVES TO DISMOUNT THE TAPES.

P3844 IN-OUTPUT - TAPE SERIAL NUMBERS - 10-27-74

CALLING READALABEL WHEN THE TAPE IS POSITIONED BEYOND THE LAST FILE ON THE TAPE NO LONGER CAUSES THE SERIAL NUMBER TO BE LOST IF THE TAPE IS SUBSEQUENTLY PURGED.

P4011 IN-OUTPUT - NEW FILE ATTRIBUTES - 08-11-74

THIS PATCH ELIMINATES ALL THE UNNECESSARY CODE IN FINDINPUT AND FINDOUTPUT THAT WAS USED TO GENERATE INTERNAL KINDLISTS, SINCE ALL LEB-S ARE NOW BUILT WITH THEIR OWN KINDLIST.

SOFTWARE IMPROVEMENTS

P4022 IN-OUTPUT - FILE ATTRIBUTE "SPEED" - 08-01-74

THE FILE ATTRIBUTE "SPEED" IS NOT RELEVANT TO DISKPACK FILES. THIS PATCH GUARANTEES DISKPACK FILE HEADERS DO NOT CARRY A NON-ZERO VALUE FOR THIS ATTRIBUTE.

P4023 IN-OUTPUT - PRINTLIMIT, PUNCHLIMIT - 08-01-74

THIS PATCH DELAYS THE DS-ING OF A PROGRAM UNTIL THE FIRST I-O THAT EXCEEDES ITS PRINT OR PUNCH LIMIT INSTEAD OF DS-ING THE PROGRAM WHEN IT REACHES THE LIMIT.

P4024 IN-OUTPUT - I-O SEG ARRAY ERROR - 08-01-74

THIS PATCH FIXES A PROBLEM WHEREIN WORD ORIENTED FILES WITH SUPPRESSED SEGMENTED ARRAY ERRORS ON WRITE STATEMENTS WERE GETTING THE RESIDUE NUMBER OF CHARACTERS (INSTEAD OF WORDS) BLANK FILLED.

P4025 IN-OUTPUT - MISSING END-OF-FILE - 08-01-74

THIS PATCH FIXES A PROBLEM WHEREIN END OF FILE COULD BE MISSED BY A UPDATE I-O DISK FILE THAT WAS BEING READ SEQUENTIALLY.

P4064 IN-OUTPUT - GUARD DISK PACK FILES - 01-14-75

ATTEMPTING TO USE A GUARDFILE (CLASSB SECURITY) WITH A DISK PACK FILE NO LONGER CAUSES THE PROGRAM TO RECEIVE AN OPEN ERROR #17 DS WHEN ATTEMPTING TO CREATE THE FILE.

P4135 IN-OUTPUT - BLOCK EXIT IPC FILE CLOSES - 11-03-74

THIS PATCH FIXES A PROBLEM WHERE IPC JOBS COULD HANG WAITING FOR FILELOCK AFTER HAVING BEEN DSED AND NEVER LEAVE THE MIX.

P4331 IN-OUTPUT - FILE REQUIRES REEL NUMBER - 09-29-74

THIS PATCH INCLUDES THE REEL NUMBER IN THE FILE REQUIRES MESSAGE.

P4332 IN-OUTPUT - BLOCK ATTRIBUTE - 09-29-74

THIS PATCH CORRECTS THE BLOCK ATTRIBUTE AFTER AN OUTPUT REEL SWITCH FOR A TAPE FILE.

P4333 IN-OUTPUT - OPEN-CLOSE LOGGING - 09-29-74

THIS PATCH CORRECTS THE OPEN-CLOSE LOGGING LOGIC SO THAT EVERY OPEN LOG MESSAGE WILL HAVE A SUBSEQUENT CLOSE LOG MESSAGE. NON-PRESENT OPTIONAL FILES, AND MULTIFILE TAPE FILES POSITIONED BEYOND THE LAST FILE ON THE TAPE, WHICH ALLOW READS WHICH ALWAYS TAKE THE END-OF-FILE BRANCH, WILL BE LOGGED WHEN OPENED AND WHEN CLOSED. FILES WHICH ARE DS-ED WHEN REQUIRING A UNIT OR A PHYSICAL FILE OR THOSE WHICH RECEIVE OPEN ERRORS ARE NOT LOGGED; HOWEVER, THE OPERATOR RESPONSE OR THE OPEN ERROR IS LOGGED.

P4334 IN-OUTPUT - COBOL-FORTRAN MULTIFILE TAPES - 09-29-74

RANDOMLY ACCESSING THE FILES ON A MULTIFILE TAPE IN COBOL OR FORTRAN NO LONGER CAUSES A SPURIOUS WRITE-LOCKOUT MESSAGE TO BE PUT INTO THE LOG.

P4386 IN-OUTPUT - DATACOM DIRECT I-O - 08-01-74

ATTEMPTS TO DO DATACOM DIRECT I-O USING A LOCAL EVENT COULD RESULT IN A SYSTEM HANG IF THE PROGRAM WAS RUN IN A SWAPSPACE. THIS PATCH CORRECTS THE PROBLEM.

P4465 IN-OUTPUT - RECORDNUMBER - 12-11-74

PRIOR TO THIS PATCH, PASSING A RECORDNUMBER IN AN I/O STATEMENT WHICH WAS NOT AN INTEGER COULD CAUSE NEEDLESS I/O, OR WORSE CAUSE LOGICAL I/O TO FIND THE WRONG RECORD.

P4803 IN-OUTPUT - PAPERTAPE READER-CLOSE REWIND - 12-11-74

UNDER THE REVERSEPAPERTAPE COMPILE-TIME DOLLAR OPTION THE MCP WILL NOW REWIND A PAPERTAPE READER WHEN THE FILE IS CLOSED.

INPUT-OUTPUT

D0738 IN-OUTPUT - FILE ATTRIBUTE REVISIONS - 03-28-74

SERIALNO(62) PACK/TAPE READ/WRITE REAL(WORD) ANYTIME/CLOSED

THE SERIALNO ATTRIBUTE CAN BE SET WHEN THE FILE IS CLOSED. ONLY THE WORK FLOW LANGUAGE ALLOWS THE SETTING OF THIS ATTRIBUTE. THE ATTRIBUTE CAN BE READ AT ANYTIME (WHEN THE FILE IS OPEN OR CLOSED WITH UNIT RETENTION, THE SERIAL NUMBER OF THE PHYSICAL FILE IS RETURNED; WHEN THE FILE IS CLOSED WITHOUT UNIT RETENTION, THE VALUE SET BY THE PROGRAM IS RETURNED). WHEN READING THE ATTRIBUTE, AN OPTIONAL REEL NUMBER (E.G., IN ALGOL, F(REELNBR).SERIALNO) MAY BE USED TO ACCESS THE SERIAL NUMBER SET BY THE PROGRAM FOR A PARTICULAR REEL. A FILE ATTRIBUTE ERROR IS GIVEN WHEN SETTING SERIALNO INSIDE A PROGRAM OR WHEN READING A SERIALNO WHEN THE FILE IS CLOSED AND THE ATTRIBUTE HAS NEVER BEEN SET.

SETTING SERIALNO INDICATES THAT SERIAL NUMBER CHECKING IS REQUESTED WHEN A TAPE OR PACK IS TO BE ASSIGNED. FOR INPUT, THE SERIAL NUMBER OF THE PHYSICAL TAPE MUST MATCH THE SERIAL NUMBER LABEL EQUATED TO THE PROGRAM BEFORE FILE ASSIGNMENT CAN BE ACHIEVED. THIS CHECK IS MADE ONLY AFTER THE OTHER CHECKS, NAMELY KIND, TITLE, REEL AND POSSIBLY CYCLE AND VERSION HAVE SUCCEEDED. FOR OUTPUT, IF SERIALNO IS SPECIFIED, FILE ASSIGNMENT TO A PHYSICAL FILE CAN ONLY OCCUR IF THE SERIALNUMBERS MATCH. THE TAPE MUST HAVE A WRITE RING AND CANNOT BE LOCKED, SAVE, ASSIGNED OR NOT READY. IF THE TAPE ALREADY HAS A SET OF LABELS, THE TAPE IS REWOUND SO THAT THE NEW LABELS WILL BE WRITTEN AT THE BEGINNING OF THE REEL (IN EFFECT PURGING THE TAPE).

AN "UNMATCHED SERIALNO" RSVP SYSTEM MESSAGE WILL BE DISPLAYED WHEN A PERMANENT FILE MEETS ALL QUALIFICATIONS (KIND, TITLE, ETC.) EXCEPT FOR THE SERIAL NUMBER. THE SERIAL NUMBER

D0738 IN-OUTPUT - FILE ATTRIBUTE REVISIONS - 03-28-74

DESIRED BY THE PROGRAM IS ALSO DISPLAYED INSIDE BRACKETS. ON OUTPUT, THE "FILE REQUIRES" MESSAGE ALSO INCLUDES THE DESIRED SERIAL NUMBER INSIDE BRACKETS, IF THE PROGRAM DESIRES SERIAL NUMBER MATCHING.

THE OPERATOR RESPONSE TO AN "UNMATCHED SERIALNO" MESSAGE CAN BE AN IL, OF, OR DS SYSTEM MESSAGE INPUT. THE OPERATOR RESPONSE TO A "FILE REQUIRES" RSVP SYSTEM MESSAGE CAN BE A DS OR OU COMMAND OR AN SN COMMAND IF THE FILE IS DESIRED.

BOTH THE RESIDENT AND PRESENT ATTRIBUTES WILL RETURN FALSE ON AN "UNMATCHED SERIALNO" CONDITION. THE AVAILABLE ATTRIBUTE RETURNS A "6" ON AN "UNMATCHED SERIALNO", A "4" ON AN "UNMATCHED GENEALOGY" IN ADDITION TO ITS PREVIOUSLY DEFINED VALUES.

D0749 IN-OUTPUT - NEW FILE ATTRIBUTES - 03-28-74

FILEKIND

THE FILEKIND ATTRIBUTE CAN NOW BE SET BEFORE THE LOGICAL FILE IS ASSIGNED TO THE PHYSICAL DISK FILE. THE FILEKIND VALUE IS ASSIGNED TO THE PHYSICAL FILE WHEN THE LOGICAL FILE IS OPENED. IF THE VALUE IS INCONSISTENT WITH THE RANK (PRIVILEGE) OF THE PROGRAM A RUN-TIME ATTRIBUTE ERROR IS GIVEN.

NINE NEW FILEKIND MNEMONICS HAVE BEEN ADDED:

CHECKPOINTFILE	21	NDLCODE	24
CPJOBFILE	22	DMALGOLCODE	44
DCPCODE	23	DASDLSYMBOL	95
		DMALGOLSYMBOL	96
		DCPSYMBOL	97
		NDLSYMBOL	98

THESE MNEMONICS WILL BE INCLUDED IN A RESPONSE TO A PD <FILE NAME> SYSTEM INPUT MESSAGE WHENEVER THE FILE HAS ONE OF THE ABOVE FILEKINDS.

D0880 IN-OUTPUT - ATTRIB. AREACLASS FAMILYINDEX - 08-01-74

D0880 IN-OUTPUT - ATTRIB. AREACLASS FAMILYINDEX - 08-01-74

THE ATTRIBUTES AREACLASS AND FAMILYINDEX CAN NOW BE SET WHILE A FILE IS CLOSED AND UNASSIGNED. WHEN A NEW DISK FILE IS CREATED, THEIR VALUES WILL BE PUT INTO EVERY ROW ADDRESS WORD ALLOCATED FOR THE FILE. THE NUMBER OF ROW ADDRESS WORDS IS DETERMINED BY THE AREAS ATTRIBUTE. THESE VALUES CAN BE CHANGED FOR AN INDIVIDUAL ROW ADDRESS WORD AFTER THE FILE IS OPENED, BEFORE AN AREA HAS BEEN ASSIGNED TO IT.

D0881 IN-OUTPUT - SYSTEM ID NUMBERS TAPE LABELS - 08-01-74

THE SYSTEM LEVEL FOR B6700 USASI TAPE LABELS HAS BEEN RAISED TO TWO, AND THE USYSID FIELD IN THE HDR2 LABEL RECORD HAS BEEN EXPANDED TO THREE CHARACTERS (37-39).

D0909 IN-OUTPUT - B5500 TAPE SERIAL NUMBERS - 09-29-74

THE 5 CHARACTER B5500 TAPE SERIAL NUMBER HAS BEEN CONVERTED INTO A 6 CHARACTER NUMERIC SERIAL NUMBER BY ADDING A LEADING ZERO.

D0910 IN-OUTPUT - EXTMODE OF B5500 TAPE FILES - 09-29-74

THE RECORDING MODE (EXTMODE ATTRIBUTE) OF A B5500 TAPE FILE IS NOW MARKED AS BCL WHEN THE FILE IS RECOGNIZED BY THE SYSTEM.

D0911 IN-OUTPUT - LABELTYPE ATTRIBUTE - 09-29-74

THE LABELTYPE ATTRIBUTE WILL NOW GIVE AN ATTRIBUTE ERROR WHEN AN ATTEMPT IS MADE TO SET IT AND THE FILE IS CLOSED RETAINING A PHYSICAL FILE. PREVIOUSLY NO ACTION WAS TAKEN AND NO ERROR WAS GIVEN.

D0913 IN-OUTPUT - PURGE OF BACKUP DISK FILES - 09-29-74

D0913 IN-OUTPUT - PURGE OF BACKUP DISK FILES - 09-29-74

BACKUP DISK OR DISKPACK FILES CAN NOW BE CLOSED WITH PURGE, WHICH WILL REMOVE THE BD OR BP FILE.

D0914 IN-OUTPUT - FORMMESSAGE ATTRIBUTE - 09-29-74

THE FORMMESSAGE ATTRIBUTE CAN NOW BE RESET. THE ALGOL SYNTAX IS AS FOLLOW:

```
REPLACE F.FORMMESSAGE BY ".";
```

D0915 IN-OUTPUT - TITLE, PACKNAME ATTRIBUTES - 09-29-74

THE TITLE FILE ATTRIBUTE WILL RETURN THE NAME OF THE PHYSICAL FILE WHENEVER ONE IS ASSIGNED TO THE LOGICAL FILE. THE TITLE RETURNED FOR A DUPLICATED DISK FILE WHEN THE COPY REQUESTED IS GREATER THAN THE NUMBERS OF COPIES, OR A MULTI-FILE TAPE THAT IS POSITIONED BEYOND THE LAST FILE ON THE TAPE, IS A NULL NAME ("."). THIS IS CONSISTANT WITH HOW THE TITLE HAS BEEN RETURNED FOR AN INVALID STATION OF A DATACOM FILE. THE PACKNAME ATTRIBUTE WILL RETURN THE FAMILY NAME (INCLUDING "DISK") WHENEVER THE LOGICAL FILE HAS A DISK OR PACK PHYSICAL FILE ASSIGNED TO IT.

D0943 IN-OUTPUT - FILE ATTRIBUTE TITLE - 10-15-74

THE "ON <PACKNAME>" SYNTAX HAS BEEN IMPLEMENTED FOR THE TITLE ATTRIBUTE. THE TITLE ATTRIBUTE CAN NOW BE GIVEN A STRING OF FORM "<FILE ID> ON <PACKNAME>". THIS WILL CAUSE THE TITLE ATTRIBUTE TO BE SET TO <FILE ID>, THE KIND ATTRIBUTE SET TO PACK (EXCEPT IN THE CASE WHERE <PACKNAME> IS THE RESERVED WORDS "TAPE" OR "DISK"), AND THE PACKNAME ATTRIBUTE WILL BE SET TO <PACKNAME>. IF THIS NEW SYNTAX IS USED WHILE THE LOGICAL FILE IS OPEN AND ASSIGNED A PHYSICAL DISK FILE, AN ATTRIBUTE ERROR WILL OCCUR IF THE <PACKNAME> IS DIFFERENT FROM THE <PACKNAME> OF THE PHYSICAL FILE. WHEN ACCESSED THE TITLE ATTRIBUTE WILL RETURN A STRING USING THE ON SYNTAX WHENEVER THE KIND OF THE FILE IS PACK. THE PACKNAME

D0943 IN-OUTPUT - FILE ATTRIBUTE TITLE - 10-15-74

ATTRIBUTE WILL NOW RETURN "PACK" AS A DEFAULT VALUE, WHENEVER THE FILE IS CLOSED THE KIND IS PACK AND THE PACKNAME ATTRIBUTE HAS NOT BEEN SET.

D0999 IN-OUTPUT - ROWADDRESS ATTRIBUTE - 10-20-74

THE ROWADDRESS ATTRIBUTE WILL NOW CONSISTANTLY RETURN THE FOLLOWING:

0 - IF THE ROW IS NOT ALLOCATED .

SEGMENTADDRESS AND FAMILYINDEX - WHEN THE ROW IS ALLOCATED.

THIS CHANGE ALLOWS FOR CONSISTANT HANDLING OF THE EUNUMBER FIELD WHEN DISK (OR PACK) AND EITHER ACTIVE OR INACTIVE BUT ALLOCATED.

D1000 IN-OUTPUT - FILE ATTRIBUTE - SINGLEPACK - 10-20-74

THE SINGLEPACK ATTRIBUTE NOW APPLIES TO HEAD-PER-TRACK DISK AS WELL AS DISK PACK FILES. WHEN SPACE IS UNAVAILABLE ON THE ORIGINAL UNIT OF ALLOCATION, THE USUAL JOB "REQUIRES (FAMILYINDEX N) SEGMENTS/ SECTORS" MESSAGE WILL BE DISPLAYED, AND AN OK REPLY BY THE OPERATOR WILL OVERRIDE THE FAMILYINDEX REQUIREMENT ALLOWING THE FILE TO OVERFLOW TO ANOTHER UNIT IN THE FAMILY.

D1001 IN-OUTPUT - SECURITYGUARD ATTRIBUTE - 10-20-74

THE SECURITYGUARD ATTRIBUTE WILL NOW RETURN THE FOLLOWING:

1) IF ASSIGNED TO A DISK FILE THEN,
   A) IF REQUESTED BY THE OWNER OF THE PHYSICAL FILE
      THEN THE TITLE OF THE GUARDFILE OF THE PHYSICAL FILE.
   B) OTHERWISE A "." (A NULL NAME).
2) IF THE FILE IS UNASSIGNED AND THE USER HAS SPECIFIED A GUARDFILE IN THE LOGICAL FILE (I.E. SET THE SECURITYGUARD ATTRIBUTE) THAT ONE IS RETURNED. ELSE,
3) "." (A NULL NAME).

D1002 IN-OUTPUT - FILE ATTRIBUTES-SENSITIVEDATA - 10-27-74

D1002 IN-OUTPUT - FILE ATTRIBUTES-SENSITIVEDATA - 10-27-74

THE SENSITIVEDATA, DISK ONLY, FILE ATTRIBUTE, HAS BEEN IMPLEMENTED AS A READ/WRITE BOOLEAN THAT CAUSES THE DISK OR PACK AREAS ASSIGNED TO THE FILE TO BE SCRUBBED BEFORE THE AREAS ARE FORGOTTEN AND RETURNED TO THE SYSTEM FOR REALLOCATION.

D1003 IN-OUTPUT - FILE ATTRIBUTE TITLE - 10-27-74

THE TITLE ATTRIBUTE-S RESTRICTION AGAINST CHANGING A DISK FILE-S NAME WHEN IT IS CLOSED WITH RETENTION HAS BEEN REMOVED.

D1004 IN-OUTPUT - FILE ATTRIBUTE - COPIES - 10-27-74

THE NUMBER OF COPIES OF A DUPLICATED DISK FILE, HAS BEEN LIMITED TO 15.

D1006 IN-OUTPUT - FILE ATTRIBUTES - VERSION - 10-27-74

THE VERSION FILE ATTRIBUTE CAN NOW BE SET WHILE A DISK FILE IS OPEN UP TO THE TIME WHEN THE FILE IS ENTERED INTO THE DIRECTORY (MADE PERMANENT).

D1008 IN-OUTPUT - FILE ATTRIBUTES - BLOCKSIZE - 11-03-74

CONTRARY TO THE I/O DOCUMENT, A FILE WILL BE BLOCKED ONLY WHEN BLOCKSIZE IS GREATER THAN MAXRECSIZE (IF THERE IS A CHOICE - FILETYPE 5 AND 6 ARE ALWAYS BLOCKED). VARIABLE LENGTH FILES CAN BE ACCESSED RANDOMLY WHEN THEY ARE UNBLOCKED, BUT THEY ARE MUCH MORE WASTEFUL OF SPACE THAN WHEN THEY ARE BLOCKED.

ALL FILETYPE 1,2,AND 4 INPUT TAPE FILES WILL NOW BE TREATED AS BLOCKED. THIS IS A TEMPORARY FIX UNTIL TAPE FILES WITH MAXRECSIZE = BLOCKSIZE, THAT WERE INCORRECTLY WRITTEN AS BLOCKED HAVE BEEN REWRITTEN AS UNBLOCKED TAPE FILES. THIS PATCH WILL BE REMOVED IN A FUTURE RELEASE.

D1040 IN-OUTPUT - FILE ATTRIBUTES - PROTECTION - 11-10-74

D1040 IN-OUTPUT - FILE ATTRIBUTES - PROTECTION - 11-10-74

IF THE FILE ATTRIBUTE PROTECTION HAS A VALUE OF PROTECTED AND A TAPE FILE IS OPENED INPUT AND THEN SWITCHES TO OUTPUT (OR VISA VERSA), THE HALT LOAD PROTECTION WILL BE UPDATED ACCORDINGLY.

D1041 IN-OUTPUT - FILE SECURITY - FILE OPEN - 11-10-74

A LOGICAL FILE CAN NO LONGER FIND A PERMANENT DISK FILE IF THE REQUESTED USE OF THE FILE (MYUSE ATTRIBUTE) IS DISALLOWED BY THE SECURITY ON THE FILE. IF THE RESULT OF THE FILE SEARCH IS A NO FILE BECAUSE OF SECURITY, THE PROGRAM IS DSED WITH A SECURITY VIOLATION. THIS PREVENTS THE LOGICAL FILE FROM MODIFYING THE SECURED PERMANENT FILE BY USING FILE ATTRIBUTES WITHOUT DOING AN I/O.

D1053 IN-OUTPUT - COBOL USE PROCEDURES - 11-17-74

COBOL USE PROCEDURES FOR TAPE FILES ARE NOW EXCLUDED FOR ANY OTHER KIND OF FILES. ONLY FILE PROCEDURES ARE INVOKED FOR A NORMAL OPEN AND CLOSE, AND ONLY REEL PROCEDURES ARE INVOKED FOR REELSWITCHES. (AN OPEN WITH REELNUMBER GREATER THAN ONE OR AN EXPLICIT CLOSE REEL ARE CONSIDERED REELSWITCHES). FOLLOWING COBOL RULES, ENDING FILE PROCEDURES ARE NOT INVOKED IF THE FILE IS CLOSED WHILE POSITIONED IN THE MIDDLE OF THE FILE. NO USE PROCEDURES ARE EXECUTED FOR NON-PRESENT OPTIONAL FILES.

D1103 IN-OUTPUT - RESIDENT, PRESENT OR AVAILABLE - 11-30-74

WHEN AN OUTPUT DISK FILE IS TO BE CREATED ON A NON-EXISTANT FAMILY, A TEST OF RESIDENT, PRESENT OR AVAILABLE WILL ALL RETURN FALSE OR NOT AVAILABLE INSTEAD OF HANGING ON AN RSVP SYSTEM MESSAGE.

D1104 IN-OUTPUT - FILE ATTRIBUTE SERIALNO - 11-30-74

D1104 IN-OUTPUT - FILE ATTRIBUTE SERIALNO - 11-30-74

WHEN A PERMANENT TAPE IS REQUIRED AND SERIALNUMBER CHECKING IS INDICATED BY THE PRESENCE OF A VALID SERIALNO VALUE, IF THE FILE IS UPTAPE ON A SECOND OR HIGHER REEL, THE TAPE WILL BE SEARCHED AUTOMATICALLY INSTEAD OF REQUIRING AN IL INDICATION FROM THE OPERATOR. THIS IS ESPECIALLY EFFECTIVE FOR CATALOGED TAPE FILES.

D1105 IN-OUTPUT - WRITE LOCKED OUT DISK FAMILIES - 12-11-74

FILES ON HEAD-PER-TRACK DISK OR DISK PACK FAMILIES WHICH ARE WRITE LOCKED OUT CAN BE SEEN AND USED BY THE SYSTEM. HOWEVER, THE USEDATE ATTRIBUTE WILL NOT BE UPDATED FOR THE FILE.

D1108 IN-OUTPUT - TAPE FILES - SIZE ATTRIBUTE - 03-28-74

IT IS NOW POSSIBLE TO DISCOVER THE VALUE OF THE FILETYPE FOUR SIZE ATTRIBUTES (SIZEMODE, SIZEOFFSET, SIZE2) WHEN OPENING A PERMANENT TAPE FILE USING DEPENDENT SPECIFICATIONS (FILETYPE EQUAL TO SEVEN OR EIGHT).

D1110 IN-OUTPUT - PROTECTION ATTR=PROTECTED - 05-12-74

THE BINARY END-OF-FILE PATTERN IS NOW PRESERVED IN THE UNUSED PORTION OF THE LAST BLOCK. IT SHOULD BE NOTED THAT FOR PROTECTED DISK FILES THE RECOVERY OF END-OF-FILE AFTER AN UNTIMELY HALT/LOAD IS ONLY TO THE LAST USED SEGMENT, IRRESPECTIVE OF RECORDSIZE.

JOB FORMATTER

P3525 JOBFORMAT - DUMP JOBFILE ON BAD LINKS - 04-18-74

JOBFORMATTER OCCASIONALLY RUNS INTO TROUBLE BECAUSE OF BAD LINKAGE IN CONTROL STATEMENTS IN THE JOB FILE. WHEN JOBFORMATTER EXITS, THE JOBFILE IS REMOVED SO THAT IT IS IMPOSSIBLE TO TRACK DOWN THE PROBLEM. THIS PATCH WILL CAUSE JOBFORMATTER TO DUMP THE JOBFILE IF THE LINKS ARE BAD AND EXIT WITHOUT A SYSTEM DUMP.

P4026 JOBFORMAT - DUPLICATE SEQUENCE NUMBER - 08-01-74

THIS PATCH FIXES DUPLICATE SEQUENCE NUMBERS IN JOBFORMATTER.

P4341 JOBFORMAT - JOB PRINTOUT - 10-15-74

DATA, SITE NUMBER, MCP NAME AND LEVEL ARE NOW INCLUDED IN JOBFORMATTER OUTPUT.

P4400 JOBFORMAT - TIME ON JOBFORMATTER OUTPUT - 10-20-74

THIS PATCH ADDS TIME TO HEADING OF JOBFORMATTER OUTPUT.

P4752 JOBFORMAT - "ON PACK" - 10-15-74

JOBFORMATTER RECOGNIZES "ON" FORMAT IN STANDARD FORM NAME AND PRINTS OUT AS ON <PACKNAME>.

P4753 JOBFORMAT - BINDER PROBLEM - 10-27-74

THIS PATCH ELIMINATES THE NEED TO REFERENCE POOL DATA DESCRIPTOR FROM LEVEL 4.

P4754 JOBFORMAT - ELAPSED TIME TO EOT, EOJ - 10-27-74

JOBFORMATTER NOW PRINTS ELAPSED TIME FOR EACH TASK AND JOB. PREVIOUS VERSIONS PRINTED ELAPSED TIMES FOR JOBS BY SUBTRACTING BOJ TIME FROM EOJ TIME, BUT ELAPSED TIME IS NOW OBTAINED FROM THE LOG

ENTRY.

P4755 JOBFORMAT - JOBFORMATTER FIELD - 11-03-74

THIS PATCH CHANGES THE UNITNOF FIELD TO CORRESPOND WITH THE FIELD AS KNOWN TO THE MCP.

P4756 JOBFORMAT - SEG ARRAY ERROR - 11-10-74

THE COUNTER OF THE NUMBER OF CHARACTERS LEFT ON A PRINT LINE WAS NOT ALWAYS BEING KEPT CORRECTLY CAUSING A SEG ARRAY ERROR BY GOING OFF THE END OF THE PRINT BUFFER. THIS PATCH CORRECTS THE PROBLEM.

P4757 JOBFORMAT - LONG CONTROL CARD PRINTOUT - 11-17-74

JOBFORMATTER WILL NOW CORRECTLY PRINT CONTROL CARD IMAGES OF MORE THAN ONE LINE IN LENGTH.

P5029 JOBFORMAT - USERCODES WITH PACKNAME - 12-11-74

THIS PATCH CORRECTS JOBFORMATTER TO RECOGNIZE WHEN THE FIRST NAME OF A STANDARD FORM NAME IS A USERCODE. IT WAS FAILING TO MAKE THE CHECK CORRECTLY WHEN THE LAST IDENTIFIER OF THE NAME WAS A PACKNAME.

P5099 JOBFORMAT - COPYRIGHT II.7 - 12-11-74

THIS PATCH UPDATES COPYRIGHT INFORMATION FOR II.7.

LOADER

P3556 LOADER - MULTIPLE ERROR OVERLAP - 10-20-74

THIS PATCH DOES THE FOLLOWING:

1. UPDATES MCPINFO TABLE COMMENT TO REPRESENT LATEST CHANGES.

2. PREVENTS "WIPING OUT" A PACK IF A "STOP" CARD FOLLOWS A "REMOVE" CARD.

3. PREVENTS ERRONEOUS DISK OVERLAPS BY GIVING BACK CORRECT DISK AREAS (MEMDUMP DISK, OLAY ROW) IF II.7 DIRECTORY.

4. INSURES MCPINFO LOCATION IS PASSED TO MCP IF COOL STARTING FROM II.6 TO II.7.

5. PREVENTS LEAVING SYSTEM DIRECTORY ON NON-PRESENT DISK UNIT.

P3569 LOADER - NO DISK BUG - 10-20-74

THIS PATCH DOES THE FOLLOWING:

1. PREVENTS WIPING OUT A PACK WHEN NO DISK EXISTS ON SYSTEM. DEFAULT LOAD IS TO DISK. IF LOADING TO PACK, THE PACK MUST BE SPECIFIED.

2. SKIP TO TOP OF PAGE AFTER A MEMORY DUMP.

3. ABORTS A LOAD IF THE DIRECTORY ADDRESS IS 0.

P3590 LOADER - JOBDESC - SYSTEM-SERIAL FIXES - 10-27-74

THIS PATCH DOES THE FOLLOWING:

1. ADDS CODE TO COMPLEMENT HEADERS IN "JOBDESC" IN FLATREADER.

2. INSURES SYSTEM SERIAL NUMBER IS ENTERED INTO MCPINFO WHEN ENTERED VIA SPO.

P3670 LOADER - II.6-II.7 COOLSTART-CONVERSION - 11-10-74

THIS PATCH ALLOWS COOLSTARTING FROM II.6 TO II.7.

P3845 LOADER - II.6-II.7 COOLSTARTS FROM TAPE - 11-10-74

THIS PATCH ALLOWS COOLSTARTS FROM TAPE FROM II.6, LOADING A II.7 MCP AND ENTERING ITS HEADER INTO THE II.6 DIRECTORY.

P3914 LOADER - DEBUG CODE - 11-30-74

THIS PATCH PLACES DEBUG CODE UNDER COMPILE TIME OPTION - DEBUGIT.

P4027 LOADER - ROW ADDRESS WORD MODIFICATION - 08-04-74

THIS PATCH ALLOWS DIALING OUT OF DISKADDRESSF FROM A MASSADDRESS WORD SINCE ADDITIONAL BITS HAVE BEEN ADDED TO THE WORD. THIS ALLOWS PROPER INTERFACE WITH THE MCP, SINCE IT ALREADY HAS THESE CHANGES.

P4028 LOADER - DUPLICATE SEQUENCE NUMBERS - 08-01-74

THIS PATCH FIXES DUPLICATE SEQUENCE NUMBERS IN LOADER.

P4029 LOADER - LOADER MEMORY MANAGEMENT - 08-01-74

A MEMORY MANAGEMENT PACKAGE HAS BEEN IMPLEMENTED IN THE SYSTEM LOADER TO PERMIT DYNAMIC ALLOCATION OF ARRAY SPACE.

P4030 LOADER - LOADER MEMORY MANAGEMENT - 08-01-74

A PROBLEM EXISTED IN LOADER MEMORY MANAGEMENT WHEREBY IF THE SAVE CODE AND SAVE DATA EXTENDED BEYOND MEMORY MOD ZERO, SOME OF THE SPACE IN OTHER MEMORIES WOULD NOT GET LINKED INTO THE AVAILABLE LIST. THIS PATCH CORRECTS THE PROBLEM.

P4305 LOADER - LOADER II.7 CHANGES - 09-16-74

CHANGES TO IMPLEMENT NEW II.7 DISK DIRECTORY STRUCTURE.

SOFTWARE IMPROVEMENTS

P4307 LOADER - REMOVE VIA SPO ON NO-DISK - 09-29-74

WHEN COOLSTARTING, AND THE SITUATION ARISES OF NO "USER DISK", THE LOADER COULD RECEIVE A FILE NAME VIA THE SPO; IT WILL THEN REMOVE NAMED FILE AND PROCEED. IT WILL ALSO LIST THE DISK DIRECTORY WHEN IT SENSES NO DISK.

P4308 LOADER - DISK COOLSTART FIX - 09-29-74

1) ADDS NEW OPTIONS
   1. NO FETCH -
   2. RESOURCE CHECK -
   3. NO SUMMARY -
2) WHEN FLATREADER ENCOUNTERS A BAD RECORD, ITS RELATIVE ADDRESS IS DISPLAYED ON THE SPO.
3) FIXES A PROBLEM WHEN COOLSTARTING AND THE ONCOMING MCP IS SPLIT OVER VARIOUS EUS.
4) CHANGES THE SECURITY BYTE FROM 1 TO 2 WHEN GENERATING DCPREFIX OR INTRINSIC STANDARD FORM NAME.
5) WILL ALLOW A PACK TO BE SPECIFIED AS A HALT/LOAD UNIT.

P4355 LOADER - LOADER FIXES - 09-16-74

THIS PATCH DISPLAYS FILE NAME, EU AND DISK ADDRESS OF OVERLAPPING FILES. WHEN COLDSTARTING FROM PACKS, THIS PATCH INSURES THE PACKS MCPINFO AND NOT THE LOWEST EU-S MCPINFO IS USED.

P4758 LOADER - MCP DUMP IMPROVEMENT - 11-10-74

THIS PATCH UPDATES PROCEDURE MEMDUMP TO PRINT ON HEADING WHATEVER BCL PARAMETERS WERE PASSED TO IT, TO INDICATE REASON FOR DUMP. THE LAST PARAMETER SHOULD BE THE PROCEDURE NAME MEMDUMP WAS CALLED FROM.

P4759 LOADER - FILEKIND UPDATE - 11-10-74

SINCE THE FILEKINDS FOR DIRECTORY CONTROL DECK ON II.7 HAVE CHANGED, THIS PATCH ENSURES THAT THE FILEKIND OF THESE FILES IS PRINTED CORRECTLY WHEN THE LOADER IS PRINTING THE DIRECTORY EITHER

II.6 OR II.7.

P4760 LOADER - COLD START ABSOLUTE ADDRESS - 11-10-74

THIS PATCH MAKES THE FOLLOWING COLD START CHANGES:

1. CHANGES DEFAULT MCP ADDRESS TO 25000.

2. CHANGES DEFAULT CATALOG ADDRESS TO 50000.

3. ALLOWS DISK WITH THE FIRST SWITCH LOCKED OUT TO BE VISIBLE INSTEAD OF THE WHOLE UNIT MARKED AS LOCKED OUT.

4. ENSURES CORRECT VALUES ARE PASSED TO GIVEBACKDISK WHEN MAPPING DISK, EITHER II.6 OR II.7.

5. CHANGES MEMDUMPDISK ADDRESS TO 24000.

6. CHANGES OLAYROWADDRESS TO 19000.

7. DOES GIVE BACK DISKS FOR THE ROWS IN THE SYSTEM DIRECTORY.

P4761 LOADER - JOBDESC-FLAT DIRECTORY LENGTH - 11-10-74

THIS PATCH ALLOWS THE "HDRS" POINTED BY JOBDESC TO BE COMPLEMENTED CORRECTLY WHEN CALLED BY FLATREADER (II.6) OR DIRECTORYCOMP (II.7).

THIS PATCH ALSO DOES THE FOLLOWING:

1. CHANGES THE LENGTH OF THE SYSTEM DIRECTORY HEADER FROM 35 TO 36 SEGMENTS.

2. FIXES A BUG WHERE THE LOADER WAS NOT PUTTING ALL THE DISK IN A FAMILY INTO THE LABEL.

P4762 LOADER - DCPCODE DISK LOAD ON II.7 - 11-10-74

THIS PATCH UPDATES CODE IN DCPDISKLOAD TO CONVERT FAMILY INDICES TO EU NUMBERS WHEN LOADING DCPCODE FROM DISK.

P4763 LOADER - II.6 MCP SIZE - 11-10-74

THE LOADER DOES A GIVE BACK DISK ON EITHER WHAT IS IN MCPINFO[11]-

OLAYROW OR A DEFAULT SIZE (19000); THE LOADER WILL DETERMINE WHICH VALUE TO GIVE BACK BY READING THE LABEL AND GETTING THE VALUE TO GIVE BACK; IT WAS PREVIOUSLY DISREGARDING THE VALUE IN THE LABEL.

P4764 LOADER - MCP CM-LOADER INTERFACE - 11-10-74

WHEN CMING FROM II.7 TO II.6, A CM TO THE LOADER OCCURS. THIS PATCH CONVERTS THE ADDRESS IN THE HEADER TO CONTAIN VALID EU NUMBERS. IT ALSO GETS THE NAME OF THE ONCOMING MCP IN ORDER THAT THE FILE NAME MAY BE DISPLAYED.

P4765 LOADER - GETUSERDISK FIX - 11-10-74

THIS PATCH ENSURES THAT THE LOADERS PROCEDURE GETUSERDISK ONLY GETS DISK ON THE HALT/LOAD UNIT.

P4766 LOADER - SYSTEMDIRECTORY DIGIT CHANGE - 11-10-74

THIS PATCH DOES THE FOLLOWING:

1. CHANGES SYSTEM DIRECTORY NUMBERS FROM 1 DIGIT TO 3.

2. CORRECTS MISSPELLING IN A SPO MESSAGE.

P4918 LOADER - SPO MESSAGE - 10-27-74

THIS PATCH PREVENTS ERASING DISPLAYED MESSAGES INDICATING NECESSARY INPUT.

P4919 LOADER - FLATREADER RETURN - 11-30-74

PREVIOUSLY, LOADER WAS DOING AN IMPLICIT RETURN AND THEREBY LEAVING ARRAYS IN MEMORY. THIS PATCH ENSURES BLOCK EXIT ACTION.

P4920 LOADER - HEADER FAMLY INDICES - 11-30-74

LOADER WAS NOT PROPERLY SETTING THE FAMILY INDEX ON A DISKLOAD. PROCEDURE ASSOCIATE WAS RETURNING A WRONG VALUE, THEREBY NOT ALLOWING THE FAMILY INDICES TO BE ENTERED INTO HEADER.

SOFTWARE IMPROVEMENTS

P4921 LOADER - DISK TO DISK COLDSTART - 11-30-74

THIS PATCH ALLOWS DISK TO DISK COLDSTART, AND CHANGES THE ARRAY FLATHDR LENGTH FROM 2400 WORDS TO 60.

P4922 LOADER - II.7 DIRECTORY - 11-30-74

FLATREADER NOW FINDS THE II.7 DIRECTORY.

P4923 LOADER - CLEAR DISK - 11-30-74

THIS PATCH ENSURES WHEN COLDSTARTING TO II.6 THAT ALL READY EU-S ARE CLEARED SO THE LOADER WILL NOT DETECT A LABEL BEING PRESENT ESPECIALLY WHEN CHANGING HALT-LOAD EU-S, IF PREVIOUSLY RUNNING ON II.7.

P4924 LOADER - DCPCODE LOAD - 11-30-74

THIS PATCH INFORMS DCPCODE ABOUT II.7 HEADER INDICES.

P4925 LOADER - LISTDIRECTORY - 11-30-74

THIS PATCH PRINTS THE FILE NAME IN SUBSEQUENT LINES INSTEAD OF THE ENTIRE FILE NAME ON ONE LINE WHEN LISTING THE DIRECTORY.

P4926 LOADER - OLAY ROW MCPINFO - 11-30-74

A DISK UNIT NUMBER HAS BEEN INCLUDED IN THE OLAY ROW MCPINFO WORD WHEN COOLSTARTING FROM II.7 TO II.6.

P4927 LOADER - MOD 0 - 11-30-74

THE FIRST MEMORY LINK HAS BEEN PLACED AT THE TOP OF MOD 0.

P4928 LOADER - CM-LOADER INTERFACE - 11-30-74

AFTER CM-ING FROM II.7 TO II.6 LOADER WITH NO DISKPACKS ON LINE. THE LOADER NOW EXECUTES THE CORRECT CODE.

SOFTWARE IMPROVEMENTS

P4929 LOADER - SAVE ARRAYS - 11-30-74

SOME SAVE ARRAYS HAVE BEEN CHANGED TO LOADER ALLOCATED ARRAYS.

P4930 LOADER - II.6 - II.7 CONVERSION - 11-30-74

CORRECT ENTRY INTO OLAYROW MCPINFO WORD IS NOW USED WHEN GOING FROM II.7 TO II.6.

P4931 LOADER - RESEQUENCE LOADER - 11-30-74

LOADER SYMBOLIC HAS BEEN RESEQUENCED.

P4932 LOADER - DISPLAY OF SEGMENTS - 11-30-74

THE LOADER WOULD PREVIOUSLY INDICATE WHEN NO MORE DISK WAS AVAILABLE, NOW IT DISPLAYS THE TOTAL AMOUNT OF SEGMENTS NEEDED TO COMPLETE THE LOAD PROCESS.

P4933 LOADER - GETUSERDISK "NO DISK" - 11-30-74

WHEN ATTEMPTING TO COOLSTART FROM II.6 AND A "NO DISK" CONDITION AROSE WITH FILES BEING SUBSEQUENTLY REMOVED, THE LOADER WOULD NOT LOAD TO PROPER DISKADDRESSES BECAUSE PROCEDURE DIRECTORYSEARCH WOULD STEP ON THE GLOBAL VARIABLE RWSZ. IT IS NOW A LOCAL VARIABLE WITHIN DIRECTORYSEARCH.

P4934 LOADER - DISPLAY ROWS LOADED - 11-30-74

THE NUMBER OF ROWS BEING LOADED WHEN LOADING THE II.6 MCP ARE NOW DISPLAYED.

P4935 LOADER - DISPLAY - 11-30-74

THIS PATCH PLACES MESSAGES DISPLAYED ON THE SPO WHEN COMPLEMENTING II.6 DIRECTORY AT THE BOTTOM OF THE SCREEN.

SOFTWARE IMPROVEMENTS

P4936 LOADER - NO DISK - 11-30-74

THIS PATCH RETURNS THE DISK AREAS ALREADY LOADED WHEN COOLSTARTING AND A NO DISK SITUATION ARISES AFTER INDICATED FILES ARE REMOVED.

P4937 LOADER - PROCEDURE DIRECTORY DICTIONARY - 11-30-74

THE PROCEDURE LISTING HAS BEEN UPDATED TO INCLUDE NEW PROCEDURES AND THEIR SEQUENCE NUMBERS.

P4938 LOADER - PAREMETER CARD COMMENTARY - 11-30-74

COMMENTARY HAS BEEN UPDATED TO INCLUDE NEW LOADER PARAMETER CARD AND EXCLUDE DELETED ONES.

P4939 LOADER - MCP NAME LOSS - 11-30-74

WHEN A "NO DISK" CONDITION AROSE AND FILE NAMES WERE ENTERED ON THE SPO FOR FILE REMOVALS, THE FILE NAME ENTERED ON THE SPO WAS THE NAME BEING ENTERED INTO MCPINFO [60] AND INTO THE HEADER. THIS HAS BEEN CORRECTED.

P4940 LOADER - POINTER INITIALIZATION PROC - 11-30-74

ALL INITIALIZATION OF INPUT SCANNING POINTERS HAS BEEN PLACED INTO A PROCEDURE TO MAKE RECOVERY FROM FATAL DUMPS POSSIBLE.

P4941 LOADER - MCPINFO LOCATIONS DISPLAY - 11-30-74

GIVING THE LOADER THE "LOCATIONS" PARAMETER CARD ENABLES IT TO DISPLAY ON THE SPO MCP HEADER ADDRESS, FLATDIRECTORY, ADDRESS OLAYROWSIZE AND OLAYROW ADDRESS. THIS PATCH ENSURES IT OBTAINS THE CORRECT INFORMATION FROM BOTH II.6 AND II.7 DIRECTORY.

P4942 LOADER - TIMESTAMP - 11-30-74

THE TIMESTAMP HAS BEEN INSERTED INTO THE FLAT AT COLDSTART TIME.

SOFTWARE IMPROVEMENTS

P4943 LOADER - DEFINE DELAY PROCEDURE - 11-30-74

THE DEFINE "DELAY" HAS BEEN CHANGED TO A PROCEDURE.

P4944 LOADER - DUPFILE - 11-30-74

PRIOR TO THIS PATCH, ENTERUSERFILE WAS NOT RESETTING A POINTER PROPERLY, SUCH THAT IT GOT THE WRONG VALUES FOR ITS DATA WHEN HANDLING DUPLICATE FILES.

P5030 LOADER - RECOVERY FROM FATAL DUMPS - 11-30-74

THIS PATCH INSURES RECOVERY FROM FATAL DUMPS.

P5031 LOADER - OVERLAP - 11-30-74

THIS PATCH INSURES THAT CORRECT MCPINFO WORD IS CHOSEN WHEN GIVING BACK DISK FOR OLAYROW.

P5032 LOADER - RESEQUENCE INTIALIZESTUFF - 12-11-74

THIS PATCH RESEQUENCES PROCEDURE INITIALIZESTUFF.

P5033 LOADER - DISK LABELS - 11-30-74

THIS PATCH WRITES ALL THE NECESSARY INFORMATION INTO THE DISK LABELS AS WRITEHPTLABEL DOES IN THE MCP .

P5034 LOADER - DISK AT COLDSTART - 12-11-74

THIS PATCH CORRECTS A PROBLEM WHEREIN ONLY THE LOWEST NUMBERED EU WAS BEING CLEARED AT COLDSTART TIME, ALLOWS COLDSTART FROM PACK WHEN THERE ISN-T AN MCPINFO TABLE ON DISK, AND DISPLAYS PROPER H/L UNIT AND DISK NUMBER BEING LOADED TO WHEN COLD-STARTING FROM PACK TO DISK.

SOFTWARE IMPROVEMENTS

P5035 LOADER - II.6 TO II.7 CONVERSION - 12-11-74

THIS PATCH FIXES A PROBLEM WHICH OCCURRED ON CM-ING TO A II.6 MCP FROM A II.7 MCP WHICH HAD BEEN GOTTEN TO BY A CM FROM A II.6 MCP. THE FAMILY INDEX INFORMATION FORMAT WAS CHANGED BY THE II.6 TO II.7 CONVERSION AND THE LOADER GOT LOST.

P5036 LOADER - BACKUP FILES - 12-11-74

THIS PATCH PLACES DSKEOF INTO HDR[4] WHEN GOING FROM II.7 TO II.6.

P5037 LOADER - MAXIMUM OLAYROW SIZE - 12-11-74

THIS PATCH SETS THE MAXIMUM OLAYROW TO 5000 SEGMENTS.

P5038 LOADER - BACKUP DIRECTORIES - 12-11-74

AT COLDSTART, THE LOADER WAS DECLARING BACKUP DIRECTORIES AS A 36 SEGMENT BLOCK. THE LOADER NOW FORMATS THEM AS 36

P5039 LOADER - CATALOG ADDRESS - 12-11-74

THIS PATCH CHANGES THE ADDRESS IN SEGMENT 0 OF THE FLAT FOR THE CATALOG HEADER FROM ABSOLUTE TO A RELATIVE ADDRESS.

P5040 LOADER - OLAYROW SIZE - 12-11-74

THIS PATCH LIMITS THE SIZE OF THE OLAYROW TO 5000 SEGMENTS ONLY ON II.7.

LOADER

D0734 LOADER - DISPLAY OF READY EU-S - 03-28-74

THE LOADER CAN NOW DESIGNATE THE HALT/LOAD EU (ORINARILY THE LOADER WOULD SELECT THE LOWEST READY EU). THE SYNTAX IS AS FOLLOWS:

HALTLOADEU N

WHERE N IS THE EU NUMBER. THIS MUST BE THE FIRST CARD THE LOADER SEES. THIS CARD SHOULD BE USED WHENEVER THE HALT/LOAD EU IS NOT THE LOWEST READY EU WHICH MIGHT BE THE CASE IF IT WERE CHANGED BY RECONSTRUCTION TO A BACKUP EU OR BY A PREVIOUS COOL OR COLD START USING A HALTLOADEU CARD. THE READY EU"S AND THE HALT/LOAD EU ARE NOW DISPLAYED ON THE CONSOLE SCREEN.

D0757 LOADER - FLOATING MCP IN LOADER - 05-12-74

IT IS NOW POSSIBLE TO FLOAT THE MCP ON THE HALT/LOAD EU, I.E, THE MCP NEED NOT RESIDE AT THE BASE OF THE HALT LOAD EU.
THE LOADER ALSO ALLOWS LOADING FILES FROM THE DISK TO MEMORY WITHOUT DESTROYING THE RUNNING MCP, WHICH IS USEFUL FOR OFF LINE TESTS. TO ACHIEVE THIS THE LOADER MUST SEE A "MEMONLY" PARAMETER CARD BEFORE THE USUAL "LOAD <FILE NAME>" CARD.

D0782 LOADER - $ SET POOL OPTION CARD - 05-30-74

IF THE LOADER IS COMPILED WITHOUT A $ SET POOL CARD, POOL ARRAYS ARE NOT MADE PRESENT BY THE COMPILER. THIS CAUSES PRESENCE BIT INTERRUPTS TO OCCUR WHICH THE LOADER IS NOT EQUIPPED TO HANDLE.
THE MESSAGE "RECOMPILE THE LOADER USE SET POOL CARD" IS DISPLAYED ON THE SPO AND ON THE HEADING OF THE SUBSEQUENT DUMP.

D0797 LOADER - SET DATACOM FILE PREFIX - 05-12-74

D0797 LOADER - SET DATACOM FILE PREFIX - 05-12-74

THE DATACOM FILE PREFIX, NORMALLY SET VIA THE "DC" CONSOLE COMMAND, CAN NOW BE SPECIFIED IN THE LOADER DECK. THE CONTROL CARD SYNTAX IS:

```
DCPREFIX   <FILENAME>
```

WHERE <FILENAME> MAY BE ANY VALID FILE TITLE UP TO 33 CHARACTERS LONG INCLUDING SLASHES.

D1043 LOADER - DISPLAY MCP INDEX - 11-10-74

THE LEVEL OF THE MCP BEING LOADED IS NOW DISPLAYED ADJACENT TO THE FILE NAME.

D1044 LOADER - SPO MESSAGES - 11-10-74

WHEN CERTAIN MESSAGES ARE DISPLAYED ON THE SPO, THEY WILL BE DISPLAYED ON THE BOTTOM OF THE SPO SCREEN IN ORDER THAT THEY MAY BE ERASED READILY.

D1045 LOADER - DISPLAY - 11-10-74

THE SYSTEM SERIAL NUMBER,
PROCESSORS AND
MULTIPLEXORS ON THE SYSTEM WILL BE DISPLAYED.

D1060 LOADER - CATALOG LOADING - 10-27-74

THE CATALOG CAN BE LOADED AND ENTERED INTO THE FLAT DIRECTORY AT COLDSTART TIME.

TYPICAL PARAMETER CARDS:

```
OLAYROW 750;
DATE 10/22/74;
SYSTEMSERIAL 280;
```

D1060 LOADER - CATALOG LOADING - 10-27-74

```
LOAD SYSTEM/CATALOG/001 FROM SYSTEM;
LOAD SYSTEM/MCP FROM SYSTEM; STOP
```

A NEW PARAMETER CARD, CATALOGADDRESS N, HAS BEEN IMPLEMENTED; WHERE N=INTEGER SPECIFYING AN ABSOLUTE DISK ADDRESS AS THE BASE ADDRESS. IF SPECIFYING BOTH MCP AND CATALOG ADDRESS, THE USER MUST BE CAREFUL THAT THE SPECIFIED ADDRESSES DO NOT OVERLAP. THE DEFAULT CATALOG BASE ADDRESS IS 50000, MCP ADDRESS IS 25000. THE PARAMETER CARDS SPECIFYING A PARTICULAR ADDRESS MUST BE PLACED BEFORE ITS APPROPRIATE LOAD CARD, E.G.

```
CATALOGADDRESS 20000;
LOAD SYSTEM/CATALOG/0 FROM SYSTEM;
MCPADDRESS 35000;
LOAD SYSTEM/MCP FROM SYSTEM; STOP;
```

D1067 LOADER - NOFATAL DUMPS - 11-30-74

THE FOLLOWING NEW PARAMETER CARD HAS BEEN CREATED:

```
NODUMP;
```

WHEN THE LOADER "SEES" THIS CARD IF WILL BYPASS MEMORY DUMPS (NON FATAL), IT WILL, HOWEVER, STILL DUMP ON A FATAL ERROR.

D1068 LOADER - RECOVERY FROM FATAL DUMPS - 11-30-74

AFTER COMPLETING A MEMORY DUMP CAUSED BY A FATAL ERROR, SEQUENCE ERROR, LOOP, ETC., THE LOADER WILL ABORT WHATEVER IT WAS DOING AND EXPECT CARD READER INPUT TO INFORM IT WHAT ELSE TO DO, I.E., LOAD, ETC.

LOG ANALYZER

P4235 LOGANALY - LOG WITH TIME RANGE - 09-16-74

THIS PATCH CORRECTS A PROBLEM (CAUSED BY 2.6 PATCH) WHICH CAUSES THE TIME RANGE TO BE IGNORED UNLESS THE DATE IS ALSO ENTERED.

IN ADDITION TO ALLOWING THE USE OF TIMES WITHOUT DATES , THIS PATCH ALSO ALLLOWS THE DATE TO BE ENTERED ONLY ONCE IF START AND STOP DATE ARE THE SAME, E.G. LOG 0930 TO 1030 8/25/74 IS THE SAME AS LOG 0930 8/25/74 TO 1030 8/25/74.

P4236 LOGANALY - LOG ERRORS CORRECTION - 09-16-74

THIS PATCH CORRECTS LOGANALYZER TO PRINT NOTHING WHEN NO TASKS WITH ERRORS ARE FOUND ON A "LOG ERRORS" REQUEST INSTEAD OF PRINTING THE WHOLE LOG.

P4237 LOGANALY - DCP FAULT ANALYSIS - 09-16-74

THIS PATCH CORRECTS THE PRINTING OF LOCAL/MAIN MEMORY ADDRESSES AND LEFT/RIGHT SYLLABLES WHEN INTERPRETING A DCP FAULT.

P4238 LOGANALY - FAULT RECOVERY - 09-16-74

ON FAULT STATEMENTS HAVE BEEN PUT IN LOGANALYZER TO ENABLE IT TO RECOVER FROM FAULTS CAUSED BY BAD LOG DATA.

P4239 LOGANALY - LOG DUMP CORRECTION - 09-16-74

THIS PATCH CORRECTS THE DUMP OPTION TO PRINT ALL RECORDS OF A MULTIPLE RECORD LOG ENTRY INSTEAD OF JUST PRINTING THE FIRST ONE.

P4240 LOGANALY - OPERATOR ENTRIES - 09-16-74

LOGANALYZER WILL NOW PRINT OUT ALL OPERATOR ENTRIES. PREVIOUSLY, ONLY MIX-ORIENTED REQUESTS WERE PRINTED (DS, HI, IL ETC.).

SOFTWARE IMPROVEMENTS

A NEW OPTION HAS BEEN ADDED TO PRINT OUT OPERATOR ENTRIES - "LOG OPERATOR" WILL PRINT OUT OPERATOR ENTRIES. THEY WILL ALSO BE PRINTED BY A LOG MSG.

P4327 LOGANALY - II.7 COPYRIGHT - 11-23-74

THE II.7 RELEASE COPYRIGHT HAS BEEN UPDATED.

P4767 LOGANALY - HEADING ON IOERROR SUMMARY - 11-10-74

THIS PATCH CAUSES THE HEADING PRINTED AT THE BEGINNING OF THE OUTPUT TO BE REPEATED AT THE BEGINNING OF THE MAINTENANCE LOG IO ERROR SUMMARY.

P4768 LOGANALY - SUMLOG NAME CHANGES - 11-10-74

ON II.7, SUMLOG FILE TITLES HAVE THE FORM SUMLOG/SSS/DATE/NNNNNN WHERE SSS IS THE SYSTEM SERIALNUMBER, AND NNNNNN IS THE SUMLOG NUMBER, AS ON 2.6. TO ACCOMODATE THESE CHANGES, LOGANALYZER HAS BEEN MODIFIED TO ACCEPT ANY NAME IN THE LOG "FILE NAME" FORM RATHER THAN SOMETHING OF THE FORM SUMLOG/NNNNNN. ALSO, THE INPUT LOG/N WHICH USED TO CAUSE THE PROGRAM TO LOOK FOR SUMLOG/N WILL NOW LOOK FOR SUMLOG/SYSTEM SERIAL/CURRENT DATE/N. IF THE FILE IS FOR OTHER THAN THE CURRENT DATE THEN THE LOG/FORM CANNOT BE USED.

P4769 LOGANALY - EOF NO LABEL ON "LOG DATES" - 11-10-74

DUE TO THE FACT THAT THE LASTRECORD ATTRIBUTE IS NOT ALWAYS CORRECT FOR THE CURRENT SUMLOG, LOGANALYZER WOULD SOMETIMES GET AN EOF NO LABEL ERROR TRYING TO READ THE LAST RECORD. SINCE THE CURRENT LOG MUST OF NECESSITY CONTAIN INFORMATION UP TO THE CURRENT TIME, LOGANALYZER WILL NOW PRINT OUT THE CURRENT DATE AND TIME AS THE ENDING DATE AND TIME IN THE CURRENT LOG.

P4770 LOGANALY - DISKHEADER READ ERROR - 11-10-74

LOGANALYZER WAS WRITING A MESSAGE INTO ARRAY "LINE" INSTEAD OF TO FILE "LINEPRINTER" WHEN IT GOT AN ERROR TRYING TO READ THE LOG HEADER. THIS PATCH CAUSES THE MESSAGE TO GO TO THE PRINTER.

SOFTWARE IMPROVEMENTS

P4917 LOGANALY - CPUERROR - 07-07-74

THE CPU ERROR PROCEDURE HAS BEEN CHANGED TO RECOGNIZED THAT THE CPU TEST PROCEDURE MAY HAVE A VALUE ARRAY DESCRIPTOR IN IT SINCE ESPOL NOW PUTS VALUE ARRAY DESCRIPTORS FOR INDEPENDENT RUNNERS IN THE D1 STACK.

LOG ANALYZER

D0784 LOGANALY - LOG DATES - 05-30-74

A NEW FEATURE HAS BEEN ADDED TO LOGANALYZER TO ALLOW INVESTIGATING LOG FILES TO FIND THE DATES AND TIMES COVERED. ENTERING DATE OR DATES AS AN INPUT OPTION WILL RESULT IN LOGANALYZER PRINTING THE DATE AND TIME OF THE FIRST AND LAST LOGENTRIES. FOR EXAMPLE, LOG/1 DATES WILL SHOW THE FIRST AND LAST DATES AND TIMES FOR SUMLOG/ 000001. NOTE: DATES DOES NOT WORK WITH OTHER OPTIONS, E.G., LOG DATES BOJ WILL NOT SHOW THE BOJ-S.

D1061 LOGANALY - LOG SECURITY - 11-30-74

THIS PATCH ADDS A NEW OPTION, SECURITY, TO LOGANALYZER TO PRINT OUT SECURITY VIOLATION RECORDS.

LOGGER

D0995 LOGGER - SYSTEM-LOGGER RELEASE - 01-14-75

A NEW LOG ANALYSIS PROGRAM, SYSTEM/LOGGER IS BEING INITIALLY RELEASED WITH THE II.7 SOFTWARE RELEASE. DOCUMENTATION FOR THIS PROGRAM WILL BE FOUND IN APPENDIX 4 OF THE II.7 DNOTES.

MAKEUSER

P4154 MAKEUSER - INDENTATION FIX - 10-27-74

THE IDENTATION OF THE SECOND AND SUBSEQUENT LINES OF A DECOMPILED WORD LIST HAS BEEN CORRECTED TO ALIGN WITH THE FIRST LINE.

P4157 MAKEUSER - USER [=] <NAME> - 11-03-74

TWO ERRORS HAVE BEEN CORRECTED IN THE HANDLING OF A USERCODE WHEN THE OPTIONAL EQUAL SIGN IS OMITTED:
NAMESS BEGINNING WITH A DIGIT, AND NAME IDENTICAL TO LOCATOR IDENTIFIERS, WERE IMPROPERLY REJECTED.

P4200 MAKEUSER - USERCODE FAULT ADDRESS - 11-03-74

THE ADDRESS AND FAULT NUMBER IN THE MESSAGE

```
XXX USERDATA[REBUILD] FAULT #FF • AA:AAA:A
```

WERE INCORRECT; THEY NOW INDICATE THE FAULT NUMBER AND ADDRESS IN THE MCP PROCEDURE USERDATA OR USERDATAREBUILD.

MCP

P3397 MCP - DIAGNOSTICS - 03-28-74

OVERLAY DOES NOT CHECK THE MOM ADDRESS OF AN AREA BEING OVERLAYED. IF THE MOM IS INCORRECT SERIOUS PROBLEMS WILL ARISE LATER. THIS PATCH CONSISTENCY CHECKS THE MOM UNDER THE "DIAGNOSTICS" COMPILE-TIME OPTION.

P3398 MCP - PRINT QT MESSAGE - 03-28-74

THIS PATCH CORRECTS A PROBLEM WHEREIN IF AUTOBACKUP WAS QT-ED AND THE LINE PRINTER WAS READY, THE QT MESSAGE WOULD BE PRINTED BEFORE THE END WAS PRINTED.

P3400 MCP - FIBSIZE AND FIBINDEX - 03-28-74

THIS PATCH ADDS THE LOCATIONS OF "FIBSIZE" AND "FIBINDEX" TO THE FIRST RECORD OF THE DUMP TAPE FOR USE BY THE FIELD ANALYSIS PROCEDURE OF THE DUMPANALYZER.

P3401 MCP - IOERROR USES ALL STACKS - 03-28-74

I/O ERRORS CAUSED BY WRITING RECORDS TO THE SYSTEM LOG MAY HAVE RESULTED IN SO MANY IOERROR STACKS THAT A DUMP BY "NO STACKS AVAIL" RESULTED. THIS PATCH MINIMIZES THE NUMBER OF IOERROR STACKS THE SYSTEM WILL INITIATE WHEN CAUSED BY WRITES TO THE LOG.

P3402 MCP - DISK-PACK IAD FIX - 03-28-74

THIS PATCH FIXES THE "REBUILD" FUNCTION IN WRITEHEADER AND ALLOWS AN IAD CONTINUATION PACK TO BE REINSERTED INTO THE FAMILY.

P3403 MCP - MEMORY LOCKING - 03-28-74

THIS PATCH IMPLEMENTS FREEZING MEMORY AREAS IN CORE TEMPORARILY, THAT IS, MAKES IT CURRENTLY SAVE WHILE THE DESCRIPTOR OF THE AREA

IS LOCKED. TO REVERT BACK TO ITS PREVIOUS STATUS REQUIRES DOING A THAW ON IT.

P3404 MCP - NEW MCS IN SWAPSPACE - 03-28-74

THIS PATCH CORRECTS PROBLEMS CONCERNING INITIATING JOBS (SUCH AS A NEW MCS) OUT OF JOBS RUNNING IN SWAPSPACE.

P3405 MCP - MEMORY LOCKING - 03-28-74

A PRESENCE BIT ON A LOCKED MOM DESCRIPTOR CAUSED PRESENCEBIT TO STORE OFF THE LOCATION OF THE MOM LOCALLY. IF THIS MOM WAS MOVED BEFORE THE DESCRIPTOR WAS UNLOCKED SERIOUS PROBLEMS WOULD RESULT (THAT IS, A FATAL HANG). THIS PATCH ELIMINATES THE LOCAL MOM ADDRESS AND A STACK SEARCH FIXES THE MOM LOCATION.

P3406 MCP - EXPANDAROW - 03-28-74

THIS IS A REWRITE OF EXPANDAROW WHICH NOW SEARCHES STACKS FOR ABSENT COPIES POINTING INTO DOPEVECTORS WHICH EXPANDAROW MOVES.

P3407 MCP - MULTI-PROCESSOR CODE - 03-28-74

THIS CHANGE MAKES MULTI-PROCESSOR CONTROL CODE FUNCTION FOR A FORTHCOMING COMPILER CHANGE.

P3408 MCP - DISK FILE HEADERS - 03-28-74

DISK AND JOB FILE HEADERS ARE NOW OVERLAYABLE, RESULTING IN A SIGNIFICANT SAVE CORE SAVINGS.

P3409 MCP - IC PACK IMPROVEMENTS - 03-28-74

THIS PATCH CAUSES

1. "PKNN FILEID REPLACED" TO BE DISPLAYED IF A REMOVE WAS CAUSED BY A FILE WITH THE SAME TITLE.

2. CHANGE AND REMOVE VIA LOGICAL I/O ATTRIBUTE CHANGES TO HAVE NO EFFECT ON DUPLICATE FILES.

P3410 MCP - MEMDUMP DISK ADDRESS - 03-28-74

THIS PATCH FIXES A PROBLEM WHICH MIGHT OCCUR WHEN RESERVING DISK FOR MEMDUMP.

P3411 MCP - DATE AND TIME STAMP IN DUMP - 03-28-74

THIS PATCH READS THE CODE FILE HEADER OF THE MCP AND FROM IT EXTRACTS THE DATE AND TIME COMPILED. THIS IS PUT ON THE DUMP TAPE FOR VALIDITY CHECKING OF THE CODE FILE BY DUMPANALYZER.

P3412 MCP - PACK I-O ERROR MSGS - 03-28-74

THIS PATCH RECORDS LOGICAL I/O PACK ERROR MESSAGES IN THE JOB LOG OF THE TASK.

P3413 MCP - SYSTEMSTATUS INTRINSIC - 03-28-74

THE DUMP BY "JUST A SNAPSHOT" FORMERLY AVAILABLE IN THE SYSTEMSTATUS INTRINSIC HAS BEEN REMOVED BECAUSE IT COULD RESULT IN A SYSTEM-FATAL DUMP OR HANG.

P3414 MCP - UNOWNED LIBERATE TRAP - 03-28-74

THIS PATCH IMPLEMENTS A TRAP UNDER THE DIAGNOSTICS OPTION TO CATCH AN INFREQUENT CASE WHERE ENTERUSERFILE GETS AN UNOWNED LIBERATE DUMP.

P3415 MCP - READPACKLBL - 03-28-74

THIS PATCH IMPROVES CODING AND DIAGNOSTICS IN READPACKLBL.

P3416 MCP - PO OVERLAY - 03-28-74

THIS PATCH FIXES AN OVERLAY CONFLICT IN DISKPACKPWROFF.

P3417 MCP - INVALID OP IN GETSTATUS - 03-28-74

THIS PATCH FIXES A PROBLEM IN WHICH A TEMPORARY VARIABLE TEMPU WAS

REAL AND WAS UNABLE TO BE STORED WITH AN IRW.

P3418 MCP - DISK FILE HEADERS - 03-28-74

THIS PATCH ELIMINATES A TIMING WINDOW WHICH EXISTED WHERE THE STACK VECTOR ENTRY FOR DISK FILE HEADERS WAS INCORRECT. THIS OCCURRED AT EXPANDAROW TIME.

P3419 MCP - STACK OVERFLOW - 03-28-74

THIS PATCH CORRECTS A PROBLEM IN WHICH A STACK EXTENSION CAUSED A FATAL SYSTEM HANG WHEN COPY DESCRIPTORS OF THE STACK VECTOR ENTRY BEING EXTENDED WERE LOCATED IN THE USER PORTION OF THE STACK. THIS CONDITION OCCURED WHEN SOME OF THE INTRINSICS WERE RUN.

P3420 MCP - WORKINGSETS - 03-28-74

THIS PATCH CORRECTS A TIMING PROBLEM WHICH COULD OCCUR WHEN RUNNING WITH WORKINGSETS, RESULTING IN THE WORKINGSETSHERRIF ATTEMPTING TO ACCESS A NON-EXISTENT STACK.

P3421 MCP - JOBDESC FILE - 03-28-74

I/O RESULT DESCRIPTORS WILL NOW BE CHECKED WHEN COMPLIMENTING THE JOBDESC FILE AND A NEW JOBDESC WILL BE CREATED IF AN ERROR OCCURS.

P3422 MCP - SHORT HEADER IN LIBMAIN - 03-28-74

IN A COPY TO A TAPE DESTINATION, IF THE PROCEDURE DETERMINES THAT THE FILE IS NOT ON THE SOURCE AFTER THE TAPE DIRECTORY IS WRITTEN, IS OUTPUTS A "NOT ON" MESSAGE AND WRITES A FILE HEADER WITH HEADERSIZE EQUAL TO ONE TO THE TAPE DESTINATION. IF THE FILE TITLE IN STANDARD FORM WAS LESS THAN ONE WORD, AN INVALID INDEX OCCURRED WHEN THE SHORT FILE HEADER WAS BUILT. THIS PATCH PREVENTS THE ERROR.

P3423 MCP - UNINITIATED I-O - 03-28-74

THE NON-FATAL DIAGNOSTIC MEMORY DUMP TAKEN WHEN AN UNINITIATED I/O

OCCURS WILL NO LONGER HANG THE SYSTEM.

P3424 MCP - OVERLAY DISK REWRITE - 03-28-74

THE OLD OVERLAY DISK ALGORITHM USED AN EXCESSIVE AMOUNT OF DISK AND COULD NOT COPE WITH OUT-OF-DISK SITUATIONS. THIS REWRITE CORRECTS THESE PROBLEMS.

P3425 MCP - DISK-PACK FIXES - 03-28-74

THIS PATCH

1. ALLOWS DISK-PACK FILE ASSIGNMENT VIA SERIAL NUMBER.

2. CLEANS UP SOME DISK-PACK WRITEHEADER LOOPHOLES.

3. ADDS ERROR TESTS TO WRITEHEADER.

P3427 MCP - SCHEDULING - 03-28-74

THIS PATCH IMPROVES SYSTEM SCHEDULING. OLAYCHANNELS (OVERLAY I/O TIME) IS DELAYED OVER A 10 SECOND TIME PERIOD AND IS CALCULATED DIFFERENTLY TO SENSE OVERLAY PEAKING. STACK SIZE IS INCLUDED IN THE CORE ESTIMATE OF THE JOB; IT WAS OMITTED PREVIOUSLY. IF OVERLAY HAS EXCEEDED THE SATURATION POINT NO JOBS WILL BE INITIATED.

P3429 MCP - PROTECTED TAPES - 03-28-74

I/O ERRORS ENCOUNTERED WHEN TRYING TO WRITE THE TAPE MARKS ON A PROTECTED TAPE AT HALT/LOAD TIME WILL NO LONGER HANG THE SYSTEM.

P3430 MCP - TAPE RETRY ON WRITE ACCESS ERR - 03-28-74

TAPE PARITY RETRY WILL NOW CORRECTLY REPOSITION WHEN A WRITE OPERATION IS TERMINATED BEFORE THE MINIMUM NUMBER OF CHARACTERS CONSIDERED A VALID RECORD HAVE BEEN WRITTEN.

P3526 MCP - PURGIT VS BLASTUNIT - 03-28-74

THIS PATCH FIXES A PROBLEM IN WHICH IF A TAPE DRIVE WAS BLASTED DURING A PURGE, PURGE COULD LOOP BECAUSE IT DID NOT ANTICIPATE

RECEIVING AN I/O CANCELLED RESULT.

P3527 MCP - DOUBLE PROCURE OF SWAPLOCK - 03-28-74

THIS PATCH REMOVES TWO BUZZES OF SWAPLOCK. PRIOR TO THIS PATCH A SYSTEM HANG COULD OCCUR WHEN SWAPPING A JOB USING A DATA BASE.

P3528 MCP - RESIZE ARRAY PARAM IN SUBSPACE - 03-28-74

THIS PATCH FIXES A PROBLEM IN WHICH RESIZEANDDEALLOCATE WAS GETTING A NEW ARRAY UNDER THE WRONG STACKNUMBER. THIS CAUSED SYSTEM HANGS WHEN THE RESIZE WAS IN AN OFFSPRING RUNNING IN SUBSPACES AND THE ARRAY BELONGED TO ITS PARENT.

P3529 MCP - PACK STATUS - 03-28-74

THIS PATCH DOES THE FOLLOWING:

1. PREVENTS AN SV OR MODE IN OF HALT LOAD PACKS (PREVENTS CONTROLLER HANGS).
2. SHOWS 225 FIRMWARE LEVEL ON OL DISPLAY.
3. RECOVERS WRITE ENABLE STATUS IN IOERROR.

P3530 MCP - DMSII TASK ATTR FAULT - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH A FAULT IN THE MCP OCCURRED IN THE ACCESSROUTINES WHEN SETTING A TASK ATTRIBUTE.

P3531 MCP - RCC NOMENCLATURE IN MEMDUMP - 04-18-74

THIS PATCH CHANGES THE NO LONGER USED TERM "REDEEMER" TO "RCC" IN THE RECOVERY MESSAGE AFTER A FATAL DUMP.

P3532 MCP - DO FAULT ERROR DUMP-DIAGNOST - 04-18-74

THIS PATCH PUTS THE "DO FAULT ERROR" DUMP UNDER THE DIAGNOSTICS OPTION.

SOFTWARE IMPROVEMENTS

P3533 MCP - SWAP SPACE PROBLEM - 04-18-74

THIS PATCH FIXES A PROBLEM WHEREBY AN INVALID OPERATOR COULD OCCUR WHEN ATTEMPTING TO RESTART A TASK IN SWAP SPACE.

P3534 MCP - IMPROVE RESPONSE TO ST - 04-18-74

PROGRAMS THAT ARE KANGAROO-ED WILL HAVE THEIR EFFECTIVE PRIORITY SET HIGH SO THAT THEY WILL OBTAIN A PROCESSOR QUICKLY. THIS WILL MAKE WORKING SETS MORE RESPONSIVE TO OVERLOAD.

P3535 MCP - HANGS WHILE DS-ING SWAPJOBS - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH IF A SWAPJOB WAS DS-ED AT JUST THE WRONG TIME, ITS LOCATION WAS NOT PROPERLY CHANGED. THIS RESULTED IN AN INFINITE LOOP IN SWAPPER.

P3536 MCP - HANDLING OF SPARE CHUNK - 04-18-74

THIS PATCH CORRECTS THE HANDLING OF THE SPARE 990 WORDS PER SWAPJOB RESERVED FOR HANDLING DO SPACE REQUESTS.

P3537 MCP - OLAYSCOUT-SWAPPER INTERFACE - 04-18-74

OCCASIONALLY OLAYSCOUT WAS GETTING DISK FOR A STACK THAT HAD BEEN SWAPPED OUT. THIS PATCH DELAYS THE SWAPOUT UNTIL OLAYSCOUT NOTES THE SWAPOUT DESIRE (THIS IS THE SAME FOR EOJ ALSO).

P3538 MCP - SECURITYGUARD ATTRIBUTE - 10-20-74

THIS PATCH MOVES THE GUARDFILE TITLE WHEN A DISK FILE IS CRUNCHED SO THAT IT CAN BE FOUND LATER.

P3539 MCP - INVALID OP IN GETSPACE - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH UNDER CERTAIN CONDITIONS THE PRESENCEBIT PROCEDURE COULD PICK UP A BAD STACK NUMBER FOR THE LOCATION OF THE MOM DESCRIPTOR AND GET AN INVALID OPERATOR IN THE GETSPACE PROCEDURE.

SOFTWARE IMPROVEMENTS

P3540 MCP - B7700 SYMBOL MERGE - 04-18-74

IT SHOULD BE NOTED THAT CERTAIN PREVIOUSLY EMPTY MCPINFO TABLE CELLS ARE NOW BEING USED. AS A RESULT, SUBSTITUTE BACKUP (SB) INFORMATION WILL NOT BE PRESERVED ACROSS A CM OR COOLSTART FROM 2.6 TO 2.7 MCP, OR VICE VERSA.

P3541 MCP - STRETCH SWAPJOB STACKS - 04-18-74

THIS PATCH IMPLEMENTS STACK STRETCHING (PLEASE REFER TO MCP D0736) FOR JOBS RUN THROUGH SWAPPER.

P3542 MCP - STACKOVERFLOW - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH IF A PROGRAM WITH A FAULT DECLARATION CAUGHT A FAULT AFTER HITTING STACKOVERFLOW THE RESULT WOULD BE EITHER A SUPER-HALT OR A SYSTEM FATAL STACK OVERFLOW.

P3543 MCP - EXCLUSIVE FILES - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH DS-ING A STACK WAITING FOR AN EXCLUSIVE FILE COULD RESULT IN A SYSTEM HANG IF THE MCP WAS COMPILED WITH DIAGNOSTICS RESET.

P3544 MCP - "NOT ON" MESSAGE IN LIBMAINT - 04-18-74

PREVIOUS TO THIS PATCH, LIBRARY MAINTENANCE RECEIVED A SEGMENTED ARRAY ERROR WHEN IT TRIED TO COPY A FILE LISTED IN THE TAPE DIRECTORY, BUT NOT ON THE TAPE.

P3545 MCP - MEMORY LOCKING - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH PRESENCEBIT WAS STORING THE MEMORY ADDRESS OF THE INTERRUPTED MOM OFF LOCALLY. SEARCH DID NOT FIND OR MODIFY THE ADDRESS (NO TAG FIVE) WHEN THE MOM WAS BEING RELOCATED.

SOFTWARE IMPROVEMENTS

P3546 MCP - CHECKPOINT WITH NAMED PACKS - 04-18-74

THIS PATCH ALLOWS CHECKPOINTS WITH TEMPORARY NAMED PACK FILES OPENED.

P3575 MCP - GETAREA - 05-12-74

GETAREA AND FORGETAREA HAVE BEEN REWRITTEN TO INCREASE SPEED AND REDUCE CHECKERBOARDING. ALL CALLS ON GETAREA THAT CAN AFFORD TO LOSE CONTROL NOW INDICATE SO. IN ADDITION, ANY SITE WHICH CONTINUES TO HAVE PROBLEMS WITH GETAREA DUMPS MAY INCREASE THE DEFINE FOR "SPAREGETAREAROWS" AT SEQ # 03303000 TO STAY MORE THAN ONE ROW AHEAD.

P3576 MCP - EOF CALCULATION IN SWAPJOBS - 05-12-74

THIS PATCH CORRECTS A PROBLEM IN WHICH THE ENDING ADDRESS IN THE RESULT DESCRIPTOR WAS NOT BEING RELOCATED. THIS RESULTED IN OCCASIONAL ERRONEOUS END-OF-FILE ACTIONS (OR LACK THEREOF) FOR JOBS RUNNING IN A SUBSPACE.

P3578 MCP - OVERLAY - 05-12-74

OVERLAY PREVIOUSLY DID A DISKIO WHICH IN TURN DID A GETAREA FOR AN IOCB. OVERLAY DID THE FORGETAREA. THIS CHANGE DOES A DISKWAIT ELIMINATING THE GETAREA/FORGETAREA CALLS.

P3579 MCP - DMSII FILE SECURITY - 05-12-74

DATA MANAGEMENT CIRCUMVENTS THE SECURITY SYSTEM WHEN CREATING FILES. THIS PATCH FIXES A PROBLEM IN WHICH WHEN CREATING A FILE UNDER SYSTEM DIRECTORY, THE SECURITYUSE ATTRIBUTE WAS BEING IMPROPERLY SET TO PRIVATE IN THE HEADER IF THE STACK HAD A USERCODE.

P3581 MCP - MESSAGE ON DIRECTORYCONTROL DS - 05-12-74

IF A PROGRAM USED DMDIRECTORYCONTROL INCORRECTLY (FOR EXAMPLE, CERTAIN CASES ARE RESTRICTED TO DCALGOL PROGRAMS AND COMPILERS), IT

WOULD BE DS-ED WITH NO MESSAGE. THIS PATCH ADDS THE ERROR MESSAGE "INVALID DIRECTORYCONTROL USE".

P3582 MCP - $ MCP OPTION - 05-12-74

THIS PATCH FIXES THE MCP TO BE COMPATIBLE WITH THE NEW "MCP" DOLLAR OPTION IN ESPOL.

P3583 MCP - RESEQ MUTATE - 05-12-74

THIS CHANGE RESEQUENCES MUTATE.

P3600 MCP - IOCB[USER] IN PACK I-O ERR - 05-12-74

PACKPARITYRETRY COPIES THE ORIGINAL IOCB[USER] OVER INTO ITS OWN IOCB. THIS PERMITS ACTIVETIME TO WORK FOR RETRY STARTIO. THIS PATCH INSURES THAT THE STACK ID OF THE USER IS IN THE IOCB OF PACKPARITYRETRY.

P3601 MCP - DMSII ABORT IN SWAP SPACE - 05-12-74

WHEN A STACK USING DMSII WAS DS-ED IN THE MIDDLE OF A USER TRANSACTION THE ABORT TRANSACTION ROUTINE WAS EXECUTED IN THE USER STACK IF THIS STACK WAS IN SWAP SPACE. THIS CAUSED MANY MEMORY EXCEEDED ERRORS.

FIXES HAVE BEEN MADE TO ALLOW EXECUTION OF ABORT TRANSACTION AS A COROUTINE TO THE USER STACK WHEN THE USER STACK IS IN SWAP SPACE. WHEN THE USER STACK IS IN MAIN MEMORY THIS IS ALREADY POSSIBLE.

P3602 MCP - DM6700 MON DIES IF DS OLD PROG - 05-12-74

THIS PATCH FIXES A PROBLEM IN WHICH IF THE MONITOR DIED AND A NEW MONITOR WAS INITIATED BECAUSE OF NEW COBOL PROGRAMS USING THE SAME DATABASE, IT WOULD DIE WHEN THE COBOL PROGRAMS THAT USED THE OLD MONITOR WERE DS-ED.

P3603 MCP - DMSII I-O ERROR RECOV - 05-12-74

THIS PATCH FIXES THE RECOVERY FROM AN I/O ERROR IN SETTING UP A DBS.

P3604 MCP - CONTROLLER WAIT ON HEADERLOCK - 05-12-74

THE CONTROLLER ATTEMPTED TO PUT A MESSAGE INTO A JOB LOG AND HUNG WHILE WAITING ON HEADERLOCKS. THIS PATCH CAUSES IRSTACK (CONTROLLER) TO EXIT IF UNABLE TO PROCURE HEADERLOCKS.

P3605 MCP - ERR RECOVERY - TRAIN PRINTERS - 05-12-74

THIS PATCH ALLOWS FOR THE CORRECT ERROR RECOVERY ON TRAIN PRINTERS.

P3606 MCP - JUNK INFO AFTER A H-L - 05-12-74

THIS PATCH PREVENTS WRITING JUNK ON THE CONSOLE WHEN THE MCP COMES UP AFTER A HALT/LOAD OR CM. THE PROBLEM WAS CAUSED BY USING JUNK INFORMATION AS A TEST OPERATOR IOCW; THIS PATCH RESTORES THE TEST OPERATOR.

P3607 MCP - TEST BIT DROPPING ON MPX - 05-12-74

THIS PATCH ADDS AN ADDITIONAL TEST DURING INITIALIZATION DESIGNED TO DETECT BIT DROP-OUTS ON THE MPX-MEMORY BUS.

P3608 MCP - BLOCKEXIT PROBLEM - 05-12-74

THIS PATCH INSURES THAT A UINFO MOM WILL NOT BE STORED IN A STACK DURING A GETSTATUS PER DISPLAY.

P3610 MCP - WRITE LOCKED-OUT DISK - 05-12-74

AN EU WHICH IS ENTIRELY WRITE-LOCKED OUT WILL NO LONGER CAUSE I/O TO IT TO RESULT IN A NOT READY ERROR.

P3611 MCP - DISK I-O DIAGNOSTIC - 05-12-74

THIS PATCH CHECKS DISK ADDRESSES BEING READ/WRITTEN AGAINST THE

FILE HEADER TO INSURE THE I/O IS GOING TO THE CORRECT ADDRESS. THE CHECKING IS ENABLED ONLY IF "EXPERIMENTAL" IS SET AT COMPILE-TIME.

P3612 MCP - RESEQ END OF MUTATE - 05-12-74

THIS PATCH RESEQUENCES THE END OF THE CASE STATEMENT IN MUTATE. THEREFORE MORE CASES ARE AVAILABLE FOR PATCHES.

P3613 MCP - TAPEPARITYRETRY WORD COUNT - 05-12-74

WORD COUNT IS NOW USED WHEN POSITIONING A PETAPE ON A WRITE RETRY.

P3623 MCP - MORE ENTERUSERFILE CALLS - 05-12-74

THIS PATCH CAUSES A FAILING ENTERUSERFILE TO CALL RELEASEHEADER RATHER THAN FORGETSPACE. THIS IS REQUIRED SO THAT THE CALLER WILL NOT HAVE TO DETERMINE WHY ENTERUSERFILE FAILED.

P3753 MCP - WRITE LOCK-OUT - 05-30-74

FILES WHICH HAD BEEN ON WRITE-LOCKED OUT DISK, BUT NO LONGER ARE, WILL HAVE THE HEADER FLAG TURNED OFF SO THAT IF THEY ARE REMOVED, THEIR DISK SPACE WILL BE RETURNED TO THE AVAILABLE SPACE LIST.

P3754 MCP - MACHINE IDENTIFICATION - 05-30-74

THIS PATCH ASSIGNS A DO VARIABLE SO THAT COMPILERS CAN DETERMINE MACHINE CHARACTERISTICS.

CURRENTLY DEFINED BIT 0 = 1 IS B7700
= 0 IS B6700

P3755 MCP - FILEKIND (INTERNAL CHANGE) - 05-30-74

THIS PATCH MAKES ALL INTERNAL REFERENCES TO THE FILEKIND ATTRIBUTE IN THE MCP,MAINTENANCE, AND ESPOLINTRINSICS USE THE DEFINE FILEKIND (HEADER) INSTEAD OF FILETYPE (HEADER).

P3756 MCP - LIBRARY MAINTENANCE - 05-30-74

THE SUB-ARRAYS BUILT BY LIBRARY MAINTENANCE FOR THE COPY <FILEID>/ FUNCTION WILL NOW BE SEGMENTED THUS REDUCING CORE REQUIREMENTS.

P3757 MCP - BADDISK FILES - 05-30-74

RESERVE AND XDISK WILL NO LONGER ALLOW CREATION OF BADDISK FILES OF ZERO LENGTH.

P3758 MCP - PARAMETER CHECKING - 05-30-74

THE PARAMETER CHECKING INTRINSIC IS NOW USED BY THE MCP TO CHECK THE PARAMETERS PASSED TO A TASK.

P3759 MCP - FIX IC PACK BUGS - 05-30-74

THIS PATCH FIXES ROW LINKAGE OF II.6 CONFLICT WITH PRE-II.6 ROW LINKAGES, AND "LAST ROWS" WHEN EXTENDING MULTIPACK FILES.

P3760 MCP - UNITNO IN LIBMAIN - 05-30-74

PREVIOUS TO THIS PATCH, THE UNITNO SPECIFIED IN A LIBRARY MAINTENANCE STATEMENT WAS IGNORED.

P3761 MCP - DMSII DMS WAIT FIX - 05-30-74

IF THERE WERE ENOUGH PROCESSES WAITING ON LOCKED RECORDS IT WAS POSSIBLE FOR ERRONEOUS DEADLOCKS TO BE INDICATED.

P3762 MCP - DMSII PROGRAMDUMP IN CLOSE - 05-30-74

WHEN THE ACCESSROUTINES GET A FAULT IN CLOSE, A PROGRAMDUMP IS NOW TAKEN FOR THE FIRST DUMP INSTEAD OF NO INDICATION OF ANY ERROR BEING GIVEN.

P3763 MCP - RESTART - 05-30-74

STACKS WITH SIRW-S IN ARRAYS (E.G., SWITCH FILES) CAN NOW BE

RESTARTED.

P3764 MCP - ZIP WITH ARRAY - 05-30-74

PROGRAMS THAT USE THE ZIP WITH ARRAY CONSTRUCT WILL NO LONGER CAUSE A BUILDUP IN MCP SAVE CORE.

P3765 MCP - SOURCE KIND - 05-30-74

IF THE "PATHCONTROL" WORD INDICATES A ZERO VALUE FOR THE SOURCE UNIT THEN A VALUE OF ZERO WILL BE RETURNED BY THE TASK ATTRIBUTE "SOURCEKIND".

P3766 MCP - DC TANKING TO PACKS - 05-30-74

THIS PATCH ALLOWS DATACOM TANKING TO HALT LOAD DISKPACK.

P3767 MCP - CIRCUMVENT PACK STATUS CHANGE - 05-30-74

THIS PATCH IMPLEMENTS NEW SEG5 CODE TO CIRCUMVENT A HARDWARE PROBLEM ON A 2XA BX383 DISKPACK CONTROLLER.

P3769 MCP - INVALID BCL PUNCHES - 05-30-74

THIS PATCH ALLOWS WFL TO RECOGNIZE AND HANDLE INVALID BCL PUNCHES THE SAME AS IT DOES INVALID EBCDIC PUNCHES FOR INTERNAL BCL DATA DECKS.

P3770 MCP - FIX RECENT RELEASEHEADER BUG - 05-30-74

THIS PATCH FIXES LOCK WAIT AFTER I-O ERROR.

P3771 MCP - PACK EXCLUSIVE OPEN WAIT - 05-30-74

THIS PATCH FIXES WAIT STATE THAT SOMETIMES OCCURS WHEN SEVERAL DISKPACK EXCLUSIVE OPENS FOR SAME FILE ARE IN THE MIX.

P3772 MCP - DISKPACK PG AND LB - 05-30-74

THIS PATCH FIXES A RECENT CONFLICT BETWEEN LB AND PG FOR PACKS.

P3773 MCP - FIX DS MONITOR - 05-30-74

DS-ING THE DM6700 MONITOR DID NOT TERMINATE THE COBOL PROGRAMS USING THAT DATABASE. THOSE PROGRAMS WITH REQUESTS IN PROGRESS WOULD HANG. NOW THEY ARE RETURNED A STATUS OF 18. ANY NEW REQUEST TO THE MONITOR WHICH WAS DS-ED WILL ALSO RETURN A STATUS OF 18 (MONITOR DS-ED).

P3774 MCP - SYSTEMSTATUS - 05-30-74

CALLING SYSTEMSTATUS REQUESTING INFORMATION ABOUT A SPECIFIC DISKPACK COULD RESULT IN A SYSTEM HANG IF THE ARRAY WAS TOO SHORT. THIS PATCH CORRECTS THAT PROBLEM.

P3775 MCP - OVERLAY HEADER - 05-30-74

THIS PATCH FIXES A OVERLAY HEADER CONFLICT IN ENTERUSERFILE.

P3776 MCP - FAULT HANDLING - 05-30-74

THE SYSTEM WOULD SUPERHALT IF THE MCP CAUGHT AND HANDLED A FAULT WHILE OPERATING IN A USER STACK WHICH HAD BEEN ST-ED OR DS-ED.

P3777 MCP - COLD START FIX - 05-30-74

WHEN BUILDING THE DIRECTORY AFTER COLD START, THE ENTRY INTO FIRSTROW INDEX WAS NOT POINTING TO THE NEXT ENTRY, INSTEAD IT REFERENCES ITSELF, WHICH CAUSED A HANG IN DIRECTORY- COMPLEMENT; THIS PATCH ENSURES THAT SYSTEMDIRECTORY [FIRSTROWINDEX] POINTS TO THE NEXT ENTRY.

P3778 MCP - FIX MISSING LAST ROW - 05-30-74

THIS PATCH FIXES FINDDISKPACK SO ALL ROWS WILL BE ACTIVATED.

P3779 MCP - NEW EXPERIMENTAL SYSTEMS - 05-30-74

THIS PATCH ADDS THE MISSION VIEJO SYSTEM SERIAL NUMBERS TO THE LIST OF EXPERIMENTAL SYSTEMS.

SOFTWARE IMPROVEMENTS

P3780 MCP - IV PARAMETER - 05-30-74

THIS PATCH ADDS A PARAMETER TO DISKPACKINTIALIZE, WHICH ALLOWS ROUTINE TO SEE OPERAND FROM IV COMMAND.

P3781 MCP - FILEHANDLERQ - 05-30-74

THIS PATCH CORRECTS THE DEFINITION OF FILEHANDLER INTERFACE ROUTINES.

P3953 MCP - READER-THINKER-WRITER LOCKS - 08-01-74

THIS PATCH IMPLEMENTS READER-THINKER-WRITER LOCKS USING EVENTS IN THE MCP FOR USE BY II.7 DIRECTORY CODE.

P4006 MCP - MOD3 MPX - 10-20-74

THIS PATCH IMPLEMENTS THE MOD3 MPX COMPILE TIME OPTION. CURRENTLY, IT MUST BE RESET, AND THE MCP WILL DEFUNCT WITH THE MESSAGE MOD 3 MPX IF IT DETECTS A MODEL 3 MULTIPLEXOR.

P4007 MCP - ADD SEG 0 LOG TO UINFO - 11-03-74

THIS PATCH ADDS A NEW ENTRY IN UINFO:

USEGOLOG (U)

WHICH CONTAINS THE LOCATION OF THE SYSTEM DIRECTORY ON THAT UNIT.

P4008 MCP - REBUILT CATALOG FLAT SEARCH - 10-27-74

THIS PATCH PERMITS THE FILE ACCESS STRUCTURE TO BE RE-CREATED BY SEARCHING THE "CATALOG" AND PLACING ENTRIES IN THE F.A.S.T. FOR EACH CATALOG BLOCK WHICH EXISTS AT THAT TIME. ON A CATALOGING SYSTEM, THERE MUST BE A ONE-TO-ONE CORRESPONDENCE BETWEEN THE F.A.S.T. AND THE "CATALOG".

P4015 MCP - DISK PACK CAPABILITIES - 05-30-74

PACKLINKAGE IS NOW WRITTEN FOR HEAD-PER-TRACK DISK AS PART OF THE HEAD-PER-TRACK LABEL. THIS IS WRITTEN IN THE SAME PLACE AS IT IS ON PACKS, I.E., 3 SECTORS BEYOND THE LABEL.

THIS PATCH CHANGES ALL CASES WHERE HEADER I/O IS DONE TO DISKHDRWAIT INSTEAD OF DISKWAIT. IT ALSO REMOVES CORE INDICES IN WORD 0 OF HEADERS AND USES DISKFILEHEADERS SCAN INSTEAD.

IT ADDS "PACKHDRINX" WHEN SETTING UP THE UINFO ENTRIES FOR HEAD-PER-TRACK. IT ALSO FILLS THE LABEL WITH BLANKS INSTEAD OF ZEROES.

IT CORRECTS A PROBLEM WHICH PREVENTED COLDSTARTS WITH THE PACK LINKAGE DATA IN THE LABEL. IT ALSO RELEGATES THE USE OF THE "WRITEHPTLBLF" BIT IN DABMEM TO EXPERIMENTAL USE. IF A TEST REQUIRES THAT A NEW LABEL BE WRITTEN, THIS BIT FORCES UNCONDITIONAL LABEL WRITES; OTHERWISE, THE LABEL WILL BE RE-WRITTEN IF IT IS BAD (UNDER THE EXPERIMENTAL OPTIONS). ALSO, A DEFINED LEVEL IS WRITTEN IN THE LABEL SO THAT THE LABEL WILL BE RE-WRITTEN IF THE LABEL LEVEL IS CHANGED.

IT IMPLEMENTS A PROCEDURE WHICH WRITES A LABEL ON THE HEAD-PER-TRACK DISK UNIT SPECIFIED BY THE PARAMETER IT IS PASSED. IT IS FOR THE TIME BEING ASSUMED THAT THE DESIGNATED UNIT IS THE BASE UNIT OF THE HEAD-PER-TRACK FAMILY. THEREFORE, ALL OTHER DISK CURRENTLY ON THE SYSTEM IS INCLUDED INTO THE HEAD-PER-TRACK FAMILY.

IT CHANGES THE FORMAT OF PACK ENTRIES IN THE DISKTABLE ARRAY TO CORREPOND TO HEAD-PER-TRACK ENTRIES. IT CREATES A NEW PACKTABLE ARRAY FOR DISK PACK SPECIFIC CODE TO USE.

IT RELEASES SEVEN D0 CELLS FOR RE-USE BY DELETING OLD PROCEDURES AND MOVING USERDISKLIST, GETUSERDISKHEAD AND FORGETUSERDISKREAD ARRAY DECLARATIONS INTO READHPTLBL.

IT SETS NATIVEMODE IN THE HEAD-PER-TRACK LABEL TO TRUE.

IT CORRECTS SPURIOUS FAMILY ERRORS CAUSED BY DISK LABELS ON SPLIT SYSTEMS WHICH WERE JOINED AND THEN COLDSTARTED.

SOFTWARE IMPROVEMENTS

P4031 MCP - BUILDBACKUPQUEUER OVERFLOW - 08-01-74

THIS PATCH ALLOCATES MORE STACK SPACE TO BACKUPQUEUER WHEN IT IS FORKED FROM SETSTATUS BECAUSE OF AN AP COMMAND.

P4032 MCP - ROW ADDRESS WORDS - 08-01-74

THIS PATCH WILL AID THE TRANSITION FROM THE II.6 FORMAT OF ROW ADDRESS WORDS TO II.7, ESPECIALLY IN THE REVERSE DIRECTION.

P4033 MCP - FINDAFILE CALLS - 08-01-74

THIS PATCH ENHANCES FINDAFILE TO ALLOW SPECIFYING UNIT. IT ALSO CHANGES SEVERAL DIRECTORYSEARCH CALLS TO FINDAFILE CALLS.

P4034 MCP - STACKOVERFLOW IN IOERROR - 08-01-74

THIS PATCH CORRECTS A PROBLEM WHEREIN THE INDEPENDENT RUNNER IOERROR COULD OCCASIONALLY CAUSE A FATAL STACK OVERFLOW.

P4035 MCP - SYSTEMT COMPILE OPTIONS - 08-01-74

THIS PATCH RELEASES THE LIST OF PROCEDURES TO BE "EXCLUDED" WHEN THE "SYSTEMT" COMPILE TIME OPTION IS SET. SPECIFICALLY, DATAMANAGEMENT AND MULTIPLE PROCESSOR PROCEDURES ARE EXCLUDED AND THE "ONEPROC" (NO BUZZ OR UNLOCK CODE) OPTION IS AUTOMATICALLY SET.

P4036 MCP - REMOVE SYSTEMFILES - 08-01-74

THIS PATCH CORRECTS A PROBLEM WHICH ALLOWED PROGRAMMATIC COLDSTART OF A SYSTEM FROM AN ALGOL JOB RUNNING UNDER A PRIVILEGED USERCODE USING "CLOSE(F,PURGE)".

P4037 MCP - ROW ADDRESS WORD ADDITIONS - 08-01-74

THREE NEW BITS WERE DEFINED (ALLOCATEDROWF, ACTIVEROWF, INDEXWASSETF) AND THE MEANING OF THE FIELD EUNOF WAS MODIFIED TO AID IN THE REWRITE OF THE DISK SUBSYSTEM.

SOFTWARE IMPROVEMENTS

P4039 MCP - DM FINDAFILE CALL - 08-01-74

THIS PATCH CHANGES DIRECTORYSEARCH TO FINDAFILE.

P4040 MCP - PACKMOUNT IMPROVEMENTS - 08-01-74

THIS PATCH IMPROVES:

1. IC PACK LIBRARY MAINTENANCE (INPUT ONLY)
2. PACKMOUNT WAIT FOR COMPLEMENTORS (30 SECONDS)
3. PACKMOUNT ACCEPT "OF" REPLY TO PACK REQUIRED RSVP, AND
4. HEAD-PER-TRACK PACKMOUNT.

P4041 MCP - MOVE HPT FROM DISKMAPPER - 08-01-74

THIS PATCH CHANGES DISKMAPPER AND READHPTLBL SO THAT READHPTLBL CONTAINS ALL CODE REQUIRED TO COMPLEMENT THE HPT DISK.

P4042 MCP - DEFINE NEW PROCEDURES - 08-01-74

THIS PATCH IMPLEMENTS INTERFACE TO NEW DIRECTORY ROUTINES (FILEHANDLER).

P4043 MCP - FILEHANDLERQ CALLS - 08-01-74

THIS PATCH IMPLEMENTS INTERFACE TO NEW ENTERUSERFILE ROUTINES.

P4044 MCP - UINFO ADDITIONS FOR TAPES - 08-01-74

THE MCP WILL NOW CHECK CREATIONDATE, SAVEFACTOR AND SITE IDENTIFICATION TO SHOW THAT A TAPE IS ONE THAT IS ENTERED IN VOLUME LIBRARY.

P4045 MCP - FAULT IN RESIZEANDDEALLOCATE - 08-01-74

IF RESIZE WAS PASSED AN UN-INITIALIZED REFERENCE ARRAY, AN MCP FAULT WOULD RESULT, AND THE JOB WOULD NOT TERMINATE. RESIZE WILL NOW CHECK FOR THIS AND NOT ATTEMPT THE RESIZE IN THIS CASE.

SOFTWARE IMPROVEMENTS

P4046 MCP - PACK MEMDUMP - 08-01-74

THIS PATCH CLEANS UP TESTS FOR DISK PACK IN MEMDUMP I-O ROUTINES.

P4047 MCP - LOCK OUTSIDE TRANSACTION - 08-01-74

THIS PATCH ADDS A PARAMETER TO DMSCAUSE. NEW FUNCTIONS HAVE BEEN ADDED TO DMSCAUSE AND DMSWAIT TO ALLOW LOCKING OF RECORDS OUTSIDE TRANSACTION STATE ON AN AUDITED DATABASE. THE NAMES OF DMCLOSE AND DMOPEN ARE CHANGED TO DMSCLOSE AND DMSOPEN.

P4048 MCP - DISK ALLOCATION REWRITE - 08-01-74

THIS PATCH REWRITES THE DISK ALLOCATION ROUTINES TO TAKE ADVANTAGE OF THE NEW FORMAT OF THE AVAILABLE TABLES AND THE NEW FILE ATTRIBUTE FAMILYINDEX.

P4051 MCP - ADD HISTORY, VALIDITYBITS - 08-01-74

THIS PATCH ADDS THE LOCATIONS WITHIN TASKS OF THE HISTORY AND VALIDITYBITS WORDS TO THE INFORMATION BLOCK OF A DUMP TAPE TO PREVENT FAULTS IN DUMPANALYZER.

P4053 MCP - SYNTAX OF ?? MESSAGES - 08-01-74

THIS PATCH STRENGTHENS THE SYNTAX ANALYSIS OF PRIMITIVE TYPE OPERATOR INPUT MESSAGES. NOW MESSAGES LIKE ??DS 1234 WILL RESULT IN AN ERROR INSTEAD OF DISCONTINUING ALL JOBS IN THE MIX.

P4055 MCP - ORIGIN UNIT > MAXUNIT - 08-01-74

THE PATHCONTROL WORD CONTAINS THE ORIGINATING UNIT NUMBER OF THE JOB. THIS NUMBER MAY BE LARGER THAN THE MAXIMUM UNIT FOLLOWING A HALT-LOAD AND SYSTEM RECONFIGURATION. HENCE, IT WILL BE IGNORED INSTEAD OF PRODUCING MEMORY DUMPS.

SOFTWARE IMPROVEMENTS

P4056 MCP - FIX COMMENTS - 08-01-74

THIS PATCH CORRECTS COMMENTS IN SEVERAL PROCEDURES.

P4057 MCP - ADD TIO SYSTEM NUMBER - 08-01-74

THIS PATCH PUTS THE TIO MACHINE INTO EXPERIMENTAL SYSTEMS LIST.

P4058 MCP - MAKE INFO NOT WRITEABLE - 08-01-74

THIS PATCH PREVENTS MODIFICATION OF THE INFO FILE.

P4060 MCP - DUPLICATE SEQUENCE NUMBER - 08-01-74

THIS PATCH FIXES DUPLICATE SEQUENCE NUMBERS IN MCP.

P4061 MCP - SWAPPER - 08-01-74

SWAP JOBS THAT WERE PASSED ARRAY OR PRINTER PARAMETERS WOULD OCASSIONALLY GET DS-ED BECAUSE THE COPY DESCRIPTOR POINTED TO THE WRONG PLACE. THIS PATCH CORRECTS THE PROBLEM.

P4062 MCP - SWAP OUT ON EVENT WAIT - 08-01-74

THE MCP WILL NOW SWAP OUT USER PROGRAMS THAT ARE RUNNING IN SUBSPACES AND WAIT ON EVENTS GLOBAL TO THE SUBSPACE WHEN THE EVENT DOES NOT OCCUR WITHIN ABOUT 2 SECONDS.

P4063 MCP - FIX SEEK CODE - 08-01-74

THIS PATCH CORRECTS A PROBLEM IN THE NEW STATUS CHANGE AREA. IT ALSO CHANGES THE "EXTRA SC" DUMP FROM NON-FATAL TO FATAL.

P4065 MCP - WFL COPY,COMPARE,CATALOG - 08-01-74

THIS PATCH ADDS THE CATALOG OPTION TO WFL SYNTAX ON COPY AND COMPARE.

SYNTAX: COPY (ADD) & COMPARE & CATALOG

COPY (ADD) & CATALOG

SOFTWARE IMPROVEMENTS

P4066 MCP - CHECKPOINT STACKLENGTH - 08-01-74

STACKSIZE WAS TOO SMALL WHEN A RESTART WAS ATTEMPTED ON A VERY LARGE JOB. THIS PATCH CORRECTS THE PROBLEM.

P4068 MCP - LIB MAINT IC DISKPACK - 08-01-74

THIS PATCH IMPLEMENTS IC DISKPACK LIBMAINT OUTPUT.

P4069 MCP - NEW DISKMAPPER - 08-01-74

THIS PATCH HANDLES INITIALIZATION OF THE USERDISK TABLES FOR A GIVEN DISK FAMILY (EITHER HPT OR PACK). ONE COPY OF DISKMAPPER IS RUN FOR EACH FAMILY OF DISK ON THE SYSTEM AT HALT LOAD TIME. IF NECESSARY, IT WILL INVOKE THE DIRECTORY CONVERSION ROUTINES TO CONVERT THE DISK DIRECTORY FROM PRE II.7 TO II.7 STYLE.

P4070 MCP - NEW DIRECTORY MGMT ROUTINES - 08-01-74

THIS PATCH IMPLEMENTS NEW UTILITY ROUTINES IN MCP TO HANDLE THE NEW DISK DIRECTORY STRUCTURE.

P4071 MCP - DISKMAPPER TO STARTSYSTM - 08-01-74

THIS PATCH CHANGES THE NAME OF THE CURRENT DISKMAPPER ROUTINE TO STARTSYSTEM. THE NEW NAME DESCRIBES ITS FUNCTION MUCH MORE ACCURATELY.

P4072 MCP - DETECT DIR STYLE AT H-L TIME - 08-01-74

THIS PATCH DETECTS AND PRESERVES GLOBALLY THE TYPE OF THE DIRECTORY ON THE HALT LOAD FAMILY (I.E., EITHER II.7 STYLE OR PRE-II.7 STYLE).

P4073 MCP - DIRECTORY CONVERSION GLOBALS - 08-01-74

THIS PATCH IMPLEMENTS GLOBAL PROCEDURES AND DECLARATIONS NEEDED FOR DIRECTORY CONVERSION FROM II.6 TO II.7 STYLE DIRECTORIES. CONVERSION OCCURS WHEN A CM OR COOLSTART IS DONE TO THE II.7 MCP

FROM A PREVIOUS VERSION OF THE MCP.

P4074 MCP - RESOURCE EVENT - 08-01-74

THIS PATCH ADDS AN EVENT FOR TAPE RESOURCE CHECKING AND RELEASING.

P4075 MCP - FINDADISKPACK NOW FIREUPROW - 08-01-74

THIS PATCH CHANGES NAME, TYPE AND VALUE RETURNED FROM PROCEDURE.

P4076 MCP - CHANGE VARIABLE NAMES - 08-01-74

THIS PATCH CHANGES NAMES OF SOME DISKPACK TOKENS.

P4077 MCP - FIELD DECL FOR DKCLASSCNTF - 08-01-74

THIS PATCH FIXES KEYPUNCH ERRORS IN GLOBAL FIELD DECLARATION DKCLASSCNTF FROM 41:42 TO 41:22.

P4078 MCP - FIX PROCEDURE DICTIONARY - 08-01-74

THIS PATCH CORRECTS BAD SEQUENCING OF PROCEDURE NAMES AND SEQUENCE NUMBERS IN FRONT OF THE MCP LISTING.

P4079 MCP - FIX DISKMAPPER PROBLEMS - 08-01-74

THIS PATCH FIXES VARIOUS PROBLEMS IN DISKMAPPER AND THE CONVERSION ROUTINES WHICH CAUSES UNEXPECTED INTERRUPTS AND TERMINATION VERY EARLY IN THE PROCEDURE.

P4080 MCP - PER DK - SHOWS FAMILYINDEX - 08-01-74

THIS PATCH TAKES ADVANTAGE OF THE FACT THAT DISK IS NOW LABELED AND WILL SHOW A PER DISPLAY SIMILAR TO THE ONE FOR PACK.

P4082 MCP - LIBMAINTENANCE + FAMILYINDEX - 08-01-74

THIS PATCH ALLOWS THE USE OF THE FAMILYINDEX ATTRIBUTE WHEN COPYING FILES TO DISK OR PACK.

SOFTWARE IMPROVEMENTS

P4083 MCP - MISC PACK IMPROVEMENTS - 08-01-74

THIS PATCH ALLOWS REBUILD TO RECONNECT SAVED PACKS;AND IT
ALLOWS PACKERRMSG TO JUST RETURN VALUE WITHOUT BUILDING
A MESSAGE.

P4084 MCP - FIX LIB MAINTENANCE ERRORS - 08-01-74

THIS PATCH FIXES DISK AND PACK ERRORS CAUSED BY RECENT PATCHES.

P4085 MCP - COLLAPSE HDRTOVECTOR - 08-01-74

THIS PATCH MOVES HDRTOVECTOR INTO PSEUDOENTER.

P4086 MCP - IC PACK IMPROVEMENTS - 08-01-74

THIS PATCH IMPLEMENTS MINOR IC DISKPACK IMPROVEMENTS:

1. DOES NOT REMOVE OLD FILE WHEN CHANGING FILE NAME FROM "X" TO
   "X".

2. ALLOW SIMULTANEOUS ENTERUSERFILE AND RELEASEHEADER CALL.

P4087 MCP - FIX LBFORGETSPACE - 08-01-74

THIS PATCH FORGETS THE PARAMETER ARRAY WHEN CALLED FOR LB COMMAND.

P4088 MCP - FIX COMMENT SPELLING ERRORS - 08-01-74

THIS PATCH FIXES SPELLING ERRORS IN WRITEHEADER COMMENTS.

P4089 MCP - SETSTATUS STRING LENGTH - 08-01-74

SETSTATUS NOW CHECKS FOR A LENGTH LESS THAN ZERO AND RETURNS AN
ERROR.

P4090 MCP - RETAIN MEMDUMP DISK - 08-01-74

THIS PATCH CORRECTS A PROBLEM WHICH CAUSED MEMORY DUMP DISK
TO OVERLAP REGULAR FILES. WHEN A DUMP WOULD OCCUR, THE FILE
WOULD BE CORRUPTED.

SOFTWARE IMPROVEMENTS

P4091 MCP - DMS CALL BEFORE OPEN - 08-01-74

IF CALL "BEFORE OPEN" ON A USER CONTROL PROCESS HAD BEEN SPECIFIED IN DDL, THE CALL ON THE USER CONTROL PROCESS WOULD NOT OCCUR AT SET OPEN TIME IF THE MONITOR WAS NOT ALREADY RUNNING. THIS PATCH CORRECTS THE PROBLEM.

P4092 MCP - DMS TIMING - 08-01-74

THIS PATCH FIXES A PROBLEM WHEREBY IF A STACK CONTAINING DMDIRCTORCONTROL WAS OPERATOR DS-ED AT THE WRONG TIME, A WAIT ON DMDBEVENT WOULD NEVER BE CAUSED, WHICH WOULD HANG THE DB PROGRAM.

P4093 MCP - DIRECTORY LOCKING - 08-01-74

HDRVECTORLOCK NOW CONTROLS DISKFILEHEADER ALLOCATION AND CRITICAL HEADER INFORMATION, I.E., OPEN COUNT, ETC.

P4095 MCP - CM FROM CONTINUATION PACKS - 08-01-74

WHEN CM-ING FROM CONTINUATION PACKS, DUMP WOULD OCCUR BECAUSE ROWS NOT ON THE BASE PACK WERE MOVED TO THE HALT LOAD EU INSTEAD OF THE HALT LOAD PACK. THIS PATCH FIXES THE PROBLEM.

P4097 MCP - NEW PROCEDURE "MAKE LEB" - 08-01-74

THIS PATCH ADDS A NEW PROCEDURE WHICH WILL CONSTRUCT AN LEB FROM A STANDARD FORM TITLE. THIS TITLE MAY CONTAIN AN ON SPECIFICATION IN WHICH CASE A KIND OF PACK IS CONSTRUCTED IN ADDITION TO SETTING THE PACKNAME.

P4098 MCP - DIAGNOSTIC PATCH - 08-01-74

THIS PATCH SAVES THE MPX NUMBER USED IN THE INPUT-OUPUT SCANOUT OPERATION IN THE USERWORD [19:4]. WITH THIS FEATURE, THE MPX THAT HAS NOT RETURNED AN I-O FINISH MAY BE DETERMINED. THIS PATCH WILL ALSO GENERATE A MEMORY DUMP "ZERO RESULT DESC" WHENEVER AN I-O RESULT DESCRIPTOR IS SCANNED IN THAT CONTAINS A ZERO. BOTH OF THE

ABOVE FUNCTIONS ARE UNDER $ OPTION DIAGNOSTICS.

P4099 MCP - PACK CM - 08-01-74

WHEN CM-ING FROM PACKS FOR THE FIRST TIME, THE HEADER ADDRESS WAS NOT BEING RECORDED IN THE MCPINFO TABLE SUCH THAT WHEN THE MCP CAME UP, AND COMPLEMENTED THE PACK THAT WAS CM-ED DUMP BY HDR ERR OR BAD PK ADR WOULD OCCUR. THIS PATCH CORRECTS THE PROBLEM.

P4100 MCP - ZIP WITH ARRAY - 08-01-74

THIS PATCH MAKES ZIP WITH ARRAY WORK AGAIN.

P4102 MCP - B7700 PSEUDOSTACKBASE - 08-01-74

THIS IS THE B7700 PSEUDOSTACKBASE PATCH TO BE INCLUDED IN THE B6700 II.7 RELEASE. ALL REFERENCES TO PSEUDOSTACKS WERE CHANGED TO INCLUDE A PSEUDOSTACKBASE OFFSET (0 ON B6700, 8 ON B7700).

P4103 MCP - DMS IO-CHANNEL REPORTING - 08-01-74

WHEN THE DMSRESULT DIRECTIO ATTRIBUTE IS INTERROGATED, THE CHANNEL REPORTING BITS ARE ZEROED BEFORE RETURNING THE RESULT TO USER.

P4104 MCP - RESEQUENCE SOPHIA - 08-01-74

THIS PATCH RESEQUENCES SOPHIA.

P4105 MCP - FILE NAMES - 08-01-74

THIS PATCH PUTS FILE NAMES INTO IN CORE HEADERS FOR NEW DIRECTORY PROCEDURE.

P4134 MCP - INV OP IN FAULTHANDLING - 01-14-75

THE MCP WAS ERRONEOUSLY PICKING UP MSCW-S WITHOUT USING A WORD VARIABLE.

SOFTWARE IMPROVEMENTS

P4256 MCP - IAD BIT - 09-29-74

THIS PATCH MARKS DISK SPACE ALLOCATED FOR SYSTEM FILES FROM THE AREA ON THE HALT LOAD EU THAT ORIGINALLY HELD THE RUNNING MCP (ON II.6 AND EARLIER RELEASES) AS IAD TO PREVENT THEM FROM BECOMING GENERALLY AVAILABLE WHEN THE SPACE IS FORGOTTEN.

P4309 MCP - IC PACK - 09-19-74

THIS PATCH CORRECTS "MARKER" BITS IN IC PACK DIRECTORY, AUT AND MAT RECORDS.

P4310 MCP - FIREUP ROW - 09-19-74

THIS PATCH MAKES ALL STACKS WAITING FOR A CONTINUATION PACK SHOW AN RSVP.

P4311 MCP - PACK I-O - 09-19-74

THIS PATCH INSURES THAT A WRITESPO I/O WILL NOT BE ATTEMPTED ON A NOT-READY SPO.

P4312 MCP - DMSII DMSWAIT - 09-19-74

THIS PATCH CORRECTS A PROBLEM WHEREIN DMSWAIT WAS NOT CHECKING FOR DS-ED BEFORE DOING GEORGE (0).

P4314 MCP - ICGETUSERDISK - 09-16-74

THIS PATCH REMOVES RSVP WAIT FROM HEADERLOCK (IC PACKS).

P4315 MCP - SEEK ERROR - 09-16-74

IF A SEEK ERROR CAUSES HEAD RESTORATION, A SUBSEQUENT RESULT DESCRIPTOR MAY BE RETURNED INDICATING A DRIVE SEEKING CONDITION. THIS PATCH INSURES THAT A DRIVE SEEKING RD IS IMMEDIATELY RESTARTED AS AN UNCONDITIONAL SEEK OPERATION.

SOFTWARE IMPROVEMENTS

P4317 MCP - DMSII MESSAGE - 09-16-74

THIS PATCH ADDS A MESSAGE TO TABLES FOR AN UPDATE ACTION, WHEN IN INQUIRY MODE.

P4318 MCP - DMSII DMSOPEN - 09-16-74

PARTITIONED STRUCTURES CREATE REFERENCES IN THE MASTER STRUCTURES WHICH DO NOT OBEY THE CONVENTIONS HERETOFORE ENFORCED ON SUCH REFERENCES. THIS PATCH ALLOWS THESE NEW REFERENCES.

P4319 MCP - DMSII EOF UPDATE - 09-16-74

IN ORDER TO GUARANTEE DATABASE INTEGRITY, THE DATAMANAGEMENT ROUTINES NOW HAVE THE ABILITY TO UPDATE THE END-OF-FILE POINTER IN A DISK HEADER ON DISK.

P4320 MCP - DMSII EOT - 09-16-74

THIS PATCH INSURES THAT A TASK DOES NOT LEAVE RECORDS LOCKED AT EOT TIME.

P4321 MCP - SESSION NUMBERS - 09-16-74

PROPAGATION OF SESSION NUMBER FROM PARENT TASK TO OFFSPRING HAS BEEN CORRECTED. FOR EXAMPLE, A SECOND-GENERATION PROCESS OF A CANDE EXECUTION WILL NOW HAVE THE SESSION NUMBER (RATHER THAN THE CANDE JOB NUMBER) AS ITS JOB NUMBER.

P4322 MCP - PROGRAMDUMP INTERRUPT LITERAL - 09-16-74

THE ANALYSIS OF AN OPERAND AS A POSSIBLE INTERRUPT LITERAL IS NOW PERFORMED ONLY FOR OPERANDS AT ADDRESS COUPLE (1,2) RATHER THAN FOR ALL OPERANDS AT INDEX-2. THIS CHANGE WILL PREVENT MOST SPURIOUS INDICATIONS OF AN OPERAND BEING AN INTERRUPT LITERAL; IN PARTICULAR, A FAULT INTERRUPT WILL APPEAR ONCE AND NOT TWICE WHEN A PROGRAMDUMP IS TAKEN OUT OF AN ON-STATEMENT FAULT ROUTINE.

P4329 MCP - CODE FILE KIND - 09-29-74

THIS PATCH CORRECTS A SECURITY PROBLEM.

P4336 MCP - RESOURCE ALLOCATION - 09-29-74

THIS PATCH PROVIDES CORRECT ACCOUNTING FOR THOSE JOBS WITHOUT ANY RESOURCE STATEMENT ATTACHED AND RUNNING WITH THE RESOURCE OPTION SET.

P4337 MCP - DMSII DF FIELD - 09-29-74

THE DF FIELD OF A MSCW HAS ONLY 14 BITS, WHICH PUTS A LIMITATION OF 2 WORDS ON THE SIZE OF A SIB. THIS PATCH IMPLEMENTS A CHECK IN DMS OPEN TO ENFORCE THIS LIMIT.

P4338 MCP - DMSII MCP-DMSFREE - 09-29-74

THE ROUTINE DMSFREE IS CALLED FROM TIME TO TIME TO FREE ALL RECORDS OWNED BY A PARTICULAR STACK IN ANY DATABASE. IT MIGHT HAPPEN THAT DMSFREE WOULD LOOK AT A STACK THAT DMSCLOSE WAS ABOUT TO THROW AWAY. THIS PATCH IMPLEMENTS INTERLOCKS TO AVOID THIS.

P4339 MCP - DMSII MCP-DS DMSWAIT - 09-29-74

THIS PATCH RE-IMPLEMENTS THE ABILITY TO DS A JOB IN DMSWAIT.

P4340 MCP - DMSII MCP-TASKSERIAL - 09-29-74

THIS PATCH CAUSES DMSOPEN TO SET UP THE TASKSERIAL WORD FOR DBS STACKS.

P4449 MCP - WFL GLOBAL FILES - 10-15-74

PREVIOUS TO THIS PATCH, USING USER-SUPPLIED SOFTWARE TRANSLATION TABLES WITH A GLOBAL FILE COULD CAUSE UPLEVEL POINTER PROBLEMS USUALLY ACCOMPANIED BY "BAD PRESENCE BIT" FATAL SYSTEM DUMPS.

SOFTWARE IMPROVEMENTS

P4450 MCP - ROW LOCKOUT MESSAGE - 10-15-74

A MESSAGE IS NOW DISPLAYED WHEN A DATABASE FILE FIRST HAS A ROW LOCKED OUT DUE TO AN I-O ERROR:

"<FILENAME> ROW LOCKED BY IOERROR"
" LOCKED ROW <ROW> ON FAMILYINDEX <FAMILYINDEX>".

P4451 MCP - REPLACEMENT OF NUMBERCONVERT - 10-15-74

THE NUMBERCONVERT INTRINSIC HAS BEEN REPLACED WITH THE FREEFORMNUMBEREDITOR INTRINSIC. THIS REPLACEMENT AFFECTS BOTH THE INTRINSICS FILE AND THE MCP. THE CHANGE SHOULD BE TRANSPARENT TO THE USER, EXCEPT FOR IMPROVEMENTS IN THE EXECUTION SPEED OF THE MONITOR INTRINSICS AND PROGRAMDUMP.

P4771 MCP - GETSTATUS ADDLMASK - 10-20-74

GETSTATUS ADDLMASK WAS BEING IGNORED IF THE LOGICAL ENTRY SIZE WAS ZERO. THIS PATCH INSURES THE ADDLMASK INFO IS CHECKED REGARDLESS OF LOGICAL SIZE (APPLIES ONLY TO SUBTYPES OF ZERO).

P4772 MCP - SPACE STATEMENT FOR REMOTE - 10-20-74

THIS PATCH IMPLEMENTS THE SPACE(FILEID,X) STATEMENT SO THAT IT BEHAVES EXACTLY LIKE WRITE(FILEID[SPACE X]) FOR DATACOM FILES.

P4773 MCP - STATION TASK ATTRIBUTE - 10-20-74

THE STATION TASK ATTRIBUTE WILL NOW WORK WITH POSITIVE AS WELL AS NEGATIVE NUMBERS.

P4774 MCP - PACK BUG - 10-27-74

THIS PATCH FIXES IV/RC SAVED PACKS.

P4775 MCP - DO VARIABLE REMOVAL - 10-27-74

THIS PATCH DELETES SOME UNUSED DO VARIABLES.

P4776 MCP - READALABELS STRATEGY CHANGE - 10-27-74

THIS PATCH CHANGES THE TECHNIQUE FOR COUNTING READALABELS AND READYDISCS AND DELETES MAXRDLBLP AND RDLBLP.

P4777 MCP - FAMILY SUBSTITUTION ON "IL" - 10-27-74

FAMILY SUBSTITUTION WILL BE IGNORED ON AN OPERATOR "IL" COMMAND.

P4778 MCP - MISC CATALOGING FIXES - 10-27-74

THIS PATCH MAKES MISCELLANEOUS FIXES FOR CATALOGING SUBSYSTEMS.

P4779 MCP - SECURITY CHECK FOR PD CALLS - 10-27-74

THIS PATCH INSURES SYSTEM INTEGRITY IS MAINTAINED ACCORDING TO PRIVILEGE STATUS. IF THE USERCODE OF THE USER IS NON PRIVILEGED THEN HE MAY ONLY INVESTIGATE FILES UNDER HIS USERCODE OR FILES THAT HAVE HIS SECURITY CODE LISTED IN THE GUARDFILE.

P4780 MCP - DSWAITFORREPLY DEFINE - 10-27-74

THIS PATCH CHANGES A DEFINE TO CONFORM TO NEW EVENT SWAPPING ON RSVPS.

P4781 MCP - CM ARRAY REFERENCE - 10-27-74

THIS PATCH FIXES A MISTAKE IN CM FOR BACKUPS.

P4782 MCP - READALBL FIX - 10-27-74

THIS PATCH PREVENTS INVALID OPERAND FAULT IN "PLANTMESSAGE" OUT OF "MESSER" OUT OF "CLOSERR" OUT OF READALBL. THE INVALID OPERATOR IS A RESULT OF STKNO IN MESSER BEING 0 BECAUSE UNITIOERROR [UNITNO]. STKNRF IS 0.

P4783 MCP - FA SYSTEM INPUT MESSAGE - 10-27-74

THIS PATCH DISALLOWS THE FA RESPONSE TO "NO FILE" AND "FILE

REQUIRES" RSVP MESSAGES FOR LIBRARY MAINTENANCE FILES.

P4784 MCP - ERROR MESSAGES - 10-27-74

THIS PATCH FIXES TWO CM ERROR MESSAGES: PO MESSAGE AND TEST OP I/O ERROR MESSAGE.

P4785 MCP - INTEGER FORMAT-PROGRAMDUMP - 10-27-74

PROGRAMDUMP NOW PRINTS VALUES AS INTEGERS IF THE EXPONENT FIELD IS ZERO.

P4786 MCP - FAST IV UNDER $EXPERIMENTAL - 10-27-74

THIS PATCH ALLOWS FAST IV OF A DISKPACK (ABOUT AS LONG AS RC), IF THE PACKNAME IS "FASTIV" UNDER $EXPERIMENTAL OPTION. THIS ALLOWS RECOVERY OF DISKPACKS DESTROYED BY TESTING IN-HOUSE.

P4787 MCP - PROCESSTIME LIMITS - 11-03-74

UNDER SOME CONDITIONS A JOB WHICH HAD A TASK DSED FOR PROCESS OR IO TIME LIMITS EXCEEDED COULD INITIATE ANOTHER TASK THAT WOULD HAVE NO LIMITS ENFORCED UPON IT.

P4788 MCP - MEM IN SUBSPACES - 11-03-74

THIS PATCH PROVIDES SOME IMPROVEMENTS AND CORRECTS SOME ERRORS IN THE HANDLING OF NO-MEM CONDITIONS OCCURING FOR SWAPJOB.

P4789 MCP - STACKPOOL IN $ OPTION - 11-03-74

THIS PATCH MOVES THE DECLARATION OF THE STACKPOOL ARRAY TO BE INSIDE THE $ STACKPOOL OPTION.

P4791 MCP - FAST DUPLICATION (AD) FIXES - 11-03-74

THIS PATCH CONTAINS SOME OF THE NEEDED CORRECTIONS FOR THE AD COMMAND.

P4792 MCP - CATALOGING MESSAGES - 11-03-74

THIS PATCH ADDS MESSAGES FOR THE CATALOG STATEMENT.

P4793 MCP - DSWAITS - 11-03-74

ENTERING A DSWAIT WHEN THE STACK HAD ALREADY BEEN DSED NO LONGER CAUSES THE STACK TO BE NON DSABLE.

P4794 MCP - VERIFY FAMILY - 11-03-74

THIS PATCH MAKES VERIFYFAMILY FIXES.

P4796 MCP - GETSTATUS DIRECTORY SECURITY - 11-03-74

THIS PATCH IMPLEMENTS THE NECESSARY DIRECTORY SECURITY SUCH THAT GETSTATUS MAY BE USED BY CANDE USERS.

P4797 MCP - PLCONDHANDLER PROCEDURE - 11-03-74

THIS PATCH VOIDS OUT THE PLCONHANDLER PROCEDURE.

P4798 MCP - USERDATA PRIVILEGED DATA - 11-03-74

A NEW WORKAREA FUNCTION 9, HAS BEEN DEFINED FOR USE BY AN MCS OR THE MCP. IT IS SIMILAR TO FUNCTION 2 (FETCH AND EXAMINE) EXCEPT THAT INSTEAD OF DRIVING THE TARGET USERCODE FROM THE TSK PARAMETER, USERDATA ACCEPTS THE USERCODE IN INSTUFF, WHICH MUST BE A POINTER, ARRAY ROW, OR SUBSCRIPTED ARRAY DESIGNATING THE USERCODE IN "SUB-STANDARD-FORM": A SELF-EXCLUSIVE LENGTH BYTE FOLLOWED BY THE SPECIFIED NUMBER OF EBCDIC CHARACTERS.

P4799 MCP - RESEQUENCE GETSTATUS - 11-03-74

THIS PATCH RESEQUENCES GETSTATUS BY +100.

P4800 MCP - LEFT ASSIGNED-GLOBAL TAPE - 11-03-74

WHEN TAPE FILES ARE ASSIGNED TO GLOBAL WFL FILE VARIABLES, A UNIT

SOFTWARE IMPROVEMENTS

LEFT ASSIGNED DUMP WILL NO LONGER OCCUR.

P4801 MCP - VERIFY FAMILY - 11-03-74

THIS PATCH FIXES MULTI HEADER BUGS AND H/L TIME RSVPS.

P4805 MCP - EXIT-POOL DESCRIPTOR SYNTAX - 11-10-74

EXITS OR RETURNS IN CONNECTION WITH POOL DESCRIPTORS WILL NOW CAUSE SYNTAX ERRORS WITH THE NEW ESPOL COMPILER.

P4806 MCP - NAME ON PACK WITH USERCODE - 11-10-74

ADM UPDATES SHOWING TITLES WITH BOTH "USERCODES" AND "ON PACKNAME" PRINTED THE PACKNAME AS LAST ID IN THE DISPLAY FORM NAME. THIS PATCH CAUSES THE NAME TO BE DISPLAYED CORRECTLY.

I.E. (USERCODE) ID1/ID..../IDN ON PACKNAME.

P4807 MCP - FILESENTRY IS DE-IMPLEMENTED - 11-10-74

THE TASK ATTRIBUTE "FILESENTRY" HAS BEEN DE-IMPLEMENTED. IT WAS PROVIDED FOR USE BY RJE; THIS REQUIREMENT CEASED ON THE II.6 RELEASE. AN ATTEMPT TO SET THIS ATTRIBUTE WILL CAUSE AN ATTRIBUTE ERROR (AND TASK TERMINATION FOR NON-PRIVILEGED CASES), WITH THE MESSAGE:

"FILESENTRY ATTRIBUTE IS NO LONGER SUPPORTED".

P4808 MCP - RESIZE OF VALUE ARRAYS - 11-10-74

RESIZE WAS ALLOWING CALLERS TO ATTEMPT TO RESIZE A VALUE ARRAY WHICH COULD RESULT IN A SYSTEM HANG. THIS IS NOW DISALLOWED.

P4809 MCP - PB OF JOBS IN QUEUES - 11-10-74

PB-ING A JOB THAT WAS STILL IN THE QUEUE WILL NO LONGER RESULT IN A SYSTEM FATAL MEMORY DUMP BY "JOB DISK ADDR" AT SOME TIME IN THE FUTURE.

SOFTWARE IMPROVEMENTS

P4810 MCP - CM FROM II.7 TO II.6 - 11-10-74

THIS PATCH ALLOWS CM FROM II.7 TO II.6. WHEN CM SENSES THAT THE FILE TO BE CM-ED TO IS OF II.6 VINTAGE, IT WILL CM IN MEMORY ONLY TO THE SYSTEM/LOADER OF THE ONCOMING MCP, THE LOADER WILL THEN CONVERT THE II.7 DIRECTORY TO A II.6 DIRECTORY, LOAD THE MCP AND THEN MOVE CONTROL TO IT.

P4811 MCP - TASK ATTRIBUTE PARTNER - 11-10-74

INCORRECT USE OF TASK ATTRIBUTE PARTNER OR A CONTINUE TO A SPECIFIC TASK NO LONGER CAUSES A SYSTEM FATAL DUMP BY "BAD PRESENCE BIT".

P4813 MCP - FAULT STATEMENT IN DMSFREE - 11-10-74

A FAULT STATEMENT HAS BEEN ADDED IN DMSFREE JUST BEFORE THE CALL ON ACCESSROUTINE CODE. THIS WILL HANDLE FAULTS CAUSED IN THE ACCESSROUTINE CODE.

P4816 MCP - HPT MESSAGES IN PACKERRMSG - 11-17-74

THIS PATCH ADDS HEAD PER TRACK ERROR CODE TO PACKERRMSG, WHICH MAY NOW BE CALLED FOR CERTAIN I/O ERRORS.

P4817 MCP - GLOBAL DEFINE IN RC - 11-17-74

THIS PATCH CLEANS UP DISKPACKCONFIGURE TO USE SOME NEW GLOBAL DEFINES.

P4818 MCP - CHANGE DIAGNOSTICS TO MCPTEST - 11-17-74

THIS PATCH CHANGES TEST IN READADISCLBL TO OPERATE UNDER RUN TIME OPTION MCPTEST RATHER THAN DIAGNOSTICS.

P4819 MCP - ROLL-OUT - 11-17-74

THIS PATCH CAUSES ROLL-OUT FOR JOB RESTART TO BE ABORTED IF THERE ARE ANY DO RCW-S IN THE STACK.

SOFTWARE IMPROVEMENTS

P4820 MCP - NO MEM IN SWAPSPACE FIXES - 11-17-74

THIS PATCH PREVENTS DUMP WHEN LOGICAL I/O GOT PRESENCE BIT ON A LARGE USER ARRAY IN SUBSPACE.

P4821 MCP - MISSING CONTINUATION PD NEXT - 11-17-74

THIS PATCH INSURES THE FIRST FILE IN THE USERCODE DIRECTORY WILL BE RETURNED WHEN CONTINUING WITH LAST NAME IN SYSTEM DIRECTORY.

P4822 MCP - NO MEN IN SWAPSPACE - 11-17-74

THIS PATCH IMPROVES UTILIZATION OF SPARE 990 WORDS BY DOING A KANGOROO WHEN THE 990 WORDS ARE USED.

P4823 MCP - INVALID ADDRESS IN SWAPPER - 11-17-74

FAULT NO LONGER OCCURS IN NO DUMP WHEN STACKSTRETCHING A SWAPJOB WHEN THERE IS A MISSING MOD JUST BELOW THE SWAPAREA.

P4824 MCP - NO MEMORY DUMP OUT OF OPEN - 11-17-74

SETTING BLOCKSIZE TO A LARGE VALUE FOR A BACKUP FILE NO LONGER CAUSES MEMORY DUMPS ON PRESENCE BIT FOR THE BUFFERS AT FILE OPEN TIME.

P4825 MCP - PROGRAM DUMP NAMES - 11-17-74

THIS PATCH CAUSES PROGRAM DUMP TO USE STANDARDTODISPLAY TO FORMAT FILE NAMES.

P4826 MCP - DS-TIMING PROBLEM - 11-17-74

JOBS CAN NOW BE REMOVED FROM MIX AFTER THEIR RSVP HAS BEEN DSED.

P4827 MCP - PD WITH NO ON PART TO HPT DISK - 11-17-74

THIS PATCH INSURES THAT THE HEAD PER TRACK DIRECTORY IS SEARCHED WHEREVER THE "<ON PART>" IS NOT SPECIFIED.

SOFTWARE IMPROVEMENTS

P4828 MCP - BAD LOSEOLAYSPACE - 11-17-74

UNDER SOME CIRCUNSTANCES A BAD LOSEOLAYSPACE DUMP COULD RESULT FROM PARITY ON PRESENCE BIT ERROR.

P4829 MCP - MOM SNR IN RESIZEANDDEAL - 11-17-74

RESIZEANDDEALOCATE NOW IGNORES PCW-S WITH THE BIT 46 ON WHEN MASKSEARCHING TO FIND STACK NUMBER OF A MOM DESCRIPTOR.

P4830 MCP - ZERO BLOCKS - 11-17-74

I/O ERROR NO LONGER UNCONDITIONALLY CLEARS THE "ERRORSTATISTICS" ARRAY ASSUMING THAT "UNITSTATISTICS" WILL BE CALLED LATER TO REINSTATE THE ORIGINAL VALUE. "UNITSTATISTICS" IS ONLY BEING CALLED FOR "LOGABLE" ERRORS, WHICH ON NON-LOGABLE ERRORS WOULD LEAVE THE "ERRORSTATISTICS" ARRAY AT ZERO AND WOULD RETURN ZERO FOR BLOCK COUNT TO THE USER.

P4831 MCP - JOB FILE - 11-17-74

THIS PATCH FORCES THE GENERATION OF A JOB FILE FOR SCR WHEN IT IS INITIATED VIA THE CONSOLE.

P4832 MCP - MASK BIT - 11-17-74

CATALOG ENTRY MASK BIT #1 WILL NOT BE SET IF THE CORRESPONDING FILE ENTRY IS NOT RESIDENT.

P4834 MCP - ADDR FIX CONVERSION - 11-17-74

THE MCP NOW SETS THE HEADERVERSION OF ITS HEADER TO 3 ON A COOL START FROM II.6 TO II.7.
THE HEADER IS CONVERTED IN PERIPHERALINITIALIZE, BUT ENTERED INTO DIRECTORY IN DIRECTORYBUILDER INSIDE OF DISKMAPPER.

SOFTWARE IMPROVEMENTS

P4835 MCP - DISKPACK SEEK - 11-17-74

THIS PATCH MAKES 225 SEEK COMPATIBLE WITH I/O TIME $ OPTION.

P4836 MCP - JOBFORMATTER - 11-17-74

DATA ERRORS IN THE WFL FILE COULD CAUSE JOBFORMATTER TO ATTEMPT TO READ A NEGATIVE RECORD NUMBER. THIS CONDITION IS NOW TESTED, AND JOB OUTPUT IS ABORTED.

P4873 MCP - HARDCOPY-CONTROLLER INTERFACE - 11-23-74

1. THE CONTROLLER HAS BEEN CHANGED TO USE INTERCOME QUEUE [48] AS A COMMUNICATION MEDIA.
2. DCINSERT HAS BEEN MODIFIED SUCH THAT IF BIT ON [1:1] OF THE HEAD/TAIL PARAMETER IS ON AND THE QUEUE IS INACTIVE THEN IT WILL NOT BE ACTIVATED.
3. ALL MESSAGES WILL NOW BE SENT TO HARDCOPY REGARDLESS OF THEIR BEING TRANSMITTED TO THE SPO.

THE ACTUAL NUMBER OF WORDS OF MESSAGE TEXT IS THE SIZE OF THE MESSAGE MINUS 1. (WORD ZERO CONTAINS THE TIME.)

P4874 MCP - EVENT LINKAGES - 10-27-74

THE NATURE OF THE LINKING OF STACKS INTO EVENT QUEUES WAS CHANGED BY AN EARLIER PATCH, NECESSITATING A DUMPANALYZER CHANGE TO DEAL WITH IT.

ALSO, THE PATCH IMPLEMENTS NEEDED CHANGES TO THE EVENT LINKAGE HANDLING FOR THE PROCURED DISK FILE HEADER STACKS.

P4877 MCP - "NOSUMMARY" - 10-20-74

WHEN THE OPTION MYJOB.OPTION BIT 2 IS SET, THE SUMMARY LISTING IS NOT PRODUCED EVEN THOUGH THE JOB MAY BE ABNORMALLY TERMINATED. THIS PATCH CORRECTS THE PROBLEM.

SOFTWARE IMPROVEMENTS

P4945 MCP - PD NAME LEVELS - 11-23-74

THIS PATCH INSURES THAT THE PROPER LEVELS ARE RETURNED WHEN A PD IS PERFORMED AGAINST SECURED FILES WHEN OPERATING UNDER A NON-PRIVILEGED USERCODE.

P4946 MCP - DEFAULT SERIAL NUMBER - 11-23-74

THIS PATCH CHANGES THE DEFAULT SERIAL NUMBER FOR DUMP TAPES TO "DUMMMP".

P4947 MCP - AUTO CONTINUATION - 11-23-74

THIS PATCH ALLOWS GETSTATUS AUTO CONTINUATION (SUBTYPE =4) REGARDLESS OF SPECIFYING A "LINKINONPORT" REQUEST.

P4948 MCP - VOLUME BIT AT HALT-LOAD - 11-23-74

THE VOLUME BIT WILL BE SET IN THE UNIT TABLE AT HALT/LOAD TIME TO CORRECTLY CORRESPOND TO THE UNIT STATUS IN THE VOLUME LIBRARY.

P4949 MCP - REEL NUMBERS - 11-23-74

THIS PATCH INSURES CORRECT ACCESSING OF REEL NUMBERS FROM LEB FOR TAPES, AND ALSO INSURES THAT THE LEB STRUCTURE CONTAINS A SERIAL NUMBER BEFORE INDEXING THE LEB TO OBTAIN IT.

P4950 MCP - MESSAGES ON CATALOG ADD - 11-23-74

CATALOGING MESSAGES ARE IMPROVED TO BETTER REFLECT CERTAIN SITUATIONS WHICH OCCUR IN HANDLING A CATALOG STATEMENT.

P4951 MCP - ? ? OK - 11-23-74

KEYIN NO LONGER STORES OKREP INSTEAD OF OKV INTO REPLY ON A ? ? OK INPUT.

SOFTWARE IMPROVEMENTS

P4952 MCP - BACKUPEUS - 11-23-74

THIS PATCH CHANGES "GETSTATUS" TO RETURN THE BACK UP MCP UNIT NUMBER-S IN SAME FORMAT AS II.6 SYSTEM.

P4953 MCP - RESEQUENCE COPYDIR - 11-23-74

COPYDIR HAS BEEN RESEQUENCED.

P4954 MCP - TAPE F.A.S.T. INDEX AT H-L - 11-23-74

THIS PATCH INSURES THAT THE F.A.S.T. BLOCK INDEXES ARE CORRECTLY ENTERED IN THE UINFO ARRAY WHEN THE SYSTEM IS INITIALIZED.

P4956 MCP - STACK OVERFLOW IN SWAPPER - 11-23-74

SWAPPER-S STACK SIZE WAS INCREASED, AND SWAPPER NO LONGER DOES INITIALIZATION IF IT IS DSED.

P4957 MCP - VOLUMED BIT - 11-23-74

IF A VOLUME ADD OF A SCRATCHED TAPE FAILS AFTER A PURGE OF THE TAPE, THE VOLUME BIT IN THE UNIT ENTRY IS NOT SET.

P5041 MCP - PACK I-O - 11-23-74

THE HANDLING OF THE I/O QUEUE AFTER A PACK IS BLASTED VIA OPERATOR DS OF THE "WRONG PACK" RSVP, HAS BEEN CORRECTED.

P5042 MCP - UNIT NUMBER - 11-23-74

THIS PATCH PASSES THE UNIT NUMBER FROM FILEHANDLER TO GETMOSTDATA OF "GETSTATUS" FOR RETURNING THE PROPER "ON" PART WHEN FAMILY EQUATION IS USED.

P5043 MCP - SU ZERO - 11-23-74

HEAD PER TRACK EU-S WITH NO SU ZERO WERE NOT BEING HANDLED PROPERLY.

P5044 MCP - UINFO FOR NEW BACKUPS - 11-23-74

A NEW BACKUP AS CREATED BY A DD COMMAND WILL NOW HAVE A UINFO LONG ENOUGH SO THAT IT CAN BE USED AS A BASE WHEN THE FIRST BASE IS CLOSED.

P5045 MCP - FAST OR VAST WRITE ERROR - 11-23-74

THIS PATCH CHANGES TEST IN ERRORHANDLER TO REBUILD ON FAST OR VAST WRITE ERROR ONLY.

P5055 MCP - ATTRIBUTE ERRORS - 11-23-74

ALL SYSTEM ERROR MESSAGES OF THE FORM

FILE ATTRIBUTE ERROR #XX

FILE OPEN ERROR #XX

FILE CLOSE ERROR #XX

I/O ERROR #XX

FORMAT ERROR #XX

DIRECT I/O ATTRIBUTE ERROR #XX

WILL NOW DISPLAY THE ADDRESS (IN USER PROGRAM OR INTRINSICS) OF THE CODE INVOLVED. FORMERLY, THE ADDRESS OF AN EARLIER FAULT MIGHT BE DISPLAYED.

P5056 MCP - PD CALL - 11-23-74

ALLOWANCE TO SPECIFY THE PD "=" REQUEST IS TO BE LIMITED TO THE SYSTEM DIRECTORY. THIS IS ACCOMPLISHED BY SET LIST #30 IN THE "TYPE" WORD.

P5057 MCP - PD - 11-23-74

THIS PATCH INSURES THAT THE PROPER <ON PART> NAME IS RETURNED TO THE CALLER IF THE GETSTATUS CALL IS MADE FROM A JOB USING FAMILY SUBSTITUTION.

SOFTWARE IMPROVEMENTS

P5058 MCP - MAXLEVEL - 11-23-74

SPECIFYING A MAXLEVEL ON A PD CALL EVEN THOUGH THE OPTION "RETURNFULLNAME" HAS BEEN SET IS NOW ALLOWED.

P5059 MCP - UNIT NUMBER OR FAMILY NAME - 11-23-74

THIS PATCH INSURES THAT A[1] CONTAINS EITHER A POINTER TO THE FAMILY NAME OR A VALID UNIT NUMBER. REFER TO SUBTYPE 3 OF DIRECTORY REQUEST IN GETSTATUS.

P5060 MCP - RESIZEANDDEALLOCATE CALLS - 11-23-74

RESIZEANDDEALLOCATE CALLS IN THE MCP WERE CAUSING LOCK PROBLEMS. THESE CALLS WERE CHANGED TO EXPANDAROW. EXPANDAROW WAS ALSO CHANGED TO HANDLE VARIOUS TYPES OF LENGTH FIELDS (EBCDIC, BCL, ASCII,ETC.)

P5061 MCP - FIBLESS I-O ERROR MESSAGES - 11-23-74

FIBLESS I/O ERRORS NOW PRODUCE SPO MESSAGES AND LOG ENTRIES.

P5062 MCP - UNCONDITIONAL RETURN - 11-23-74

THIS PATCH CAUSES GETSTATUS ON A DIRECTORY REQUEST CALL TO UNCONDITIONALLY SET A[1].ONPARTLINKF (43:11) TO THE VALUE IN A[0]. THE SYSTEM WILL STORE A WORD AT A[A[0]] WHOSE LINKF FIELD (32:17) WILL POINT (AS AN ABSOLUTE CHARACTER INDEX) TO THE <ON PART> NAME.

P5063 MCP - HEAD PER TRACK COLD START - 11-23-74

SOME ERRORS WHICH CAUSED HEAD PER TRACK DISK TO BE COLDSTARTED WHEN DUPLICATE DIRECTORIES WERE BEING RUN HAVE BEEN FIXED.

1. DD WILL NOT PROCEED UNLESS THE LABEL IS PRESENT.
2. UINFO FOR BACKUP EU WAS BEING THROWN AWAY AT
   HALT LOAD TIME.

SOFTWARE IMPROVEMENTS

P5064 MCP - STARTSYSTEM AND H P T DISKS - 11-23-74

THE PART OF STARTSYSTEM WHICH DEALS WITH CONTINUATION DISK UNITS TO THE BASE DISK FAMILY HAS BEEN REWRITTEN. THE OBJECT WAS TO CLEAN UP THE CODE, AND ELIMINATE A COUPLE OF MINOR ERRORS.

P5065 MCP - UNUSED ROWS - 11-23-74

THIS PATCH RETURNS SPACE SET UP IN THE DISK HEADER IF THE SPACE WAS NOT USED BY THE PROCEDURE RESPONSIBLE FOR COPYING THE VOLUME LIBRARY. THIS PATCH ALSO STORES IN WORD 7 OF DISK SEGMENT # 0 THE FIRST RECORD ADDRESS OF VALID DATA. THIS IS CURRENTLY ONE(1) FOR COPYING A FLAT DIRECTORY AND 2400 FOR COPYING A VOLUME LIBRARY.

P5066 MCP - GETSTATUS HARD ERROR - 12-11-74

THIS PATCH RETURNS GETSTATUS HARD ERROR (11:8) = 43 IF A PROGRAM ATTEMPTS TO USED A GETSTATUS CASE FOR WHICH HE REQUIRES PRIVILEDGED STATUS.

P5067 MCP - BAD FORGESTSPACE - 12-11-74

THIS PATCH PREVENTS DUMPS BY "BAD FORGETSPACE" WHEN LOADING TRANSLATE TABLES TO TRAIN PRINTER VIA THE SPO AND DELETES THE IMPLICIT CALL ON FORGETSPACE AND LETS BLOCK EXIT FORGET THE ARRAY USED BY THE TRANSLATE TABLE LOADING LOGIC IN SETSTATUS.

P5068 MCP - STATUS DUMP - 12-11-74

SWAPPER NOW PROCURES THE PROCESSCHANGELOK BEFORE CHANGING FROM SHEET ENTRY TO STACK AND VICE-VERSA.

P5069 MCP - STACK OVERFLOWS-PURGEIT - 12-11-74

THIS PATCH AVOIDS STACK OVERFLOWS IN FORKED CALLS ON "PURGEIT" ROUTINE.

SOFTWARE IMPROVEMENTS

P5070 MCP - CM # - 12-11-74

THIS PATCH DISALLOWS TURNING THE SYSTEM BIT ON WHEN CM-ING TO MEMORY ONLY (CM #), SUCH THAT FOLLOWING THE NEXT CM OR HALT/LOAD THE MCP, CM-ED # TO, CAN BE REMOVED.

P5071 MCP - LOADTRANSTABLE CALL - 12-11-74

UNNECESSARY CODE TO LOAD THE TRANSLATE TABLE FOR A TRAIN PRINTER IN PERIPHERAL INITIALIZE WAS DELETED. THE FIRST WRITE TO THE PRINTER, WILL CALL I/O ERROR WHICH IN TURN WILL CALL LOADTRANSTABLE TO LOAD THE TABLE.

P5072 MCP - UNOWNED LIBERATE - 12-11-74

VERIFY FAMILY PRODUCES A DUMP BY UNOWED LIBERATE WHEN ENCOUNTERING A DISK ERROR IN LOCAL PROCEDURE HDRREADER. THIS PATCH REMEMBERS TO PROCURE THE LOCK AFTER RELEASING IT, THEREBY FIXING THE PROBLEM.

P5073 MCP - LIBRARY MAINT. INVALID INDEX - 12-11-74

LIBRARY MAINTENANCE NO LONGER GETS AN INVALID INDEX DS WHEN COPYING A BD FILE TO TAPE.

P5074 MCP - DUP COPY & BACKUP - 12-11-74

THIS PATCH AVOIDS ENTERING DUPLICATE "BACKUPS" WHEN A "COPY & BACKUP" IS ENTERED FOR THE SAME BACK UP KIND AND SERIAL NUMBER.

P5075 MCP - PARAMETER TO LOADTRANSTABLE - 12-11-74

ANOTHER PARAMETER HAS BEEN ADDED TO PROCEDURE LOADTRANSTABLE TO IDENTIFY THE CALLER.

P5076 MCP - RESIDENT STATE - 12-11-74

THI PATCH RETURNS ONE BIT #4 OF THE POINTER WORD, ON A PD GETSTATUS CALL IF THE SPECIFIED FILE IS RESIDENT. THIS PATCH ALSO REDUCES THE FIELD SIZE OF LEVELF TO 3:4.

SOFTWARE IMPROVEMENTS

P5094 MCP - SYNCHRONIZE COPYDIR RC - 11-23-74

SYNCHRONIZATION CODE TO COPYDIR AND RC TO PREVENT NEW NEMBERS FROM BEING BROUGHT INTO A FAMILY WHILE THE DIRECTORY COPY IS IN PROGRESS HAS BEEN ADDED. ALSO PATCHES DUMPANALYZER TO DEAL WITH THE NEW LOCK BIT.

P5096 MCP - PASS CODEFILEDESC - 11-23-74

THIS PATCH PASSES CODEFILEDESC TO DUMPANALYZER WHICH HAS BEEN USING A TEMPORARY DEFINE.

P5098 MCP - CONRAC SPO COMPATIBILITY - 12-11-74

NEW CODE FOR SPOS ASSUMED ALL SPOS WERE TD800-S. THIS IS NOT THE CASE. THIS PATCH CORRECTS THIS PROBLEM.
NOTE THAT ANY INSTALLATION WHICH HAS TD800 SPOS MUST HAVE THEM STRAPPED TO BE TD800 NOT CONRAC SPOS IN ORDER FOR THE MCP TO PUT THE CURSOR IN THE PROPER PLACE. ALSO NOTE, THAT IF CONRACS AND TD800-S ARE MIXED ON THE SAME SYSTEM, THE MEMORY DUMP CODE CANNOT WORK PROPERLY FOR THE CONRAC.

P5100 MCP - COPYRIGHT II.7 - 11-23-74

THE COPYRIGHT IS ADDED TO THE FOLLOWING SYMBOLIC FILES:

MCP, CCTABLEGEN, AND CONTROLLER.

P5110 MCP - FILE CLOSE LOG ENTRY - 12-22-74

THIS PATCH GIVES THE FILE CLOSE LOG ENTRY A FORMAT SIMILAR TO THE FILE OPEN LOG ENTRY AND INCLUDES THE MYUSE VALUE OF THE FILE IN THE CLOSE ENTRY. THIS MAKES THE ENTRY CONFORM THE WFL DOCUMENTATION.

P5111 MCP - SEG ARRAY IN PACHERRMSG - 12-22-74

THIS CHANGE CORRECTS DO FAULT DUMP IN IN THE PACK I/O ERROR MESSAGE AREA.

SOFTWARE IMPROVEMENTS

P5112 MCP - SWAPPER-DIRECT ARRAY PROBLEM - 12-22-74

SWAPPER NOW UPDATES THE MEMORY ADDRESS PORTION OF THE I/O RESULT DESCRIPTION IN THE IOCB FOR A DIRECT ARRAY.

P5113 MCP - GET-SETSTATUS CASES FOR B7700 - 12-22-74

THIS PATCH SAVES SEVERAL CASES WITHIN GETSTATUS AND SETSTATUS FOR B7700 USAGE.

P5114 MCP - IR TERM DUMP ON 3 PROC-S - 01-12-75

A THREE PROCESSOR TIMING HOLE IN DIAL-ANSWER-HANGUP INTERACTION HAS BEEN CLOSED.

P5115 MCP - RETURN OF NON-RESIDENT FILES - 01-12-75

THIS PATCH WILL FORCE A GETSTATUS DIRECTORY CALL ON A PD = REQUEST TO RETURN ONLY FILES THAT ARE PRESENT UNLESS BIT 37 IN "TYPE" IS SET IN WHICH CASE ALL FILES WILL BE RETURNED REGARDLESS OF THEIR PRESENT STATUS. BIT 4 IN EACH INFO WORD WILL INDICATE THE ACTUAL PRESENCE OF THE FILE (ON = PRESENT).

P5116 MCP - SWAPPER MEMORY ALLOCATION - 01-12-75

SWAPPER SOMETIMES WOULD STORE A CORE SIZE VALUE FOR A JOB WHICH HAD NOT BEEN COMPUTED, THUS USING WHATEVER LEFT OVER NUMBER IT HAD. THIS FIX CAUSES THE CORRECT VALUE TO BE STORED.

MCP

D0735 MCP - DISK PACK CAPABILITIES - 05-30-74

ALONG WITH THE REWRITE OF THE DIRECTORY STRUCTURE THERE WAS AN ATTEMPT TO ELIMINATE SOME OF THE EXTERNAL, OPERATIONAL DIFFERENCES BETWEEN HEAD PER TRACK DISK AND NATIVE MODE DISK PACK. THE ORGANIZATION OF BASE AND CONTINUATION PACK "FAMILIES" WAS EXTENDED TO HEAD PER TRACK DISK. ALL HEAD PER TRACK ELECTRONIC UNITS ARE ORGANIZED INTO THE FAMILY CALLED "DISK".

THE UNITS IN THE DISK FAMILY CAN BE LABELED, THE BASE UNIT OF THE FAMILY MUST BE LABELED. THE FILE ATTRIBUTES PACKNAME, SINGLEPACK, SERIALNO, DUPLICATED, AND COPIES WERE CHANGED SO AS TO NO LONGER DISTINGUISH BETWEEN HEAD PER TRACK AND PACK. A NEW FILE ATTRIBUTE FAMILYINDEX WAS IMPLEMENTED TO RECONCILE THE DIFFERENCES BETWEEN THE AREACLASS ATTRIBUTE ON HEAD PER TRACK AND PACK.

PROTECTED FILES, DUPLICATED FILES, INTRINSIC FILES, AND GUARDFILES WERE ALLOWED TO RESIDE ON PACK FAMILIES. BACKUP DIRECTORIES AND THE RESERVE AND RESTORE FUNCTIONS WERE EXTENDED TO PACK FAMILIES. TO REDUCE THE PRESSURE UPON THE HEAD PER TRACK DISK FAMILY, SOME SYSTEM FUNCTIONS WERE MODIFIED TO WORK ON PACK FAMILIES. HOWEVER THESE NEW CAPABILITIES DO NOT INCLUDE THE ABILITY TO RUN WITHOUT A HEAD PER TRACK FAMILY.

CODE FILES MAY NOW BE EXECUTED FROM PACK, INCLUDING THE MCP. WHEN RUNNING THE SYSTEM FROM A PACK FAMILY, THE OVERLAY, LOG, JOB DESCRIPTION, AND JOB FILES MUST ALSO RESIDE ON THAT FAMILY. TO FACILITATE THE CONVERSION OF PROGRAMS TO RUN IN A PACK ENVIRONMENT THE FAMILY STATEMENT WAS IMPLEMENTED.

D0736 MCP - STACK EXTENSION - 03-28-74

D0736 MCP - STACK EXTENSION - 03-28-74

STACKS WILL NOW BE EXTENDED AT STACK OVERFLOW TIME. THE EXPANSION FACTOR IS THE MAXIMUM OF ONE HUNDRED WORDS OR 25% OF THE CURRENT STACK SIZE, UP TO BUT NOT EXCEEDING THE STACK LIMIT. THE STACK LIMIT IS SPECIFIED BY A CONTROL CARD SIMILAR TO THE STACK CARD, I.E., <I> STACKLIMIT = 1000. THE STACK CARD HAS BEEN REDEFINED TO SPECIFY STARTING STACK SIZE. NO LIMITS ARE PLACED ON THE NUMBER OF EXTENSIONS. A PROGRAM ATTEMPTING TO EXCEED STACKLIMIT (A DEFAULT OF 8192 WORDS IF NO STACKLIMIT CARD IS USED) WILL BE TERMINATED IN THE USUAL STACK OVERFLOW FASHION.

STACK EXTENSIONS ARE LOGGED AND PRINTED OUT AT END-OF-JOB TIME. THE FORMAT OF THE LOG MESSAGE IS:

<TASK NUMBER> STACK EXTENDED FROM <INTEGER> TO <INTEGER> WORDS

THE COMPILER SUPPLIED LOCAL VARIABLE COUNT IS USED ONLY WHEN NO STACK CARD HAS BEEN PROVIDED. THUS, A STACK CARD SPECIFYING A STACK SIZE EQUAL TO THE GREATEST STACK EXTENSION (AS SIGNIFIED FROM THE JOB LOG PRINTOUT) WILL PREVENT STACK EXTENSION WITHOUT WASTING STACK SPACE.

D0737 MCP - CPUTEST CHANGE.

D0737 MCP - CPUTEST CHANGES - 03-28-74

KEYWORD: LOG PROCESSORPARAMS&(16)LENGTHF

Z - A VERSION IDENTIFICATION

MAINTLOGMCPID TO IDENTIFY MCP LEVEL

PROCESSOR TEST NUMBER

PROCESSOR TEST SUBCASE

SEQUENCE NUMBER IN MCP SYMBOLIC WHERE ERROR PROCEDURE WAS CALLED

PROCESSOR NUMBER

SNR OF STACK IN WHICH TEST WAS RUNNING

BOSR VALUE FOR THIS STACK

S-REGISTER VALUE WHEN ERROR WAS REPORTED (USED BY LOGGING ROUTINE)

P1 -> P6 TEST-DEPENDENT ARGUMENTS & EXPECTED ROUTINES

2. STACK IMAGE OF THE STACK THE TEST WAS RUNNING IN

KEYWORD: LOGPROCESSORSTRING & (NUMBEROFWORDS)LENGTHF
FOLLOWED BY A VARIABLE NUMBER OF WORDS FROM THIS STACK, WITH TAGS ZAPPED TO ZERO.

3. TAG VALUES FOR STACK IMAGE

KEYWORD: LOGPROCESSOR TAGS & (NUMBER OF WORDS) LENGTHF TAGS FOR STACK IMAGE, WITH 4-BIT CHARACTER/TAG VALUE

HARDWARE J-COUNT

THE HARDWARE J-COUNT LOGIC OF THE ARITHMETIC OPERATORS (NTGR, NTIA, NTGD, DIVD, IDIV, RDIV) ARE CHECKED WITH INDIVIDUAL TEST CASES.

D0759 MCP - FLOATING MCP - 05-12-74

THE MCP IS NO LONGER REQUIRED TO RESIDE ON THE LOWER END OF THE HALTLOAD UNIT. IT IS NOW A REGULAR DISK FILE WHICH RESIDES TOTALLY ON THE HALTLOAD UNIT.

D0763 MCP - PRIVATE TASK - 05-12-74

D0763 MCP - PRIVATE TASK - 05-12-74

IF BIT 14 OF A TASK OPTION IS SET THEN ONLY THE OWNER OR USER OF THE TASK MAY READ OR CHANGE ANY TASK ATTRIBUTE. IF THIS CONDITION IS VIOLATED THE ERROR MESSAGE "NON OWNER ACCESS OF A PRIVATE TASK" IS GIVEN PRIOR TO THE PROGRAM BEING DISCONTINUED.

D0765 MCP - SYSTEM MESSAGE CHANGES - 05-12-74

OUTPUT MESSAGES

INVALID DIRECTORYCONTRL USE

THIS MESSAGE OCCURS WHEN A PROGRAM USES DMDIRECTORYCONTROL INCORRECTLY.

"<FILENAME> ROW LOCKED BY IOERROR"

"LOCKED ROW <ROW> ON FAMILYINDEX <FAMILYINDEX>".

NON OWNER ACCESS OF A PRIVATE TASK (SEE DNOTE #763.)

A MESSAGE "NOT IN VOLUME LIBRARY (UTYPE) [SERIAL]" IF TRYING TO DELETE A VOLUME NOT ALREADY IN THE VOLUME LIBRARY. (SEE PNOTE # 4450).

D0883 MCP - STACK EXTENTION PREVENTION - 08-01-74

STACK EXTENTION IS INHIBITED BY ANY STACKLIMIT VALUE LESS THAN THE CURRENT STACK SIZE. IF STACKLIMIT IS SET NEGATIVE, IT MAY NOT BE FURTHER CHANGED FOR THAT STACK. THE DCALGOL STACKSWAP CONSTRUCT IS INCOMPATIBLE WITH STACK EXTENTION, SO INITIALIZING A STACKSWAP ENVIRONMENT SETS STACKLIMIT TO -1. THE OLDER STACKSWAPPER DCALGOL INTRINSIC HAS BEEN ELIMINATED FROM THE MCP.

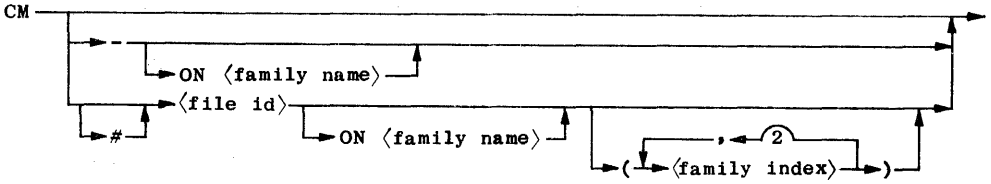
D0884 MCP - CM TO NON HL DISK-PACK - 08-01-74

D0884 MCP - CM TO NON HL DISK-PACK - 08-01-74

SYNTAX AND SEMANTICS

THE MEANING OF THE CM OPERANDS WERE CHANGED SLIGHTLY.

CM FILENAME MEANS WAIT FOR A NULL MIX, FIND "FILENAME" ON THE CURRENT HALT LOAD DISK OR PACK, SET UP THE BOOTSTRAP, ETC., AND SIMULATE A HALT LOAD FROM THE NEW MCP. THIS FUNCTION IS IDENTICAL WITH THE II.6 MCP CM COMMAND.



MEANS FIND THE MCP CODE FILE "FILENAME" ON THE GIVEN DISK OR PACK, SET UP THE MCPINFO, BOOTSTRAP, ETC., ON THAT VOLUME, AND GO TO EOJ. THIS FUNCTION RUNS AS A VISIBLE INDEPENDANT RUNNER. THE "ON PACKNAME" MAY NOT REFER TO THE CURRENT HALT LOAD UNIT. THIS ALLOWS POTENTIAL HALT/LOAD PACKS TO BE BUILT IN ADVANCE.

NOTICE THAT THIS INTERPRETATION OF THE "FILENAME ON PACKNAME" IS DIFFERENT FROM THE USUAL CASE (E.G. CI, RUN, REMOVE, ETC.) WHERE THE ABSENCE OF "ON PACKNAME" DEFAULTS TO THE HPT DISK.

NOTES: .?? CM MAY NOT SPECIFY THE "ON PACKNAME" CLAUSE.

.CM@ AND CM# MAY NOT SPECIFY "ON PACKNAME".

D0892 MCP - MCS-WFM INTERFACE - 09-16-74

1. THE TASK MESSAGES (OUT OF MESSER) NOW HAVE THE TASK SERIAL AND THE WHOWHICH PARAMETER IN WORDS 1 AND 2 RESPECTIVELY.

2. THE "GOING" MESSAGE (OUT OF INTERCEDE) IS SUPPRESSED FOR STED BY SYSTEM (WORKING SET).

3. THE MESSAGE CODE VALUE IN LOGMINORF IS NOW SIGNIFICANT. SEVERAL CHANGES TO MESSER AND ONE TO ESPOLINTRINSICS WERE PUT IN TO ASSURE "FATALMSG" VALUE FOR APPROPRIATE MESSAGES.

THE MECHANISM WHEREBY AN MCS MAY RECEIVE MESSAGES ABOUT JOBS AND TASKS FOR WHICH IT IS RESPONSIBLE HAS BEEN EXTENDED AND REFINED.

TWO NEW BITS OCCURS IN THE PATHCONTROL WORD :

ORGWANTSMESSAGEF AND ORGWANTSSUMMARYF.

THESE TWO BITS ARE SET BY DEFAULT WHEN SOURCESTATION IS SPECIFIED, UNLESS BITS 46 AND 47 (RESPECTIVELY) ARE SET. IF BIT 46 CAUSES ORGWANTSMESSAGEF TO BE RESET, THE MCS WILL NOT RECEIVE "VOLUNTEER" MESSAGES FROM OR ABOUT THE TASK; E.G.BOT, EOT, TASK MESSAGES ARE SUPPRESSED. REPLIES TO SPECIFIC CONTROLLER KEYINS ARE UNAFFECTED. IF BIT 47 CAUSES ORGWANTSSUMMARYF TO BE RESET, NO SUMMARY PRINTER FILE WILL BE GENERATED FOR THE MCS TO USE, AND NO PRINT NOTICE WILL BE SENT TO THE MCS, UNLESS A USER PRINTER FILE HAPPENS TO HAVE BEEN GENERATED WITH THE SOURCE STATION AS DESTINATION STATION. WHEN ORGWANTSSUMMARYF IS SET, SUMMARY FILE REMLPXX/<JOB>/SUMMARY IS GENERATED AT END-OF-JOB TIME, EVEN IF NO PRINTER FILES TO THAT MCS WERE CREATED.

NOTE THAT "INSERTED-IN-QUEUE" MESSAGE IS SENT BASED UPON THE PATHCONTROL WORD OF THE WFL COMPILER THAT LOCKED THE JOBFILE, RATHER THAN UPON THE PATCHCONTROL WORD THAT WILL BE USED IN THE RESULTING JOB.

BOTH ORGWANTSF BITS ARE SET UNCONDITIONALLY FOR A JOB (WITH REMOTE SOURCE) WHICH IS STARTED VIA A CONTROLLER-INPUT MESSAGE. BOTH ARE RESET UNCONDITIONALLY FOR A JOB WHICH IS RUN OR ZIPPED OUT OF A TASK WHOSE JOBNUMBER IS A REMOTE SESSION NUMBER.

THE MESSAGE GENERATED TO INDICATE A SYNTAX ERROR OR OTHER NON-EXECUTION OF THE JOB IS NOW VARIANT 7 (UNSOLICITED) RATHER THAN 3 (CONTROLLER REPLY).

TWO NEW MESSAGES HAVE BEEN ADDED :

SCHEDULED MESSAGE (VARIANT 9)

GOING MESSAGE (VARIANT 10)

WORD 0.[47:8] = 21

.[39:8] = 9 OR 10

.[31:8] = 0

D0892 MCP - MCS-WFM INTERFACE - 09-16-74

.[23:9] = 0

.[14:15]= LSN

WORD 1 = JOB SERIAL WORD (SEE VARIANT 8)

THESE MESSAGES ARE EXACTLY TWO WORDS LONG. VARIANT 9 INDICATES THAT A JOB OR TASK HAS BEEN SCHEDULED. VARIANT 10 INDICATES THAT A JOB OR TASK THAT HAD BEEN SUSPENDED IS ONCE AGAIN RUNNING.

D0895 MCP - COMPILE-AND-GO FROM CLOSE - 05-12-74

IF A TASK IS ASSIGNED TO THE "GO" PART OF A COMPILE-AND-GO USING WORK FLOW LANGUAGE AND THE COMPILE IS NOT SUCCESSFUL THEN THE TASK HISTORY OF THAT TASK WILL BE MARKED AS DS-ED DUE TO A MISSING CODE FILE.

D0901 MCP - ORGUNIT - 05-30-74

THE TASK ATTRIBUTE ORGUNIT IS NOW AVAILABLE AS AN INTEGER-VALUED READ-ONLY ATTRIBUTE. IF NON-ZERO, IT INDICATES THE SOURCE OF THE TASK; IF BIT [15:1] IS SET, BITS [13:14] CONTAIN THE LOGICAL STATION NUMBER (LSN) OF A REMOTE STATION (E.G., CANDE OR RJE) OTHERWISE, BITS [7:8] ARE THE PERIPHERAL UNIT NUMBER OF THE ORIGINATING DEVICE (E.G., CARD READER OR OPERATOR CONSOLE).

D0903 MCP - COMPILERTYPE ATTRIBUTE - 09-16-74

A USER PROGRAM MAY NOW INTERROGATE OR SET THE TASK ATTRIBUTE COMPILERTYPE, WHICH MAY ASSUME THE FOLLOWING INTEGER VALUES :

0 NOT A COMPILATION (DEFAULT VALUE)

1 COMPILE AND GO

2 COMPILE FOR SYNTAX

3 COMPILE TO LIBRARY

4 COMPILE TO LIBRARY AND GO

THE ONLY VALUES WHICH MAY BE SET BY THE USER ARE 2 AND 3; AN ATTEMPT TO SET ANY OTHER VALUE IS IGNORED. IF COMPILETYPE IS SET BEFORE A COMPILER IS PROCESSED OR CALLED, THE MCP WILL VERIFY THAT

D0903 MCP - COMPILERTYPE ATTRIBUTE - 09-16-74

THE PROGRAM BEING PROCESSED IS INDEED A COMPILER (HAS BEEN MC-ED); IF NOT THE INVALID COMPILER MESSAGE IS GENERATED AND THE TASK INITIATION FAILS. THE ATTRIBUTE MUST BE SET FOR AN INACTIVE TASK ONLY.

D0905 MCP - DESTNAME AND DESTSTATION SPEX - 09-16-74

THE TASK ATTRIBUTE DESTNAME AND DESTSTATION HAVE BEEN RESPECIFIED FOR CONSISTENCY.
DESTNAME IS POINTER-VALUED AND RECEIVES A REMOTE STATION NAME (OR SITE.).
DESTSTATION IS REAL-VALUED AND RECEIVES A LOGICAL STATION NUMBER (LSN) (OR ZERO).
THE TWO FORMS ARE EQUIVALENT, IN THAT EITHER ONE SPECIFIES A STATION TO RECEIVE PRINTER OR PUNCHCARD OUTPUT FROM THE TASK INVOLVED. THE CHANGES INVOLVE THE MCS (MESSAGE CONTROL SYSTEM) WHICH WILL BE RESPONSIBLE FOR THE OUTPUT :
FOR DESTNAME, THE MCS IS NOW THAT CURRENTLY CONTROLLING THE STATION; IT USED TO BE THE MCS DECLARED IN THE NETWORK DEFINITION AS CONTROLLING THAT STATION, WITH TRANSFER OF STATION CONTROL BEING IGNORED.
FOR DESTSTATION, THE MCS IS NOW THAT CURRENTLY CONTROLLING THE STATION; IT USED TO BE THAT OF THE MCS WHICH MADE THE DESTSTATION SPECIFICATION. THIS CHANGE HAS SEVERAL COROLLARIES : DESTSTATION MAY NOW BE SET BY ANY PROGRAM (NOT JUST AN MCS); THE LSN MUST BE VALID (IN THE RANGE OF CURRENTLY DECLARED STATIONS), AND THE DESTSTATION SPECIFICATION MAY BE SET ONLY WHEN THE DATACOM SUBSYSTEM IS RUNNING (AS BEFORE).
NOTE THAT THE SOURCESTATION ATTRIBUTE IS UNCHANGED : IT IS USABLE ONLY BY AN MCS; IT SETS THE MCS NUMBER TO THAT OF THE MCS THAT SETS IT; AND THE LSN VALUE SUPPLIED IS ARBITRARY.

D0906 MCP - MCS PRIVILEGE CONTROL - 09-16-74

AN MCS (MESSAGE CONTROL SYSTEM PROGRAM) IS AUTOMATICALLY A PRIVILEGED USER. THEREFORE, AN MCS HAS HAD TO INTERVENE TO PREVENT

D0906 MCP - MCS PRIVILEGE CONTROL - 09-16-74

USERS ACCESSING FILES THROUGH THE MCS THAT THEY WOULD NOT BE ENTITLED TO ACCESS THROUGH NORMAL PROGRAMS. A NEW FACILITY HAS BEEN PROVIDED SO THAT AN MCS MAY CHANGE ITS OWN USERCODE (OR THAT OF ANY TASK) AND ACCEPT THE SECURITY STATUS OF A NORMAL PROGRAM USING THAT USERCODE. UPON REMOVING ITS USERCODE, THE MCS REGAINS ITS PRIVILEGED STATUS. ANY INTERNAL PROCESS OF AN MCS INHERITS THE SECURITY STATUS PERTAINING TO ITS PARENT AT THE TIME OF INITIATION. THE NEW FACILITY IS INVOKED BY SETTING BIT 1 OF THE THIRD PARAMETER IN A USERDATA CALL TO INSTALL THE USERCODE.

FOR EXAMPLE : USERDATA (3, MYSELF,3,0,P)

WHERE P DESIGNATES THE USERCODE/PASSWORD STRING.

WHILE RUNNING IN NON-PRIVILEGED STATUS, AN MCS RETAINS THOSE RIGHTS SPECIFICALLY RESERVED TO AN MCS (DATACOM AND CERTAIN OTHER ACTIONS), BUT LOSES THOSE ASSOCIATED WITH PRIVILEGED USERCODES (FILE ACCESS, SETSTATUS, ETC.), EXCEPT THE FOLLOWING: AN MCS MAY REMOVE ITS USERCODE, WILL NOT BE TERMINATED BY ERRORS SETTING TASK ATTRIBUTES, AND WILL NOT BE TERMINATED BY A BLANKET ??DS PRIMITIVE.

D0908 MCP - B5500 LIBRARY TAPE FILES - 09-29-74

THE MODE OF B5500 DISK FILES (INTRODUCED BY LIBRARY MAINTENANCE) WILL BE BCL CHARACTERS. THIS WILL ALLOW THE COMPILERS TO USE LOGICAL I/O-S SOFTWARE TRANSLATION WHEN COMPILING B5500 SYMBOLICS.

D0920 MCP - USERDATAFILE SYSTEM FILE - 11-03-74

A SYSTEM/USERDATAFILE IS NOW MARKED AS A SYSTEM FILE WHILE IT IS IN USE BY THE MCP TO PREVENT THE CONFUSION IF THE FILE IS CHANGED IN THE DIRECTORY WHILE THE MCP HAS IT "OPEN". THE SYSTEM-FILE MARKING IS REMOVED WHEN THE MCP RELINQUISHES THE FILE (BECAUSE OF ERRORS OR THROUGH THE USERDATAFREEZER PROCEDURE); SO THE FILE MAY BE CHANGED THROUGH SYSTEM/MAKEUSER. SEE ESPECIALLY THE "RECALL" AND "COPY NEW" STATEMENTS IN MAKEUSER.

ANY VALID CALL ON USERDATAFREEZER (WHEN THE FILE IS NOT ALREADY "FROZEN") RESETS THE SYSTEM-FILE BIT BEFORE INVOKING THE CLIENT

D0920 MCP - USERDATAFILE SYSTEM FILE - 11-03-74

PROCEDURE. IT THEN RELEASES THE MCP HOLD ON THE FILE AFTER INVOKING THAT PROCEDURE.

D1013 MCP - TASK STRING ATTRIBUTES - 10-27-74

THIS PATCH ALLOWS THE TRANSFER OF STRING TASK ATTRIBUTES FROM ONE TASK TO ANOTHER.

EXAMPLE: ASSUME A AND B ARE TASKS.

THEN REPLACE A.FILECARDS BY B.FILECARDS; WILL

TRANSFER THE DESIGNATED ATTRIBUTE.

OTHER STRING TASK ATTRIBUTES ARE: NAME, USERCODE, DESTNAME,

FAMILY.

D1014 MCP - DUP FILE(SYSTEM FILE) RSVP - 11-03-74

A DUPLICATE FILE, ON A SYSTEM FILE IS NOW AN RSVP CONDITION. ACCEPTABLE RESPONSES ARE:

DS. DS THE STACK ATTEMPTING THE ENTER.

OF. ABORT THE ENTER, BUT CONTINUE THE JOB.

OK. RETRY THE ENTRY.

D1047 MCP - USERDATAFILE ON HALT-LOAD UNIT - 11-10-74

THE MCP NOW LOOKS FOR SYSTEM/USERDATAFILE ON THE HALT/LOAD FAMILY. IF NO FILE IS FOUND, THE MCP WILL DISPLAY A "NO FILE" MESSAGE AND WAIT FOR OPERATOR ACTION, UNLESS THE CALLER OF USERDATA SPECIFIED NO WAITING, (IN WHICH CASE A "NO SYSTEM/USERDATAFILE" MESSAGE IS DISPLAYED).

EXAMPLE: IF THE CONTROLLER MAKES THE USERDATA CALL (FOR AN "MU" INPUT), IT WILL NOT WAIT, BUT IF CONTROL CARD MAKES THE CALL (TO COMPILE A JOB WITH A USER STATEMENT) IT WILL WAIT.

THE OPERATOR MAY RESPOND BY MAKING SYSTEM/USERDATAFILE PRESENT ON THE H/L FAMILY, OR HE MAY USE AN "IL" INPUT TO SPECIFY ANOTHER FAMILY. THIS SPECIFICATION WILL LAST UNTIL A HALT/LOAD OR CHANGE OF USERDATAFILE (E.G. SYSTEM/MAKEUSER).

D1058 MCP - USERDATAFILE - 11-03-74

D1058 MCP - USERDATAFILE - 11-03-74

USERDATAFILE ENTRIES MAY CONTAIN FAMILY SPECIFICATIONS TO APPLY TO ALL TASKS USING THAT USERCODE.

D1059 MCP - DISK MANAGEMENT REDESIGN - 11-30-74

FAMILIES

ALL DISK TYPE DEVICES (HEAD-PER-TRACK AND PACK) ARE ORGANIZED INTO FAMILIES. EACH FAMILY IS A COLLECTION OF DEVICES WITH A COMMON NAME AND A COMMON FILE DIRECTORY. THE HEAD-PER-TRACK DISK IS ALL CONTAINED IN ONE FAMILY NAMED "DISK".

FLAT DIRECTORIES

EACH FAMILY HAS A FILE, CALLED THE "FLAT DIRECTORY", WHICH CONTAINS THE HEADERS AND FILE NAMES OF THE FILES WHICH RESIDE ON THE FAMILY.

ACCESS STRUCTURE

THERE IS ONE FILE ON THE SYSTEM, CALLED THE "ACCESS STRUCTURE", WHICH IS USED TO ACCESS THE HEADERS IN THE FLAT DIRECTORIES. THE ACCESS STRUCTURE RESIDES ON THE "CATALOG FAMILY". THIS FAMILY IS DETERMINED IN THE LOADER DECK OR BY THE OPERATOR IN RESPONSE TO THE "MISSING CATALOG FAMILY" MESSAGE WITH AN IL DURING HALT LOAD INITIALIZATION.

MULTIPLE DIRECTORIES

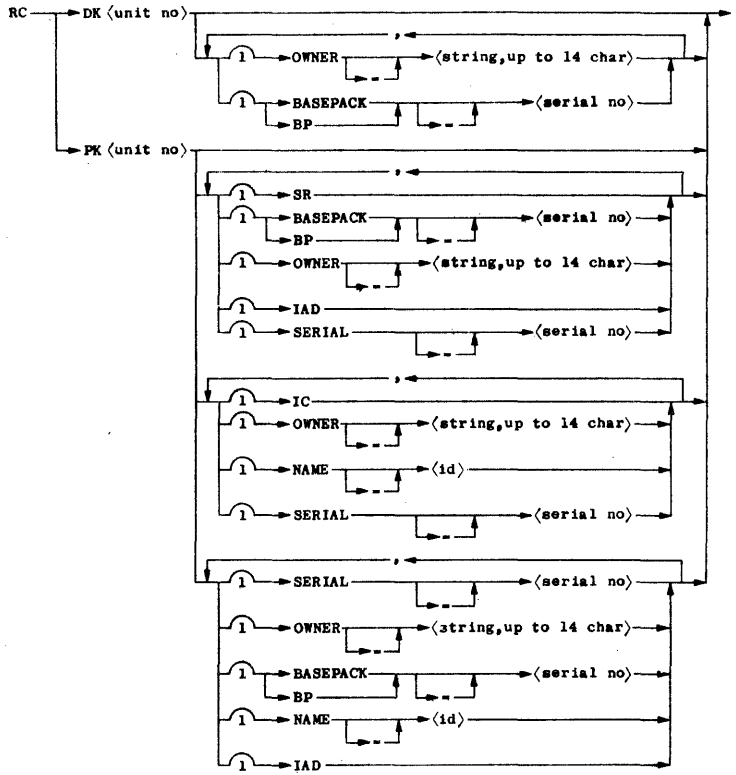
A MAXIMUM OF THREE COPIES OF THE FLAT DIRECTORY ARE ALLOWED PER DISK/PACK FAMILY. ESTABLISHMENT OF MULTIPLE DIRECTORIES IS VIA THE "DD" SPO COMMAND.

SYNTAX IS AS FOLLOWS:

DD ON ⟨family name⟩ (⟨family member index⟩)

DISK UNITS MUST HAVE A LABEL WHICH MAY BE ESTABLISHED BY:

RES DK (unit number) LABEL



NOTES: IF IAD IS GIVEN BASEPACK MUST BE GIVEN.
(id) CANNOT BE DISK OR TAPE.

THE TITLE OF THE DIRECTORY IS "SYSTEMDIRECTORY/<NNN>". THE LAST NAME IS THE FAMILY INDEX OF THE MEMBER ON WHICH THE FILE RESIDES.

FAMILY INITIALIZATION

AT FAMILY INITIALIZATION TIME, THE MEMBER CONTAINING A DIRECTORY WITH THE LATEST (MOST CURRENT) TIME STAMP IS CHOSEN AS THE BASE PACK FOR THE FAMILY. ANY MEMBERS CONTAINING DIRECTORIES THAT ARE NOT ON-LINE ARE REQUESTED ON-LINE BY THE MESSAGE "PK<NNN> REQUIRES PK<MMM>". ACCEPTABLE RESPONSES ARE:

1. OF - WHICH CAUSES FAMILY INITIALIZATION TO CONTINUE WITHOUT THIS MEMBER.

2. DS.

3. PUT THE MEMBER ON-LINE.

MEMBERS WHICH COME ON-LINE HAVE THEIR TIME-STAMPS EXAMINED AND

AGAIN THE MOST CURRENT MEMBER IS CHOSEN. THIS MAY LEAD TO FURTHER REQUESTS FOR OFF-LINE MEMBERS. OBVIOUSLY, THE ABOVE ACTIONS ARE AN ATTEMPT TO FIND THE VERY LATEST DIRECTORY UNLESS OVERRIDDEN BY THE SYSTEM OPERATOR. MEMBERS WHOSE DIRECTORIES ARE NOT COMPATIBLE WITH THE CHOSEN (OR OPERATOR SPECIFIED) MEMBER HAVE THE MESSAGE "DIRECTORY NOT CURRENT PK<NNN>" DISPLAYED.

ACCEPTABLE RESPONSES ARE:

1. RM - WHICH REMOVES THE DIRECTORY FROM THAT MEMBER.
2. OK - WHICH PERFORMS THE SAME ACTION AS ABOVE AND AUTOMATICALLY FORKS THE PROCEDURE "COPYDIR" TO PLACE A CURRENT DIRECTORY ON THAT MEMBER.

THE MOST CURENT DIRECTORY IS TIME-STAMP CHECKED AGAINST THE SYSTEM ACCESS STRUCTURE. IF THE DIRECTORY IS OF ANOTHER VINTAGE, A MESSAGE IS DISPLAYED:

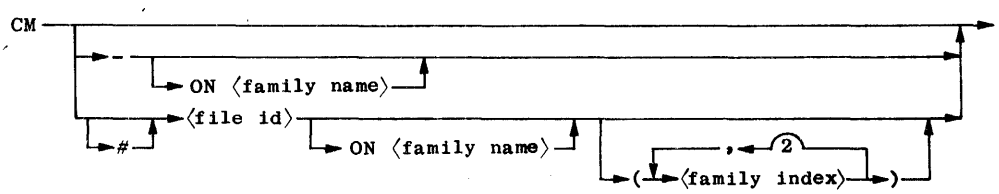
"ACCESS STRUCTURE DOES NOT MATCH DIRECTORY PK<NNN>".

ACCEPTABLE RESPONSES ARE:

1. OK - WHICH CAUSES THE ACCESS STRUCTURE FOR THAT FAMILY TO BE REBUILT.
2. IL<UNIT> - WHICH CAUSES THE IL-ED UNIT TO BECOME THE BASE MEMBER.

MULTIPLE MCP-S

ANY MEMBER OF A GIVEN FAMILY CONTAINING A DIRECTORY IS CAPABLE OF HAVING AN MCP. ESTABLISHMENT OF MCP-S IS VIA THE CM SPO COMMAND:



WHEN NO FAMILY NAME IS INDICATED, THE HALT/LOAD FAMILY IS ASSUMED.

THE MCP BEING CM-ED TO MUST BE RESIDENT ON THE SPECIFIED FAMILY; HOWEVER, IT NEED NOT TO BE THE RUNNING MCP. EACH SPECIFIED FAMILY MEMBER RECEIVES A COPY OF THE SPECIFIED MCP WITH THE SUFFIX NAME "FAMILYINX<NNN> APPENDED.

MCP PRESENCEBITS ARE ROTATED AMONG ON-LINE UNITS.

MULTIPLE CATALOGS/ACCESS STRUCTURES

THE ACCESS STRUCTURE (CATALOG) MAY ALSO BE DUPLICATED. MULTIPLE ACCESS STRUCTURES MAY BE ESTABLISHED ON THE CATALOG FAMILY ONLY, AND ARE INVOKED BY THE SPO COMMAND:

AD (⟨family index⟩)

THE TITLE OF THE ACCESS STRUCTURE WILL BE:

SYSTEM/ACCESS/<NNN>

OR

SYSTEM/CATALOG/<NNN>.

THE LAST NAME IS THE FAMILY INDEX OF THE MEMBER ON WHICH THE FILE RESIDES.

D1075 MCP - FAMILY SPECIFICATIONS - 01-12-75

DEFINITIONS

A "FAMILY" IS AN AGGREGATION OF MASS STORAGE: THE HEAD-PER-TRACK DISK SUBSYSTEM COMPRISES A FAMILY NAMED "DISK"; SYSTEM-RESOURCE DISKPACK COMPRISES A FAMILY NAMED "PACK"; A NAMED NATIVE-MODE DISKPACK (WITH ANY CONTINUATION PACKS) COMPRISES A FAMILY WHOSE NAME IS THE PACKNAME. THE TERM FAMILY MAY SOMETIMES BE APPLIED TO MAGNETIC TAPES OR TO INTERCHANGE-MODE DISKPACKS, BUT THE NARROWER SENSE IS USED THROUGHOUT THIS NOTE.

A FILE WITH KIND=DISK REFERS BY DEFAULT TO THE "DISK" FAMILY; ONE WITH KIND=PACK REFERS TO THE FAMILY WHOSE NAME IS THE PACKNAME (BY DEFAULT, "PACK"). IN MANY CONTEXTS AN EXTENDED FILE NAME CONTAINING THE SUFFIX "ON <FAMILY NAME>" MAY BE USED TO SPECIFY THE FAMILY.

A "FAMILY SUBSTITUTION" MECHANISM PERMITS THE USER (OR INSTALLATION) TO SPECIFY THAT IMPLICIT OR EXPLICIT REFERENCES TO ONE FAMILY REFER INSTEAD TO ANOTHER OR TO A PAIR OF ALTERNATIVES.

SYNTAX AND SEMANTICS

FAMILY SUBSTITUTION SPECIFICATIONS TAKE THE FORM

<TARGET> = <SUBSTITUTE> ONLY

OR

<TARGET> = <SUBSTITUTE> OTHERWISE <ALTERNATE>

THE SYNTACTIC VARIABLES <TARGET>, <SUBSTITUTE> AND <ALTERNATE> ARE ALL FAMILY NAMES, WHICH ARE IDENTIFIERS OF 1 TO 17 ALPHANUMERIC CHARACTERS.

WHEN A FAMILY SUBSTITUTION IS IN EFFECT, ANY REFERENCE TO FAMILY

<TARGET> BECOMES A REFERENCE TO FAMILY <SUBSTITUTE>. THE EFFECT OF AN <ALTERNATE> SPECIFICATION VARIES WITH THE CONTEXT; THE OPERATING SYSTEM PERFORMS THE FOLLOWING ACTIONS WHEN A FAMILY SPECIFICATION WITH AN <ALTERNATE> FAMILY IS IN FORCE, AND A FILE ON FAMILY <TARGET> IS BEING REFERENCED:

SEARCHING: IF A FILE BEING SOUGHT CANNOT BE FOUND ON FAMILY <SUBSTITUTE>, FAMILY <ALTERNATE> IS SEARCHED.

CREATING: WHEN A FILE IS BEING CREATED, <ALTERNATE> IS IGNORED

CHANGE/REMOVE: A CHANGE OR REMOVE FUNCTION THROUGH A JOB OR THROUGH THE CHANGEFILE OR REMOVEFILE INTRINSIC AFFECTS BOTH FAMILIES <SUBSTITUTE> AND <ALTERNATE>. (THE CANDE TITLE-CHANGE AND REMOVE COMMANDS AFFECT ONLY FAMILY <SUBSTITUTE>.)

EXAMPLES

DISK = DISK OTHERWISE MYPACK

ALL DISK CREATED WILL BE ON HEAD-PER-TRACK DISK. FILES WILL BE SOUGHT FIRST ON DISK, THEN ON MYPACK.

DISK = MYPACK OTHERWISE DISK

CREATED FILES AND FIRST SEARCH ARE ON MYPACK.

DISK = PACK ONLY

DISKFILES WILL BE CREATED AND SOUGHT ON SYSTEM-RESOURCE PACK ONLY. NOTE THAT ALL DISK FILES BEING SOUGHT, INCLUDING COMPILERS AND UTILITIES, MUST BE PRESENT ON PACK.

THISPACK = THATPACK ONLY

REFERENCES TO FAMILY "THISPACK" WILL BECOME REFERENCES TO FAMILY "THATPACK". REFERENCES TO FAMILY "DISK" ARE UNAFFECTED.

SEARCH ORDER

AN ATTEMPT TO LOCATE A FILE NAMED "X" MADE BY A TASK WITH USERCODE

"U" AND FAMILY SPECIFICATIONS "DISK=A OTHERWISE B" CAUSES THE DIRECTORIES TO BE SEARCHED IN THE FOLLOWING ORDER:

(U)X ON A, *X ON A, (U)X ON B, *X ON B.

EXCEPTIONS

IN CERTAIN CASES, FAMILY SUBSTITUTION IS SUPPRESED:

THE OPERATING SYSTEM IGNORES FAMILY SUBSTITUTION IN OPERATOR INPUT STATEMENT "IL".

CANDE IGNORES FAMILY SUBSTITUTION WHEN A "FILE" OR "LFIL" COMMAND CONTAINS THE PHRASE "ON <FAMILY NAME>".

LOCI

FAMILY SUBSTITUTION SPECIFICATIONS ARE A PROPERTY OF A TASK (OR JOB) OR OF A CANDE SESSION, AND APPLY TO FILE REFERENCES MADE FROM THAT TASK OR SESSION. THE SPECIFICATIONS MAY BE ASSOCIATED WITH A TASK, JOB, SESSION, USERCODE, OR JOB QUEUE, AS FOLLOWS. ONLY ONE FAMILY SUBSTITUTION AT A TIME MAY BE SPECIFIED AT ANY POINT.

TASK

THE POINTER-VALUED TASK ATTRIBUTE "FAMILY" MAY ACCEPT OR RECEIVE A FAMILY SPECIFICATION, TERMINATED BY A PERIOD. IF THE SPECIFICATION IS NULL, ANY EXISTING FAMILY SPECIFICATION IS REMOVED. THE ATTRIBUTE MAY BE SET OR READ AT ANY TIME, AND SUPERSEDES ANY PRIOR SPECIFICATION, FROM ANY SOURCE, ALGOL EXAMPLES:

```
REPLACE MYSELF.FAMILY BY "DISK=MYPACK OTHERWISE DISK."
REPLACE T.FAMILY BY "."
REPLACE TA[I].FAMILY BY PF
```

JOB

A FAMILY SPECIFICATION STATEMENT MAY APPEAR IN A WORK-FLOW-LANGUAGE JOB AFTER THE "JOB" STATEMENT AND BEFORE THE "BEGIN". EXAMPLE:

```
?JOB ILLUSTRATION;
FAMILY DISK=MYPACK OTHERWISE DISK;
```

```
BEGIN
   ...
?END JOB
```

THE RESULTING FAMILY SPECIFICATIONS ARE APPLIED TO THE JOB, OVERRIDING ANY DEFAULTS PROVIDED BY USERCODE, AND ARE PROPAGATED TO ANY TASKS RUN FROM THE JOB.

CANDE SESSION

FAMILY SPECIFICATIONS MAY BE SUPPLIED FOR A CANDE SESSION THROUGH A "FAMILY" COMMAND (MINIMUM ABBREVIATION "FAM"). EXAMPLES:

```
INSTALL:    FAM DISK = MYPACK OTHERWISE DISK
REMOVE:     FAM .
DISPLAY:    FAM
```

THE SPECIFICATIONS ARE APPLIED TO THE SESSION, OVERRIDING ANY DEFAULTS PROVIDED BY USERCODE, AND ARE PROPAGATED TO ANY TASKS OR JOBS INITIATED FROM THE SESSION.

THE "WORKFILE FAMILY" IS USED FOR ALL FILE CREATIONS AND TITLE/REMOVE ACTIONS. THE WORKFILE FAMILY IS BY DEFAULT DISK; IT IS FAMILY <SUBSTITUTE> IF A SPECIFICATION "DISK = <SUBSTITUTE> ..." IS IN EFFECT. A FAMILY STATEMENT WHICH WOULD CHANGE THE WORKFILE FAMILY IS REJECTED IF AN UNSAVED WORKFILE EXISTS.

A FAMILY STATEMENT CAUSES THE FAMILY SPECIFICATIONS TO BE DISPLAYED. IF THE SPECIFICATION BEGINS "DISK = ...", AN ERROR MESSAGE IS GENERATED IF THE SPECIFIED <SUBSTITUTE> OR <ALTERNATE> IS NOT PRESENT.

USERCODE

FAMILY SPECIFICATIONS MAY BE INSERTED IN A USERDATAFILE ENTRY, VIA SYSTEM/MAKEUSER. FOR EXAMPLE, THE MAKEUSER STATEMENTS

```
USER=SAM FAMILY DISK=SAMPACK OTHERWISE DISK;
USER=JOE -FAMILY;
```

CAUSE FAMILY SPECIFICATIONS TO BE INSTALLED IN THE ENTRY FOR USER "SAM" AND REMOVED IN THE ENTRY FOR USER "JOE".

D1075 MCP - FAMILY SPECIFICATIONS - 01-12-75

IF FAMILY SPECIFICATIONS ARE DEFINED FOR A USERCODE, THEY BECOME THE DEFAULT SPECIFICATIONS FOR ANY CANDE SESSION OR NEW JOB INITIATED WITH THAT USERCODE. SPECIFICALLY, CANDE RETRIEVES THE USERDATA FAMILY SPECIFICATIONS WHEN THE USER LOGS ON, AND THE WFL COMPILER RETRIEVES THEM WHEN A JOB IS INITIATED VIA THE CARD READER OR A LOAD-CONTROL TAPE. A JOB WHICH IS INITIATED FROM ANOTHER JOB OR TASK (VIA "ZIP") OR A JOB WHICH IS INITIATED FROM CANDE (VIA "START" OR "WFL") USES THE FAMILY SPECIFICATIONS IN EFFECT IN THE INITIATING ENVIRONMENT. WFL JOBS INITIATED FROM THE OPERATOR CONSOLE DO NOT PICK UP USERDATA FAMILY SPECIFICATIONS (SUCH JOBS ARE EFFECTIVELY ZIPPED BY THE CONTROLLER).

JOB QUEUE

FAMILY SPECIFICATIONS MAY BE ASSOCIATED WITH A JOB QUEUE VIA THE "MQ" OPERATOR INPUT, TO PROVIDE A DEFAULT FOR JOBS ENTERED VIA THAT QUEUE. FOR EXAMPLE,

```
MQ 5 FAMILY DISK = STUDENTFILES OTHERWISE DISK
```

WILL CAUSE ALL JOBS INSERTED IN QUEUE 5 TO USE "STUDENTFILES" AS THE DEFAULT FAMILY FOR DISK FILES. THE SPECIFICATION MAY BE REMOVED BY A STATEMENT LIKE "MQ 5 FAMILY .".

IF A QUEUE SPECIFICATION AND A USERCODE SPECIFICATION OR JOB SPECIFICATION ARE BOTH APPLICABLE, THEY MUST BE IDENTICAL OR THE JOB WILL BE REJECTED.

D1077 MCP - READY HEAD-PER-TRACK - 11-23-74

LABELLED HEAD-PER-TRACK DISK MAY BE READIED VIA THE SPO RY COMMAND.

D1078 MCP - GETSTATUS CALL - 11-23-74

A SUBTYPE (5) UNDER A GETSTATUS DIRECTORY REQUEST WHICH WILL COPY THE VOLUME LIBRARY TO A SPECIFIED FILE HAS BEEN IMPLEMENTED. THE FORMAT OF THE GETSTATUS CALL IS THE SAME AS THAT FOR A FLAT COPY (WITHOUT UNIT #) (SELTYPE 3).

D1079 MCP - S-N SPECIFICATION FOR H-P-T - 11-23-74

D1079 MCP - S-N SPECIFICATION FOR H-P-T - 11-23-74

SERIAL NUMBERS FOR HEAD-PER-TRACK DISK CANNOT BE SPECIFIED WHEN THE DISK IS RC-ED. THE EU NUMBER OF THE UNIT WILL BE THE SERIAL NUMBER.

D1084 MCP - PROPAGATE SUBSPACES ATTRIBUTE - 08-01-74

THE SUBSPACES ATTRIBUTE WILL NOW BE CARRIED OVER TO ANY OFFSPRING OF A TASK. IT WILL ONLY HAVE AFFECT IF THE SUBSEQUENT TASK IS NOT IPC CAPABLE. THUS, IF THE SUBSPACES ATTRIBUTE IS SET AT THE JOB LEVEL, IT WILL APPLY TO ALL TASKS, UNLESS A SPECIFIC TASK SETS ITS SUBSPACES ATTRIBUTE.

D1089 MCP - BAD FILE NAMES - 12-22-74

IF THE MCP ATTEMPTS TO GENERATE A MESSAGE CONTAINING A FILENAME BUT THE NAME IS INVALID AND CAUSES A FAULT, THE NAME WILL BE REPLACED BY "******" AND A POSSIBLE SYSTEM HANG AVOIDED. IF THE DIAGNOSTIC COMPILE TIME OPTION IS SET, A NON-FATAL "DUMP BY BILDAFID FAULT" WILL BE TAKEN.

D1106 MCP - PROGRAMDUMP FOREIGN COPIES - 09-16-74

WHEN THE ARRAYS OPTION IS SET, PROGRAMDUMP WILL DUMP THE CONTENTS OF AN ARRAY WHICH BELONGS TO SOME OTHER STACK WHEN AN UNINDEXED COPY DESCRIPTOR APPEARS IN THE STACK BEING DUMPED. THIS ACTION WAS BEING TAKEN ONLY FOR PRESENT COPIES; IT HAS NOW BEEN EXTENDED TO INCLUDE ABSENT COPIES WHEN THE DATA HAVE BEEN OVERLAYED TO THE OVERLAY FILE (OR WHEN THE DATA ARE ACTUALLY PRESENT IN THAT OTHER STACK).

THE MESSAGE "MOM NOT OF THIS STACK OR SEGDICT" HAS BEEN CHANGED TO READ "MOM IN OR OF STACK NNN"; THE NEW MESSAGE IS MORE EXPLICIT AND LESS EASILY CONFUSED WITH THE SIMILAR MESSAGE CONTAINING "IN" RATHER THAN "OF".

D1107 MCP - DP AND DS OPTION SETTING - 09-16-74

D1107 MCP - DP AND DS OPTION SETTING - 09-16-74

WHEN THE DS OR DP OPERATOR-INPUT MESSAGE CONTAINS OPTION SPECIFICATIONS, THE TASK OPTION WORD IS CHANGED ACCORDINGLY. THE OPTION BITS BEING AFFECTED ARE NOW RESTRICTED TO THOSE INVOLVING THE DUMPING PROCESS.

FOR EXAMPLE : DS 1234 FILES ARRAYS

WILL CAUSE THE FILES AND ARRAYS OPTIONS TO BE SET AND THE CODE AND BASE OPTIONS TO BE RESET, BUT WILL NOT AFFECT OTHER OPTIONS (SUCH AS LONG OR BDBASE). FORMERLY, ALL OTHER OPTION BITS WERE BEING RESET, WITH UNDESIRABLE CONSEQUENCES :

THE DUMP FROM A CANDE TASK WOULD APPEAR WITH THE OUTPUT FOR CANDE ITSELF RATHER THAN WITH THE OUTPUT FOR THE SESSION, BECAUSE BDBASE WAS RESET BEFORE THE TASKFILE WAS OPENED.

D1109 MCP - SYSTEMT COMPILE TIME OPTION - 03-28-74

THIS PATCH ENABLES THE "SYSTEMT" COMPILE TIME OPTION. IF "SYSTEMT" IS SET THE FOLLOWING OCCUR:

1. BUZZ AND UNLOCK CODE IS NOT EMITTED BY THE ESPOL COMPILER.
2. MULTIPLE PROCESSOR CONTROL CODE IS EXCLUDED.
3. PLI AND OLD DATA MANAGEMENT CODE IS EXCLUDED.

D1111 MCP - COPY AS AND ONTO - 11-10-74

1) WHEN A FILE IS COPIED ONTO ANOTHER FILE, THE CREATION DATE OF THE RESULTANT FILE WILL BE THAT OF THE COPIED FILE RATHER THAN THE ORIGINAL FILE.

2) COPY AS WILL NO LONGER FUNCTION AS A COPY ONTO IF THE AS NAMED FILE EXISTED ON DISK. RATHER, THERE WILL BE A DUP FILE/AUTO RM OF THE FILE.

D1112 MCP - RC BASE HPT DISK - 11-17-74

D1112 MCP - RC BASE HPT DISK - 11-17-74

BASE UNITS OF HEAD PER TRACK DISK MAY NOW BE CREATED VIA THE RC COMMAND.

NOTE THAT AS FOR PACKS, CONTINUATION HEAD PER TRACK UNITS MUST BE RC-ED INTO THE FAMILY. FURTHER NOTE THAT A HALT LOAD MUST OCCUR BEFORE THE SYSTEM CAN USE CONTINUATION HEAD PER TRACK UNITS; UNLIKE PACKS, WHICH ARE AVAILABLE IMMEDIATELY.

NETWORK DEFINITION LANGUAGE

P3547 NDL - STRING CONSTANTS - 03-28-74

THE CODE FOR TRANSMIT <STRING> CONSTRUCT HAS BEEN OPTIMIZED. IF THE <STRING> IS LONGER THAN ONE CHARACTER, CODE IS GENERATED TO ACCESS EITHER A STRING TABLE OR, IF TRANSLATE TABLES ARE DECLARED, EXTRA SPACES IN THE TRANSLATE TABLES WHERE THESE STRINGS ARE NOW STORED. ONLY STRINGS BELONGING TO INCLUDED REQUESTS WILL BE ALLOCATED AND DUPLICATED STRINGS WILL BE ALLOCATED ONLY ONCE.

P3549 NDL - FULL DUPLEX LINE SWAP - 05-12-74

NDL NOW SETS BIT 41 IN THE DCC LINETABLE WORD FOR A FULL DUPLEX LINE.

P3782 NDL - MCS NAME TABLE CHANGE - 05-30-74

EACH ENTRY IN THE MCS NAME TABLE FORMERLY CONTAINED A ONE IN BYTE ONE. IT NOW CONTAINS A ZERO. THIS IS REQUIRED FOR FUTURE MCP IMPLEMENTATION.

P3785 NDL - DCC STATION TABLE ADDITION - 05-30-74

THE DCC STATION TABLE FOR EACH STATION NOW CONTAINS ITS LSN IN WORD 0[29:14]. THIS IS REQUIRED FOR FUTURE MCP IMPLEMENTATION.

P3854 NDL - PARITY STATEMENT FIX - 07-07-74

IF THE USER HAD A HORIZONTAL PARITY VARIANT SPECIFIED WITHOUT VERTICAL PARITY, THE COMPILER WOULD ALLOW THIS INVALID USAGE.

EXAMPLE : PARITY = HORIZONTAL (0) : ODD

THIS CONSTRUCT NOW GENERATES A SYNTAX ERROR.

SOFTWARE IMPROVEMENTS

P3994 NDL - SECURED CARD FILE FIX - 07-07-74

WHEN THE CARD FILE WAS SECURED, SUCH THAT NDL WAS UNABLE TO OPEN IT, MANY SPURIOUS ERRORS WERE GENERATED. THE COMPILER NOW INDICATES THE REASON AND DIES GRACEFULLY.

P4158 NDL - REORGANIZE PROCEDURES. - 08-04-74

INITIALIZATION AND WRAPUP CODE HAVE BEEN IMPROVED. THE ONLY CHANGE THE USER SHOULD NOTICE IS EXPANDED INFORMATION IN THE TRAILER MESSAGE (E.G., DCPPROGEN NOT BOUND, COMPILE FOR SYNTAX).

P4159 NDL - ERROR REPORTING - 08-04-74

WHEN A REQUEST SET IS STARTED BEFORE THE PREVIOUS REQUEST IS FINISHED, THE ERROR MESSAGE "PREVIOUS REQUEST INCOMPLETE" IS DISPLAYED. PREVIOUSLY, THE ERROR MESSAGE "REQUEST STATEMENT EXPECTED" WAS DISPLAYED.

P4160 NDL - ERROR ABORT - 08-04-74

AFTER A FATAL ERROR THE COMPILER ABORTS MORE GRACEFULLY THAN PREVIOUSLY. THERE SHOULD BE NO CHANGE FOR THE USER.

P4161 NDL - $ PAGE - 08-04-74

IN SOME INSTANCES, THE CARD AFTER A $ PAGE WOULD BE PRINTED BEFORE THE SKIP TO TOP OF FORM. THIS PROBLEM HAS BEEN CORRECTED.

P4162 NDL - DIALIN, DIALOUT CHANGE - 08-04-74

IN THE LINE SECTION, IF THE TYPE WAS DECLARED AS DIALIN, DIALOUT THE ANSWER STATEMENT WAS NOT ALLOWED. THE ANSWER STATEMENT SHOULD BE PRESENT IN THIS SITUATION AND A WARNING IS NOW ISSUED IF IT IS ABSENT.

P4342 NDL - TERMINAL DESCRIPTION - 09-29-74

A TERMINAL DESCRIPTION THAT HAS "MYUSE=OUTPUT" COULD CAUSE AN INVALID INDEX WHEN A STATION SPACE TABLE INDEX WAS CALCULATED. THIS PROBLEM HAS BEEN CORRECTED.

P4343 NDL - NIF AND DCPCODES - 09-29-74

THE TWO CODE FILES OF AN NDL COMPILE ARE NOW LOCKED AS FILEKIND "NDLCODE". NOTE THAT THIS PROHIBITS ANY NON-COMPILER FROM WRITING INTO THESE FILES.

P4837 NDL - SPELLING ERROR - 10-15-74

THE ERROR MESSAGES "LINE AND MODEM ADAPTER TYPES ARE INCONSISTENT" HAD THE WORD ADAPTER MISSPELLED. THIS PROBLEM HAS BEEN CORRECTED.

P4838 NDL - RESEQUENCING DOLLAR CARDS - 10-27-74

IF A DOLLAR CARD THAT WAS IN COLUMN 2 IN THE SYMBOLIC WAS IN AN AREA THAT WAS BEING RESEQUENCED, THE DOLLAR CARD WOULD HAVE A SEQUENCE NUMBER IDENTICAL TO THE PREVIOUS ONE. THIS PROBLEM HAS BEEN FIXED.

NETWORK DEFINITION LANGUAGE

D0750 NDL - THRESHOLD SYSTEM DCP - 03-28-74

SINCE THE THRESHOLD SYSTEM DCP REQUIRES DIFFERENT DCP CODE TO BE GENERATED AND ADDS SOME RESTRICTIONS TO NDL SOURCE STATEMENTS, A NEW SPECIFICATION HAS BEEN ADDED TO THE DCP SECTION OF NDL.

SYNTAX:

```
CLUSTERS = <BOOLEAN EXPRESSION>.
```

EXAMPLE:

```
DCP 0;
   MEMORY = 4096.
   CLUSTER = FALSE.
```

SEMANTICS:

1. "CLUSTERS=TRUE" INDICATES A STANDARD DCP, AND IS ASSUMED IF THE "CLUSTERS" STATEMENT IS OMITTED.

2. "CLUSTERS=FALSE" MUST BE SPECIFIED FOR A THRESHOLD SYSTEM DCP. THE FOLLOWING NDL RESTRICTIONS PERTAIN TO THIS TYPE OF DCP:

   A. A CLUSTER ADDRESS OTHER THAN ZERO IS DISALLOWED.

   B. A LINE ADDRESS GREATER THAN THREE IS DISALLOWED.

   C. THE "INITIATE BREAK" STATEMENT IS DISALLOWED.

   D. THE ONLY PERMISSIBLE LINE ADAPTOR TYPES ARE 4, 6, 7, 8, 9, 11, 12, 14, 15, 16-27.

D0785 NDL - DEFINES IN NDL - 05-12-74

D0785 NDL - DEFINES IN NDL - 05-12-74

A DEFINE SECTION HAS BEEN ADDED TO NDL. THIS SECTION SHOULD APPEAR IMMEDIATELY BEFORE THE CONTROL/REQUEST SECTION AND/OR WITHIN ANY CONTROL OR REQUEST SET.

DECLARATION SYNTAX:

<DEFINE SECTION>::= <DEFINE STATEMENTS>.
<DEFINE STATEMENTS>::= DEFINE <DEFINE EQUATION>/
DEFINE <DEFINE EQUATION>.<DEFINE STATEMENTS>

<DEFINE EQUATION>::= <DEFINEID> = <DEFINETEXT> #/
<DEFINEID> = <DEFINETEXT> #, <DEFINE EQUATION>

<DEFINETEXT>::= <ANY VALID NDL CHARACTER EXCEPT #>

<DEFINEID>::= <IDENTIFIER>/<IDENTIFIER>(<DEFINEPARAMS>)/
<IDENTIFIER> [<DEFINEPARAMS>]

<DEFINEPARAMS>::= <IDENTIFIER>/<IDENTIFIER>,<DEFINEPARAMS>
E.G.
```
DEFINE TALLYDEF = TALLY  [0]   #,
        PARAMTALLYDEF [FIRSTPARAM] = TALLY [FIRSTPARAM] #.
DEFINE SECONDDEFINESTMT = BEGIN
                          TALLYDEF =
                              PARAMTALLYDEF [2] .
                          END#.
```

INVOCATION SYNTAX:

<DEFINE INVOCATION>::= <IDENTIFIER>/<IDENTIFIER(<DEFINEPARAMTEXT>)/
<IDENTIFIER> [<DEFINEPARAMTEXT>]

<DEFINEPARAMTEXT>::= <ANY VALID NDL CHARACTER EXCEPT # WITH
MATCHING BRACKETS AND PARENTHESES>

SEMANTICS:

DEFINES APPEARING BEFORE THE CONTROL/REQUEST SECTIONS ARE GLOBAL IN SCOPE AND MAY BE INVOKED IN ANY CONTROL OR REQUEST OR ANY

D0785 NDL - DEFINES IN NDL - 05-12-74

SUBSEQUENT SECTION. THEY MAY BE NESTED IN ANY NON-RECURSIVE MANNER. DEFINE DECLARATIONS MAY ALSO BE LOCAL TO A REQUEST. THE DECLARATION MAY APPEAR ANYWHERE INSIDE OF A REQUEST. THESE LOCAL DEFINES MAY ONLY BE INVOKED AFTER THE DECLARATION AND ARE VALID UNTIL THE END OF THE REQUEST. LOCAL DEFINES MAY REDEFINE GLOBAL DEFINES FOR THE SCOPE OF THE REQUEST.

ON INVOCATION THE DEFINE IDENTIFIER IS REPLACED BY THE TEXT ASSOCIATED WITH IT.

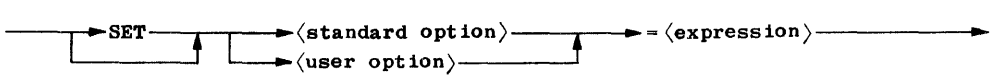
D0813 NDL - DOLLAR CARD ADDITIONS - 05-30-74

USER OPTIONS, EXPRESSIONS AND TWO NEW STANDARD OPTIONS HAVE BEEN ADDED TO NDL. THESE ADDITIONS GIVE THE USER THE FOLLOWING CAPABILITIES:

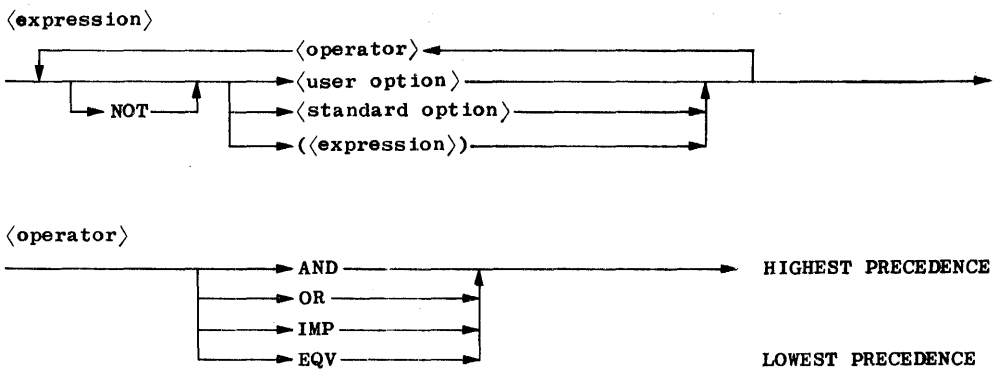
1. THE USER CAN POP, SET OR RESET ANY <USER OPTION>. THE THE <USER OPTION> IS DEFINED FROM ITS FIRST APPEARANCE AND FUNCTIONS THE SAME AS ANY <STANDARD OPTION>.
   EXAMPLE: $ SET MYOPTION % MYOPTION IS SET TO TRUE

2. DOLLAR EXPRESSIONS HAVE BEEN INCLUDED TO GIVE THE USER SOME CONDITIONAL COMPILATION FACILITIES. DEPENDING UPON THE VALUE OF THE EXPRESSION TO THE RIGHT OF THE EQUATION, THE OPTION TO THE LEFT IS EITHER SET OR RESET.

SYNTAX:



D0813 NDL - DOLLAR CARD ADDITIONS - 05-30-74



EXAMPLE:

```
$  SET MYOPTION  = MYOPTION OR NOT LIST
$  SET  LIST  =  NOT (LISTP OR MYOPTION) AND VOIDT
```

3. OMIT AND LISTOMITTED HAVE BEEN ADDED TO THE <STANDARD OPTION>-S IF OMIT IS SET, IT WILL VOID ALL INPUT (BOTH FROM CARD AND TAPE) UNTIL OMIT IS POPPED OR RESET. IF LISTOMITTED IS SET WHILE OMIT IS SET THEN ALL RECORDS THAT ARE VOIDED WILL APPEAR ON THE LINE FILE WITH "OMIT" DISPLAYED AT THE RIGHT MARGIN. DEFAULT VALUE FOR OMIT IS FALSE, DEFAULT VALUE FOR LISTOMITTED IS THE SAME AS LIST.

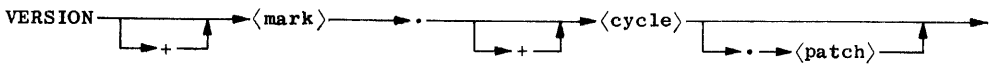
D0814 NDL - DOLLAR CARD CHANGES - 07-07-74

THE <DOLLAR ACTION> VERSION HAS BEEN ENHANCED TO ALLOW USERS TO ADD TO EXISTING VERSION MARK AND CYCLE NUMBERS AND TO HAVE NON-ZERO

D0814 NDL - DOLLAR CARD CHANGES - 07-07-74

PATCH FIELDS. IN ADDITION, IF THE USER HAS A VERSION CARD IN THE TAPE FILE, A VERSION CARD IN THE CARD FILE WILL UPDATE THE VERSION RECORD IN THE TAPE FILE TO REFLECT THE CURRENT VERSION.

SYNTAX:



MARK, CYCLE AND PATCH ARE UNSIGNED INTEGERS.

EXAMPLE:

```
$ VERSION  26.040.011
$ VERSION  +1.+1.222
```

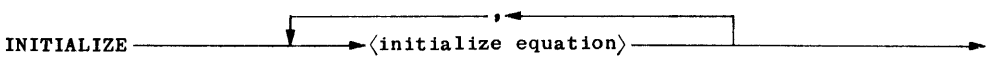
D0863 NDL - INITIALIZE STATEMENT - 08-11-74

THE INITIALIZE STATEMENT IN THE STATION SECTION NOW ALLOWS THE USER TO REFERENCE

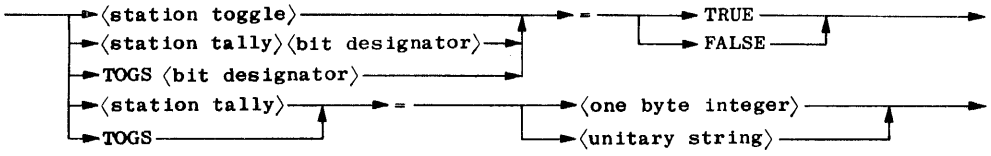
1) ALL THE STATION TOGGLES AS ONE BYTE VARIABLES,
2) SINGLE BITS IN TALLY-S, AND
3) SET TALLY-S TO <UNITARY STRINGS>.

THE NEW SYNTAX IS AS FOLLOWS:

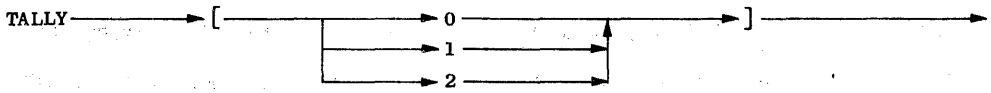
⟨initialize statement⟩



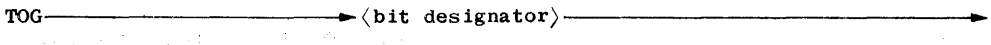
⟨initialize equation⟩



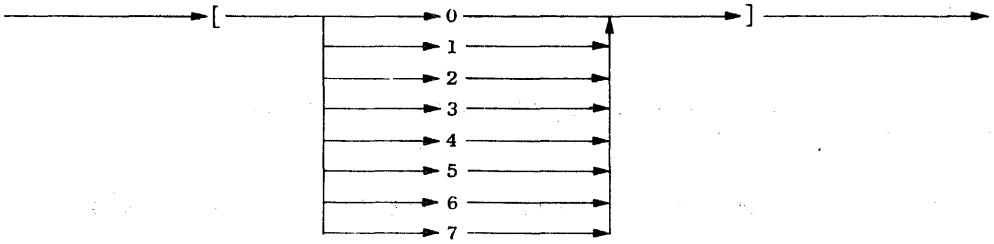
⟨station tally⟩



⟨station toggle⟩



⟨bit designator⟩



⟨one byte integer⟩
{A NUMBER FROM 0 - 255}

⟨unitary string⟩
{A STRING 8 BITS LONG}

E.G., INITIALIZE TALLY [1] [0] = TRUE,
TOGS = 4 "FF".

D0916 NDL - 255 STATIONS PER LINE - 09-29-74

D0916 NDL - 255 STATIONS PER LINE - 09-29-74

THE NUMBER OF STATIONS ALLOWED ON A LINE BY NDL HAS BEEN INCREASED TO 255. THUS, THE NUMBER OF STATIONS INITIALLY DECLARED ON A LINE CAN BE AS LARGE AS 255, AND THE MAXSTATION SPECIFICATION OF A LINE, WHICH MUST HAVE A VALUE AT LEAST EQUAL TO THE NUMBER OF STATIONS DECLARED, ALSO HAS A LIMIT OF 255. ANY NDL PROGRAM USING THIS INCREASED STATIONS PER LINE LIMIT MUST RUN ON AN MCP LEVEL OF II.7 OR GREATER.

D1015 NDL - MULTI-LEVEL FILE PREFIXES - 10-27-74

THE USER MAY NOW COMPILE X/Y/Z WITH NDL AND GENERATE THE CODE FILES "X/Y/Z/NIF" AND "X/Y/Z/ DCPCODE. PREVIOUSLY THE FILES "X/NIF" AND "X/DCPCODE" WOULD BE CREATED. IN ADDITION THE WFL STATEMENT: "COMPILE X/Y ON Z WITH NDL" WILL GENERATE "X/Y/NIF" AND "X/Y/ DCPCODE" ON THE PACK NAMED "Z".

PACK CONVERTER

P5127 PACKCONVERT - CHANGE TO PACK CONVERTER - 01-14-75

THE PROCEDURE NAME MAKECONVERFILE HAS BEEN CHANGED TO PACKCONVERTER.

ALL II.6 STYLE PACKS MUST BE CONVERTED TO THE II.7 DIRECTORY FORMAT TO BE USED ON THE II.7 RELEASE. THE MCP WILL GIVE THE OPERATOR AN RSVP MESSAGE STATING CONVERSION IS NECESSARY WHENEVER THE LABEL ON A II.6 PACK IS READ. THE OPERATOR MAY RESPOND:

1) OK => CONVERT THE PACK, OR

2) OK => DO NOT CONVERT THE PACK.

IF THE PACK IS NOT CONVERTED, IT CAN BE READ ONLY BY II.6 OR EARLIER MCPS.

DUE TO AN AMBIGUITY IN THE II.6 (AND EARLIER) FILE NAMING CONVERTIONS THE MCP MUST KNOW THE VALID USERCODE DIRECTORIES FOR A PACK IN ORDER TO CONVERT IT. (THE FILES *A/B AND (A)B ARE INDISTINGUISHABLE ON A II.6 PACK.) THE OPERATOR WILL BE ASKED TO SUPPLY THIS LIST OF VALID USER NAMES VIA AN ACCEPT MESSAGE. HE HAS THREE POSSIBLE RESPONSES:

1) <MIX NO> AX XFERASIS ASSUMES ALL FILES ARE NON-USER FILES.

2) <MIX NO> AX SYSTEM/USERDATAFILE ANY FILE WHICH STARTS WITH A VALID USERCODE WILL BE PLACED UNDER THAT USERDIRECTORY.
   I.E.: IF U IS A USERCODE AND U/X IS A FILE
   ON THE PACK, THEN (U)/X WILL APPEAR ON THE
   CONVERTED PACK. IF U IS NOT A USERCODE, THEN

3) <MIX NO> AX <FILENAME> <FILENAME> IS THE NAME OF THE FILE GENERATED BY SYSTEM/PACKCONVERTER WHICH CONTAINS THE VALID USERCODES FOR THIS PARTICULAR PACK. ALL FILES WHICH BEGIN WITH A USERCODE CONTAINED IN THIS FILE WILL BE PLACED UNDER THAT USER DIRECTORY. ALL OTHER FILES WILL BE PUT UNDER THE SYSTEM DIRECTORY.

SYSTEM/PACKCONVERTER IS RUN BY PASSING A FILENAME AS A PARAMETER AND A LIST OF USERCODES IN A CARD DECK (FREE FORMAT SEPARATED BY BLANKS).

EXAMPLE:

```
<I> RUN SYSTEM/PACKCONVERTER ("A/B.")
<I> DATA
    MYUSER HISUSER
    YOURUSER
    <I> END
```

THE ABOVE DECK WILL CREATE A FILE, A/B, WHICH CAN BE GIVEN TO THE PACK CONVERSION ROUTINE (<MIX NO> AX A/B).

ANY FILES ON THE PACK WHICH START WITH "MYSUSER", "HISUSER", OR "YOURUSER" WILL BE CONVERTED TO BE UNDER THOSE USERCODES.

E.G.: MYUSER /A/B => (MYUSER) A/B

YOURUSER /X => (YOURUSER) X

ALL OTHER FILES WILL BE PUT UNDER THE SYSTEM DIRECTORY.

E.G.: OTHERNAME /Q => *OTHERNAME/Q

PATCH

P3522 PATCH - "NOISE STRING" ON $# CARD - 05-12-74

$# CARDS CONTAIN A "NOISE STRING" OR COMMENT BEFORE THE PATCH NUMBER. IN SKIPPING OVER THIS STRING, SYSTEM/PATCH WAS STOPPING AT THE FIRST NON-ALPHABETIC CHARACTER, WHEN IT SHOULD HAVE SCANNED UNTIL THE FIRST BLANK. THIS PATCH CORRECTS THE PROBLEM.

P3550 PATCH - $CHECKPOINT OPTION - 04-18-74

SYSTEM/PATCH HAS BEEN CHANGED TO EXPECT A NUMBER FOLLOWING A $ CHECKPOINT CARD AND WILL NOT TRY TO INTERPRET THE NUMBER AS A SEQUENCE BASE AS IT DID BEFORE.

P3855 PATCH - FIX FOR DS THROUGH CANDE - 07-07-74

THIS PATCH TO SYSTEM/PATCH CORRECTS THE PROBLEM OF PROGRAM-DS WHEN BEING USED THROUGH CANDE.

P3856 PATCH - VOID $-CARD HANDLING - 07-07-74

FAILURE TO "POP" OR "RESET" A VOID IN A PATCH BEING PROCESSED BY SYSTEM/PATCH NO LONGER CAUSES SYSTEM/PATCH TO GO INTO A LOOP.

P3995 PATCH - DUPLICATE SEQUENCE NUMBERS - 08-04-74

DUPLICATE SEQUENCE NUMBERS OCCURRING IN A MERGED PATCH ARE NOW TREATED AS AN ERROR BY SYSTEM/PATCH. TO MAKE THIS A WARNING REPLACE "ERROR" BY "WERROR" AT 0049360.

P3996 PATCH - $ SEQ HANDLING - 08-04-74

WHEN RESEQUENCING WITH SYSTEM/PATCH A $+(INC) CARD NOW CHANGES ONLY THE INCREMENT.

SOFTWARE IMPROVEMENTS

P4163 PATCH - $ MERGE CARD - 08-04-74

$ MERGE CARD WITH BLANK SEQUENCE NUMBERS OCCURING IN A PATCH OTHER THAN THE FIRST ARE NOW HANDLED CORRECTLY.

P4164 PATCH - $ CARDS W BLANK SEQ NO-S - 08-04-74

$ CARDS WITH BLANK SEQUENCE NUMBERS OCCURING IN PATCHES AFTER A PATCH HAS BEEN MADE PREVIOUSLY AT SEQUENCE NUMBER 00000000 ARE NOW HANDLED CORRECTLY.

P4241 PATCH - $ VOIDT HANDLING - 09-16-74

SYSTEM/PATCH NO LONGER GOES INTO A LOOP WHEN A $ POP VOIDT IN A LATER PATCH IS INSERTED BETWEEN A $ SET VOIDT AND $ POP VOIDT IN A PREVIOUS PATCH.

P4242 PATCH - CARD DROPPED DURING RESEQUENCE - 09-16-74

THIS PATCH CORRECTS A PROBLEM OF SYSTEM/PATCH SOMETIMES DROPPING THE FIRST CARD OF THE SOURCE FILE WHEN A DECK IS BEING RESEQUENCED.

P4243 PATCH - INVALID OP OCCURENCE - 09-16-74

SYSTEM/PATCH NO LONGER GETS AN INVALID OP WHEN TRYING TO STORE INTO THE PARAMETER PASSED TO PROCEDURE VOIDTIT.

P4244 PATCH - BAD LISTINGS IN COMPARE PHASE - 09-16-74

SYSTEM/PATCH NOW NO LONGER PRINTS ERRONEOUS LISTINGS OF VOIDED CARDS DURING THE COMPARE PHASE.

P4245 PATCH - SYSTEM-PATCH HEADING - 09-16-74

SYSTEM/PATCH NOW PRINTS A HEADING GIVING THE DATE AND TIME OF RUN, THE DATE AND TIME SYSTEM/PATCH WAS COMPILED AND THE "MARK" NUMBER.

P4452 PATCH - $ CONTROL CARDS - 10-15-74

AN UNRECOGNIZED IDENTIFIER ON A $. CONTROL CARD WILL NOW RESULT IN A WARNING.

P4453 PATCH - $* CARD - 10-15-74

SYSTEM/PATCH NO LONGER GETS A FILE ATTRIBUTE ERROR BECAUSE OF A $* CARD WHEN INPUT IS FROM CARDS OR A REMOTE TERMINAL.

P4454 PATCH - OUT-OF-SEQUENCE - 10-15-74

SYSTEM/PATCH NO LONGER PRODUCES AN OUT-OF-SEQUENCE PATCH FILE WHEN A $<BASE> CARD IS ENCOUNTERED WHILE SEQUENCING AND <BASE> IS LESS THAN THE CURRENT SEQUENCE NUMBER. AN APPROPRIATE ERROR MESSAGE IS PRINTED.

P4455 PATCH - PATCH CONFLICT OUTPUT - 10-20-74

PATCH CONFLICT INFORMATION IS NO LONGER INTERSPERSED WITHIN A LISTING OF AN INDIVIDUAL PATCH.

P4456 PATCH - REMOTE TERMINAL USE - 10-20-74

IF SYSTEM/PATCH IS INITIATED FROM A REMOTE TERMINAL ANY INFORMATION NORMALLY PASSED TO IT BY DOING AN ACCEPT FROM THE SPO CAN BE ENTERED FROM A TERMINAL.

P4457 PATCH - HEADER TIMES - 10-20-74

SYSTEM/PATCH NOW PRINTS TIMES WITH LEADING ZEROS INSTEAD OF LEADING BLANKS IN HEADER.

EXAMPLE: 4: 4 IS NOW 04:04.

P4839 PATCH - CARD FILE KIND IN $ ZIP - 10-27-74

IN A ZIPPED COMPILE, SYSTEM/PATCH NOW CHANGES THE CARD FILE KIND ATTRIBUTE TO DISK ONLY IF THE PATCH FILE IS A DISK FILE. THIS

ALLOWS THE USER TO LABEL EQUATE HIS PATCH FILE KIND TO PACK.

P5077 PATCH - $MAKEHOST CARD - 05-12-74

THIS PATCH PREVENTS SYSTEM-PATCH FROM ATTEMPTING TO SCAN A $ MAKEHOST CARD, SINCE THE SYNTAX OF THE CARD MAY BE COMPLICATED. IT IS NOW TREATED LIKE A $INSTALLATION CARD, I.E. PASSED UNPROCESSED.

PATCH

D0815 PATCH - NEWSEQ ERROR - 07-07-74

SYSTEM PATCH WILL NOW GIVE AN ERROR MESSAGE WHEN A SEQUENCE ERROR OR DUPLICATE SEQUENCE NUMBERS ON NON "$" CARDS ARE ENCOUNTERED WHEN WRITING THE PATCH FILE. DUPLICATE SEQUENCE NUMBERS ARE STILL ALLOWED ON "$" CARDS. TO ALLOW DUPLICATE SEQUENCE NUMBERS ON NON "$" CARDS, CHANGE "ERROR" TO "WERROR" AT 00493600. THIS WILL RESULT IN A WARNING INSTEAD OF AN ERROR.

D0917 PATCH - PATCH CONFLICTS - 09-29-74

SYSTEM/PATCH NOW PRINTS POSSIBLE PATCH CONFLICTS. BOTH THE LINE THAT WAS "STEPPED ON" AND THE LINE THAT "STEPS ON" IT ARE PRINTED. IF RESEQUENCING OCCURS IT IS INDICATED ALSO. IF THE USER DOES NOT WISH TO SEE THIS OUTPUT; "$. RESET CONFLICT" WILL SUPPRESS IT. ("CONFLICT" IS "SET" BY DEFAULT).

D0944 PATCH - BLANKS IN FILE NAMES - 10-20-74

FILE NAMES WITH BLANKS ON "$.FILES", "$.PATCHDECK", "$.DISK", AND "$.DISK $" CARDS ARE NOW RECOGNIZED BY SYSTEM/PATCH. AS A RESULT FILES ON PACK MAY BE SPECIFIED BY SIMPLY PUTTING "ON <PACKNAME>" AFTER THE <FILE NAME>. NO OTHER INPUT IS ALLOWED ON THESE $. CONTROL CARDS.

D1016 PATCH - SINGLE SPACING OUTPUT - 10-27-74

SINGLE SPACING OF OUTPUT IS NOW THE DEFAULT FOR SYSTEM/ PATCH. TO HAVE DOUBLE SPACING THE DEFAULT COMPILE WITH "DOUBLE" SET. IN EITHER CASE "$. SET SINGLE", "$. RESET SINGLE" OR "$. POP SINGLE" WILL OVERIDE THE DEFAULT VALUE.

D1017 PATCH - $. SQUASH OPTION - 10-27-74

D1017 PATCH - $. SQUASH OPTION - 10-27-74

TO SAVE ON OUTPUT A "$. SQUASH" OPTION HAS BEEN IMPLEMENTED WHICH CAN BE "SET", "RESET" OR "POP" ED. IT IS "SET" BY DEFAULT. WHEN "SET" PATCHES ARE SEPARATED BY A LINE OF EQUAL SIGNS. WHEN RESET EACH PATCH BEGINS ON THE NEXT PAGE, AS BEFORE.

PLI

P3857 PLI - TRANSLATE FUNCTION - 07-07-74

TRANSLATE BUILT-IN FUNCTION OF A VARYING STRING WAS CAUSING AN INVALID OP AT RUN-TIME, PARTICULARLY IN THE CASE:

```
TRANSLATE (STRING1, STRING2, STRING3)
```

WHERE STRING1 IS DECLARED CHAR VAR AND STRING2 AND STRING3 ARE CONSTANT STRINGS. THIS PATCH FIXES THE PROBLEM.

P3858 PLI - PLI PROGRAMDUMP - 07-07-74

THIS CHANGE REPRESENTS THE PRELIMINARY COMPILER CHANGES FOR THE PLI DIAGNOSTIC PROGRAMDUMP.

P3859 PLI - EXTERNAL ENTRY VARIABLES - 07-07-74

THIS CHANGE FIXES A PROBLEM WITH BINDING OF EXTERNAL ENTRY VARIABLES.

P3860 PLI - PREPROCESSOR GARBAGE COLLECT. - 07-07-74

THIS PATCH PUTS GARBAGE COLLECTION INTO THE PREPROCESSOR PHASE OF COMPILATION. ANY COMPLETED DATA IN THE PREPROCESSOR STORAGE AREA IS NOW BEING THROWN OUT.

P3861 PLI - DYNAMIC ERROR MESSAGES - 07-07-74

USERS COMPLAINED THAT MANY OF OUR ERROR MESSAGES WERE CRYPTIC AND AT TIMES CONFUSING OR MISLEADING.

THIS PATCH ALLOWS THE COMPILER TO GIVE MUCH MORE DESCRIPTIVE ERROR MESSAGES IN MANY CASES WHERE IT WAS IMPOSSIBLE BEFORE.

SOFTWARE IMPROVEMENTS

P3862 PLI - DOUBLE PRECISION-LABEL FIXES - 07-07-74

THIS CHANGE CORRECTS ERRORS IN COMPILING :

1) A LARGE NUMBER OF LABEL VARIABLES IN A PROGRAM.
2) DOUBLE PRECISION "H" PICTURES.

P3863 PLI - NUMBER AND BIT CONVERSION - 07-07-74

THE CHANGE CORRECTS A PROBLEM WITH CONVERTING BINARY FIXED VARIABLES TO BIT STRINGS, AND CONVERTING BINARY FIXED CONSTANTS IN THE COMPILER SCANNER.

P3864 PLI - COMPILER LOOP WHEN SEG TOO BIG - 07-07-74

THIS PATCH FIXES A PROBLEM WHICH CAUSED THE COMPILER TO LOOP WHEN A PROGRAM SEGMENT EXCEEDED 2000 HEX WORDS. AN ERROR IS NOW BEING GIVEN IF A PROGRAM SEGMENT EXCEEDS 2000 HEX WORDS.

P3866 PLI - ADDR WARNING - 07-07-74

THIS CHANGE OUTPUTS A LEVEL ONE WARNING WHEN AN ADDR FUNCTION IS DONE ON A DATA TYPE WITH PRECEDING CONTROL INFORMATION, I.E., VARYING CHARACTER STRING.

P3867 PLI - COMPILER DEBUGGING - 07-07-74

THIS PATCH ADDS SOME COMPILER DEBUGGING INFORMATION TO THE PLI COMPILER.

P3868 PLI - BIT ARRAY ASSIGNMENTS - 07-07-74

THIS CHANGE CORRECTS PROBLEMS WITH ASSIGNMENTS OF BIT ARRAYS TO BIT ARRAYS.

P3869 PLI - H PICTURES - 07-07-74

THIS CHANGE CORRECTS A PROBLEM WITH MULTIPLE ASSIGNMENTS TO PACKED (H) PICTURES.

P3870 PLI - WRITE FROM (<POINTER>) - 07-07-74

A WRITE STATEMENT WHEN WRITING FROM A POINTER EXPRESSION WAS PRODUCING THE WRONG RESULTS.

THE FOLLOWING TYPE OF WRITE STATEMENT WAS PRODUCING WRONG OUTPUT :

WRITE FILE (<FILE ID>) FROM (<POINTER ID> <STRUCTURE ID>);

THIS PATCH FIXES THE PROBLEM.

P3872 PLI - DOUBLE PICTURES - 07-07-74

THIS CHANGE CORRECTS A PROBLEM WITH DOUBLE PRECISION PICTURES, WHOSE PRECISION IS TWELVE.

P3873 PLI - BIT PROBLEMS - 07-07-74

THIS CHANGE CORRECTS ASSORTED PROBLEMS WITH SHORT BIT STRINGS (LENGTH LESS THAN 48.)

P3874 PLI - INITIALIZE TASKVALUE, FILEKIND - 07-07-74

MYSELF. TASKVALUE IS NOW BEING INITIALIZED TO 0 AT THE BEGINNING OF EVERY COMPILE. ALSO, CODE FILEKIND IS BEING UNCONDITIONALLY ASSIGNED PLICODE.

P3875 PLI - CALL ON A BOUND PROCEDURE - 07-07-74

DOING A CALL ON A BOUND PROCEDURE WAS CAUSING AN INVALID OP.

IF A PROCEDURE WITHOUT PARAMETERS IS BOUND INTO A HOST PROCEDURE, A CALL <PROC ID>; WAS CAUSING AN INVALID OP. HOWEVER, A
CALL <PROC ID> ( ); RAN CORRECTLY. NOW,
CALL <PROC ID>; IS EQUIVALENT TO CALL <PROC ID> ( );.

P3876 PLI - SIMPLE-OVERLAY DEFINING - 07-07-74

THIS CHANGE CORRECTS A PROBLEM WITH THE DEFINED ATTRIBUTE, WHERE NON-MATCHING STRUCTURES WERE CONSIDERED AS SIMPLE DEFINES RATHER

THAN OVERLAY DEFINES.

P3877 PLI - DOUBLE PICTURES - 07-07-74

THIS CHANGE CORRECTS AN INVALID OP PROBLEM WHEN ACCESSING CERTAIN "H" PICTURES.

P3878 PLI - ERROR ANALYSIS - 07-07-74

THIS CHANGE CORRECTS A SEGMENTED ARRAY INTERRUPT DURING THE PROCESS OF OUTPUTTING AN ERROR MESSAGE.

P3879 PLI - OPTIMIZATION - 07-07-74

THIS CHANGE OPTIMIZES CODE EMITTED FOR BAD-GO-TOS, I.E., GO-TOS OUT OF THE CURRENT BLOCK.

P3880 PLI - SHORT BIT STRINGS - 07-07-74

THIS CHANGE CORRECTS VARIOUS PROBLEMS WITH THE MANIPULATION OF SHORT BIT STRINGS WHOSE LENGTH IS LESS THAN 8.

P3881 PLI - PICTURE VARIABLE SPEEDUP - 07-07-74

THIS PATCH REDUCES THE AMOUNT OF CODE EMITTED WHEN HANDLING SINGLE PRECISION H-PICTURES WITH A TRAILING SIGN, AND WHEN BUILDING 4-BIT DESCRIPTORS FOR H-PICTURES.

P3882 PLI - OPTION FOR PLI COMPILE - 07-07-74

THIS PATCH IMPLEMENTS A COMPILETIME OPTION WHICH WHEN SET CAUSES CERTAIN RANGE CHECKING CODE SEQUENCES AND INTRINSIC CALLS TO BE ELIMINATED GIVING AN OVERALL RUN-TIME SPEEDUP. HOWEVER, THIS OPTION SHOULD NOT BE USED UNLESS THE NATURE OF EVERY PROGRAM COMPILED IS KNOWN. OTHERWISE, UNEXPECTED RESULTS MAY OCCUR.

P3883 PLI - ROUND OF PICTURE ITEM - 07-07-74

THIS PATCH FIXES A PROBLEM IN ROUND OF A PICTURE ITEM.

SOFTWARE IMPROVEMENTS

P3884 PLI - FUNCTION CEIL INCORRECT - 07-07-74

THIS PATCH FIXES PROBLEMS WITH CEIL, FLOOR, AND SIGN BUILTIN FUNCTIONS.

P3885 PLI - VARIABLE DECLARATION - 07-07-74

THIS PATCH FIXES THE PROBLEM OF THE COMPILER GETTING AN INVALID INDEX WHEN COMPILING DECLARATIONS OF CONTROLLED VARIABLES.

P3886 PLI - TIME BIF RETURNS 0 MIN 60 SEC - 07-07-74

THE TIME BIF NOW RETURNS THE CORRECT FORM FOR THE TIME.

P4358 PLI - DUMP STATEMENT - 07-07-74

A DUMP STATEMENT WITH MORE THAN ONE OPTION LISTED IS NO LONGER ERRONEOUSLY SYNTAXED.

EXAMPLE: DUMP (CODE ARRAYS);

P4359 PLI - PACKNAME ATTRIBUTE ERROR - 07-07-74

IF PACKNAME=<NAME> IS USED IN THE OPTIONS PART OF A FILE DECLARATION OR AN OPEN STATEMENT AND THE <NAME> WAS NOT FOLLOWED BY A PERIOD, THE PACKNAME WAS NOT BEING HANDLED CORRECTLY. OPTIONS (PACKNAME="MYPACK.") IS NOW EQUIVALENT TO OPTIONS(PACKNAME="MYPACK").

NOTE: PLEASE OBSERVE THAT DOUBLE QUOTES ARE EQUIVALENT TO SINGLE QUOTES.

P4361 PLI - MISSING QUOTE - 07-07-74

AN INVALID INDEX NO LONGER OCCURS DURING COMPILATION IF A QUOTE IS MISSING IN AN ENVIRONMENT STATEMENT.

SOFTWARE IMPROVEMENTS

P4802 PLI - F FORMAT IN GET EDIT STATEMENT - 10-20-74

A GET EDIT STATEMENT USING AN F FORMAT IN THE EDIT PHRASES WAS RAISING AN ERROR CONDITION IN THE STRING CASE. THIS PATCH FIXES THE PROBLEM.

P4840 PLI - ERROR IN EXPRESSION HANDLING - 10-27-74

THIS PATCH FIXES THE ERROR WHERE A CONSTANT FOLLOWING A LEFT PARENTHESIS AND NOT FOLLOWED BY A RIGHT PARENTHESIS MAY CAUSE A PHONY SYNTAX ERROR.

P4841 PLI - FIELD WIDTH IN A-FORMAT - 10-27-74

THIS PATCH REPAIRS AN ERROR MADE LONG AGO WHICH BYPASSED THE SYNTAX ERROR GIVEN WHEN AN A-FORMAT ON A GET EDIT STATEMENT WAS MISSING THE FIELD WIDTH.

P4842 PLI - GENERIC FIX - 11-03-74

A NEGATIVE CONSTANT USED AS A PARAMETER TO AN ENTRY NAME WITH THE GENERIC ATTRIBUTE WAS NOT BEING HANDLED CORRECTLY.

```
EX.         DCL A  GENERIC (A1 WHEN (FIXED DEC), A2 WHEN ());
            DCL A1 ENTRY (FIXED DEC (11,6)) EXTERNAL;
(1)         CALL A (100);
(2)         CALL A (-100);
```

LINE (1) WOULD MATCH A1 CORRECTLY, BUT LINE (2) WOULD INCORRECTLY BE A PARAMETER MISMATCH. THIS PATCH CORRECTS THE PROBLEM.

P4959 PLI - PREFIX LABEL LOOP - 07-07-74

THIS PATCH FIXES THE PREFIX LABEL LOOP PROBLEM WHICH WAS CAUSING A SUPERHALT TO OCCUR.

P4960 PLI - COMPILER LOOPING - 11-10-74

THE PLI COMPILER WAS GETTING INTO A LOOP WHEN COMPILING A STATEMENT IN WHICH A READ-ONLY FILE ATTRIBUTE WAS BEING SET, IN PARTICULAR,

THE DATE FUNCTION. THIS PATCH FIXES THE PROBLEM.

P4961 PLI - ASSIGN 0 IO PIC "$$$,$$$.99" - 11-10-74

THIS PATCH FIXES THE PROBLEM WHERE ONE COULD NOT ASSIGN ZERO TO PIC "$$$,99" IF IT HAD BEEN GIVEN AN INITIAL VALUE OF ZERO.

P4962 PLI - FORMMESSAGE BLOWS ADM - 11-17-74

IF THE PERIOD TERMINATING A FORMMESSAGE WAS OMITTED, THE CONTROLLER INSERTED AN ETX WHICH FAILED IN THE ADM. THIS HAS BEEN FIXED.

P4963 PLI - BAD DIAGNOSTIC FOR KEYFROM - 11-17-74

SYNTAX WAS LOOSENED TO ALLOW KEYFROM AS WELL AS KEY IN REWRITE STATEMENT AND KEY AS WELL AS KEYFROM IN WRITE STATEMENT, THUS AVOIDING UNNECESSARY CONFUSION.

P4964 PLI - FREE IN (AREA) SYNTAX ERROR - 11-23-74

THE COMPILER WAS ERRONEOUSLY GIVING A SYNTAX ERROR FOR THE STATEMENT TYPE:

```
      FREE <POINTERVARIABLE> IN (<AREAVARIABLE>);
```

THIS PATCH FIXES THE PROBLEM. THE STATEMENT IS NOW COMPILED CORRECTLY.

P4965 PLI - PREPROCESSOR IF TEST - 11-23-74

THE PREPROCESSOR IF CLAUSE WAS BEING EVALUED INCORRECTLY IN THE CASE:

```
          %  DCL        C CHAR;
          %  C =        "1";
    (1)   %  IF         C  % THEN;
    (2)   %  IF  NOT    C  % THEN;
```

IN STATEMENT (1), C WAS ERRONEOUSLY BEING EVALUATED TO FALSE, AND IN STATEMENT (2), C WAS ERRONEOUSLY EVALUATED TO TRUE. THIS PATCH NOW FIXES THE PROBLEM. C IS NOW EVALUATING TO TRUE, AS SHOULD BE EXPECTED, IN STATEMENT (1).

SOFTWARE IMPROVEMENTS

P5078 PLI - BASED STRUCTURES - 11-23-74

A BASED STRUCTURE WITH ONE OR MORE MEMBERS DECLARED BIT WAS NOT BEING HANDLED CORRECTLY. FOR EXAMPLE:

```
DCL 1 A BASED(P)
      2 C POINTER, INIT(NULL()),
      2 B BIT(1) INIT("1"B);
```

WHEN A WAS ALLOCATED, THE WRONG POINTER WAS BEING RETURNED AFTER THE ALLOCATION. THIS PATCH FIXES THE PROBLEM.

NOTE: PLEASE OBSERVE THAT DOUBLE QUOTES ARE EQUIVALENT TO SINGLE QUOTES.

P5079 PLI - LINECNT FOR MULTIPLE COMPILES - 11-23-74

IF "MULTIPLE" IS SET AND "LINECNT" HAS BEEN SET, THE VALUE GIVEN LINECNT WAS NOT BEING CARRIED OVER THROUGH ALL THE SEPARATELY COMPILED PROCEDURES. THIS PATCH FIXES THE PROBLEM.

P5080 PLI - CONTROLCARD - 11-23-74

THE CONTROLCARD ERROR WHICH WOULD NOT ALLOW ONE TO SPECIFY 80 COLUMNS OF TEXT AND NO SEQUENCE HAS BEEN FIXED. NOW ONE MAY SAY:
$ SET CARDCOL TEXT = 1 FOR 80.

P5081 PLI - COLON IN 48-CHAR SET - 11-23-74

WHEN "SIXTY" WAS RESET, A SUPERFLUOUS SYNTAX ERROR WAS GIVEN ON A COLON (:).

P5082 PLI - COMPLEX ATTRIBUTE - 11-23-74

THE COMPLEX ATTRIBUTE WHICH IS NOT IMPLEMENTED YET, WAS NOT BEING FLAGGED AS AN ERROR AND WAS CAUSING BAD CODE TO BE EMITTED. THIS PATCH NOW CAUSES A SYNTAX ERROR TO BE GIVEN IF AN IDENTIFIER WITH THE COMPLEX ATTRIBUTE IS REFERENCED.

SOFTWARE IMPROVEMENTS

P5083 PLI - NEGATIVE CONSTANT EXPONENTS - 11-23-74

THIS PATCH CORRECTS AN OMISSION WHICH ALLOWED NEGATIVE CONSTANT EXPONENTS TO PASS WITH NO CODE EMITTED.

P5084 PLI - INVALID INDEX WITH FLEVEL SET - 11-23-74

IN CERTAIN CASES, THE SETTING OF THE FLEVEL OPTION MAY HAVE CAUSED AN INVALID INDEX DURING A COMPILE. THIS NO LONGER OCCUR.

P5085 PLI - PUT LIST ROUNDING - 11-23-74

ROUNDING WAS BEING HANDLED INCORRECTLY IN PICDECFLOAT CAUSING INCORRECT RESULTS IN PUT LIST OF CERTAIN DECIMAL FLOAT ITEMS.

P5086 PLI - COMBINATION OF ATTRIBUTES - 11-23-74

THIS PATCH FIXES AN ERROR WHICH ALLOWED OVERLAY DEFINING ON A VARYING CHARACTER STRING.

P5101 PLI - II.7 COPYRIGHT - 11-23-74

THIS UPDATES THE COPYRIGHT FOR THE II.7 RELEASE.

PLI

D0816 PLI - SORT-DEFAULT TAPES TO 0 - 07-07-74

THIS PATCH DEFAULTS THE NUMBER OF TAPES TO 0 IN A SORT STATEMENT.

D0817 PLI - BINARY PICTURE IMPLEMENTATION - 07-07-74

THIS PATCH IMPLEMENTS THE BINARY PICTURE DATA TYPE.
THE FORMAT FOR THE BINARY PICTURE IS:

```
DCL P PIC "111";
```

ALL PICTURE "1" DATA TYPES WITH PRECISION OF 15 OR LESS ARE ALLOCATED 16 BITS, AND PICTURE "1" TYPES WITH PRECISION BETWEEN 15 AND 31 ARE ALLOCATED 32 BITS. THE USAGE OF BINARY PICTURES IS EQUIVALENT TO BINARY FIXED, OTHERWISE.

NOTE: PLEASE OBSERVE THAT DOUBLE QUOTES ARE EQUIVALENT TO SINGLE QUOTES.

D0818 PLI - XREF FORMAT CHANGE - 07-07-74

THE FIRST LINE OF EACH XREF ENTRY NOW HAS THE FORMAT:

⟨identifier name⟩ ⟨type⟩ AT LEX LEVEL ⟨n⟩ DECLARED AT ⟨statement no: card no.⟩
⟨qualified name (if structure)⟩

D0319 PLI - COMPILER OPTION - PROGRAMDUMP - 07-07-74

D0819 PLI - COMPILER OPTION - PROGRAMDUMP - 07-07-74

FOR THE INITIAL IMPLEMENTATION OF THE PL/I PROGRAMDUMP, IT WILL BE NECESSARY TO SET THE COMPILER OPTION "DUMP" IN ORDER TO GET CODE GENERATED FOR THE PL/I PROGRAMDUMP. "DUMP" IS RESET BY DEFAULT. UNTIL THE FINAL IMPLEMENTATION OF THE PL/I PROGRAMDUMP, CAUTION MUST BE TAKEN IF "DUMP" IS SET, UNEXPECTED RESULTS MAY OCCUR.

D0820 PLI - PARAMETERS TO MAIN PROCEDURE - 07-07-74

PREVIOUSLY, A PL-I PROGRAM WHOSE MAIN PROCEDURE, I.E., THE OUTERMOST PROCEDURE, HAD PARAMETERS, COULD ONLY BE EXECUTED WHEN BOUND TO A HOST PROCEDURE. THIS PATCH ALLOWS MAIN PROCEDURES WITH PARAMETERS OF TYPES CHARACTER VARYING AND/OR DECIMAL FIXED TO BE EXECUTED WITHOUT BEING BOUND IN. IF A PARAMETER IS OF TYPE CHARACTER VARYING, THE MAXIMUM LENGTH OF THE CHARACTER STRING MUST BE SPECIFIED. ALSO, ANY NUMBER OF PARAMETERS ARE ALLOWED. ANY PROCEDURE WITH PARAMETERS OTHER THAN CHARACTER VARYING AND/OR DECIMAL FIXED MUST STILL BE BOUND TO A HOST PROCEDURE IN ORDER TO BE EXECUTED.

EXAMPLE:

```
PARAM:  PROC(CH,DF);
   DCL  CH  CHAR(50) VAR,
        DF  DEC FIXED (5,0);
    .
    .
    .
END PARAM;
```

THE FOLLOWING WFL DECK WILL COMPILE AND RUN PROCEDURE PARAM PROPERLY:

```
?COMPILE MAIN/PROG WITH PL/I LIBRARY
?DATA
PARAM:PROC(CH,DF);
```

D0820 PLI - PARAMETERS TO MAIN PROCEDURE - 07-07-74

```
 .
 .
 .
 END PARAM;
?RUN MAIN/PROG ("THIS IS THE MAIN PROCEDURE",500)
?END.
```

D0821 PLI - PREPROCESSOR PUT DATA STMT - 07-07-74

A PUT DATA STATEMENT HAS BEEN ADDED TO THE COMPILE-TIME FACILITIES OF PL/I.

SYNTAX:

```
<COMPILE-TIME PUT STATEMENT>::= % PUT DATA <IDENTIFIER LIST>;
<IDENTIFIER LIST>::= <EMPTY>/(<IDENTIFIER>,<IDENTIFIER>,...)
```

SEMANTICS:

IF THE <IDENTIFIER LIST> IS <EMPTY>, THE VALUES OF ALL ACTIVE IDENTIFIERS WILL BE PRINTED OUT AT COMPILE-TIME. OTHERWISE, ONLY THE VALUE OF EACH IDENTIFIER IN THE <IDENTIFIER LIST> WILL BE PRINTED OUT.

EXAMPLE:

```
PUT:  PROC;
   % DCL (C,C1) CHAR; D FIXED;
   % C = "ABC";
   % D = 15;
1) % PUT DATA(C);
2) % PUT DATA;
   .
   .
   .
END PUT;
```

STATEMENT (1) WILL OUTPUT C = "ABC".

D0821 PLI - PREPROCESSOR PUT DATA STMT - 07-07-74

STATEMENT (2) WILL OUTPUT C = "ABC", C1 = " ", D = 15.

NOTE: PLEASE OBSERVE THAT DOUBLE QUOTES ARE EQUIVALENT TO SINGLE QUOTES.

D0822 PLI - SORT-PACKSIZE, OPTIMIZATION - 07-07-74

THE <MEMORY OPTION> OF A SORT STATEMENT HAS BEEN MODIFIED AS FOLLOWS TO ALLOW A DISKPACK SORT.

```
<MEMORY OPTION>::= ENVIRONMENT (TAPES =<CONSTANT EXPRESSION>,
                                CORESIZE=<CONSTANT EXPRESSION>,
                                DISKSIZE=<CONSTANT EXPRESSION>,
                                PACKSIZE=<CONSTANT EXPRESSION>)
```

THE OPTIONS MAY APPEAR IN ANY ORDER, AND ANY OF THE OPTIONS MAY BE DELETED. IF PACKSIZE IS STATED, THEN THE SORT WILL BE RUN ON DISKPACK RATHER THAN DISK. THEREFORE, PACKSIZE AND DISKSIZE MAY NOT APPEAR IN THE SAME SORT STATEMENT. IF NEITHER PACKSIZE NOR DISKSIZE APPEARS IN THE <MEMORY OPTION>, DISKSIZE = 600000 IS ASSUMED.

D0823 PLI - OPTIONS (WORDPOINTER) - 07-07-74

THIS PATCH ADDS A NEW OPTION TO A BASED VARIABLE.

SYNTAX:

```
DCL  <IDENTIFIER> BASED (<POINTER IDENTIFIER>)
[OPTIONS (WORDPOINTER)];
```

IF OPTIONS(WORDPOINTER) IS STATED, THE VALUE OF THE POINTER WILL ALWAYS BE IN UNITS OF WORDS.

EXAMPLE:

```
DCL  1 S1 BASED(P)  OPTIONS(WORDPOINTER),
         2 C1 CHAR(10),
         2 C2 CHAR(5);
```

D0823 PLI - OPTIONS (WORDPOINTER) - 07-07-74

```
DCL 1 S2,
        2 C1 CHAR(10),
        2 C2 CHAR(5);
P = ADDR(52);
```

CAUTION: P SHOULD ALWAYS BE ASSIGNED TO AN ADDR OF A VARIABLE THAT IS STORED INTERNALLY ON A WORD BOUNDARY; OTHERWISE, UNEXPECTED RESULTS MAY OCCUR. FOR EXAMPLE, P = ADDR(S2.C2); WOULD CAUSE UNEXPECTED RESULTS AND SHOULD NOT BE STATED.

D0827 PLI - PREPROCESSOR INITIAL ATTRIBUTE - 07-07-74

THE <ATTRIBUTE LIST> OF A <COMPILE-TIME DECLARE STATEMENT> HAS BEEN MODIFIED TO ALLOW THE INITIAL ATTRIBUTE.

<ATTRIBUTE LIST>::= CHARACTER/FIXED/ENTRY/<INITIAL ATTRIBUTE>
<INITIAL ATTRIBUTE>::= INITIAL(<ITEM>)
<ITEM>::=<CONSTANT>

EXAMPLE:

```
% DCL CH CHAR INIT("ABC"),
      DF FIXED INIT(50);
```

CH WILL BE INITIALIZED TO "ABC" AND DF INITIALIZED TO 50 AT COMPILE-TIME.

NOTE: PLEASE OBSERVE THAT DOUBLE QUOTES ARE EQUIVALENT TO SINGLE QUOTES.

D1062 PLI - DATA MANAGEMENT INTERFACE - 07-07-74

THIS PATCH INTERFACES DMSII WITH PL/I. A FULL EXPLANATION OF THE USE OF DMSII IN PL/I MAY BE FOUND IN THE DMSII HOST LANGUAGE INTERFACE MANUAL.

D1063 PLI - MYJOB TASK IMPLEMENTATION - 10-20-74

D1063 PLI - MYJOB TASK IMPLEMENTATION - 10-20-74

THIS PATCH ADDS THE TASK MYJOB TO PL/I. IN ORDER TO USE THE MYJOB TASK, MYJOB MUST BE DECLARED BUILTIN (AS WITH MYSELF). EXAMPLE:

```
P:PROC;
    DCL MYJOB BUILTIN;
    IF RESTARTED(MYJOB) THEN CALL RECOVER;
    .
    .
    .
END P;
```

D1080 PLI - CONTROLCARD - 12-11-74

AN OPTION CONTROL CARD IS IDENTIFIED BY THE APPEARANCE OF A CONTROL SPECIFICATION SURROUNDED BY DOUBLE QUOTES. IF THE FIRST DOUBLE QUOTE APPEARS IN COLUMN 1 OR COLUMN 2, THE CONTROL SPECIFICATION IS EVALUATED BEFORE THE CARD IMAGE IS WRITTEN OUT TO THE LIST1 OUTPUT FILE. IF THE FIRST DOUBLE QUOTE APPEARS IN ANY COLUMN OTHER THAN THE FIRST, THE CONTROL STATEMENT MAY BE WRITTEN TO THE NEWTAPE1 FILE.

D1081 PLI - UNSPEC BUILT-IN FUNCTION - 12-11-74

PAGE A1-12 OF THE PL/I LANGUAGE INFORMATION MANUAL CONCERNING THE "RESULT" PARAGRAPH OF THE UNSPEC BUILT-IN FUNCTION SHOULD BE AMENDED WITH THE FOLLOWING:

RESULT: THE VALUE RETURNED BY THIS FUNCTION IS THE INTERNAL CODED REPRESENTATION OF THE ARGUMENT, X. THIS REPRESENTATION IS IN BIT STRING FORM. THE LENGTH OF THIS STRING DEPENDS UPON THE ATTRIBUTES OF X. IF X IS A VARYING- LENGTH STRING, THE ONE WORD PREFIX, I.E. THE WORD CONTAINING THE PRESENT LENGTH OF THE STRING, IS INCLUDED IN THE RETURNED BIT STRING. ALSO, FOR X A VARYING-LENGTH STRING, THE LENGTH OF THE BIT STRING RETURNED (IN NUMBER OF BITS) IS THE MAXIMUM LENGTH OF THE VARYING LENGTH STRING + 48 (THE WORD PREFIX).

THE FOLLOWING TABLE GIVES THE LENGTH OF THE STRING RETURNED GIVEN THE ATTRIBUTES OF X.

bit string length	attributes of x
48 (single precision)	FIXED BINARY (p,q) where p <39 FLOAT BINARY (p,q) where p <39 FIXED DECIMAL (p,q) where p <12 FLOAT DECIMAL (p,q) where p <12
96 (double precision)	FIXED BINARY (p,q) where p >38 FLOAT BINARY (p,q) where p >38 FIXED DECIMAL (p,q) where p >11 FLOAT DECIMAL (p,q) where p >11
n	BIT (n)
n + 48	BIT VARYING where n is the maximum length of X
8 * n	CHARACTER (n) PICTURE (with character-string length of n)
(8 * n) + 48	CHARACTER VARYING where n is the maximum length of X

D1087 PLI - INDEPENDANT TASK - 10-20-74

THE CALL STATEMENT HAS BEEN EXTENDED TO ALLOW THE USER TO INITIATE AN INDEPENDANT TASK FROM WITHIN A PL/I PROGRAM. THE PL/I LANGUAGE REFERENCE MANUAL SHOULD BE AMENDED AS FOLLOWS:

SYNTAX:

```
⟨call-statement⟩ ::= CALL ⟨entry-name⟩ [(⟨argument⟩ [,⟨argument⟩]...)]
                     [TASK (⟨scalar-task-name⟩)]
                     [OPTIONS (INDEPENDENT)]
                     [EVENT (⟨scalar-event-name⟩)]
                     [PRIORITY (⟨scalar-expression⟩)];
```

SEMANTICS

THE TASK, OPTIONS, EVENT, AND PRIORITY OPTIONS CAN APPEAR IN ANY ORDER. NOTE: THE EVENT AND PRIORITY OPTIONS ARE AS YET NOT IMPLEMENTED, AND THE TASK AND OPTION OPTIONS ONLY HAVE MEANING FOR AN INDEPENDANT CALL. IN ORDER TO INITIATE AN INDEPENDANT TASK, THE FOLLOWING FORM OF THE CALL STATEMENT IS NECESSARY:

```
CALL ⟨entry-name⟩ [(⟨argument list⟩)] TASK (⟨scalar-task-name⟩)
     OPTIONS (INDEPENDENT);
```

THE <ENTRY-NAME> SHOULD BE AN EXTERNAL ENTRY.

EXAMPLE:

```
P:  PROC;
    DCL T TASK;
    DCL EXTERN ENTRY(FIXED,FIXED) EXTERNAL;
```

D1087 PLI - INDEPENDANT TASK - 10-20-74

```
    DCL (A,B) DEC FIXED;
    A = 1;
    B = 2;
    CALL EXTERN(A,B) TASK(T) OPTIONS (INDEPENDANT);
END P;
```

THE EXTERNAL ENTRY EXTERN WILL BE INITIATED AS AN INDEPENDANT TASK, AND P WILL GO TO END OF TASK.

D1098 PLI - COMPILER CONTROL CARDS - 07-07-74

THE SYNTAX AND SEMANTICS FOR COMPILER CONTROL CARDS IN APPENDIX 6 OF THE PLI LANGUAGE REFERENCE MANUAL SHOULD REFLECT THE FOLLOWING CHANGES:

SYNTAX:

⟨control statement⟩ ::= "⟨control specification⟩" | $ ⟨control specification⟩
⟨parameter part⟩ ::= ⟨empty⟩ | (⟨parameter list⟩) | ⟨parameter list⟩
⟨value option⟩ ::= ⟨title option⟩ | ⟨optimization option⟩ | ⟨error level option⟩ |
⟨syntax level option⟩ | ⟨error limit option⟩
⟨error limit option⟩ ::= LIMIT {=} ⟨unsigned integer⟩
⟨Boolean option⟩ ::= {add to list on page A6-1 of PL/I Language Reference Manual}
LISTP|CHECK

SEMANTICS:

FOR THE $ CONTROL CARDS, THE $ MUST APPEAR IN COLUMNS 1 OR 2, AND THE ENTIRE TEXT OF THE CONTROL CARD

MUST BE CONTAINED ON ONE CARD. FOR ONLY $ CONTROL CARDS THE PARENTHESES ARE NO LONGER REQUIRED IN THE PARAMETER PART OF THE <PARAMETER OPTION> SEQ1, SEQ2, AND SEQ, E.G., $ SET SEQ 1000+100 IS EQUIVALENT TO "SET SEQ(1000+100)". ALSO, THE DEFAULT <SEQUENCE BASE> AND <SEQUENCE INCREMENT> ARE NOW BOTH 1000, I.E., $ SET SEQ IS EQUIVALENT TO $ SET SEQ 1000+1000.

THE <ERROR LIMIT OPTION> ALLOWS THE USER TO CONTROL COMPILER ERROR TERMINATION. COMPILATION WILL BE TERMINATED IF THE NUMBER OF ERRORS EQUALS OR EXCEEDS THE LIMIT. THE DEFAULT <ERROR LIMIT OPTION> IS LIMIT=100.

WHEN SET, THE <BOOLEAN OPTION> LISTP CAUSES PATCHES TO BE INCLUDED IN THE OUTPUT LISTING ON LIST1 WHILE RECORDS FROM THE TAPE FILE ARE NOT LISTED. HOWEVER, IF LIST1 AND LISTP ARE BOTH SET, THE STATE OF LISTP IS IGNORED AS THE PATCHES ARE AUTOMATICALLY LISTED IN THE NORMAL MANNER WITH AN INDICATION AS TO WHICH SOURCE IMAGES ARE ACTUALLY PART OF THE PATCH. LISTP IS RESET BY DEFAULT.

WHEN SET, THE <BOOLEAN OPTION> CHECK CAUSES THE INPUT TO BE SEQUENCE-CHECKED AND SEQUENCE ERRORS LISTED ON THE OUTPUT LISTING. CHECK IS RESET BY DEFAULT.

NEW PL/I COMPILER CONTROL CARD:

IN ORDER TO USE THE $ CONTROL CARD FEATURE, SYSTEM/PL/I, THE COMPILER ITSELF, MUST BE COMPILED WITH THE OPTION "NEWCONTROLCARD" SET. OTHERWISE, ONLY " CONTROL CARDS WILL BE ALLOWED.

PLI INTRINSICS

P4357 PLINTRN - ERROR CONDITION ON INTRINSICS - 07-07-74

THIS PATCH ADDS ADDITIONAL TEXT TO THE CONDITION HANDLER ERROR MESSAGES WHEN THE ERROR CONDITION IS RAISED FOR MATH INTRINSIC ERRORS.

P4362 PLINTRN - GET LIST - 07-07-74

BLANK LIST ITEMS IN A GET LIST ARE NOW HANDLED CORRECTLY.

P4363 PLINTRN - FIELD WIDTHS - 07-07-74

A RUN-TIME ERROR IS NOW GIVEN WHEN A FIELD-WIDTH IS NOT PRESENT OR IS ZERO ON AN A OR B FORMAT ON INPUT.

P4364 PLINTRN - MATH INTRINSIC - 07-07-74

AN ONCODE OF 701 IS NOW GIVEN ON A MATHERROR.

P4365 PLINTRN - EDITED OUTPUT FIELD TRUNCATION - 07-07-74

A SIZE CONDITION IS NOW RAISED WHEN AN E-FORMAT FIELD WIDTH IS TOO SMALL.

P4366 PLINTRN - EDIT OF BIT-STRING - 07-07-74

THIS PATCH FIXES A PROBLEM WITH EDIT DIRECTED I-O ON BIT STRINGS.

P4367 PLINTRN - ISAM REWRITE UPDATE - 07-07-74

ISREWRITE NO LONGER FAILS TO UPDATE RECORDS IN SOME CASES.

P4458 PLINTRN - GET STRING LIST - 10-15-74

ENDFILE CONDITION NO LONGER OCCURS WHEN THE OPTION GET LIST WITH STRING IS USED.

SOFTWARE IMPROVEMENTS

P4843 PLINTRN - FAULT IN ISOPEN - 10-15-74

THIS PATCH FIXES THE PROBLEM WHERE AN INVALID OP OCCURRED WHEN ATTEMPTING TO OPEN A FILE WHICH WAS ALREADY OPEN.

P4844 PLINTRN - GET STRING ERROR CONDITION - 10-15-74

GET STRING ( ) DATA ( ) NOW RAISES ERROR CONDITION RATHER THAN NAME CONDITION ON INVALID LIST ITEM.

P4845 PLINTRN - MISSING STATEMENT NUMBER - 10-27-74

THIS PATCH EXTENDS THE SEARCH ON THE STACKHISTORY ARRAY FROM 116 TO 224 CHARACTERS, IN ORDER TO FIND THE STATEMENT NUMBER WHERE AN ERROR OCCURRED.

P4846 PLINTRN - PUT EDIT B FORMAT - 11-03-74

A BIT STRING STARTING AT BIT 48 WAS NOT BEING HANDLED CORRECTLY IN A PUT EDIT STATEMENT USING THE A OR B FORMAT. THIS PATCH FIXES THE PROBLEM.

P4847 PLINTRN - RESTARTED TASK ATTRIBUTE - 11-03-74

THIS PATCH ADDS RESTARTED TASK ATTRIBUTE TO PLI INTRINSICS ATTRIBSEARCH.

P4966 PLINTRN - TRANSLATE BIF - 03-28-74

THE TRANSLATE BUILT-IN FUNCTION WAS NOT WORKING CORRECTLY BECAUSE THE TRANSLATE TABLE WAS BUILT INCORRECTLY. THIS PATCH FIXES THE PROBLEM.

P4967 PLINTRN - INVALID OP ON PICTURE FORMAT - 04-18-74

THIS PATCH FIXES THE PROBLEM WHERE AN INVALID OP OCCURRED WHEN A DOUBLE VALUE WAS RETURNED FROM PLIPICDEEDITOR UNEXPECTEDLY ON A GET EDIT WITH A PICTURE FORMAT.

P4968 PLINTRN - ISAM IORESULT WORD - 07-07-74

THIS PATCH FIXES THE RESULT WORD FOR SOME ISAM HARDWARE ERRORS.

P4969 PLINTRN - ISAM OPTIMIZATION - 07-07-74

THIS PATCH FIXES ISAM BUGS AND IN GENERAL SPEEDS UP ISAM ROUTINES.

P4970 PLINTRN - ISAM ERRONEOUS ERRORS - 07-07-74

THE ISAM RESULT WORD WAS FLAGGING SOME ERRONEOUS ERRORS.

P4971 PLINTRN - ISAM INVALID INDEX ON DELETE - 07-07-74

THIS PATCH FIXES INVALID INDEX IN THE ISAM ROUTINES IF THE FIRST RECORD OF THE FILE WAS DELETED.

P4972 PLINTRN - ISAM READ - 07-07-74

THIS PATCH FIXES AN ISAM READ PROBLEM WHERE POINTERS WERE SET INCORRECTLY.

P4973 PLINTRN - ISKEYWRITE RETURNS TRUE ALWAYS - 07-07-74

ISAM ISKEYWRITE RETURNED TRUE IN ALL CASES. TRUE IS NOW ONLY RETURNED ON AN ERROR.

P4974 PLINTRN - BIT STRING - 07-07-74

THIS PATCH FIXES MISHANDLING OF "OR"ING TWO SHORT BIT STRINGS.

P4975 PLINTRN - PICTURE DE-EDITTING - 07-07-74

THIS PATCH FIXES MISCELLANEOUS PICTURE DE-EDITTING PROBLEMS.

P4976 PLINTRN - ON CHAR, ONSOURCE - 07-07-74

THIS PATCH FIXES PROBLEMS WITH TANKTOP WHICH MADE IT IMPOSSIBLE TO USE STREAM I/O TO OUTPUT ONCHAR, ONSOURCE ETC IN AN ON-UNIT.

SOFTWARE IMPROVEMENTS

P4977 PLINTRN - ISAM DELETE - 07-07-74

THIS PATCH CORRECTS AN ISAM PROBLEM WITH THE DELETE STATEMENT.

P4979 PLINTRN - GET LIST - 08-04-74

THIS PATCH FIXES AN EOF PROBLEM WITH GET LIST.

P4982 PLINTRN - PUT EDIT OF BIT STRINGS - 10-20-74

THIS PATCH FIXES FAULT IN PUT EDIT OF LONG BIT STRINGS.

P4987 PLINTRN - PUNCHLIMIT AND PRINTLIMIT - 11-10-74

THIS PATCH CORRECTS PUNCHLIMIT AND PRINTLIMIT SO THAT THE BUFFER IS NOT FLUSHED IF EITHER EXCEEDS THEIR LIMIT.

P4988 PLINTRN - ISAM - 11-23-74

THIS PATCH FIXES A PROBLEM WHERE A KEYED I/O WAS ALLOWED ON A NON-KEYED FILE RESULTING IN AN INVALID OP AND A PROBLEM WHERE THE KEYFROM KEY COULD DIFFER FROM THE RECORD KEY ON A WRITE AND THEN MAKE THE RECORD IRRETRIEVABLE.

P4989 PLINTRN - ISAM DELETE - 11-23-74

DELETE WAS NOT ALLOWING FOR DELETION OF RECORD WITH KEYTYPE = 4 BIT. THIS IS NOW ALLOWED.

P4999 PLINTRN - I-O RECORD SIZE - 11-23-74

THE SPACE ALLOTTED IN THE BUFFER FOR THE I/O RECORD SIZE WAS NOT LARGE ENOUGH IN ALL CASES. THIS PATCH INCREASES THE SPACE TO A FULL WORD.

P5004 PLINTRN - GLOBAL FILES - 11-23-74

IF A GLOBAL FILE DECLARED THROUGH WFL WAS EQUATED TO A PL/I FILE DECLARED IN A PL/I PROCEDURE, AN INVALID OP WOULD OCCUR WHEN THE

FILE WAS BEING CLOSED. THIS PATCH FIXES THE PROBLEM.

PLI INTRINSICS

D0945 PLINTRN - GET LIST - 10-15-74

THIS PATCH FIXES A PROBLEM WHERE GET LIST OF SEVERAL ITEMS DID NOT WORK CORRECTLY IF THEY WERE SEPARATED BY COMMAS. WE MUST CAUTION THE USER THAT THE DATA IN THE TEST CASE WAS TERMINATED BY A SEMICOLON WHICH IS NOT A LEGAL TERMINATOR. BLANKS AND COMMAS ONLY ARE ALLOWED.

IF ONE WISHES TO INPUT FEWER ITEMS THAN THE DATA LIST CONTAINS, I.E.

```
GET LIST (A,B,C,D,E)
```

WHERE VALUES ARE TO BE SUPPLIED FOR
A,B, & C ONLY, THE INPUT MUST BE OF THE FORM

```
1,2,3,,
   OR
1 2 3,,
   OR
1,2 3,,
```

D1064 PLINTRN - PLI PROGRAMDUMP - 03-28-74

THESE ARE THE INITIAL PATCHES FOR A PL/I PROGRAMDUMP TO BE RELEASED AT A LATER RELEASE.

D1066 PLINTRN - RECORDIO OPTIMIZATION - 10-15-74

THIS PATCH CONCERNS THE GENERAL OPTIMIZATION OF RECORDIO.

PRINT BINDER INFO

P4165 PRINTBIND - ERROR TERMINATE - 08-04-74

IN SOME INSTANCES, PRINTBINDINFO WOULD TERMINATE INVALIDLY WHEN ATTEMPTING TO OUPUT MORE THAN A PRINT LINE COULD HOLD. THIS PROBLEM HAS BEEN CORRECTED.

P4246 PRINTBIND - EXTEND WORK AREA - 09-16-74

WORK AREA HAS BEEN EXTENDED FROM 15000 TO 20000 WORDS TO ACCOMODATE INCREASINGLY LARGER MCP FILES.

P4247 PRINTBIND - CORRECT SEG ARRAY ERROR - 09-16-74

A PROCEDURE WITH NESTING TOO DEEP, CAUSED BINDINFO TO FAIL WITH A SEGMENT ARRAY ERROR. NOW, WHENEVER NESTING GOES DOWN 5 LEVELS, A LINE OF CORNER BRACKETS INDICATES THE CHANGE AND THE PRINT LINE IS RESET.

PRINTCOPY

P3378 PRINTCOPY - II.7 COPYRIGHT - 11-23-74

ADDS COPYRIGHT TO THE FOLLOWING SYMBOLIC FILES:

PRINTCOPY AND PACKCONVERTER.

REMOTE JOB ENTRY

P3487 RJE - SS MESSAGE TRUNCATION - 03-28-74

THIS CHANGE CORRECTS A PROBLEM IN WHICH RJE RECEIVED A SEGMENTED ARRAY ERROR WHEN AN INORDINATELY LONG "SS" MESSAGE WAS SENT FROM THE SITE CONSOLE TO AN RJE TERMINAL.

P3488 RJE - CONTROL MESSAGE CHANGE - 03-28-74

THIS PATCH DELETES A REDUNDANT "03" CONTROL MESSAGE WHICH WAS SENT TO THE REMOTE COMPUTER BEFORE LOG-ON WHEN THE MCS WAS COMPILED TO HANDLE THE NEW LINE DISCIPLINE. THIS MESSAGE WAS INCOMPATIBLE WITH THE B771 IMPLEMENTATION.

P3551 RJE - REMOTE PUNCH HANDLING - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH THE MCS WAS SENDING A STACKER CONTROL CHARACTER TO THE REMOTE PUNCH AS THE FIRST CHARACTER OF EACH PUNCH RECORD. THE REMOTE COMPUTERS ARE NOT AS YET ABLE TO HANDLE THIS INFORMATION PROPERLY.

P3552 RJE - RJE-DISPLAYWHO CORRECTION - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH A CRITICAL BLOCK EXIT SOMETIMES OCCURRED WHEN RJE WENT TO EOT WITH THE INTERNAL PROCESS "RJE/DISPLAYWHO" (INITIATED IN RESPONSE TO A "WH" SM MESSAGE) ACTIVE. THUS RJE TERMINATED WITH A FAULT, PREVENTING ITS AUTOMATIC REACTIVATION.

P3553 RJE - CHANGE IN "TERM" KEYIN - 04-18-74

THIS PATCH CORRECTS A PROBLEM IN WHICH THE RJE MCS WAS NOT HANDLING THE "MSG" CLAUSE OF THE MOCK-CONTROLLER TERM RSC INPUT MESSAGE.

SOFTWARE IMPROVEMENTS

P3783 RJE - DEBUGGING IMPROVEMENTS - 05-30-74

THIS PATCH CAUSES THE RJE MCS TO EMPLOY THE DCERRANALYSIS INTRINSIC TO ANALYZE ERROR RESULTS REMOVED FROM ITS PRIMARY QUERE. THE ANALYZED MESSAGE IS DUMPED ONTO THE PRINTFILE PRINTER FILE WHEN THE MCS IS COMPILED WITH "DEBUG" SET. THIS SHOULD PROVE TO BE A GREAT AID IN DETECTING RJE HARDWARE PROBLEMS.

P3784 RJE - REMOTE PUNCH CORRECTION - 05-30-74

THIS PATCH CORRECTS A PROBLEM IN RJE WHEREBY AN INCORRECT INTERNAL TASK VARIABLE WOULD SOMETIMES BE ASSOCIATED WITH THE TASK SERVICING A REMOTE PUNCH. THE REMOTE USER WAS, THUS, NOT NOTIFIED THAT AUTOPUNCH WAS ACTIVE IN THESE CASES.

P3887 RJE - CARD DECK HANDLING CORRECTION - 07-07-74

THIS PATCH FIXES A BUG WHICH AROSE WHEN THE MAXTERMINALS DEFINE (SPECIFYING THE MAXIMUM NUMBER OF RJE TERMINALS HANDLED BY THE MCS) WAS INCREASED BEYOND THE RELEASED VALUE OF 4. THE SYMPTOMS OF THIS PROBLEM INCLUDED IMPROPER HANDLING OF CARD DECKS READ AT SOME OF THE TERMINALS. THE CARDS WOULD BE SWALLOWED BY THE MCS BUT NOT PASSED TO A COPY OF THE WFL COMPILER.

P3997 RJE - DEBUG ENHANCEMENT - 08-04-74

THIS PATCH CAUSES A SECOND PRINTER FILE TO BE OPENED BY RJE WHICH CONTAINS ONLY ANALYZED DATACOM ERROR RESULTS; THIS FILE IS PRODUCED ONLY WHEN "DEBUG" IS SET WHEN RJE IS COMPILED. THIS FACILITATES THE QUICK RECOGNITION OF LINE ERRORS DURING LONG DEBUGGING SESSIONS. THE FILE NAME IS "DCERRFILE".

P4166 RJE - II.7 COMPATABILITY - 08-04-74

THIS PATCH CONVERTS RJE-S DIRECTORY EXAMINATION PROCEDURES TO GETSTATUS CALLS. THIS ALLOWS COMPATABILITY WITH THE II.7 MCP.

P4167 RJE - NOLOGON FAULT - 08-11-74

THIS PATCH CORRECTS A FAULT ENCOUNTERED ON A NON-SWITCHED LINE FOR WHICH LOG-ON WITH USERCODE/PASSWORD IS NOT REQUIRED. THE FAULT OCCURRED WHEN A HALT/LOAD WAS EXPERIENCED AT THE MAIN SYSTEM AND CARD INPUT WAS THE FIRST INPUT RECEIVED FROM THE TERMINAL AFTER THE HALT/LOAD. THIS PATCH ALSO AVOIDS FAULTS INCURRED WHEN RJE RECEIVES NEW TYPES OF MESSAGES FROM THE CONTROLLER WHICH IT DOES NOT YET HANDLE.

P4168 RJE - RSC INPUT FAULT HANDLING - 08-11-74

THIS PATCH CORRECTS THE HANDLING OF FAULTS INCURRED DUE TO ERRONEOUS REMOTE SPO INPUT. SUCH FAULTS OCCURRED WHEN THE INPUT MESSAGE WAS TOO LARGE FOR THE RECEIVING BUFFER DUE TO IMPROPER USE OF CONTROL KEYS BY THE REMOTE USER. SUCH KEYINS ARE NOW REJECTED WITH THE FOLLOWING MESSAGE:

SPO INPUT REJECTED

P4248 RJE - AUTOBACKUP DIRECTORY PURGING - 09-16-74

THIS PATCH CAUSES RJE TO EMPLOY THE NEW REMOVEFILE INTRINSIC WHEN REMOVING BACKUP DIRECTORIES, MAKING THE MCS II.7 - COMPATIBLE. THIS BACKUP DIRECTORY WILL NOW ALSO BE PURGED IF THE REMOTE PRINTER IS IN THE MIDDLE OF PRINTING THE JOB SUMMARY WHEN THE PRINTER IS CLEARED. THE PREVIOUS IMPLEMENTATION LEFT THE DIRECTORY ON DISK IN THIS CASE.

P4249 RJE - REMOTE CARD READER ENABLING - 09-16-74

WHEN THE RJE MCS WAS COMPILED FOR THE OLD LINE DISCIPLINE AND THE REMOTE COMPUTER WAS A DC1000 FOR WHICH THE "LOGON" OPTION WAS RESET, THEN IF THE DC1000 WAS COLD-STARTED DURING A SYSTEM HALT/LOAD, THE READER WOULD NOT BE RE-ENABLED AFTER THE HALT/LOAD. THIS PATCH UNCONDITIONALLY ENABLES THE REMOTE READER AFTER A HALT/LOAD.

SOFTWARE IMPROVEMENTS

P4345 RJE - QUEUE FLUSHING - 09-29-74

THIS PATCH CAUSES RJE TO FLUSH ALL MESSAGES (I.E., CARD IMAGES) FROM THE WFL COMPILER QUEUE WHEN THE REMOTE CARD READER IS CLEARED. THIS DISCARDS CARD IMAGES WHICH WFL HAS NOT YET HANDLED WHEN IT IS FORCED OUT OF THE MIX.

P4459 RJE - EMPTY FILE FAULTS - 10-15-74

RJE NOW AVOIDS FAULTS WHEN IT ENCOUNTERS AN EMPTY RJELINKED RECOVERY FILE OR JOB SUMMARY BACKUP FILE.

P4732 RJE - II.7 NIF PREFIX COMPATIBILITY - 11-17-74

THIS PATCH MAKES RJE COMPATIBLE WITH THE II.7 ABILITY OF DCPCODE AND NIF FILES TO BE RESIDENT ON DISK PACK UNITS.

P4733 RJE - III.7 COPYRIGHT - 11-23-74

THE II.7 RELEASE COPYRIGHT HAS BEEN UPDATED.

P4848 RJE - SIGN-OFF DISCIPLINE CHANGE - 11-10-74

THIS PATCH CAUSES RJE TO TRANSMIT A SINGLE EOT CHARACTER TO A NON-SWITCHED TERMINAL OR A DLE-EOT PAIR TO A SWITCHED TERMINAL TO NOTIFY THE REMOTE COMPUTER THAT THE CURRENT SESSION HAS BEEN TERMINATED, AND THAT COMMUNICATION WITH THE B6700 MAY BE TERMINATED.

P4849 RJE - SESSION LOGGING IMPROVEMENT - 11-10-74

THIS PATCH MAKES RJE COMPATIBLE WITH CANDE WITH RESPECT TO LOGGING SESSION SIGN-OFFS.
THE MCS NO LONGER EMPLOYS THE "MCS TIMES" LOG ENTRY TYPE TO RECORD SESSION TIMES. SESSION TIMES (NOW INCLUDING ELAPSED TIME) ARE CORRECTLY RECORDED IN THE "MCS LOGOFF" ENTRY.

SOFTWARE IMPROVEMENTS

P5117 RJE - BOT NOTICE CORRECTION - 12-22-74

THIS PATCH CORRECTS THE TASK NAME APPEARING IN THE BOT NOTICE FOR TASKS WHICH ARE EXECUTED ON DISK PACK UNITS.

REMOTE JOB ENTRY

D0824 RJE - FORMMESAGE HANDLING CHANGE - 07-07-74

THIS PATCH CAUSES RJE-S AUTOPRINT AND/OR AUTOPUNCH ROUTINE TO BE PROGRAMMATICALLY SUSPENDED AFTER A FORM-ED BACKUP FILE HAS BEEN OUTPUT. THIS ALLOWS A PAUSE WHICH MAY BE USED FOR CHANGING THE FORMS IN THE OUTPUT DEVICE. THE TASK MAY BE RESTARTED VIA THE "OK" CONTROLLER RSC KEYIN OR BY A "*PB" KEYIN (WITHOUT JOB NUMBER) ENTERED AT THE RSC.

D0825 RJE - HANDLING OF CONSIGNED BACKUP - 07-07-74

THIS PATCH ENHANCES THE ABILITY TO DIRECT PRINTER AND/OR PUNCH BACKUP FILES TO RJE TERMINALS VIA THE DESTNAME TASK ATTRIBUTE. THE USER MAY NOW DESIGNATE THE STATION NAME OF THE REMOVE DEVICE ON WHICH THE TASK-S BACKUP IS TO BE OUTPUT (I.E., REMOTE PRINTER OR PUNCH) AS THE DESTNAME. PREVIOUSLY, THE STATION NAME OF THE REMOTE COMPUTER WAS THE ONLY ACCEPTABLE STRING FOR SUCH A DESTNAME. IT IS STILL RECOMMENDED, HOWEVER, THAT THE NAME OF THE REMOTE COMPUTER BE USED TO AVOID POSSIBLE CONFUSION.

D0864 RJE - MESSAGE SUPPRESSION CAPABILITY - 08-11-74

THIS PATCH IMPLEMENTS A NEW CLAUSE, "JOBMSGS", AS PART OF THE RJE "TERM" KEYIN. THIS CLAUSE REPLACES THE ERSTWHILE "RESPONSE" CLAUSE AND ALLOWS SUPRESSION OF AUTOMATIC JOB ACTIVITY NOTICES AS FOLLOWS:

TERM JOBMSGS CONCISE

WILL SUPPRESS ALL BOJ, BOT, EOJ AND EOT NOTICES.

TERM JOBMSGS NONE

WILL SUPPRESS "JOB INSERTED IN Q" MESSAGES IN ADDITION TO THOSE NOTICES.

D0864 RJE - MESSAGE SUPPRESSION CAPABILITY - 08-11-74

TERM JOBMSGS ALL

IS THE DEFAULT CASE, ALLOWING ALL JOB NOTICES TO APPEAR.

D0928 RJE - BACKUP ON PACK - 09-29-74

THIS PATCH ENABLES RJE TO AUTOMATICALLY ACCESS PRINTER AND PUNCH BACKUP FILES RESIDENT ON SYSTEM RESOURCE DISK PACK UNITS.

D0946 RJE - BACKUP HANDLING - 10-15-74

THIS PATCH ALLOWS RJE TO HANDLE BACKUP FILES WITH UP TO FOURTEEN IDENTIFIERS IN THEIR NAMES.

D1048 RJE - CHANGE OF SM RESPONSE - 11-10-74

THIS PATCH CAUSES RJE TO DISPLAY "#OK" AT THE SUPERVISORY CONSOLE WHEN AN SM COMMAND IS SUCCESSFULLY SERVICED. PREVIOUSLY THE MCS ONLY ECHOED THE COMMAND BACK TO THE OPERATOR WITH NO INDICATION OF THE SUCCESS OF THE OPERATION. RJE NOW OPERATES IN A MANNER COMPATIBLE WITH CANDE SM RESPONSES.

D1082 RJE - SUMMARY OF II.7 RJE CHANGES - 12-11-74

THE FOLLOWING THREE ITEMS DESCRIBE THE MOST OUTSTANDING CHANGES INCURRED IN THE RJE MCS BETWEEN THE II.6 AND II.7 SOFTWARE LEVELS.

1. THE II.7 RJE MCS IS RELEASED WITH THE COMPILE-TIME OPTION, "NEWLINE", SET BY DEFAULT. TO GENERATE AN MCS WHICH EMPLOYS THE OLD LINE DISCIPLINE, THE SOFTWARE MUST BE RECOMPILED, WITH A PATCH CARD DELETING THE CARD IMAGE AT SEQUENCE NUMBER 00000001 IN THE SYMBOLIC FILE.

2. AS OF THE II.7 RELEASE IT IS NO LONGER NECESSARY TO RECOMPILE THE MCS WITH FILE EQUATION CARDS IN ORDER TO ACCESS PRINTER AND PUNCH BACKUP FILES RESIDENT ON SYSTEM RESOURCE DISK PACK UNITS. THE CURRENT MCS WILL RETRIEVE SUCH FILES AUTOMATICALLY.

D1082 RJE - SUMMARY OF II.7 RJE CHANGES - 12-11-74

3. A NEW CLAUSE, "JOBMSGS", HAS BEEN ADDED TO THE "TERM" RSC COMMAND WHICH FACILITATES SUPPRESSION OF VARIOUS JOB AND TASK ACTIVITY NOTICES AT THE REMOTE SUPERVISORY CONSOLE. THE CHANGE IS DOCUMENTED IN ANOTHER RJE D-NOTE.

D1090 RJE - PRINTING OF LOWER CASE LETTERS - 12-22-74

THIS PATCH IMPLEMENTS THE COMPILE TIME OPTION "PASSLOWERCASE" WHICH, WHEN SET, GENERATES AN RJE MCS WHICH WILL PERMIT PRINTING OF LOWER-CASE LETTERS AT REMOTE PRINTERS HAVING THIS CAPABILITY.

SCR

P3786 SCR - CYLINDER USE ON BX383-215 - 05-30-74

A "2" WAS EXPECTED TO BE RETURNED IN TESTOP ISSUED AGAINST A BX383-215 PACK, THEREBY INHIBITING THE USE OF "CYLINDER" AGAINST THE UNIT. THIS ERROR ALSO GENERATED AN ERRONEOUS WARNING MESSAGE. THIS PATCH CHANGES THE EXPECTED RESULT TO A ONE (1).

P3787 SCR - ALLOW "GETAREA" TO WAIT - 05-30-74

THIS PATCH INSURES THAT "MAT" DOES NOT PRODUCE A FATAL MEMORY DUMP IF INSUFFICIENT MEMORY SPACE IS AVAILABLE ON THE "GETAREA" CALL FOR IOCB SPACE FOR A DIRECT LINE PRINTER FILE.

P3788 SCR - "FOR SEGMENTS" - 05-30-74

WHENEVER THE I-O MODIFIER "FOR N" IS SPECIFIED, THE I-O LENGTH WAS DEFAULTED TO ONE (1) RATHER THAN THE AMOUNT SPECIFIED BY THE "FOR N" CLAUSE. THIS PATCH INSURES THE PROPER I-O LENGTH IS INSERTED INTO THE AREA DESCRIPTOR.

P3789 SCR - DISPLAY AT RUN-TIME ERRORS - 05-30-74

WHENEVER AN ERROR IS DETECTED AT RUN-TIME, THE "MAT" INTERPRETER WILL ALSO INCLUDE THE SYMBOLIC STATEMENT IN THE ERROR PRINTOUT. IN CASE OF A UNIT ASSIGNMENT ERROR, THE UNIT NUMBER WAS USED AS THE INDEX INTO THE SYMBOLIC FILE RATHER THAN THE PROPER INDEX VALUE THEREBY PRINTING THE WRONG SYMBOLIC IMAGE.

P3790 SCR - VARIABLE NUMBER OF RUN PARMS - 05-30-74

WHEN "RUNPARMS" IS USED IN A <SET STMT>, THE USER SHOULD NOT BE REQUIRED TO ENTER ANY PARAMETERS. THE ORIGINAL IMPLEMENTATION INHIBITED THIS. THIS PATCH PERMITS PARAMETERS TO BE OMITTED.

SOFTWARE IMPROVEMENTS

P3791 SCR - NORMAL STATE OP - 05-30-74

THIS PATCH INSURES "MAT" REMAINS IN CONTROL STATE FOR ONLY THE CONTROL STATE TIME SPECIFIED (IE: A WAIT OF LESS THAN 500 MILLISECONDS).

P3792 SCR - "STATUS PKN" - 05-30-74

STATUS REQUEST OF "STATUS PKN;" AGAINST A BX383 SYSTEM RETURNED THE WRONG UNIT TYPE. THIS IS NOW CORRECTED.

P3853 SCR - NEW SYMBOL - 05-30-74

A NEW DISK FILE COULD BE CREATED WHEN A PROGRAM CONTAINING "SYSTEMERRORHISTORY" WAS COMPILED AND A SYNTAX ERROR WAS GENERATED. THIS PATCH INSURES THE NEW FILE WILL NOT BE CREATED.

P4106 SCR - DUPLICATE SEQUENCE NUMBERS - 08-01-74

THIS PATCH FIXES DUPLICATES SEQUENCE NUMBERS IN MAINTENANCE.

P4850 SCR - RELEASING BUFFER - 10-27-74

IN ORDER TO KEEP CORE REQUIREMENTS OF MAT PROGRAMS TO A MINIMUM, THE ABILITY TO RETURN CORE SPACE ASSIGNED TO A MAT BUFFER HAS BEEN PROVIDED. THE SYNTAX FOR THIS CONSTRUCT IS:

RELEASE BUFFER <BUFFER IDENTIFIER>.

NOTE THAT REPEATATIVE USAGE AND RELEASING OF A BUFFER SHOULD BE AVOIDED. IF THE BUFFER IS IN USE BY AN I/O OPERATION AT THE TIME OF THE RELEASE, AN ERROR MESSAGE IS DISPLAYED AND THE JOB IS TERMINATED.

P4851 SCR - "RUNPARMS" - 10-27-74

THIS PATCH CORRECTS A PROBLEM IN THE VALUE RETURNED BY "RUNPARMS" WHEN USED IN A <SET STATEMENT>. ONE BIT FOR EACH PARAMETER ENTERED WAS INTENDED TO BE RETURNED. THE BINARY WEIGHT ASSIGNED TO THE BIT

WAS BEEN DERIVED FROM THE ENTERED PARAMETER RATHER THAN FROM THE DECLARED LIST. THIS PATCH ALSO INSURES A SYNTAX ERROR IS GENERATED IF A RUNPARM IDENTIFIED IS USED THAT WAS NOT DECLARED. A SYNTAX ERROR WILL ALSO BE GENERATED IF THE <RUN STATEMENT> CONTAINS PARAMETERS BUT THE PROGRAM DOES NOT HAVE A RUNPARM REFERENCE.

P4852 SCR - "ERRORCOUNT" AS A <PRIMARY> - 10-27-74

IN ORDER TO INTERACT WITH A USER THAT HAS REQUESTED MAT TO ANALYZE THE DATA OR RESULTS FOR ERRORS, A NEW <PRIMARY> "ERRORCOUNT" HAS BEEN IMPLEMENTED. THIS <PRIMARY> RETURNS A VALUE INDICATING THE TOTAL NUMBER OF ERRORS THAT HAVE AUTOMATICALLY BEEN DETECTED AND PRINTED BY THE SYSTEM.

P4853 SCR - REDUCE PRIORITY OF MAINTENANCE - 10-20-74

MAT JOBS RUNNING AS BACK GROUND WORK WERE USURPING PROCESSOR TIME AT A HIGH PRIORITY RATE. THIS PATCH REDUCES THE PRIORITY OF MAT TO THAT OF NORMAL USER JOBS.

P4854 SCR - HEAD-PER-TRACK DIRECTORY - 10-27-74

THIS PATCH IMPLEMENTS THE CALLS ON PACK MOUNT FOR INTERFACE INTO THE NEW DIRECTORY SYSTEM.

P4855 SCR - PATH ROUTES NO PRINT ERRORS - 10-27-74

WHEN "PRINT RESULTS" WAS REQUESTED ON A UNIT THAT RETURNS PATH BITS, BITS 13 $ 12 WOULD PRINT AS "UNDEFINED". THIS PATCH INSURES THAT THESE BITS ARE NOT EXAMINED BY THE ROUTINE THAT CREATES THE VERBAGE DEFINING THE TYPE OF RESULT ERROR.

P4856 SCR - "DEDICATED" WHEN "INITIALIZE" - 10-27-74

ORIGINAL INITIALIZE PACK LOGIC WAS INTENDED TO BE LIMITED TO "DEDICATED" UNIT ONLY. (IE THE DRIVE MUST BE "UR"). THE ENFORCEMENT OF THIS REQUIREMENT WAS NOT ABSOLUTE. THIS PATCH INSURES THAT A DEDICATED PACK IS BEING USED AT UNIT ASSIGNMENT TIME IF A INITIALIZE HAS BEEN REQUESTED.

SOFTWARE IMPROVEMENTS

P4857 SCR - RESEQ. MAINTENANCE SYMBOLIC - 10-27-74

THIS PATCH INCREASES THE NUMBER RANGE WITHIN VARIOUS PROCEDURES.

P4858 SCR - FIX RUN STMT - 10-27-74

WHEN USING "RUN X/Y <ETX>" (WITHOUT A SEMICOLON PRECEDING THE ETX), THE FILE REQUESTED TO BE RAN WILL BE IGNORED. THIS PATCH ALLOWS AN <ETX> TO IMMEDIATELY FOLLOW THE RUN STATEMENT.

P4859 SCR - ASSIGNMENT TO CARD READER - 10-27-74

ATTRIBUTE GRABBER IS RETURNING A HEADER INDEX WHEN MAT CARD FILE IS INCLUDED IN WFL JOB FILE. THIS PATCH INSURES THAT THE ATTRIBUTE GRABLER RETURNED RESULTS ARE ONLY USED WHEN THE MAT SOURCE DECK IS COMING DIRECTLY FROM THE CARD READER.

P4860 SCR - MAINTENANCE DSED - 11-17-74

THIS PATCH ALLOWS THE MAINTENANCE TO BE DSED. THIS CHANGE IS REQUIRED DUE TO II.6 MCP CHANGES.

P4861 SCR - SECURITY OF USER DISK FILES - 11-17-74

THIS PATCH INSURES THAT A MAT JOB CAN ONLY WRITE ON UNITS THAT ARE RESERVED OR THROUGH "BADDISK" FILES.

P4990 SCR - "LOAD" PK - 11-23-74

THIS PATCH INHIBITS THE CALL ON EXPAND A ROW FROM CREATING A COPY DESCRIPTOR FOR MAT "LOAD" FIRMWARE INSTRUCTION.

P5103 SCR - II.7 COPYRIGHT - 11-23-74

ADDS COPYRIGHT TO THE FOLLOWING SYMBOLIC FILES:

MAINTENANCE, UTILOADER, AND LOADER.

P5118 SCR - FETESTPACK ON A RESERVED UNIT - 01-12-75

THIS PATCH INSURES THAT THE VERIFY DISK PACK ROUTINE WITH SCR RECOGNIZES A FETESTPACK EVEN THOUGH THE UNIT IS RESERVED VIA THE "UR" MESSAGE.

P5119 SCR - CONDITIONAL SEEK BIT ON B380 - 01-12-75

THIS PATCH INSURES THAT BIT 24 OF AN IOCW IS NEVER SET ON A DISK PACK VERIFY REQUEST IF A BX380 TYPE CONTROLLER IS BEING USED.

SCR

D0786 SCR - IMPLEMENT UNITSTATE - 05-30-74

THIS PATCH IMPLEMENTS A NEW PRIMARY "UNITSTATE <UNIT SPECIFIER>".

BIT0 - CURRENT SAVED STATE

BIT1 - CURRENT SCRATCH STATE

BIT2 - RESERVED STATE

BIT3 - ASSIGNED STATE

BIT4 - SYSTEM READY STATE (1=NOT READY)

BIT5 - IN USE BY THIS PROGRAM

BIT6 - ASSIGNED TO MYSELF OR SOME OTHER MAINTENANCE JOB

BIT7 - ORIGINAL RESERVED STATE

BIT8 - ORIGINAL SAVED STATE

BIT9 - PACK ASSIGNED TO THIS JOB

BIT10 - TESTPACK

BIT11 - PACK IS BEING SHARED WITH THE SYSTEM.

D0789 SCR - DISK VERIFY TEST 15 - 05-30-74

IF VERIFY DISK TEST #15 IS APPLIED AGAINST A FILE THAT IS LESS THAN 4 SEGMENTS LONG, A SEGMENTED ARRAY WILL OCCUR. THIS PATCH LIMITS THIS TEST TO FILES GREATER THAN 3 SEGMENTS LONG.

D0790 SCR - I-O STATEMENT "NO-OP" - 05-30-74

WHENEVER AN ERROR IS DETECTED WHILE ATTEMPTING TO ASSIGN A UNIT TO A MAT FILE, THE I-O STATEMENT DETECTING THE ERROR WILL BE NO-OPED. THIS PATCH INSURES THAT A FAULT (INVALID INDEX) IS ALSO CAUSED. IF FAULTS HAVE NOT BEEN DECLARED THEN THE JOB WILL BE TERMINATED.

D0791 SCR - DISPLAY STATEMENT - 05-30-74

D0791 SCR - DISPLAY STATEMENT - 05-30-74

PREVIOUS TO THIS PATCH SPACING WITHIN A DISPLAY STATEMENT, IE "1 FOR <NUMBER>", WAS LIMITED TO A FIXED NUMBER. THIS PATCH ALLOWS SPECIFYING A <PRIMARY> IN PLACE OF A <NUMBER>.

D0792 SCR - PRIMARY IN DISPLAY STMT - 05-30-74

THIS PATCH ALLLOWS SPECIFYING A <PRIMARY> WITH A STRING IN A DISPLAY STATEMENT; I.E., DISPLAY (" " FOR X). THE STRING WILL BE EXPANDED TO THE SIZE SPECIFIED IN THE <FOR PART>. IF THE <FOR PART> IS LEFT EMPTY THE SIZE OF THE STRING IS ASSUMED.

D0793 SCR - SYNTAX OF " <PRIMARY> " - 05-30-74

THIS PATCH ALLOWS A USER TO SKIP TO VARIOUS CHANNELS WITHIN A "DISPLAY" STATEMENT. THE SYNTAX IS AS FOLLOWS:

DISPLAY ([<PRIMARY>]);
THIS SYNTAX RESULTS IN A NO-OP IF USED IN A "SPOUT" STATEMENT.

D0794 SCR - "DEFAULT BUFFER" AS <PRIMARY> - 05-30-74

THIS PATCH ALLOWS "DEFAULT BUFFER" AS A <PRIMARY>; I.E.:

DISPLAY ("DATA = ", (DEFAULT BUFFER CHARACTER 1 FOR 2));.

D0795 SCR - DEFAULT BUFFER IN <SET START> - 05-30-74

THIS PATCH IMPLEMENTS "SET DEFAULT BUFFER CHAR 1 FOR 1 = ...".

D0796 SCR - I-O LENGTH 131071 WORDS - 05-30-74

MAT WAS NOT PROPERLY CHECKING FOR THE MAXIMUM I-O LENGTH OF 131,071 WORDS BEING EXCEEDED. THIS PATCH CHANGES THE TESTS. IF AN I-O IS ATTEMPTED THAT IS LONGER THAN THIS, A FAULT WILL BE GENERATED AND THE I-O STATEMENT WILL BE NO-OPED.

D0801 SCR - "WITH" IN INITIALIZE STATEMENT - 07-07-74

D0801 SCR - "WITH" IN INITIALIZE STATEMENT - 07-07-74

THE I/O MODIFIER "WITH PATTERN" WAS INTENDED TO BE USED WITH THE PACK "INITIALIZE" STATEMENT; HOWEVER, THE I/O MODIFIER "PATTERN" INSTEAD OF "WITH" WAS SPECIFIED AS THE KEY WORD. THIS PATCH CHANGES THE KEY WORD TO "WITH".

D1018 SCR - MAX 35 PARALLEL I-O OPERATIONS - 10-20-74

IN ORDER TO PERFORM HEAD-PER-TRACK ZONE AMPLIFIER ADJUSTEMENTS USING ON LINE PROGRAMS, A NUMBER OF I/O OPERATIONS MUST BE INITIATED AS FAST AS POSSIBLE. THE MAT SYNTAX OF PARALLEL I/O PROVIDES FOR THE SUCCESSIVE I/O BUT DID NOT PRODUCE ENOUGH OPERATIONS FOR SATISFACTORY SCOPING. THIS PATCH INCREASES THE NUMBER OF I/O OPERATIONS THAT MAY BE QUEUED AGAINST A UNIT.

D1019 SCR - IOCW AS STATEMENT ATTRIBUTE - 10-27-74

ERROR PRINTOUTS THAT ARE GENERATED BY THE USER, USUALLY CONTAIN THE IOCW. THE MAT SYSTEM DID NOT PROVIDE A WAY TO OBTAIN THE ACTUAL IOCW USED. THIS PATCH IMPLEMENTS READ ONLY ACCESS OF THE IOCW THROUGH THE <IOSTATEMENT> SYNTAX OF:

<IOSTATEMENT IDENTIFIER> (IOCW.ADDRESS) OR

<IOSTATEMENT IDENTIFIER> (IOCW.CONTROL).

IOCW.ADDRESS RETURNS BITS 27:28 AND IOCW.CONTROL RETURNS BITS 47:20. NOTE THAT IN THE CASE OF DISK PACK IOCW, BITS 27:8 CONTAIN SPECIAL CONTROL INFORMATION AND SHOULD BE ANDED OUT OF THE IOCW.ADDRESS RESULTS. THE ADDRESSES RETURNED ARE ALWAYS THE BINARY EQUIVALENT OF THE PARTICULAR DISK OR PACK ADDRESS THAT WAS USED.(THE BCD ADDRESS IS CONVERTED BEFORE BEING RETURNED IN THE IOCW.ADDRESS VALUE.

D1020 SCR - "MAXUNIT" AS A PRIMARY - 10-27-74

D1020 SCR - "MAXUNIT" AS A PRIMARY - 10-27-74

WITH THE DEVELOPMENT OF SCANNER PROGRAMS IN MAT, THE ABILITY TO DETERMINE THE MAXIMUM UNIT ON A GIVEN SYSTEM HAS BECOME ESSENTIAL. PREVIOUS TO THIS PATCH THIS WAS ACCOMPLISHED BY USING A VARIABLE UNIT AND STEPPING THE UNIT NUMBER UNTIL AN INVALID INDEX OCCURED. THIS PATCH ALLOWS REPLACEMENT OF THAT PROCEDURE BY IMPLEMENTING "MAXUNIT" AS A NEW PRIMARY. THE RESULT RETURNED BY THIS PRIMARY IS THE HIGHEST UNIT # THAT WAS FOUND TO BE PLUGGED BY "PC" CARDS AT THE TIME THE SYSTEM WAS HALT LOADED.

D1021 SCR - "CHECKDATA" - 10-27-74

THE ABILITY TO ISSUE THE PACK IOCW OF "READ AFTER WRITE" AND THE VERIFY IOCW THAT FORCES THE CHECK OF DATA AGAINST THE STANDARD INITIALIZE PATTERN IS REQUIRED. BOTH OF THESE FUNCTIONS WERE OBTAINED BY THE IMPLEMENTATION OF A NEW <I/O MODIFIER> OF "CHECKDATA". THIS MODIFIER WILL SET BIT 33 WHEN USED WITH "CHECK" AND WILL SET BIT 26 WHEN USED WITH "WRITE".

D1022 SCR - GEQ & LEQ RELATIONAL OPERATORS - 10-27-74

READABILITY OF MAT PROGRAMS AND EASIER IMPLEMENTATIONS OF SPECIFIC MAT FUNCTIONS WILL RESULT IF THE RELATIONAL OPERATOR OF "GEQ" AND "LEQ" ARE PROVIDED IN MAT. SUBSEQUENTLY, MAT RECOGNIZES THESE TWO WORDS AS RELATIONALS. A BY PRODUCT OF THIS PATCH YIELDS A SPEED UP IN THE "WHILE" AND "DO" STATEMENTS. THIS PATCH ALSO CORRECTS THE EVALUATION OF A "DO" RELATION.

D1023 SCR - "DYNAMIC FILE" CAPABILITY - 10-27-74

IN ORDER TO COMPLETE THE DISK MAINTENANCE PACKAGE, THE ABILITY TO OPEN/CLOSE BADDISK FILES SPECIFIED INDIRECTLY THROUGH RUNPARMS IS REQUIRED. THIS PATCH PROVIDES A NEW SYNTAX IN THE FILE DECLARATION OF:

FILE <FILE IDENTIFIER> = BUFFER <BUFFER IDENTIFIER>.

D1023 SCR - "DYNAMIC FILE" CAPABILITY - 10-27-74

THE NAME PLACED IN THE BUFFER, MUST BE TERMINATED BY A HEX "00". WHENEVER THE FILE IS REFERENCED BY AN I/O STATEMENT OR VERIFY STATEMENT, THE FILE WILL BE AUTOMATICLY OPENED. IF AT THAT TIME THE FILE CANNOT BE FOUND, THE PROGRAM IS DSED (OR A FAULT IS GENERATED IF THE USER HAS DECLARED A FAULT VARIABLE). IF VARIABLES CONTAIN A <RANGE SPECIFICATION> ASSIGNED TO THIS FILE, THE LOW AND HIGH RANGE VALUES WILL BE - 1 UNTIL THE FILE IS OPENED.

D1024 SCR - TRACK-TRACK MODE I-O MODIFIER - 10-27-74

SINCE THE SINGLE SECTOR PER TRACK MODE FEATURE IS NOT SUPPORTED IN DISK PACK FIRMWARE THE ABILITY TO USE THE LOGIC HAS BEEN REMOVED FROM MAT SYNTAX. THIS PATCH REMOVES THE RECOGNITION CAPABILITY OF THE MAT COMPILER IN REFERENCE TO THE WORDS "TRACK" AND "TRACK MODE" WHEN USED AS I/O MODIFIERS.

D1025 SCR - TESTING PRESENCE OF A FILE - 10-27-74

IN ORDER THAT A PROGRAM MAY DETERMINE THE PRESENCE OF A "BADDISK" FILE, THE FOLLOWING SYNTAX HAS BEEN IMPLEMENTED:

IF FILE <FILE IDENTIFIER> IS PRESENT THEN

THE STATEMENT FOLLOWING "THEN" WILL BE EXECUTED IF THE SPECIFIED FILE WAS FOUND ON DISK (OR PACK), (DEPENDING ON FILE DECLARATION). IF THE FILE IS LOCATED, THE RANGE SPECIFICATIONS OF ALL VARIABLES ATTACHED TO THE FILE WILL BE UPDATED TO REFLECT THE BOUNDS OF THE FILE AND THE FILE WILL BE OPENED.

D1026 SCR - LENGTH # FOR PATTERN <PRIMARY> - 10-27-74

IN ORDER TO GENERATE THE FILE NAME FOR BADDISK FILES, THE PATTERN SYNTAX FOR ARITHMETIC PRIMARY WAS MODIFIED TO ALLOW A NEGATIVE <FOR PART> I.E.:

```
PATTERN ("BADDISK/FMLYINX", (VARIABLE> FOR -3,
        "/UNIT", <VARIABLE> FOR -3,
        "/AD",   <VARIABLE> FOR -6,
        HEX "00")
```

D1026 SCR - LENGTH # FOR PATTERN <PRIMARY> - 10-27-74

WHEN A MINUS VALUE IS SPECIFIED IN THE <FOR PART> THE SYSTEM WILL USE THE MINIMUM NUMBER OF CHARACTERS TO OUTPUT THE SPECIFIED <PRIMARY> VALUE.

D1027 SCR - "FILEADDR" - 10-27-74

WHEN USING THE "CHECK" STATEMENT AGAINST A PACK, IT IS DESIRABLE TO CONTINUE AT THE ADDRESS FOLLOWING THE SECTOR THAT CHECK REPORTED TO BE IN ERROR. THIS PATCH IMPLEMENTS THE SYNTAX OF "FILEADDR <PRIMARY> BY HEAD" AND "FILEADDR <PRIMARY> BY CYLINDER" WITHIN THE CHECK STATEMENT. THE SYNTAX SPECIFIES TO CONTINUE THE CHECK OPERATION BEGINNING WITH THE PACK ADDRESS GIVEN BY THE PRIMARY FOLLOWING FILEADDR AND CONTINUING TO THE HEAD (TRACK) BOUNDARY OR CYLINDER BOUNDARY (OR UNTIL ANOTHER ERROR OCCURS).

D1028 SCR - RELEASING DYNAMIC FILE - 10-27-74

WITH THE IMPLEMENTATION OF DYNAMIC FILES IT IS DESIRABLE TO RELEASE A GIVEN FILE PROGRAMMATICALLY SO THAT THE FILE DECLARATION MAY BE REUSED FOR ANOTHER FILE NAME REFERENCE.
THIS PATCH IMPLEMENTS THE FOLLOWING SYNTAX:

RELEASE FILE <FILE IDENTIFIER>;

WHEN A FILE IS RELEASED THAT IS REFERENCED BY VARIABLES CONTAINING RANGE SPECIFICATIONS, THE VALUE OF THE VARIABLE, LOW AND HIGH RANGE VALUES, WILL BE SET TO -1;.

D1029 SCR - IN HEX-OCTAL IN DISPLAY BUFFER - 10-27-74

THIS PATCH IMPLEMENTS THE FOLLOWING SYNTAX:

DISPLAY (BUFFER A CHAR X FOR Y);

DISPLAY (BUFFER A CHAR X FOR Y IN HEX);

OR

DISPLAY (BUFFER A CHAR X FOR Y IN OCTAL);

NOTE USAGE OF <IN PART>. WHEN USING <IN HEX> BUFFER MUST BE DECLARED IN EBCDIC AND WHEN USING <IN OCTAL>, THE BUFFER MUST BE DECLARED IN BCL.

D1030 SCR - "STRING A MAT JOB - 10-27-74

D1030 SCR - "STRING A MAT JOB - 10-27-74

THIS PATCH ALLOWS SUSPENSION OF A MAT JOB AT THE OPERATOR REQUEST THROUGH THE <MIX INDEX> ST MESSAGE. WHEN USED, THE MAT JOB WILL BE "OPERATOR SUSPEND". THE JOB MAY BE RESTORED BY <MIX INDEX> OK.

D1031 SCR - "RESERVED" DISK UNIT - 10-27-74

THIS PATCH ALLOWS MAT TO WRITE ON A DISK UNIT THAT IT IS MARKED AS NOT READY OR RESERVED.

D1032 SCR - DISPLAY BUFFER ON SAME LINE - 10-27-74

IF SYNTACTICAL CONSTRUCT "BUFFER X CHARACTER A FOR N" IS USED WITHIN A DISPLAY STATEMENT, THE CONTENTS OF THE BUFFER WILL BE PRINTED ON THE SAME LINE AS ANY PRECEEDING STRINGS. ANY OTHER COMBINATION OF "BUFFER" AND "CHARACTER" OR "FOR" WILL CAUSE A LINE SPACE BEFORE THE BUFFER CONTENTS ARE DISPLAYED.

SCTABLEGEN

P4346 SCTABLEGEN - MCPTEST OPTION - 09-29-74

THIS PATCH ENABLES THE MCPTEST RUN-TIME OPTION. SETTING THIS OPTION HAS EFFECT ONLY WHEN THE COMPILE TIME MCP OPTION DIAGNOSTICS IS SET. CURRENTLY, MCPTEST CHECKS AND PREVENTS THE ALLOCATION OF AN EMPTY ROW IN THE MIDDLE OF A DISK FILE UNLESS THE REQUESTING I-O IS A WRITE STATEMENT.

P4875 SCTABLEGEN - PV MESSAGE - 10-27-74

THE PV MESSAGE FORMATS AND OUTPUTS VOLUME LIBRARY ENTRY TO SPO.

SCTABLEGEN

D1092 SCTABLEGEN - CATALOGGING OPTION - 01-12-75

THIS CHANGE IMPLEMENTS THE CATALOGGING OPTION (SYSTEM OPTION #23). THIS OPTION IS INITIALLY RESET. IT MAY BE SET BY USING THE "SO" SPO COMMAND.

IF OPTION IS SET, CATALOGLEVEL WILL BE SET TO CATALOGLEVELSET, A DEFINE IN THE MCP OTHERWISE CATALOGLEVEL IS SET TO ZERO.

SORT

P3998 SORT - SORT IMPROVEMENTS - 07-07-74

THIS CHANGE IMPROVES THE SORT RESTART PERFORMANCE.

P4991 SORT - ZERO CORESIZE - 11-17-74

THE SORT WAS GETTING A INVALID OP WHEN 0 TAPES AND 0 CORESIZE WERE SPECIFIED IN A SORT STATEMENT. THIS PATCH RAISES AN ERROR (SORT ERROR #3) SPECIFYING THAT NO MODE HAS BEEN SPECIFIED.

P4992 SORT - INV OP RUNNING SYSTEST - 11-17-74

THIS PATCH FIXES THE PROBLEM WHERE THE SYSTEST/LANG/ ALGOLSORT WAS GETTING AN INVALID OP USING A SPECIFIC INPUT CARD.

P4993 SORT - DISK SORT - I-O ERROR #17 - 11-23-74

THE SORT WAS TERMINATING WITH AN I/O ERROR #17 WHEN DOING A DISK SORT OF 300,000 1 WORD RECORDS WITH A CORE SIZE OF 100,000 WORDS. THIS PATCH CORRECTS THIS PROBLEM.

P4994 SORT - SORT IN SWAPSPACE - 11-17-74

RUNNING THE SORT IN SWAPSPACE WAS CAUSING A SYSTEM LOOP AND, EVENTUALLY, WAS CAUSING A SYSTEM HANG. THIS PATCH FIXES THE PROBLEM.

P4995 SORT - STACKOVERFLOW IN SORT - 11-17-74

PREVIOUSLY, IF A STACKOVERFLOW OCCURRED IN THE SORT, THE PROGRAM WAS BEING DS-ED BY A SORT ERROR #1. THIS PATCH CHANGES THE ERROR TO SORT ERROR #55.

SOFTWARE IMPROVEMENTS

P4996 SORT - SWAP JOBS IN SORT - 11-17-74

THIS PATCH ALLOWS SWAP JOBS IN THE SORT TO BE DS-ED.

P4997 SORT - SEG ARRAY IN SWAPSPACE - 11-17-74

SOME PROGRAMS THAT WERE RUNNING WHEN NOT IN SWAPSPACE WERE GETTING DS-ED WITH A SEG ARRAY ERROR WHILE RUNNING IN SWAPSPACE. THIS PATCH FIXES THE PROBLEM.

P4998 SORT - SYNTAX ERROR IN SORT - 11-17-74

WHEN THE SORT WAS COMPILED WITH THE COMPILER OPTION RESTART RESET, SYNTAX ERRORS WERE OCCURRING. THIS PATCH FIXES THE SYNTAX ERRORS.

SOURCENDL

P3888 SOURCENDL - NETWORK CHANGES - 07-07-74

SOURCENDL HAS BEEN UPDATED TO REFLECT THE CURRENT NETWORK CONFIGURATION.

P3889 SOURCENDL - DEFINES - 07-07-74

THE TTY AND PAPERTAPE REQUESTS NOW MAKE USE OF DEFINES TO ENHANCE READABILITY AND MAINTAINABILITY.

P3890 SOURCENDL - TC 500 SPEED UP - 07-07-74

THE TC 500 HAS BEEN OPTIMIZED IN ITS HANDLING OF BLANKS.

P3891 SOURCENDL - RJE FIXES - 07-07-74

TWO PROBLEMS IN RJE NEW LINE DISCIPLINE HAVE BEEN CORRECTED:

1) IF A PARITY ERROR WAS RECEIVED ON THE ACK OF A <F>ACK OR <U> ACK MSG, INCORRECT CODE WAS EXECUTED.

2) IF A CLUSTER BUFFER OVERFLOW WAS RECEIVED A LINE ABORT WOULD BE GENERATED AND INCORRECT RECOVERY ACTION WAS TAKEN.

P4347 SOURCENDL - RJE FIXES - 09-29-74

THE FOLLOWING PROBLEMS IN RJE HAVE BEEN CORRECTED:

1. OUTPUT OCCASSIONALLY WILL BE QUEUED UNTIL FURTHER LINE ACTIVITY TAKES PLACE;E.G., IF NO INPUT IS RECEIVED, THE OUTPUT WILL NEVER GO OUT.

2. THE RJE MCS COULD NEVER SUCCESSFULLY EXECUTE A RECALL MESSAGE DCWRITE SINCE THE LINE NEVER WENT NOT-BUSY.

3. THIS IMPROVEMENT ALLOWS THE MCS TO SEND EITHER A "DLE EOT" OR AN "EOT" MESSAGE TO DISCONNECT THE LINE.

SOFTWARE IMPROVEMENTS

P4862 SOURCENDL - TC500-TC3500 TRADEOFF - 09-29-74

SINCE THE TC3500 IS SOMEWHAT FASTER THAN THE TC500, THE USER CAN, IF HE WHISHES, SPEED UP HORIZONTAL TAB OPERATIONS BY USING THE FOLLOWING PATCH FOR SOURCENDL:
AT SEQUENCE NUMBER 20163320 INSERT THE CARD:

```
IF TALLY[0] > TC3500HTTRADEOFF THEN
```

THE REQUEST SET WILL WORK IF THIS IS NOT CHANGED FOR THE TC3500 BUT THE TABS MAY BE SLOWER.

P4863 SOURCENDL - NEW MCS NAMES - 09-29-74

TWO NEW MCS-S HAVE BEEN DECLARED IN SOURCENDL, THEY ARE:

SYSTEST/UTIL/REMOTELOGMCS (USED FOR REMOTE HARDWARE DIAGNOSIS).

SYSTEST/DCP/MAINTMCS (USED FOR ONLINE DCP HARDWARE TESTING).

P4864 SOURCENDL - RJE LOST BLOCK - 09-29-74

A LOST BLOCK PROBLEM IN RJE HAS BEEN CORRECTED. OCCASIONALLY WHEN SENDING OUTPUT TO THE PRINTER, IF THE PRINTER WAS IDLE PREVIOUSLY, THE FIRST BLOCK MIGHT BE DISCARDED. THE SYSTEM WAS NOT UPDATING THE TRANSMISSION NUMBER PROPERLY IN THIS SITUATION AND HENCE THE REMOTE THOUGHT IT HAD RECEIVED THE MESSAGE PREVIOUSLY.

P5087 SOURCENDL - RJE TIMEOUT - 11-03-74

THE NEW RJE LINE DISCIPLINE (CONTROL= CONCENTRATE. REQUEST= READRJE: RECEIVE, WRITERJE: TRANSMIT) WILL NOW GIVE A RJE TERMINAL 3 SECONDS TO TIMEOUT. PREVIOUSLY A MESSAGE WOULD BE RETRANSMITTED IF NO RESPONSE WAS RECEIVED IN 500 MILLISECONDS.

SOFTWARE IMPROVEMENTS

P5088 SOURCENDL - RJE "0000" MESSAGE - 12-11-74

ON ESTABLISHING A LINK BETWEEN AN RJE REQUEST AND THE SITE, THE NEW RJE REQUEST SET WOULD SEND A MESSAGE TO THE SYSTEM CONSISTING OF FOUR EBCDIC ZEROES ("0000") TO ACKNOWLEDGE THE LINK. THIS WAS FOUND TO CAUSE PROBLEMS WITH RJE LEAVING THE MIX ON LEASED AND DIRECT CONNECT LINES AND HAS BEEN REMOVED.

P5089 SOURCENDL - TIMEOUT FAULT - 11-17-74

IF AN MCS DOES A "READ ONCE ONLY" DCWRITE (TYPE = 34) TO A STATION WITH "CONTROL = CONTROL2741: REQUEST= RECEIVE2741: RECEIVE, TRANSMIT2741: TRANSMIT.", AN INFINITE LOOP BETWEEN CONTROL AND THE RECEIVE REQUEST WAS CAUSED. SINCE THE DCP COULD NOT HANDLE INTERRUPTS A TIMEOUT FAULT RESULTED. THIS HAS BEEN CORRECTED.

SOURCENDL

D0826 SOURCENDL - MOVE MCS SECTION - 07-07-74

THE MCS SECTION HAS BEEN MOVED TO THE DECLARATION SECTION, SEQUENCE 16000000-16999999.

D1083 SOURCENDL -- 2741 INITIALIZATION - 11-03-74

A NEW USER OPTION, "SELECTICUPPERCASE", HAS BEEN ADDED TO SOURCENDL. WHEN SET, IF A USER DIALS INTO A STATION WITH "CONTROL=CONTROL2741. REQUEST=RECEIVE2741:RECEIVE, TRANSMIT2741:TRANSMIT." HE WILL RECEIVE THE MESSAGE "UPPER CASE ONLY SET". THIS MEANS THAT ALL LOWER CASE CHARACTERS WILL BE TRANSLATED TO UPPERCASE. WHEN RESET THE MESSAGE "UPPER AND LOWER CASE SET" WILL BE PRINTED, MEANING UPPER AND LOWER CASE CHARACTERS WILL BE RECEIVED AS TYPED. THE USER CAN STILL CHANGE THE TRANSLATION AT RUNTIME AS FOLLOWS:

TO SET SELECTICUPPERCASE TYPE "?-"

TO RESET SELECTICUPPERCASE TYPE "?+"

TAPEDIR

P3433 TAPEDIR - MISCELLANEOUS COMMENTS - 03-28-74

THIS PATCH REPLACES THE NUMERICAL VALUE OF THE FILE ATTRIBUTES WITH THE CORRECT SYMBOLIC REFERENCES. SOME COMMENTS ARE ALSO ADDED.

P3718 TAPEDIR - BAD TAPE REPORTING IN TAPEDIR - 07-07-74

THIS PATCH DETECTS IF A RECORD READ IN IS NOT THE EXPECTED DIRECTORY RECORD BY USE OF THE TRANSACTION COUNT. IF THE COUNT IS NOT CORRECT, THE TAPE IS ABORTED AND TAPEDIR PROCEEDS WITH THE NEXT TAPE.

P4460 TAPEDIR - DELTA AND CURSOR PLACEMENT - 10-15-74

THE DELTA AND CURSOR ARE NOW PLACED IN THE CORRECT POSITION ON THE SCREEN FOR THE NEXT INPUT LINE.

P4814 TAPEDIR - COPYRIGHT UPDATE - 12-11-74

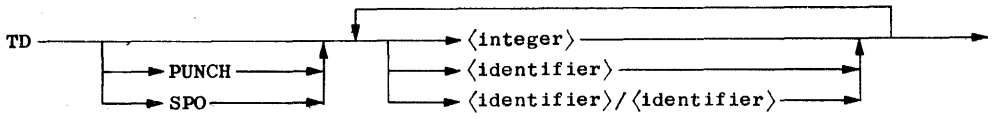
THIS UPDATES THE II.7 COPYRIGHT.

TAPEDIR

D1091 TAPEDIR - NEW COMMAND -TD- VS TAPEDIR - 12-22-74

WITH THE ADVENT OF THE II.7 RELEASE, THERE WILL APPEAR A NEW SPO COMMAND -TD-. THIS COMMAND MAY BE USED TO FIND OUT THE CONTENTS OF ANY LIBRARY TAPE MOUNTED ON THE SYSTEM. THIS COMMAND MAKES USE OF THE NEWLY RELEASED PROGRAM "SYSTEM/FILEDATA". THIS NOTE IS INTENDED TO DESCRIBE THE FEATURES OF THE-TD- COMMAND AND CONTRAST ITS USE WITH THE EXISTING "SYSTEM/TAPEDIR".

THE SYNTAX FOR -TD- IS:



THE DEFAULT DESTINATION OF THE REPORT IS THE LINE PRINTER. ENTERING THE KEY WORD "SPO" WILL CAUSE THE OUTPUT TO GO TO THE REQUESTING SPO. "PUNCH" WILL CAUSE PREPARATION OF A "COPY&COMPARE" CARD DECK (WITH NO "FROM" OR "TO" PART) WHICH CAN BE USED BY LIBRARY MAINTENANCE.

THE DESIRED TAPE MAY BE SPECIFIED BY TAPE NAME (WITH OR WITHOUT THE "/FILE000" PART) OR BE REQUESTED BY DRIVE NUMBER. THIS LATTER METHOD MUST BE USED IF THE N-TH REEL OF A MULTI-REEL LIBRARY DUMP IS REQUIRED.

EACH TAPE IS REPORTED ON IN TURN IN THE ORDER THE REQUESTS WERE ENTERED. ENTERING "QUIT" IN PLACE OF "NEXT" (EACH OCCURS AT THE PAUSE FOR A NEW PAGE) WILL CAUSE THE PROGRAM TO BE TERMINATED, POSSIBLY WITH SOME UN-REPORTED TAPES.

NOTE THAT THERE IS NO USER INTERACTION AS IS THE CASE WITH "SYSTEM/TAPEDIR". ALL INPUT DESIRED MUST BE ENTERED AT ONE TIME.

SYSTEM/TAPEDIR WILL CONTINUE TO BE SUPPORTED ON THE II.7 RELEASE.

UDSTRUCTURE TABLE

D0995 UDSTRCTTAB - "FAMILY" IN USERDATAFILE - 11-03-74

FAMILY SPECIFICATIONS MAY BE KEPT IN A USERDATAFILE. A NEW USERDATALOCATOR "FAMILY" AND A NEW VARIABLE DATA ITEM TYPE "FAMILY" HAVE BEEN DEFINED. FOR THE SYNTAX OF A FAMILY SPECIFICATION AND A DISCUSSION OF ITS APPLICATION, SEE NOTE D1075 (FAMILY SPECIFICATIONS).

D1012 UDSTRCTTAB - "SHOWFILES" IN USERDATAFILE - 11-03-74

A NEW DATA ITEM "SHOWFILES", OF TYPE BIT, HAS BEEN DEFINED FOR A USERDATAFILE ENTRY.. THE BIT IS SENSED BY THE MCP GETSTATUS PROCEDURE WHEN DIRECTORY INFORMATION IS REQUESTED BY SUCH PROGRAMS AS CANDE AND FILEDATA. THE BIT CONTROLS THE VISIBILITY OF FILE-NAMES AS FOLLOWS:

> IF A NON-PRIVILEGED USER "A" REQUESTS INFORMATION ABOUT THE FILES IN USER DIRECTORY "(B)", HE WILL SEE "NO FILES"

UNLESS THE SHOWFILES BIT IS SET IN THE USERDATAFILE ENTRY FOR USER "B". IF SHOWFILES IS SET, THE NAMES AND FILE-HEADER DATA WILL BE MADE AVAILABLE FOR THOSE FILES WITH SECURITYTYPE = CLASSA.

D1046 UDSTRCTTAB - "CANDEGETMSG" IN USERDATAFILE - 01-12-75

A NEW DATA ITEM "CANDEGETMSG", OF TYPE BIT, HAS BEEN DEFINED FOR A USERDATAFILE ENTRY. THE BIT IS SENSED BY CANDE AT LOG-ON TIME AND DETERMINES THE DEFAULT SETTING OR THE "MESSAGES" OPTION. SEE CANDE NOTE D927.

USERSTRUCTURE COMPILER

P4201 USERSTRUCT - KEYWORDS IN MAKEUSER - 10-15-74

THE LIST OF THE MAKEUSER KEYWORDS WAS EXTENDED IN THE II.6 RELEASE, WITH THE ADDITION OF "CREATE", "COPY", "ACCESS" AND "RECALL". THESE KEYWORDS MAY NOT BE USED TO DEFINE LOCATORS, SO THEY HAVE BEEN ADDED TO THE RESERVED-WORD TABLE IN THE USERSTRUCTURE COMPILER.

USERSTRUCTURE COMPILER

D1010 USERSTRUCT - PATCH MARKS - 10-15-74

PATCH MARKS IN COLUMNS 81-90 OF THE USERSTRUCTURE INPUT FILE (E.G., SYMBOL/UDSTRUCTURETABLE) ARE NOW DISPLAYED IN THE LISTING.

UTILITY LOADER

P3793 UTILOADER - ADD SET POOL TO SYMBOLIC - 05-30-74

THIS PATCH ADDS $ SET POOL TO THE SYMBOLIC TO PREVENT PRESENCE BIT INTERRUPT WHEN CM-ING OR LOADING FROM TAPE DUE TO OMISSION OF SETTING POOL WHEN COMPILING.

P4349 UTILOADER - PARITY RETRY - 09-29-74

WHEN ATTEMPTING TO READ TAPE LABELS, THE LOADER GIVES UP AFTER TWENTY RETRYS; HOWEVER, THE PARITY ERRORS MIGHT NOT BE ON THE TAPE THE NEEDED FILE IS ON, THEREFORE, THIS PATCH WILL ENABLE THE UTILOADER TO G.

SOFTWARE IMPROVEMENTS

P4867 UTILOADER - KEEP RUNNING LIGHT ON - 11-10-74

THIS PATCH KEEPS THE RUNNING LIGHT ON BY SCAN-IN PERIPHERAL STATUS IN THE INTERRUPT HANDLER.

P4868 UTILOADER - RESEQUENCE - 11-10-74

THIS PATCH RESEQUENCES SYSTEM/UTILOADER

P4869 UTILOADER - DISPLAY UNIT IN REWIND - 11-10-74

WHEN THE UTILOADER FINDS A TAPE THAT IS NOT AT THE LOAD POINT, IT REWINDS IT, WHILE THE TAPE IS REWINDING, THE LOADER LOOPS UNTIL THE TAPE UNIT GOES READY; THIS MAY BE MISLEADING ESPECIALLY IF THE TAPE UNIT IS NOT VISIBLE. THIS PATCH ALLOWS THE UTILOADER TO DISPLAY "RW" IN A & B PROCESSOR REGISTERS AND THE TAPE UNIT NUMBER IN THE HEX AND DECIMAL, IN X & Y REGISTERS, RESPECTIVELY.

P5090 UTILOADER - LOAD - 11-10-74

THE TAPE BLOCK WHICH COINCIDES WITH THE ROWSIZE OF AN ESPOL FILE CONTAINS 20 SEGMENTS OF BAD CODE (BLOCK 33); THE UTILOADER WAS DISREGARDING THIS FACT AND LOADING THESE 20 "JUNK" SEGMENTS WHEN IT SHOULD ONLY HAVE LOADED THE TEN VALID SEGMENTS IN THIS PARTICULAR BLOCK.

UTILITY LOADER

D0900 UTILOADER - TAPE LABEL RECOGNITION - 09-16-74

THIS LOADER LOADS ANY MCP CODE FILE FROM TAPE TO MEMORY,E.G., SYSTEM/LOADER.

CARD SYNTAX = TAPE LABEL	FILE NAME
e.g., SYSTEM	SYSTEM/LOADER
(FREE FIELD)	

WORK FLOW LANGUAGE

P3554 WFL - DATACOM LOCKING CODE - 04-18-74

THIS PATCH MODIFIES WORK FLOW LANGUAGE TO CONFORM WITH MCP CHANGES TO DATACOM LOCKING CODE.

P3555 WFL - INCREASE CODEFILE ROWSIZE - 04-18-74

IF WORK FLOW LANGUAGE GENERATED MORE THAN 150 SEGMENTS (4500 WORDS) OF CODE THE JOB WOULD BLOW UP DURING EXECUTION. THIS PATCH INCREASES THE ROWSIZE OF THE FILE SO IT WILL BE LARGER THAN THE MAXIMUM NUMBER OF CODE SEGMENTS ALLOWED BY THE HARDWARE.

P3584 WFL - SCAN FILE TITLES CORRECTLY - 05-30-74

THE WORDS EBCDIC, BCL, BINARY, DATA OR END MAY CAUSE ERRONEOUS SYNTAX ERRORS WHEN APPEARING AT BEGINNING LOCATIONS IN FILE TITLES. THIS PATCH CORRECTS THE PROBLEM.

P3585 WFL - JUNK RECORD IN JOBFILE - 05-12-74

THIS PATCH CORRECTS A PROBLEM IN WHICH IF WORK FLOW LANGUAGE DETECTS AN END-OF-FILE BEFORE END-OF-JOB, IT WAS POSSIBLE TO GET A RECORD CONTAINING JUNK INTO THE JOBFILE. THIS BAD RECORD COULD CAUSE A VARIETY OF FAULTS IN JOBFORMATTER DEPENDING UPON THE VALUES CONTAINED IN THE RECORD.

P3586 WFL - RUN DECK FROM SECURED READER - 05-12-74

THE "DECK" STATEMENT OF WORK FLOW LANGUAGE CAN WRITE USERCODE FILES FROM A SECURED READER EVEN IF NO USERCODE IS SUPPLIED. THIS PATCH FORCES A USERCODE TO BE SUPPLIED IF A READER IS SECURED AND APPLIES THE USER"S SECURITY LIMITATIONS WHEN CREATING FILES.

P4107 WFL - DUPLICATE SEQUENCE - 08-01-74

THIS PATCH FIXES DUPLICATE SEQUENCE NUMBERS IN WFL.

P4108 WFL - RJE DECK INPUT - 08-01-74

THE CARD INPUT FOR A WFL DECK WAS NOT BEING STORED CORRECTLY WHEN THE SOURCE WAS AN RJE STATION. THE TRAILING PART OF THE RECORD WAS NOT BEING BLANKED. THIS PATCH FIXES THE PROBLEM.

P4350 WFL - CATALOG START - 09-29-74

THIS PATCH CORRECTS SYNTAX ERRORS ON CATALOG START.

P4351 WFL - COPY AND BACKUP - 09-29-74

THIS PATCH IMPLEMENTS COPY AND BACKUP OPTION FOR WFL-LIEBNITZ INTERFACE.

P4352 WFL - SCR STATEMENT - 09-29-74

WORK FLOW LANGUAGE NOW SCANS PAST THE SEMICOLON FOLLOWING SCR STATEMENT TO SCAN TASK ATTRIBUTES.

P4353 WFL - WFL "ON" SYNTAX - 09-29-74

THE WORK FLOW LANGUAGE WILL NOW ALLOW

"TITLE = A ON P"

AS BEING EQUIVALENT TO

"TITLE = A, PACKNAME = P, KIND = PACK.

THIS MAY ALSO BE USED IN THE OLD STYLE LABEL EQUATION CARDS.

EXAMPLE: "FILE CARD = SYM ON P".

SOFTWARE IMPROVEMENTS

P4870 WFL - BAD JOBNAME - 10-27-74

IF THE FIRST IDENTIFIER OF A JOB NAME GETS AN ERROR, WFL NO LONGER WILL HANG IN A LOOP COMPILING THE FIRST CARD INDEFINITELY, AND CREATING AN INDEFINITE NUMBER OF JOB FILES WITH A SYNTAX ERROR.

P4871 WFL - MINIMUM STACK = 425 WORDS - 10-27-74

THIS PATCH ALLOWS A MINIMUM STACK SIZE OF 425 WORDS FOR TASKS FIRED OFF BY WFL.

P4872 WFL - PROPAGATE FAMILY - 11-10-74

THIS PATCH ALLOWS:

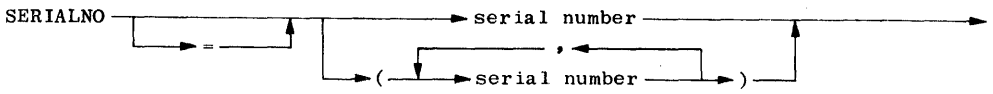
1) WFL TO OBTAIN FAMILY SUBSTITUTION INFORMATIONS FROM USERDATA FILE.

2) WFL TO PROPAGATE FAMILY SUBSTITUTION TO ZIPPED JOBS UNLESS A "FAMILY STATEMENT" APPEARS IN THE ZIPPED JOB.

WORK FLOW LANGUAGE

D0739 WFL - SERIALNO IN WFL - 03-28-74

SERIALNO IS NO LONGER A NUMERIC ATTRIBUTE. WORK FLOW LANGUAGE NOW ALLOWS AN ALPHANUMERIC SERIAL NUMBER TO BE SET AS A FILE ATTRIBUTE; ALSO, LISTS OF SERIAL NUMBERS ARE ALLOWED. THE SYNTAX FOR THE SERIALNO ATTRIBUTE IS AS FOLLOWS:



A SERIAL NUMBER MAY BE ANY DECIMAL NUMBER SIX DIGITS OR LESS WHICH WILL BE CONVERTED TO EBCDIC AND RIGHT JUSTIFIED OVER A FIELD OF EBCDIC ZEROES OR AN ALPHANUMERIC STRING NOT LONGER THAN SIX CHARACTERS WITH OR WITHOUT TRAILING BLANKS WHICH WILL BE LEFT JUSTIFIED OVER A FIELD OF BLANKS.

IN THE CASE OF A SERIAL NUMBER LIST, A SERIAL NUMBER MAY ALSO BE NULL (EMPTY). THIS WILL CIRCUMVENT SERIAL NUMBER CHECKING.

IF A SERIALNUMBER LIST IS GIVEN, SERIAL NUMBERS ARE APPLIED IN THE ORDER GIVEN TO MULTIPLE REELS OF THE FILE.

EXAMPLES:

```
FILE F (SERIALNO = 10)
FILE F (SERIALNO (10))
FILE F(SERIALNO())
FILE F(SERIALNO=("AB ",1,,"234 ",456,,"2",));
```

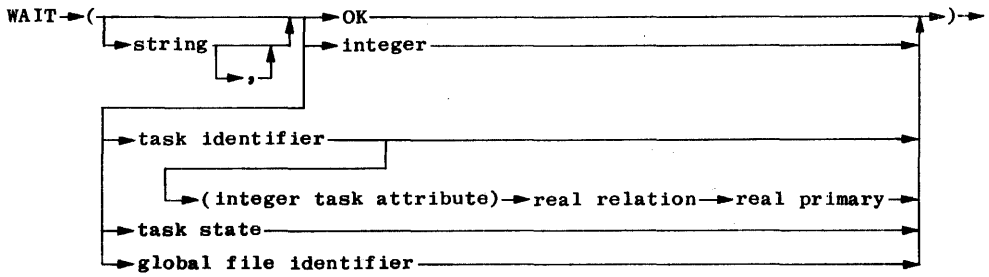
D0739 WFL - SERIALNO IN WFL - 03-28-74

```
FILE F(SERIALNO = "C29127");
```

PLEASE REFER TO D0738 IN THE INPUT/OUTPUT SECTION FOR FURTHER INFORMATION ABOUT SERIALNO.

D0751 WFL - DISPLAY IN WAIT STATEMENT - 04-18-74

THE FOLLOWING CHANGES SHOULD BE MADE TO THE SYNTAX FOR THE WAIT STATEMENT FOUND ON 2-21 OF THE WORK FLOW MANAGEMENT USERS GUIDE:



IF A STRING APPEARS AT THE START OF THE WAIT STATEMENT IT WILL BE DISPLAYED PRIOR TO PERFORMING THE WAIT.

EXAMPLE:

```
WAIT("ENTER OK WHEN READY", OK);
```

D0787 WFL - ABORT STATEMENT - 05-30-74

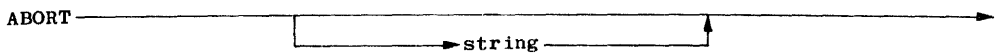
THE ABORT STATEMENT DISCONTINUES THE JOB AND CAUSES ANY ACTIVE TASKS TO BE DISCONTINUED. IF A STRING IS USED IN THE ABORT STATEMENT IT WILL BE DISPLAYED PRIOR TO PERFORMING THE ABORT.

EXAMPLE:

```
ABORT "JOB ABORTED";
```

ABORT STATEMENT:

D0787 WFL - ABORT STATEMENT - 05-30-74



D0788 WFL - SIMPLE COMPILE AND GO - 05-30-74

A SIMPLE FORM OF A COMPILE AND GO IS NOW ALLOWED IN THE WORK FLOW LANGUAGE. IF ONLY THE COMPILER NAME IS GIVEN IT WILL BE TREATED AS A COMPILE OF A PROGRAM CALLED "GO" AND A SUBSEQUENT GO

EXAMPLE: TO INITIATE A COMPILE AND GO IN ALGOL

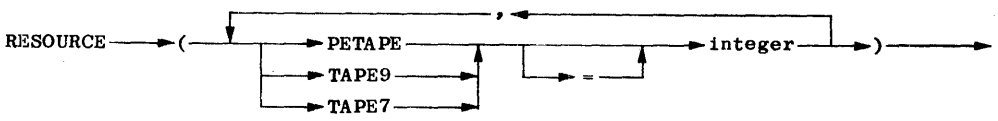
?ALGOL;DATA.....

D0885 WFL - INTERFACE RESOURCE ALLOCATION - 08-01-74

RESOURCE TASK ATTRIBUTE

THIS IS USED TO SPECIFY HOW MUCH RESOURCE IS NEEDED. THIS STATEMENT HAS TO BE ATTACHED TO THE TASK WHICH NEEDS RESOURCE ALLOCATION.

SYNTAX:



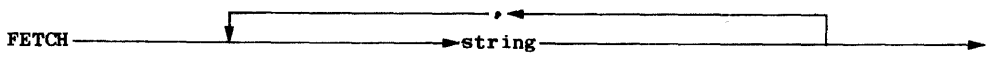
EX: RUN X; RESOURCE (PETAPE = 2, TAPE7 = 3);

THE INTEGER MUST BE BETWEEN 0 AND 255.

FETCH JOB ATTRIBUTE

THE FETCH STATEMENT PROVIDES THE FACILITY TO ALLOW OPERATOR TO FETCH THE NECESSARY TAPES, DISK PACKS, ETC., BEFORE THE JOB IS RUN. THE PROGRAMMER CAN THEN SPECIFY WHICH VOLUMES OR FILES HE HAS TO HAVE IN ORDER TO RUN THIS JOB. A JOB WITH FETCH STATEMENT CAN BE RUN ONLY IF EITHER THE OPERATOR RESPONDS TO THE FETCH STATEMENT (BY ENTER "OK") OR THE "NO FETCH" OPTION IS SET. THE FETCH STATEMENT MAY APPEAR ONLY AT THE JOB LEVEL.

THE FORMAT OF THE FETCH STATEMENT IN WFL IS AS FOLLOWS:

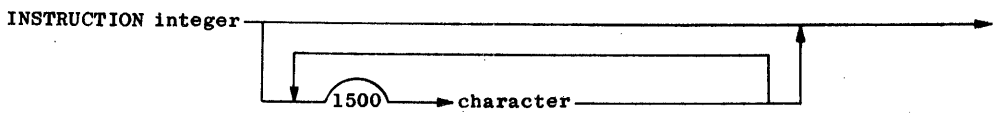


MAY APPEAR ONLY IN JOB HEADING.

INSTRUCTION STATEMENT

THIS IS USED TO INSTRUCT OPERATOR HOW TO RUN THIS PROGRAM. INSTRUCTION IS A STATEMENT AND MAY APPEAR WHEREVER A WFL STATEMENT IS VALID. A PROGRAM MAY SPECIFY BLOCK NUMBERS 1 THROUGH 63. THE TEXT FOR ALL WILL BE STORED IN THE JOBFILE AND MAY BE INTERROGATED AT ANY TIME. INSTRUCTION NUMBER ONE IS USED BY DEFAULT IF THE OPERATOR INTERROGATES THE OPTION WITHOUT SPECIFYING NUMBER AND THE JOB IS IN THE INPUT QUEUE.

D0885 WFL - INTERFACE RESOURCE ALLOCATION - 08-01-74



EX: INSTRUCTION 5: PLEASE DS MY JOB, IF NO FILEA

INSTRUCTION 7: MOUNT "LOGSTATISTICS"

D0947 WFL - DEFAULT KIND - 10-15-74

THE WORK FLOW LANGUAGE WILL NOW ALLOW A KIND MNEMONIC WITHOUT THE ATTRIBUTE KIND= BEING MENTIONED.

EXAMPLE: COPY A FROM P (PACK) TO Q (PACK);

RUN X; FILE F (PETAPE);

D1088 WFL - DO AND WHILE STATEMENTS - 08-01-74

THIS PATCH ADDS TWO NEW FORMS OF SEQUENCING CONTROL:

1. WHILE <BOOLEAN EXPRESSION > DO <STATEMENT>
2. DO <STATEMENT> UNTIL <BOOLEAN EXPRESSION>.

XALGOL

P4374 XALGOL - MONITOR DECLARATION - 09-29-74

THIS CHANGE CORRECTS THE PROBLEM ENCOUNTERED WHEN DECLARING A MONITOR LIST WITH IDENTIFIERS USED AS A BOUND PAIR IN AN ARRAY DECLARATION WITHIN THE SAME BLOCK.

XREF ANALYZER

P4734 XREFANALY - II.7 COPYRIGHT - 11-23-74

THE II.7 RELEASE COPYRIGHT HAS BEEN UPDATED.

P5120 XREFANALY - VERSION IDENTIFICATION - 12-22-74

IF XREFANALYZER WERE COMPILED WITHOUT A $VERSION CARD, IT WOULD GO INTO A LOOP WHEN EXECUTING. THIS PATCH ALLOWS IT TO BE COMPILED WITHOUT A VERSION CARD.

APPENDIX A

ALGOL FORMATTING (SYNTAX AND ERRORS)

FORMAT DECLARATION

SYNTAX

```
<format declaration> ::= FORMAT <in-out part> <format part list>
<in-out part> ::= <empty> | IN | OUT
<format part list> ::= <format part> | <format part list> , <format part>
<format part> ::= <format identifier> ( <editing specifications> ) |
                  <format identifier> ⟨ <editing specifications> ⟩
<format identifier> ::= <identifier>
<editing specifications> ::= <editing segment> | <editing specifications> / |
                             / <editing specifications> |
                             <editing specifications> / <editing segment>
<editing segment> ::= <editing phrase> | <repeat part>
                      ( <editing specifications> ) | <editing segment> ,
                      <repeat part> ( <editing specifications> )
<editing phrase> ::= <repeat part> <editing phrase type> <field width part>
<repeat part> ::= <empty> | <unsigned integer> | *
<editing phrase type> ::= <simple string> |
                          A | C | D | E | F | G | H | I | J | K | L | O | P |
                          R | S | T | U | V | X | Z | $
<field width part> ::= <empty> | <field width> <decimal places>
<field width> ::= <unsigned integer> | *
<decimal places> ::= <empty> |. <unsigned integer> |.*
```

EXAMPLES

```
FORMAT HDG("THIS REPORT SHOULD BE MAILED TO ROOM W-252")
FORMAT IN EDIT (X4, 216, 5E9.2, 3F5.1, X4)
FORMAT IN F1 (A6,5(X3,2E10.2,2F6.1),3I7),F2(A6,6,A6)
FORMAT OUT FORM1 (X56, "HEADING",X57),FORM2 (X10,4A6/X7,5A6/X2,5A6)
FORMAT FMT1 (*I*)
FORMAT FMT2 (*V*.*)
```

SEMANTICS

A <format declaration> associates each of its <format identifer>s with an <editing specifications>. <define identifier>s, <remark>s, and <formal symbol>s cannot be used in formats.

A format can be referenced in a <read statement>, <write statement>, or a <switch format declaration>. In general, a <list> would also be referenced in those same statements, and the joint purpose is to indicate a series of data items (specified by the <list>) along with the formatting action (specified by the <format identifier>) to be performed on each of the data items.

<in-out part>

The <in-out part> has effect only upon the treatment of <simple string>s used with a format. Under certain circumstances a <simple string> (appearing as an <editing phrase type>) is read-only. Any attempt to store into read-only entity results in a program execution error.

If the <in-out part> of a <format declaration> is OUT or <empty>, there is a run-time error if an attempt is made to replace any <simple string> in the format via a <read statement>. If the <in-out part> is IN, <simple string>s within formats are not read-only and can be replaced. However, once a <simple string> has been replaced, the format containing it is altered from its original definition in the <format declaration>. When reading data into a format element to replace a <simple string>, no more characters can be transferred than appear in the <simple string>.

SLASH

Two fields in a format item list are separated by a comma, a slash, or a series of slashes. A slash is used to indicate the end of a record. On input, any remaining characters in the current record are ignored when a slash is encountered in the specification list. On output, the construction of the current record is terminated and any subsequent output is placed in the next output record(s). Multiple slashes may be used to skip several records of input or generate several blank records on output. The final right parenthesis of a format also acts to indicate the end of the current record.

Carriage control occurs each time a slash appears in the format. With the <core-to-core file part>, a slash in the format is ignored.

EXAMPLE:

```
<I> COMPILE FMT/TEST ALGOL; EBCDIC
    BEGIN
    FILE READER (KIND=READER),
         LINE   (KIND=PRINTER);
    REAL A,B;
    FORMAT  FMT(I2,/,I2);
    READ (READER, FMT, A,B):
    WRITE(LINE, FMT, A,B);
    WRITE(LINE [SKIP 1],FMT, A,B):
    END.
<I> DATA
 1234
 5678
<I>END
Produces the following output:
12
56
12
 .
 .  <to channel 1
56
```

NOTE

For ease of explanation, lower case letters are used to refer to the parts of an <editing phrase>:

r = <repeat part>
w = <field width>
d = <decimal places>

ASTERISKS

If an asterisk (*) appears in a format specification list in place of the r, w, or d parts, then the I/O list will be accessed once and the value of the I/O list element obtained will be used to replace the *. A new I/O list element is required each time an * is encountered in the specification list.

<repeat part>

Format specifications and format list portions enclosed in parentheses may optionally be immediately preceded by an unsigned nonzero integer constant. This constant indicates the number of times that portion of the specification list is to be interpreted. If no such repeat count is indicated, a repeat count of 1 is assumed.

If the outer right parenthesis of the format specification list is encountered before the I/O list is exhausted, control reverts to the repeat count (if present) of the repeat specification group terminated by the last preceding right parenthesis. If no other right parenthesis exists in the specification list, then control reverts to the first left parenthesis of the specification list.

The following are proper examples of the use of repeat counts. In each case, the repeat count is 3.

```
3F10.4
3(A6/)
3(3A6,3(/I12)/)
```

If the <repeat part> is <empty>, a value of 1 is assumed.

If the <repeat part> is an *, the number of repetitions is determined by the value of the corresponding <list element> as follows:

a. If the value is greater than 0, then repeat the number of times represented by the value.

b. If the value is equal to 0, then repeat indefinitely.

c. If the value is less than 0, then skip to the corresponding right parenthesis.

EXAMPLE:

```
<I> COMPILE VAR/REPEAT ALGOL; EBCDIC
 BEGIN
  FILE LINE(KIND=PRINTER);
  REAL A,B,C;
  FORMAT FMT(*(A2,X1),*I2);
  A:=1; B:=2; C:=3;
  WRITE(LINE,FMT,2,"AB","CD",3,A,B,C);
  WRITE(LINE,FMT,-3,1,A);
  WRITE(LINE,FMT,0,"AB","CD","EF");
END.
<I>END
Produces the following output:
ABbCDbb1b2b3
b1
ABbCDbEFb
```

<width part>

When an asterisk used for the field width of a format phrase is given a zero or negative value at run-time, no editing action occurs for that phrase; however, the next list element is skipped as if it had been edited by the inactive editing phrase. (If a zero or negative field width occurs (at run-time) for a phrase with a repeat part, enough list elements are skipped to satisfy the repeat count.)

EXAMPLE:

```
<I> COMPILE VAR/WIDTH ALGOL; EBCDIC
 BEGIN
  FILE LINE(KIND=PRINTER);
  REAL A;
  FORMAT FMT(I*,A*);
  A:=12;
  WRITE(LINE,FMT,3,A);
  WRITE(LINE,FMT,0,A,2,"AB");
  END.
<I>END
Produces the following output:
b12
AB
```

EDITING PHRASE ACTIONS

The actions of the various <editing phrase type>s are explained in the following information, arranged in alphabetical order according to the <editing phrase type> letter.

<simple string> FORMAT

The presence of a <simple string> in a format indicates that the characters enclosed by the quote marks (") are to be used as the data. The occurrence of a <simple string> does not require a corresponding <list element> when the format is used.

EXAMPLE:

```
   .
   .
 WRITE(LINE,<4"C1C2", 8"ABC">);
$SET BCL
 WRITE(LINE,<3"646566", 6"HIJ">);
   .
   .
```

Will produce the following output:

```
ABABC
DEFHIJ
```

A Format

The alphanumeric format specification Aw causes data to be transferred to or from internal storage as EBCDIC (8-bit) or BCL (6-bit) characters.

NOTE

> Prior to II.7, the INTMODE of the file determined the character size applied to list elements (except pointers). On II.7, the default character size (6-bit if $SET BCL appears, 8-bit otherwise) applies to list elements (other than pointers). This gives the added flexibility of writing BCL (6-bit) data to an EBCDIC (8-bit) file (and vice versa) and similarly for input, with translation occurring where necessary to preserve character data.

EXAMPLE:

```
BEGIN
FILE F(KIND=PRINTER,INTMODE=EBCDIC);
WRITE(F, <A3>,8"ABC");
$SET BCL
WRITE(F,<A3>,6"ABC");
END.
```

Output prior to II.7:

```
ABC
???  (where ? represents a non-graphic EBCDIC character)
```

OUTPUT on II.7:

```
ABC
ABC
```

Pointers

On input, w characters are transferred from the input record to the pointer-designated location. On output, w characters are transferred from the pointer-designated location to the output record. The <character size> used is that of the pointer.

NOTE

For purposes of explanation of A and C formats, the variable Q will be used, where the value of Q is derived from the following table:

		(default character size) BCL	EBCDIC
(precision)	Single	8	6
	Double	16	12

[If the list element is <pointer expression> FOR <arithmetic expression>, use the <arithmetic expression> as the value of Q.]

Input

On input, the A-format specification causes the character string of width w in the external field to be assigned to the corresponding simple variable or array element in the I/O list. Legal <list element>s are of type ALPHA, INTEGER, BOOLEAN, DOUBLE, REAL, or POINTER.

If w is greater than or equal to Q, the right-most Q characters of the input field are transferred to the <list element>. If w is less than Q, w characters of the input field are transferred to the <list element>, right-justified. The unused high-order bits of the data word are set to zero.

Input Examples

DEFAULT CHARACTER SIZE	EXTERNAL STRING	SPECIFICATION	INTERNAL VALUE
8	ABCDEFGHIJKL	A9	8"DEFGHI"
6	ABCDEFGHIJKL	A9	6"BCDEFGHI"
8	AbCbEbGbIbK	A4	4"0000"8"AbCb"
6	ABCDEFGHIJKL	A4	6"0000ABCD"
(either)	ABCDEFGHIJKL	A12	ABCDEFGHIJKL (pointer as <list element>)
8	ABCDEFGHIJKL	A12	4"0000"8"ABCDEFGHIJKL" (8-bit pointer FOR 14)
6	ABCDEFGHIJKL	A12	6"JKL" (6-bit pointer FOR 3)

NOTE

If the corresponding <list element> is an INTEGER variable, the w characters of the input field are stored into this <list element> without integerization being performed. If w is greater than 4, the INTEGER <list element> can receive a non-integer value. (Refer to Word Formats in appendix B.)

Output

On output, the A <editing phrase> causes the characters contained in the appropriate variable in the <list element> to be converted into an external string of length w.

If w is greater than or equal to Q, the Q characters of the <list element> are placed right-justified in the field, preceded by w minus Q blanks.

If w is less than Q the right-most w characters of the <list element> are written into the output field. If the output character size is 8-bit and one of the character fields in the word contains a bit pattern that does not correspond to an EBCDIC graphic,? (denoting an invalid character) would be printed in that position.

Output Examples

DEFAULT CHARACTER SIZE	INTERNAL VALUE	SPECIFICATION	EXTERNAL STRING
8	8"DEFGHI"	A9	bbbDEFGHI
6	6"BCDEFGHI"	A9	bBCDEFGHI
8	4"0000000000"8"A"	A4	???A
6	6"0000ABCD"	A4	ABCD
8	8"ABCDEFG" (8-bit pointer FOR 7)	A11	bbbbABCDEFG
6	6"ABCDEFG" (6-bit pointer FOR 7)	A4	DEFG

C Format

The Cw format specification has the same effect as the Aw format specification except that characters are placed into and taken from the leftmost portion of a word (or list element).

Input Examples

DEFAULT CHARACTER SIZE	EXTERNAL STRING	SPECIFICATION	INTERNAL VALUE
8	ABCDEFGHIJKL	C9	8"DEFGHI"
6	ABCDEFGHIJKL	C9	6"BCDEFGHI"
8	ABCD	C4	8"ABCD"4"0000"
6	ABCDEFGHIJKL	C4	6"ABCD0000"
8	ABCDEFGHIJKL	C12	8"ABCDEFGHIJKL"4"0000" (8-bit pointer FOR 14)
6	ABCDEFGHIJKL	C12	6"JKL" (6-bit pointer FOR 3)

Output Examples

DEFAULT CHARACTER SIZE	INTERNAL VALUE	SPECIFICATION	EXTERNAL STRING
8	8"DEFGHI"	C9	bbbDEFGHI
6	6"BCDEFGHI"	C9	bBCDEFGHI
8	8"ABCD"4"0000"	C5	ABCD?
6	6"ABCD0000"	C4	ABCD
8	8"ABCDEFG" (8-bit pointer FOR 7)	C11	bbbbABCDEFG
6	6"ABCDEFG" (6-bit pointer FOR 7)	C4	ABCD

D,E Formats

The format specifications Dw.d and Ew.d cause data appearing in an external character string as a numeric constant to be associated with an internal storage location for purposes of input or output.

Correct action will occur for list elements of type ALPHA, INTEGER, REAL, DOUBLE or BOOLEAN.

Input

[In the following discussion and examples for input, the letter "D" may be substituted wherever "E" is used.]

On input, the Ew.d specification causes the value of the numeric constant written with or without exponential notation in a string of w input characters to be assigned to the corresponding I/O list element.

The Ew.d specification allows the input constant to contain as many decimal places as desired by use of the decimal place count, d. If no decimal point appears in the input string, a decimal point is implied as specified by d. Thus, the input string 100E0 when read using the specification E5.2 would be interpreted as the numeric constant 1.E+0 with two implied decimal places in the input string. A decimal point is assumed d places from either the right edge of the input field or from the E denoting the exponent, if there is one.

The field width, w, must be greater than or equal to the specified number of decimal places, d. A blank is interpreted as a zero.

EXAMPLES:

EXTERNAL STRING	SPECIFICATION	INTERNAL VALUE
bbbbbb25046	E11.4	+2.5046
bbbbb25.046	E11.4	+25.046
-bb25046E-3	E11.4	-0.0025406
bb250.46E-3	E11.4	+0.25046
b-b25.04678	E11.4	-25.04678

Output

On output, the Dw.d and Ew.d specifications cause the value of the corresponding item in the I/O list to be written as an output character string of length w, representing a numeric constant expressed in exponential notation. The exponent is adjusted so that the decimal point is positioned as specified by the decimal place count, d.

The specified width of the output field, w, must be greater than or equal to the number of specified decimal places, d, plus 7. This provides for a 4-character exponent part, a decimal point, a digit preceding the decimal point, and a sign. If this rule is violated, the field will be filled with asterisks.

The Dw.d specification is essentially equivalent to the Ew.d specification except for the presence of a D rather than an E in the exponent part of the output string.

Furthermore, the number of characters necessary to represent the D exponent part depends upon the value of the exponent. The following types of exponent parts may appear:

(4-character)	D$\pm$XX	where	$01 \leq XX \leq 99$
(4-character)	$\pm$XXX	where	$100 \leq XXX \leq 999$
(7-character)	D$\pm$XXXXX	where	$01000 \leq XXXXX \leq 99999$

Output Examples

INTERNAL VALUE	SPECIFICATIONS	EXTERNAL STRING
+36.7929	E13.5	bb3.67929Eb01
-36.7929	E12.5	-3.67929Eb01
-36.7929	E11.5	3.67929Eb01
+36.7929	E10.5	**********
1.234@@-73	D14.5	bbb1.23400D-73
-789@@1234	D15.3	bb-7.890D+01236
6.54@@321	D9.2	b6.54+321

F Format

The real format specification Fw.d causes data appearing in an external character string as a real constant to be associated with an internal storage location for purposes of input or output. Correct action will occur for list elements of type ALPHA, INTEGER, REAL, DOUBLE, or BOOLEAN.

On input, the Fw.d specification causes the value of the real constant written with or without exponential notation in a string of w input characters to be assigned to the corresponding I/O list element.

The decimal point may be positioned as indicated in the input string or located as desired via the decimal place count, d. If no decimal point appears in the input string, a decimal point is implied as specified by d. A decimal point is assumed d places from the right edge of the input field. Thus, the input string 1234 when read using the specification F4.2 would be interpreted as the real constant 12.34 with two implied decimal places in the input string.

The field width, w, must be greater than or equal to the specified number of decimal places, d, and must include the decimal point and exponent field when either or both are present. A blank is interpreted as a zero.

EXAMPLES:

EXTERNAL STRING	SPECIFICATION	INTERNAL VALUE
36725931	F8.4	+3672.5931
3.672593	F8.4	3.672593
-367259.	F8.4	-367259
-3672.E2	F8.4	-367200
367259E2	F8.4	+3672.59
3.672E-1	F8.4	+.3672
367259	F6.6	+0.367259
b-b3456	F7.2	-34.56

Output

On output, the Fw.d specification causes the value of the corresponding item in the I/O list to be written as an output character string of length w, representing a real constant expressed without using exponential notation. The decimal point is adjusted such that d digits follow the decimal point.

The constant is right-justified over blanks within the field, and the specified width of the output field, w, must be greater than or equal to the number of specified decimal places, d, plus 1. The possible presence of a minus sign for a negative datum must be taken into consideration when specifying the field width.

The internal value is rounded to satisfy the decimal point specification, and the field will contain asterisks if the value to be output has an integer part too large for the allotted field.

EXAMPLES:

INTERNAL VALUE	SPECIFICATION	EXTERNAL STRING
+36.7929	F7.3	b36.793
+36.7934	F9.3	bbb36.793
-0.0316	F6.3	-0.032
0.0	F6.4	0.0000
0.0	F6.2	bb0.00
+579.645	F6.2	579.65
+579.645	F4.2	****
-579.645	F6.2	******

G Format

The <field width part> must be <empty>. No <list element> corresponds to this editing letter.

BCL Files

On input, eight 6-bit characters from the input record are skipped. On output, eight BCL zeroes are written.

EBCDIC Files

On input, six 8-bit characters from the input record are skipped. On output, six EBCDIC zeroes are written.

H, K Formats

NOTE

[For purposes of explanation of H and K formats, the variable Q will be used, where the value of Q is derived from the following table:

		(format phrase) H	K
(precision)	single	12	16
	double	24	32

Also, the term Characters will refer to hexadecimal characters for H format, and octal characters for K format.]

The Hw and Kw format specifications cause an external string of Characters in a field of width w to be interpreted as a hexadecimal (H) or octal (K) value and associated with the corresponding list element for purposes of input data transfer. Conversely, an internal value is converted to Characters and associated with a corresponding list element for purposes of output data transfer. Legal list elements are of type ALPHA, REAL, INTEGER, DOUBLE and BOOLEAN.

Input

On input, the value represented by the Characters in the input field is assigned to the corresponding <list element> variable. Leading, trailing and embedded blanks are interpreted as zeroes. A minus (-) sign causes bit 46 of the storage word (or the first word of a double) allocated to the variable to be complemented.

If the input data is less than or equal to Q Characters long, it is stored right-justified in the storage location (both words of a double are included). Unused high-order bits are set to zero. If w is greater than Q, the leftmost w minus Q Characters must be blank, zero or minus; otherwise a data error will occur.

Input Examples

EXTERNAL STRING	SPECIFICATION	INTERNAL VALUE
6F	H2	4"00000000006F"
1FFFFFFFFFFF	H12	4"1FFFFFFFFFFF"
-16	H3	4"400000000016"
1234b568	H8	4"000012340568"
FFCb	H4	4"00000000FFC0"
00C1C2C3C4C5C6	H14	4"C1C2C3C4C5C6"
-ABCD	H5	4"4000000000000000000ABCD" (double)
123456789ABCDEF	H15	4"0000000001234567 89ABCDEF" (double)
16	K2	3"0000000000000016"
1777777777777777	K16	3"1777777777777777"
-16	K3	3"2000000000000016"
1234b56	K7	3"0000000001234056"
77b	K3	3"0000000000000770"
-567	K4	3"2000000000000000000000000000567" (double)
1234567654321234567	K19	3"0000000000001234567654321234567" (double)

NOTE

If the input string contains a non-Character, an error occurs, and the "data error" <action label> of the <read statement> is invoked (if not specified).

Output

On output, the value of the <list element> is printed as a string of Characters right-justified over blanks in a field of width w. If w is less than Q, the contents of the rightmost w*4 bits (H) or w*3 bits (K) of the storage word (consider a double-precision variable as effectively a 96-bit word) are printed as a string of w Characters. If w is greater than Q, the Q Characters of the <list element> are placed right-justified in the output field, preceded by w minus Q leading blanks. Such output never contains a printed sign.

Output Examples

INTERNAL VALUE	SPECIFICATION	EXTERNAL VALUE
4"0000E5551010"	H5	51010
4"0000E5551010"	H12	0000E5551010
4"0000E5551010"	H16	bbbb0000E5551010
8"123456"	H12	F1F2F3F4F5F6
4"000000000000000012345678" (double)	H4	5678
8"123456789bbb" (double)	H24	F1F2F3F4F5F6F7F8F9404040
3"0005677701234445"	K5	34445
3"0005677701234445"	K16	0005677701234445
3"0005677701234445"	K18	bb0005677701234445
3"000000000000000000000000001234567" (double)	K4	4567

I Format

The integer format specification Iw causes an external character string of width w to be associated with the corresponding list element for purposes of data transfer. Legal list elements are of type ALPHA, REAL, INTEGER, DOUBLE, or BOOLEAN.

Input

On input, the Iw specification causes the value of the integer constant in the input field to be assigned to the corresponding list element. Any legal ALGOL integer constant is allowed in the field. Blank characters are interpreted as zeroes. The magnitude of the value which may be input depends upon the type of the list element.

Input Examples:

EXTERNAL STRING	SPECIFICATION	INTERNAL VALUE
567	I3	+567
bb-329	I6	-329
-bbbb27	I7	-27
27bbb	I5	+27000
b-bb234	I7	-234

Output

On output, the Iw specification causes the value of the corresponding list element to be printed as an integer constant in a field of width w. The constant is right-justified over a field of blanks, and the plus sign is not printed for non-negative quantities.

If the value of the list element requires a field larger than w, then w asterisks will be printed.

Floating-point values are rounded to an integer value before printing.

Output Examples

INTERNAL VALUE	SPECIFICATION	EXTERNAL STRING
+23	I4	bb23
-79	I4	b-79
+67486	I5	67486
-67486	I5	*****
+978	I1	*
0	I3	bb0
+3.6	I2	b4

J Format

The integer format specification Jw causes an external character string of at most w characters to be associated with the corresponding list element for purposes of data transfer. Legal list elements are of type ALPHA, REAL, INTEGER, DOUBLE, or BOOLEAN.

Input

On input, the Jw specification functions identically to the Iw specification.

Output

On output, the Jw specification causes the value of the corresponding list element to be printed as an integer constant in the minimum field necessary to contain the value without exceeding w. The plus sign is not printed for non-negative quantities.

If the value to be printed requires more than w characters, w asterisks will be printed.

Floating-point values are rounded to an integer value before printing.

Output Examples:

INTERNAL VALUE	SPECIFICATION	EXTERNAL STRING
+23	J5	23
-23	J5	-23
+233	J3	233
-233	J3	***
0	J3	0

K Format

[K format is discussed in conjunction with H format.]

L Format

The logical format specification Lw causes the logical value indicated by the contents of a character string of width w to be associated with the corresponding list element for purposes of data transfer. Legal list elements are of type ALPHA, REAL, INTEGER, DOUBLE, or BOOLEAN.

Input

On input, the Lw specification causes the corresponding list element to be assigned the value TRUE (1) or FALSE (0), depending on the contents of the field of width w. If the left-most non-blank character is a T, the variable is assigned the value TRUE; otherwise, the value FALSE is assigned. An all-blank field yields the value FALSE. If the list element is a double, the first word is assigned the logical value and the second word is set to zero.

Input Examples

EXTERNAL STRING	SPECIFICATION	INTERNAL VALUE
T	L1	TRUE(4"000000000001")
bbF	L3	FALSE(4"000000000000")
bbbTRU	L6	TRUE(4"000000000001")
b	L1	FALSE(4"000000000000")
T	L1	TRUE(4"000000000001000000000000") (double)

Output

The list element may be a variable or an <expression>. If bit 0 of the corresponding list element (only the first word of a double is considered) is ON or OFF, the logical value of the item is TRUE or FALSE, respectively.

Output Examples

INTERNAL VALUE	SPECIFICATION	EXTERNAL STRING
0	L6	bFALSE
1	L5	bTRUE
2	L4	FALS
3	L3	TRU
4	L2	FA
5	L1	T

O Format

NOTE

[For purposes of explanation of the O format, the variable Q will be used, where the value of Q is derived from the following table:

(default character size)

	(precision) single	(precision) double	(pointers) 4-bit	(pointers) 6-bit	(pointers) 8-bit
BCL	8	16	12	8	6
EBCDIC	6	12	12	8	6

For pointers, if Q (from the table) is greater than the length (in characters) of the string pointed to, the value of Q is the string length.]

On input, Q characters are transferred, unedited, from the input record to the list element. On output, Q characters are transferred, unedited, to the output record from the list element. The <field width part> must be <empty>. Legal list elements are of type ALPHA, REAL, INTEGER, DOUBLE, BOOLEAN or POINTER.

P,$ Formats

Format modifiers may be placed immediately to the left of a format specification used to edit a data item for output. If a repeat count is used, it should be to the left of any modifiers used. More than one modifier may be used with a format specification. A modifier may not be used on input.

For example, 2PR10.3 and 8P$F20.6 are valid, but $2F5.1 is not.

P Format Modifier

On output, this phrase may be used in conjunction with a numeric editing phrase to cause commas to be inserted between digit triples to the left of the decimal point. (This phrase is not allowed on input.)

$ Format Modifier

On output, this phrase may be used in conjunction with a numeric editing phrase to place a dollar sign immediately to the left of an edited item. (This phrase is not allowed on input.)

Examples:

INTERNAL VALUE	SPECIFICATION	EXTERNAL STRING
17.347	$F10.2	bbbb$17.35
-1234567	PI10	-1,234,567
-1234567	P$Z15.2	bbbb$-1,234,567
1234567.11111	PF15.5	1,234,567.11111
1234567.1234	$PR15.5	bbb$1.23457E+06
1234567.1234	$PR15.0	bbbb$1,234,567.

R Format

The Rw.d format specification is a generalized numeric editing phrase which can be associated with an S format scale factor. Correct action will occur for list elements of type ALPHA, REAL, INTEGER, DOUBLE or BOOLEAN.

Input

On input, the contents of the input field are transferred to the list element in accordance with the D, E or F formats (subject to the effects of an S format scale factor). A "D", an "E" or an "@" can be used to indicate the beginning of the exponent field. A number with an implied exponent indicator is treated as if the exponent indicator is actually present. For example, 1.0-3 would be 1.0@-3. Blank characters are interpreted as zeroes.

Output

On output, the value of the <list element> is placed in the field described by the field width. The number used as the decimal exponent in the following algorithm is the exponent number of the normalized value of the <list element>, using scientific notation. For example, 376.42 normalized is 3.7642E2, where the 2 following the E is the decimal exponent. D format specification, E format specification, or F format specification editing is used according to the following test:

If ABS (<list element>) $\geq$ 1 and
w $\geq$ (decimal exponent+1) +1 + d + SIGNBIT

or ABS (<list element>) < 1 and
w $\geq$ d + 1 + SIGNBIT and
(d $\geq$ -(decimal exponent) or
w < d + 1 + 5 + SIGNBIT)

then F <editing phrase> editing, else

If ABS (decimal exponent) $\leq$ 99 and
w $\geq$ d + 6 + SIGNBIT,

then E <editing phrase> editing, else

If w > d + 9 + SIGNBIT,

then D <editing phrase> editing, else

Fill w character positions with asterisks, because w is too small.

EXTERNAL INPUT STRING	LIST ELEMENT TYPE	SPECIFICATION	EXTERNAL OUTPUT STRING
-.333333bb	REAL	R10.4	bbb-0.3333
-.333333bb	DOUBLE	R10.4	bbb-0.3333
-.333333bb	INTEGER	R10.4	bbbb0.0000
3333.333E2	DOUBLE	R10.4	3.3333D+05
3333.333E2	INTEGER	R10.4	3.3333E+05
-.333bbbbb	REAL	R10.9	**********
-.333bbbbb	INTEGER	R10.9	.000000000
333.333E2b	DOUBLE	R10.4	3.3333D+22
bbbbbbbbbbbbb1.23D12	REAL	R20.4	bb1230000000000.0000
bbbbbbbbbb1.23D12345	DOUBLE	R20.4	bbbbbbb1.2300D+12345
bbbb4.3@68	REAL	R10.4	4.3000E+68

S Format

Input

On input, the values associated with the subsequent R <editing phrase> are divided by the "power of 10" designated by the <integer> in S <integer>.

Output

The values associated with the subsequent R <editing phrase> are multiplied by the "powers of 10" designated by the <integer> in S <integer>. More than one S <integer> phrase can appear in a format, each phrase taking precedence over the preceding one. For example, the execution of the following program excerpt:

```
    .
    .
    .
    READ(KARD, <R10.2>, A);
    .
    .
    WRITE(LINE, <S3,R10.2>, A);
    .
    .
    .
```

with input data of 10.00 and .54 yields
bb10000.00 and bbb540.00 as input.

T Format

The buffer point is moved to the wth character position in the record. The <field width>, w, must be greater than zero (0), that is, T1 moves the buffer pointer to the first character position in the record. No <list element> corresponds to this editing letter.

Example:

```
<I>COMPILE T/FORMAT ALGOL;EBCDIC
 BEGIN
  FILE LINE(KIND=PRINTER), KARD(KIND=READER);
  REAL A;
  READ(KARD,<T7,A6>,A);
  WRITE(LINE,<A6,T12,A6>,A,A);
  WRITE(LINE,<X6,"123",T1,A6>,A);
 END.
<I>DATA
 ABCDEFGHIJKLMN
<I>END
```

produces the following output:

```
GHIJKLbbbbbGHIJKL
GHIJKL123
```

U Format

The U editing specification is a flexible editing phrase which allows a great deal of freedom in the transfer of formatted data. Legal list elements are of type ALPHA, REAL, INTEGER, DOUBLE or BOOLEAN.

Input

U format has yet to be implemented for input.

Output

On output, the U editing specification causes the data item to be output in a form best suited for the item. REAL, INTEGER, and DOUBLE items are output in a format that combines readability with maximum numerical significance. BOOLEAN items are output as "T" or "F" and occupy one character position in the record. Character strings are treated as real. If the number of characters required to edit the item is greater than the number left in the current record, the record is output and the item placed in the next record.

The form Uw is similar to U, with the added restriction that the edited item may not exceed w characters. If the data item cannot be edited into a field of w characters, a field of w asterisks is output.

The form Uw.d is similar to Uw, with the added restriction that the total field width occupied by the edited item may not be less than d characters. In this case, the number of non-blank characters (those representing the data item itself) may not exceed 3 characters. Thus, if d>w,d-w leading blanks will be inserted.

Output Examples

INTERNAL VALUE	SPECIFICATIONS	EXTERNAL STRING
-123.4567	U	-123.4567
789	U	789
1.5@@275	U10	1.5D+275
1234567	U5	1.2+6
1	U10.4	bbb1
123.456	U10.4	123.456
1	U5.8	bbbbbbb1
123.456	U5.8	bbb123.5

V Format

The V format specification allows a variable editing phrase letter to be supplied at run-time. When V appears in a format specification list, the next list element is accessed to furnish the editing letter. Legal list elements are of type ALPHA, REAL, INTEGER, DOUBLE, BOOLEAN or POINTER. The rightmost character of the list element (only the first word of a double is considered) is used to supply the editing letter. The editing letter extracted from the list element will be a 6-bit character if the default character size is BCL; otherwise, an 8-bit character is extracted. If the list element is a <pointer expression>, the first character of the designated string is used as the editing letter.

Example:

```
.
.
.
REAL A,B;
DOUBLE D;

FORMAT FMT1(V8.2),
       FMT2(2V*),
       FMT3(*V*.*);
.
.
.
READ(KARD,FMT1,"R",A);
B:=4"C1";
WRITE(LINE,FMT2,B,6,A,D);
D:=DOUBLE(4"C5",0);
READ(KARD,FMT3,2,D,10,4,A,B);
.
.
.
```

In the above program,

FMT1 evaluates to R8.2 applied to list element A,
FMT2 evaluates to 2A6 applied to list elements A and D,
FMT3 evaluates to 2E10.4 applied to list elements A and B.

X Format

On input, w characters are skipped. On output, w blanks are inserted. No <list element> corresponds to this editing letter.

Z Format

The general format specification Zw.d is a generalized floating point conversion which may be used with list elements of type ALPHA, REAL, INTEGER, DOUBLE or BOOLEAN. This specification is interpreted as D,E,F,I or L format, depending upon the type and magnitude of the value of the list element.

Input

On input, the Zw.d specification is the same as D, E or F formats for ALPHA, REAL and DOUBLE list elements. For INTEGER list elements, Z functions like Iw, and for BOOLEAN list elements, Z functions like Lw.

Output

The output string will have a length of w characters, regardless of the value being read or written. For BOOLEAN list elements, Lw is used. For INTEGER list elements, Iw is used. For ALPHA, REAL or DOUBLE list elements, a D, E or F format representation of the list element's value is produced according to the following criteria: If V is the absolute value of the list element, then for K=0,1,2,...,d, if $10^{d-K-1} \leq V \leq 10^{d-K}$, then formats F(w-4).(d-K), X4 are used. If V<.1 or $V \geq 10^{d}$, then Ew.d is used. In other words, Zw.d implies "output d significant digits".

Output Examples

INTERNAL VALUE	SPECIFICATION	EXTERNAL STRING
1.23@@250	Z12.6	1.230000+250
1	Z5.1	bbbb1
12345	Z5.1	12345
12	Z8.7	bbbbbb12
12345.678	Z10.4	1.2346E+04
12	Z10.4	bbbbbbbb12
12345678	Z6	******
1234	Z6	bb1234
1 (BOOLEAN)	Z3	TRU

LIST DECLARATION

Syntax

```
<list declaration> ::= LIST <list part list>

<list part list> ::= <list part> | <list part list>, <list part>

<list part> ::= <list identifier> ( <list segment> )

<list identifier> ::= <identifier>

<list segment> ::= <list element> | <list segment> , <list element>

<list element> ::= <unconditional list element> |
                   * <unconditional list element> |
                   <conditional list element> |
                   * <conditional list element>

<unconditional list element> ::= <simple arithmetic expression> |
                                 <simple Boolean> | <pointer expression> |
                                 <pointer expression> FOR
                                    <arithmetic expression> |
                                 <array row> | [ <list segment>] | DO
                                    <list element> UNTIL <Boolean expression> |
                                 <iteration clause>
                                    <unconditional list element> |
                                 <if clause> <unconditional list element> ELSE
                                    <unconditional list element> |
                                 CASE <arithmetic expression> OF
                                    ( <list segment> )

<iteration clause> ::= FOR <variable> := <for list> DO |
                       THRU <arithmetic expression> DO |
                       WHILE <Boolean expression> DO

<conditional list element> ::= <if clause> <list element> |
                               <iteration clause> <conditional list element> |
                               <if clause> <unconditional list element> ELSE
                                    <conditional list element> |
                               DO <list element> UNTIL <Boolean expression> |
                               CASE <arithmetic expression> OF (<list element>)
```

Examples

```
LIST L1 (X,Y,A[J], FOR I := P STEP 1 UNTIL 5 DO B [I])
LIST ANSWERS (P + Q,Z,SQRT (R)), RESULTS (X1,X2,X3,X4/2)
LIST LIST3 (FOR I := 0 STEP 1 UNTIL 10 DO FOR J := 0, 3, 6
    DO A[I,J])
LIST L4 (B AND C, NOT AB1, IF X = 0 THEN R1 ELSE R2)
LIST RESULTS (FOR I := 1 STEP 1 UNTIL N DO [A[I], FOR J :=1
    STEP 1 UNTIL K DO [B[I,J], C[J]]])
```

Semantics

A <list declaration> associates an ordered set of <list element>s with a <list identifier>. A <list identifier> is usually used in conjunction with a <format identifier> within a <read statement> or <write statement> to indicate which entities are to be associated with the corresponding <editing phrase>s of the specified format. Although the syntax of the <read statement> and <write statement> allows the entities to be listed within the statement itself, a <list declaration> provides a more convenient means of grouping the entities to be used. <list element>s can be either conditional or unconditional.

<unconditional list element>s

<unconditional list element>s are the usual entities found in <list segment>s. Essentially they are built from arithmetic primaries, Boolean primaries, pointer primaries, and array rows.

<pointer expression> FOR <arithmetic expression>

<pointer expression> FOR <arithmetic expression> allows the user to specify the amount of the string, to which the pointer points, to be used as a list element. Thus, if P points at string "ABCDEFGHIJKL", P for 3 refers to the substring "ABC".

ASTERISKS

Asterisks (*) prefixed to a list element only have meaning for free-field output (they are ignored for other I/O). The asterisk prefixed to a list element will cause, under the control of free-field output, the text of the list element to be output just prior to the edited value of the list element, with an equal sign (=) inserted between the two. If the list element is a string under control of any other I/O, the prefixed asterisk is ignored.

READ STATEMENT

Syntax

```
<read statement> ::= READ ( <file part> <format and list part> )
                          <action labels or finished event>

<file part> ::= <file designator> <record number or carriage control> |
                <core-to-core part>

<record number or carriage control> ::= <empty> |
                                        [ <arithmetic expression> ] |
                                        [ LINE <arithmetic expression> ] |
                                        [ NO ] |
                                        [ SKIP <arithmetic expression> ] |
                                        [ SPACE <arithmetic expression> ] |
                                        [ STACKER <arithmetic expression> ] |
                                        [ STATION <arithmetic expression> ] |
                                        [ STOP ] |
                                        [ TIMELIMIT <arithmetic expression> ]

<core-to-core part> ::= <core-to-core file part> <core-to-core blocking part>
<core-to-core file part> ::= <array row> |
                             <pointer expression> |
                             <subscripted variable>

<core-to-core blocking part> ::= <empty> |
                                 (<core-to-core record size>) |
                                 (<core-to-core record size>,
                                  <core-to-core records per file part>)

<core-to-core record size> ::= <arithmetic expression>

<core-to-core records per file part> ::= <arithmetic expression>
```

```
<format and list part> ::= <empty> |
                           , <format designator> | , <format designator>, <list> |
                           , < <editing specifications> > |
                           , < <editing specifications> > , <list> |
                           , * , <list> |, <free field part> , <list> |
                           , <arithmetic expression> , <array row> |
                           , <arithmetic expression> , <subscripted variable> |
                           , <arithmetic expression> , <pointer expression>

<list> ::= <list identifier> | <list segment> | <switch list identifier
           [ <subscript> ]

<free field part> ::= <asterisk part> <number of columns>
                      <slash part> <column width>

<asterisk part> ::= <empty> |*

<number of columns> ::= <empty> | [ <arithmetic expression> ]

<slash part> ::=/ | / /

<column width> ::= <empty> |[ <arithmetic expression> ]

<array row> ::= <array name> | <array name> [ <row designator> ]

<action labels or finished event> ::= <empty> |
                                      [ <label 1> : <label 2> : <label 3> ] |
                                      [ <label 1> : <label 2> ] |
                                      [ <label 1> : : <label 3> ] |
                                      [ <label 1> ] |
                                      [ : <label 2> : <label 3> ] |
                                      [ : <label 2> ] | [ : : <label 3> ] |
                                      [ <event designator> ]

<label 1> ::= <designational expression>

<label 2> ::= <designational expression>

<label 3> ::= <designational expression>
```

NOTE

On any formatted I/O statement (excluding core-to-core I/O), the number of characters allowed in the I/O record is determined solely by the MAXRECSIZE of the file. If the format requires more characters than contained by the record to satisfy the list, a format error will result at run-time.

Examples

READ (<file part> <format and list part>)

```
READ (FILEID)
READ (FILEID,FMT)
READ (FILEID,FMT,LISTID)
READ (FILEID, *, LISTID)
READ (SPOFILE, FMT, A,B,C,)
READ (SPOFILE, /, SIZE,LENGTH,MASS)
READ (FILEID, FMT, 7,2,A,B,C,ARRY[A],B+C,F)
READ (FILEID, /, J,FOR I := 0 STEP 1 UNTIL J DO ARRY[I])
READ (FILEID,*,A,B,C,FOR A :=B*A STEP C UNTIL J DO ARRY[I])
READ (SWFILEID[IF X > N THEN X+N ELSE 0], 25, ARRY[2,*])
READ (FILEID, /, SWLISTID[I])
READ (FILEID, FMT, SWLISTID[I])
READ (SPOFILE, SWFMT[16], A,B,C)
```

READ (<file part> <format and list part>) <action labels or finished event>

```
READ (FILEID) [EOFL:PARL]
READ (FILED, /, L,M,N,ARRY[2]) [EOFL]
READ (FILEID[3] [NO]) [:PARL]
READ (SWFILEID[14] [NO], A+EXP(B),ARRY[I,J,*]) [:PARSWL[M]]
READ (FILEID [NO], SWFMT[6+J], LISTID) [EOFSWL[Q*3]]
READ (SWFILEID[A+B], *, SWLISTID[2+H/K]) [EOFL:PARL]
READ (FILEID[NO]) [EOFSWL[I]:PARSWL[J]]
READ (SWFILEID)
READ (FYLE) [EOFL:PARL:DATAERRL]
READ (DIRFYLE) [EVNT]
READ (DIRFYLE, 30, DIRARAY) [EVNT]
```

Semantics

The <read statement> allows data to be assigned to various program variables. The result of this <statement> depends on the form of the <file part> element and on the form of the <format and list part> element.

NOTE

Because the syntax of the <read statement> and the <write statement> are identical, the pragmatic differences between the syntactical items are explained in the following paragraphs.

<file part>

READ

The <file part> form indicates where the data is to be found.

WRITE

The <file part> indicates where the data is to be written. WRITE (MYSELF.TASKFILE...) allows the user to write to the program's taskfile (refer to <programdump statement>).

<record number or carriage control>

Read

If the <record number or carriage control> element is <empty>, the record addressed by the pointer is read; the record pointer is adjusted to point to the next record in the file.

If the <record number or carriage control> element is an [<arithmetic expression>], its value indicates the relative address of the record in a file that is to be read. The record pointer is set to the specified address before the read is performed; the record pointer is not adjusted after the READ operation.

If the <record number or carriage control> element is [NO], the buffer is not released after it has been read or written; i.e., the record can be read again, perhaps with a different format.

If the <record number or carriage control> element is [SPACE <arithmetic expression>] the number of records specified in the <arithmetic expression> is skipped. Spacing is forward if the <arithmetic expression> is positive; backward if negative.

If the <record number or carriage control> element is [STATION <arithmetic expression>], the last station attribute is set to the value of the <arithmetic expression>.

The [TIMELIMIT <arithmetic expression>] (relevant for REMOTE files only) element is a positive real number in units of seconds (fractional amount is allowed). If TIMELIMIT is zero (0), an indefinite wait is initiated. When the TIMELIMIT is greater than zero and no input is received within TIMELIMIT seconds, the <read statement> is terminated with a TIMELIMIT error.

A TIMELIMIT error is reported by the logical I/O result descriptor having the attention bit [0:1] and bit [15:1] turned ON.

Write

If the <record number or carriage control> part is a [LINE <arithmetic expression>] and the file is a line printer file, then the printer spaces forward to the specified line before printing. However, the following must be observed:

a. The PAGESIZE file attribute must be SET or declared to be the number of lines on a page.

b. Since normal default action for ALGOL is print-before-carriage-action, a subsequent <write statement> can overprint the line.

c. The line number is not RESET when [SKIP 1] is used, since this does not necessarily eject a page. In this case, the user must RESET the LINENUM attribute.

The [SKIP <arithmetic expression>] part causes the line printer to skip to the channel indicated by the <arithmetic expression>.

The [SPACE <arithmetic expression>] part causes the line printer to space the number of lines denoted by the <arithmetic expression> after printing the current record. On other types of devices it causes the number of records signified by the <arithmetic expression> to be spaced.

If the specified file is remote, the [STOP] part does not do a line feed or a carriage return.

If the file is not a printer file, the <record number or carriage control> part is interpreted as a record number as described previously under the <read statement>.

The [STACKER <arithmetic expression>] part allows pocket selection for card punch files. Legal values for the arithmetic expression are 0 or 1. A 0 selects the normal pocket; 1 selects the alternate pocket.

The [STATION <arithmetic expression>] part sets the LASTSTATION attribute to the value of the <arithmetic expression>.

If, when using the [TIMELIMIT <arithmetic expression>] part, the buffer does not become available within TIMELIMIT seconds, the write operation is terminated with a TIMELIMIT error.

CORE-TO-CORE I/O

NOTE

Core-to-core I/O has not yet been implemented for free-field input, so the following discussion does not apply to free-field input.

<core-to-core part>

The <core-to-core part> indicates internal data transfer (i.e., no physical device is involved). If the <core-to-core blocking part> is <empty>, correct action will be taken for the <core-to-core file part>, just as it would be for a normal I/O statement; however, core-to-core I/O will be much faster. If the <core-to-core blocking part> is non-<empty>, the size and number of records into which the <core-to-core file part> is to be blocked can be specified.

<core-to-core file part>

For HEX, BCL or EBCDIC array rows or pointers as the <core-to-core file part>, the default record size (i.e., the number of characters considered to be in the record) is dependent upon the character size of the array row or pointer and is determined by the actual length of the designated string.

For single and double precision array rows or subscripted variables, the default record size is computed by multiplying the length of the array row (or remaining length of the array row when a subscripted variable is used) times the number of characters per word, where characters per word is derived from the following table:

		(default character size)	
		BCL	EBCDIC
(precision)	single	8	6
	double	16	12

<core-to-core blocking part>

To specify a record size smaller than the default size, a value may be provided for the <core-to-core record size>. This value will always refer to record size in terms of characters. By supplying a value for <core-to-core records per file part>, the file part may be blocked into more records than the default value of one.

With formatted I/O, if the format requires more records than indicated by the <core-to-core records per file part>, a run-time error will be given. Another consideration is that the format may require more characters than the <core-to-core file part> contains. This will also result in a run-time error. In such a case, the number of characters indicated in the <core-to-core blocking part> (this number is computed by multiplying <core-to-core record size> times <core-to-core records per file part>) may appear to be large enough to satisfy the format, but the <core-to-core blocking part> may indicate more characters than the <core-to-core file part> actually contains. The programmer must take care to insure compatibility between the <core-to-core file part>, the <core-to-core blocking part> and the format to avoid run-time errors.

Examples:

```
      .
      .
      .
      REAL B,C;
      ARRAY A[0:9];
      .
      .
      .
  EX1:  READ(A(80),<T50,A6,I10>,B,C);
      .
      .
      .
  EX2:  WRITE(A(15,3),<X5,I15>,1,2,3);
      .
      .
      .
  EX3:  WRITE(A(20,2),<X5,I15>,1,2,3);
      .
      .
     B:="bbITEM";
  EX4:  WRITE(A(15,4),<".",X2,A6,I2,X4>,B,1,B,2,B,3,B,4);
      .
      .
      .
```

The statement labeled EX1 would result in a run-time error (FORMAT ERROR #217) because the format requires 65 characters, but the file part (array A) contains only 60 characters.

The statement labeled EX2 would result in a run-time error (FORMAT ERROR #117) because the format requires 20-character records, but 15-character records were specified in the blocking part.

The statement labeled EX3 would result in a run-time error (FORMAT ERROR #120) because the 3 list elements will require repeating the format 3 times. Thus 3 records are required but only 2 records were specified in the blocking part.

The statement labeled EX4 would fill array A with the following EBCDIC data:

.bbbbITEMb1bbbb.bbbbITEMb2bbbb.bbbbITEMb3bbbb.bbbbITEMb4bbbb

<format and list part>

Read

The <format and list part> element indicates the program variables to which file data is to be assigned and the manner in which the data is to be interpreted in assigning it to these variables.

If the <format and list part> element is <empty> the input record is skipped.

A <format designator> without a <list part> indicates that the referenced format contains a <string> into which corresponding characters of the input data are to be placed. The <string> in the format declaration is replaced by the <string> in the input data.

A <format designator> with a <list part> indicates that the input data is to be edited according to the specifications of the referenced <format declaration> and assigned to the variables of the <list>.

The symbol *, together with a <list part>, specifies that the input data is to be processed as full words, and that it is to be assigned to the variables of the <list> without being edited. The number of words read is determined by the number of <variables> in the <list> or the maximum record size, whichever is smaller.

An <arithmetic expression> followed by an <array row>, <subscripted variable element or <pointer expression> specifies that input data is to be processed as full words, and that is to be assigned, without being edited, to the elements of the designated <array row>, <subscripted variable> element, or the item referenced by the <pointer expression>. The maximum record size, the number of elements in the <array row>, <subscripted variable> element or the item referenced by the <pointer expression>, or the value of the <arithmetic expression> determines the number of words read, depending upon which is the smallest. If Direct I/O is not being used, and the UNITS attribute=1, and INTMODE≠0, then all counts represent characters, not words.

FREE-FIELD I/O

The use of a free-field designator with the READ, WRITE statements allows I/O to be performed with editing, but without using a format statement. The appropriate format is selected automatically, but variations of the free-field designator give the user some control over the form of the output.

The general form for a free-format designator is:

ar/sw

where a is an optional asterisk (*), s is an optional second slash (/), and r and w are optional single precision arithmetic expressions enclosed in brackets.

Input

On input, only the simplest form consisting of a single slash (/) can be used. It allows input from records consisting of data items separated by commas.

All blanks are ignored. Character strings must be enclosed by quote marks (").

The symbol/, together with a <list> specifies that the input data is represented in a free-field format. All free-field input is in the form of <free-field data>.

The "syntax" for <free-field data> is as follows:

```
<free-field data> ::= <field> <field delimiter> |
                      <free-field data> <field> <field delimiter>

<field> ::= <empty> | <number> | <string> | <

<field delimiter> ::= , |
                      <letter> {any proper string not containing a comma}. |
                      {if the field is a /, the end of the current record
                          serves as a field delimiter}
```

Examples

```
1,
2.5,
2.48 @ -20,
2 @ 34,
"THIS IS A STRING",
1 DELIMITER,
2.5 ANY COMMENT OR NOTE NOT CONTAINING A COMMA,
2.48 @ -20 VALUE FOR Z* (-3),
2 @ 34 ET CETERA,
```

Each field, except the slash (/), is associated with the list element to which it corresponds according to position.

All blanks in <free-field data> except those in strings are completely ignored.

Fields are handled as follows:

a. A number that is represented as an integer is converted as type INTEGER unless it is larger than the largest allowable integer, in which case it is converted as type REAL. Numbers that contain a decimal fraction are converted as type REAL.

b. Strings can be of any length. Each list element receives six or eight characters, depending on character size, until either the list or the string is exhausted. If the number of characters in the string is not a multiple of six, the last list element receives the remaining characters of the string. The string characters are stored right-justified in the list elements.

c. An <empty> field causes the corresponding list element to be ignored.

d. The / field causes the remainder of the current buffer to be ignored. The buffer following the slash is considered the beginning of a new field: therefore, the slash field does not require, or recognize, any field delimiter other than the end of the buffer in which it occurs. A slash field has no effect on list elements. The slash is a field by itself and must not be placed within another field or between a field and its delimiter.

e. The asterisk (*) field terminates the <read statement>. The program continues with the next statement in sequence. The list element corresponding to the asterisk remains unchanged, as do any subsequent elements in the list.

The logical values, for the purpose of free-field input, are as follows: an integer 1 (one) must be used in lieu of the logical value TRUE, and an integer 0 (zero) must be used in lieu of the logical value FALSE.

Output

On output, each value is edited into an appropriate format. An edited item is never split across a record boundary. If the record is too short to hold any reasonable representation of the item, a string of pound signs (#) is output in place of the item.

Data items are normally separated by a comma and a space. If the optional second slash (/) is used, they are separated by two spaces. Note that output produced in this manner cannot be read by a free-field input statement.

If the optional asterisk is used, the name of the data item and an equal sign (=) are output prior to the value of the data item. If the data item is not a variable name, then the expression is output as the name of the data item.

It is not uncommon for users of free field I/O to want to control spacing of items; hence this feature is now offered.

With columnized free field output, each list element is output in a separate column. This process is controlled by two column factors. These factors are the number (r) of columns per record and the width (w) of each column, where w is measured in characters. Both r and w are integerized if necessary.

If r is zero, the number of columns per record will be determined from the value of w and the record length. If w is zero, the width of each column will be determined from the value of r and the record length. If both r and w are zero, there is no column structure to the output. If r and w are such that r columns of w characters cannot fit on one record, adjustments are made to both r and w. Note that the width of a column does not include the two-character delimiter; i.e., r*(w+2) must be less than or equal to the length of the record.

Example

```
ARRAY B[0:3];
WRITE (F,/,*A,*X+Y,*"HELLO",*7.2,
    *B[A],*SIN (X),*B,*PNTR FOR 3);
produces
A=3.2,bX+Y=2.4E+41, b HELLO, b CONST=7.2, b
    B[3]=-82.173, b SIN(X)=0.241392156792, b
    B[0]=0.0, b B[1]=0.0, b, B[2]=682.173, b
    B[3]=-82.173, b PNTR=QZ#,b
```

Write

The <format and list part> part indicates which <variable>s contain the data and how the data is to be interpreted.

If the <format and list part> is <empty>, a blank record is written. A <format identifier> alone indicates that the referenced <format declaration> contains one or more strings that constitute the entire output.

A <format identifier> followed by a <list> indicates that the variables in the <list> are to be placed in a format, according to the specifications of the <format declaration>, and written as output.

The * symbol followed by a <list> or <list identifier> specifies that the variables in the <list> are to be processed as full words and are to be written as output without being edited. The number of words written is determined by the number of variables in the <list> or the maximum block length, whichever is smaller. When unblocked records are used, the buffer size is the maximum record length.

An <arithmetic expression> used with an <array row>, <subscripted variable>, or <pointer expression> specifies that the elements of the designated <array row>, <subscripted variable> part, or item referenced by the <pointer expression> are to be processed as full words and are to be written as output without being edited. The number of words written is determined by the number of elements in the <array row>, <subscripted variable> part, or item referenced by the <pointer expression>, the maximum block length, or the absolute value of the arithmetic expression, whichever is smallest. When unblocked records are being used, the buffer size is the maximum record length. If the UNITS attribute = 1, and INTMODE ≠ 0, then all counts represent characters, not words.

<write statements> that do not reference a <format declaration> provide a faster output operation than those that require data to be edited.

<action labels or finished event>

<action labels or finished event> provide a means of transferring control from a <read statement>, <write statement>, or <space statement> when exception conditions occur. A branch to <label 1> takes place when an end-of-file condition occurs. A branch to <label 2> takes place if an irrecoverable parity error is encountered. A branch to <label 3> takes place if there is a conflict between the format and the data. If the appropriate label is not provided when an exception condition occurs, the program is terminated.

The [<event designator>] form can be used only for Direct I/O; the event is caused when the I/O operation is finished. (Refer to the DIRECT I/O paragraph.) <action labels or finished event> cannot be used with the following read/write construct: <array row>, <arithmetic expression>, <array row>.

Exception conditions occurring during a <read statement> or <write statement> can also be handled without the use of <action labels or finished event>. The I/O result word returned by the MCP I/O routines can be used as a Boolean primary. Refer to B 6700/B 7700 System Software Handbook, Form 5000722, for a description of the contents of the I/O result word when an exception condition occurs.

For example,

```
IF BOOL := READ(FILEID, 14, A[*]) THEN GO TO ERROR COND;
```

When exception conditions are handled in this manner, <action labels or finished event> cannot be used; the user assumes all responsibility for handling exception conditions. Furthermore, this method cannot be used for Direct I/O or <read statement>s of the form: READ (<array row>, <arithmetic expression>, <array row>).

NOTE

Additional information pertaining to I/O operations can be found under the <I/O statement>.

ALGOL RUN-TIME FORMAT ERROR MESSAGES

The meanings of the various format error numbers pertaining to free-field input are as follows:

Number	Error Message
15	Data magnitude too large (>=8**64) for phrase or list item.
30	String too long.
32	Array row source all blanks.
64	An error on input occurred when the intrinsic did a logical I/O.
84	An expression as a list element which receives a value on input is not allowed.

The meanings of the various format error numbers pertaining to output are as follows:

Number	Error Message
100	An error on output occurred when the intrinsic did a logical I/O.
102	Format was V specifier, and list element did not produce an A, C, D, E, F, G, H, I, J, K, L, O, P, R, S, T, U, X, or Z. [Note: If the list element is single precision, the rightmost character is used. If the list element is double precision, the rightmost character of the first (most significant) word is used. If the list element is a pointer, the character it points to is used.]
103	Format was V specifier of the form rV, and the resultant specifier needed a field width: e.g., 2V => 2I.
104	Format was V specifier of the form rV, and the resultant specifier needed a field width and decimal places: e.g., 2V => 2E.
105	Format was V specifier of the form rVw, and the resultant specifier needed decimal places: e.g., 2V* => 2F6.
106	Format specifier evaluated to Fw.d form, and d<0.
107	Format specifier evaluated to Ew.d or Dw.d, and d<0.

ALGOL RUN-TIME FORMAT ERROR MESSAGES (Cont)

Number	Error Message
109	Format specifier evaluated to Zw, and corresponding list element was neither of type integer nor type Boolean (expressions of type integer or Boolean are edited under Zw.d as Iw or Lw, respectively). Therefore, the decimal places are considered missing.
110	The list contains an element whose type is inappropriate for its associated format phrase. [Note that a pointer or a long (>48 bits) string cannot be used with a numeric editing phrase.]
111	Format specifier evaluated to Zw.d, and Zw.d logic chose to edit the expression under Ew.d, but d<1.
113	Format specifier evaluated to Ew.d or Dw.d, and w≤d.
114	Dynamic w or d part of format specifier evaluated to a value greater than the maximum integer allowed, 549755813887.
116	Attempted recursive I/O -- evaluation of a list element caused a read/write/close on the current file.
117	Record overflow -- an attempt was made to output more characters than the record can have.
120	Output to the <core-to-core file part> requires more records than allowed by the <core-to-core records per file part>. [Note: the default is one record per file part.]
131	Dynamic r part of format specifier evaluated to a value greater than the maximum real allowed, 4.31359146673*10**68.
132	Dynamic w part of format specifier evaluated to a value greater than the maximum integer allowed, 549755813887.
133	Dynamic d part of format specifier evaluated to a value greater than the maximum integer allowed, 549755813887.
163	Maxrecsize not large enough to allow freefield write.

The meanings of the various format error numbers pertaining to formatted input are as follows:

Number	Error Message
200	An error on input occurred when the intrinsic did a logical I/O.

ALGOL RUN-TIME FORMAT ERROR MESSAGES (Cont)

Number	Error Message
202	Format was V specifier, and list element did not produce an A, C, D, E, F, G, H, I, J, K, L, O, P, R, S, T, X, or Z. [Note: If the list element is single precision, the rightmost character is used. If the list element is double precision, the rightmost character of the first (most significant) word is used. If the list element is a pointer, the character it points to is used.]
203	Format was V specifier of the form rV, and the resultant specifier needed a field width: e.g., 2V => 2I.
204	Format was V specifier of the form rV, and the resultant specifier needed a field width and decimal places: e.g., 2V => 2E.
205	Format was V specifier of the form rVw, and the resultant specifier needed decimal places: e.g., 2V* => 2F6.
206	Format specifier evaluated to Fw.d form, and d<0.
207	Format specifier evaluated to Ew.d or Dw.d, and d<0.
209	Format specifier evaluated to Zw, and corresponding list element was neither of type integer nor type Boolean (expressions of type integer or Boolean are edited under Zw.d as Iw or Lw, respectively). Therefore, the decimal places are considered missing.
210	The list contains an element whose type is inappropriate for its associated format phrase. [Note that a pointer or a long (>48 bits) string cannot be used with a numeric editing phrase.]
213	Format specifier evaluated to Ew.d or Dw.d, and w≤d.
214	Dynamic w or d part of format specifier evaluated to a value greater than the maximum integer allowed, 549755813887.
216	Attempted recursive I/O -- evaluation of a list element caused a read/write/close on the current file.
217	Record overflow -- an attempt was made to input more characters than the record has.
218	Invalid data for H or K format phrase.
220	Input from the <core-to-core file part> requires more records than allowed by the <core-to-core records per file part>. [Note: the default is one record per file part.]
231	Dynamic r part of format specifier evaluated to a value greater than the maximum real allowed, 4.31359146673*10**68.

ALGOL RUN-TIME FORMAT ERROR MESSAGES (Cont)

Number	Error Message
232	Dynamic w part of format specifier evaluated to a value greater than the maximum integer allowed, 549755813887.
233	Dynamic d part of format specifier evaluated to a value greater than the maximum integer allowed, 549755813887.
250	The U format phrase has yet to be implemented for input.
271	The $ and P format modifiers are not allowed on input.
281	Invalid data for I format phrase.
284	An expression as a list element which receives a value on input is not allowed.
285	The list element was type real, but the input value exceeded the maximum real allowed, 4.31359146673*10**68.
286	The list element was type integer or Boolean, but the input value exceeded the maximum integer allowed 549755813887.
291	While inputting a constant using a numeric editing phrase, a non-digit was detected in the exponent part following at least one legitimate digit.
292	While inputting a constant using a numeric editing phrase, two or more exponent signs were detected.
293	While inputting a constant using a numeric editing phrase, an illegal character was detected after the exponent sign and before the exponent value.
294	While inputting a constant using a numeric editing phrase, an illegal character was detected past the decimal point.
295	While inputting a constant using a numeric editing phrase, two or more mantissa signs were detected.

APPENDIX B

CATALOG

INTRODUCTION

The Catalog System can be divided into two sections, the volume library and the catalog.

The volume library is an inventory of the use of volumes.

The catalog is a file directory that does the following:

a. Keeps track of the available versions of a file, in particular the most current version.

b. Keeps track of backup copies of available versions of a file.

The volume library and the catalog are used in conjunction with each other. The user cannot use one part without the other.

1. VOLUME LIBRARY

The following text contains volume library definitions, syntax, and examples of the use of cataloging techniques in conjunction with the use of volume library.

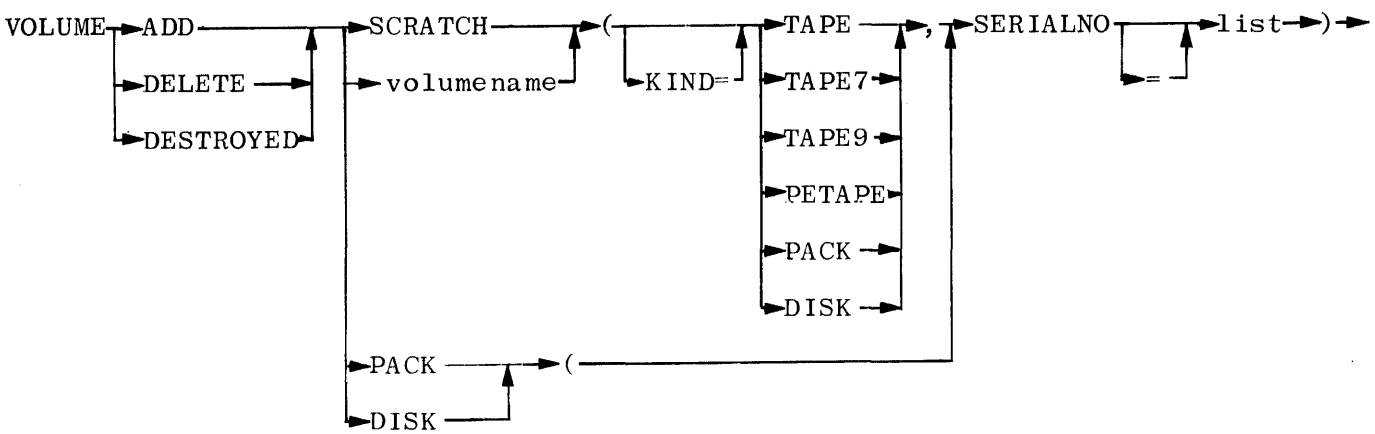
VOLUME LIBRARY DEFINITIONS

A volume is any tape reel, disk pack, or head-per-track device. Volumes are organized into volume families. A scratch tape and the collection of volumes in a multi-reel tape file are examples of tape volume families. A base pack and its continuation packs make up a pack volume family. The volume library is a data base containing information on volumes. The information on a volume is accessed via the kind and serial number of the volume. The volume library cannot contain two volumes of the same kind and serial number.

The volume library is organized so that there is one entry per volume family. The entry contains the title, savefactor, creationdate, site serial number of the machine on which the volume family has been created, and the serial number of each device in the family. In the case of a tape volume family, the entry contains the specific kind of each device: 7-track, 9-track or P.E. tape. In the case of a pack volume family, the base packs are also noted. The entry can be accessed by the kind and serial number of any device in the volume family.

SYNTAX OF CATALOG VOLUME FAMILIES

Volume families are added and deleted from the volume library via the following WFL statements.



SEMANTICS

VOLUME ADD

VOLUME ADD enters a volume family in the volume library. The order the serial numbers appear in the statement should be the order of the volumes in the family (reel number, pack index). The volume family need not be on-line. If the volume family is on-line, the information in the WFL statement is checked and expanded to include the other information stored in the entry. For example,

```
VOLUME ADD SCRATCH (KIND=TAPE, SERIALNO=123456)

VOLUME ADD DISK (SERIALNO = (32, 33))
```

If the VOLUME ADD statement adds a volume with the kind and serial number of a volume already in the volume library, the VOLUME ADD fails and the error message

<mix no> DUPLICATE SERIALNUMBER ({ MT / PK / DK }) [<serialno>]

is displayed. For example,

```
<mix no> DUPLICATE SERIALNO (DK) [000032]
```

A VOLUME ADD always displays the following message:

<mix no> VOLUME FAMILY <title> ({ PK / MT / DK }) [<serialno>] #1-n { ENTERED / NOT ENTERED }

For example,

```
<mix no> VOLUME FAMILY DISK (DK) [32] #1-2 ENTERED
```

VOLUME DELETE

A volume or volume family is deleted from the volume library via the VOLUME DELETE statement. The order the serial numbers appear in the statement need not be the order of the volumes in the family. A disk or pack volume family must be closed, but need not be on-line to do a VOLUME DELETE. For example,

```
VOLUME DELETE MYPACK (PACK, SERIALNO = 1)

VOLUME DELETE DISK (SERIALNO = (32, 33))
```

If any volume in the volume list is not in the volume family, the message

<mix no> ({ MT / PK / DK }) [<serialno] NOT IN VOLUME FAMILY

is displayed and the delete is not done. For example,

<mix no> (DK) [32] NOT IN VOLUME FAMILY

If there is a duplicate serial number in the statement serial number list, the message:

<mix no> DUPLICATE SERIAL NUMBER ({ MT / PK / DK }) [<serialno>]

is displayed and the delete is not done.

If the volume family specified in the statement is not found in the volume library, the message:

<mix no> ({ MT / PK / DK }) [serialno] NOT IN VOLUME LIBRARY

is displayed and the delete is not done. For example,

<mix no> (DK) [32] NOT IN VOLUME LIBRARY

A VOLUME DELETE always displays the following message:

<mix no> VOLUME FAMILY <title> ({ MT / PK / DK }) [serialno] #1-n { DELETED / NOT DELETED }

For example,

<mix no> VOLUME FAMILY DISK (DK) [32] #1-2 DELETED

VOLUME DESTROYED

The VOLUME DESTROYED statement should be used to mark those volumes that become permanently unavailable. The volume remains in the volume family and can be deleted. The action does not affect the cataloging information in the directory. To cancel the destroyed condition, delete the volume and reenter it in the volume library.

For example,

VOLUME DESTROYED TEST (TAPE9, SERIALNO = 3)

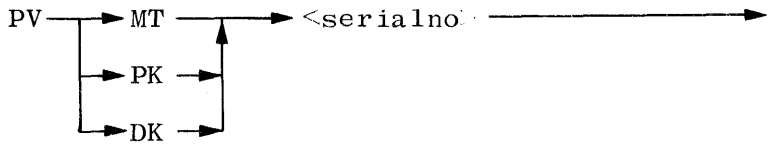
The VOLUME DESTROYED statement always results in the message:

<mix no> VOLUME FAMILY <title> ({ MT / PK / DK }) [serialno] { CHANGED / NOT CHANGED }

For example,

<mix no> VOLUME FAMILY TEST (9 MT) [000003] #1 CHANGED

PV MESSAGE



The PV message causes all the information the volume library contains about the specified volume and its volume family to be displayed on the operator console.

EXAMPLE

```
              (PV MT 000002)
-----VOLUME LIBRARY ENTRY FOR (MT) [000002]-----
SERIALNO[000002], #2, TAPE7
FAMILY NAME:  TEST
FAMILY CREATED ON:  1/29/75
FAMILY EXPIRATION DATE:  3/1/75
FAMILY CREATION SITE: 281
FAMILY STRUCTURE #1-4
  (7MT)  [000001] #1
  (7MT)  [000002] #2
  (9MT)  [000003] #3 DESTROYED
  (PEMT) [000004] #4
```

CATALOGED FILES AND THE VOLUME LIBRARY

Any volume family on which a cataloged file is created, or to which a backup copy of a cataloged file is copied, must be in the volume library. The catalog uses only the kind and serial number to identify the volume family which contains a cataloged tape file or a backup copy. Since the volume family is in the volume library, the kind and serial number is a unique identification.

DISK AND DISK PACK VOLUME FAMILIES

If a disk volume family is not in the volume library when the cataloged file is created on that family, the RSVP message:

$$\text{<mix no>}\ \text{UNIT NOT VOLUMED}\ (\ \left\{\begin{matrix}\text{MT}\\ \text{DK}\\ \text{PK}\end{matrix}\right\}\ )\ [\text{serialno}]$$

is displayed. Valid responses are "OK" or "DS". If the volume family is not entered in the volume library before the OK response is given, the message:

<mix no> <filename> NOT CATALOGED (not volumed)

is displayed and the file is entered in the directory as a non-cataloged file.

When a volume family is deleted from the volume library, information concerning the cataloged files created on the family is deleted from the directory.

If the family is in the volume library when the family goes off-line, the information concerning cataloged files created on that family remains in the directory.

A backup copy of a cataloged file can only be created on a volume family in the volume library.

Information concerning backup copies created on the family remains in the directory when the volume family is deleted from the volume library.

TAPE FILES

Each scratch tape is considered a volume family. When a cataloged file or a backup copy is created, a volumed (in the volume library) scratch tape is required. If no volumed scratch tape is on-line, the task enters a wait state and the message

$$\text{<mix no>}\ \text{<filename>}\ \text{REQUIRES VOLUMED}\ \left\{\begin{matrix}\text{MT}\\ \text{MT7}\\ \text{MT9}\\ \text{PEMT}\end{matrix}\right\}$$

is displayed. If a volumed scratch tape is brought on-line or a scratch volume already on-line is added in the volume library, the wait condition is satisfied. The scratch volume is deleted from the volume library and the new volume family is entered in the volume library. At reel switch, another volumed scratch tape is required. The new reel is added to the volume family being created.

When a tape volume family is deleted from the volume library, the information concerning the cataloged tape file or backup copy on that family remains in the directory. To delete the information concerning cataloged tape files on that family, do a catalog purge of all files on that family.

DISK OR PACK VOLUMES

The user cannot "RC", "IV", "PG", or "LB" a disk volume in the volume library. The volume must first be deleted from the volume library.

TAPE VOLUMES

A "PG" of a nonscratch tape volume in the volume library deletes it from the volume library and reenters it as a scratch volume family.

An "SN" which does not change the serial number of a tape volume works the same as "PG". The user cannot do an "SN" which changes the serial number of tape volume in the volume library. The tape volume must first be deleted from the volume library.

LIBRARY MAINTENANCE INTERFACE

Copy and Backup copies all specified files and makes a backup copy of all files cataloged on source. Files cannot be cataloged on a library tape; therefore, specifying a tape source results in the following syntax error: illegal source. Necessary action on volume library is automatic.

Copy and Catalog copies all specified files, and catalogs all files that have been copied on the destination. Files cannot be cataloged on library tapes; therefore, specifying a tape destination results in the following syntax error: illegal destination. Necessary action on volume library is automatic.

COPY & BACKUP A FROM DISK TO TAPEA

a. Enter TAPEA in volume library.

b. Copy file A from DISK to TAPEA.

c. If A is cataloged, mark A on disk as being backed up on TAPEA and then output message: "A COPIED (BACKED UP)".

COPY & BACKUP A FROM TAPE TO DISK

Syntax error: *illegal source

COPY & BACKUP A FROM P(KIND=PACK) TO Q(KIND=PACK);

a. Enter p in volume library.
Enter q in volume library.

b. Copy A from p to q.

c. If file A is cataloged on q, mark A on p as being backed up on q, and then output message: "A COPIED (BACKED UP)".

If file A is not cataloged, then output message: "A COPIED (NOT BACKED UP)".

COPY & CATALOG A FROM DISK TO TAPE

Syntax error: *illegal destination

COPY & CATALOG A FROM TAPEA TO DISK

a. Enter TAPEA in volume library if necessary.

b. Copy A from tape to disk.

c. Catalog A on disk backed up on TAPEA.

COPY & CATALOG A FROM P (KIND=PACK) TO Q (KIND=PACK)

a. Enter p in volume library if necessary.
   Enter q in volume library if necessary.

b. Copy A from p to q.

c. Catalog A on q backed up on p.

2. CATALOGING SYSTEM

The Volume Library (section 1 of this appendix) defined the "input" and "output" methods for the File Catalog system. This section introduces the specific cataloging functions which the B 6700 system performs. It will identify, define, and give examples of how, through the proper use of options, the cataloging functions can be controlled.

CATALOGING DEFINITIONS

Primary family: the family on which the file was originally created.

Backup family: a family to which the file has been copied.

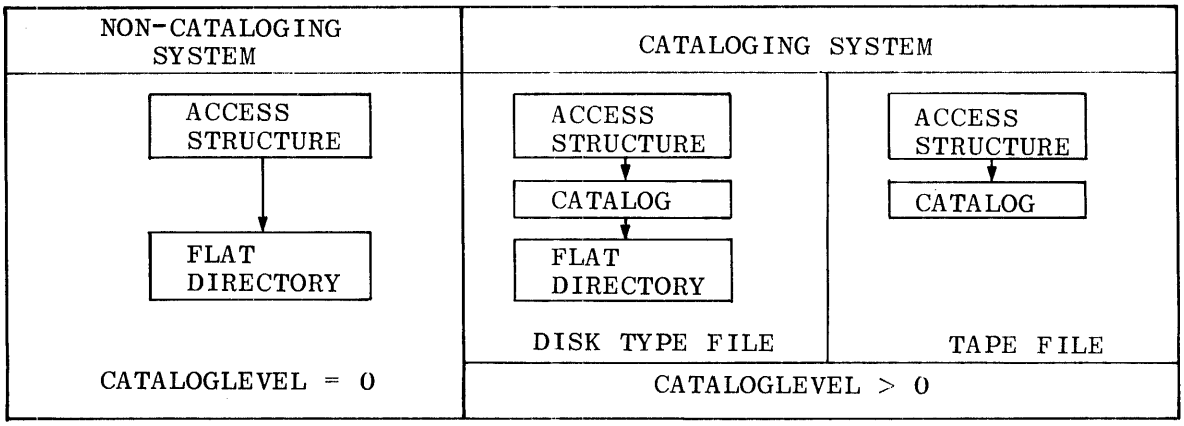
Generation: a generation of a file is defined by its title, primary family, cycle, version, and time of last update.

Latest version: the copy of the file with the largest cycle, version, and time stamp (the creation or last update time and date).

Cataloged file: a file for which the system has been told to maintain backup family information.

CATALOGING AND NONCATALOGING SYSTEMS

On a noncataloging system (CATALOGLEVEL=0), the "fast" directory contains pointers to headers in the flat directory for each resident disk (or pack) file on the system, on a cataloging system (CATALOGLEVEL >0). The "fast" directory contains pointers to a catalog block for each file entered in the "fast" directory, and the catalog block contains a pointer to the header for that file.



INFORMATION REGARDING CATALOGING SYSTEMS

A catalog block always exists for each disk (or pack) file that is resident on the system. In addition to information about the resident file, the catalog block may contain information about non-resident files which have been "backed up" to suitable media (tapes or packs which have been entered in the volume library). File references contained in the catalog block contain the cycle and version attributes associated with the file, and a time stamp (the creation or last update time and date) for the file. Non-resident (backed-up) references also contain the backup kind (pack, P.E. tape, 7-track tape, etc.) and the serial number of the backup media where the file can be found. Resident references contain pointers to the header for the file, and may also contain values for backup media (kind and serial number), provided that the file has been backed-up (copied out to a tape or disk with special instructions to enter the back-up information into the catalog).

A "fast" directory also exists for data tape files, and each file entry in that directory points to a catalog block. However, unlike disk (or pack) files, there are no "resident" entries as far as the catalog is concerned. Data tape files created by a program that specifies that they should be cataloged are entered in the catalog (and the tape "fast" directory) at close time, and they appear as non-resident, back-up file references. The mounting of a tape and "readying" of the tape drive does not enter the tape file in either the "fast" directory tape or the catalog.

Two new file attributes are now available to the user for cataloging use: USECATALOG and GENERATION. When USECATALOG is set to TRUE, all directory searches will also search the catalog block to find the "best" file based on the user's requirements. The "best" file is usually the one with the latest time stamp, and is easily found since the catalog block contains time stamps for each file reference. However, if the version and cycle attributes are also set, the "best" file is the one with matching genealogy; if more than one file reference with matching genealogy exists, the one with the latest time stamp is "best."

The "generation" attribute refers to the relative creation times among the file references contained in the catalog block. A "generation" value of 1 means that the file (with matching genealogy, if specified), which was created just prior to the file with the latest time stamp, is required. Similarly, a "generation" value of 2 means that the file (with matching genealogy, if specified) with the "third-best" time stamp is required.

The user may therefore specify, through the use of the version, cycle, generation and USECATALOG attributes, exactly which file is required, and the directory search routines will utilize the catalog block to determine whether such a file exists, and whether it is the resident file. If a file reference is found, but the file is not resident, the message

NO FILE <filename> <genealogy> FIND ON <kind> <serial number>

will be displayed, and the operator may take appropriate action, that is, either load the desired file from the back-up media specified, or "IL" or "DS" the program.

For data tape files, the same file specifications apply as described above; in addition, the user may specify the kind of tape (P.E., 9-track, etc.), serial number, and reel number. The directory search routines first search the tape "fast" directory and its corresponding catalog block for the speci-

fied file. If a matching file reference is found, a general search is executed to determine whether the required tape is available to the system at that time. If it is not available, the message

NO FILE <filename> <genealogy> FIND ON <kind> <serial number>

is displayed.

When a new file is "locked," or a permanent disk file is "updated" and the "USECATALOG" option has been set, a new catalog entry will be created and the catalog block marked as containing a "CATALOGED" file.

EXAMPLE

Disk File A has the following generations in the catalog.

	Cycle	Version	Time Stamp	Backup No. 1	Backup No. 2
1.	2	1	T5	MT[12345]	PK[123]
2.	2	0	T4	MT[23456]	
3.	2	0	T3		
4.	1	0	T2	MT[34567]	
5.	1	0	T1	MT[45678]	MT[56789]

ENTRY 3 IS CURRENTLY RESIDENT.

	FILE DECLARATION	RESULT OF OPEN INPUT
1.	FILE A (KIND=DISK, USECATALOG=FALSE)	ENTRY 3 IS OPENED
2.	FILE A (KIND=DISK, USECATALOG=TRUE)	NO FILE A (DK) ON MT[12345] PK[123]
3.	FILE A (KIND=DISK, USECATALOG=FALSE, CYCLE=1)	NO FILE A (DK) 1:0
4.	FILE A (KIND=DISK, USECATALOG=TRUE, CYCLE=1)	NO FILE A (DK) 1:0 ON MT[34567]
5.	FILE A (KIND=DISK, USECATALOG=TRUE, CYCLE=1, VERSION=0, GENERATION=1)	NO FILE A (DK) 1:0 ON MT[45678] MT[56789]

The use of cataloging file attributes is as follows:

USECATALOG	Cycle/Version (and/or Kind, Serial, Reel for Tapes)	Generation	Directory Search Action
FALSE	Not specified	Not specified	Find the resident entry.
FALSE	Specified	Not specified	Find the resident entry if the genealogy matches.
NOTE The following actions apply only if the catalog block is marked as containing "CATALOGED" files.			
TRUE	Not specified	Not specified	Find the entry with the most recent time stamp.
TRUE	Specified	Not specified	Find the entries with matching genealogy and select from these the one with the latest time stamp.
TRUE	Not specified	Specified	Find the entry with the time stamp corresponding to the generation (relative to all entries in the catalog).
TRUE	Specified	Specified	Find the entries with matching genealogy and select from these the one corresponding to the generation (relative to time stamp).
NOTE When the "USECATALOG" attribute is set to TRUE, and the catalog block is not marked as containing "CATALOGED" files, the resident entry is found, if one exists. If one does not exist, no files are found.			

ENTERING FILES IN THE CATALOG

On a cataloging system, each disk (or pack) file must have a corresponding catalog block. The block may be marked as "CATALOGED" or "NOT CATALOGED" depending upon the manner in which the file was created, or upon action taken from the console. In order to enter backup information for a file into the catalog, the file must be marked as being "CATALOGED." This may be done at creation time by setting the "USECATALOG" attribute in the file declaration, or it may be accomplished through the use of the "CATALOG ADD" request. For disk (or pack) files, the form of this request is:

```
CATALOG ADD <filename> [(KIND=PACK,PACKNAME=<packname>)]
```

or

```
CATALOG ADD =          [(KIND=PACK,PACKNAME=<packname>)]
```

If the bracketed information is absent, head-per-track disk is assumed. For data tape files, the form of this request is:

```
CATALOG ADD <filename> (KIND=TAPE,UNITNO=<unitnumber>)
```

or

```
CATALOG ADD <filename> (KIND=TAPE,SERIALNO=<serialnumber>)
```

or

```
CATALOG ADD =          (KIND=TAPE,UNITNO=<unitnumber>)
```

or

```
CATALOG ADD =          (KIND=TAPE,SERIALNO=<serialnumber>)
```

For the execution of a "CATALOG ADD", the unit (DISK, PACK, TAPE) on which the files exist must be in the volume library.

For disk (or pack) files, the "CATALOG ADD STATEMENT" marks the catalog block as containing "CATALOGED" files. For data tapes, the "CATALOG ADD STATEMENT" enters the file(s) into the tape "fast" directory, and the catalog block marks the block as containing "CATALOGED" files. It also enters the kind of tape (P.E., 7-track, etc.) and the serial number of the first reel into the catalog block as backup file references.

ENTERING INFORMATION IN THE CATALOG PROGRAMMATICALLY

Step 1. Lock a file on volumed unit with USECATALOG=TRUE or CATALOGALL set. (CATALOGALL is a system compile-time option. See section 3 of this appendix.)

```
Lock file A.

File A (KIND=PACK,PACKNAME=P,SERIALNO=123456)

If pack is not volumed, then
"<mix no> UNIT NOT VOLUMED (PK) [123456]"
Valid responses:  OK, DS
Volume pack before "OK" response given or
"<mix no> A NOT CATALOGED (NOT VOLUMED)"
```

Step 2. Lock a file for which a previous version is cataloged. (For tape file volume library, the check is at file open.)

```
Open file B.

File B (KIND=TAPE,SERIALNO="123456")
```

If tape not volumed:

"<mix no> B REQUIRES VOLUMED (MT)"

When a volumed scratch tape comes on-line, the wait condition is satisfied.

ENTERING BACKUPS IN THE CATALOG

A resident disk (or pack) file marked as "CATALOGED" may be copied out to a tape or pack, and the location of the unit to which it is copied may be entered in the catalog block for that file. This can be accomplished through the use of the "COPY & BACKUP" request. The form of this request is:

COPY & BACKUP <filename(s)> TO <outputmedia>

which is analogous to a normal library maintenance request. The <output-media> must, however, be entered into the volume library before the file may be copied. If all restrictions are met (that is, the <outputmedia> is in the volume library) and the file is marked as "CATALOGED", the file is copied and the kind and serial number of the <outputmedia> are entered into the catalog block as a backup location. A maximum of two such backups may be entered into the catalog. If a third "COPY & BACKUP" is executed, the reference to the first backup entered is lost at the time that the new back-up is entered.

Once a backup entry is made in the catalog block, the reference to that file will remain in the catalog block, even though the resident version is removed or displaced when new version of the file is entered. A maximum of "CATALOGLEVEL+1" entries may be contained in the catalog block, and each entry may contain two backup references. If a new file is entered into the catalog block and that block is "FULL," that is, it already contains "CATALOGLEVEL+1" file entries, the file reference with the oldest time stamp is removed from the block.

Another means of entering backup information into the catalog block is by means of the "COPY & CATALOG" request. This request has the form:

COPY & CATALOG <filename(s)> FROM <inputmedia> [TO <outputmedia>]

which is again analogous to a normal library maintenance function. In this case, however, both the <inputmedia> and the <outputmedia> must be entered in the volume library prior to actual copying of the files. If no <output-media> is specified, head-per-track disk is assumed and this, too, must be entered in the volume library.

As each file is "COPIED AND CATALOGED", the file is marked as being "CATALOGED" and the kind and serial number of the <inputmedia> are entered into the backup fields of the catalog block. The result is the same as though the file were already resident and cataloged, and a "COPY & BACKUP" executed.

REENTERING DUPLICATE FILES

If a file already marked "CATALOGED" and backed up in the catalog block is again "COPIED & CATALOGED" into the system, the enter routines will compare the new backup kind and serial number with those already in the catalog block. If these are found to be identical, no new entry is made in the catalog block. If, however, the file is the same (identical genealogy and time stamp) but the backup media is different, the new backup information is added to the catalog block entry.

If a file is simply "COPIED" into the system via library maintenance, the enter routines again examine the genealogy and time stamp of the file, and, if these correspond to a file reference already in the catalog block, that reference is marked "PRESENT" and no new entry is made in the block. If the genealogy and time stamp are found to be different from any other file references in the catalog block, a new entry is made in the block, displacing the previous resident entry if one existed. If the file reference being displayed has no backup information, it is removed from the catalog block entirely; otherwise, the file reference is simply marked "NON-RESIDENT" and remains in the block.

DELETING ENTRIES FROM THE CATALOG

A file reference may be deleted from the catalog block through the use of a "CATALOG DELETE" request. The form of this request is:

CATALOG DELETE <filename> (<attribute list>)

where the <attribute list> may contain some combination of CYCLE, VERSION, GENERATION, KIND, and SERIAL NUMBER or PACKNAME. For example, if there were three file references in the catalog block for file "A/B" on pack "P," and each file referenced had the same genealogy (CYCLE=1,VERSION=0), the generation attribute would have to be used to select the proper entry to be deleted. If the files were created on three successive days, and the previous day's entry is to be deleted, the statement would be:

CATALOG DELETE A/B(KIND=PACK,PACKNAME=P,GENERATION=1)

If, however, the files all had different genealogy values, the particular file could be referenced by specifying the correct genealogy, for example,

CATALOG DELETE A/B(KIND=PACK,PACKNAME=P,CYCLE=2,VERSION=0)

Note, however, that the "RESIDENT" entry may never be deleted, since it provides the link between the "fast" directory and the header. An attempt to delete the resident entry will result in the message

A/B NOT DELETED (RESIDENT ENTRY)

To remove the resident entry, a "REMOVE" request must be entered.

CATALOG PURGE

It is sometimes desirable to delete all references to backup files from the catalog. This may be accomplished by executing a "CATALOG PURGE", the form of which is:

CATALOG PURGE <filename> (<attribute list>)

where the <attribute list> may consist of the kind and packname or serial number. For example,

CATALOG PURGE A/B(KIND=PACK,PACKNAME=P)

would remove all backup references from the catalog block for the file A/B on pack P, and would leave the resident file marked as not cataloged, if a resident file existed. If no resident file exists, the entire catalog block would be removed, and the entry removed from the "fast" directory.

REMOVE FUNCTION

The "REMOVE" function is the same for a cataloging and non-cataloging system, that is, its function is to remove the resident entry from the system. On a cataloging system, however, the catalog block may not be removed when the resident entry is removed, since it may still have references to files which have been backed up to suitable output media. If it is desired to remove all references, including references to files which have been backed up, it is necessary to execute a "CATALOG PURGE" and a "REMOVE", preferably in that order.

SUMMARY

For disk (or pack) files, a catalog block always exists. It must be marked as containing "CATALOGED" entries before any backup information may be entered into the catalog block. A maximum of "CATALOGLEVEL+1" entries can be entered in a catalog block, and a maximum of two backup references can be entered for each file entry.

A "CATALOG ADD" request may be used to mark the file entries as "CATALOGED," or the "USECATALOG" attribute may be used in the file declaration when the file is created.

A "COPY & BACKUP" or a "COPY & CATALOG" request may be used to enter backup information into the catalog block. The media on which the file resides, and the media from or to which the file was copied, must be in the volume library at the time the request is executed.

A "CATALOG DELETE" may be used to delete specific entries from the catalog block, passing appropriate file attributes to select the file entry to be deleted.

A "CATALOG PURGE" may be used to remove all backup information from the catalog block for a particular file, and leave the file entry marked "NOT CATALOGED."

A "REMOVE" may be used to remove the resident entry. This may still leave the catalog block available to the system if it contains references to backup files.

For data tape files, the files may be entered into the catalog either through the use of a "CATALOG ADD" request, or by setting the "USECATALOG" attribute in the file declaration. In either instance, the files are automatically "backed-up," that is, the serial number and kind for the tape are treated as backup information and entered into the catalog block.

A maximum of "CATALOGLEVEL+1" file entries are permitted in the catalog block, and only one backup reference is allowed per entry.

The tape must be entered in the volume library before any "CATALOG ADDs" or close with "USECATALOG" set are executed.

"CATALOG DELETE" and "CATALOG PURGE" may be used to remove references to tape files from the catalog block. The REMOVE function is not meaningful for data tape entries, since the catalog does not recognize "resident" tape files.

OPERATOR INTERFACE

```
"PD A" WHEN A VERSION IS RESIDENT
FILE A ON DISK (SYMBOL:  ALGOL)
DATE CREATED:  TUESDAY JAN. 14, 1975
DATE OF LAST ACCESS:  TUESDAY JAN 14, 1975
SIZE IN SEGMENTS:  143
SECURITY:  PUBLIC - USAGE READ/WRITE
FAMILY SERIAL NUMBER:  000032
CATALOG ENTRY 1:
     CYCLE:  3 VERSION:  0
TIME STAMP:  THURSDAY JAN 16, 1975 (75016) at 09:14:16
     BACKUP MEDIA IS:  MT
     SERIAL:  012345
     BACKUP MEDIA IS:  PK
     SERIAL:  000123
CATALOG ENTRY 2:  IS RESIDENT:
     CYCLE:  2 VERSION:  1
TIME STAMP:  TUESDAY JAN 14, 1975 (75014) AT 09:10:38
     BACKUP MEDIA IS:  MT
     SERIAL:  123456
```

3. NOTES ON CATALOG OPTIONS

GENERAL

The MCP contains two global defines: "CATALOGALL" and "USECATALOG DEFAULT". When "CATALOGALL" is set in the MCP, all files entered into the directories are automatically marked as though the user had set the "USECATALOG" attribute. The media on which the files are entered must, therefore, be entered in the volume library.

When the "USECATALOGDEFAULT" is set in the MCP, all directory searches are carried out as though the user had set the "USECATALOG" attribute. Therefore, the file located by the search routines will not necessarily be the resident version. The user may, however, specifically override the "USECATALOGDEFAULT" function by programmatically setting the "USECATALOG" attribute to a value of FALSE.

CATALOG OPTIONS

CATALOGING (MCP Run-Time Option)

If this option is set, the system will be initialized as cataloging system at next HALT LOAD.

CATALOGLEVELSET (MCP Compile-Time Define)

This is the CATALOGLEVEL of system.

USECATALOG (File Attribute)

Output Files

If this attribute is set, a file created on a volumed family is entered in the catalog as cataloged file.

Input Files

If this attribute is set, the system requires the latest available version with the specified cycle and version to be resident before allowing the file to be opened.

USECATALOGDEFAULT (MCP Compile-Time Option)

Specifies the default setting of USECATALOG file attribute.

CATALOGALL (MCP Compile-Time Option)

If this option is set, then all files created on volumed units are entered in the catalog as cataloged files.

CATALOGING LOADER OPTIONS

```
CATALOG FAMILY YPACK SERIAL 123456

LOAD SYSTEM/CATALOG/001 FROM 6710Y
```

APPENDIX C

GETSTATUS DIRECTORY INTERFACE

I. GENERAL INFORMATION

The DCALGOL Intrinsic GETSTATUS has been enhanced to perform the following new functions:

1. Check proper security if the caller is not running under a privileged user code and return only those files the program is authorized to see.

2. Allow specifying an <on part> as a part of the incoming <file identifier>.

3. Allow a request for file information via a display form name as well as a standard form name.

4. Return the full name of a file (or files) in either display form or standard form.

5. Allow returning the <on part> as part of the returned <file identifier>.

6. Return more information about a specific header (if requested) via the MASK.

7. Return catalog information, the type is specified with "ADDLWORD" MASK or all.

8. Return catalog information concerning files to a specified "MAXCATLEVEL" (or the quantity known to the system), sorted such that the latest file entry is always returned first.

9. Ability to exclude user code from front of name if searching files under the job user code.

10. Ability to continue directory search at last name returned, by returning the original array to GETSTATUS.

11. Interpret the word "USERCODE" as the first name of a file to imply the next name is a usercode.

12. Return "ORGLEVEL" so that it may be used on subsequent calls.

13. Copy the flat directory to a specified file.

14. Return a copy of the volume library.

15. Ability to restrict directory search to usercode files without automatic searching of system files.

16. Ability to determine if a file is open on a search request.

17. Return security byte of file name being returned.

18. Bypass security checks if program is initiated from console, or is a control program, or user code is privileged; (program is given a pseudo privileged state).

19. Allow restricting a directory search to "system files" only.

II. GETSTATUS PARAMETERS

The following are the descriptions of parameters required for a GETSTATUS directory call. The general GETSTATUS call is as follows:

```
B:=GETSTATUS(TYPE,SUBCLASS,MASK,ARY);
```
with the following paramter definitions:

TYPE: This parameter generally selects the specific case and subcase within the GETSTATUS intrinsic. For directory requests, it also specifies some other information. The fields within this word follow:

a. WAITFORFILEF = [43:1]

This bit instructs GETSTATUS to wait for the specified family <ON PART> to be mounted, if at the time of the GETSTATUS call, the family is not present.

b. RETAINUSERCODEF = [42:1]

This bit instructs GETSTATUS to append the users usercode to the returned name. This function is only applicable on calls specifying the search is under the files associated with the task's usercode (standard form name security byte=1 or the specified usercode is the same as the tasks).

c. USERCODEONLYF = [41:1]

This bit inhibits the automatic search of the system directory, if the original search was a request for a file under the tasks usercode and the specified file was not found (original security byte equals one (1)).

d. RETURNFULLNAMEF = [40:1]

This bit instructs GETSTATUS to return the full file name in lieu of simple form name list.

e. DISPLAYFORMNAMEF = [39:1]

This bit indicates the requested and returned <file names> are in display form format. The setting of this bit also requires the setting of bit 40 (RETURNFULLNAMEF). Failure to set RETURNFULLNAMEF with this bit will result in GETSTATUS "Hard Error"#51. Each display form name returned will be of the following format:

<TWO EBCDIC CHARACTERS><DISPLAY FORM NAME>

The two EBCDIC characters contain the length of the display form name in binary. The normal decimal point will not be appended as a delimiter.

f. ONLYSYSTEMFILESF = [38:1]

This bit limits the GETSTATUS call to system files only. It is only applicable to subtypes 1, 2 and 4.

g. RETURNRESIDENTF = [37:1]

This bit requests the resident state of a file be returned in bit four (4) of each pointer word. This bit will also force the returning of all file names, regardless of their resident status (applicable to catalog systems).

h. SUBTYPEF = [15:8]

This field specifies the type of directory search desired. These are as follows:

0: Search for a specified file.

1: Initial request for all files under a specified directory name.

2: This is referred to as a "continuation request" and is used after a SUBTYPEF call of 1 which has returned an indication that more files exist under the initial <file name>'s directory. All fields specified under SUBTYPEF=1 call must be returned (except for SUBTYPEF).

3: This requests the copying of a complete family directory to a specified file.

4: This request allows the user to return to GETSTATUS the array created under SUBTYPEF = 1. With this type of call, the user need only restore the contents of word zero (0) in the array. GETSTATUS will use the array to determine the next file to be returned to user. All TYPE fields must be returned as originally requested except for SUBTYPEF.

5: This request specifies a copy of the volume library is desired. Refer to II.7 documentation for format.

i. TYPEF = [7:8]

This should be a three (3) specifying the directory section of the GETSTATUS intrinsic.

SUBCLASS: The following definitions pertain to the SUBCLASS parameter:

a. MAXCATLEVELF = [47:8]

This field allows specifying the maximum number of file entries that are to be returned from the catalog system. A zero in this field indicates all file entries are to be returned; otherwise, the number specified with this field. This field is only applicable if MASK bit #16 has also been set.

b. ORGLEVELF = [39:20]

This field is used when TYPE.SUBTYPEF equals two (2). It will indicate the number of levels in the continuation name that were in the original request. It can be obtained from ARY [1].LEVELF after the TYPE.SUBTYPEF = 1, 2 or 4 results.

c. MAXLEVELF = [19:20]

This field (if non zero) indicates the depth at which the search is to be limited. It is a number that is relative to the depth of the original name. This field is applicable to TYPE.SUBTYPEF values of 1, 2 and 4.

MASK: The following definitions pertain to the MASK parameter. Each bit in this word indicates a specific piece of data that is to be returned about the specified file (or files). If MASK is zero (0) or one (1), then GETSTATUS will return information of the existence of the file by returning the file name if TYPE.SUBTYPEF = 1, 2 or 4 or if no error is returned in TYPE.SUBTYPEF=0. Refer to Appendix "A" (Mask Bits).

ARY: The following definitions pertain to the ARY parameter. This is the area that will be used to return the file names and individual pieces of data. This array may be segmented. Its limits are determined by the size of the fields "LINKF" and "NEXTLEVELLINKF", and depends on which one is exceeded first. Fields within words of "ARY" are as follows:

a. ERRORF = [47:1]

If this bit is on, then ERRORVALUEF contains a soft error number. This applies to all words except zero (0). In ARY [0], this bit being set indicates more information is available (i.e., the array is too small).

b. ERRORVALUEF = [46:8]

If "ERRORF" = 1, then this field contains the soft error number. Refer to Appendix "B" (Soft Errors).

c. ADDLINFOF = [46:8]

This will be the file type of the name represented by the respective word.

Note: ERRORF must equal zero (0) for this meaning as this field, overlaps ERRORVALUEF.

d. VALUEF = [38:6]

This field is divided into three (3) subfields:

1. SUBVALUE2F = [38:2]

The value in this subfield indicates the kind of entry that this word represents:

0 - Reserved

1 - This is a file

2 - This is a directory

3 - This is a file and a directory

2. SUBVALUE3F = [36:1]

A one (1) in this subfield indicates the file is open.

3. SUBVALUE1F = [35:3]

This is the security byte that is attached to the file. This field will be zero (0) for any value in LEVELF other than one (1). This field is broken up into two (2) sub-subfields:

i. Bit [35:1] will be on if an on part is associated with the name (on pack, on disk, etc.).

ii. Bit [34:2] will contain the security byte value of:

0 - Reserved

1 - File is from task's usercode directory

2 - File is from system directory

3 - First name of file is a usercode

e. LINKF = [32:17]

If LEVELF within this word is zero (0), then this field will be an absolute word index into the array and will point at the VALIDITY MASK word. (A detailed explanation is to be found in Section V.) If LEVELF is not zero (0), then this field will be an absolute character index into the array and will point at the file name or subpart thereof, depending on the value in "RETURNFULLNAMEF".

f. NEXTLEVELLINKF = [15:11]

This field is used to link the subnames of the last file name together so that the last name returned may be recreated. These links are only generated if "RETURNFULLNAMEF" equals zero (0) and SUBTYPEF equals 1, 2 or 4.

g. RESIDENTSTATEF = [4:1]

This bit will be one (1) if the file is resident and TYPE.RETURNRESIDENTF equals one (1). If RETURNRESIDENTF equals one (1), and RESIDENTSTATEF is zero(0), then the file is non-resident, or a directory.

h. LEVELF = [3.4]

If "RETURNFULLNAMEF" equals zero (0), this field indicates the level of the name pointed at by the field "LINKF". If "RETURNFULLNAMEF" equals one (1), then this field will contain the number of levels in the name (excluding the <on part>). If LEVELF equals zero (0), then the actual "LEVELF" can be found ARY [(POINTERWORD).LINKF + 1].LEVELF.

i. INFOF = [15:16]

When this field is used, it will contain the length (in characters) of the entry pointed at by LINKF. Refer to section IV for further information on pointer words.

j. ONPARTLINKF = [43:11]

This field is only applicable to Subtypes 1, 2, or 4, and to word one (1) of the array.

It contains a word index that will point to a pointer word whose "LINKF" contains a value (as a character index) into the array. The "LINKF" field will point at the <on part> that is associated with the GETSTATUS call. An <on part> will always be returned. If an <on part> is not part of the original name, than a default of "DISK" will be unconditionally supplied on the names returned (assuming a family statement has not been used). This field is only supplied if TYPE.SUBTYPEF = 1, 2 or 4 and ERRORF of word one (1) equals zero (0). The default name may be changed in the future.

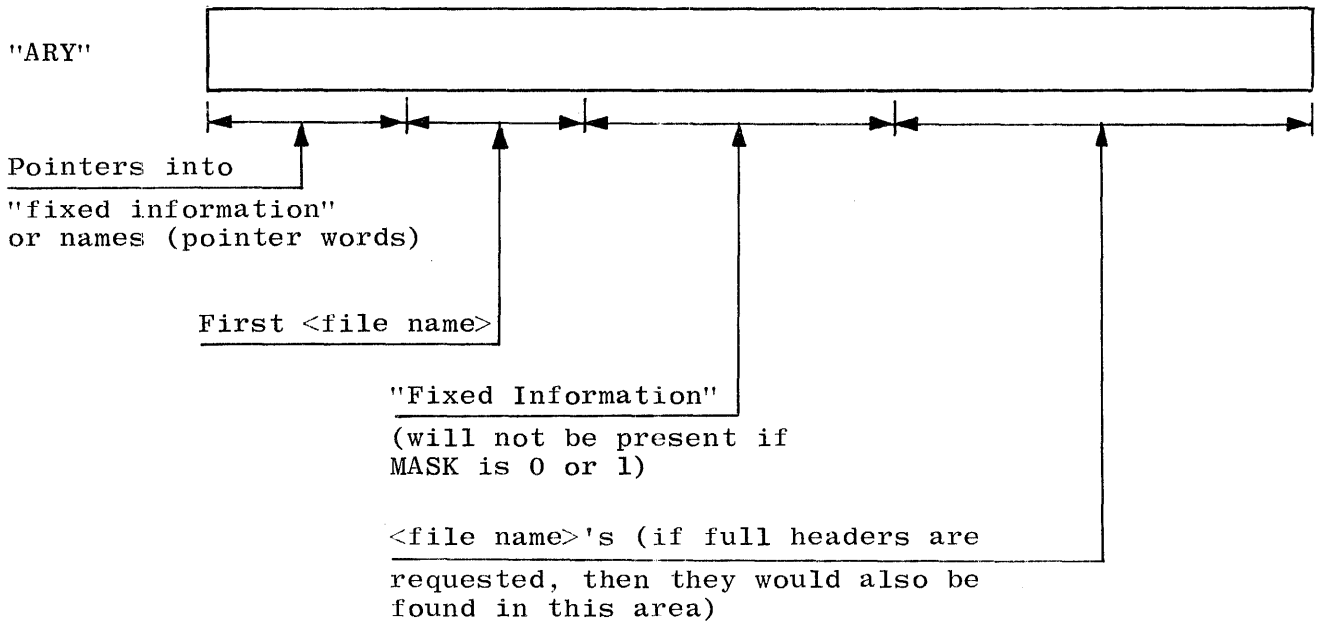
III. GETSTATUS Value Returned

Bit 0 indicates that GETSTATUS has detected a problem in completing the desired request. If the field [11:8] equals zero (0), then the error can be found by looking for a word in the "ARY" that has the ERRORF bit set (other than word zero (0)). Further examination of the ERRORVALUEF field (within the located word) will indicate the type of soft error. Refer to Appendix B for these error values.

If [11:8] is not zero (0), then this is termed a "Hard Error". GETSTATUS was unable to complete the original request. Refer to Appendix C for these error values.

IV. ARRAY "ARY" FORMAT

The general format of the array "ARY" which is returned for subtype 0, 1, 2 and 4 is as follows. The array is broken into four parts:



Word zero (0) of "ARY" indicates the number of pointer words that were inserted into the array. It will contain a value of one more than the index of the last valid pointer word that was generated.

LINKF within pointer words will point at:

1. <file name>'s, if MASK is 0 or 1.

2. Either fixed information or <file name> if MASK is greater than one. In this usage of MASK bits, LINKF will point at the <file name> if the name represents a directory; otherwise, it will point to the base of the "fixed information", which in turn (at word one (1)) will point at the <file name> this entry is describing. The terminology of <file name> depends on the value of "RETURNFULLNAMEF". If this bit is zero (0), then <file name> will be the subnames of a complete file identifier. If "RETURNFULLNAMEF" equals one (1), then the complete <file name> will be found in the <file name> area. Also, if "RETURNFULLNAMEF" equals one (1), names will only be returned on files that are not flagged exclusively as directories. (MAXLEVELF within subclass word not equal zero (0) is an exclusion.)

V. Search for a Specific File.

The following defines the specification for searching for a specific file.

1. Format of "ARY" array:

   ARY [0] = 2 (number of "pointer" words being used + 1)

   ARY [1] = 0 pointer word (LINKF equals zero (0))

   ARY [2] = Standard or Display form <file name>

   The <file name> is located within GETSTATUS using the following algorithm:

   INX = A[0].[19:20] * 6 + A[1].LINKF

   where "INX" will be a character index into "ARY" and will point at the first character of the <file name>.

   The <file name> may be in display form if TYPE.DISPLAYFORMNAMEF equals one (1). The <file name> must be terminated with a period.

   Information on more than one file will be returned when ARY [0] contains a value greater than two (2). In this type of call, the LINKF field of each "pointer" word must point at the beginning of its respective name (refer to algorithm for computing "INX"). LINKF is always used as a character index above the value in ARY [0].

   The GETSTATUS call would appear as:

   B:=GETSTATUS (0&3 TYPEF &0 SUBTYPEF,0,0,ARY);

   If information other than the simple confirmation that the requested file exists is required, then the bits representing the information desired must be set in the "MASK" word (refer to Appendix A).

2. Information Returned

   If bit zero (0) of the result B returned by GETSTATUS equals one (1), then:

   a. If B.[11:8] is not zero (0), then GETSTATUS has detected a "hard error". Refer to Appendix "C".

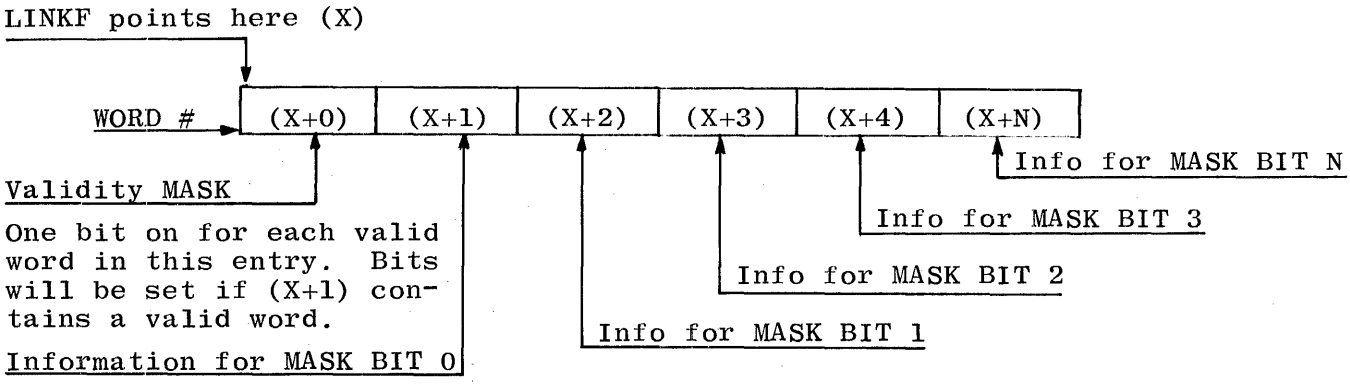
   b. If B.[11:8] equals zero (0), then a "pointer" word (other than ARY [0]) within the array contains the "ERRORF" bit set and subsequent investigation of the "ERRORVALUE" field will provide the "soft error" number.

      For example, if the file is not present and the request is for only one file name (ARY[0]=2), then ARY [1].ERRORF will contain a one (1) and A[1].ERRORVALUEF will contain a 49 (NOFILE).

      The number of pointer words that are valid in the array will be indicated by the value in ARY [0].[19:20]. This value is one greater than the last valid pointer in the array. If the original request is for only one file, then A[0].[19:20] would contain a two (2).

Fixed Information Pointer Word Format:

If an error has not occurred, then the LINKF field of each pointer word will point to the first word of "fixed" information. The information pointed at by ARY[1].LINKF will be placed in the first available word beyond the last <file name> entered on the original request. The information at this location will have the following format:



In the response, words (X+2) through (X+N) will only be present if the corresponding bit is set in the "MASK" word. Words (X+0) and (X+1) are always returned for this type of request regardless of MASK bits. Word (X+1) will contain the pointer word information.

Pointer Word Information:

LINKF: character index pointing to length of <file name> and file name follows.

This will point at the original <file name> if >RETURNFULLNAMEF" equals zero (0); otherwise it will point at the name as recreated by the system. The difference in the two (2) names will be in the presence of the "USERCODE" from the first name of the file and/or the addition of the correct <on part> (which may be different than the original if family equation is being used).

SUBVALUE2F:

0 - Reserved

1 - <file name> is a directory

2 - <file name> is a file

3 - <file name> is a directory and a file

SUBVALUE3F:

Will contain a one if the file was open at the time of the GETSTATUS request.

SUBVALUE1F:

Security byte associated with the <file name>:

0 - Reserved

1 - File is under task's usercode

2 - File is in system directory

3 - Usercode is first name in <file name>

ADDLINFOF:

File kind; i.e., data, code, etc.

Note: ERRORF must be zero (0).

NEXTLEVELLINKF:

This file is not used for SUBTYPEF=0 type of requests.

LEVELF:

The number of levels (simple names) in the <file name>. This will not include the <on part> name.

When requesting additional information about a <file name>, (MASK greater than one (1)), the VALIDITY MASK word will contain a bit set for each piece of data that the system could return. The validity mask bits have a one-to-one mapping correspondence with the original MASK word. Bit zero (0) of the validity mask will always be on implying that word (X+1) contains valid information. Only information for MASK bits 0, 9 and 16 can be returned if the specified <file name> is not resident, and therefore the validity mask would only contain bits 0, 9 and 16 if more than these bits were set in the original MASK request word.

If information on more than one file is requested and the array is not large enough to contain the complete information desired, the ERRORF bit in ARY [0] will be one (1). GETSTATUS will not return a true for this case. ARY [0] will point one word beyond the last valid fixed information pointer word that was created containing all of the information originally requested. If the array (ARY) is not large enough to contain the information for the pointer word in ARY[1], then GETSTATUS will return "Hard Error" number 41. See Appendix C for a definition of this error condition.

VI. Search For All Files Under a Given Directory:

The following defines the specification for searching for all files under a "given directory".

1. REQUEST FORMAT

This request will provide all the <file names> that exist under a specified directory. The directory requested may be the entire system directory, usercode directory, both directories, or a specific directory under the system or usercode directories. The field TYPE.DISPLAYFORMNAMEF may be used if the request is for information under a specific directory; otherwise, the standardform name format must be used.

Throughout this section of the document, reference will be made to "LEVELF", "MAXLEVEL", and "ORGLEVELF". The following provides a brief synopsis of the various phrases or fields:

a. The number of <simple form names> in a <file name> represents the number of "LEVELS" in the <file name>. For example, a <file name> (in display form) of "A/B/C." has three (3) levels. If this same name was created in standardform, then it would appear as (in hex):

4"09020301C101C201C3"

where the third byte contains the number of levels in the <file name> of three (3). When an <on part> is part of the original <file name>, then it becomes an additional level to the <file name>. To note that the <on part> is present in a standardform name, byte one (1) will contain bit two (2) set. For example, the display form <file name> of "AA/BB on C." would appear in standard form as (in hex):

48"0B060302C1C102C2C201C3".

The security byte (byte one (1)) contains a six (6) (bit two (2) set) and the number of levels (byte three (3)) contains a three (3).

b. TYPE.MAXLEVELF when not equal to zero (0) indicates the search is to be limited to the value in TYPE.MAXLELVELF names above the number of levels of the original <file name>. If the original <file name> was "A/B" and MAXLEVELF equals one, then the system will restrict its search to all <file names> under the initial directory of "A/B" plus one more level; i.e., if the files A/B/C/D, and A/B/E were present, then the system would return A/B/C and A/B/E.

c. ORGLEVELF indicates the number of levels in the original <file name>. It will not include the <on part>. The system returns "ORGLEVEL" in A[1].LEVELF for all directory search calls. For TYPE.SUBTYPEF = 1, the level of the first name found in the requested search is returned in A[1].LEVELF and ORGLEVELF is not required. For TYPE.SUBTYPEF = 2, the user must return in SUBCLASS.ORGLEVELF the proper original level (which could be obtained from A[1].LEVELF). For TYPE.SUBTYPEF = 4, ORGLEVELF need not be supplied, as it is taken automatically from A[1].LEVELF.

2. ARRAY "ARY" REQUIREMENTS

The following defines the requirements of the array "ARY". For this type of request, the array must contain the following information:

ARY[0] = number of <names> to be returned. <names> will be <simple form names> if TYPE.RETURNFULLNAMEF equals zero (0); otherwise, it will represent the number of <file names> that are to be returned.

ARY[1].LINKF = pointer to the <file name> at which the search is to start. The value in this field is used as a character index above the value in ARY[0] to locate the first character of the initial name. The word at ARY [ARY[0]] is always used by GETSTATUS to return the <on part> pointer; therefore, if the original name should be preserved, it must be placed beyond ARY [ARY[0]]. Since the system will use the value in ARY[0]*6 + ARY[1].LINKF to locate the name, LINKF must contain an offset value.

EBCDICARY[ARY[0]*6 + ARY[1].LINKF] determines the location (character index) where the initial <file name> should be placed. The <file name> placed at this location may be in "standardform" or in "display form", depending upon the value of TYPE.DISPLAYFORMNAMEF respectively. If a display form name is used, it must terminate with a period. ("EBCDICARY" is an EBCDIC array equated to "ARY").

The standardform information for searching the entire system directory (including the usercode directory) is 48"030000". The format for searching all of the usercode directory only is 48"030300". If a search of all of the system files only is desired, then the standardform name format is 48"030200" and TYPE.ONLYSYSTEMFILESF must equal one (1). In all of these cases, the level field equals zero (0). A request for all usercode files while operating under a non-privileged usercode will result in a GETSTATUS "soft error". SUBCLASS.MAXLEVELF is used to limit the depth of the search. If zero (0), then all <file names> above the initial name are to be returned; otherwise, only names up to "MAXLEVELF" above the original name depth will be returned. For example, if the calling level is zero (0), (i.e., 48"030000"-third byte=0) and "MAXLEVELF" equals one (1), then only the first names of each file in the directory will be returned.

An example for searching the entire directory follows:

```
ARY[0]:=52;

ARY[1].LINKF:=6;%  Reserve space for <on part>

ARY[53]:=40"030000";

B:=GETSTATUS(0 & 3 TYPEF & 1 SUBTYPEF, 0, 0, ARY);
```

The request will return 50 <simple form names> if:

a. The array is large enough to hold all of the names;

b. The system directory contains at least 50 <simple form names>.

If less than 50 names are returned, then ARY[0] will point one beyond the last valid pointer word that has been set up. If more than 50 names exist in the directory, then ARY[0].ERRORF will also equal one (1), indicating that a subsequent call of SUBTYPEF equals two (2) or four (4) is required to get the next block of names and ARY[0] will contain a 52.

3. Results Returned:

a. Procedure Results:

If GETSTATUS returns a zero, then there are no errors in the array or in the format of the original call.

For non-zero results, refer to description under Part V-2 of this document.

b. Contents of ARY[2] to ARY [ARY[0]]:

The contents of ARY[0] will point one word beyond the last valid pointer word with the first pointer now returned being placed in ARY[2].

The pointer word formats will vary depending upon the number of bits set in the "MASK" word.

a. If "MASK" contains a zero (0) or a one (1), then each pointer word will contain the information listed under Section II-ARY of this document.

b. If "MASK" is greater than one (1), then the pointer words will vary in content. Since "MASK" information can only be returned for files, the pointer words for any item that represents a file will point to a "fixed information" area which in turn would (at LINKF+1) contain the information that would normally be found in the pointer word. A pointer word that is pointing at a "fixed information" area can be identified by a LEVELF field of zero (0). Refer to Section II-b for form of a fixed information entry. If the LEVELF of the pointer word is non zero (0), then the word contains the information described in Section II-ARY.

c. Contents of ARY[1].

If an error (such as no file) is detected on the initial name, ARY [1] will contain the ERRORF bit set and ARY[1].ERRORVALUEF will indicate the type of error that has occurred.

ARY[1].ONPARTLINKF will contain a word index which points at a pointer word that in turn points at the on part name (LINKF is a character index pointing at the on part name which is present as a <simple form name>).

ARY[1].NEXTLEVELLINKF will point at a pointer word for the first name of the complete <file name>. The last name in the list will contain a "NEXTLEVELLINKF" field value of zero (0). This field is only used if TYPE.RETURNFULLNAMEF equals zero (0).

ARY[1].LINKF will be controlled through TYPE.RETURNFULLNAMEF as follows:

a. If TYPE.RETURNFULLNAMEF equals zero (0), then LINKF will not be altered f rom the original input call.

b. If TYPE.RETURNFULLNAMEF equals one (1), then LINKF will point to the last <file name> for which the requested information was completely returned.

ARY[1].LEVELF will contain the number of levels that were present in the original <file name> (ORGLEVELF).

4. Continuation of a Directory Search:

Since the array "ARY" must have a practical length, it is possible that GETSTATUS will not have enough array space to provide all of the names (with or without additional MASK information) that are present in a specified directory. ARY[0].ERRORF will contain a one (1) if one of the following occurred:

a. The next pointer word to be placed in the array would be at the word pointed at by ARY[0].

b. The next <name> or <file name> (depending on TYPE.RETURNFULLNAMEF) would be inserted on top of a previously generated "fixed information" area.

c. A "fixed information" area would overlap a previously entered <file name>.

For the above cases, ARY[0] will contain a value that is one greater than the last complete pointer word that has been placed in the array.

If the system is unable to place one complete entry in the array, then GETSTATUS will return "hard error" number 41. See Appendix C for a definition of this error.

ARY[0].ERRORF will contain a one (1) only if there is more information to be returned. A hard error is not returned for this case.

GETSTATUS will not return an error (i.e., bit zero (0) of the returned result will be reset) for an out-of-space condition.

There are two methods for continuing a GETSTATUS directory search. These are as follows:

a. TYPE.SUBTYPEF = 2

This call requires the user to link through the "NEXTLEVELINKF" fields reconstructing the last name that was successfully completed. The name would then be placed in the array in the same manner as in the TYPE.SUBTRYPEF = 1. The original level value must be passed back to GETSTATUS in SUBCLASS.ORGLEVELF. (This may be picked up from ARY[1].LEVELF). The original information passed in TYPE must also be returned with the exception of the SUBTYPEF field is changed to two (2). ARY[0] must be reinstated to its original value. The security byte must also be properly established.

b. TYPE.SUBTYPEF = 4

With this type of call, GETSTATUS will traverse the array, reconstructing the last name returned, and continue the search. The user need only reinstate the contents of ARY[0] and return the original information in TYPE with the exception of the SUBTYPEF field which is set to four (4). The array may not be altered between the TYPE.SUBTYPEF = 1 and TYPE.SUBTYPEF = 4 calls. The state of TYPE.RETURNFULLNAMEF is used in this call to determine the proper technique to rebuild the last name. Likewise for the bit TYPE.DISPLAYFORMNAMEF.

VII. Copying a Flat Directory:

The following is a definition of copying a flat directory.

1. Calling Sequence:

Using a TYPE.SUBTYPEF value of 3, the GETSTATUS intrinsic will copy the entire contents of a directory to a specified file.

The call would appear as follows:

```
B:=GETSTATUS(0 & 3 TYPEF & 3 SUBTYPEF, 0, 0, ARY)
```

and the format of the array (ARY) is as follows:

```
A[0]=2
```

A[1].LINKF: If not zero then is used as a character index into the array and must point at the <family name> in <simple form>.

A[1].UNITNUMF: If not zero then contains the unit number that is to be copied and A[1].UTYPEF must contain the UNITTYPE of 1 or 17 (disk or disk pack respectively).

The family name or unit number must be supplied. If both are given. then the system will verify that they are for the same unit.

A[2]: Beginning of the <file name> that the copy is to be placed in. The <file name> may be in display form or standardform, depending upon TYPE.DISPLAYFORMNAMEF. An <on part> may also be specified.

NOTE

Use of this call requires privileged status.

2. Results Returned

Results Returned are as follows:

a. The file created has a "MAXRECSIZE" of 30 words. The row size is derived from the directory and is currently 1200 segments.

b. The first record in the copies file contains:

WORD 0: Serial number of unit containing family that was copied.

WORD 1: Unit number copy was performed from.

WORD 2: Date copy was performed. In binary and in form YYDDD.

WORD 3: Time of day copy was performed. Binary numbers in form of 2.4 usec increments.

WORD 4,5,6: Family name that was copied in <simple form>.

WORD 7: Record address within file which contains the first copied information.

c. The remainder of the file beginning at record one (1) will contain an exact copy of all of the inuse areas that are contained in the specified family. Refer to directory format documentation for the format and contents of each area. Briefly they will contain:

1. The length in words of the inuse area.

2. The name of the file associated with the file header in this area.

3. The guard file name associated with this header.

4. The actual file header.

The copied file can split an inuse area across a row.

d. Upon completion of the copy, the copied file is locked as a crunched private file. It should be processed using a FILETYPE of eight (8). Although MAXRECSIZE is 30 words, each inuse area may take more than 30 words depending on the length specified in word 0 of the inuse area. Each inuse area will always begin on a segment boundary and use an integer number of segments.

VIII. Copying a Volume Library:

The following defines the copying of a Volume Library.

1. Calling Sequence:

Using a TYPE.SUBTYPEF value of 5, the GETSTATUS intrinsic will copy the entire contents of the volume library to a specified file.

The calling sequence would appear as follows:

```
B:=GETSTATUS (0 & 3 TYPEF & 5 SUBTYPEF, 0, 0, ARY)
```

and the format of the array (ARY) is as follows:

```
ARY[0]:2

ARY[1]:0
```

ARY[2]: Beginning of <file name> that copy is to be placed in. The name may be in display form or standardform, depending upon TYPE.DISPLAYFORMNAMEF. An <on part> may also be specified.

NOTE

The use of this call requires privileged status.

2. Results Returned:

a. The file created has a MAXRECSIZE of 30 words. The row size is derived from the directory and is currently 1200 segments. The file is crunched.

b. The first record in the copied file will contain the same information as described in Section VII-B-2 of this document. In addition word 8 will contain the length (in number of words) that was used beginning at record one (1).

c. Record one (1) will contain (one word each) the information necessary to locate valid rows in the copied file. The number of words to be used is determined by word 8 of record zero (0). This value may exceed 30 words. Each word contains the beginning record address of a valid row.

d. The organization of the volume library allows copying of certain rows from the system's catalog file; therefore, there will be rows within the copied file that do not contain information. In fact, these rows are not even allocated space. The user must use the information from record one (1) to determine which rows are valid.

e. Within a valid row, all of the information within that same row of the system's catalog is copied. This is necessary due to linking that may have been generated within the volume library. The format of the information within a specific row may be obtained from the description of the volume library.

IX. Format of Information Returned When Using MASK Bit

The format of Information Returned when using MASK bit number sixteen (16) is as follows:

1. General Information:

   This bit requests catalog information on files, and the information can only be returned if the system is cataloging. (Refer to II.7 documentation.) If the catalog level is zero (0), then bit sixteen (16) of the validity mask will be reset indicating that catalog information is not available. With catalog level greater than zero (0), the following will be returned:

   Fixed entry word (X+17) (Refer to Section V-B) will contain an absolute word index to the base of the catalog information. The index is contained in LINKF. INFOF will contain the length of the entry (in characters).

   The catalog is structured such that it contains some fixed length information, followed by a variable amount of a different type of fixed length information. GETSTATUS will return the catalog in this same organization.

2. Catalog Block Format

   The catalog block information pointed at by "MASK" bit 16 is as follows:

   Assume LINKF of (X+17) is called "Y". Therefore:

   ARY[Y+0]: Validity mask. Will contain one bit for each of the following words that are valid.

   ARY[Y+1]: Block number of this entry within system catalog. This word is represented by VALIDITY MASK bit zero (0).

   ARY[Y+2]: Serial number of disk containing this file. This word is represented by VALIDITY MASK bit one (1).

   ARY[Y+3]: Number of entries under the catalog block.

   ARY[Y+4]: Pointer to first file entry. LINKF contains an absolute word index to the first of "N" entries. INFOF contains the number of entries that are present ("N"). ADDLINFOF contains the size of each entry.

3. File Entries

   File Entries (information pointed at by ARY[Y+4].LINKF) are as follows:

   Assume ARY[Y+4].LINKF is called Z. Therefore:

   ARY[Z+0]: Validity mask of words that are valid within this file entry.

ARY[Z+1]: For tape files only, and contains number of reels associated with this file. This word is represented by VALIDITY MASK bit zero (0).

ARY[Z+2]: Version and cycle of file. This word is represented by VALIDITY MASK bit one (1).

ARY[Z+3]: File type.

ARY[Z+4]: Attribute list. LINKF will be a character index that points at the following:

<length byte> <entry type byte> <entry>

where entry type bytes are:

a. Kind of unit

<entry> will be one byte with the kind in binary.

b. Serial number

<entry> contains the serial number as 6 EBCDIC characters.

INFOF contains the total number of characters pointed at by LINKF. The last <length byte> of the attribute list will be a byte of zero (0) and is included in the count in INFOF. A <length byte> will include itself.

ARY[Z+5]: Time stamp word.

File entries are sorted by date, such that the entry containing the latest date is returned as the first file entry. The number of file entries returned may be controlled by "MAXCATLEVELF" of SUBCLASS.

4. Information Returned

The information returned out of the catalog block may be controlled by using an "ADDLWORD(1)", which would contain the desired catalog block MASK bits. Refer to Section X for a description of "ADDLWORDS".

This restriction on catalog information may only be invoked on requests that specify a specific file, since that is the only time ADDLWORDS may be specified.

X. ADDLINFO Words and Dynamic MASKS:

1. ADDLINFO Words:

Some requests for the GETSTATUS intrinsic require more than one word per logical entry to describe the request. The presence of additional words is flagged by the field "VALUEF" not equal to zero (0). In fact, the number of additional words that are present is indicated by the value in "VALUEF". Each additional word is given a name as: ADDLWORD(1), ADDLWORD(2), etc.

Additional information cannot be supplied on requests of which GETSTATUS must generate the entire response after starting at some given point. For example, ADDLINFO may only be supplied on directory requests of SUBTYPEF = 0. The system will preserve the "VALUEF" field on returned results so that the caller will know how to step through the GETSTATUS results returned.

2. Dynamic Masks:

A MASK other than the one entered through "MASK" may be specified by placing an array origin count in A[0].[39:20]. This field is normally zero (0), and as such GETSTATUS will assume the first information can be found (or is to be returned) relative to word one (1). However, if ARY[0].[39:20] is not zero (0), then this will shift the assumed first word location to the value specified in A[0].[39:20]. When using this technique, two words are required for each entry that will be placed below A[0].[39:20]. The first entry will become the dynamic mask, and the second the subclass value. Each entry above A[0].[39:20]; i.e., a pointer word, for example, will select the particular mask it is to use from the index in the "ADDLINFO" field. (If zero (0), then MASK is used.) This index is not preserved in the returned results. ARY[0] must contain the absolute index into the array of the last word that cannot be altered. MASK and SUBCLASS are assigned the dynamic values, thereby destroying the original values within GETSTATUS.

APPENDIX A

MASK BITS

MASK BIT #	
0	Pointer word
1	Creation date
2	Disk blocking
3	Save time
4	Header size
5	Row size
6	Bit 0 - IADFILE status 1 - Crunch status 2 - Has a guard file
7	Number of rows in use
8	Complete header
9	BITS 1:2 = 1 This is a file 2 This is a directory 3 This is a file and a directory 2:1 = 1 If header is available
10	Number of rows set up for the file
11	End of file count in segments
12	# of bits used in last segment. This segment is not included in value returned by MASK bit 11
13	Bits [19:20] = Security class [39:20] = Read/Write usage
14	Tank data
15	Access date
16	Catalog information (refer to Section IX)
17	Guard file name

NOTE

If the header is not available, then only the information for MASK bits 0, 9, and 16 is returned.

APPENDIX B

SOFT ERRORS

ERROR TYPE	ERROR NUMBER
IMPROPERSTATE	1
INVALIDNUMBER	10
ADDLWORDREQ	11
UNITCORESPONDENCE	28
INVALIDSUBCLASS	32
ADDLINFOREQ	40
INVALIDUNITTYPE	41
DISKREADERROR	43
NOFILE	49
CATALOGSYSREQ	62
ONENAMEREQUIRED	66
TWONAMESREQUIRED	71
INCOMPLETEENTRY	77
INVALIDSTACKTYPE	78
INVISIBLESTACK	79
NODIRECTORY	83
MISSINGCONTINUATIONPOINT	84
INSUFFICIENTSPACE	85
NOJOBSINMIX	86
INVALIDQUEHEAD	87
UNITFAULT	90
MIXFAULT	91
LOCKINUSE	92
DYNAMICMASKLINKERR	114
NOUSERDISK	115
COPYERRORS	116
NOTLOCKED	117
BADLINKFIELD	118
SIMPLENAMEERROR	119
NOFAMILY	120

APPENDIX B (Cont)

SOFT ERRORS

ERROR TYPE	ERROR NUMBER
INVALIDUNIT	121
BADUNIT	122
SFNFORMAT	123
NOFILES	124
NOVOLLIB	125
NOSNUM	126
BADSECURITYBYTE	127
NAMEFORMAT	128
DISPLAYFORMAT	129

APPENDIX C

HARD ERRORS

GETSTATUS	"Hard Errors" (11:8 of value returned by GETSTATUS)
35	A[0].[19:20] less than two (2)
36	A[0].[19:20] greater than or equal to the length of the "A" array.
37	TYPE.TYPEF greater than four (4)
38	Invalid value in TYPE.SUBTYPEF
39	CATALOGING SYSTEM is required
40	Size of "A" array *6 greater than max value that may be stored in LINKF field or A[0].[19:20] greater than or equal max value that may be stored in "NEXTLEVELLINKF"
41	Complete information for first request could not be provided (insufficient space in array)
42	A[0].(39:20] greater than or equal to A[0].[19:20]-1
43	Invalid user of GETSTATUS intrinsic
44	SUBCLASS.ORGLEVELF greater than length of first name found in directory
45	GETSTATUS fault (and memory dump) has occurred
46	Last name of simple name request list has a STANDARDFORM NAME format error.
47	A[0].[19:20] is not large enough
49	Insufficient space in array to insert <ON PART> identifier
50	SUBTYPEF greater than zero (0) for TYPE.TYPEF=4 call
51	"TYPE.RETURNFULLNAMEF" must equal one (1) if "TYPE.DISPLAYFORMNAMEF" equals one (1).

APPENDIX D

LOGGER (LOG REPORT GENERATOR)

1. INTRODUCTION

SYSTEM/LOGGER is a log analysis program which is intended to give the installation manager the capability to obtain reports to aid in the analysis of system performance and utilization, and to serve as a basis for the installation's billing system. The two most important features of this program are the ability to generate a wide variety of reports depending on individual installation requirements, and the ability to combine data over various time intervals in order to generate long-term reports.

SYSTEM/LOGGER does not have any fixed reports which it generates. Instead, it accepts a set of report specification statements prepared by the user, and interprets these specifications. These statements may specify such things as which data from the log file(s) is to be included in the report, sorting by a particular data item, data items to be used as control breaks, etc. Generally, a set of report specifications will consist of only six or seven statements, therefore, the set up time involved in running LOGGER is minimal. If an installation has several different reports which it wishes to obtain periodically, these reports can be kept in one disk file, and at run time LOGGER will read the appropriate report specifications from this file.

Original data for LOGGER is found in either the current log file (SYSTEM/SUMLOG), or in one or more of the sumlogs which were created when the operator entered an "LR" (Log Release) at the SPO. LOGGER is also capable of generating reports from files which it saves each time it is run, avoiding the need to load large numbers of sumlog files in order to generate weekly or monthly reports.

When run, LOGGER may be instructed to obtain the data necessary for a specified report from one of three sources: 1) from SYSTEM/SUMLOG, 2) from sumlog files for either one date or a range of dates, or 3) from data previously generated and saved. Each time LOGGER is run using SYSTEM/SUMLOG or sumlog files as its source, it creates a file titled JOBSUMMARY/<date>, one titled STATISTICS/<date>, and optionally one titled FILEIODATE/<date>. These files contain the "saved" date referred to previously, and also the information necessary to generate additional reports. Subsequently, LOGGER can be run with specifications to generate a report from a single one of these files or from files covering a range of dates.

This gives the capability to generate long-term reports without having all of the original log files present. (The saved files are much smaller than the original log files.) For example, LOGGER could be run each day of the week, and the log files removed. At the end of the week, LOGGER could also be used to generate a weekly report using the files which it created daily.

2. PROGRAM FUNCTIONING STEPS

SYSTEM/LOGGER operates in two main steps: during the first step, LOGGER creates the files JOBSUMMARY, STATISTICS, and FILEIODATA. During the second step, LOGGER reads the appropriate file and generates a report. If LOGGER is instructed to generate a report based on data which it previously saved, the first step is omitted.

If several reports are to be generated based on the same log file, LOGGER should be instructed to obtain its data from the original file during the first execution. All subsequent reports should be generated using the files created by LOGGER during the initial execution. If this procedure is not followed, a considerable amount of time will be wasted in recreating the same files.

The JOBSUMMARY file contains data on each job, task, and MCS session. This data is obtained from the BOJ, EOJ, BOT, EOT, LOGON, and LOGOFF log records found in the log. The STATISTICS file contains overall system statistics such as number of jobs run and number of halt/loads. This data is grouped by 15 minute intervals. The FILEIODATA file contains data on file usage, obtained from file open and close log entries.

On any one particular run, LOGGER will generate a report based on only one of the preceding files. However, other files are also created for possible later use. The JOBSUMMARY file is always created since it is likely to be the most used file. The STATISTICS file is also always created since it tends to be small. The FILEIODATA file is created when the specified report actually uses the file or when it is specifically requested. This is done because it may be a large file, and in many cases it will not be wanted.

All data in these files is in EBCDIC. The section of the program which actually prints the reports, therefore, has only to select those items from the files which the user has specified and put them into a print buffer. When such things as control breaks and totalling are specified, the task becomes somewhat more complicated, but report generation consists basically of extracting fields from the files.

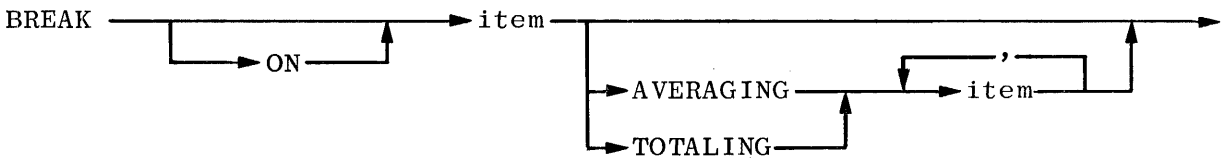
LOGGER is capable of generating detailed and summary reports. A detailed report consists of one line for each record in the file, i.e., one line per job or task, whereas a summary report consists of one line for a particular grouping, i.e., one line for all occurrences of a particular program.

3. REPORT SPECIFICATION STATEMENTS

This section provides a description of the report specification statements which are used to specify the format and content of the report to LOGGER.

REPORT SPECIFICATION STATEMENT SYNTAX

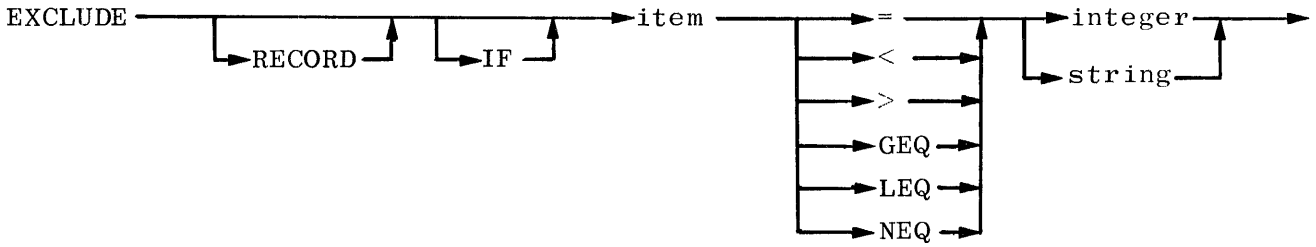
BREAK STATEMENT



Semantics

The BREAK statement causes a control break to occur each time the specified item changes value. When specified, totals and averages for selected items will be printed at this time.

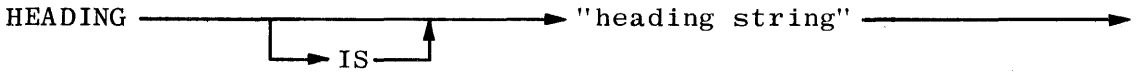
EXCLUDE STATEMENT



Semantics

The EXCLUDE statement allows records to be selectively excluded from the report depending on the value of a specific field. Only one item may be specified in an EXCLUDE statement, therefore, as many EXCLUDE statements as desired may be included in the report specifications.

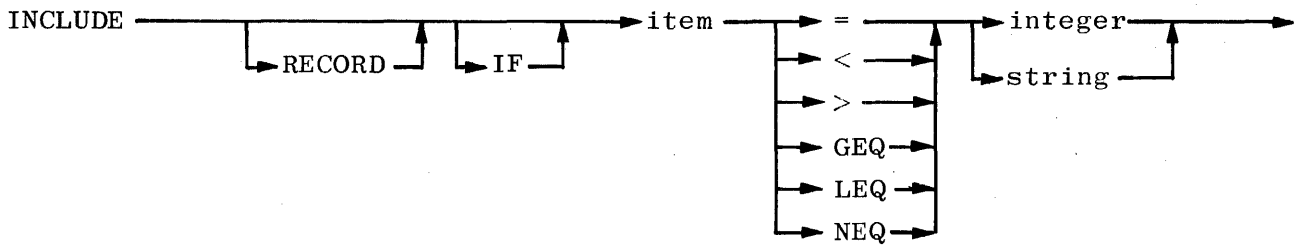
HEADING STATEMENT



Semantics

The HEADING statement allows specification of a page heading identifying the report. As illustrated in the HEADING statement syntax, the heading string must be enclosed in quotes (" ").

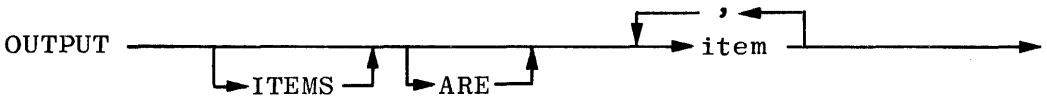
INCLUDE STATEMENT



Semantics

The INCLUDE statement allows records to be selectively included in the report depending on the value of a specific field. As in the EXCLUDE statement, the INCLUDE statement may only contain one item for inclusion in the report, therefore, as many INCLUDE statements as desired may be included in the report specifications.

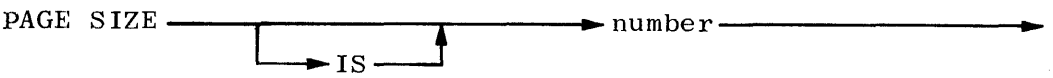
OUTPUT ITEMS STATEMENT



Semantics

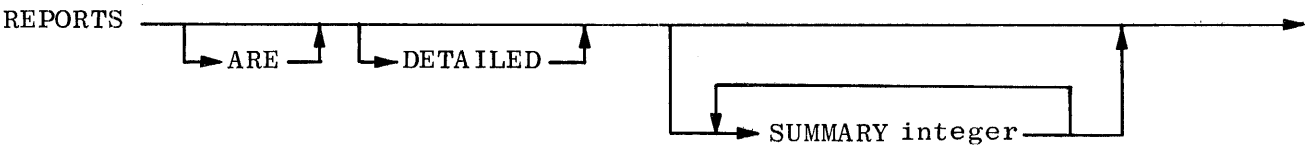
The OUTPUT ITEMS statement allows the user to select items from the input files for inclusion in the report. The order in which these items are specified in the statement is the order in which they will appear in the output. All item names are predefined and known to LOGGER, therefore, no definition of items need be supplied by the user.

PAGE SIZE STATEMENT



The PAGE SIZE statement causes a page advance to occur each time the specified number of lines have been printed. Additionally, this statement also causes the page heading to be printed following the page advance. If the PAGE SIZE statement is not included in the report specification statements, the page heading will be printed only once, at the beginning of the report.

REPORTS STATEMENT



Semantics

The REPORTS statement is used to specify which type(s) of reports are to be generated. DETAILED specifies one report while each occurrence of the word SUMMARY specifies another report. The REPORTS statement must follow the BREAK statement when SUMMARY is specified. A default of DETAILED is provided when no REPORTS statement is included in the reports specification statements.

A detailed report is one in which every line is printed whereas a summary report is one in which only totals and averages are printed when a control break occurs.

Each occurrence of the word SUMMARY must be followed by an integer, as illustrated in the syntax. This integer corresponds to the sequence in which the BREAK statements are specified in the report specifications. For example, given the following BREAK statements:

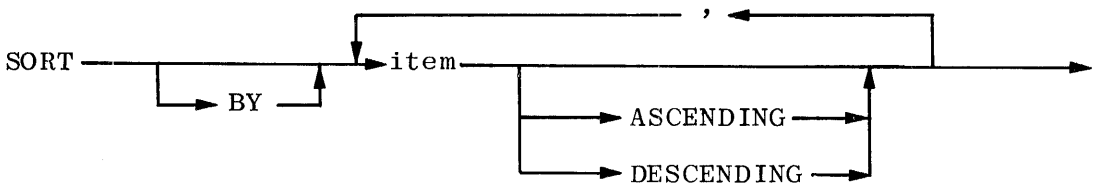
```
BREAK ON USERCODE TOTALING IOTIME
BREAK ON NAME TOTALING IOTIME
```

followed by a REPORTS statement in the form:

```
REPORTS ARE SUMMARY 1 SUMMARY 2
```

SUMMARY 1 identifies the first BREAK statement and SUMMARY 2 the second. This example specifies two summary reports: one by USERCODE, the second by NAME.

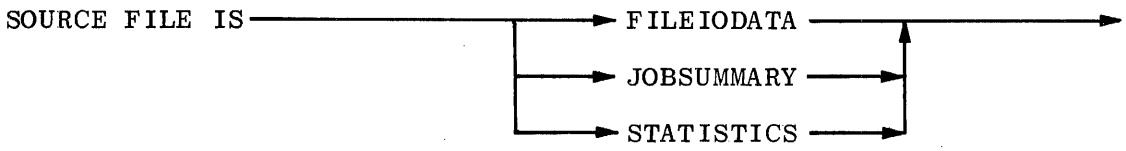
SORT STATEMENT



Semantics

The SORT statement allows the output to be sorted according to the values of any of the items. The sort will be performed in the order that the items are listed. If neither ASCENDING or DESCENDING is specified, ASCENDING is assumed.

SOURCE FILE STATEMENT



Semantics

The SOURCE statement allows the selection of one of three LOGGER generated files to be used as the source of data for the report.

4. REPORT GENERATION FEATURES

The following examples illustrate the use of the report specification statements. A detailed explanation of each of the statements is provided in the discussion on Report Specification Statements.

SOURCE FILE, OUTPUT ITEMS, END

The following report specification statements will produce a report like the one shown on the following page:

```
SOURCE FILE IS JOBSUMMARY
OUTPUT ITEMS ARE TYPE, MIXNO, JOBNO, NAME, PRIORITY, ORGUNIT, CHARGECODE,
  PROCESSTIME, IOTIME
END
```

The SOURCE FILE statement selects either the JOBSUMMARY, STATISTICS, or the FILEIODATA file as the source of information for the report. The OUTPUT ITEMS statement selects the particular items which are to be printed. The meanings of the items specified in the above statement should be apparent except for TYPE. TYPE contains an "S" if the entry concerns an MCS session, a "T" if the entry concerns a task, and a "J" for a job.

TYPE	MIXNO	JOBNO	NAME	PRIORITY	ORGUNIT	CHARGECODE	PROCESSTIME	IOTIME
T	5052	5051	SYSTEM/ALGOL.	50	011		116.91	30.23
J	5051	5051	"?COMPILE SYSTEM/A".	50	011		0.49	0.36
T	5057	5041	SYSTEM/DCALGOL.	50	073		1.57	0.61
J	5058	5058	AUTOBACKUP.	80	000		1.24	21.41
T	5062	5047	"CANDE WRITER".	70	072		1.38	1.89
S	5047	5047	=MCS SESSION=	00			0.00	0.00
T	5061	5036	LIBRARY/MAINTENANCE.	50	122		0.47	0.29
T	5060	5036	(GORD)WFLCODE.	50	122		0.18	0.10
T	5059	5036	"CANDE WFL".	70	122		0.47	0.28
T	5063	5041	SYSTEM/DCALGOL.	50	073		1.47	0.47
J	5064	5064	AUTOBACKUP.	80	000		1.23	16.57
T	5065	5041	SYSTEM/DCALGOL.	50	073		1.59	0.65
T	5067	5041	(UNPRIV)CANDE/CODE730 ON SIXPA	50	073		44.44	0.19
J	5066	5066	"VOLUME DELETE COM".	50	044		61.91	62.92
S	5041	5041	=MCS SESSION=	00			2.52	0.60
J	5069	5069	AUTOBACKUP.	80	000		0.29	4.78
T	5072	5043	SYSTEM/ALGOL.	50	075		6.90	2.32
T	5075	5073	SYSTEM/ESPOL.	50	010		48.34	14.44
T	5079	5073	SYSTEM/BINDER.	99	010		5.11	4.79
J	5078	5078	MAINTENANCE.	80	000		21.40	11.29
T	5074	5073	SYSTEM/SEPCOMP.	50	010		3.65	3.35
J	5073	5073	"? COMPILE JOAN/M".	50	010		0.44	0.39
J	5080	5080	AUTOBACKUP.	80	000		1.03	3.40
T	5082	5043	SYSTEM/ALGOL.	50	075		19.25	6.23
S	5043	5043	=MCS SESSION=	00			7.81	3.86
T	5087	5086	SYSTEM/FILEDATA.	50	172		32.48	26.55
J	5086	5086	"RUN SYSTEM/FILEDA".	50	172		0.33	0.36
J	5081	5081	AUTOBACKUP.	80	000		6.48	167.19
J	5089	5089	AUTOBACKUP.	80	000		5.13	88.70
J	5085	5085	MAINTENANCE.	80	000		53.31	55.61
T	5084	5083	LIBRARY/MAINTENANCE.	50	060		14.26	119.37
J	5083	5083	"USER=H /COPY".	50	060		0.17	0.11
J	5091	5091	AUTOBACKUP.	80	000		1.15	15.47
J	5090	5090	AUTOBACKUP.	80	000		4.83	83.55
T	5095	5092	SYSTEM/PATCH.	50	011		0.33	0.23
T	5093	5092	SYSTEM/PATCH.	50	011		11.21	30.33
J	5092	5092	"?RUN SYSTEM/PATCH".	50	011		0.35	0.27
J	5098	5098	AUTOBACKUP.	80	000		1.77	45.10
T	5094	5088	(SAURON)CANDE/CODE750 ON SIXPA	50	075		1.60	1.28
T	5097	5096	SYSTEM/ALGOL.	50	011		147.52	38.52
J	5096	5096	"?COMPILE SYSTEM/A".	50	011		0.42	0.36
J	5100	5100	AUTOBACKUP.	80	000		1.20	22.02
S	5101	5101	=MCS SESSION=	00			0.92	0.19
J	5102	5102	AUTOBACKUP.	80	000		0.16	1.66
T	5105	5036	LIBRARY/MAINTENANCE.	50	122		0.28	0.21
T	5104	5036	(GORD)WFLCODE.	50	122		0.19	0.12
T	5103	5036	"CANDE WFL".	70	122		0.49	0.29
T	5099	5088	(SAURON)CANDE/CODE750 ON SIXPA	99	075		199.04	2.90
T	5108	5036	LIBRARY/MAINTENANCE.	50	122		0.27	0.30
T	5107	5036	(GORD)WFLCODE.	50	122		0.14	0.09
T	5106	5036	"CANDE WFL".	70	122		0.47	0.33
S	5088	5088	=MCS SESSION=	00			0.00	0.00
J	5110	5110	AUTOBACKUP.	80	000		1.22	15.31
S	5036	5036	=MCS SESSION=	00			38.00	45.45

HEADING, SORT

```
SOURCE FILE IS JOBSUMMARY
HEADING IS "LOG SORTED BY TIME"
SORT BY STARTTIME
OUTPUT ITEMS ARE MIXNO, TYPE, STARTTIME, NAME, USERCODE, PRIORITY,
  ELAPSEDTIME, TERMCOND
```

This example is similar to the previous one except that some of the selected items are different. In addition, a heading is specified by the HEADING statement, and the report is to be sorted by start time. A sample output of this report is shown on the following page.

LOG SORTED BY TIME
01/02/75

MIXNO	TYPE	STARTTIME	NAME	USERCODE	PRIORITY	ELAPSEDTIME	TERMCOND
5866	J	05:50:31	"LOG MAINT;END JOB".		50	1.02	
5867	T	05:50:32	SYSTEM/LOGANALYZER.		50	0.00	
5868	J	05:51:33	AUTOBACKUP.		80	0.37	
5893	J	06:01:14	AUTOBACKUP.		80	0.05	
5896	J	06:18:08	"COPY&COMPARE= TO ".		50	0.81	
5897	T	06:18:08	LIBRARY/MAINTENANCE.		99	0.80	0=DSED
5899	J	06:22:20	MAINTENANCE.		80	0.56	
5900	J	06:22:54	AUTOBACKUP.		80	0.08	
5901	J	06:23:23	MAINTENANCE.		80	1.93	
5902	J	06:25:19	AUTOBACKUP.		80	0.10	
5905	J	06:47:53	AUTOBACKUP.		80	0.21	
5942	J	06:58:58	AUTOBACKUP.		80	0.04	
5946	J	07:24:05	"USER MIKE ; R".	MIKE.	50	3.39	
5947	T	07:24:06	(MIKE)OBJECT/LABEL/CREATOR ON	MIKE.	50	3.37	
5948	J	07:28:11	"RUN SYSTEM/DUMPAL".		99	0.02	P=DSED
5949	J	07:28:12	AUTOBACKUP.		80	0.03	
5950	J	07:28:20	"RUN SYSTEM/DUMPAL".		99	0.01	P=DSED
5951	J	07:28:21	AUTOBACKUP.		80	0.03	
5952	J	07:28:44	"RUN SYSTEM/DUMPAL".		99	0.01	P=DSED
5953	J	07:28:45	AUTOBACKUP.		80	0.03	
5955	T	07:30:39	LIBRARY/MAINTENANCE.		50	0.08	
5954	J	07:30:39	"COPY & COMPARE SY".		50	0.08	
5956	J	07:31:24	"RUN SYSTEM/DUMPAL".		50	0.04	
5957	T	07:31:25	SYSTEM/DUMPALL.		50	0.02	F=DSED
5958	J	07:32:10	"USER MIKE ; R".	MIKE.	50	0.04	
5959	T	07:32:11	SYSTEM/DUMPALL.	MIKE.	50	0.02	F=DSED
5961	J	07:33:30	AUTOBACKUP.		80	0.03	
5706	T	07:35:07	STACK2/CANDE.		70	976.53	
5704	J	07:35:36	SYSTEM/CANDE.		70	977.03	
5700	J	07:35:47	"DCP/0".		99	977.18	0=DSED
5964	J	07:35:59	"RUN SYSTEM/DUMPAL".		50	1.48	
5965	T	07:36:00	SYSTEM/DUMPALL.		99	1.46	P=DSED
5966	J	07:37:56	"USER MIKE ;RUN".	MIKE.	50	0.41	
5967	T	07:37:57	SYSTEM/DUMPALL.	MIKE.	50	0.39	
5968	J	07:38:21	AUTOBACKUP.		80	0.11	
5969	J	07:38:57	"USER MIKE ;RUN".	MIKE.	50	0.45	
5970	T	07:38:58	SYSTEM/DUMPALL.	MIKE.	50	0.43	
5971	J	07:39:25	AUTOBACKUP.		80	0.11	
5972	S	07:41:58	=MCS SESSION=	MIKE.	00	0.65	
5974	T	07:42:29	"CANDE WRITER".	MIKE.	70	0.09	
5976	J	07:42:37	AUTOBACKUP.		80	0.30	
5975	S	07:42:37	=MCS SESSION=	MIKE.	00	16.72	
5977	T	07:42:55	(MIKE)OBJECT/IMS/RPG ON SIXPAC	MIKE.	50	0.09	F=DSED
5978	S	07:44:25	=MCS SESSION=	MIKE.	00	0.79	
5979	T	07:44:43	"CANDE WRITER".	MIKE.	70	0.05	
5980	T	07:44:56	(MIKE)OBJECT/IMS/RPG ON SIXPAC	MIKE.	50	0.09	F=DSED
5981	S	07:45:12	=MCS SESSION=	MIKE.	00	1.50	
5982	J	07:45:13	AUTOBACKUP.		80	0.35	
5983	T	07:46:18	"CANDE WRITER".	MIKE.	70	0.05	
5984	T	07:46:34	"CANDE WRITER".	MIKE.	70	0.03	
5986	J	07:46:43	AUTOBACKUP.		80	0.37	
5985	S	07:46:43	=MCS SESSION=	MIKE.	00	12.62	
5987	J	07:49:41	"?RUN WFL/ZIP ("28".		50	0.11	
5988	T	07:49:42	WFL/ZIP.		50	0.10	

BREAK, PAGE SIZE

```
SOURCE FILE IS JOBSUMMARY
BREAK ON USERCODE
SORT BY USERCODE,MIXNO ASCENDING
OUTPUT ITEMS ARE TYPE,MIXNO,NAME,LINES,AVGCORECODE,AVGCOREDATA, DATE,
  PRIORITY,ORGUNIT
HEADING IS "B6700 JOB/TASK/SESSION SUMMARY BY USERCODE"
PAGE SIZE IS 56
```

This example illustrates the use of a control break. A break item is specified by using a BREAK statement. Each break item is printed on a separate line each time the break item changes value.

The SORT statement in this example shows sorting by more than one item. In this example, the output will first be sorted by usercode and when usercodes are equal, by mix number. It should be noted that break items should be specified in the SORT statement or else the output will not be grouped correctly. Also, sorts may be specified as being ASCENDING or DESCENDING with the former being the default.

The PAGE SIZE statement indicates how many lines are to be printed on a page. When the limit is reached, a skip to top of page is performed and the heading, when HEADING is specified, is printed.

B6700 JOB/TASK/SESSION SUMMARY BY USERCODE
01/02/75

TYPE	MIXNO	NAME	LINES	AVGCORECODE	AVGCOREDATA	DATE	PRIORITY	ORGUNIT
USERCODE:	ABREU.							
T	6208	"CANDE STARTER".	0	11232	3511	01/02/75	70	074
J	6209	"? ADD&COMPARE =".	0	63	1341	01/02/75	50	074
T	6210	LIBRARY/MAINTENANCE.	0	0	6380	01/02/75	50	074
T	6213	"CANDE STARTER".	0	11669	3454	01/02/75	70	074
J	6214	"?COPY&COMPARE COE".	0	62	1333	01/02/75	50	074
T	6215	LIBRARY/MAINTENANCE.	0	0	6054	01/02/75	50	074
T	6274	"CANDE STARTER".	0	17308	5292	01/02/75	70	074
J	6275	"? COMPILE COMPIL".	0	74	1533	01/02/75	50	074
T	6276	SYSTEM/ALGOL.	0	26430	18166	01/02/75	50	074
T	6301	(ABREU)OBJECT/TEST/HELPER.	0	241	1623	01/02/75	50	074
T	6303	(ABREU)COMPILER/HELPER.	16	8374	39238	01/02/75	50	074
T	6311	"CANDE STARTER".	0	16922	3667	01/02/75	70	074
J	6312	"? COMPILE OBJECT/".	0	74	1582	01/02/75	50	074
T	6313	SYSTEM/ALGOL.	0	21365	32059	01/02/75	50	074
T	6339	(ABREU)OBJECT/ELEMENT/RUNNER.	0	201	1705	01/02/75	50	074
T	6342	(ABREU)OBJECT/ELEMENT/PARSERXS	640	18970	76988	01/02/75	50	074
T	6355	"CANDE STARTER".	0	16906	3524	01/02/75	70	074
J	6357	"?COPY&COMPARE =".	0	62	1353	01/02/75	50	074
T	6358	LIBRARY/MAINTENANCE.	0	0	6386	01/02/75	50	074
T	6360	"CANDE STARTER".	0	16906	3339	01/02/75	70	074
J	6362	"?ADD&COMPARE (ABR".	0	63	1348	01/02/75	50	074
T	6363	LIBRARY/MAINTENANCE.	0	0	6526	01/02/75	50	074
T	6364	"CANDE STARTER".	0	16906	3651	01/02/75	70	074
USERCODE:	ARAGORN.							
S	6273	=MCS SESSION=	0			01/02/75	00	
USERCODE:	BALBUS.							
S	5112	=MCS SESSION=	0			12/31/74	00	
T	5114	SYSTEM/MAKEUSER.	0	1183	1827	12/31/74	50	122
S	5398	=MCS SESSION=	0			12/31/74	00	
T	5405	SYSTEM/DMALGOL ON DMS.	0	7021	7698	12/31/74	50	122
T	5406	SYSTEM/DMALGOL ON DMS.	0	4431	4662	12/31/74	99	122
T	5407	SYSTEM/DMALGOL ON DMS.	4	7162	8774	12/31/74	50	122
T	5408	"COMPILE-TIME"/PROCESSOR.	0	6523	2145	12/31/74	50	122
T	5409	SYSTEM/DMALGOL ON DMS.	0	7095	9441	12/31/74	50	122
T	5410	(BALBUS)CANDE/CODE1220 ON DMS.	0	50	1093	12/31/74	50	122
T	5412	SYSTEM/DMALGOL ON DMS.	0	7822	8607	12/31/74	50	122
T	5413	SYSTEM/DMALGOL ON DMS.	0	8308	9429	12/31/74	50	122
T	5414	(BALBUS)CANDE/CODE1220 ON DMS.	0	54	1081	12/31/74	50	122
T	5435	SYSTEM/DMALGOL ON DMS.	0	18043	20654	12/31/74	50	122
T	5436	"COMPILE-TIME"/PROCESSOR.	0	17874	1988	12/31/74	50	122
T	5437	(BALBUS)OBJECT/PRINTIT ON DMS.	0	500	1441	12/31/74	50	122
T	5472	SYSTEM/DMALGOL ON DMS.	0	18430	21458	12/31/74	50	122
T	5473	"COMPILE-TIME"/PROCESSOR.	0	18272	1989	12/31/74	50	122
T	5474	(BALBUS)CANDE/CODE1220 ON DMS.	0	586	1451	12/31/74	50	122

INCLUDE, EXCLUDE

```
SOURCE JOBSUMMARY
SORT BY NAME,USERCODE,STARTTIME
BREAK ON NAME
INCLUDE RECORD IF CODEFILE NEQ " "
HEADING IS "COMPILER USAGE REPORT"
OUTPUT ITEMS ARE QUEUE,PROCESSTIME,IOTIME,CODEFILE,TERMCOND
PAGE SIZE IS 57
END
```

This example illustrates the use of the INCLUDE statement for selectively including records in the report. In this example, only compiler runs will appear in the report since they are the only ones which have a code file present. Any relational operator may be used in the INCLUDE statement, and any item may be compared to a quoted string or to an integer.

There is also an EXCLUDE statement which has the same syntax.

COMPILER USAGE REPORT
01/02/75

QUEUE	PROCESSTIME	IOTIME	CODEFILE	TERMCOND
NAME:	(DAY)SYSTEM/F.			
00	2.51	2.27	Y.	SNTX
00	3.03	3.05	Y.	
NAME:	(DEBBY)SYSTEM/DORTRAN ON COMPM			
00	1.88	1.49	TEST.	
00	1.76	1.33	TEST.	
NAME:	(DMSII7)SYSTEM/COBOL.			
00	3.12	3.36	CREATE/SCHEDULE/DBS.	
00	5.21	4.31	PRINT/SCHEDULE/DBS.	
00	6.35	1.98	UPD.	
00	3.03	1.71	X.	SNTX
00	20.75	7.74	SOFT/COBOL.	
00	6.74	2.61	REPORT.	
00	1.92	1.27	X.	SNTX
NAME:	(DMSII7)SYSTEM/DASDL.			
00	2.11	2.03	SCHEDULE.	
00	41.34	10.72	HOSPITAL2.	
00	2.30	1.45	DMSTESTER.	
NAME:	(DMSII7)SYSTEM/DMALGOL.			
00	104.85	99.23	ACCESSROUTINES/SCHEDULE.	
00	132.77	100.37	ACCESSROUTINES/DMSTESTER.	
00	134.40	102.80	ACCESSROUTINES/HOSPITAL2.	0=DSED
NAME:	(GORD)SYSTEM/PL1 ON COMPMAST.			
00	6.01	3.75	THIS.	
00	8.37	6.24	THIS.	F=DSED
NAME:	(H)SYSTEM/FRED.			
00	5.85	2.64	(H)CANDE/CODE180.	R=DSED
00	7.35	2.66	(H)CANDE/CODE180.	R=DSED
00	9.00	4.01	OBJECT/TMPQQ2.	
00	4.52	1.87	OBJECT/TRTEST.	SNTX
00	5.46	2.34	(H)CANDE/CODE140.	SNTX
00	6.01	3.00	(H)CANDE/CODE140.	R=DSED
00	16.54	5.25	(H)CANDE/CODE140.	SNTX
NAME:	(HUTCH)SYSTEM/HALGOL.			
00	5.77	29.90	(HUTCH)CANDE/CODE750.	F=DSED
00	2.26	8.03	(HUTCH)CANDE/CODE730.	F=DSED

TOTALING, AVERAGING

```
SOURCE IS JOBSUMMARY
INCLUDE RECORD IF TYPE = "S"
SORT BY USERCODE
BREAK ON USERCODE TOTALING PROCESSTIME,IOTIME
HEADING "MCS SESSION SUMMARY"
PAGE SIZE IS 57
OUTPUT ITEMS ARE MIXNO,MCSNAME,LSN,STANAME,LOGONREASON,LOGOFFREASON,
  PROCESSTIME,IOTIME,STARTTIME
END
```

This example illustrates the use of totals. In a BREAK statement, the break item may optionally be followed by the word TOTALING or AVERAGING. This will cause the appropriate totals and averages to be accumulated and printed each time the break item changes value.

MCS SESSION SUMMARY
01/02/75

MIXNO	MCSNAME	LSN	STANAME	LOGONREASON	LOGOFFREASON	PROCESSTIME	IOTIME	STARTTIME
USERCODE: ARAGORN.								
6273	CANDE	019	TTY011.	NEW LOG ON	NORMAL LOG-OFF	1.83	0.00	09:35:49
- - - - - - - - - - TOTALS FOR ARAGORN.						1.83	0.00	
USERCODE: BALBUS.								
5481	CANDE	122	DATAPT600.	SPLIT SESSION	NORMAL LOG-OFF	4.55	3.03	14:46:42
5398	CANDE	122	DATAPT600.	NEW LOG ON	SPLIT SESSION	13.47	6.14	14:02:02
5112	CANDE	122	DATAPT600.	HELLO	HELLO	0.00	0.00	11:19:30
- - - - - - - - - - TOTALS FOR BALBUS.						18.02	9.17	
USERCODE: BATMAN.								
5184	CANDE	122	DATAPT600.	NEW LOG ON	NORMAL LOG-OFF	0.00	0.00	12:16:07
5624	CANDE	122	DATAPT600.	NEW LOG ON	NORMAL LOG-OFF	0.00	0.00	15:23:37
- - - - - - - - - - TOTALS FOR BATMAN.						0.00	0.00	
USERCODE: BRUCE.								
5251	CANDE	072	M333.	NEW LOG ON	NORMAL LOG-OFF	0.00	0.00	13:01:53
- - - - - - - - - - TOTALS FOR BRUCE.						0.00	0.00	
USERCODE: DUKE.								
5719	CANDE	122	DATAPT600.	NEW LOG ON	NORMAL LOG-OFF	9.40	1.68	16:51:03
- - - - - - - - - - TOTALS FOR DUKE.						9.40	1.68	
USERCODE: GILBERT.								
6243	CANDE	072	M333.	SPLIT SESSION	NORMAL LOG-OFF	0.59	0.25	09:19:51
6231	CANDE	072	M333.	SPLIT SESSION	SPLIT SESSION	0.00	0.00	09:11:21
6219	CANDE	072	M333.	SPLIT SESSION	SPLIT SESSION	0.61	0.28	09:01:20
6202	CANDE	072	M333.	NEW LOG ON	SPLIT SESSION	0.29	0.10	08:57:49
- - - - - - - - - - TOTALS FOR GILBERT.						1.49	0.63	
USERCODE: GORD.								
6181	CANDE	122	DATAPT600.	NEW LOG ON	NORMAL LOG-OFF	3.86	0.59	08:50:32
6093	CANDE	073	DATAPT600.	NEW LOG ON	MCS RESTART	0.33	0.00	08:17:15
6238	CANDE	122	DATAPT600.	NEW LOG ON	NORMAL LOG-OFF	0.80	0.19	09:18:18
5116	CANDE	122	DATAPT600.	HELLO	NORMAL LOG-OFF	65.83	60.45	11:20:46
5036	CANDE	122	DATAPT600.	NEW LOG ON	HELLO	38.00	45.45	10:52:11
- - - - - - - - - - TOTALS FOR GORD.						108.82	106.68	

REPORTS, SUMMARY

```
SOURCE FILE IS JOBSUMMARY
SORT BY USERCODE DESCENDING, NAME ASCENDING
BREAK ON USERCODE TOTALING PROCESSTIME,IOTIME AVERAGING ELAPSEDTIME
BREAK ON NAME TOTALING PROCESSTIME,IOTIME,MEMINTCODE,MEMINTDATA
INCLUDE RECORD IF TYPE = "T"
OUTPUT ITEMS ARE MIXNO,PROCESSTIME,IOTIME,CARDSREAD,LINES,MEMINTCODE,
  MEMINTDATA,STARTTIME,ELAPSEDTIME
HEADING IS "B6700 PROGRAM SUMMARY BY USERCODE"
REPORTS ARE DETAILED SUMMARY 1 SUMMARY 2
PAGE SIZE IS 57
END
```

This example illustrates the use of summary reports. These are obtained by including a REPORTS statement in the report specifications. DETAILED in the REPORTS statement means to produce a detailed report, such as the ones shown in the preceding examples. A DETAILED report is produced by default unless a REPORTS statement is present. SUMMARY followed by a number means to generate a summary report with totals for that particular break item. In this example, SUMMARY 1 means to print totals for break item 1 (USERCODE) and SUMMARY 2 refers to break item 2 (NAME). The totals presented due to a REPORTS ARE DETAILED SUMMARY... statement are printed immediately after a corresponding dashed "totals" line is printed.

The "# OF RUNS" column is always printed on a summary report. This gives the number of entries from which the totals were computed.

B6700 PROGRAM SUMMARY BY USERCODE
01/02/75

MIXNO	PROCESSTIME	IOTIME	CARDSREAD	LINES	MEMINTCODE	MEMINTDATA	STARTTIME	ELAPSEDTIME
USERCODE: WEIDNER.								
NAME: "CANDE WRITER".								
5731	0.94	1.44	0	142	38.68	6.91	17:08:03	0.04
5732	0.91	1.16	0	73	33.86	5.88	17:08:11	0.04
5462	1.06	0.87	0	74	38.09	5.35	14:35:45	0.04
5631	1.01	1.11	0	141	40.84	6.03	15:33:43	0.04
5632	0.87	0.76	0	0	31.39	4.14	15:33:53	0.03
5635	0.83	0.99	0	0	34.96	4.86	15:34:02	0.04
5463	1.14	1.03	0	126	42.69	6.14	14:35:53	0.04
5630	0.90	0.86	0	74	33.88	4.89	15:33:37	0.03
5549	1.05	1.09	0	141	41.98	6.11	15:03:47	0.04
5182	0.94	1.11	0	110	40.62	5.65	12:05:57	0.04
TOTALS FOR "CANDE WRITER".								
	9.65	10.42			377.19	55.96		
TOTALS FOR WEIDNER.								
	9.65	10.42						0.04
USERCODE: UNPRIV.								
NAME: (UNPRIV)CANDE/CODE730 ON SIXPA								
5067	44.44	0.19	0	0	3.92	46.84	11:03:01	0.75
TOTALS FOR (UNPRIV)CANDE/CODE730 ON SIXPA								
	44.44	0.19			3.92	46.84		
NAME: (UNPRIV)OBJECT/MCSTEST ON SIXP								
5384	18.16	0.58	0	60	1.67	20.96	13:39:53	0.36
TOTALS FOR (UNPRIV)OBJECT/MCSTEST ON SIXP								
	18.16	0.58			1.67	20.96		
NAME: SYSTEM/DCALGOL.								
5065	1.59	0.65	0	0	21.33	17.02	11:02:52	0.13
5063	1.47	0.47	0	0	26.90	10.64	11:02:17	0.24
5057	1.57	0.61	0	0	29.52	12.29	11:01:14	0.38
TOTALS FOR SYSTEM/DCALGOL.								
	4.63	1.73			77.75	39.95		
TOTALS FOR UNPRIV.								
	67.23	2.50						0.37
USERCODE: TOBY.								
NAME: "CANDE WRITER".								
5062	1.38	1.89	0	303	43.63	10.04	11:02:13	0.05
TOTALS FOR "CANDE WRITER".								
	1.38	1.89			43.63	10.04		
TOTALS FOR TOBY.								

B6700 PROGRAM SUMMARY BY USERCODE
01/02/75

SUMMARY REPORT BY USERCODE

USERCODE	PROCESSTIME	IOTIME	ELAPSEDTIME	# OF RUNS
WEIDNER.	9.65	10.42	0.38	10
UNPRIV.	67.23	2.50	1.86	5
TOBY.	1.38	1.89	0.05	1
STEVE.	54.84	4.61	1.87	2
SITE.	10.08	8.09	44.01	30
SAURON.	354.69	132.65	32.00	15
RICKY.	255.44	66.08	5.64	3
PAULH.	92.22	71.88	2.93	6
MIKE.	58.69	48.38	12.11	42
HUTCH.	193.48	426.60	32.85	36
H.	1471.03	768.07	45.77	25
GORD.	114.63	97.67	7.62	23
GILBERT.	2.84	2.69	0.11	3
DUKE.	41.90	26.32	14.01	22
DMSII7.	801.00	443.49	38.19	43
DEBBY.	5.23	3.90	0.53	4
DAY.	557.03	278.84	14.71	7
BRUCE.	13.63	0.33	65.43	1
BEAR.	41.20	35.68	1.99	4
BATMAN.	17.21	2.62	20.67	2
BALBUS.	159.04	69.11	15.66	27
ABREU.	440.58	445.26	18.67	17
	4275.03	9634.71	1247.42	143

B6700 PROGRAM SUMMARY BY USERCODE
01/02/75

SUMMARY REPORT BY NAME

NAME	PROCESSTIME	IOTIME	MEMINTCODE	MEMINTDATA	# OF RUNS
USERCODE: WEIDNER.					
"CANDE WRITER".	9.65	10.42	377.19	55.96	10
USERCODE: UNPRIV.					
(UNPRIV)CANDE/CODE730 ON SIXPA	44.44	0.19	3.92	46.84	1
(UNPRIV)OBJECT/MCSTEST ON SIXP	18.16	0.58	1.67	20.96	1
SYSTEM/DCALGOL.	4.63	1.73	77.75	39.95	3
USERCODE: TOBY.					
"CANDE WRITER".	1.38	1.89	43.63	10.04	1
USERCODE: STEVE.					
SYSTEM/NDL ON DATACOM.	54.84	4.61	283.27	543.90	2
USERCODE: SITE.					
(SITE)ADM/PARAMETERS.	0.89	2.29	0.33	5.37	3
(SITE)DATEANDTIME.	0.22	0.37	0.04	0.68	1
(SITE)DCKEYIN.	1.60	0.66	0.14	2.32	14
SUPPRESS/MIX/NOS.	1.37	0.56	0.17	4.84	4
SYSTEM/ALGOL.	2.11	1.96	49.01	30.78	2
SYSTEM/DCALGOL.	1.14	0.65	18.69	12.79	1
SYSTEM/FILEDATA.	0.87	0.28	2.02	2.07	1
SYSTEM/LOGANALYZER.	0.46	0.28	1.00	1.17	1
SYSTEM/MAINTENANCE.	0.53	0.31	0.00	1.72	1
282/PER/STATUS.	0.89	0.53	1.48	1.98	2
USERCODE: SAURON.					
(SAURON)CANDE/CODE750 ON SIXPA	220.39	34.75	485.09	1746.78	4
(SAURON)OBJECT/XLATOR ON SIXPA	40.66	63.12	247.47	847.09	2
(SAURON)SYSTEM/COMPARE ON SIXP	5.85	5.42	12.10	45.84	3
SYSTEM/ALGOL.	86.55	28.32	2059.54	1738.43	5
SYSTEM/PATCH.	1.24	1.04	3.01	6.86	1
USERCODE: RICKY.					
SYSTEM/DCALGOL.	255.44	66.08	7595.83	5341.75	3
USERCODE: PAULH.					
(PAULH)SYSTEM/LOGANALYZER ON S	4.41	14.83	46.95	94.93	2
(PAULH)SYSTEM/LOGGER ON SIXPAC	27.29	37.61	207.70	487.14	2
SYSTEM/DCALGOL.	56.74	14.00	1506.87	1354.97	1
SYSTEM/PATCH.	3.78	5.44	16.88	48.54	1

STATISTICS FILE USAGE

```
SOURCE FILE IS STATISTICS
HEADING IS "B6700 SUMMARY STATISTICS"
OUTPUT ITEMS ARE TIME,DISK,TAPE,READER,REMOTE,MISCFILES,TASKS,JOBS,
  HL,MAXTASKS,MAXJOBS
BREAK ON DATE TOTALING DISK,TAPE,READER,REMOTE,TASKS,JOBS,HL
END
```

This example shows some of the data available from the STATISTICS file. The meanings of these items are explained in section 5.

B6700 SUMMARY STATISTICS
12/30/74

TIME	DISK	TAPE	READER	REMOTE	MISCFILES	TASKS	JOBS	HL	MAXTASKS	MAXJOBS
DATE: 12/30/74										
08:30:00	9	0	1	0	0	3	10	0	2	2
08:45:00	1	0	0	0	0	0	4	0	0	1
09:00:00	0	0	0	0	0	0	0	0	0	0
09:15:00	2	1	0	5	0	5	3	0	2	1
09:30:00	11	0	2	0	0	2	4	0	1	1
09:45:00	1	0	2	0	0	3	3	0	2	1
10:00:00	4	0	2	4	0	7	4	0	2	1
10:15:00	2	2	0	0	0	10	6	0	3	3
10:30:00	0	5	0	0	0	5	11	0	3	3
10:45:00	16	0	1	5	0	7	7	0	1	2
11:00:00	19	1	1	1	0	6	11	0	2	2
11:15:00	1	0	2	3	0	8	6	0	2	1
11:30:00	5	3	1	0	0	5	13	0	3	2
11:45:00	5	0	0	2	0	16	1	0	5	1
12:00:00	0	1	0	0	1	2	4	0	2	2
12:15:00	1	0	0	0	1	1	2	0	1	1
12:30:00	5	2	1	0	0	6	13	0	3	2
12:45:00	13	0	1	1	0	11	7	0	4	2
13:00:00	35	0	0	2	0	4	16	0	1	2
13:15:00	24	0	0	2	1	11	14	0	3	2
13:30:00	4	67	0	1	0	11	10	0	3	3
13:45:00	254	8	1	6	0	8	8	0	2	2
14:00:00	2	0	0	2	0	6	3	1	2	1
14:15:00	5	0	0	3	0	7	10	0	4	4
14:30:00	24	-1	1	1	0	10	6	0	3	2
14:45:00	42	1	0	6	0	11	7	0	3	3
15:00:00	35	10	0	3	0	13	15	1	4	5
TOTALS FOR 12/30/74										
	520	102	16	47		178	198	2		

FILEIODATA FILE USAGE

```
SOURCE FILE IS FILEIODATA
OUTPUT ITEMS ARE MIXNO, INTNAME, EXTNAME, USE, KIND, FILEKIND, RETENTION
PAGE SIZE IS 57
HEADING IS "B6700 FILE USAGE REPORT"
END
```

This example shows some of the data available in the FILEIODATA file.

B6700 FILE USAGE REPORT
01/02/75

MIXNO	INTNAME	EXTNAME	USE	KIND	FILEKIND	RETENTION
5034	F11.	(UNPRIV)CANDE/TEXT730.	OUT	PACK	SYMBOL	
5052	CODE.	SYSTEM/ALG.	OUT	DISK	CODE	SCRATCH
5052	LINE.	LINE.	OUT	PACK	BACKUP	
5052	TAPE.	(COMP)SYMBOL/NEWP.	IN	PACK	SYMBOL	
5052	CARD.	(JOHNS)MVPATCHES.	IN	DISK	DATA	PERMANENT
5057	ERRORFILE.	ERRORFILE.	OUT	REMOTE	DATA	
5057	CODE.	(UNPRIV)CANDE/CODE730.	OUT	PACK	DATA	
5057	CARD.	(UNPRIV)CANDE/TEXT730.	IN	PACK	SYMBOL	
5059	WFLCODE.	WFLCODE.	OUT	DISK	CODE	SCRATCH
5034	F10.	(UNPRIV)CANDE/TEXT730.	OUT	PACK	SYMBOL	
5034	F11.	(UNPRIV)CANDE/TEXT730.	IN	PACK	SYMBOL	
5062	OUTFILE.	OUTFILE.	OUT	PACK	BACKUP	
5062	F.	(TOBY)DASDL26.	IN	DISK	SYMBOL	PERMANENT
5063	CODE.	(UNPRIV)CANDE/CODE730.	OUT	PACK	CODE	
5063	ERRORFILE.	ERRORFILE.	OUT	REMOTE	DATA	
5063	CARD.	(UNPRIV)CANDE/TEXT730.	IN	PACK	SYMBOL	
5034	F10.	(UNPRIV)CANDE/TEXT730.	OUT	PACK	SYMBOL	
5034	F11.	(UNPRIV)CANDE/TEXT730.	IN	PACK	SYMBOL	
5034	F11.	(SAURON)CANDE/TEXT750.	IN	PACK	SYMBOL	
5065	CODE.	(UNPRIV)CANDE/CODE730.	OUT	PACK	CODE	
5065	CARD.	(UNPRIV)CANDE/TEXT730.	IN	PACK	SYMBOL	
5034	F11.	(SAURON)CANDE/TEXT750.	IN	PACK	SYMBOL	
5034	F11.	(UNPRIV)CANDE/PECV730.	OUT	PACK	DATA	
5034	F11.	(SAURON)CANDE/TEXT750.	IN	PACK	SYMBOL	
5034	F10.	(SAURON)CANDE/TEXT750.	OUT	PACK	SYMBOL	
5034	F11.	(SAURON)CANDE/TEXT750.	IN	PACK	SYMBOL	
5074	LINE.	LINE.	OUT	PACK	BACKUP	
5074	CDECK.	JOAN/TEMP/CDECK.	OUT	DISK	DATA	SCRATCH
5075	INFO.	SYSTEM/Y/INFO.	IN	DISK	DATA	PERMANENT
5072	ERRORFILE.	ERRORFILE.	OUT	REMOTE	DATA	
5072	LINE.	LINE.	OUT	PACK	BACKUP	
5072	CODE.	(SAURON)CANDE/CODE750.	OUT	PACK	DATA	
5072	CARD.	(SAURON)CANDE/TEXT750.	IN	PACK	SYMBOL	
5075	CODE.	JOAN/TEMP/SEP.	OUT	DISK	CODE	SCRATCH
5075	TAPE.	SYMBOL/Y/MCP.	IN	DISK	SYMBOL	PERMANENT
5075	LINE.	LINE.	OUT	PACK	BACKUP	
5075	CARD.	JOAN/TEMP/CDECK.	IN	DISK	DATA	PERMANENT
5074	BDECK.	JOAN/TEMP/BDECK.	OUT	DISK	DATA	SCRATCH
5079	CARD.	JOAN/TEMP/BDECK.	IN	DISK	DATA	PERMANENT
5079	CODE.	JOAN/MCP.	OUT	DISK	CODE	SCRATCH
5079	FILE1.	JOAN/TEMP/SEP.	IN	DISK	CODE	PERMANENT
5079	HOST.	SYSTEM/Y/MCP.	IN	DISK	CODE	PERMANENT
5079	LINE.	LINE.	OUT	PACK	BACKUP	
5078	LINE.	MAINTENANCE.	OUT	PACK	BACKUP	
5074	LINE.	LINE.	OUT	PACK	BACKUP	
5074	TAPE.	SYMBOL/Y/MCP.	IN	DISK	SYMBOL	PERMANENT
5074	CARD.	CARD.	IN	READER	DATA	
5034	F11.	(SAURON)CANDE/TEXT750.	IN	PACK	SYMBOL	
5034	F10.	(SAURON)CANDE/TEXT750.	OUT	PACK	SYMBOL	
5034	F11.	(SAURON)CANDE/TEXT750.	IN	PACK	SYMBOL	
5082	CODE.	(SAURON)CANDE/CODE750.	OUT	PACK	CODE	
5082	LINE.	LINE.	OUT	PACK	BACKUP	

5. FILE DATA CONTENTS

Following is a complete list and description of all data items present in the JOBSUMMARY, STATISTICS, and FILEIODATA files.

JOBSUMMARY FILE

MIXNO - mix number of the entry
JOBNO - job number of the entry
TYPE - J for job, T for task, S for MCS session
NAME - job or task name
CHARGECODE - chargecode for this entry
PROCESSTIME - processor time in seconds
IOTIME - I/O time in seconds
USERCODE - usercode
DATE - date of the log entry
CARDSREAD - number of cards read
LINES - number of lines printed
ACTVT - activetime
ELAPSEDTIME - elapsed time of program execution in minutes
MEMINTCODE - memory integrals (code)
MEMINTDATA - memory integrals (data)
AVGCORECODE - average core usage (code)
AVGCOREDATA - average core usage (data)
STARTTIME - time of program initiation
STOPTIME - time of program termination
QUEUE - queue number
PRIORITY - priority
ORGUNIT - originating unit
CODEFILE - codefile name
TERMCOND - termination condition
MCSNAME - name of the MCS (session only)*
LSN - number of the station (session only)
STANAME - station name (session only)
LOGONREASON - reason for the log on (split, hello, etc.)
LOGOFFREASON - reason for the log off (split, normal log-off, etc.)
CHARGES - billing charges for this entry (see section on charges calculation).
ORGMCS - originating MCS name. Blank if not initiated by an MCS
DESTMCS - destination MCS name
DESTUNIT - destination unit

---

*The name is obtained by using the MCS number as an index into value array MCSNAMES. If the MCS names or numbers are different from the release NDL, the value array should be changed.

STATISTICS FILE

TIME - time of day at the beginning of the interval. Data is collected by time intervals with 15 minutes being the standard time interval
DISK - number of disk file opens during the interval
PACK - number of pack file opens
TAPE - number of tape file opens
READER - number of card reader file opens
PUNCH - number of punch file opens
REMOTE - number of remote file opens
MISCFILES - number of file opens not included in above counts
TASKS - number of tasks initiated
JOBS - number of jobs initiated
SESSIONS - number of MCS sessions initiated
HL - number of halt/loads
MAXTASKS - maximum number of tasks running at one time*
MAXJOBS - maximum number of jobs running at one time*
DATE - date of log entry

FILEIODATA FILE

MIXNO - mix number
JOBNO - job number
DATE - date of the log entry
INTNAME - internal name of the file
EXTNAME - external name of the file
IOTIME - I/O time used
UNTINO - unit number
CLOSETYPE - type of close (blockexit, release, etc.)
BLOCKSIZE
MAXRECSIZE
UNITS
AREASIZE
SERIALNO - serial number
CREATIONDATE
SAVEFACTOR
REELNO - reel number (tape files only)
USE - IN, OUT, or I/O
KIND - KIND attribute
FILEKIND - FILEKIND attribute
RETENTION - scratch or permanent
TIME - time of file close

---

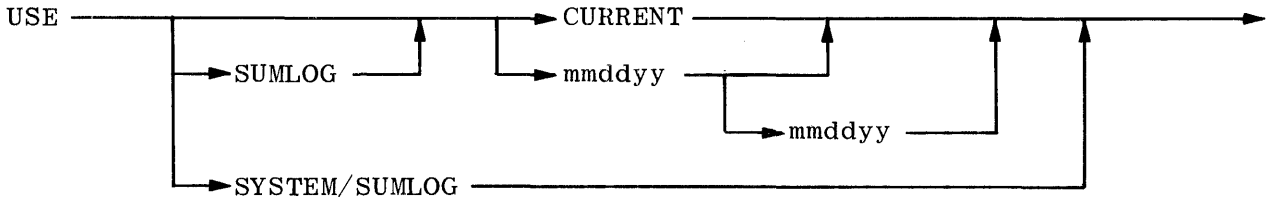
*Since these counts are obtained by counting BOTs and BOJs and subtracting EOTs and EOJs, missing log entries will cause some errors in this data.

6. LONG-TERM REPORT GENERATION

SYSTEM/LOGGER provides the capability to generate long-term reports, that is, reports which cover more than one day or more than one log file. There are two different kinds of long-term reports: those based on data files or log files accumulated over a certain time period, and those based on year-to-date totals.

EXTENDED TIME PERIOD REPORTS

By default, LOGGER will base its report on data found in the current log file (SYSTEM/SUMLOG). However, an input card may be supplied to the program telling it to get its source information elsewhere. This card is the USE card and its syntax is as follows:



Dates are in the form MMDDYY.

If the word USE is followed by SUMLOG, it means that the source data is to be taken from the sumlog files for the specified dates. Otherwise, data will be taken from JOBSUMMARY, STATISTICS, or FILEIODATA files for the specified dates.

If CURRENT is specified, then data for the current day will be used. (Note: USE SUMLOG CURRENT means to use all sumlogs for the current day, but SYSTEM SUMLOG itself will not be used.) If only one date is specified, data for that day will be used. If two dates are given, then all data between and including the two dates will be used.

It should be noted that the program assumes that all files contain data for only one day. This means that each record will not be examined to see if the USE requirements are met, but that each particular file will be examined once, and if it is determined that this file has data for the requested date or range of dates, then the entire file will be used. For more information on how sumlog files are selected, see the section on the PRE27 option.

When LOGGER creates a JOBSUMMARY, STATISTICS, or FILEIODATA file, the file title is of the form filename/date, e.g., JOBSUMMARY/101574. The date in the title is the first date specified on the USE card, or the current date if no USE card was supplied.

YEAR-TO-DATE TOTALS

SYSTEM/LOGGER has the option of creating, updating, and generating reports from a year-to-date totals file. These options are invoked by specifications on the OPTION input card, which is explained in section 7.

The year-to-date totals file has a structure which is implicitly defined by the report specifications which were used to create it. Each record corresponds to a change in a control break item and contains those totals and averages which were generated at that point.

For example, if the year-to-date file were created by a report which specified break items of USERCODE and CHARGECODE, and totalled processor time, I/O time, elapsed time, and charges, each record in the year-to-date totals file would correspond to one combination of usercode and chargecode and would contain the above mentioned totals.

Because the structure of the report determines the structure of the file, any report may be used to create the file initially, but after that all updates must be performed by the same report or at least one with the same break items and totals. If the program detects that the report being used to update the year-to-date file has a different structure from the file, it will not perform the update and will give an error notification.

The internal name of the year-to-date file is YTDFILE, and it may be label-equated. When LOGGER is run with the option set to create a year-to-date totals file, it first checks to see if the file already exists. If it does, the existing file is updated; otherwise a new file is created.

It should be noted that only the totals for the innermost break item are kept in the file. For example, if the report used to create the file had the following BREAK statements:

```
BREAK ON USERCODE TOTALING PROCESSTIME, IOTIME
BREAK ON CHARGECODE TOTALING ELAPSEDTIME
```

only totals for ELAPSEDTIME would be kept in the year-to-date totals since it is the only item specified on the innermost level.

The format of the year-to-date totals file is shown on the following page, for the benefit of those who want to write additional programs or procedures for analyzing this file.

One important thing to note about the file is that when it is "updated", no existing records are modified, but rather new records are added at the end of the file. At the time that the year-to-date report is generated, the program locates all records concerning the same combination of break items and totals all of the appropriate totaled items at that time. Each record in the file contains the date on which the record was added to the file, making it possible to determine what changes were made on each update to the year-to-date totals.

Record 1: Break item descriptions
(all records are 60 words long)

Word 0	Word 1			Words 2-58	Word 59
NB	47:16 IDX	31:16 LEN	15:16 STRT	. . .	SF

Word 0: NB - Number of break items

Word 1 thru NB:

IDX - IDTABLE index (see section on PROGRAM INFORMATION)

LEN - length of item in characters

STRT - starting character position in file

Word 59: SF = source file, 0 = JOBSUMMARY, 1 = STATISTICS, 2 = FILEIODATA

Record 2: Totaled item descriptions

0	1				2-58	59
NT	47:16 IDX	31:16 LEN	15:8 STRT	7:8 TAF	. . .	PAGE SIZE

Word 0: NT - number of totaled items

Word 1 thru NT:

IDX - I table index

LEN - not used

STRT - start position (word index)

TAF - 0 if item is totaled, 1 if averaged

Records 3 - end: Data

BI(1)	BI(2)	BI(3)	... BI(NB)	TI(1)	TI(2)	TI(3)	... TI(NT)	C	D

BI - break items (character strings)

TI - totaled item values (binary)

C - count (No. of entries from which totals were obtained)

D - date

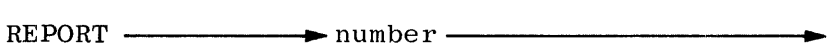
Year-To-Date Totals File Format

7. PROGRAM OPERATION

This part of the SYSTEM/LOGGER documentation is intended to show variations in the operating characteristics which affect the resultant output of the program.

REPORT CARD AND LOGREPORTS FILE

A REPORT card indicates to LOGGER that it is to read in a set of report specifications. The REPORT card has the following syntax:



If a number is present, the report is to be found in the LOGREPORTS file, and the number is the identifying number of the report. If there is no number, the reports specifications are assumed to be on cards immediately following the report card. Report specifications are then read until an END statement is found, at which time reading of input cards is resumed. Statements are scanned up to column 72, so that columns 73 and on may be used for sequence numbers or comments.

The LOGREPORTS file may contain as many report specifications as desired, each having an identifying number. Following is an example LOGREPORTS file:

```
Record #        Contents
1               #1
2               SOURCE FILE IS JOBSUMMARY
3               OUTPUT ITEMS ARE NAME,USERCODE,STARTTIME
4               PAGE SIZE IS 57
5               HEADING IS "SYSTEM USAGE REPORT"
6               END
7               #2
8               SOURCE FILE IS STATISTICS
9               OUTPUT ITEMS ARE TIME,TASKS,JOBS,DISK,PACK,TAPE
10              BREAK ON DATE
11              SORT BY DATE,TIME
12              END
```

In this example, the file contains only two reports. The records containing a # as the first character are reports identification records, and the number following the # is the identifying number of the report which follows it.

LOGGER does not provide facilities for updating the LOGREPORTS file, however, it may be updated by using CANDE, or it may be maintained as a card deck and put on disk by using the WFL DECK statement.

CALCULATION OF CHARGES

As shown in the file data contents, there is a field called CHARGES in the JOBSUMMARY file which contains the dollar amount charged for a particular job, task, or MCS session. Because of the variety of ways in which installations assess charges, it is not feasible for LOGGER to provide the ability to have a billing algorithm supplied to it on input cards or by some similar means. Instead, a procedure called CALCULATECHARGES is included in the program, and it is intended that this procedure be rewritten by the installation using the program. Appropriate comments are included in the listing of the program to enable this to be done.

CORRECTIONS

Since the situation may arise where the log contains erroneous data for a particular entry, the CORRECTION card has been provided to allow the correct value to be given on the report. The format of this card is as follows:

For example,

```
CORRECTION 09/01 09 1234 PROCESSTIME = 2.54
```

would replace the processor time for task 1234 on date 09/01 with the value 2.54.

If the results of the run are to be used to update the year-to-date totals file, the corrected value will be used. If the report is being generated from data out of log files (as opposed to an existing JOBSUMMARY file, etc.), the resulting JOBSUMMARY file will have the corrected value in it. If the report is being generated from an existing JOBSUMMARY file, the report will show the corrected value, but the file will not be changed. Note that only reports generated from the JOBSUMMARY file can have corrections applied to them.

The time on the CORRECTION card is the time to the previous hour, e.g., if the job were run at 10:30, the time would be 10:00. The time is required to be input in case the same mix number occurred twice in the same day.

When correcting the CHARGES field, the value should be an integer (value in cents) with no dollar sign.

SAMPLE EXECUTION DECKS

Following are some sample execution decks for LOGGER. They are explained below.

Example 1

```
?RUN SYSTEM/LOGGER;
?DATA
REPORT 1
?END
```

Example 2

```
?RUN SYSTEM/LOGGER;
?DATA
REPORT
<report specifications>
?END
```

Example 3

```
?RUN SYSTEM/LOGGER
?END
```

Example 4

```
?RUN SYSTEM/LOGGER
?DATA
USE 102974 103174
OPTION UPDATE PRE27
REPORT 25
CORRECTION 10/30 09 2345 PROCESSTIME 23.34
STOP
?END
```

Examples 1 and 2 will generate reports based on SYSTEM/SUMLOG since no SOURCE card was present. Example 3 contains no report specifications, and therefore will create a JOBSUMMARY and STATISTICS file, but will not print a report.

Example 4 shows two new types of input cards, OPTION and STOP. The STOP card causes LOGGER to stop reading input cards, and therefore allows extra cards to be kept in the deck following the STOP card. The OPTION card allows certain run-time options to be set.

PROGRAM CONTROL OPTIONS

UPDATE - the results of this run will be used to update the year-to-date totals file, or to create a new one if none exists.

YEAR - a report will be generated from the year-to-date totals file. Since the format of the report is inherent in the file, no report specifications are necessary when using this option.

WRITEIODATA - this will cause the FILEIODATA file to be created. The option is set by default if the report specifications specify a SOURCE FILE of FILEIODATA, but is otherwise reset.

PRE27 - this option should be set if LOGGER is being run on a pre 2.7 MCP. The program will work without any changes on a 2.6 MCP, but this option must be set. Also, since LOGGER is to perform directory searches, it must be run under a privileged usercode on 2.6. (This requirement has been removed on 2.7.) LOGGER will not run without some modifications on a pre 2.6 MCP. The main difference between running on a 2.6 and 2.7 system is that on 2.7, the titles of the sumlog files contain the date on which they were created, whereas on 2.6, they do not. Therefore, if PRE27 is set, LOGGER will open each sumlog file and read a record to determine the date of the file, but if PRE27 is not set, it will look at the files titles to determine their dates. Another major difference is that on 2.7, the EOT and EOJ entries contain the elapsed time, eliminating the necessity for the program to have to match up the begin and end entries in order to figure this out. This results in a considerable time saving.

DEBUG - this option causes certain debugging information to be printed out.

FILES AND LABEL EQUATION

The following files used by the program may be label equated as described below:

CARD and LINE - the input card reader file and line printer file. Either or both may be equated as remote files to run from a CANDE terminal. It is not necessary for the CARD file to exist at all if no input cards are being supplied.

LOGREPORTS - the file from which to read the report specifications. There are no restrictions on label equating this file.

JOBSUMMARY, STATISTICS, and FILEIODATA - the titles of these files may not be changed through label equation since the program modifies the file titles in order to put the date in them. Any or all of the files may be equated to pack.

YTDFILE - the year-to-date totals file. No restrictions on label equation.

8. PROGRAMMING INFORMATION

This section presents some programming information on SYSTEM/LOGGER. It is intended for those who wish to modify the program for use at a particular site, and is not necessary for understanding how to use the program.

OVERALL ORGANIZATION

LOGGER can be divided into several functional sections. These are:

1. Read in input cards and report specifications. Check syntax of input, and build up arrays for use by later sections. Main procedures involved are PROCESSINPUTCARDS and PROCESSREPORTSPECIFICATIONS.

2. Read log file and create JOBSUMMARY and STATISTICS files. If the FILEIODATA file is to be created, save all file close entries in another file (IOLOG) for the next section. This step is omitted if data is being obtained from an existing JOBSUMMARY, STATISTICS, or FILEIODATA file. Main procedures are LOGREAD, WRITEITEM, WRITEJOBSUMMARY.

3. Read IOLOG file from previous section and write the FILEIODATA file. If the SOURCE FILE of the report to be generated is FILEIODATA, then this section is completed before proceeding to the next section. If the source file is other than FILEIODATA, this section is initiated by a PROCESS statement, and run in parallel with section 4. Main procedure is WRITEIODATAFILE.

4. Read in JOBSUMMARY, STATISTICS, or FILEIODATA file, extract appropriate items, sort by appropriate items, etc., as specified in the report specifications, and print a report. Main procedure is EDITOR.

5. Write a summary report if so specified in a REPORTS ARE report specification. Procedure is SUMMARYREPORT.

6. Initialize year-to-date totals file if requested. Procedure is INITIALIZEYTDFILE.

7. Generate report from the year-to-date totals file. Procedure is YTDREPORT. This procedure is executed if OPTION YEAR is specified as an input card.

STRUCTURE OF PROGRAM FILES

These files contain the results of processing the log entries, and are input to the EDITOR procedure for generating a report. The JOBSUMMARY file has one record for each job, task, and MCS session found in the log, the STATISTICS file has one record for each fifteen minutes of data in the log, and the FILEIODATA file has one record for each file close record found in the log. All data in these files is in EBCDIC, even numeric items.

Each file has associated with it four value arrays - and IDTABLE, a NAMEINFOTABLE, a SHORTNAMES table, and a NAMETABLE. The first three of these are parallel tables, that is the Ith entry in one corresponds to the Ith entry in the others, and there is one entry in the table for each item in the files. The IDTABLE tells where the item occurs in each record of the appropriate file, how long the item is, and what type of data it is. For example, taking the first item from the JOBIDTABLE (which is the IDTABLE for the JOBSUMMARY file) the listing shows a declaration of PLF(001,04,0). The first number is the start column, that is, the starting character position in each record of the file where this item will be found. This item, therefore, starts in character position 1. The second number is the length in characters, showing that the item is 4 characters long. The third number is the data type, with zero meaning alphanumeric. One means a real number, two means an integer, and three means a field with a floating $ in it (i.e., the CHARGES field). All items are actually stored in EBCDIC characters, but the data type field is used when the item must be totaled or averaged, to decide what to do with the item. To find out what the name of this item is, it is necessary to go to the appropriate NAMEINFOTABLE, in this case, the JOBNAMEINFOTABLE. From the listing, this has a value of PL(000,05), meaning the name of the item will be found in the NAMETABLE starting at character 0 for 5 characters. The SHORTNAMES table contains the first six characters of each name. It is used by the procedure scanning the report specifications. This procedure does a MASKSEARCH of the SHORTNAMES table, then goes to the parallel NAMEINFOTABLE, takes that information to locate the full name in the NAMETABLE, and takes the corresponding entry from the IDTABLE to determine where the data is.

There are four array reference variables which are set to the appropriate arrays when the SOURCE FILE report specification is processed. When the EDITOR procedure is called to actually print the report, it is passed one of the three files as a parameter, and since it uses the array reference variables, it does not need to be aware of which file it is processing - the process is identical for each.

TABLES USED BY EDITOR PROCEDURE

Procedure PROCESSREPORTSPECIFICATIONS builds up several tables from the report specifications which are then used by procedure EDITOR. A brief description of each of these tables is presented first, followed by a diagram showing the fields in each one.

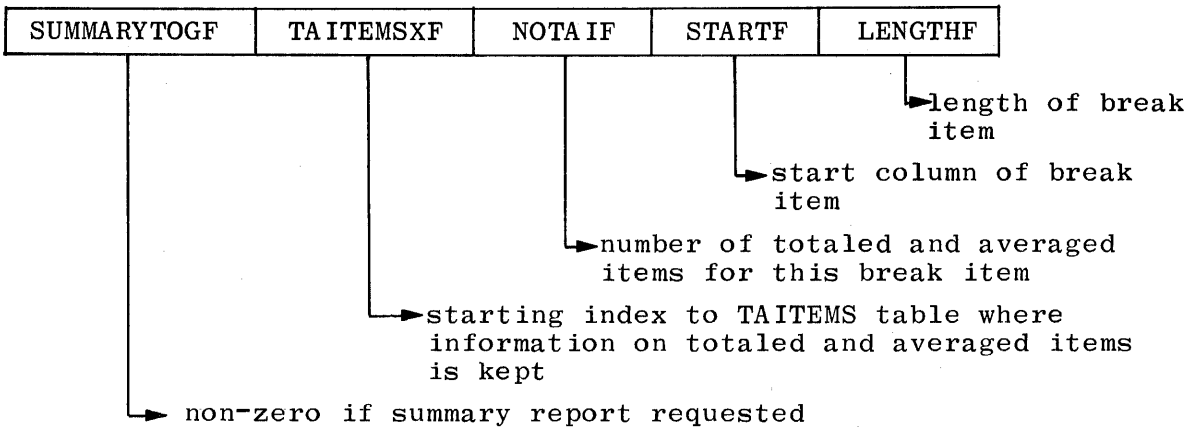
BREAKINFO - contains information from the BREAK statements.

TAITEMS - contains information on the items specified for totalling and averaging.

INCLCHECK, EXCLCHECK - information from INCLUDE and EXCLUDE statements.

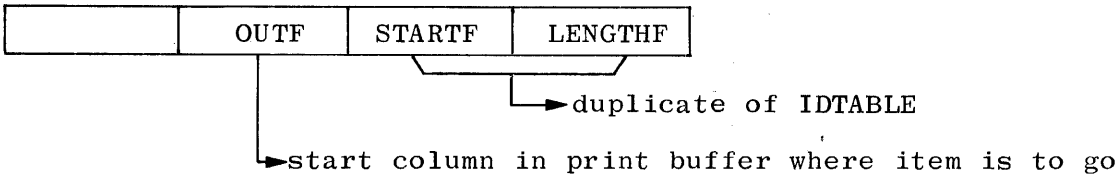
EDITORINFO - contains an entry for each output item.

BREAKINFO

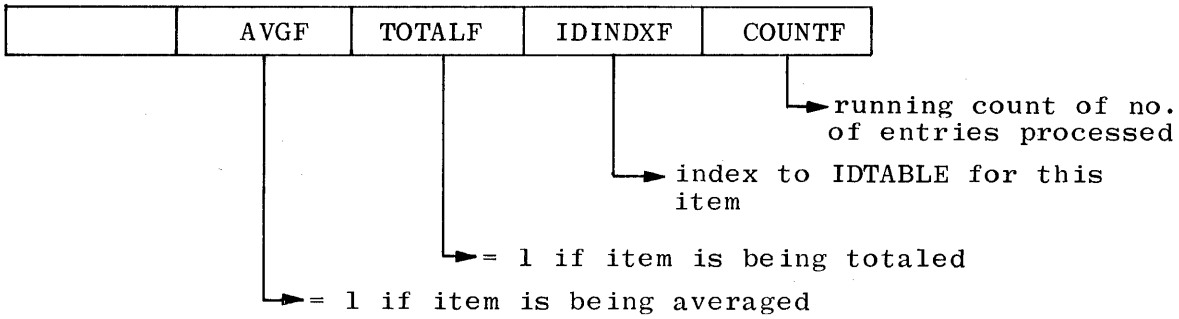


Items STARTF and LENGTHF are duplicates of information kept in IDTABLE and are used to identify the item.

EDITORINFO

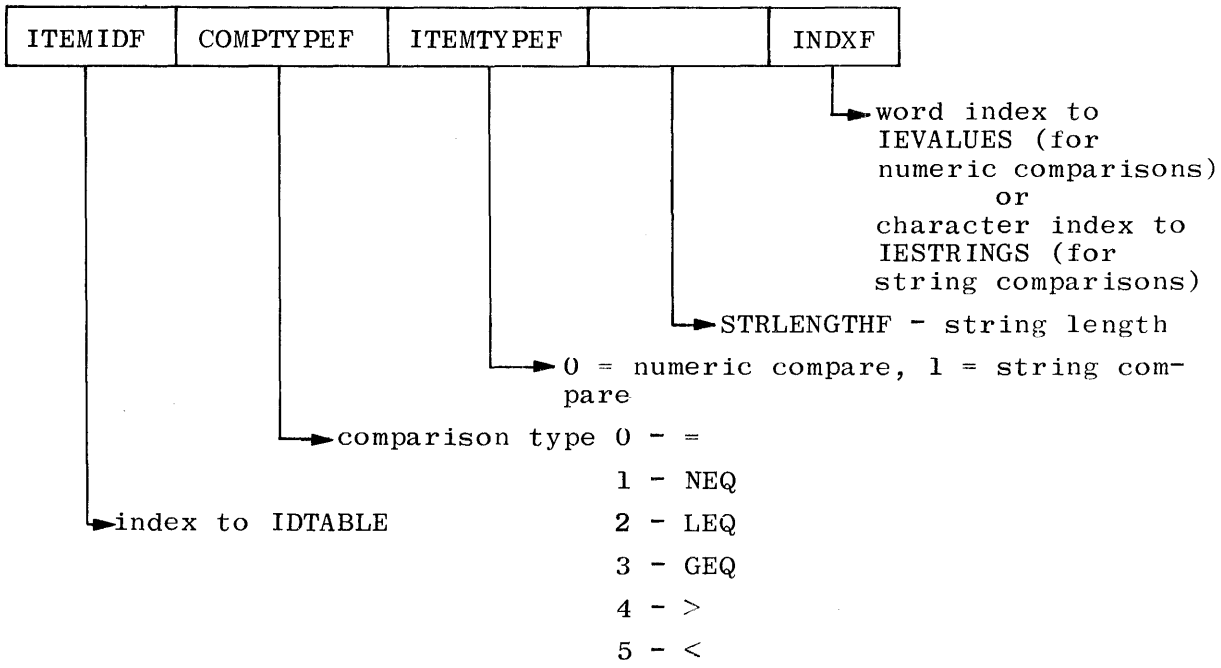


TAITEMS



A parallel table, TA, is used to hold the current total value for the corresponding TAITEMS entry.

INCLCHECK, EXCLCHECK



FILES USED BY THE PROGRAM

GLOBAL FILES

LOG - this is the input log file. By default, the title is set to SYSTEM/SUMLOG, but it may be changed to a sumlog file depending on the USE card supplied.

JOBSUMMARY, STATISTICS, FILEIODATA - these files have been explained previously.

OUTFILE - this file is used by procedure EDITOR when a SORT statement was included in the report specifications. Editor does a SORT with the output going to OUTFILE, which is then read in to print the report.

SUMMARY - if a REPORTS statement specified a summary report, procedure BREAKCHECK saves information in this file each time a break occurs. The file is then read in later by procedure SUMMARYREPORT.

LOGRECORDS - if procedure LOGREAD encounters a log entry with more than one record, it writes all of the records for that entry into LOGRECORDS, and stores an index into LOGRECORDS into word 4 of the buffer it is dealing with. This is done because in some cases it is necessary to save the log record in order to process it later (such as when begin and end entries are being matched up or file close entries are being saved for WRITEIODATAFILE) and it is inconvenient to carry around all of the records until they are used. Therefore, any procedure which uses a log entry must see if it has more than one record, and, if so, then use word 4 of the entry as the number of the record in LOGRECORDS to begin reading.

YTDFILE - the year-to-date totals file.

IOLOG - all file close entries are saved in this file for procedure WRITEIODATAFILE if the FILEIODATA file is being created.

PRNT - the printer file. It has an INTNAME of LINE for label equation purposes.

FILES LOCAL TO PROCESSINPUTCARDS

CARD - the card reader file.

LOGREPORTS - file from which to read report specifications

FILES LOCAL TO INITIALIZEYTDFILE

NEWYTDFILE - when updating an existing YTDFILE, all records up to but not including records for the current day are copied over into NEWYTDFILE, and the old YTDFILE is then removed. The title of NEWYTDFILE is changed to that of the old YTDFILE so that the updated file has the same name.

PATCH TABLE

PATCH NO.	SYSTEM	PRI	NOTE	DESCRIPTION
ACR	26.0001	14581	P3348	MISCELLANEOUS FIX
ACR	26.0002	15656	P3349	ADDS AUDIT DEBUG FEATURE
ACR	26.0003	15663	P3350	AUDIT PROBLEM
ACR	26.0004	15662	P3351	FIND VIA LINK - RECORD LOCK
ACR	26.0005	15661	P3352	JOB IN OPEN
ACR	26.0006	15655	P3353	RESTART DATA SET FIND
ACR	26.0007	15664	P3354	FIND FIRST ON EMPTY DATA SET
ACR	26.0008	15654	P3355	AUDIT OF RESTART DATA SET
ACR	26.0009	15653	P3356	AUDIT PROBLEMS
ACR	26.0010	15652	P3357	AUDIT REEL SWITCH
ACR	26.0011	15651	P3358	IMPROVE AUDIT EFFICIENCY
ACR	26.0012	15658	P3359	LOCKING CODE - RECORD DELETE
ACR	26.0013	15660	P3360	UNLOCK OF DATA SET ON DELETE
ACR	26.0014	15659	P3360	UNLOCK OF DATA SET ON DELETE
ACR	26.0015	15639	P3362	ORDERED INDEX SET AUDIT
ACR	26.0016	15650	P3363	FIND NEXT DATA SET
ACR	26.0017	15638	P3364	RESTART PROBLEM
ACR	26.0018	15605	P3434	FIND NEXT DATA SET
ACR	26.0019	15608	P3435	ABORTED TEST IN CLOSE
ACR	26.0020	15607	P3436	FREE ALL RECORDS AT ENDTRANS
ACR	26.0021	15606	P3437	CALL STORAGEOPENCLOSE AT CLOSE
ACR	26.0022	15604	P3438	POPULATION DATA ITEM
ACR	26.0023	15587	P3439	AUDIT AFTER DATA RECOVERY
ACR	26.0024	15575	P3361	MAKES DMSII SWAPPABLE
ACR	26.0025	15808	P3383	CALLS OF BUFFERDUMPER IN CLOSE
ACR	26.0026	15807	P3387	CLEAR MYSIBPLACE AFTER ABORT
ACR	26.0027	15806	P3399	CALL ON SYNCPOINT IN CLOSE
ACR	26.0028	15805	P3449	ABORT CALL FOR SWAPPING
ACR	26.0029	15529	P3450	UPDATING EOF IN CLOSE
ACR	26.0030	15528	P3451	AUDIT PRIOR TO DUMPBUFFERS
ACR	26.0031	15649	P3452	HANDLING OF LIMIT ERRORS
ACR	26.0032	15531	P3453	CORRECT AREAS FOR RSD
ACR	26.0033	15780	P3508	VERIFY STORE ON BEGINTRANS
ACR	26.0034	15934	P3509	SWAPPING WITH ABORT
ACR	26.0035	15809	P3510	EOF WITH STANDARD DATA SETS
ACR	26.0036	15936	P3511	ACCESSROUTINE COMPILATION
ACR	26.0037	15944	P3512	RESTART DATA SET PROBLEM
ACR	26.0038	15943	P3513	WRITTEN AUDIT NUMBER WRONG
ACR	26.0039	15984	D0754	RANDOM AND DIRECT ACCESS
ACR	26.0040	15933	P3514	AUDIT OF DATA IN KEY
ACR	26.0041	15908	P3564	MOVE MYSELF ABORTED BITS TO D1
ACR	26.0042	15876	D0799	PATCH DATABASE
ACR	26.0043	15915	D0805	ON-LINE DATA RECOVERY
ACR	26.0044	15909	P3510	EOF WITH STANDARD DATA SETS
ACR	26.0045	15871	D0799	PATCH DATABASE
ACR	26.0046	15870	D0799	PATCH DATABASE
ACR	26.0047	15835	P3614	DEBUG COMPILE-TIME OPTION
ACR	26.0048	15869	P3587	INSERT INVALID TEXT IN GETDATA
ACR	26.0049	15868	P3588	BUFFER INTERLOCK IN DMSREAD
ACR	26.0050	15867	P3589	EOF CHECK UNDER DEBUG OPTION
ACR	26.0051	15866	P3587	INSERT INVALID TEXT IN GETDATA
ACR	26.0052	15863	P3615	DIVEST TOO SOON
ACR	26.0053	15862	P3616	NO AUDIT AT CLOSE
ACR	26.0054	17278	P3371	COSMETIC PATCH
ACR	26.0055	15854	P3587	INSERT INVALID TEXT IN GETDATA
ACR	26.0056	16315	P3706	ADD FREESIB PROCEDURE
ACR	26.0057	15758	P3351	FIND VIA LINK - RECORD LOCK
ACR	26.0058	15839	P3352	JOB IN OPEN
ACR	26.0059	15837	D0799	PATCH DATABASE
ACR	26.0060	15834	P3618	ABORT STATE AT OPEN
ACR	26.0061	16142	P3661	INVALID UNLOCK IN DATAFINDER
ACR	26.0062	16143	P3348	MISCELLANEOUS FIX
ACR	26.0063	15827	P3587	INSERT INVALID TEXT IN GETDATA
ACR	26.0064	16168	P3662	INITIALIZE RESTART PATH

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
ACR	26.0065	16169	D0798	PARTITIONED STRUCTURES
ACR	26.0066	16262	P3614	DEBUG COMPILE-TIME OPTION
ACR	26.0067	16180	P3348	MISCELLANEOUS FIX
ACR	26.0068	16264	P3707	OPEN STRUCTURE LOCKTRACE REC
ACR	26.0069	16179	P3708	INDEX RANDOM
ACR	26.0070	16259	P3709	MULTIPLE RECONSTRUCTION
ACR	26.0071	16283	P3710	INDDX SEQUENTIAL AUDIT PROBLEM
ACR	26.0072	16284	P3393	EFFICIENCY FIX
ACR	26.0073	16285	D0754	RANDOM AND DIRECT ACCESS
ACR	26.0074	15754	P3711	DELETE OF COUNTED RECORD
ACR	26.0075	15857	D0799	PATCH DATABASE
ACR	26.0076	16263	P3587	INSERT INVALID TEXT IN GETDATA
ACR	26.0077	16331	P3706	ADD FREESIB PROCEDURE
ACR	26.0078	16330	P3548	UPDATE AUDIT EOF
ACR	26.0079	16391	P3744	LIST + INDEX RANDOM AUDIT
ACR	26.0080	16324	D0798	PARTITIONED STRUCTURES
ACR	26.0081	16368	D0754	RANDOM AND DIRECT ACCESS
ACR	26.0082	16299	P3727	REMOVE MYSIB, USE SIBINX
ACR	26.0083	16367	P3587	INSERT INVALID TEXT IN GETDATA
ACR	26.0084	16319	P3728	ABORT
ACR	26.0085	16318	P3729	TABLE CONTROL WORD
ACR	26.0086	16343	D0754	RANDOM AND DIRECT ACCESS
ACR	26.0087	16344	P3727	REMOVE MYSIB, USE SIBINX
ACR	26.0088	16266	P3560	MORE THAN 1000 ROWS
ACR	26.0089	17882	P3710	INDEX SEQUENTIAL AUDIT PROBLEM
ACR	26.0090	17881	P3730	RESTORE ADDRESS CHECK WORD
ACR	26.0091	17861	P3731	LOCKING PROBLEM
ACR	26.0092	17860	P3348	MISCELLANEOUS FIX
ACR	26.0093	15752	P3810	SYSTEM RESOURCE PACK
ACR	26.0094	15751	D0811	MAKE PACKNAME USE CONSISTENT
ACR	26.0095	16277	P3811	AVOID INVALID INDEX ON DKTABLE
ACR	26.0096	16552	P3812	CORRECT AUDIT
ACR	26.0097	16554	P3813	COMPUTATION OF SEGSPERBLOCK
ACR	26.0098	16278	P3814	AUDIT OF LINKS
ACR	26.0099	16553	D0754	RANDOM AND DIRECT ACCESS
ACR	26.0100	16549	D0807	AUDIT AT END TRANSACTION
ACR	26.0101	16934	P3817	POTENTIAL DEADLOCK
ACR	26.0102	16938	P3818	AUDIT OF BIT VECTORS
ACR	26.0103	16930	P3819	CORRECT AUDIT OF COARSE TABLES
ACR	26.0104	16929	P3817	POTENTIAL DEADLOCK
ACR	26.0105	17278	P3371	COSMETIC PATCH
ACR	26.0106	16496	P3820	FIND PRIOR WITH INDEX RANDOM
ACR	26.0107	16928	P3821	NO FILE AUDIT9999
ACR	26.0108	16922	P3822	ADDRESS CHECK WORD
ACR	26.0109	16919	P4127	INVALID OP IN AUDIT CLOSE
ACR	26.0110	16916	P3823	SYMBOLIC LINKS
ACR	26.0111	16915	P3824	ABORT NOT RESET IOEVENT
ACR	26.0112	16933	P3744	LIST + INDEX RANDOM AUDIT
ACR	26.0113	16912	P3825	CONTROL POINT COUNT
ACR	26.0114	16483	D0754	RANDOM AND DIRECT ACCESS
ACR	26.0115	16909	D1056	CONDITIONAL AUDIT OF RESTART
ACR	26.0116	17278	P3371	COSMETIC PATCH
ACR	26.0117	16904	P3949	LOCK TO MODIFY DETAILS
ACR	26.0118	16480	D0993	LOCK OUTSIDE TRANSACTION
ACR	26.0119	16900	P3950	RECONSTRUCT TERMINATION
ACR	26.0120	17157	D0799	PATCH DATABASE
ACR	26.0121	17156	P3824	DMSII ABORT NOT RESET IOEVENT
ACR	26.0122	17155	P4128	CLOSE AUDIT FILES AFTER ABORT
ACR	26.0123	17154	D0799	PATCH DATABASE
ACR	26.0124	16471	D0854	OPEN INQUIRY
ACR	26.0125	17007	P4129	CPT POSSIBLE EOF PROBLEM
ACR	26.0126	17006	P4130	ABORT ERROR STOPS DATABASE
ACR	26.0127	16982	P4195	AUDIT HANG ON SEGMENTS REQD
ACR	26.0128	17129	P4131	DBPREFIX ARRAY
ACR	26.0129	17011	P4132	OPEN INITIALIZE RDS ON PACK
ACR	26.0130	17010	P4133	AUDIT REEL SWITCH
ACR	26.0131	17009	D0897	DMSII REBUILD DATA BASE
ACR	26.0132	17008	D0897	DMSII REBUILD DATA BASE
ACR	26.0133	17273	P3348	MISCELLANEOUS FIX

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
ACR	26.0134	17236	P3589	EOF CHECK UNDER DEBUG OPTION
ACR	26.0135	17235	P4197	FIX LOOPING IN INDEX SETS
ACR	26.0136	17230	D0799	DMSII PATCH DATABASE
ACR	26.0137	17283	P4199	CORRECT REMOVE FOR BIT VECTORS
ACR	26.0138	16983	D0993	LOCK RECORDS OUTSIDE OF TS
ACR	26.0139	17228	D0861	AUDIT TAPE SYNTAX
ACR	26.0140	16981	P4202	DMSII AUDITFILE EXCLUSIVE
ACR	26.0141	17218	P4203	IGNORE CHANNEL BITS IN RESULT
ACR	26.0142	17219	P3393	EFFICIENCY FIX
ACR	26.0143	17220	P4204	REDUCE DISK-PACK AUDIT SPACE
ACR	26.0144	17226	P4205	DMSII BTR DURING ABORT BUG
ACR	26.0145	17281	P4206	INCLUDED FILES LABEL-EQUATABLE
ACR	26.0146	16975	P4226	EXTEND AUDIT-RECOVERY FOR RDS
ACR	26.0147	17224	D0862	DMSII VERIFYAUDIT PROGRAM
ACR	26.0148	19627	P3393	EFFICIENCY FIX
ACR	26.0149	19621	P3348	MISCELLANEOUS FIX
ACR	26.0150	17002	P3536	HANDLING OF SPACE CHUNK
ACR	26.0151	16955	D0993	LOCK OUTSIDE TRANSACTION
ACR	26.0152	17282	D0859	DATA CHECK OPTIONS
ACR	26.0153	16984	P4207	ABORT DIAGNOTICS OPTION
ACR	26.0154	17215	P4208	REOPEN PACK-DISK AUDIT TRAILS
ACR	26.0155	16939	P3393	EFFICIENCY FIX
ACR	26.0156	17213	P4691	DMSII OPEN ATTR ERRS
ACR	26.0157	17212	P4692	DMSII UPDATE EOF
ACR	26.0158	17211	P3614	DEBUG COMPILE TIME OPTION
ACR	26.0159	19628	P4197	FIX LOOPING IN INDEX SETS
ACR	26.0160	19623	P4226	EXTEND AUDIT RECOVERY FOR RDS
ACR	26.0161	17280	P4209	NOTFOUND UNKEYED SETS
ACR	26.0162	19565	P4641	CHANGE AUDIT TAPE TITLE
ACR	26.0163	19620	P4210	LIMIT ERROR
ACR	26.0164	19619	P4211	DMSWAIT INVALID INDEX
ACR	26.0165	19560	P4212	VARIABLE FORMAT DELETE BUG
ACR	26.0166	19527	P4260	RECONSTRUCTION
ACR	26.0167	19603	P3348	MISCELLANEOUS FIXES
ACR	26.0168	19602	P4693	TIMING PBMS IN DUMPBUFFER
ACR	26.0169	19601	D1056	CONDITIONAL AUDIT OF RESTART
ACR	26.0170	19600	P4261	TWO STACKS DOING CONTROLPOINT
ACR	26.0171	19597	P3393	EFFICIENCY FIXES
ACR	26.0172	19599	P3727	REMOVE MYSIB, USE SIBINX
ACR	26.0173	19456	P4694	WRITEAHEAD ALGORITHM
ACR	26.0174	19593	P3727	REMOVE MYSIB, USE SIBINX
ACR	26.0175	19594	D0799	PATCH DATABASE
ACR	26.0176	18019	P4413	AUDIT I-O CANCEL TIMING
ACR	26.0177	19139	P4213	EXTEND AUDIT RECOVERY FOR RDS
ACR	26.0178	19138	P4213	EXTEND AUDIT RECOVERY FOR RDS
ACR	26.0179	19112	P4891	GLOBAL DATAFINDER
ACR	26.0180	19137	P4414	IMPLICIT CREATE ON RDS
ACR	26.0181	19252	P4415	NOT FOUND ON REMOVE
ACR	26.0182	19475	P4695	CLOSE PROBLEMS
ACR	26.0183	19269	P4696	INITIALIZATION OF GLOBAL DATA
ACR	26.0184	19104	P4697	BIT VECTOR
ACR	26.0185	19134	P4716	AUDIT ERROR MESSAGES
ACR	26.0186	19135	P4226	EXTEND AUDIT-RECOVERY FOR RDS
ACR	26.0187	19358	P4698	NEW AUDIT REC-TABSN
ACR	26.0188	19356	P4699	NOTLOCKED EXCEPTION ON FIND
ACR	26.0189	19444	D0854	OPEN INQUIRY
ACR	26.0190	19443	P4701	OPEN TEMPORARY
ACR	26.0191	19442	D0754	RANDOM DIRECT ACCESS
ACR	26.0192	19355	P4703	WAITING FOR OVERLAYDONE
ACR	26.0193	19441	P4226	EXTEND AUDIT-RECOVERY FOR RDS
ACR	26.0194	19473	P3379	DMSII DSING STACK
ACR	26.0195	19453	P4704	AUDIT FILE REMOVAL
ACR	26.0196	19350	P4697	BIT VECTOR
ACR	26.0197	17429	P3371	COSMETIC PATCH
ACR	26.0198	17428	D0799	PATCH DATABASE
ACR	26.0199	17427	P4878	TABLE SERIAL NUMBERS
ACR	26.0200	17423	P4879	H-L AND ABORT ERRORS
ACR	26.0201	17422	P4705	DUP AUDIT BLOCK
ACR	26.0202	17421	P4706	BAD ERRXIT CALL

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
ACR	26.0203	17420	P4707	DS IN OPEN-TAPE AUDIT
ACR	26.0204	19348	P3556	WAITING FOR RECONSTRUCTION
ACR	26.0205	17416	D0754	RANDOM AND DIRECT ACCESS
ACR	26.0206	17399	P4708	LENGTH TEST AUDIT END CONTROL
ACR	26.0207	17398	P3744	LIST & INDEX RANDOM AUDIT
ACR	26.0208	17376	D0754	RANDOM DIRECT ACCESS
ACR	26.0209	17333	P3348	MISCELLANEOUS FIX
ACR	26.0210	17334	P4892	NO MEM
ACR	26.0211	17298	D0754	ACCESS STRUCTURES IN DASDL
ACR	26.0212	17454	P4893	DMSFREE LOCK
ACR	26.0213	17543	P4894	COMPILE-TIME ARRAYS
ACR	26.0214	19376	D0754	ACCESS STRUCTURES IN DASDL
ACR	26.0215	17794	P4697	BIT VECTOR
ACR	26.0216	19378	D0783	ALLOCATE OPTION
ACR	26.0217	17791	P4700	OPEN INQUIRY
ACR	26.0218	17782	D0897	DMSII - REBUILT DATABASE
ACR	26.0219	17745	D0754	RANDOM DIRECT ACCESS
ACR	26.0220	17717	P5005	EXCEPTION EVENT
ACR	26.0221	17716	P5006	EXTRA RESTART AREAS
ACR	26.0222	17697	P5007	MYUSE
ACR	26.0223	17696	P5008	OPEN ERROR 24
ACR	26.0224	17577	P5009	ERROR MESSAGE
ACR	26.0225	17570	P5010	INFINITE LOOP
ACR	26.0226	18465	P5011	RESTART DATA SET
ACR	26.0227	18461	P5012	WAIT PROBLEM
ACR	26.0228	18451	P3371	COSMETIC PATCH
ACR	26.0229	18407	P4208	REOPEN PACK-DISK AUDIT TRAILS
ALGOL			D0828	POINTER VALUE ADJUSTMENT
ALGOL		15858	D0776	DOLLAR CARD IN SYNTACTIC ITEMS
ALGOL		15880	D0777	DOLLAR CARD SYNTAX
ALGOL	26.0001	14542	P3461	ON STATEMENT
ALGOL	26.0002	14541	P3462	BCL TITLES FLAGGED
ALGOL	26.0003	14538	P3463	ENTIER OPTIMIZED
ALGOL	26.0004	14612	P3464	ALGOL ERROR CLEANUP
ALGOL	26.0005	14611	P3465	ALGOL CORE ESTIMATE
ALGOL	26.0006	14537	P3348	MISCELLANEOUS FIX
ALGOL	26.0009	15586	P3625	REPLACE BINDING OF VALUE ARRAY
ALGOL	26.0010	14591	D0766	EXPANDED CASE STATEMENT
ALGOL	26.0013	14405	P3629	SEPCOMP FACILITY
ALGOL	26.0018	15973	P3630	CONSTANT PARAMETER FOR-LISTS
ALGOL	26.0022	15928	P3712	MAIN PROGRAM FOLLOWING GLOBALS
ALGOL	26.0023	15927	P3631	RESERVED WORD SYNTAXING
ALGOL	26.0024	15911	P3632	ARRAY ID AS POINTER PRIMARY
ALGOL	26.0025	15910	P3633	INCORRECT CONSTANT EVALUATION
ALGOL	26.0026	15907	P3634	DIRECT I-O SYNTAXING
ALGOL	26.0027	15906	P3635	MISUSE OF STATION ATTRIBUTES
ALGOL	26.0030	15883	P3636	DBLE PRECISION VALUE AS INDEX
ALGOL	26.0031	14535	P3393	EFFICIENCY FIX
ALGOL	26.0032	15882	P3637	INCORRECT RESIZE
ALGOL	26.0033	15878	P3713	BEGIN-END COUNT IN VECTORMODE
ALGOL	26.0035	15855	P3714	INCLUDE FILES ON TAPE
ALGOL	26.0036	15851	P3715	AREACLASS DOLLAR OPTION
ALGOL	26.0037	15844	P3393	EFFICIENCY FIX
ALGOL	26.0038	15846	P3716	COMPILER HANDLING BIG SEGMENTS
ALGOL	26.0039	15836	D0802	STRINGS IN PICTURES
ALGOL	26.0040	15843	P3393	EFFICIENCY FIX
ALGOL	26.0041	15831	P3717	QUOTES CONTAINED IN PICTURES
ALGOL	26.0042	15842	P3348	MISCELLANEOUS FIX
ALGOL	26.0043	15828	P3892	LOOPS IN LARGE SEGMENTS
ALGOL	26.0044	15841	P3719	INTRINSIC OPTIMIZATION
ALGOL	26.0045	15840	P3893	POINTER VARIABLE REPLACEMENT
ALGOL	26.0046	16124	P3894	INVALID OP INVALIDATED
ALGOL	26.0047	16135	P3348	MISCELLANEOUS FIX
ALGOL	26.0049	16260	P3896	COMPILE-TIME DEFINES
ALGOL	26.0050	16125	P3897	ARRAYS MADE 8-BIT POINTERS
ALGOL	26.0051	16261	P3898	OPTION WORD FOR INTERFACE
ALGOL	26.0052	16383	D0829	ALLOCATION OF ARRAYS
ALGOL	26.0053	16382	P3899	RESIZE INSTACK ARRAYS
ALGOL	26.0054	14321	P3900	B7700 CODE IMPROVEMENTS

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
ALGOL	26.0055	14317	P3900	B7700 CODE IMPROVEMENTS
ALGOL	26.0056	14320	P3900	B7700 CODE IMPROVEMENTS
ALGOL	26.0057	16381	P3900	B7700 CODE IMPROVEMENTS
ALGOL	26.0058	16380	P3900	B7700 CODE IMPROVEMENTS
ALGOL	26.0059	16375	D0830	CONDITION BRANCHING
ALGOL	26.0060	16379	D0847	B7700 OPTION
ALGOL	26.0061	16377	P3901	FOR STATEMENT OPTIMIZATION
ALGOL	26.0062	16378	P3902	IMPROVE POINTER FUNCTION
ALGOL	26.0063	16376	P3903	CORRECT RESCAN ERROR
ALGOL	26.0064	16265	P3904	COMPILER INCORRECT TERMINATION
ALGOL	26.0065	16128	P3905	FIRSTWORD, SECONDWORD CODE
ALGOL	26.0067	16129	P3907	SEPCOMP OF LARGE PROGRAMS
ALGOL	26.0068	16327	D0831	ADD "COMBINEPPBS"
ALGOL	26.0071	16282	P4110	ERRONEOUS SYNTAX ERROR
ALGOL	26.0072	16360	D0848	ASCENDING SEQUENCE NUMBERS
ALGOL	26.0073	17899	P3909	SEG ARRAY IN LIBRARY FILES
ALGOL	26.0074	17890	P3910	$ MAKEHOST
ALGOL	26.0075	17884	P3911	LINEINFO W SEPARATE COMPILES
ALGOL	26.0077	16131	P3794	DEGENERATE IF STATEMENTS
ALGOL	26.0081	16601	P3795	LOADINFO PROBLEM
ALGOL	26.0082	16559	P3796	LARGE ARRAY LOWER BOUNDS
ALGOL	26.0084	17284	P4038	COMPLEX SELECTION EXPRESSIONS
ALGOL	26.0086	16482	P3915	COMPILER ABNORMAL TERMINATION
ALGOL	26.0087	16132	P3916	SYMBOLIC FILE AND ERROR LIMIT
ALGOL	26.0088	16133	P3917	DIRECT OWN ARRAYS CORRECTED
ALGOL	26.0091	16134	P3918	SCALELEFT FIX
ALGOL	26.0093	16475	P4113	ASSIGNMENT OPERATOR
ALGOL	26.0096	16470	P4115	QUESTION MARK IN STRINGS
ALGOL	26.0097	17179	P4116	BATCH COMPILER FIX
ALGOL	26.0098	17178	P4117	XREFANALYZER FIX
ALGOL	26.0099	17177	P4118	ECOLOGICAL PRESERVATION
ALGOL	26.0100	17176	P4119	REMOVEFILE, CHANGEFILE
ALGOL	26.0101	15892	D0898	DCALGOL CONTROLCARD INTRINSIC
ALGOL	26.0102	18042	D0887	FILE MNEMONIC PACK RECOGNIZED
ALGOL	26.0103	18041	P4049	$ PAGE INHIBITED IF VOIDING
ALGOL	26.0104	18033	P4169	INFO FILE
ALGOL	26.0105	18040	P4170	NEW SYMBOLIC TO DISKPACK
ALGOL	26.0116	18035	P4213	$ STATISTICS
ALGOL	26.0117	19671	P4373	OMITTED CARD COUNT
ALGOL	26.0118	18037	P4360	REMOVEFILE, CHANGEFILE
ALGOL	26.0119	18017	P3393	EFFICIENCY FIX
ALGOL	26.0120	18039	P3393	EFFICIENCY FIX
ALGOL	26.0121	18020	P4141	DMSII SELECTION EXPRESSION
ALGOL	26.0122	18038	P4391	USERDATA STATEMENT
ALGOL	26.0123	17993	D0982	REPLACE STATEMENT EXTENSION
ALGOL	26.0124	17992	P4876	TRANSLATETABLE FIX
ALGOL	26.0127	17994	D0983	$ MCP OPTION
ALGOL	26.0129	19667	P3908	FILE ATTRIBUTE ASSIGNMENT
ALGOL	26.0131	19670	D0755	FLEXIBLE NEWSYMBOLIC
ALGOL	26.0133	17999	P5091	COPYRIGHT II.7
ALGOL	26.0134	19666	P4111	$SET MERGE AFTER POP
ALGOL	26.0135	17567	D0872	I-O STATEMENTS AND FORMATS
ALGOL	26.0137	17548	D1073	$INCLUDE CARD
ALGOL	26.0139	18259	P3347	POINTER EXPRESSION
APL-700	26.0001	18053	P4466	COMP-DECOMP TABLE CLEANUP
APL-700	26.0002	18054	P4467	CONTEXT CHANGE DETECTION
APL-700	26.0003	18055	P4468	IMPLEMENT SHARED VARIABLES
APL-700	26.0004	18056	P4469	BASE TIME SLICE ON CPU TIME
APL-700	26.0005	18057	P4470	REDUCE NO INTERPRETER BUFFERS
APL-700	26.0006	18058	P4471	STATISTICS GATHERING
APL-700	26.0007	18059	P4472	INSTL. DEFINED SYSTEM FUNCTION
APL-700	26.0008	18060	P4473	QUAD-SVQ FIX
APL-700	26.0009	18061	P4474	IMPLEMENT QUAD-NEWS
APL-700	26.0010	18062	P4475	IMPLEMENT ATOMIC VECTOR
APL-700	26.0011	18063	P4476	APLP INF TO FILE SYSTEM
APL-700	26.0012	18064	P4477	REDUCE OUTER BLOCKSIZE OF APLP
APL-700	26.0013	18065	P4478	GENERAL CODE CLEAN-UP
APL-700	26.0014	18066	P4479	GARBAGE COLLECT BEFORE SWAP
APL-700	26.0015	18067	P4480	CHARACTER CLASS TABLES

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
APL-700	26.0016	18068	P4481	DEFAULT FORMAT TIME SLICE
APL-700	26.0017	18069	P4482	CPU BOUND COMMON TERMINATE
APL-700	26.0018	18070	P4483	CLOSE WF AFTER "LIBRARY FAIL"
APL-700	26.0019	18071	P4484	ELIMINATE FUNCTION CHAIN
APL-700	26.0020	18072	P4485	SPEED UP DEFAULT FORMATTING
APL-700	26.0021	18073	P4486	ATTENTION-PRINTING STATE IND
APL-700	26.0022	18074	P4487	LINE IN ERROR VS WIDTH SETTING
APL-700	26.0023	18075	P4488	FIX TO GROUP COPY
APL-700	26.0024	18076	P4489	ELIMINATE SOME LOCAL ARRAYS
APL-700	26.0025	18077	P4490	TAKE OF A SCALAR
APL-700	26.0026	18078	P4491	LOCALIZATION CHECK OF SYS VAR
APL-700	26.0027	18079	P4492	IDENTIFIER MAX LENGTH 69 CHARS
APL-700	26.0028	18080	P4493	EMPTY SUBSCRIPT ON CONSTANT
APL-700	26.0029	18081	P4494	SUBSCRIPTING OF FORMATTED LIST
APL-700	26.0030	18082	P4495	SUBSCRIPT SYSTEM NAME
APL-700	26.0031	18083	P4496	DISPLAY FUNCTION HEADER
APL-700	26.0032	18084	P4497	SYSTEM LIMIT-TAB PROBLEM
APL-700	26.0033	18085	P4498	FIX OF LOCAL FUNCTION
APL-700	26.0034	18086	P4499	RESET RESTARTING ON STACK NAME
APL-700	26.0035	18087	P4500	PERMIT ZERO LENGTH DIVIDE
APL-700	26.0036	18088	P4501	REVERSE ALONG LENGTH ZERO DIM
APL-700	26.0037	18089	P4502	TRANSPOSE OF CHARACTER OBJECT
APL-700	26.0038	18090	P4503	LOOP IN LAMINATE
APL-700	26.0039	18091	P4504	DYADIC TRANSPOSE-ONE ELEMENT
APL-700	26.0040	18092	P4505	SELECT NOT CLEARING BACK POINT
APL-700	26.0041	18093	P4506	REDUCTION-TIME SLICE PROBLEM
APL-700	26.0042	18094	P4507	NEW MONADIC FORMAT
APL-700	26.0043	18095	P4508	CALCULATOR MODE SPACE LIMIT
APL-700	26.0044	18096	P4509	E FORMAT ZERO DISPLAY
APL-700	26.0045	18097	P4510	FORMATTING OBJECTS OF ZERO DIM
APL-700	26.0046	18098	P4511	DECIMAL PLACES WITH F FORMAT
APL-700	26.0047	18099	P4512	CLOSE CONTINUE WITH CRUNCH
APL-700	26.0048	18100	P4513	MAX WIDTH SETTING TO 32,767
APL-700	26.0049	18101	P4514	CHANGE COMPARISON TOLERANCE
APL-700	26.0050	18102	P4515	ELIMINATE UPDATE ON RECOV FAIL
APL-700	26.0051	18103	P4516	INCREASE MIDLINE SLICE BIAS
APL-700	26.0052	18104	P4517	NILADIC BRANCH TAKING NO SPACE
APL-700	26.0053	18105	P4518	LINE AT TOP OF STATE IND PROB
APL-700	26.0054	18106	P4519	CORRECT MODIFY ASSIGN
APL-700	26.0055	18107	P4520	TRACE LINE 0-PRINT PAUSE ABORT
APL-700	26.0056	18108	P4521	CEILING-FLOOR LARGE VALUE FIX
APL-700	26.0057	18109	P4522	POSSIBLE TIMING PROBLEM
APL-700	26.0058	18110	P4523	DOMAIN CHECK OF ZERO CIRCLE
APL-700	26.0059	18111	P4524	LABEL-LOCAL NAME THE SAME
APL-700	26.0060	18112	P4525	CATENATE-ONE ELEMENT OBJECT
APL-700	26.0061	18113	P4526	ACCOUNT FILE, WS, FILES MEDIA
APL-700	26.0062	18114	P4527	IMPLEMENT SHARED VARIABLES
APL-700	26.0063	18115	P4528	QUAD-STAT AND QUAD-NEWS
APL-700	26.0064	18116	P4529	COMPRESS FOR SWAP
APL-700	26.0065	18117	P4530	IMPLEMENT OUTPUT SMOOTHING
APL-700	26.0066	18118	P4531	IMPROVE CODE READABILITY
APL-700	26.0067	18119	P4532	IMPROVE PERFORMANCE
APL-700	26.0068	18120	P4533	ALLOW SWAPPING OFF DISK PACKS
APL-700	26.0069	18121	P4534	USER STATE WHEN ATTENTION HIT
APL-700	26.0070	18122	P4535	TIME SLICE SET FROM SPO
APL-700	26.0071	18123	P4536	ADD NATIONAL LETTERS
APL-700	26.0072	18124	P4537	CHARACTER HANDLING
APL-700	26.0073	18125	P4538	USER STATE ON DISCONNECT-ABORT
APL-700	26.0074	18126	P4539	ELIMINATE APLM DS AT SIGN-OFF
APL-700	26.0075	18127	P4540	IGNORE INPUT MESS TIL PROMPT
APL-700	26.0076	18128	P4541	STACK DUMP REQUEST COMPLETE
APL-700	26.0077	18129	P4542	ATTN FROM INPUT MESSAGE
APL-700	26.0078	18130	P4543	SPO MESSAGE IF USER ABORTS
APL-700	26.0079	18131	D0964	SYSTEM NOTE FOR APLF
APL-700	26.0080	18132	P4544	MESSAGES TO DIRECT CONNECTS
APL-700	26.0081	18133	P4545	OUTER BLOCK INDEX ABORTS
APL-700	26.0082	18134	P4546	BR TO LINE IN DIFF. STACK BUG
APL-700	26.0083	18135	P4547	CHECK FOR MAX DIMS IN SELECT
APL-700	26.0084	18136	P4548	CONTEXT CHANGE FIX

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
APL-700	26.0085	18137	P4549	MATRIX DIVIDE-INVERT FIX
APL-700	26.0086	18138	D0965	SYSTEM NOTE FOR NEW SYMBOLIC
APL-700	26.0087	18139	P4550	LIMIT FILE OPEN PERMISSION
APL-700	26.0088	18140	P4551	OUTPUT TRANSLATION
APL-700	26.0089	18141	P4552	USER BOUNCE
APL-700	26.0090	18142	P4553	HANDLE BAD WORKSPACE
APL-700	26.0091	18143	P4554	HANDLE EXCESSIVE INPUT
APL-700	26.0092	18144	P4555	SEPARATE COMPILATION
APL-700	26.0093	18145	P4556	LOGGING PROVISION
APL-700	26.0094	18146	P4557	DO NOT GARBAGE COLLECT BAD WS
APL-700	26.0095	18147	P4558	TIME SLICE EXPUNGE
APL-700	26.0096	18148	P4559	SYSTEM NAME ATTRIBUTES
APL-700	26.0097	18149	P4560	INCREASE WIDTH IN ACCT FILE
APL-700	26.0098	18150	P4561	CORRECT CHARACTER TABLES
APL-700	26.0099	18151	P4562	ADD NATIONAL CHARACTERS
APL-700	26.0100	18152	P4563	LIBRARY FAIL ON CONTINUE LOAD
APL-700	26.0101	18153	P4564	SWAP IO ERROR CHECK
APL-700	26.0102	18154	P4565	POWER ABORT
APL-700	26.0103	18155	P4566	COMBINATORIAL ABORT
APL-700	26.0104	18156	P4567	CHANGE SYSTEM MESSAGES
APL-700	26.0105	18157	P4568	INDEXED SCALAR FUNCTN PROBLEM
APL-700	26.0106	18158	P4569	DUP NAME CHECK IN FIX
APL-700	26.0107	18159	P4570	COPY A FUNCTION PROBLEM
APL-700	26.0108	18160	P4571	FIX HEADER DELETE
APL-700	26.0109	18161	P4572	CORRECT CHECK NAME IN LINE 0
APL-700	26.0110	18162	P4573	SET MONITOR ON SINGLE LINE
APL-700	26.0111	18163	P4574	LIMIT FUNCTION SIZE
APL-700	26.0112	18164	P4575	DELETE UNUSED CODE
APL-700	26.0113	18165	P4576	LIST OUTPUT FIX
APL-700	26.0114	18166	P4577	ARGUMENTS FREED TOO SOON
APL-700	26.0115	18167	P4578	TIME SLICE FIX PRIMITIVE
APL-700	26.0116	18168	P4579	RETURN EXTRA SPACE IN FIX
APL-700	26.0117	18169	P4580	LOCK ACCOUNT WHEN USER IS ON
APL-700	26.0118	18170	P4581	QUAD-SVC LEFT ARG TYPE CHECK
APL-700	26.0119	18171	P4582	DIMENSION SIZE OVERFLOW
APL-700	26.0120	18172	P4583	LAMINATE INFINITE LOOP
APL-700	26.0121	18173	P4584	EMPTY OBJECTS WITH LARGE DIMS
APL-700	26.0122	18174	P4585	BASE VALUE FIX
APL-700	26.0123	18175	P4586	CORRECT ERROR MESSAGE
APL-700	26.0124	18176	P4587	CHANGE ERROR MESSAGE
APL-700	26.0125	18177	P4588	LOG USER SIGN ON AND SIGN OFF
APL-700	26.0126	18178	P4589	MESSAGE AND CONTINUANCE ERRORS
APL-700	26.0127	18179	P4590	CORRECT MONITORING
APL-700	26.0128	18180	P4591	ELIMINATE USE OF DIRECTORIES
APL-700	26.0129	18181	P4592	CONTROL CHARS IN STRINGS
APL-700	26.0130	18182	P4593	CORRECT DOMAIN CHECK
APL-700	26.0131	18183	P4594	SET CHECK COMP BIT PROPERLY
APL-700	26.0132	18184	P4595	GARBAGE COLLECT STATS
APL-700	26.0133	18185	P4596	ERASE FUNCTION WITH SI
APL-700	26.0134	18186	P4597	ERASE SHARED VAR WITH NO VALUE
APL-700	26.0135	18187	P4598	CLEAR SHARE FLAG ON COPY
APL-700	26.0136	18188	P4599	CORRECT ERROR MESSAGE
APL-700	26.0137	18189	P4600	DISALLOW FIX OVER SHARED VAR
APL-700	26.0138	18190	P4601	SET RECOMPILE ON FIX
APL-700	26.0139	18191	D0966	LIMIT QUOTAS
APL-700	26.0140	18192	P4602	SV-SPACE LIMIT PROBLEM
APL-700	26.0141	18193	P4603	DELETE PRIVILEGED I-BARS
APL-700	26.0142	18194	P4604	CONSISTENT SHAPE CHECK
APL-700	26.0143	18195	P4605	INNER PRODUCT - TWO EMPTYS
APL-700	26.0144	18196	P4606	INCREASE HOURS IN SIGN OFF
APL-700	26.0146	18197	D0967	CONNECT AND CPU TIME STATS
APL-700	26.0147	18198	D0968	GIVE CPU BOUND USER EXTRA TIME
APL-700	26.0148	18199	P4607	REDUCE SYSTEM OVERHEAD
APL-700	26.0149	18200	D0969	PROCEDURE CALL COUNTS
APL-700	26.0150	18201	P4608	FACTORIAL ABORT
APL-700	26.0151	18202	P4609	LOAD OF SMALLER WS
APL-700	26.0152	18203	P4610	CHECK FOR ATTN DURING TRACE
APL-700	26.0153	18204	P4611	FIX ARROW IN ERROR MESSAGE
APL-700	26.0154	18205	P4612	FIX EQUAL&NOT EQUAL ON CHARS

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
APL-700	26.0155	18206	P4613	VECTORMODE IN DYADIC IOTA
APL-700	26.0156	18207	P4614	VECTORMODE IN MEMBERSHIP
APL-700	26.0157	18208	P4615	MATRIX DIVIDE PROBLEM
APL-700	26.0158	18209	P4616	INSERT PROBLEM
APL-700	26.0159	18210	P4617	USE VECTORMODE IN REDUCTION
APL-700	26.0160	18211	P4618	OUTER PRODUCT USE VECTORMODE
APL-700	26.0161	18212	P4619	VECTORMODE FOR INNER PRODUCT
APL-700	26.0162	18213	P4620	SET BIT WHEN DOING DISK IO
APL-700	26.0163	18214	D0970	QUAD-INFO AND QUAD-SYST
APL-700	26.0164	18215	P4564	MISSING SEMICOLON
APL-700	26.0165	18216	P4622	KILL SWAP AFTER BLOT IN)ON
APL-700	26.0166	18217	P4623	IMPROVE COMPRESS PRIMITIVE
APL-700	26.0167	18218	D0971	RESOURCE SCHEDULING
APL-700	26.0168	18219	D0972	LARGER DEFAULT LIMITS
APL-700	26.0169	18220	D0973	MORE QUAD-STATS (1)
APL-700	26.0170	18221	P4624	NEW SWAPPING ALGORITHM
APL-700	26.0171	18222	P4625	GLOBALIZE TASK DECLARATION
APL-700	26.0172	18223	P4626	GLOBALIZE FILE DECLARATION
APL-700	26.0173	18224	P4627	AUTOMATIC DUMP-ON-FAULT
APL-700	26.0174	18225	P4628	FORCED RESOURCE ALLOCATION
APL-700	26.0175	18226	P4629	REDUCED FULL SWAPS
APL-700	26.0176	18227	P4630	RE-CYCLE SWAP FILE
APL-700	26.0177	18228	D0974	ONE CPU, TWO APLPS
APL-700	26.0178	18229	P4631	ELIMINATE POTENTIAL FAULT(1)
APL-700	26.0179	18230	P4632	MORE QUAD-STATS(2)
APL-700	26.0180	18231	P4633	MORE QUAD-STATS(3)
APL-700	26.0181	18232	P4634	MORE QUAD-STATS(4)
APL-700	26.0182	18233	D0975	SET CPU BOUND BYPASS LIMIT
APL-700	26.0183	18234	D0976	SET TOP OF QUEUE INSERT LIMIT
APL-700	26.0184	18235	P4635	ELIMINATE POTENTIAL FAULT(2)
APL-700	26.0185	18236	P4636	DEFINED IDENTIFIER ELIDED
APL-700	26.0186	18237	P4637	"VECTMODE" FIX
APL-700	26.0187	18238	P4638	LARGE WIDTH ABORTS
APL-700	26.0188	18239	P4639	FORMAT ABORT
APL-700	26.0189	18240	P4640	LIMIT MAX TABS TO 30
BACKUP		17182	D0851	INPUT SYNTAX
BACKUP	26.0001	18285	P3377	COMPILE ERROR
BACKUP	26.0002	16313	P3348	MISCELLANEOUS FIX
BACKUP	26.0003	16312	P3720	FIX RANGE CHECK
BACKUP	26.0004	16311	P3721	GETSTATUS INTERFACE
BACKUP	26.0005	16310	P3722	HI MSG PROBLEMS
BACKUP	26.0006	17888	P3797	FIX INV INDEX
BACKUP	26.0007	16673	P3798	FORMMESSAGE ERROR
BACKUP	26.0008	17162	D0832	RANGE CHECKING
BACKUP	26.0009	17163	P3919	RANGE OPTION FIX
BACKUP	26.0010	17174	D0833	PB MT BY NAME
BACKUP	26.0011	17164	P3920	FILE ID ON PUNCH
BACKUP	26.0012	17254	P3617	SCANNER IMPROVEMENTS
BACKUP	26.0013	18287	P3386	VERSION IDENTIFICATION
BACKUP	26.0014	17189	P4171	BACKUP FILES ON PACK
BACKUP	26.0015	17188	P4172	BFILE LABEL EQUATION
BACKUP	26.0016	17187	P4173	PARITY HANDLING
BACKUP	26.0017	19470	P4174	FORTRAN KEY START
BACKUP	26.0018	17186	P4175	KEY LENGTH CHECKS
BACKUP	26.0019	18903	P4642	COBOL KEYSTART VALUE
BACKUP	26.0020	18904	P4643	INVALID OP
BACKUP	26.0021	17436	P4644	SCANNER
BACKUP	26.0022	17435	P4645	"HI" INPUT
BACKUP	26.0023	18596	P4220	II.7 COPYRIGHT
BACKUP	26.0024	18545	P4255	UNUSED VARIABLES
BACKUP	26.0025	18517	P5105	HI INPUT WHILE PRINTER NOT RDY
BACKUP	26.0026	18516	P5106	MULTIPLE COPIES
BACKUP	26.0027	18515	P5107	PARITY ERRORR ON B5500 TAPES
BACKUP	26.0028	18519	P5108	MULTIPLE COPIES
BASIC	26.0001	15704	D0767	DELIMITERS BETWEEN LIST ITEMS
BASIC	26.0002	14535	P3393	EFFICIENCY FIX
BASIC	26.0003	16514	P3921	DUPLICATE SEQUENCE NUMBERS
BASIC	26.0004	17192	P4120	BASIC SEGMENTATION
BASIC	26.0005	17454	P4621	DEFINE FUNCTIONS

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
BDMSALGOL	26.0008	15576	P3624	DMSII INTERFACE
BDMSALGOL	26.0011	15982	P3626	POPULATION ITEM
BDMSALGOL	26.0012	15981	P3627	DEFINES IN DMSII STATEMENTS
BDMSALGOL	26.0021	15916	P3628	USER WORKAREA DESCRIPTORS
BDMSALGOL	26.0048	16136	P3895	OUTPUT MAPPING
BDMSALGOL	26.0066	16328	P3906	INVOCATION OF ACCESSES
BDMSALGOL	26.0069	16279	D1055	OPEN INITIALIZE PARTITION
BDMSALGOL	26.0078	16927	P3912	DM PROGRAM IDENTIFICATION
BDMSALGOL	26.0079	16555	P3913	DMINTERFACE FIELD DEFINE
BDMSALGOL	26.0085	16910	D1056	CONDITIONAL AUDIT OF RESTART
BDMSALGOL	26.0089	16473	D0850	23-DIGIT NUMBERS
BDMSALGOL	26.0090	16477	D1057	OPEN INQUIRY
BDMSALGOL	26.0092	16476	P4112	PARAMETRIC DEFINES
BDMSALGOL	26.0094	16474	P4114	INVOKE LARGE DATABASE
BDMSALGOL	26.0109	19524	D0919	INPUT MAPPING
BDMSALGOL	26.0110	19525	D0918	STRUCTURENUMBER FUNCTION
BDMSALGOL	26.0112	19559	P4370	INVALID INDEX IN DMINTERFACE
BDMSALGOL	26.0113	19530	P4198	DMSII ERROR MNEMONICS
BDMSALGOL	26.0128	19427	D0984	FILE CARDS DATABASE-INTERFACE
BDMSALGOL	26.0136	19346	P4899	BDMS ALGOL VIA CANDE
BDMSALGOL	26.0141	18457	D0882	INVOKE LISTING
BDMSCOBOL	26.0005	15580	P3643	ADDRESS CALCULATION - DMS
BDMSCOBOL	26.0006	14573	D0768	ADD DATA IN KEY TO EXPRESSION
BDMSCOBOL	26.0007	15798	P3644	CORRECT DMS FIELD MOVES
BDMSCOBOL	26.0009	15709	P3645	CORRECT FIELD HIGH-VALUES
BDMSCOBOL	26.0011	15707	P3646	DMS COBOL CODE CHANGE
BDMSCOBOL	26.0012	15708	P3647	ADD NAME FOR POPULATION COUNT
BDMSCOBOL	26.0042	15757	P3928	DMSII GENERATE STATEMENTS
BDMSCOBOL	26.0050	16365	D0838	ADD SYNTAX FOR PARTITIONED
BDMSCOBOL	26.0051	16364	P3934	IMPLEMENT RANDOM IN BDMSCOBOL
BDMSCOBOL	26.0052	16363	D0839	IMPLICIT QUALIFICATION OF KEYS
BDMSCOBOL	26.0053	16362	D0840	NEW DMSTATUS FUNCTION
BDMSCOBOL	26.0056	19337	D0886	OUTPUT DMS II DATA SET TYPE
BDMSCOBOL	26.0084	16547	P3945	DMS CAPABLE
BDMSCOBOL	26.0087	17158	P4122	DON-T SCRAMBLE BIT
BDMSCOBOL	26.0088	17159	P4123	NULL CODE
BDMSCOBOL	26.0089	17160	P4124	DATABASE IS TOO LARGE
BDMSCOBOL	26.0090	17142	D0852	OPEN INQUIRY
BDMSCOBOL	26.0091	17143	P4125	PASS OPTION WORD
BDMSCOBOL	26.0092	17144	P4126	SEG ARRAY ERROR
BDMSCOBOL	26.0094	16469	D0853	ACCESS TO STRUCTURE NUMBERS
BDMSCOBOL	26.0100	17222	P4181	INVALID SYNTAX ERROR BDMSCOBOL
BDMSCOBOL	26.0101	17223	P4182	DMSII - TASK ATTRIBUTES
BDMSCOBOL	26.0109	17217	D0852	OPEN INQUIRY
BDMSCOBOL	26.0111	17216	P4323	EQUATE INTERFACE TO PACK
BINDER			D0775	SEPARATELY COMPILED PROCEDURES
BINDER	26.0001	14753	P3340	INCORRECTLY PRINTED MESSAGE
BINDER	26.0002	14750	D0727	ADDITIONAL PARAMETER SYNTAXING
BINDER	26.0003	14752	D0728	"STRICT" DOLLAR CARD OPTION
BINDER	26.0004	15703	P3638	AREASIZE ALTERATION
BINDER	26.0005	15974	D0758	"MCP" DOLLAR CARD OPTION
BINDER	26.0006	15937	P3640	FORTRAN PARAMETER PASSING
BINDER	26.0007	15976	P3641	DECLARATION OF INPUT ALTERED
BINDER	26.0008	15872	P3642	SEPCOMP OF DCALGOL FILES
BINDER	26.0009	16347	D0834	PROCESSING OF LABEL-EQUATIONS
BINDER	26.0010	15925	P3922	PLI PARAMETERS
BINDER	26.0011	16600	P3799	OMINFO BIT
BINDER	26.0012	16557	P3800	LOCAL FILES IN INTRINSICS
BINDER	26.0013	17999	P5091	COPYRIGHT II.7
BINDER	26.0014	18928	P5093	CANDEFILEHANDLER
CANDE	26.0001	13906	P3428	STACK2 DS-ED
CANDE	26.0002	13905	P3468	"USURP" ERR WITH MANY CHANGES
CANDE	26.0003	13904	P3489	"NON-DIGIT IN SEQ" MESSAGE
CANDE	26.0004	13903	P3490	DCERRORANNALYSIS
CANDE	26.0005	13902	D0752	RESEQ OVERRIDE
CANDE	26.0006	13901	P3491	EDIT ABORT
CANDE	26.0007	13900	D0753	?CLOSE CONTROL
CANDE	26.0008	13899	P3492	FIX ERRORS VS LIST CHANGES
CANDE	26.0009	13898	P3493	FILE MODIFIER, LFILES, ETC.

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
CANDE	26.0010	13897	D0743	SIMPLIFICATIONS AND SYNONYMS
CANDE	26.0011	15792	D0756	NEW RANGE COMMAND
CANDE	26.0012	13896	P4383	DELETE EVERYTHING
CANDE	26.0013	15903	P4306	AUTORECOVERY OUTPUT
CANDE	26.0014	15902	P4384	INTERNAL IMPROVEMENT
CANDE	26.0015	15886	D0760	REORGANIZATION AND CLEANUP
CANDE	26.0016	15901	P3593	GUARDFILE TITLE
CANDE	26.0017	15900	D0761	FIND-REPLACE TEXT OPTIONS
CANDE	26.0018	15896	P4250	STACK2 STACK SIZE
CANDE	26.0019	15897	D0960	INPUT: CONTROL, EMPTY, SIGNAL
CANDE	26.0019	15897	D0977	DISABLED STATIONS
CANDE	26.0019	15897	D0963	DATACOM ERROR RECOVERY
CANDE	26.0019	15897	D0962	CONTROL COMMANDS
CANDE	26.0019	15897	D0961	OBJECT FILES
CANDE	26.0019	15897	D0958	STATION CAPACITY
CANDE	26.0019	15897	D0959	LOGIN CONTROL
CANDE	26.0019	15897	P4354	STATION TABLES, CONTROL LOGIC
CANDE	26.0020	15890	P4387	DIRECTORY READING
CANDE	26.0021	15889	D0924	$ INTERNAL OPTION
CANDE	26.0022	15887	D0925	FILEDATA AND LFILES
CANDE	26.0023	18851	P4388	OLD RECOVERY FILES
CANDE	26.0024	18849	D0926	USERCODE-PASSWORD HANDLING
CANDE	26.0025	18848	D0927	WFM INTERFACE
CANDE	26.0026	18847	P4344	LOGANALYZER LINE FILE
CANDE	26.0027	18846	D0929	PRIMARY QUEUE ATTRIBUTES
CANDE	26.0028	18845	D0930	RECORD FORMATS
CANDE	26.0029	18843	D0931	WRITE-COMMAND IMPROVEMENTS
CANDE	26.0030	18840	D0932	PAGED OUTPUT
CANDE	26.0031	18842	D0933	LIST ALTERATIONS
CANDE	26.0032	18841	P4389	OUTPUT MESSAGES
CANDE	26.0033	18839	D0957	?WHERE COMMAND
CANDE	26.0033	18839	D0956	?TO AND ?SS COMMANDS
CANDE	26.0034	18838	D0934	?COUNTS COMMANDS
CANDE	26.0035	18837	P4390	COPYRIGHT NOTICE
CANDE	26.0036	18836	D0935	COMPILE FOR SYNTAX
CANDE	26.0037	18835	D0936	CANDE AND SYSTEM ID
CANDE	26.0038	18834	D0937	TANKFILE, USERCODES
CANDE	26.0039	18279	D0893	FILE ACCESS
CANDE	26.0040	18278	P4395	LOG ELAPSED TIME
CANDE	26.0041	18277	D0925	FILE COMMAND INTERNAL
CANDE	26.0042	18276	P4462	AUTORECOVERY
CANDE	26.0043	18275	P4463	"NEXT" VALUE
CANDE	26.0044	18271	P5122	PROBLEMS WITH "END"
CANDE	26.0045	18269	D1093	"OOPS" MESSAGES IN SEQ MODE
CANDE	26.0046	18268	D1094	LOGIN FAILURE
CANDE	26.0047	18267	P3396	"TITLE OBJECT" PARSING
CANDE	26.0048	18266	D1095	FORCE INTO SUBSPACE
CANDE	26.0049	18265	D1096	PRINT-, PUNCH- AND STACKLIMIT
CANDE	26.0050	18264	P3432	AUTORECOVERY: ALTERED STATUS
CANDE	26.0051	18263	D1097	SAVE RECOVERY
CARDLINE	26.0001	17172	D0835	BINARY AND JOB DECK LISTING
CCTABLEGEN	26.0001	14144	D0736	STACK EXTENSION
CCTABLEGEN	26.0002	14161	D0739	SERIALNO IN WFL
CCTABLEGEN	26.0003	14669	P3540	B7700 SYMBOL MERGE
CCTABLEGEN	26.0004	15767	D1050	INSTRUCTION BLOCK AND FETCH
CCTABLEGEN	26.0005	15716	P3865	FETCH AND RESOURCE
CCTABLEGEN	26.0006	16005	P4121	UPDATE WFL TABLES
CCTABLEGEN	26.0007	16205	P3723	CCTABLEGEN EXPANSION
CCTABLEGEN	26.0008	16233	D0803	NEW WFL STATEMENTS
CCTABLEGEN	26.0009	17048	D1088	DO AND WHILE STATEMENTS
CCTABLEGEN	26.0011	19997	D1035	VARIATIONS ON TASK HISTORY
CCTABLEGEN	26.0012	17681	P5100	COPYRIGHT II.7
COBOL	26.0001	18296	P3348	MISCELLANEOUS FIX
COBOL	26.0002	14407	P3467	COMPILER NEWTAPE FILE
COBOL	26.0003	18293	P3393	EFFICIENCY FIX
COBOL	26.0004	18294	P3393	EFFICIENCY FIX
COBOL	26.0008	18295	P4888	NUMERIC DATA ITEMS
COBOL	26.0010	19639	P4356	FLOATING-POINT DATA ITEMS
COBOL	26.0013	15971	P3648	REDEFINES CLAUSE

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
COBOL	26.0014	15972	P3649	ARITHMETIC OPERANDS
COBOL	26.0015	17059	P4176	ELEMENTARY NUMERIC 01 LEVEL
COBOL	26.0016	11695	P3650	MOVE CORRESPONDING
COBOL	26.0017	15970	P3651	DUMP STATEMENT
COBOL	26.0018	15968	P3652	COPY REPLACING
COBOL	26.0019	14404	P3653	FILE-LIMITS
COBOL	26.0020	15964	P3654	SAME RECORD AREA FOR SORT FILE
COBOL	26.0021	18298	P4955	REPORT WRITER
COBOL	26.0022	15969	D0769	SORT ON DISK-PACK
COBOL	26.0023	16453	P4646	SECTION AND PARAGRAPH NAMES
COBOL	26.0024	15967	P3655	LEVEL NUMBERS
COBOL	26.0025	15966	D0770	COMP-1 ARRAYS
COBOL	26.0026	15965	P3656	MOVES TO EDITED ITEM
COBOL	26.0027	15963	P3657	COPY
COBOL	26.0028	15962	D0771	NUMERIC CLASS TEST
COBOL	26.0029	16596	P3801	INTERRUPTS
COBOL	26.0030	18297	P4958	INTERNAL COMPILER CHANGE
COBOL	26.0031	15961	P3658	MOVE STATEMENTS
COBOL	26.0032	15954	P3923	ATTRIBUTES
COBOL	26.0032	15954	P3923	ATTRIBUTES
COBOL	26.0033	15945	P3659	COMP-1 "STACK" ARRAYS
COBOL	26.0034	15960	D0772	DISPLAY AND ACCEPT STATEMENTS
COBOL	26.0035	15959	D0773	MEMORY AND DISK SIZE FOR SORT
COBOL	26.0036	15958	D0836	EVENTS
COBOL	26.0037	15957	P3724	WRITE STATEMENTS
COBOL	26.0038	15956	P3924	PICTURE CHARACTER STRINGS
COBOL	26.0039	15946	P3725	"MONITOR ALL"
COBOL	26.0040	15955	P3925	COPY
COBOL	26.0041	15947	P3927	ERRONEOUS SYNTAX ERROR
COBOL	26.0043	15948	P3929	INV OP ON SYNTAX ERROR
COBOL	26.0044	15949	P3926	GLOBAL ARRAYS
COBOL	26.0045	15950	P3930	DISPLAY OF NON-NUMERIC LITERAL
COBOL	26.0046	15951	D0837	SORT SYNTAX
COBOL	26.0047	15952	P3931	CONDITION NAMES
COBOL	26.0048	15953	P3932	CONDITION NAMES
COBOL	26.0049	16366	P3933	COMMON NAMES IN VRBLE FORMAT
COBOL	26.0054	16369	D0841	RERUN
COBOL	26.0055	16301	P3935	STATISTICS
COBOL	26.0057	16302	D0842	REDEFINES
COBOL	26.0058	16303	P3936	ERROR RECOVERY
COBOL	26.0059	16304	P3937	BLOCK CONTAINS CLAUSE
COBOL	26.0060	16370	P3802	REDEFINES
COBOL	26.0061	16305	P3938	COMPILER ERROR RECOVERY
COBOL	26.0062	16371	P3803	RELATION CONDITIONS
COBOL	26.0063	16307	P3939	LINKAGE SECTION
COBOL	26.0064	16306	D0843	READ AND WRITE STATEMENTS
COBOL	26.0065	18531	D1099	COBOL-OPTIMIZATION
COBOL	26.0068	16308	P3804	MOVE CORRESPONDING
COBOL	26.0069	16374	P3940	COMP-2 ITEMS WITHIN DISPLAY
COBOL	26.0070	16373	D0844	MOVING NON-NUMERIC LITERALS
COBOL	26.0071	17889	P3805	KEY STATEMENTS
COBOL	26.0072	16372	P3941	DISPLAY
COBOL	26.0074	16599	P3806	"COMP-1" SAVEARRAYS
COBOL	26.0075	16598	D0809	ACCESS MODE CLAUSE
COBOL	26.0076	16597	P3807	MOVE TRUNCATION WARNINGS
COBOL	26.0077	16595	D0845	CALL SYSTEM WITH STATEMENTS
COBOL	26.0078	16594	D0888	ASCII DATA ITEMS
COBOL	26.0079	16548	D0807	AUDIT AT END TRANSACTION
COBOL	26.0080	17058	P4177	MOVE STATEMENTS:
COBOL	26.0081	16591	P3943	NON-EXECUTABBLE STATEMENTS
COBOL	26.0082	16593	D0889	ATTRIBUTES
COBOL	26.0083	16592	P3944	COMPILER WAITING WITH NO FILE
COBOL	26.0085	16589	P3946	SEGMENTATION OF WRAP-UP LOOP
COBOL	26.0086	17067	P3947	LOCAL-STORAGE ENTRIES
COBOL	26.0093	17065	D0890	$ ANALYZE
COBOL	26.0095	17066	P4178	SORT CAUSES INV. INDEX
COBOL	26.0096	17054	P4179	MOVING NON-NUMERIC LITERALS
COBOL	26.0097	17064	D0949	FLOATING-POINT LITERALS
COBOL	26.0098	18938	D0733	RELATION CONDITIONS

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
COBOL	26.0099	17053	P4180	INV INDEX IN SORT
COBOL	26.0102	18921	D0874	REMAINDER OPTION OF DIVIDE
COBOL	26.0103	17063	P4183	COMPUTE STATEMENTS
COBOL	26.0104	17062	P4184	IPC PARAMETER MISMATCH
COBOL	26.0105	17060	P4185	TWO DIMENSIONAL ARRAYS
COBOL	26.0106	17061	P4186	BLANK WHEN ZERO
COBOL	26.0107	17056	P4187	MOVING NUMERIC LITERALS
COBOL	26.0108	17057	P4188	"J" SIGNED DISPLAY ITEMS
COBOL	26.0110	19295	P4647	PARTITION QUALIFICATION
COBOL	26.0112	19294	P4648	PACK EQUATE
COBOL	26.0113	18942	P4649	OBJECT-COMPUTER PARAGRAPH
COBOL	26.0114	19638	P4392	DIVIDE STATEMENTS
COBOL	26.0115	19644	P4251	REPORT WRITER
COBOL	26.0116	18936	P4650	SIGNED NUMERIC CHARACTER DATA
COBOL	26.0117	19631	P4393	COMPILER FILE CARD
COBOL	26.0118	19643	D0891	CLASS CONDITIONS
COBOL	26.0119	19642	P4394	DECIMAL-POINT IS COMMA
COBOL	26.0120	19641	P3393	EFFICIENCY FIX
COBOL	26.0121	19640	P3348	MISCELLANEOUS FIX
COBOL	26.0122	16450	P4651	INDEX DATA NAMES
COBOL	26.0123	19636	P4396	STATISTICS WITH BINDING
COBOL	26.0124	19629	P4397	STATISTICS WITH PERFORM
COBOL	26.0125	19226	D0855	TASK ATTRIBUTE FAMILY
COBOL	26.0126	19635	P4398	INVALID INDEX IN RENAMES
COBOL	26.0127	19634	P4399	UNLABELLED FILES
COBOL	26.0128	18829	P4652	REPORT WRITER SOURCE CLAUSE
COBOL	26.0129	19632	D0938	SOURCE INPUT
COBOL	26.0130	19633	D0978	SAVE DOLLAR OPTION
COBOL	26.0131	19228	P4401	ERROR RECOVERY
COBOL	26.0132	18828	P4653	QUALIFICATION
COBOL	26.0133	19227	P4402	LARGE PROGRAM SEGMENTS
COBOL	26.0134	19232	P4403	FORWARD LABEL
COBOL	26.0135	19230	P4404	BOOLEAN EXPRESSION SYNTAX
COBOL	26.0136	19229	P4405	EDITED NUMERIC INITIAL VALUE
COBOL	26.0137	18831	P4654	INVALID SYNTAX ERROR ON SEARCH
COBOL	26.0138	18832	P4655	OCCASIONAL MISSING RETURN CODE
COBOL	26.0139	16452	D0985	COBOL COMPATIBILITY
COBOL	26.0140	18963	P4978	LABEL PROCEDURES
COBOL	26.0141	18290	P4980	CLOSE STATEMENT
COBOL	26.0142	18964	P4983	REPORT WRITER
COBOL	26.0143	16456	P4656	REPORT WRITER
COBOL	26.0144	16463	P4657	GROUP COMP MOVE STACK BUILD-UP
COBOL	26.0145	16462	P4658	CORRECTED J SIGN
COBOL	26.0146	16451	P4659	REPORT WRITER CONTROL LEVELS
COBOL	26.0147	16449	P4660	PICTURE SYNTAX CHECKING
COBOL	26.0148	18830	P4661	SERIALNO TO BCL ITEM
COBOL	26.0149	16461	P4662	GROUP INDICATE
COBOL	26.0150	16460	P4663	MOVING ALL LITERAL
COBOL	26.0151	16459	P4664	FLOATING EDITING PICTURES
COBOL	26.0152	16458	P4665	ALPHA MOVES WITH TRANSLATION
COBOL	26.0153	16457	P4666	2-DIM EDITED ALPHA MOVE
COBOL	26.0154	16455	D0986	REPORT WRITER:
COBOL	26.0155	16454	P4667	INSTALLATION INTRINSICS
COBOL	26.0156	18940	P4668	ERROR FOR ILLEGAL COMPARES
COBOL	26.0157	18939	P4669	TRUNCATION OF NUMERIC LITERALS
COBOL	26.0158	18941	D1065	REPORT WRITER PAGE CLAUSE
COBOL	26.0159	18943	P4670	BCL SORT KEYS
COBOL	26.0160	18947	P4671	SUBSCRIPTS
COBOL	26.0161	18945	P4795	NEXT GROUP NEXT PAGE FOR RH
COBOL	26.0162	18946	P4672	INSTALLATION INTRINSICS
COBOL	26.0163	18965	P4880	REPORT WRITER ABSOLUTE LINE
COBOL	26.0164	18950	P4881	NO WARNING MESSAGES ON ERRLIST
COBOL	26.0165	18949	P4882	STACK DOLLAR OPTION
COBOL	26.0166	18948	P4673	FILLER ITEMS
COBOL	26.0167	18961	P4984	SIZE ERROR CONDITIONS
COBOL	26.0168	18951	P4883	MOVING PAGE-COUNTER
COBOL	26.0169	18960	P4895	VARIABLE LENGTH ITEMS
COBOL	26.0170	18952	P4884	LISTING
COBOL	26.0171	18959	P4142	FILE RECORD SIZE

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
COBOL	26.0172	18958	P5000	FILE DESCRIPTION ENTRIES
COBOL	26.0173	18953	P4885	PICTURE 99PPP+
COBOL	26.0174	18955	P5001	COPYRIGHT II.7
COBOL	26.0175	18956	P5002	LABEL RECORDS
COBOL	26.0176	18957	P5003	REPORT WRITER
COBOL	26.0177	18561	D1100	RELATION CONDITIONS
COMPARE	26.0001	17854	D0810	SYSTEM COMPARE IMPROVEMENTS
COMPARE	26.0002	16541	P3948	VARIABLE MAXRECORDSIZE
CONTROLLER	26.0001	14250	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
CONTROLLER	26.0002	14702	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
CONTROLLER	26.0003	14207	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
CONTROLLER	26.0004	14654	P3341	JOBSYNC
CONTROLLER	26.0005	14628	P3342	OT OUTSIDE STACK RANGE
CONTROLLER	26.0006	14620	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
CONTROLLER	26.0007	15623	P3539	PACK SYSRES STATUS
CONTROLLER	26.0008	15552	D0744	CONTROLLER MESSAGE CHANGES
CONTROLLER	26.0009	15565	D0744	CONTROLLER MESSAGE CHANGES
CONTROLLER	26.0010	14669	P3540	B7700 SYMBOL MERGE
CONTROLLER	26.0011	15563	D0744	CONTROLLER MESSAGE CHANGES
CONTROLLER	26.0013	15721	D0738	FILE ATTRIBUTE REVISIONS
CONTROLLER	26.0014	15998	D0744	CONTROLLER MESSAGE CHANGES
CONTROLLER	26.0015	16105	D1050	INSTRUCTION BLOCK AND FETCH
CONTROLLER	26.0016	16081	P3348	MISCELLANEOUS FIX
CONTROLLER	26.0017	16189	D1050	INSTRUCTION BLOCK AND FETCH
CONTROLLER	26.0018	16185	D1050	INSTRUCTION BLOCK AND FETCH
CONTROLLER	26.0019	16184	D0857	DIRECTORY LISTING CONTINUATION
CONTROLLER	26.0020	16051	P4000	REMOTESPO FILE OPEN
CONTROLLER	26.0021	16206	P4001	FIX DS A MIX PROBLEM
CONTROLLER	26.0022	16236	D0804	XD ON IV REQUEST
CONTROLLER	26.0023	16222	D0744	CONTROLLER MESSAGE CHANGES
CONTROLLER	26.0024	16251	P4002	REMOVE "REMOTEONLY" OPTION
CONTROLLER	26.0025	16252	P4003	RJE "NEXT" PROBLEM
CONTROLLER	26.0026	16256	D0865	SUBSPACES QUEUE ATTRIBUTE
CONTROLLER	26.0027	17866	P4055	ORIGIN UNIT > MAXUNIT
CONTROLLER	26.0028	17929	P4004	DUPLICATE SEQUENCE NUMBER
CONTROLLER	26.0029	17939	D0812	NOSUMMARY SYSTEM OPTION
CONTROLLER	26.0030	17949	P4005	CONTROLLER HEADER CONFLICT
CONTROLLER	26.0031	17947	D0812	NOSUMMARY OPTION
CONTROLLER	26.0032	17948	P4003	RJE "NEXT" PROBLEM
CONTROLLER	26.0033	16410	D0866	SS MESSAGE SYNTAX
CONTROLLER	26.0034	16041	P4080	PER DK - SHOWS FAMILYINDEX
CONTROLLER	26.0035	17972	D0846	CONTROLLER INITIALIZATION
CONTROLLER	26.0036	17975	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
CONTROLLER	26.0037	17980	D0846	CONTROLLER INITIALIZATION
CONTROLLER	26.0038	17985	D1007	STOP MESSAGES
CONTROLLER	26.0039	20003	D1009	MULTIPLE SPO REQUESTS
CONTROLLER	26.0040	17987	D0846	CONTROLLER INITIALIZATION
CONTROLLER	26.0041	17032	P4096	RESOURCE MANAGEMENT
CONTROLLER	26.0042	16969	D1059	DISK MANAGEMENT REDESIGN
CONTROLLER	26.0043	16970	P4886	II.7 COMPATABILITY
CONTROLLER	26.0044	16943	D0892	MCS-WFM INTERFACE
CONTROLLER	26.0045	19581	P4253	REMOVE JOBDESC.
CONTROLLER	26.0046	19576	P4254	HEADER ROW ADDRESS
CONTROLLER	26.0048	19547	D1059	DISK MANAGEMENT REDESIGN
CONTROLLER	26.0050	19536	P3348	MISCELLANEOUS FIXES
CONTROLLER	26.0051	19536	P3348	MISCELLANEOUS FIXES
CONTROLLER	26.0052	19536	P3348	MISCELLANEOUS FIXES
CONTROLLER	26.0053	18010	P4406	CONTROLLER FIXES
CONTROLLER	26.0054	19094	D1059	DISK MANAGEMENT REDESIGN
CONTROLLER	26.0055	19121	P4407	USERCODE ATTACHED TO TERMINAL
CONTROLLER	26.0056	19124	D1059	DISK MANAGEMENT REDESIGN
CONTROLLER	26.0057	19125	P4409	PD AND USERCODE
CONTROLLER	26.0058	19128	P4410	DIR INPUT FOR PACKS
CONTROLLER	26.0060	19154	D0989	DATE IN GEORGIAN FORM
CONTROLLER	26.0061	19257	P4875	PU MESSAGE
CONTROLLER	26.0062	19159	P4877	"NOSUMMARY" ON ABNORMAL TERM
CONTROLLER	26.0064	19290	D0992	DD AND AD
CONTROLLER	26.0065	19303	D1036	DCALGOL BINDING ENHANCEMENT
CONTROLLER	26.0066	19422	P4873	HARDCOPY-CONTROLLER INTERFACE

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
CONTROLLER	26.0067	19383	P4674	CONVERSION TO II.7
CONTROLLER	26.0068	19306	D0987	TD800 AUTOMATIC LOCAL
CONTROLLER	26.0069	19426	D1072	NEW PD FORMAT
CONTROLLER	26.0070	19424	D1101	MATCH JOB & QUEUE FAMILY
CONTROLLER	26.0071	19425	P4677	MISC CONTROLLER FIXES
CONTROLLER	26.0072	19389	D0988	FILE ATTRIBUTES - FILEKIND
CONTROLLER	26.0073	19164	P4678	PD FIXES
CONTROLLER	26.0074	19447	P4679	MISC CONTROLLER CHANGES
CONTROLLER	26.0075	19452	P4680	REMOTE SPO FIX
CONTROLLER	26.0076	19458	P4681	UQ SETSTATUS
CONTROLLER	26.0077	19468	P4682	INVALID INDEX COMPUTING DATE
CONTROLLER	26.0078	20012	D1037	SYNTAX OF CM MESSAGE
CONTROLLER	26.0079	17986	D1009	MULTIPLE SPO REQUESTS
CONTROLLER	26.0080	19995	P4683	FILE KIND ON PD
CONTROLLER	26.0081	17408	P4684	DEFAULT QUEUE
CONTROLLER	26.0082	19993	D1037	SYNTAX OF CM MESSAGE
CONTROLLER	26.0083	19992	P4685	DIS # SEGS IN "BADDISK" FILE
CONTROLLER	26.0084	19983	D1009	MULTIPLE SPO REQUESTS
CONTROLLER	26.0085	17317	D1059	DISK MANAGEMENT REDESIGN
CONTROLLER	26.0086	19167	D1102	CATALOG LEVEL
CONTROLLER	26.0087	16112	P4678	PD FIXES
CONTROLLER	26.0088	17526	D1059	DISK MANAGEMENT REDESIGN
CONTROLLER	26.0090	17529	D1072	NEW PD FORMAT
CONTROLLER	26.0091	17797	D1059	DIRECTORY MANAGEMENT REDESIGN
CONTROLLER	26.0093	17681	P5100	COPYRIGHT II.7
CONTROLLER	26.0094	17734	D1059	DIRECTORY MANAGEMENT REDESIGN
CONTROLLER	26.0095	17765	D1072	NEW PD FORMAT
CONTROLLER	26.0096	17721	D1059	DIRECTORY MANAGEMENT REDESIGN
CONTROLLER	26.0097	17707	D1059	DIRECTORY MANAGEMENT REDESIGN
CONTROLLER	26.0098	17700	P5098	CONRAC SPO COMPATABILITY
CONTROLLER	26.0099	17579	P5097	CONRAC COMPATABILITY
CONTROLLER	26.0100	14591	D1072	NEW PD FORMAT
CONTROLLER	26.0101	18455	D0781	TRAIN ID DISPLAY
CONTROLLER	26.0102	18494	D1009	MULTIPLE SPO REQUESTS
CONTROLLER	26.0103	18438	D1092	CATALOGING OPTION
COPYAUD-II	26.0001	15647	P3346	ERROR HANDLING AND MESSAGES
COPYAUD-II	26.0002	16144	P3346	ERROR HANDLING AND MESSAGES
COPYAUD-II	26.0003	17137	D0941	COPY OPTIONS
COPYAUD-II	26.0004	19238	P4420	DATABASE PROPERTIES
COPYAUD-II	26.0005	19237	D0941	COPY OPTIONS
COPYAUD-II	26.0006	19301	P4135	DMSII COPY AUDIT
COPYAUD-II	26.0007	19133	P4815	EXTRA BLOCKS
COUNTANALY	26.0001	17677	P4731	COPYRIGHT II.7
DASDL	26.0001	15602	P3434	FIND NEXT DATA SET
DASDL	26.0002	15601	P3438	POPULATION DATA ITEM
DASDL	26.0003	15600	P3440	% IN COLUMN 72
DASDL	26.0004	15599	P3441	LARGE STRINGS CAUSE SEG ARRAY
DASDL	26.0005	15598	D0768	ADD DATA IN KEY TO EXPRESSION
DASDL	26.0006	15597	P3442	HANDLING OF DECIMALS
DASDL	26.0007	15596	P3443	INTEGER OVERFLOW IN DASDL
DASDL	26.0008	15595	P3444	DASDL HUNG IN ERROR CONDITION
DASDL	26.0009	15594	P3445	INVALID INDEX IN DASDL
DASDL	26.0010	15593	P3454	VF BUFFER TOO SMALL
DASDL	26.0011	15585	P3455	CYCLE ADDED TO HEADING
DASDL	26.0012	15584	P3515	ALLOW FIXED ITEM FOR DEPENDING
DASDL	26.0013	15583	P3516	EXTRACT KEY PROBLEM
DASDL	26.0014	15582	P3517	BAD NULL TEST ON SIGNED FIELDS
DASDL	26.0015	15581	D0754	RANDOM AND DIRECT ACCESS
DASDL	26.0016	15818	P3557	FINDS WRONG DUPLICATE NAME
DASDL	26.0017	15819	P3558	DASDL LOSING ENTRIES
DASDL	26.0018	15817	D0799	PATCH DATA BASE
DASDL	26.0019	15826	D0798	PARTITIONED STRUCTURES
DASDL	26.0020	15825	D0800	EXPRESSIONS IN CONDITIONS
DASDL	26.0021	15814	P3732	BOOLEAN IN FIELD PROBLEM
DASDL	26.0022	15813	P3733	PARENTHESES COUNTER
DASDL	26.0023	15816	P3734	INCREASE FIELD SIZE
DASDL	26.0024	15815	P3735	DUPLICATE NAME BIT
DASDL	26.0025	15812	P3736	INCREASE TEXT ARRAY SIZE
DASDL	26.0026	15811	P3737	ADD OFFSET PRINTING FOR SETKEY

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
DASDL	26.0027	15810	P3738	CHANGE CODE FOR RESTART
DASDL	26.0028	16359	D0806	ALLOW 23 DIGIT NUMBERS
DASDL	26.0029	16321	D0800	EXPRESSIONS IN CONDITIONS
DASDL	26.0030	16358	P3739	TOO LARGE POPULATION
DASDL	26.0031	17887	P3740	LINK VERIFY SIZE
DASDL	26.0032	16272	P3826	ARRAYS TOO SMALL
DASDL	26.0033	16275	P3827	DUPLICATE SEQUENCE
DASDL	26.0034	16576	D0754	RANDOM AND DIRECT ACCESS
DASDL	26.0035	15751	D0811	MAKE PACKNAME USE CONSISTENT
DASDL	26.0036	16558	D0798	PARTITIONED STRUCTURES
DASDL	26.0037	17958	P3830	BLOCKSIZE PRINTOUT
DASDL	26.0038	16920	P3831	CORRECT CONDITIONAL STATEMENTS
DASDL	26.0039	16921	P3562	RESTART DATASET REQUIRES AUDIT
DASDL	26.0040	16906	P4101	INCREASE NUMBER OF STRUCTURES
DASDL	26.0041	16905	P3951	STRIP QUOTES
DASDL	26.0042	16901	P3952	CORRECT RESTART CODE
DASDL	26.0043	17141	P4136	VALID RECORD TEXT CODE
DASDL	26.0044	17136	D0856	DEFAULT AUDIT TRAIL ATTRIBUTE
DASDL	26.0045	17135	P4155	GLOBAL ATTRIBUTES
DASDL	26.0046	17134	P4156	AUDIT BLOCKSIZE MINIMUM
DASDL	26.0047	17133	D0859	DATA CHECK OPTIONS
DASDL	26.0048	17132	P3348	MISCELLANEOUS FIX
DASDL	26.0049	17131	D0861	AUDIT TAPE SYNTAX
DASDL	26.0050	17231	P4214	CARD SPLIT ACROSS NUMBER
DASDL	26.0051	17281	P4206	INCLUDED FILES LABEL-EQUATABLE
DASDL	26.0052	19562	P4262	LOSING FILE ATTRIBUTES
DASDL	26.0053	19591	P4263	IMPROVE QUALIFICATION CHECK
DASDL	26.0054	19590	P4264	BIT VECTOR FILE SIZE
DASDL	26.0055	19589	P4265	AREA SIZE MIS-COMPUTED
DASDL	26.0056	19588	P4266	ASCENDING,DESCENDING CHANGE
DASDL	26.0057	19587	P4267	CORRECT SEQ DOLLAR OPTION
DASDL	26.0058	19594	D0799	PATCH DATABASE
DASDL	26.0059	18018	P4416	LENGTHEN TEST-LINE
DASDL	26.0060	18016	P4417	$ VOIDT
DASDL	26.0061	19120	P4418	INDENTATION
DASDL	26.0062	19253	P4419	CANDE OPTIONS FOR DASDL
DASDL	26.0063	19364	D0798	PARTITIONED STRUCTURES
DASDL	26.0064	19363	P3952	CORRECT RESTART CODE
DASDL	26.0065	19362	D0754	ACCESS STRUCTURES IN DASDL
DASDL	26.0066	19105	P4206	INCL FILES LABEL - EQUATABLE
DASDL	26.0067	19366	P3382	DUP CONFLICT CHECKING
DASDL	26.0068	19367	D0754	RANDOM DIRECT ACCESS
DASDL	26.0069	19368	P4263	IMPROVE QUALIFICATION CHECK
DASDL	26.0070	19369	D0799	FILLER
DASDL	26.0071	19370	P4896	PACKNAME IN DBNAME
DASDL	26.0072	19372	P4897	NULL VALUES FOR ALPHA ITEMS
DASDL	26.0073	19373	P4898	BOOLEAN INITIAL VALUE
DASDL	26.0074	19374	D0799	PATCH DATA BASE
DASDL	26.0075	19375	P4900	SMALL TABLE SIZES
DASDL	26.0076	19376	D0754	ACCESS STRUCTURES IN DASDL
DASDL	26.0077	19377	P4901	NEW RESERVED WORDS
DASDL	26.0078	19378	D0783	ALLOCATE OPTION
DASDL	26.0079	19379	D0754	RANDON AND DIRECT ACCESS
DASDL	26.0080	19380	P5013	0 BUFFERS
DASDL	26.0081	17581	P3348	MISCELLANEOUS FIX
DASDL	26.0082	17582	D0754	RANDOM AND DIRECT ACCESS
DASDL	26.0083	17583	D0798	PARTITIONED STRUCTURES
DASDL	26.0084	18439	D0754	RANDOM DIRECT ACCESS
DASDL	26.0085	18440	D0799	PATCH DATA BASE
DASDL	26.0086	18441	P3871	MOVE SOME PROPERTIES
DASDL	26.0087	18401	P3993	SYNTAX ERROR
DASDL	26.0088	18387	D0799	PATCH DATA BASE
DATACOM		18833	D0902	DCWRITE FUNCTIONS
DATACOM	26.0031	14773	D0729	ADD JOB NBR TO FILE OPEN MSG
DATACOM	26.0032	14774	D0730	UPDATE LASTSTATION
DATACOM	26.0033	14775	P3344	PROGRAMDUMP IMPROVEMENT
DATACOM	26.0141	15503	P3494	SET LINE TOGGLE DCWRITE
DATACOM	26.0142	15505	P3495	DELETE DCCOMMUNICATE
DATACOM	26.0144	14396	P3496	IMPROVE LOCKING CODE

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
DATACOM	26.0145	14397	D0745	DCP NOT READY MESSAGE
DATACOM	26.0147	15666	P3497	DELETE DCMSGFLUSHER
DATACOM	26.0155	15670	D0746	FULL DUPLEX LINE SWAP
DATACOM	26.0156	15669	P3496	IMPROVE LOCKING CODE
DATACOM	26.0177	15672	P3496	IMPROVE LOCKING CODE
DATACOM	26.0178	15671	P3496	IMPROVE LOCKING CODE
DATACOM	26.0179	15673	P3571	PROPER CLUSTER EXCHANGE INFO
DATACOM	26.0203	15675	P3594	QUEUE DISK TANKING ERRORS
DATACOM	26.0238	16103	P3702	MAKE STNLIST A REAL ARRAY
DATACOM	26.0239	14712	P3726	CORRECT MSG SIZE
DATACOM	26.0242	16102	D0749	NEW FILE ATTRIBUTES
DATACOM	26.0243	15677	P3703	BAD REMOTE FILE OPEN
DATACOM	26.0244	15676	P3704	INSERT USING SEG ARRAY
DATACOM	26.0262	15821	P3496	IMPROVE LOCKING CODE
DATACOM	26.0263	15820	P3496	IMPROVE LOCKING CODE
DATACOM	26.0264	16072	D0780	ADD JOB NBR TO FILE CLOSE MSGS
DATACOM	26.0265	15678	P3705	DISK TANKING COMPATIBILITY
DATACOM	26.0290	15822	P3496	IMPROVE LOCKING CODE
DATACOM	26.0316	15823	D0870	ON-LINE DCP TESTING
DATACOM	26.0318	15824	P4016	CHANGE ADAPTER TYPE
DATACOM	26.0340	16405	P4017	HOLD ON EVENT ARRAY ELEMENT
DATACOM	26.0342	16403	P3496	IMPROVE LOCKING CODE
DATACOM	26.0343	16404	P4018	DATACOM FILE PREFIX LENGTH
DATACOM	26.0344	16402	D0871	ALLOW 255 STATIONS PER LINE
DATACOM	26.0346	16406	D0870	ON-LINE DCP TESTING
DATACOM	26.0356	16407	D0876	INVALID DLS TO DCWRITE
DATACOM	26.0379	16408	P4019	DCRECON INVALID INDEX
DATACOM	26.0390	16409	P3496	IMPROVE LOCKING CODE
DATACOM	26.0391	16411	P3496	IMPROVE LOCKING CODE
DATACOM	26.0411	16412	P3496	IMPROVE LOCKING CODE
DATACOM	26.0412	16413	D0870	ON-LINE DCP TESTING
DATACOM	26.0434	16415	D0877	CLUSTER EXCHANGE DCP
DATACOM	26.0435	16414	P3496	IMPROVE LOCKING CODE
DATACOM	26.0442	16417	P4020	MCP COMPATIBILITY
DATACOM	26.0444	16416	D0878	ADD STATION TO FILE DCWRITE
DATACOM	26.0454	16418	P4021	RECONFIGURATION RESULT MESSAGE
DATACOM	26.0455	16419	D0879	STATION WITH NO LINE ASSIGNED
DATACOM	26.0490	17015	P3496	IMPROVE LOCKING CODE
DATACOM	26.0492	17016	P4313	EOF ON DETACHING DATACOM QUEUE
DATACOM	26.0495	17026	P4316	STATION-ASSIGNMENT-TO-FILE
DATACOM	26.0506	16947	D0904	SETUPINTERCOM QUEUE HANDLING
DATACOM	26.0514	16954	P4326	DIRECT REMOTE FILE
DATACOM	26.0515	16979	P3496	IMPROVE LOCKING CODE
DATACOM	26.0517	16421	P3496	IMPROVE LOCKING CODE
DATACOM	26.0520	17258	P4328	SET-APPLICATION-NUMBER DCWRITE
DATACOM	26.0522	19661	D0907	INITIALIZE DATACOM PREFIX
DATACOM	26.0525	19662	P3496	IMPROVE LOCKING CODE
DATACOM	26.0526	19664	P4107	HOLD ON EVENT ARRAY ELEMENT
DATACOM	26.0527	19663	P4330	QUEUE ACTIVATION
DATACOM	26.0538	16420	D0912	CLEAR REMOTE FILES
DATACOM	26.0545	17260	P4335	RUNNING MCS FROM PACK
DATACOM	26.0553	19665	P3496	IMPROVE LOCKING CODE
DATACOM	26.0560	17801	P3496	IMPROVE LOCKING CODE
DATACOM	26.0565	17802	D0940	SWAP DIALOUT LINES
DATACOM	26.0593	17803	P3705	DISK TANKING COMPATIBILITY
DATACOM	26.0594	17804	P4686	DCALGOL QUEUE STACK
DATACOM	26.0638	17805	P4687	INVALID DCP MESSAGE LINKS
DATACOM	26.0642	17807	D0870	ON-LINE DCP TESTING
DATACOM	26.0655	17806	P3496	LOCKING CODE
DATACOM	26.0669	17808	D0877	CLUSTER EXCHANGE
DATACOM	26.0687	17809	P4688	MOVE STATION ERROR
DATACOM	26.0698	17813	P3496	LOCKING CODE
DATACOM	26.0699	17810	D0871	255 STATIONS PER LINE
DATACOM	26.0700	17811	P3496	LOCKING CODE
DATACOM	26.0715	17815	D1038	CONSOLE MESSAGE CHANGES
DATACOM	26.0723	17816	P3496	LOCKING CODE
DATACOM	26.0731	17814	D0912	CLEAR REMOTE FILES
DATACOM	26.0751	17819	P3496	LOCKING CODE
DATACOM	26.0752	17817	P4689	DCC INVALID INDEX

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
DATACOM	26.0912	17820	P4730	MCS LOGGER
DATACOM	26.1102	17822	D0912	*CLEAR REMOTE FILES
DATACOM	26.1109	17826	P3496	DCP NOT READY MESSAGE
DCALGOL	26.0015	15706	P3660	DISKHEADER ARRAYS
DCALGOL	26.0076	16130	P3809	ALLOCATE STATEMENT PARAMETER
DCALGOL	26.0132	19658	P4889	REMOVE FILESENTRY
DCALGOLINT	26.0001	14395	D0742	DCERRANALYSIS IMPROVEMENTS
DCALGOLINT	26.0002	17896	P3808	BATCH COMPILER
DCALGOLINT	26.0003	16152	P3816	II.7 COPYRIGHT
DCPPROGEN	26.0001	14131	D0750	THRESHOLD SYSTEM DCP
DCPPROGEN	26.0002	14130	P3547	STRING CONSTANTS
DCPPROGEN	26.0003	14129	P3505	ADAPTOR WRITE DCWRITE
DCPPROGEN	26.0004	15504	P3506	CLEAR CLUSTERS
DCPPROGEN	26.0005	15668	P3507	FULL DUPLEX LINE SWAP
DCPPROGEN	26.0006	17271	P4158	CHANGE TRAILER MESSAGE
DCPPROGEN	26.0007	17270	D0951	STATUS ERROR LOGGING
DCPPROGEN	26.0008	17269	P4258	STATUS ERRORS
DCPPROGEN	26.0009	17268	P4259	DISCONNECT DURING DELAY
DCPPROGEN	26.0010	18902	P4324	TOGGLES IN FULL DUPLEX
DCPPROGEN	26.0011	17818	P4690	LINE ABORT ON MULT-DROP LINES
DCSTATUS	26.0001	14394	P3345	ERRONEOUS LINE TALLY INFO
DCSTATUS	26.0002	15680	P3504	COLINE INFORMATION
DCSTATUS	26.0003	16977	D0950	DCSTATUS GRAPH
DCSTATUS	26.0004	17263	P4412	DCSTATUS WITH DCFILES
DDL	26.0001	15941	P3498	"%" IN COLUMN 72
DIAGNOSTMCS	26.0001	16009	D0923	ATTACH STATION BY LSN
DIAGNOSTMCS	26.0002	16010	P3592	CORRECT STATION NAME
DIAGNOSTMCS	26.0003	17259	D0922	CLUSTER ALL ORDERS TEST
DIAGNOSTMCS	26.0004	20013	P3393	MISCELLANEOUS FIX
DIAGNOSTMCS	26.0005	17295	D1074	THE SET COMMAND
DIAGNOSTMCS	26.0006	18954	P3595	CLUSTER ALL ORDERS UPDATE
DMALGOL	26.0007	15603	P3469	MULTIPLE SIBS PER DBS
DMALGOL	26.0014	15980	P3663	COMPILE-TIME DISPLAY STATEMENT
DMALGOL	26.0016	15978	P3664	PROCEDURE REFERENCE ASSIGNMENT
DMALGOL	26.0017	15979	P3665	CALL OUT OF SWAP SPACE
DMALGOL	26.0019	15929	P3666	ENVIRONMENT REFERENCES
DMALGOL	26.0028	15905	P3667	NODE VARIABLE
DMALGOL	26.0029	15904	P3668	DM ENVIRONMENT STACK IMAGE
DMALGOL	26.0034	16281	P3956	ATTACHDBS
DMALGOL	26.0070	16280	P4137	ENVIRONMENT TYPE
DMALGOL	26.0080	16556	P3826	ARRAYS TOO SMALL
DMALGOL	26.0083	16925	P4902	LARGE DATA BASES
DMALGOL	26.0095	16472	P4138	TRIVIAL PROCEDURES
DMALGOL	26.0106	19521	P4372	NODE SYNTAX ERROR
DMALGOL	26.0108	19523	P4371	DMIO RESTRICTED TO DMALGOL
DMALGOL	26.0111	19526	P4369	DM STACK IMAGE
DMALGOL	26.0114	19529	P4421	LARGE DATABASES
DMALGOL	26.0115	19528	P4422	LARGE TEXT PROPERTIES
DMALGOL	26.0125	19249	P4711	VARIABLE FORMAT TYPES
DMALGOL	26.0130	19349	P4712	SEGMENT LARGE STACK IMAGES
DMALGOL	26.0138	17544	P4738	COMPILE TIME ARRAYS
DMDUMPER	26.0001	16513	P3832	INV INX NO SETS ON DATA SET
DMDUMPER	26.0002	19340	P4906	CHANGE SDL.TITLE TO DISK
DMFILTER	26.0001	14600	P3365	FREE GLOBAL
DMFILTER	26.0002	14599	P3366	SETNAME (STATUS)
DMFILTER	26.0003	14598	P3367	ON EXCEPTION - SN(STATUS)
DMFILTER	26.0004	14597	P3368	DELETE SETNAME
DMFILTER	26.0005	15763	P3518	CONVERSION OF STATUS TASK ATTR
DMFILTER	26.0006	15759	P3565	SEG ARRAY ON MANY INVOKES
DMFILTER	26.0007	15760	P3566	CORRECT DM-STAT DECLARATIONS
DMFILTER	26.0008	17886	P3746	FIX DMFILTER ALIAS
DMFILTER	26.0009	16512	P3833	MORE THAN 1 STATUS-CONV-SIM
DMFILTER	26.0010	17029	P4139	EXCEPTION CONVERSION
DMFILTER	26.0011	19614	P4215	LOOPING IN DMFILTER
DMFILTER	26.0012	19613	P4216	QUALIFICATION LOOK UP
DMFILTER	26.0013	19586	P4268	SEG ARRY ACROSS ROW BOUNDARIES
DMFILTER	26.0014	19117	P4423	KEYCOUNT, KEYNUM
DMFILTER	26.0015	19114	P4424	FLUSHWORKA
DMFILTER	26.0016	19113	P4425	INVALID POINTER

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
DMFILTER	26.0017	19118	P4426	CATALOGUE ALIAS SIZE
DMFILTER	26.0018	19109	P4427	CONTIGUOUS CHARACTERS
DMFILTER	26.0019	19108	P4428	CARDEX TOTAL SIZE FIELD
DMFILTER	26.0020	19111	P4429	GLOBAL QUALIFICATION
DMFILTER	26.0021	19110	P4430	NEXT STATEMENT AFTER CREATE
DMFILTER	26.0022	19343	P4903	FIVE CHARACTER STRING
DMFILTER	26.0023	19342	P4904	DASET CONVERSION
DMFILTER	26.0024	19115	P4905	EMBEDDED SET STATUS
DMFILTER	26.0025	19341	P4907	RESET PATCH NUMBER
DMFILTER	26.0026	19340	P4906	CHANGE SDL.TITLE TO DISK
DMLOADGEN	26.0001	16507	P3834	VALIDITY LINKS
DMLOADGEN	26.0002	16535	P3835	OVERFLOW PAST COLUMN 72
DMLOADGEN	26.0003	16534	P3836	OPEN EXCEPTION
DMLOADGEN	26.0004	16510	P3834	VALIDITY LINKS
DMLOADGEN	26.0005	16509	P3837	ELIM SIGNED FIELDS NOT REQ
DMLOADGEN	26.0006	19343	P4903	FIVE CHARACTER STRING
DMLOADGEN	26.0007	19341	P4907	RESET PATCH NUMBER
DMLOADGEN	26.0008	19340	P4906	CHANGE SDL.TITLE TO DISK
DMLOADGEN	26.0009	19339	P5016	DOLLAR CARDS
DMLOADGEN	26.0010	19338	P5017	INVALID MASTER STATUS
DMMAPPER	26.0001	16511	P3838	DUPLICATES FIRST AND LAST
DMMAPPER	26.0002	19344	P4908	ERROR MESSAGE FOR RANDOM
DMMAPPER	26.0003	19340	P4906	CHANGE SDL.TITLE TO DISK
DMRECOVER	26.0001	15983	P3499	RECOVERY PROBLEM
DMRECOVER	26.0002	18022	P4382	NA CHAIN
DM6700	26.0001	14582	P3343	AUDIT NSEC DEADLOCK
DM6700	26.0002	15705	P3500	LOOP ON FIND NTH PAT EOF
DM6700	26.0003	15942	P3501	POP OF FILE WRONG
DM6700	26.0004	15939	P3502	REOCCURRING SEQUENCE NUMBERS
DM6700	26.0005	15877	P3570	MOD-STR RESIDENT ALTERS LIST
DM6700	26.0006	16348	P3747	HOLES IN DATABASE
DM6700	26.0007	16533	P3955	LINK NULL
DM6700	26.0008	16963	P4189	FIX KILL MON IF RQH DIES
DM6700	26.0009	16962	P4190	SET VAR TO MAKE DISP REC WORK
DM6700	26.0010	16961	P4191	RANDOM TRACE DISP RECS.
DM6700	26.0011	16960	P3393	EFFICIENCY FIX
DM6700	26.0012	16959	P4192	BITMSKSIZE WRONG IN RNDMPTRREC
DM6700	26.0013	16957	P4193	ELIM. WORK AT DJ-DAOPEN
DM6700	26.0014	16958	P4194	CHANGE I-O DIRECT I-O ATTRB.
DM6700	26.0015	17221	P4252	CLOBBERED FINE TABLE
DM6700	26.0016	19612	P4257	NA CHAINS-H-L IN ABORT
DM6700	26.0017	18021	P4382	NA CHAIN
DUMPALL	26.0001	17858	P3847	TAPEMARK SKIP USING LIST OPT.
DUMPALL	26.0002	17857	P3848	D-DSED MTPDPK ROUTINE
DUMPALL	26.0003	17856	P3849	CODE CLEAN-UP IN MARK FIELD
DUMPALL	26.0004	17855	P3850	CORRECTS CHARACTER SIZE ERROR
DUMPALL	26.0005	19656	P4227	BNF SYNTAX CORRECTION OF TEACH
DUMPALL	26.0006	19655	P4228	OPTIMIZE SKIP IN LIST ROUTINES
DUMPALL	26.0007	19652	P4229	FILE ATTRIBUTE ERROR 49
DUMPALL	26.0008	18924	P4717	PACK OPTIONS
DUMPALL	26.0009	19650	D0996	PROTECTION OUTPUT FILES (DK)
DUMPALL	26.0010	19649	D0997	AREAS AND AREASIZE INCREASE
DUMPALL	26.0011	18923	P4718	SPECIAL CHARACTERS
DUMPALL	26.0012	18921	P4719	CORRECT IOWORDS FOR 80 CHAR
DUMPALL	26.0013	18922	P4720	ENTIRE DIRECTORY WITH LIBMT
DUMPALL	26.0014	18920	P4739	PRINT DELIMITER CHAR OVERRIDE
DUMPALL	26.0015	18917	P4735	INPUT SCANNER CLEAN-UP
DUMPALL	26.0016	18906	P4736	CRUNCH OPTION
DUMPALL	26.0017	18908	P4737	II.7 COPYRIGHT
DUMPANALY		18824	D1113	DUMPANALYZER MESSAGES
DUMPANALY	26.0001	14265	D0731	DATACOM ANALYSIS
DUMPANALY	26.0002	14453	D1005	INNER BLOCK NAMES
DUMPANALY	26.0003	14222	D1011	PRINT SEG5 PROCEDURE NAMES
DUMPANALY	26.0004	14452	D1049	FAULT DISPLAY CHANGE
DUMPANALY	26.0005	14696	D0732	LABEL EQ IN - PACK HANDLING
DUMPANALY	26.0006	14718	P3380	PREVENT NO FILE HANG
DUMPANALY	26.0007	14638	P3381	PRINTING OVERLAYED HEADERS
DUMPANALY	26.0008	14613	D1034	DISK-PACK HEADER ANALYSIS
DUMPANALY	26.0009	14619	P3348	MISCELLANEOUS FIX

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
DUMPANALY	26.0010	15637	P3384	REDUCE CORE REQUIREMENT
DUMPANALY	26.0011	15614	P3385	CHECKING TIMESTAMP-PRE 2.7
DUMPANALY	26.0012	15613	D1054	PATHCONTROL ANALYSIS
DUMPANALY	26.0013	15622	P3384	REDUCE CORE REQUIREMENT
DUMPANALY	26.0014	15548	D1042	STACKLIMIT TASK WORD
DUMPANALY	26.0015	15544	D0757	FLOATING MCP IN LOADER
DUMPANALY	26.0016	15543	D0732	LABEL EQ IN - PACK HANDLING
DUMPANALY	26.0017	15560	D1034	DISK-PACK HEADER ANALYSIS
DUMPANALY	26.0018	15502	D0731	DATACOM ANALYSIS
DUMPANALY	26.0019	15777	D1071	P-BIT ANALYSIS
DUMPANALY	26.0020	15768	D0748	MEMSTATS AND BAD LINKS
DUMPANALY	26.0021	15739	D0858	PRINT LENGTH OF STACK
DUMPANALY	26.0022	15674	P3596	QUEUE ANALYSIS
DUMPANALY	26.0023	15719	P3597	LOST GLOBAL IDENTIFIERS
DUMPANALY	26.0024	15999	D0762	RCW TRACE OF FORGOTTEN AREAS
DUMPANALY	26.0025	16000	P3597	LOST GLOBAL IDENTIFIERS
DUMPANALY	26.0026	16008	D0762	RCW TRACE OF FORGOTTEN AREAS
DUMPANALY	26.0027	16011	P3393	EFFICIENCY FIX
DUMPANALY	26.0028	16108	P3748	NEW TASK ATTRIBUTES
DUMPANALY	26.0029	16096	D0779	ARRAY PRINT FOR MOMS IN STACKS
DUMPANALY	26.0030	16220	P4009	LABELLED HEAD PER TRACK
DUMPANALY	26.0031	16219	D1034	DISK PACK HEADER ANALYSIS
DUMPANALY	26.0032	16231	D1034	DISK PACK HEADER ANALYSIS
DUMPANALY	26.0033	16238	D0808	FILES OPTION
DUMPANALY	26.0034	17869	P4010	FAULTS ON BAD CODE FILES
DUMPANALY	26.0035	17865	D1033	PROGRAMDUMP CREATING GLBL ID
DUMPANALY	26.0036	17931	P4012	WRONG NUMBER OF DO CELLS
DUMPANALY	26.0037	17933	D0867	CODEDUMP OF BAD CODE AREAS
DUMPANALY	26.0038	17932	D0868	BUFF AND NO INTRINSICS OPTIONS
DUMPANALY	26.0039	17984	D0868	BUFF AND NO INTRINSICS OPTIONS
DUMPANALY	26.0040	17052	P4013	BAD INDEX ARRAXS
DUMPANALY	26.0041	17989	D0869	NEW RUN-TIME OPTIONS
DUMPANALY	26.0042	17988	P4014	IL, FA CODE FILES
DUMPANALY	26.0043	17035	D0860	FULLDUMP SETS STACKDUMP
DUMPANALY	26.0044	16956	P3393	MISCELLANEOUS FIXES
DUMPANALY	26.0045	17018	P4274	ESCAPE CASE STMT
DUMPANALY	26.0046	17024	D0808	FILES OPTIONS
DUMPANALY	26.0047	16968	P4275	UNIT TABLE ABOVE MAXUNIT
DUMPANALY	26.0048	16967	P4276	PRINT NAME IN HEADERS
DUMPANALY	26.0049	16966	P4277	NEW DISK HEADER FORMATS
DUMPANALY	26.0050	16986	P4278	NEW HEADER WORD
DUMPANALY	26.0051	17000	P4279	FAULT IN STACK ANALYSIS
DUMPANALY	26.0052	16999	P4280	SEG ARRAY IN LONG JOB MESSAGES
DUMPANALY	26.0053	16998	P4281	NEW HEADER FORMATS
DUMPANALY	26.0054	16997	D0894	DESCRIPTOR ANALYSIS
DUMPANALY	26.0055	16996	P4282	NON-TAG-3 WORDS IN CODE AREA
DUMPANALY	26.0056	16995	P3609	NO FILE HANG
DUMPANALY	26.0057	16994	P3639	NON-SPECIFIED INTRINSICS
DUMPANALY	26.0059	16992	P4283	ANALYSIS OF TASKFILE
DUMPANALY	26.0060	17001	P4284	ONE CARD DUMP COMPATIBILITY
DUMPANALY	26.0061	16980	P4285	RUNNING OFF END OF PROC DIR
DUMPANALY	26.0062	16978	P4286	RESEQUENCE CREATEMCPNAMES
DUMPANALY	26.0063	16990	P4287	DELETE ALL ZERO SEQ NUMBER
DUMPANALY	26.0064	17023	P4288	RESEQUENCE DUMPANALYZER
DUMPANALY	26.0065	16974	D0954	NEW DUMPANALYZER OPTIONS
DUMPANALY	26.0066	17003	P4289	JOBDESC LINK IN WORD 0 OF HDR
DUMPANALY	26.0067	19578	P4290	GARBAGE AFTER INTRINSIC NAME
DUMPANALY	26.0068	19575	P4291	TOO FEW UNIT ENTRIES
DUMPANALY	26.0069	19574	D0955	UINFO ANALYSIS -- 1
DUMPANALY	26.0070	19573	P4292	SIB PRINT
DUMPANALY	26.0071	19572	P4293	HDRO ADDRESS PRINT
DUMPANALY	26.0072	19552	P4293	HDRO ADDRESS PRINT
DUMPANALY	26.0073	19553	P4295	UNIT TYPE CHANGE
DUMPANALY	26.0074	19556	P4296	BUG CAUSED BY RESEQUENCING
DUMPANALY	26.0075	19555	D0899	INPUT OPTION DUMPING
DUMPANALY	26.0076	19554	P4348	OPTION LISTING
DUMPANALY	26.0077	19546	P4297	NON-PRESENT ARRAYS
DUMPANALY	26.0078	19545	P4298	MIX ALL-ACTIVE-DUMPING
DUMPANALY	26.0079	19531	P4299	TASK WORD "FAMILY"

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
DUMPANALY	26.0080	19532	P4300	NEW HEADERS FORMATS
DUMPANALY	26.0081	18032	P4301	ARRAY PRINT FIXES
DUMPANALY	26.0082	18031	P3393	EFFICIENCY FIXES
DUMPANALY	26.0083	18030	P4302	UNIT TABLE UPDATE
DUMPANALY	26.0084	18029	P3768	NEW COMPILE-TIME OPTIONS
DUMPANALY	26.0085	18028	P4303	RESIDENT CHANGED TO PRESENT
DUMPANALY	26.0086	18009	P4435	BUFFS OPTION
DUMPANALY	26.0087	19123	P4436	LOCK ANALYSIS
DUMPANALY	26.0088	19122	P4437	PATHCONTROL
DUMPANALY	26.0089	19244	P4721	STATUS BROKEN
DUMPANALY	26.0090	19282	D0955	UINFO ANALYSIS -- I
DUMPANALY	26.0091	18897	D0998	STACK NUMBERS
DUMPANALY	26.0092	19297	P4722	TASK ARRAY
DUMPANALY	26.0093	19288	P4723	BEDWORD IN STACK BASE
DUMPANALY	26.0094	19296	P4283	ANALYSIS OF TASKFILE
DUMPANALY	26.0095	19285	P4874	EVENT LINKAGES
DUMPANALY	26.0096	19464	P4724	VERIFYFAMILY CHANGES
DUMPANALY	26.0097	19465	P4725	ALL UINFO ENTRIES PRINTED
DUMPANALY	26.0098	19463	D1039	RAWDUMP AND DEBUGGING
DUMPANALY	26.0099	19459	P4726	USEGOLOC AND DACTIMESTAMP
DUMPANALY	26.0100	17394	P3521	RECOVER BAD TAPES
DUMPANALY	26.0101	17335	P4727	EXIT AFTER RAW DUMP
DUMPANALY	26.0102	17337	P3348	MISC FIX
DUMPANALY	26.0103	17316	P4914	PRIORITY FOR OVERLAY PRINTOUT
DUMPANALY	26.0104	17563	P4915	LARGE ARRAYS FOR PROGRAMDUMP
DUMPANALY	26.0105	17550	D1086	ARRAY LIMITS
DUMPANALY	26.0106	17542	P5020	SEQUENCE NUMBERS
DUMPANALY	26.0107	17541	P5021	COMPILER COMPATABILITY
DUMPANALY	26.0108	17598	P5094	SYNCHRONIZE COPYDIR, RC
DUMPANALY	26.0109	17595	P5022	INDEX ARRAYS
DUMPANALY	26.0110	17594	D1085	NO FILE RESTART-TIMESTAMP
DUMPANALY	26.0111	17593	D0875	ERRORTYPE IN CREATEMCPNAMES
DUMPANALY	26.0112	17596	P5025	GRAPHICS FOR FILE BUFFERS
DUMPANALY	26.0113	17790	D1059	DIRECTORY MANAGEMENT REDESIGN
DUMPANALY	26.0114	17680	P5099	COPYRIGHT II.7
DUMPANALY	26.0115	17786	D1059	DIRECTORY MANAGEMENT REDESIGN
DUMPANALY	26.0116	17785	P5096	CODEFILEDESC
DUMPANALY	26.0117	17738	D1076	NEW DEFAULTS FOR OPTIONS
DUMPANALY	26.0118	17737	P5026	PRINT LINE
DUMPANALY	26.0119	17731	P5027	ERROR CHECKING & NOTIFICATION
DUMPANALY	26.0120	18464	P5095	PATCH NUMBER WRAPAROUND
DUMPANALY	26.0121	18463	P5104	FIELD SPECIFICATION
DUMPANALY	26.0122	18405	P5109	DYING STACKS
DUMPANALY	26.0123	18404	P4874	EVENT LINKAGES
DUMPANALY	26.0124	18402	D1059	DISK MANAGEMENT REDESIGN
DUMPANALY	26.0125	18393	P5109	DYING STACKS
ESPOL	26.0001	14544	D0740	$EXCLUDE EXTENSION
ESPOL	26.0002	14543	P3470	ARRAY DECLARATION SYNTAX ERR
ESPOL	26.0003	14540	P3466	WAIT STATEMENT
ESPOL	26.0004	14601	P3471	VERSION
ESPOL	26.0005	14539	D0774	EXTRA PARAMETERS TO DEFINES
ESPOL	26.0006	14584	P3472	DEFAULT LABEL DECLARATION
ESPOL	26.0007	14580	P3473	VECTORMODE CODE PRINTOUT
ESPOL	26.0008	14579	P3474	LONG ID"S IN VECTORMODE
ESPOL	26.0009	14578	P3475	INCORRECT CODE LISTINGS
ESPOL	26.0010	14577	P3476	MULTIPLE VECTORMODE INCREMENTS
ESPOL	26.0011	14574	P3477	INVALID VECTORMODE SYNTAX
ESPOL	26.0012	14576	P3478	VECTORMODE MULTIPLE ASSIGNMENT
ESPOL	26.0013	15631	D0741	ONEPROCESSOR OPTION
ESPOL	26.0014	15702	P3638	AREASIZE ALTERATION
ESPOL	26.0015	14536	P3675	RESIZE SAVE PROCEDURE ARRAY
ESPOL	26.0016	15975	D0758	"MCP" DOLLAR CARD OPTION
ESPOL	26.0017	14535	P3393	EFFICIENCY FIX
ESPOL	26.0018	16126	P4385	LAYOUT SYNTAX ERROR
ESPOL	26.0019	14276	P3957	CASE EXPRESSION
ESPOL	26.0020	16127	P3958	BINDINFO CORRECTED
ESPOL	26.0021	16128	P3905	FIRSTWORD, SECONDWORD CODE
ESPOL	26.0022	16326	P3393	EFFICIENCY FIX
ESPOL	26.0023	17893	P3959	NUMBERED CASE STATEMENTS

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
ESPOL	26.0024	16532	P3960	INCREASE SIZE OF EDOC
ESPOL	26.0025	17181	P4146	SCANNER CORRECTED
ESPOL	26.0026	17180	P4147	NEWTAPE, CODE FILES CRUNCHED
ESPOL	26.0027	17175	P4230	ON STATEMENT FIX
ESPOL	26.0028	18042	D0887	FILE MNEMONIC PACK RECOGNIZED
ESPOL	26.0029	18036	P4231	NAME (STRING ARRAYS)
ESPOL	26.0030	19577	P4232	PASS H-L UNIT TO MCP
ESPOL	26.0032	17992	P4876	TRANSLATETABLE FIX
ESPOL	26.0033	19670	D0755	FLEXIBLE NEWSYMBOLIC
ESPOL	26.0034	17999	P5091	COPYRIGHT II.7
ESPOLINTRN	26.0001	14585	P3479	BASIC INTRINSICS
ESPOLINTRN	26.0002	19645	P3431	MARGIN IN BASIC
ESPOLINTRN	26.0003	14602	P3480	FORGETSPACE CALL
ESPOLINTRN	26.0004	14575	P3481	BINARY I-O WITH COMMON VAR
ESPOLINTRN	26.0005	14205	P3394	IPC - RANDOM BINARY I-O
ESPOLINTRN	26.0006	15509	P3393	EFFICIENCY FIX
ESPOLINTRN	26.0007	14433	P3676	FORMATENCODER - BCL
ESPOLINTRN	26.0008	14430	P3677	FORMATENCODER - FORMAT SPECS
ESPOLINTRN	26.0009	14432	P3678	FORMATENCODER - VARIANCES
ESPOLINTRN	26.0010	14431	P3679	PARAMATCH
ESPOLINTRN	26.0011	15688	P3680	FORMATENCODER - INPUT WARNING
ESPOLINTRN	26.0012	16014	P3755	FILEKIND (INTERNAL CHANGE)
ESPOLINTRN	26.0013	15830	P3749	BASIC INTRINSICS
ESPOLINTRN	26.0014	16150	P3961	FORTALG FORMATENCODER
ESPOLINTRN	26.0015	15924	P3962	PARAMATCH INTRINSIC CHANGES
ESPOLINTRN	26.0016	17859	P3963	FORTRAN FREEFIELD OUTPUT
ESPOLINTRN	26.0017	16653	P4357	ERROR CONDITION ON INTRINSICS
ESPOLINTRN	26.0018	16506	P3964	SEQUENCE ERROR CORRECTION
ESPOLINTRN	26.0019	17253	P4148	FORTRAN-ALGOL FREEFIELD OUTPUT
ESPOLINTRN	26.0020	11716	P3348	MISCELLANEOUS FIX
ESPOLINTRN	26.0021	16504	P4233	IMPROVES FREE FIELD OUTPUT
ESPOLINTRN	26.0022	19647	P4234	BASIC FILE STATEMENT
ESPOLINTRN	26.0023	16502	P4381	FREEFIELD FORMATTING
ESPOLINTRN	26.0024	19660	D0921	OUTPUT MEDIA DIGIT 32
ESPOLINTRN	26.0025	16497	P4438	WRITEAFTER FOR FORTRANMONITOR
ESPOLINTRN	26.0026	19541	P4439	ERROR CHECK ON MONITOR OUTPUT
ESPOLINTRN	26.0027	19540	P4440	ONE (1) RAISED TO A POWER
ESPOLINTRN	26.0028	18013	D0942	DISPLAY MESSAGES
ESPOLINTRN	26.0029	18012	P4441	NAMELIST OUTPUT
ESPOLINTRN	26.0030	19539	P4442	REMOVE FILE ON PACK
ESPOLINTRN	26.0031	19100	P4443	FORERR-S RCW
ESPOLINTRN	26.0032	19099	P4728	REPLACEMENT OF NUMBERCONVERT
ESPOLINTRN	26.0033	19098	P4729	IMPROVED DOCUMENTATION
ESPOLINTRN	26.0034	18893	P4750	FORTRAN FORMATTED OUTPUT
ESPOLINTRN	26.0035	18892	P4751	FORTRAN&FREEFIELD FORTRAN I-O
ESPOLINTRN	26.0036	18892	P4751	FORTRAN&FREEFIELD FORTRAN I-O
ESPOLINTRN	26.0037	19422	P4873	HARDCOPY-CONTROLLER INTERFACE
ESPOLINTRN	26.0038	19096	D0948	FORTRAN FORMAT ERROR MESSAGES
ESPOLINTRN	26.0039	17439	P4916	BINARY I-O
ESPOLINTRN	26.0040	19095	P3348	MISCELLANEOUS FIX
ESPOLINTRN	26.0041	17567	D0872	I-O STATEMENTS AND FORMATS
ESPOLINTRN	26.0042	17501	P3348	MISCELLANEOUS FIX
ESPOLINTRN	26.0043	17568	D0823	OPTIONS (WORD POINTER)
ESPOLINTRN	26.0044	17500	P4751	FORTRAN&FREEFIELD FORTRAN I-O
ESPOLINTRN	26.0045	18928	P5093	CANDEFILEHANDLER
ESPOLINTRN	26.0046	17499	P5028	COPYRIGHT II.7
ESPOLINTRN	26.0047	17498	P4751	FORTRAN&FREEFIELD FORTRAN I-O
ESPOLINTRN	26.0048	18270	D0892	MCS-WFM INTERFACE
FILEDATA		18261	D0873	RELEASE DOCUMENTATION
FORTRAN		16528	D0849	ORDER OF DECLARATIONS
FORTRAN	26.0001	14596	P3482	FORTRAN SCANR AND FORMATER
FORTRAN	26.0002	14595	P3483	GENERAL IMPROVEMENTS
FORTRAN	26.0003	14594	P3484	SPEED UP DIMENSION
FORTRAN	26.0004	14593	P3485	OPTIMIZATION EQUIVALENCE
FORTRAN	26.0005	14592	P3486	COMPILER INITIALIZATION
FORTRAN	26.0006	14429	P3681	PARITY ERROR ON READ STATEMENT
FORTRAN	26.0007	15701	P3682	BCL INCLUDES
FORTRAN	26.0008	14427	P3683	SEPARATE COMPILE WITH OPT > 0
FORTRAN	26.0009	15700	P3684	FORMATTED I-O WITH $BCL

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
FORTRAN	26.0010	15699	P3685	LONG STRING INITIALIZING ARRAY
FORTRAN	26.0011	15698	P3686	COMPLX CONSTANT IN OUTPUT LIST
FORTRAN	26.0012	15697	P3687	USERCODE HANDLING WITH $XREF
FORTRAN	26.0013	15696	P3483	COMPILER IMPROVEMENT
FORTRAN	26.0014	15695	P3688	CTIME CAUSES SYSTEM HANG
FORTRAN	26.0015	15694	P3689	PAUSE SYNTAX ERROR
FORTRAN	26.0016	15681	P3690	CRUNCHING OF INPUT FILES
FORTRAN	26.0017	15682	P3691	SINGLE-BY-DEFAULT COMPILES
FORTRAN	26.0018	15683	P3692	LIBRARY OPTION W CANDE COMPILE
FORTRAN	26.0019	15685	P3693	ARRAYS WITH VARIABLE BOUNDS
FORTRAN	26.0020	15684	P3694	COMPLEX ACTUAL ARGUMENTS
FORTRAN	26.0021	15938	P3695	SEPARATE COMPILATIONS
FORTRAN	26.0022	15686	P3696	ARGUMENT MISMATCH SYNTAX ERR
FORTRAN	26.0023	15687	P3697	ARGUMENT QUANTITY SYNTAX ERROR
FORTRAN	26.0024	15691	P3698	HEADINGS FOR BATCHED JOBS
FORTRAN	26.0025	15690	P3699	$SEPARATE, $LIBRARY OPTIONS
FORTRAN	26.0026	15689	P3700	TYPE DECLARATION SYNTAX ERROR
FORTRAN	26.0027	15692	P3701	$CHECK
FORTRAN	26.0028	14589	P3348	MISCELLANEOUS FIX
FORTRAN	26.0029	14590	D0778	SEGMENTATION INFO
FORTRAN	26.0030	15693	P3965	LABELLED ATTRIBUTE STATEMENTS
FORTRAN	26.0031	16146	P4149	FORMAT PHASE ENCODING
FORTRAN	26.0032	16147	P3966	$DBLTOSNGL
FORTRAN	26.0033	16151	P4059	FIX DOUBLE CONSTANTS
FORTRAN	26.0034	16148	P3486	COMPILER INITIALIZATION
FORTRAN	26.0035	16149	P3967	DBLE AND CMPLX ENTRY ARGUMENTS
FORTRAN	26.0036	16401	P3968	B7700 CODE IMPROVEMENT
FORTRAN	26.0037	16400	P3968	B7700 CODE IMPROVEMENT
FORTRAN	26.0038	16399	P3968	B7700 CODE IMPROVEMENT
FORTRAN	26.0039	16398	P3968	B7700 CODE IMPROVEMENT
FORTRAN	26.0040	16397	P3968	B7700 CODE IMPROVEMENT
FORTRAN	26.0041	16391	P3968	B7700 CODE IMPROVEMENT
FORTRAN	26.0042	16390	P3968	B7700 CODE IMPROVEMENT
FORTRAN	26.0043	16389	P3968	B7700 CODE IMPROVEMENT
FORTRAN	26.0044	16388	P3968	B7700 CODE IMPROVEMENT
FORTRAN	26.0045	16387	P3968	B7700 CODE IMPROVEMENT
FORTRAN	26.0046	16386	P3968	B7700 CODE IMPROVEMENT
FORTRAN	26.0047	16385	P3968	B7700 CODE IMPROVEMENT
FORTRAN	26.0048	16396	P3968	B7700 CODE IMPROVEMENT
FORTRAN	26.0049	16395	P3968	B7700 CODE IMPROVEMENT
FORTRAN	26.0050	16394	P3968	B7700 CODE IMPROVEMENT
FORTRAN	26.0051	16392	P3968	B7700 CODE IMPROVEMENT
FORTRAN	26.0052	16286	P3969	NO ERROR MSG ON ERRONEOUS ASGN
FORTRAN	26.0053	16287	P3970	NO ERR MSG FOR MONITOR W OPT=1
FORTRAN	26.0054	16298	P3971	DEBUG TRACE CAUSED BAD GO TO
FORTRAN	26.0056	16340	P3972	VARIABLE FRMT IN EQUIV: OPT=1
FORTRAN	26.0057	16339	P3973	SCANNING OF ERRONEOUS FILES
FORTRAN	26.0058	16338	P3974	OPTIMIZED I-O LISTS
FORTRAN	26.0059	16337	P3975	FORMAL SUBPROGRAMS WITH OPT=1
FORTRAN	26.0060	16336	P3976	FORTRAN COMPILER LOOPING
FORTRAN	26.0061	16335	P3977	DATA STMT MALFUNCTION
FORTRAN	26.0062	16334	P3978	OPT=1 EQUIVALENCE LOOP
FORTRAN	26.0063	16333	P3979	I-O LIST REFERENCING
FORTRAN	26.0064	16332	P3980	RECURSIVE STATEMENT FUNCTIONS
FORTRAN	26.0065	17898	P3981	ENTRY PARAM IN COMMON OR EQV
FORTRAN	26.0066	17897	P3982	DO LOOP INCREMENTS
FORTRAN	26.0067	17894	P3851	STRAY ERRORS-EQUIV, VARBOUNDS
FORTRAN	26.0068	17895	P3852	USER INTRINSIC AFFECTING INFO
FORTRAN	26.0069	17896	P3808	BATCH COMPILER
FORTRAN	26.0070	16166	P4375	INFINITE LOOP FROM EQUIVALENCE
FORTRAN	26.0071	16529	P3983	STACK OVERFLOW
FORTRAN	26.0072	16530	P3984	VECTORMODE LOOPS
FORTRAN	26.0073	16531	P3985	VRBLE FILES AND READER FILES
FORTRAN	26.0074	17891	P3986	IMPROVE DIAGNOSTICS
FORTRAN	26.0075	17892	P4150	FORMAL PARAMETER CALLS
FORTRAN	26.0076	16162	P4376	OPT=1 IOLIST
FORTRAN	26.0077	16527	P3987	XREF OF LABELS
FORTRAN	26.0078	16526	P3988	CHARACTER ORIENTED INPUT FILES
FORTRAN	26.0079	16525	P4151	REAL LOWER BOUNDS

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
FORTRAN	26.0080	16524	P3989	DATA-EQUIV ERRORS
FORTRAN	26.0081	16523	P3990	FORTRAN CORE ESTIMATES
FORTRAN	26.0082	16522	P3991	COMPLEX INVALID OP
FORTRAN	26.0083	16521	P4152	FORMATTER
FORTRAN	26.0084	16520	P3992	CRUNCH CODE FILES
FORTRAN	26.0085	16519	P4153	FORMAL ARRAYS
FORTRAN	26.0086	16154	P4368	NEW IMPLEMENTATION OF DATA
FORTRAN	26.0087	16164	P4377	$ INCLUDE
FORTRAN	26.0088	16165	P4378	INSTALLATION INTRINSICS
FORTRAN	26.0089	16163	P4379	OPT=1 PRECEDENCE
FORTRAN	26.0090	16161	P4380	OPT=-1 SUBSCRIPTS
FORTRAN	26.0091	16160	P4444	OPTLSS1 COMPILATION
FORTRAN	26.0092	16155	P4445	$ LEVEL
FORTRAN	26.0093	16158	P4446	STEP AND BRANCH
FORTRAN	26.0094	16159	D0939	INTRINSIC NAMES
FORTRAN	26.0095	16157	P4447	INCORRECT EXPRESSIONS
FORTRAN	26.0096	16156	P4448	ARRAY SUBSCRIPTS
FORTRAN	26.0097	16153	P4702	COPYRIGHT II.7
GETDMRSF	26.0001	15881	P3563	APRIL IN GETDMRSF
GUARDFILE	26.0001	17677	P4731	COPYRIGHT II.7
HARDCOPY	26.0001	17678	P5102	COPYRIGHT II.7
HARDCOPY	26.0001	19422	P4873	HARDCOPY-CONTROLLER INTERFACE
IADMAPPER	26.0001	18015	P4304	IMPROVE IADMAPPER MESSAGES
IADMAPPER	26.0002	17677	P4731	COYRIGHT II.7
IN-OUTPUT	26.0013	13766	D0738	FILE ATTRIBUTE REVISIONS
IN-OUTPUT	26.0017	14190	P3393	EFFICIENCY FIX
IN-OUTPUT	26.0050	14197	P3388	COBOL CHARACTER ORIENTED FILES
IN-OUTPUT	26.0051	14199	D1108	TAPE FILES - SIZE ATTRIBUTE
IN-OUTPUT	26.0052	14198	P3390	TAPE FILE REWIND PROBLEM
IN-OUTPUT	26.0054	14639	P3391	BACKUP TAPE EOT-EOJ LOG ENTRY
IN-OUTPUT	26.0069	14713	D0738	FILE ATTRIBUTE REVISIONS
IN-OUTPUT	26.0070	14202	P3393	EFFICIENCY FIX
IN-OUTPUT	26.0071	14203	P3392	READ NO
IN-OUTPUT	26.0072	14201	P3393	EFFICIENCY FIX
IN-OUTPUT	26.0073	14200	P3393	EFFICIENCY FIX
IN-OUTPUT	26.0074	14204	P3394	IPC-RANDOM BINARY I-O
IN-OUTPUT	26.0075	14624	P3426	PAPER TAPE PUNCH LOW ON TAPE
IN-OUTPUT	26.0097	14206	P3392	READ NO
IN-OUTPUT	26.0112	15506	P3392	READ NO
IN-OUTPUT	26.0113	15507	D0749	NEW FILE ATTRIBUTES
IN-OUTPUT	26.0121	15510	P3524	FILE-TYPE = 6
IN-OUTPUT	26.0131	15508	P3393	EFFICIENCY FIX
IN-OUTPUT	26.0137	15512	P3393	EFFICIENCY FIX
IN-OUTPUT	26.0159	15513	P3393	EFFICIENCY FIX
IN-OUTPUT	26.0172	15514	D0749	NEW FILE ATTRIBUTES
IN-OUTPUT	26.0187	15516	P3393	EFFICIENCY FIX
IN-OUTPUT	26.0188	15523	P3572	WFL GLOBAL FILES - DIRECT I-O
IN-OUTPUT	26.0189	15517	P3393	EFFICIENCY FIX
IN-OUTPUT	26.0190	15518	P3393	EFFICIENCY FIX
IN-OUTPUT	26.0191	15521	P3393	EFFICIENCY FIX
IN-OUTPUT	26.0192	15519	D0749	NEW FILE ATTRIBUTES
IN-OUTPUT	26.0193	15515	D0749	NEW FILE ATTRIBUTES
IN-OUTPUT	26.0194	15524	D0749	NEW FILE ATTRIBUTES
IN-OUTPUT	26.0195	15520	D1110	PROTECTION ATTR=PROTECTED
IN-OUTPUT	26.0196	15522	P3574	PROTECTED EOF SEARCHING
IN-OUTPUT	26.0207	15525	P3393	EFFICIENCY FIX
IN-OUTPUT	26.0208	15526	P3574	PROTECTED EOF SEARCHING
IN-OUTPUT	26.0240	14711	P4011	NEW FILE ATTRIBUTES
IN-OUTPUT	26.0241	15527	P3750	ERRORTYPE ATTRIBUTE
IN-OUTPUT	26.0249	16016	P3751	DISK FILE RECS NOT WRITTEN
IN-OUTPUT	26.0309	16019	P4022	FILE ATTRIBUTE "SPEED"
IN-OUTPUT	26.0353	16026	D0880	ATTRIB. AREACLASS FAMILYINDEX
IN-OUTPUT	26.0386	16087	P4386	DATACOM DIRECT I-O
IN-OUTPUT	26.0424	16040	P4023	PRINTLIMIT, PUNCHLIMIT
IN-OUTPUT	26.0428	16037	P3393	EFFICIENCY FIX
IN-OUTPUT	26.0432	16038	D0881	SYSTEM ID NUMBERS TAPE LABELS
IN-OUTPUT	26.0456	16043	P4024	I-O SEG ARRAY ERROR
IN-OUTPUT	26.0462	16045	P4025	MISSING END-OF-FILE
IN-OUTPUT	26.0528	19493	P3393	EFFICIENCY FIX

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
IN-OUTPUT	26.0529	19496	P4331	FILE REQUIRES REEL NUMBER
IN-OUTPUT	26.0531	16049	D0909	B5500 TAPE SERIAL NUMBERS
IN-OUTPUT	26.0532	16050	D0910	EXTMODE OF B5500 TAPE FILES
IN-OUTPUT	26.0533	19492	P3393	EFFICIENCY FIX
IN-OUTPUT	26.0534	19494	D0911	LABELTYPE ATTRIBUTE
IN-OUTPUT	26.0535	19495	P4332	BLOCK ATTRIBUTE
IN-OUTPUT	26.0540	19519	D0913	PURGE OF BACKUP DISK FILES
IN-OUTPUT	26.0541	19517	P4333	OPEN-CLOSE LOGGING
IN-OUTPUT	26.0542	19518	D0914	FORMMESSAGE ATTRIBUTE
IN-OUTPUT	26.0543	19543	D0915	TITLE, PACKNAME ATTRIBUTES
IN-OUTPUT	26.0544	19516	P4334	COBOL-FORTRAN MULTIFILE TAPES
IN-OUTPUT	26.0557	18001	D0943	FILE ATTRIBUTE TITLE
IN-OUTPUT	26.0572	18002	D0999	ROWADDRESS ATTRIBUTE
IN-OUTPUT	26.0581	19075	D1000	FILE ATTRIBUTE - SINGLEPACK
IN-OUTPUT	26.0582	18006	D1001	SECURITYGUARD ATTRIBUTE
IN-OUTPUT	26.0583	18007	P3815	CLOSE HERE
IN-OUTPUT	26.0584	19071	P3828	STATE ATTRIBUTE-SHORT BLOCK
IN-OUTPUT	26.0586	19074	P3829	FILE ATTRIBUTE-COPIES
IN-OUTPUT	26.0587	19072	P3843	REWIND AND LOCK
IN-OUTPUT	26.0589	19079	D1002	FILE ATTRIBUTES-SENSITIVEDATA
IN-OUTPUT	26.0590	19078	D0749	NEW FILE ATTRIBUTES
IN-OUTPUT	26.0592	19077	D1003	FILE ATTRIBUTE TITLE
IN-OUTPUT	26.0601	19084	D1004	FILE ATTRIBUTE - COPIES
IN-OUTPUT	26.0602	19080	P3844	TAPE SERIAL NUMBERS
IN-OUTPUT	26.0603	19081	D1059	DISK MANAGEMENT REDESIGN
IN-OUTPUT	26.0604	19083	D0749	NEW FILE ATTRIBUTES
IN-OUTPUT	26.0615	19082	D1059	DISK MANAGEMENT REDESIGN
IN-OUTPUT	26.0628	19088	D0991	FILE ATTRIBUTES - FILEKIND
IN-OUTPUT	26.0630	19091	D1006	FILE ATTRIBUTES - VERSION
IN-OUTPUT	26.0645	19384	P3393	EFFICIENCY FIX
IN-OUTPUT	26.0666	19387	D0738	FILE ATTRIBUTE REVISIONS
IN-OUTPUT	26.0668	19388	P4135	BLOCK EXIT IPC FILE CLOSES
IN-OUTPUT	26.0672	19389	D0988	FILE ATTRIBUTES - FILEKIND
IN-OUTPUT	26.0682	19391	P3393	EFFICIENCY FIX
IN-OUTPUT	26.0684	19392	D1008	FILE ATTRIBUTES - BLOCKSIZE
IN-OUTPUT	26.0702	19395	D1041	FILE SECURITY - FILE OPEN
IN-OUTPUT	26.0720	19398	D1040	FILE ATTRIBUTES - PROTECTION
IN-OUTPUT	26.0730	19400	P4011	NEW FILE ATTRIBUTES
IN-OUTPUT	26.0796	19403	D1053	COBOL USE PROCEDURES
IN-OUTPUT	26.0798	19404	P3523	TAPE FILES AND CATALOGING
IN-OUTPUT	26.0906	19687	D1103	RESIDENT, PRESENT OR AVAILABLE
IN-OUTPUT	26.0918	19690	D1104	FILE ATTRIBUTE SERIALNO
IN-OUTPUT	26.0986	19702	P4465	RECORDNUMBER
IN-OUTPUT	26.0988	19704	D1008	FILE ATTRIBUTE - BLOCKSIZE
IN-OUTPUT	26.1014	19707	D1105	WRITE LOCKED OUT DISK FAMILIES
IN-OUTPUT	26.1020	19712	P4803	PAPERTAPE READER-CLOSE REWIND
IN-OUTPUT	26.1108	19722	P4064	GUARD DISK PACK FILES
INTERFACE	26.0001	15804	D0768	ADD DATA IN KEY TO EXPRESSION
INTERFACE	26.0002	15803	P3519	POPULATION ITEM AND STRUCTURE
INTERFACE	26.0003	15885	P3559	DESCRIPTION TOO BIG
INTERFACE	26.0004	15884	D0754	RANDOM AND DIRECT ACCESS
INTERFACE	26.0005	16300	P3727	REMOVE MYSIB, USE SIBINX
INTERFACE	26.0006	15847	P3741	INTERFACE INVOKE LOOP
INTERFACE	26.0007	16342	D0799	PATCH DATABASE
INTERFACE	26.0008	16341	D1055	OPEN INITIALIZE PARTITION
INTERFACE	26.0009	16661	P3839	NULL VALUES
INTERFACE	26.0010	16660	P3781	FILEHANDLERQ
INTERFACE	26.0011	16659	P3840	SEQUENCE ERROR
INTERFACE	26.0012	16658	P3841	COMPATABILITY
INTERFACE	26.0013	16276	P3842	MULTI-SIB OPERATIONS
INTERFACE	26.0014	16550	D0807	AUDIT AT END TRANSACTION
INTERFACE	26.0015	17152	D0799	PATCH DATABASE
INTERFACE	26.0016	17148	P4047	DMSII-LOCKOUTSIDE TRANSACTION
INTERFACE	26.0017	17145	D0854	OPEN INQUIRY
INTERFACE	26.0018	17146	P4140	SEGMENTED ARRAY ERROR ON OPEN
INTERFACE	26.0019	19486	D0918	STRUCTURENUMBER FUNCTION
INTERFACE	26.0020	19485	P4217	WAIT FOR DASDL
INTERFACE	26.0021	19622	P4218	WRONG DATASET PROBLEM
INTERFACE	26.0022	19483	D0754	RANDOM AND DIRECT ACCESS

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
INTERFACE	26.0023	19482	P4219	TOO MANY STRUCTURES
INTERFACE	26.0024	19474	P4713	PLI INTERFACE
INTERFACE	26.0025	17795	P4909	COMPILER LEVEL NUMBER
JOBFORMAT	26.0001	15545	P3525	DUMP JOBFILE ON BAD LINKS
JOBFORMAT	26.0002	16222	D0744	CONTROLLER MESSAGE CHANGES
JOBFORMAT	26.0003	17927	P4026	DUPLICATE SEQUENCE NUMBER
JOBFORMAT	26.0004	19129	P4341	JOB PRINTOUT
JOBFORMAT	26.0005	19243	P4400	TIME ON JOBFORMATTER OUTPUT
JOBFORMAT	26.0005	19248	P4752	"ON PACK"
JOBFORMAT	26.0006	19268	P4753	BINDER PROBLEM
JOBFORMAT	26.0007	18905	P4754	ELAPSED TIME TO EOT, EOJ
JOBFORMAT	26.0008	19303	D1036	DCALGOL BINDING ENHANCEMENT
JOBFORMAT	26.0009	19428	P4755	JOBFORMATTER FIELD
JOBFORMAT	26.0010	17440	P4756	SEG ARRAY ERROR
JOBFORMAT	26.0011	17352	P4757	LONG CONTROL CARD PRINTOUT
JOBFORMAT	26.0012	17680	P5099	COPYRIGHT II.7
JOBFORMAT	26.0013	18289	P5029	USERCODES WITH PACKNAME
LOADER	26.0001	14166	D0734	DISPLAY OF READY EU-S
LOADER	26.0002	15562	D0757	FLOATING MCP IN LOADER
LOADER	26.0003	15679	D0797	SET DATACOM FILE PREFIX
LOADER	26.0004	16001	P3348	MISCELLANEOUS FIX
LOADER	26.0006	16058	D0782	$ SET POOL OPTION CARD
LOADER	26.0007	16221	P4027	ROW ADDRESS WORD MODIFICATION
LOADER	26.0008	17941	P4028	DUPLICATE SEQUENCE NUMBERS
LOADER	26.0009	16034	P4029	LOADER MEMORY MANAGEMENT
LOADER	26.0010	16663	P4030	LOADER MEMORY MANAGEMENT
LOADER	26.0011	19513	P4305	LOADER II.7 CHANGES
LOADER	26.0012	19514	P4306	LOADER II.7 CHANGES
LOADER	26.0013	19571	P3348	MISCELLANEOUS FIXES
LOADER	26.0014	19566	P4355	LOADER FIXES
LOADER	26.0015	19537	P3348	MISCELLANEOUS FIXES
LOADER	26.0016	18027	P4307	REMOVE VIA SPO ON NO-DISK
LOADER	26.0017	19598	P4308	DISK COOLSTART FIX
LOADER	26.0018	19092	P3348	MISCELLANEOUS FIX
LOADER	26.0019	19101	P3348	MISCELLANEOUS FIX
LOADER	26.0020	19240	P3348	MISCELLANEOUS FIX
LOADER	26.0021	19245	P3556	MULTIPLE ERROR OVERLAP
LOADER	26.0022	19250	P3569	NO DISK BUG
LOADER	26.0023	19254	P3590	JOBDESC - SYSTEM-SERIAL FIXES
LOADER	26.0024	19262	D1060	CATALOG LOADING
LOADER	26.0025	19291	P4918	SPO MESSAGE
LOADER	26.0026	19432	P3670	II.6-II.7 COOLSTART-CONVERSION
LOADER	26.0027	19433	P3845	II.6-II.7 COOLSTARTS FROM TAPE
LOADER	26.0028	19434	P4758	MCP DUMP IMPROVEMENT
LOADER	26.0029	19435	P4759	FILEKIND UPDATE
LOADER	26.0030	20007	P4760	COLD START ABSOLUTE ADDRESS
LOADER	26.0031	20008	D1043	DISPLAY MCP INDEX
LOADER	26.0032	20009	P4761	JOBDESC-FLAT DIRECTORY LENGTH
LOADER	26.0033	20011	D1045	DISPLAY
LOADER	26.0034	20004	P4762	DCPCODE DISK LOAD ON II.7
LOADER	26.0035	20002	P4763	II.6 MCP SIZE
LOADER	26.0036	20001	P4764	MCP CM-LOADER INTERFACE
LOADER	26.0037	17419	D1044	SPO MESSAGES
LOADER	26.0038	17418	P4765	GETUSERDISK FIX
LOADER	26.0039	17406	P4766	SYSTEMDIRECTORY DIGIT CHANGE
LOADER	26.0040	17402	P4919	FLATREADER RETURN
LOADER	26.0041	17401	P4920	HEADER FAMLY INDICES
LOADER	26.0042	17400	P4921	DISK TO DISK COLDSTART
LOADER	26.0043	17365	P4922	II.7 DIRECTORY
LOADER	26.0044	17366	P4923	CLEAR DISK
LOADER	26.0045	17367	P4924	DCPCODE LOAD
LOADER	26.0046	17368	P3348	MISCELLANEOUS FIX
LOADER	26.0047	19986	P4925	LISTDIRECTORY
LOADER	26.0048	19987	P4926	OLAY ROW MCPINFO
LOADER	26.0049	19988	P4927	MOD 0
LOADER	26.0050	19989	P4928	CM-LOADER INTERFACE
LOADER	26.0051	17301	P4929	SAVE ARRAYS
LOADER	26.0052	17302	P4930	II.6 - II.7 CONVERSION
LOADER	26.0053	17300	P4931	RESEQUENCE LOADER

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
LOADER	26.0054	17323	P3348	MISCELLANEOUS FIX
LOADER	26.0055	17324	P4932	DISPLAY OF SEGMENTS
LOADER	26.0056	17325	D1067	NOFATAL DUMPS
LOADER	26.0057	17326	D1068	RECOVERY FROM FATAL DUMPS
LOADER	26.0058	17327	P4933	GETUSERDISK "NO DISK"
LOADER	26.0059	17328	P3914	DEBUG CODE
LOADER	26.0060	17329	P4934	DISPLAY ROWS LOADED
LOADER	26.0061	17330	P4935	DISPLAY
LOADER	26.0062	17331	P4936	NO DISK
LOADER	26.0063	17354	P4937	PROCEDURE DIRECTORY DICTIONARY
LOADER	26.0064	19967	P4938	PAREMETER CARD COMMENTARY
LOADER	26.0065	19968	P4939	MCP NAME LOSS
LOADER	26.0066	19970	P4940	POINTER INITIALIZATION PROC
LOADER	26.0067	19971	P4941	MCPINFO LOCATIONS DISPLAY
LOADER	26.0068	19972	P4942	TIMESTAMP
LOADER	26.0069	19973	P4943	DEFINE DELAY PROCEDURE
LOADER	26.0070	19974	P3393	EFFICIENCY FIX
LOADER	26.0071	19975	P4944	DUPFILE
LOADER	26.0073	17551	P3348	MISCELLANEOUS FIX
LOADER	26.0074	17554	P5030	RECOVERY FROM FATAL DUMPS
LOADER	26.0075	17553	P5031	OVERLAP
LOADER	26.0076	17552	P5032	RESEQUENCE INTIALIZESTUFF
LOADER	26.0077	17679	P5103	COPYRIGHT II.7
LOADER	26.0078	17777	P5033	DISK LABELS
LOADER	26.0079	17800	P3348	MISCELLANEOUS FIX
LOADER	26.0080	17780	P3393	EFFICIENCY FIX
LOADER	26.0081	17770	P5034	DISK AT COLDSTART
LOADER	26.0082	17752	P5035	II.6 TO II.7 CONVERSION
LOADER	26.0083	17739	P5036	BACKUP FILES
LOADER	26.0084	17733	P5037	MAXIMUM OLAYROW SIZE
LOADER	26.0085	17718	P5038	BACKUP DIRECTORIES
LOADER	26.0086	17719	P5039	CATALOG ADDRESS
LOADER	26.0087	17720	P5040	OLAYROW SIZE
LOADER	26.0088	17703	P3348	MISCELLANEOUS FIX
LOGANALY	26.0001	14506	D0737	CPUTEST CHANGES
LOGANALY	26.0002	16309	D0784	LOG DATES
LOGANALY	26.0003	17611	P4917	CPUERROR
LOGANALY	26.0004	17183	P4235	LOG WITH TIME RANGE
LOGANALY	26.0005	17190	P4236	LOG ERRORS CORRECTION
LOGANALY	26.0006	17191	P4237	DCP FAULT ANALYSIS
LOGANALY	26.0007	19490	P4238	FAULT RECOVERY
LOGANALY	26.0008	19491	P4239	LOG DUMP CORRECTION
LOGANALY	26.0009	19648	P4240	OPERATOR ENTRIES
LOGANALY	26.0010	17434	P4767	HEADING ON IOERROR SUMMARY
LOGANALY	26.0011	17437	P4768	SUMLOG NAME CHANGES
LOGANALY	26.0012	17433	P4769	EOF NO LABEL ON "LOG DATES"
LOGANALY	26.0013	17432	P4770	DISKHEADER READ ERROR
LOGANALY	26.0014	17610	D1061	LOG SECURITY
LOGANALY	26.0015	18595	P4327	II.7 COPYRIGHT
LOGGER		17246	D0995	SYSTEM-LOGGER RELEASE
MAKEUSER	26.0001	18536	P4154	INDENTATION FIX
MAKEUSER	26.0002	18535	P4157	USER [=] <NAME>
MAKEUSER	26.0003	18541	D1069	"FAMILY" IN USERDATAFILE
MAKEUSER	26.0004	18534	P4200	USERCODE FAULT ADDRESS
MCP			D1075	FAMILY SPECIFICATIONS
MCP			D0765	SYSTEM MESSAGE CHANGES
MCP	26.0001	14053	D0735	DISK PACK CAPABILITIES
MCP	26.0002	14491	P3397	DIAGNOSTICS
MCP	26.0003	14063	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0004	14250	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0005	14094	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0006	14242	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0007	14117	P3398	PRINT QT MESSAGE
MCP	26.0008	14144	D0736	STACK EXTENSION
MCP	26.0009	14157	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0010	14167	P3400	FIBSIZE AND FIBINDEX
MCP	26.0011	14183	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0012	14182	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0014	14769	P3401	IOERROR USES ALL STACKS

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
MCP	26.0015	14658	P3402	DISK-PACK IAD FIX
MCP	26.0016	14214	P3403	MEMORY LOCKING
MCP	26.0018	14217	P3404	NEW MCS IN SWAPSPACE
MCP	26.0019	14162	D0737	CPUTEST CHANGES
MCP	26.0020	14492	P3405	MEMORY LOCKING
MCP	26.0021	14449	P3393	EFFICIENCY FIX
MCP	26.0022	14495	P3406	EXPANDAROW
MCP	26.0023	14493	P3407	MULTI-PROCESSOR CODE
MCP	26.0024	14494	P3408	DISK FILE HEADERS
MCP	26.0025	14447	P3409	IC PACK IMPROVEMENTS
MCP	26.0026	14450	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0027	14448	D0739	SERIALNO IN WFL
MCP	26.0028	14702	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0029	14721	P3410	MEMDUMP DISK ADDRESS
MCP	26.0030	14771	P3410	MEMDUMP DISK ADDRESS
MCP	26.0034	14785	P3411	DATE AND TIME STAMP IN DUMP
MCP	26.0035	14694	P3412	PACK I-O ERROR MSGS
MCP	26.0036	14667	D0737	CPUTEST CHANGES
MCP	26.0037	11706	P3413	SYSTEMSTATUS INTRINSIC
MCP	26.0038	14675	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0039	14698	P3414	UNOWNED LIBERATE TRAP
MCP	26.0040	14677	P3393	EFFICIENCY FIX
MCP	26.0041	14764	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0042	14765	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0043	14661	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0044	14763	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0045	14662	P3425	DISK-PACK FIXES
MCP	26.0046	14663	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0047	14642	P3408	DISK FILE HEADERS
MCP	26.0048	14641	P3406	EXPANDAROW
MCP	26.0049	14640	P3409	DISK FILE HEADERS
MCP	26.0053	14674	P3415	READPACKLBL
MCP	26.0055	14637	P3416	PO OVERLAY
MCP	26.0056	14636	P3417	INVALID OP IN GETSTATUS
MCP	26.0057	14635	P3418	DISK FILE HEADERS
MCP	26.0058	14762	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0059	14632	P3419	STACK OVERFLOW
MCP	26.0060	14653	P3420	WORKINGSETS
MCP	26.0061	11707	P3421	JOBDESC FILE
MCP	26.0062	14652	D0739	SERIALNO IN WFL
MCP	26.0063	14650	P3422	SHORT HEADER IN LIBMAIN
MCP	26.0064	14630	P3423	UNINITIATED I-O
MCP	26.0065	14047	P3424	OVERLAY DISK REWRITE
MCP	26.0066	14627	P3406	EXPANDAROW
MCP	26.0067	14761	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0068	14634	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0076	14620	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0077	15630	D0736	STACK EXTENSION
MCP	26.0078	15634	P3408	DISK FILE HEADERS
MCP	26.0079	15632	P3424	OVERLAY DISK REWRITE
MCP	26.0080	15633	P3424	OVERLAY DISK REWRITE
MCP	26.0081	15636	P3427	SCHEDULING
MCP	26.0082	15635	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0083	14621	P3393	EFFICIENCY FIX
MCP	26.0084	14616	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0085	14618	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0086	14760	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0087	14623	P3428	STACK2 DS-ED
MCP	26.0088	14629	P3429	PROTECTED TAPES
MCP	26.0089	14622	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0090	14614	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0091	14617	P3408	DISK FILE HEADERS
MCP	26.0092	15629	P3430	TAPE RETRY ON WRITE ACCESS ERR
MCP	26.0093	15609	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0094	15611	P3424	OVERLAY DISK REWRITE
MCP	26.0095	15612	D1109	SYSTEMT COMPILE TIME OPTION
MCP	26.0096	15610	D0736	STACK EXTENSION
MCP	26.0098	15615	D0736	STACK EXTENSION
MCP	26.0099	15619	D0735	MINIMAL HEAD-PER-TRACK SYSTEM

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
MCP	26.0100	15617	P3424	OVERLAY DISK REWRITE
MCP	26.0101	15620	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0102	15618	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0103	15616	P3424	OVERLAY DISK REWRITE
MCP	26.0104	15628	P3424	OVERLAY DISK REWRITE
MCP	26.0105	15624	P3526	PURGIT VS BLASTUNIT
MCP	26.0106	15621	P3398	PRINT QT MESSAGE
MCP	26.0107	15574	P3527	DOUBLE PROCURE OF SWAPLOCK
MCP	26.0108	15626	P3528	RESIZE ARRAY PARAM IN SUBSPACE
MCP	26.0109	15625	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0110	15536	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0111	15623	P3529	PACK STATUS
MCP	26.0114	15547	D0736	STACK EXTENSION
MCP	26.0115	15532	P3530	DMSII TASK ATTR FAULT
MCP	26.0116	15541	P3531	RCC NOMENCLATURE IN MEMDUMP
MCP	26.0117	15540	P3532	DO FAULT ERROR DUMP-DIAGNOST
MCP	26.0118	15787	P3533	SWAP SPACE PROBLEM
MCP	26.0119	15538	D0739	SERIALNO IN WFL
MCP	26.0120	15539	P3424	OVERLAY DISK REWRITE
MCP	26.0122	15572	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0123	15573	P3534	IMPROVE RESPONSE TO ST
MCP	26.0124	15571	P3535	HANGS WHILE DS-ING SWAPJOBS
MCP	26.0125	15570	P3536	HANDLING OF SPARE CHUNK
MCP	26.0126	15550	P3537	OLAYSCOUT-SWAPPER INTERFACE
MCP	26.0127	15546	D0749	NEW FILE ATTRIBUTES
MCP	26.0128	15569	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0129	15537	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0130	15627	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0132	15566	D0739	SERIALNO IN WFL
MCP	26.0133	15551	D0739	SERIALNO IN WFL
MCP	26.0134	14649	D0739	SERIALNO IN WFL
MCP	26.0135	15549	D0739	SERIALNO IN WFL
MCP	26.0136	15511	P3393	EFFICIENCY FIX
MCP	26.0138	15568	P3348	MISCELLANEOUS FIX
MCP	26.0139	14670	D0736	STACK EXTENSION
MCP	26.0140	15559	P3539	INVALID OP IN GETSPACE
MCP	26.0143	14669	P3540	B7700 SYMBOL MERGE
MCP	26.0146	15556	P3541	STRETCH SWAPJOB STACKS
MCP	26.0148	15558	P3542	STACKOVERFLOW
MCP	26.0149	15779	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0150	15775	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0151	15557	P3543	EXCLUSIVE FILES
MCP	26.0152	15713	P3544	"NOT ON" MESSAGE IN LIBMAINT
MCP	26.0153	15773	P3393	EFFICIENCY FIX
MCP	26.0154	15774	P3408	DISK FILE HEADERS
MCP	26.0157	15771	P3419	STACK OVERFLOW
MCP	26.0158	15714	P3545	MEMORY LOCKING
MCP	26.0160	15765	P3546	CHECKPOINT WITH NAMED PACKS
MCP	26.0161	15748	P3545	MEMORY LOCKING
MCP	26.0162	15747	P3402	EXPANDAROW
MCP	26.0163	15764	P3393	EFFICIENCY FIX
MCP	26.0164	15749	P3575	GETAREA
MCP	26.0165	15741	P3536	HANDLING OF SPARE CHUNK
MCP	26.0166	15745	P3576	EOF CALCULATION IN SWAPJOBS
MCP	26.0167	15738	P3393	EFFICIENCY FIX
MCP	26.0168	15740	P3393	EFFICIENCY FIX
MCP	26.0169	15746	P3393	EFFICIENCY FIX
MCP	26.0170	15772	D0735	DISK PACK CAPABILITIES
MCP	26.0171	15715	P3578	OVERLAY
MCP	26.0173	15802	P3579	DMSII FILE SECURITY
MCP	26.0174	15766	P3546	CHECKPOINT WITH NAME PACKS
MCP	26.0175	15564	D0759	FLOATING MCP
MCP	26.0176	15737	P3393	EFFICIENCY FIX
MCP	26.0180	15736	P3393	EFFICIENCY FIX
MCP	26.0181	15733	P3578	OVERLAY
MCP	26.0182	15762	P3581	MESSAGE ON DIRECTORYCONTROL DS
MCP	26.0183	15732	P3408	DISK FILE HEADERS
MCP	26.0184	15735	P3582	$ MCP OPTION
MCP	26.0185	15731	P3583	RESEQ MUTATE

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
MCP	26.0186	15730	D0759	FLOATING MCP
MCP	26.0197	15724	D0759	FLOATING MCP
MCP	26.0198	15725	D0759	FLOATING MCP
MCP	26.0200	15717	P3393	EFFICIENCY FIX
MCP	26.0201	15720	P3600	IOCB[USER] IN PACK I-O ERR
MCP	26.0202	15718	P3348	MISCELLANEOUS FIX
MCP	26.0204	15801	P3601	DMSII ABORT IN SWAP SPACE
MCP	26.0205	15913	P3602	DM6700 MON DIES IF DS OLD PROG
MCP	26.0206	15800	P3603	DMSII I-O ERROR RECOV
MCP	26.0209	15722	P3393	EFFICIENCY FIX
MCP	26.0210	15723	P3604	CONTROLLER WAIT ON HEADERLOCK
MCP	26.0211	15726	P3605	ERR RECOVERY - TRAIN PRINTERS
MCP	26.0212	15727	P3606	JUNK INFO AFTER A H-L
MCP	26.0213	15729	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0214	15729	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0215	15987	P3607	TEST BIT DROPPING ON MPX
MCP	26.0216	15988	D0759	FLOATING MCP
MCP	26.0218	15991	D0895	COMPILE-AND-GO FROM CLOSE
MCP	26.0219	15993	P3393	EFFICIENCY FIX
MCP	26.0220	15994	D0763	PRIVATE TASK
MCP	26.0221	15996	P3610	WRITE LOCKED-OUT DISK
MCP	26.0222	15997	P3611	DISK I-O DIAGNOSTIC
MCP	26.0223	15769	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0224	15990	P3612	RESEQ END OF MUTATE
MCP	26.0225	15985	P3613	TAPEPARITYRETRY WORD COUNT
MCP	26.0226	16006	P3652	COPY REPLACING
MCP	26.0227	16002	P3608	BLOCKEXIT PROBLEM
MCP	26.0228	15995	P3348	MISCELLANEOUS FIX
MCP	26.0229	16119	P3582	$ MCP OPTION
MCP	26.0230	16099	P3582	$ MCP OPTION
MCP	26.0231	16104	P3582	$ MCP OPTION
MCP	26.0232	16003	P3623	MORE ENTERUSERFILE CALLS
MCP	26.0233	16121	D0759	FLOATING MCP
MCP	26.0234	16120	D0759	FLOATING MCP
MCP	26.0235	16116	D0764	DIRECTORY PROJECT
MCP	26.0236	16100	P3582	$ MCP OPTION
MCP	26.0237	16101	P3611	DISK I-O DIAGNOSTIC
MCP	26.0245	15986	P3393	EFFICIENCY FIX
MCP	26.0246	15992	P3753	WRITE LOCK-OUT
MCP	26.0247	16106	D0735	DISK PACK CAPABILITIES
MCP	26.0248	16098	D1050	INSTRUCTION BLOCK AND FETCH
MCP	26.0250	16083	P3582	$ MCP OPTION
MCP	26.0251	16084	P3754	MACHINE IDENTIFICATION
MCP	26.0252	16013	P3755	FILEKIND (INTERNAL CHANGE)
MCP	26.0253	16097	P3393	EFFICIENCY FIX
MCP	26.0254	16015	P3756	LIBRARY MAINTENANCE
MCP	26.0255	16093	P3757	BADDISK FILES
MCP	26.0256	16094	P3758	PARAMETER CHECKING
MCP	26.0257	16117	D0744	CONTROLLER MESSAGE CHANGES
MCP	26.0258	16110	P3760	UNITNO IN LIBMAIN
MCP	26.0259	16012	P3393	EFFICIENCY FIX
MCP	26.0260	15861	P3761	DMSII DMS WAIT FIX
MCP	26.0261	15873	P3762	DMSII PROGRAMDUMP IN CLOSE
MCP	26.0266	16075	P3424	OVERLAY DISK REWRITE
MCP	26.0267	16076	P3763	RESTART
MCP	26.0268	16091	P3764	ZIP WITH ARRAY
MCP	26.0269	16080	P3765	SOURCE KIND
MCP	26.0270	16092	P3575	GETAREA
MCP	26.0271	16077	D0831	ADD "COMBINEPPBS"
MCP	26.0272	16078	P3766	DC TANKING TO PACKS
MCP	26.0273	16004	P3759	FIX IC PACK BUGS
MCP	26.0274	16079	P3609	COMPILE-AND-GO FROM CLOSE
MCP	26.0275	16062	P3767	CIRCUMVENT PACK STATUS CHANGE
MCP	26.0276	16062	P3767	CIRCUMVENT PACK STATUS CHANGE
MCP	26.0278	16061	D0735	DISK PACK CAPABILITIES
MCP	26.0279	16085	P3769	INVALID BCL PUNCHES
MCP	26.0280	16070	P3393	EFFICIENCY FIX
MCP	26.0281	16070	P3393	EFFICIENCY FIX
MCP	26.0282	16069	D0759	FLOATING MCP

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
MCP	26.0283	16071	D0759	FLOATING MCP
MCP	26.0284	16067	P3348	MISCELLANEOUS FIX
MCP	26.0285	16066	P3770	FIX RECENT RELEASEHEADER BUG
MCP	26.0286	16064	P3771	PACK EXCLUSIVE OPEN WAIT
MCP	26.0287	15850	D0805	ON-LINE DATA RECOVERY
MCP	26.0288	16053	P3772	DISKPACK PG AND LB
MCP	26.0289	15829	P3773	FIX DS MONITOR
MCP	26.0291	16060	P3774	SYSTEMSTATUS
MCP	26.0292	16052	P3775	OVERLAY HEADER
MCP	26.0293	16054	P4015	DISK PACK CAPABILITIES
MCP	26.0294	16089	P3776	FAULT HANDLING
MCP	26.0295	16057	P4015	DISK PACK CAPABILITIES
MCP	26.0296	16055	P4015	DISK PACK CAPABILITIES
MCP	26.0297	16187	P4031	BUILDBACKUPQUEUER OVERFLOW
MCP	26.0298	16017	P4032	ROW ADDRESS WORDS
MCP	26.0299	16181	P4015	DISK PACK CAPABILITIES
MCP	26.0300	16183	P4033	FINDAFILE CALLS
MCP	26.0301	16182	D1050	INSTRUCTION BLOCK AND FETCH
MCP	26.0302	16178	P4034	STACKOVERFLOW IN IOERROR
MCP	26.0303	16193	D1050	INSTRUCTION BLOCK AND FETCH
MCP	26.0304	16198	P4035	SYSTEMT COMPILE OPTIONS
MCP	26.0305	16191	P4036	REMOVE SYSTEMFILES
MCP	26.0306	16200	P3763	RESTART
MCP	26.0307	16020	P4037	ROW ADDRESS WORD ADDITIONS
MCP	26.0308	16201	D0744	CONTROLLER MESSAGE CHANGES
MCP	26.0310	15849	D0799	PATCH DATABASE
MCP	26.0311	16018	P4037	ROW ADDRESS WORD ADDITIONS
MCP	26.0312	16203	P3348	MISCELLANEOUS FIX
MCP	26.0313	16202	P4039	DM FINDAFILE CALL
MCP	26.0314	16186	P4040	PACKMOUNT IMPROVEMENTS
MCP	26.0315	16204	P4041	MOVE HPT FROM DISKMAPPER
MCP	26.0317	16218	P4042	DEFINE NEW PROCEDURES
MCP	26.0319	16223	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0320	16022	P4037	ROW ADDRESS WORD ADDITIONS
MCP	26.0321	16225	D0759	FLOATING MCP
MCP	26.0322	16224	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0323	16205	P3723	CCTABLEGEN EXPANSION
MCP	26.0324	16230	P3777	COLD START FIX
MCP	26.0325	16234	P3758	PARAMETER CHECKING
MCP	26.0326	16176	P3582	$ MCP OPTION
MCP	26.0327	16177	P3424	OVERLAY DISK REWRITE
MCP	26.0328	15848	P4039	DM FINDAFILE CALL
MCP	26.0329	16235	P3778	FIX MISSING LAST ROW
MCP	26.0330	16024	P4037	ROW ADDRESS WORD ADDITIONS
MCP	26.0331	16023	P3779	NEW EXPERIMENTAL SYSTEMS
MCP	26.0332	16228	P3780	IV PARAMETER
MCP	26.0334	16222	D0744	CONTROLLER MESSAGE CHANGES
MCP	26.0335	16232	P3781	FILEHANDLERQ
MCP	26.0336	16232	P3781	FILEHANDLERQ
MCP	26.0337	16232	P3781	FILEHANDLERQ
MCP	26.0338	16232	P3781	FILEHANDLERQ
MCP	26.0339	16250	D0804	XD ON IV REQUEST
MCP	26.0341	16244	D0804	XD ON IV REQUEST
MCP	26.0345	16239	P3348	MISCELLANEOUS FIX
MCP	26.0347	16241	P4015	DISK PACK CAPABILITIES
MCP	26.0348	16242	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0349	16246	P4015	DISK PACK CAPABILITIES
MCP	26.0350	16245	P4043	FILEHANDLERQ CALLS
MCP	26.0351	16245	P4043	FILEHANDLERQ CALLS
MCP	26.0352	16240	P4044	UINFO ADDITIONS FOR TAPES
MCP	26.0354	16254	P4045	FAULT IN RESIZEANDDEALLOCATE
MCP	26.0355	16025	P4037	ROW ADDRESS WORD ADDITIONS
MCP	26.0357	16255	P4046	PACK MEMDUMP
MCP	26.0358	16267	P4047	LOCK OUTSIDE TRANSACTION
MCP	26.0359	16248	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0360	16029	P4048	DISK ALLOCATION REWRITE
MCP	26.0361	16027	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0362	16028	P4043	FILEHANDLERQ CALLS
MCP	26.0363	17871	P3348	MISCELLANEOUS FIX

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
MCP	26.0365	17870	P4051	ADD HISTORY, VALIDITYBITS
MCP	26.0366	16030	P4048	DISK ALLOCATION REWRITE
MCP	26.0367	16031	P3574	PROTECTED EOF SEARCHING
MCP	26.0368	16088	P3424	OVERLAY DISK REWRITE
MCP	26.0369	16253	D1084	PROPAGATE SUBSPACES ATTRIBUTE
MCP	26.0370	16257	P4053	SYNTAX OF ?? MESSAGES
MCP	26.0371	16258	P3609	COMPILE-AND-GO FROM CLOSE
MCP	26.0373	17866	P4055	ORIGIN UNIT > MAXUNIT
MCP	26.0374	17900	P4056	FIX COMMENTS
MCP	26.0375	17901	P4057	ADD TIO SYSTEM NUMBER
MCP	26.0376	17923	P4056	FIX COMMENTS
MCP	26.0377	17902	P4058	MAKE INFO NOT WRITEABLE
MCP	26.0378	17939	D0812	NOSUMMARY SYSTEM OPTION
MCP	26.0380	16033	P4048	DISK ALLOCATION REWRITE
MCP	26.0381	16032	P4048	DISK ALLOCATION REWRITE
MCP	26.0382	16033	P4048	DISK ALLOCATION REWRITE
MCP	26.0382	17926	P3393	MISCELLANEOUS FIX
MCP	26.0382	17926	P3348	MISCELLANEOUS FIX
MCP	26.0383	17942	P4060	DUPLICATE SEQUENCE NUMBER
MCP	26.0384	17938	P3537	OLAYSCOUT-SWAPPER INTERFACE
MCP	26.0385	16059	P4061	SWAPPER
MCP	26.0387	17937	P3537	OLAYSCOUT-SWAPPER INTERFACE
MCP	26.0388	17946	P4048	DISK ALLOCATION REWRITE
MCP	26.0389	17924	P4062	SWAP OUT ON EVENT WAIT
MCP	26.0392	17951	P3652	COPY REPLACING
MCP	26.0393	17952	P4063	FIX SEEK CODE
MCP	26.0395	17940	P4065	WFL COPY,COMPARE,CATALOG
MCP	26.0396	19747	D0812	NOSUMMARY OPTION
MCP	26.0397	17950	P4066	CHECKPOINT STACKLENGTH
MCP	26.0398	17863	P4015	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0399	17863	D0735	MINIMAL-HEAD-PER-TRACK SYSTEM
MCP	26.0400	17944	P4048	DISK ALLOCATION REWRITE
MCP	26.0401	17934	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0402	17943	P4068	LIB MAINT IC DISKPACK
MCP	26.0403	17945	P4015	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0404	17955	P4062	SWAP OUT ON EVEN WAIT
MCP	26.0405	16671	P4069	NEW DISKMAPPER
MCP	26.0406	16670	P4070	NEW DIRECTORY MGMT ROUTINES
MCP	26.0407	16669	P4071	DISKMAPPER TO STARTSYSTM
MCP	26.0408	16668	P4072	DETECT DIR STYLE AT H-L TIME
MCP	26.0409	16672	P4073	DIRECTORY CONVERSION GLOBALS
MCP	26.0410	17956	D1050	INSTRUCTION BLOCK AND FETCH
MCP	26.0413	17962	P4074	RESOURCE EVENT
MCP	26.0414	17959	P4075	FINDADISKPACK NOW FIREUPROW
MCP	26.0415	17960	P4076	CHANGE VARIABLE NAMES
MCP	26.0416	16666	P4077	FIELD DECL FOR DKCLASSCNTF
MCP	26.0417	16665	P4078	FIX PROCEDURE DICTIONARY
MCP	26.0418	16667	P4079	FIX DISKMAPPER PROBLEMS
MCP	26.0419	16041	P4080	PER DK - SHOWS FAMILYINDEX
MCP	26.0420	17972	D0846	CONTROLLER INITIALIZATION
MCP	26.0422	17973	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0423	17967	P4015	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0425	16036	P4082	LIBMAINTENANCE + FAMILYINDEX
MCP	26.0426	17964	P3652	COPY REPLACING
MCP	26.0427	16035	P4037	ROW ADDRESS WORD ADDITIONS
MCP	26.0429	17965	P4083	MISC PACK IMPROVEMENTS
MCP	26.0430	17965	P4083	MISC PACK IMPROVEMENTS
MCP	26.0431	17966	P4084	FIX LIB MAINTENANCE ERRORS
MCP	26.0433	16039	P4048	DISK ALLOCATION REWRITE
MCP	26.0436	17957	P4085	COLLAPSE HDRTOVECTOR
MCP	26.0437	17971	P4086	IC PACK IMPROVEMENTS
MCP	26.0438	17971	P4086	IC PACK IMPROVEMENTS
MCP	26.0439	17970	P4087	FIX LBFORGETSPACE
MCP	26.0440	17969	P4088	FIX COMMENT SPELLING ERRORS
MCP	26.0441	17976	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0443	17974	P3953	READER-THINKER-WRITER LOCKS
MCP	26.0445	17979	P4068	LIB MAINT IC DISKPACK
MCP	26.0446	17978	P4062	SWAP OUT ON EVENT WAIT
MCP	26.0447	17982	P4089	SETSTATUS STRING LENGTH

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
MCP	26.0448	17977	P4090	RETAIN MEMDUMP DISK
MCP	26.0449	16516	P4091	DMS CALL BEFORE OPEN
MCP	26.0450	16515	P4092	DMS TIMING
MCP	26.0451	17050	D1050	INSTRUCTION BLOCK AND FETCH
MCP	26.0452	17049	P4015	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0453	17051	P4093	DIRECTORY LOCKING
MCP	26.0457	15888	D0883	STACK EXTENTION PREVENTION
MCP	26.0458	16042	P4068	LIB MAINT IC DISKPACK
MCP	26.0459	17990	P4094	SPOS ABOVE MINTERM GROUP
MCP	26.0460	17983	P4095	CM FROM CONTINUATION PACKS
MCP	26.0461	17032	P4096	RESOURCE MANAGEMENT
MCP	26.0463	17036	P4015	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0464	17042	P4097	NEW PROCEDURE "MAKE LEB"
MCP	26.0465	17045	P4098	DIAGNOSTIC PATCH
MCP	26.0466	17044	P4063	NEW PACK STATUS
MCP	26.0467	17043	P4099	PACK CM
MCP	26.0468	17046	P4015	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0469	17034	P4100	ZIP WITH ARRAY
MCP	26.0470	17030	P4088	FIX COMMENT SPELLING ERRORS
MCP	26.0471	16664	P4102	B7700 PSEUDOSTACKBASE
MCP	26.0472	17028	P4015	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.0473	16481	P4047	LOCK OUTSIDE TRANSACTACTIONS
MCP	26.0474	17147	P4103	DMS IO-CHANNEL REPORTING
MCP	26.0475	17150	D0799	PATCH DATABASE
MCP	26.0476	17037	D0884	CM TO NON HL DISK-PACK
MCP	26.0477	17037	D0884	CM TO NON HL DISK-PACK
MCP	26.0478	17027	P4104	RESEQUENCE SOPHIA
MCP	26.0479	17031	P4105	FILE NAMES
MCP	26.0480	16969	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0481	16987	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0483	16111	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0484	16972	D1050	INSTRUCTION BLOCK AND FETCH
MCP	26.0485	16973	P4309	IC PACK
MCP	26.0486	16971	P3348	MISCELLANEOUS FIXES
MCP	26.0487	16991	P4310	FIREUP ROW
MCP	26.0488	17021	P4311	PACK I-O
MCP	26.0489	17004	P4063	FIX SEEK CODE
MCP	26.0491	16479	P4312	DMSII DMSWAIT
MCP	26.0493	17022	P4314	ICGETUSERDISK
MCP	26.0494	17005	P4315	SEEK ERROR
MCP	26.0496	16942	P4317	DMSII MESSAGE
MCP	26.0497	16478	P4318	DMSII DMSOPEN
MCP	26.0498	19489	P4047	LOCK OUTSIDE TRANSACTION
MCP	26.0499	19487	P4319	DMSII EOF UPDATE
MCP	26.0500	19488	P4320	DMSII EOT
MCP	26.0501	16953	P4321	SESSION NUMBERS
MCP	26.0502	16952	D0903	COMPILERTYPE ATTRIBUTE
MCP	26.0503	16950	P4322	PROGRAMDUMP INTERRUPT LITERAL
MCP	26.0504	16949	D1106	PROGRAMDUMP FOREIGN COPIES
MCP	26.0505	16948	D1107	DP AND DS OPTION SETTING
MCP	26.0507	16946	D0901	ORGUNIT
MCP	26.0508	16945	D0905	DESTNAME AND DESTSTATION SPEX
MCP	26.0509	16951	D0906	MCS PRIVILEGE CONTROL
MCP	26.0510	18270	D0892	MCS-WFM INTERFACE
MCP	26.0511	15892	D0898	DCALGOL CONTROLCARD INTRINSIC
MCP	26.0512	19582	P4325	PROCEDURE DIRECTORY
MCP	26.0513	19580	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0516	19570	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0519	19563	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0521	16048	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0523	19547	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0524	19549	P4329	CODE FILE KIND
MCP	26.0530	16044	D0908	B5500 LIBRARY TAPE FILES
MCP	26.0536	19533	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0537	19515	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0539	19535	P4256	IAD BIT
MCP	26.0546	18024	P4336	RESOURCE ALLOCATION
MCP	26.0547	18014	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0548	19480	P4337	DMSII DF FIELD

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
MCP	26.0549	19479	P4338	DMSII MCP-DMSFREE
MCP	26.0550	19478	P4339	DMSII MCP-DS DMSWAIT
MCP	26.0551	19477	P4340	DMSII MCP-TASKSERIAL
MCP	26.0552	19476	D0799	PATCH DATABASE
MCP	26.0554	18008	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0555	19142	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0556	18000	P4449	WFL GLOBAL FILES
MCP	26.0558	17279	P4450	ROW LOCKOUT MESSAGE
MCP	26.0559	16113	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0561	19129	P4341	JOB PRINTOUT
MCP	26.0562	19130	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0563	16499	P4451	REPLACEMENT OF NUMBERCONVERT
MCP	26.0564	19143	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0566	19145	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0567	19153	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0568	18003	P3538	SECURITYGUARD ATTRIBUTE
MCP	26.0569	19155	P4771	GETSTATUS ADDLMASK
MCP	26.0570	19154	D0989	DATE IN GEORGIAN FORM
MCP	26.0571	19152	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0573	19242	P4062	SWAP OUT ON EVENT WAIT
MCP	26.0574	19247	P4006	MOD3 MPX
MCP	26.0575	19156	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0576	19157	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0577	18005	P4772	SPACE STATEMENT FOR REMOTE
MCP	26.0578	18004	P4773	STATION TASK ATTRIBUTE
MCP	26.0579	19256	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0580	19076	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0585	19073	D0881	TAPE LABELS - UNIT NUMBER
MCP	26.0591	19258	P4774	PACK BUG
MCP	26.0595	19260	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0596	19263	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0597	19264	P3575	GETAREA
MCP	26.0598	19265	P4775	DO VARIABLE REMOVAL
MCP	26.0599	19266	P4776	READALABELS STRATEGY CHANGE
MCP	26.0600	19267	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0605	19275	P4775	DO VARIABLE REMOVAL
MCP	26.0606	19274	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0607	19271	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0608	19273	P4777	FAMILY SUBSTITUTION ON "IL"
MCP	26.0609	19162	P4778	MISC CATALOGING FIXES
MCP	26.0610	19158	P4008	REBUILT CATALOG FLAT SEARCH
MCP	26.0611	19276	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0612	19160	P4779	SECURITY CHECK FOR PD CALLS
MCP	26.0613	19279	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0614	19159	P4877	"NQSUMMARY"
MCP	26.0616	19277	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0617	19278	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0618	19278	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0619	19280	P4780	DSWAITFORREPLY DEFINE
MCP	26.0620	19272	D1013	TASK STRING ATTRIBUTES
MCP	26.0621	19283	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0622	19298	P4781	CM ARRAY REFERENCE
MCP	26.0623	19090	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0624	19293	P4062	SWAP OUT ON EVENT WAIT
MCP	26.0625	19302	P4782	READALBL FIX
MCP	26.0626	19300	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0627	19299	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0629	19089	P4783	FA SYSTEM INPUT MESSAGE
MCP	26.0631	19086	P4048	DISK ALLOCATION REWRITE
MCP	26.0632	19289	P4784	ERROR MESSAGES
MCP	26.0633	19281	P3348	MISCELLANEOUS FIX
MCP	26.0634	19087	D1004	FILE ATTRIBUTE - COPIES
MCP	26.0635	19085	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0636	19286	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0637	19097	P4785	INTEGER FORMAT-PROGRAMDUMP
MCP	26.0639	19284	P4786	FAST IV UNDER $EXPERIMENTAL
MCP	26.0640	19285	P4874	EVENT LINKAGES
MCP	26.0641	19422	P4873	HARDCOPY-CONTROLLER INTERFACE
MCP	26.0643	19417	P4787	PROCESSTIME LIMITS

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
MCP	26.0644	19416	P4788	MEM IN SUBSPACES
MCP	26.0646	19381	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0647	19382	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0648	19360	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0649	19359	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0650	19361	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0651	19361	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0652	19304	P4789	STACKPOOL IN $ OPTION
MCP	26.0653	19306	D0987	ID800 AUTOMATIC LOCAL
MCP	26.0654	19307	P4007	ADD SEG 0 LOG TO UINFO
MCP	26.0656	19161	P4790	VERSION CARD CHANGE
MCP	26.0657	19385	P3574	PROTECTED EOF SEARCHING
MCP	26.0658	19386	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0659	19429	P4791	FAST DUPLICATION (AD) FIXES
MCP	26.0660	19429	P4791	FAST DUPLICATION (AD) FIXES
MCP	26.0661	19429	P4791	FAST DUPLICATION (AD) FIXES
MCP	26.0662	19429	P4791	FAST DUPLICATION (AD) FIXES
MCP	26.0663	19429	P4791	FAST DUPLICATION (AD) FIXES
MCP	26.0664	19429	P4791	FAST DUPLICATION (AD) FIXES
MCP	26.0665	19429	P4791	FAST DUPLICATION (AD) FIXES
MCP	26.0667	19436	P4792	CATALOGING MESSAGES
MCP	26.0670	19430	D1014	DUP FILE(SYSTEM FILE) RSVP
MCP	26.0671	19437	P4793	DSWAITS
MCP	26.0673	19438	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0674	19440	P4794	VERIFY FAMILY
MCP	26.0675	19390	P3574	PROTECTED EOF SEARCHING
MCP	26.0676	19163	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0677	19418	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0678	19421	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0679	19165	P4796	GETSTATUS DIRECTORY SECURITY
MCP	26.0680	19446	P4797	PLCONDHANDLER PROCEDURE
MCP	26.0681	19419	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0683	18935	P4798	USERDATA PRIVILEGED DATA
MCP	26.0685	19420	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0686	19166	P4799	RESEQUENCE GETSTATUS
MCP	26.0688	19393	P4800	LEFT ASSIGNED-GLOBAL TAPE
MCP	26.0689	19450	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0690	19449	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0691	19451	P4801	VERIFY FAMILY
MCP	26.0692	19451	P4801	VERIFY FAMILY
MCP	26.0693	19394	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0694	19454	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0695	18927	D0920	USERDATAFILE SYSTEM FILE
MCP	26.0696	18926	D1058	USERDATAFILE
MCP	26.0697	19457	P3541	STRETCH SWAPJOB STACKS
MCP	26.0701	19396	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0703	19455	D1111	COPY AS AND ONTO
MCP	26.0705	19462	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0706	19445	D0988	FILE ATTRIBUTE - FILEKIND
MCP	26.0707	19467	P4805	EXIT-POOL DESCRIPTOR SYNTAX
MCP	26.0708	19469	P4806	NAME ON PACK WITH USERCODE
MCP	26.0709	20006	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0710	20005	P4678	PD FIXES
MCP	26.0711	18934	P4807	FILESENTRY IS DE-IMPLEMENTED
MCP	26.0712	18932	D1047	USERDATAFILE ON HALT-LOAD UNIT
MCP	26.0713	18931	D1058	USERDATAFILE
MCP	26.0714	19461	P4808	RESIZE OF VALUE ARRAYS
MCP	26.0716	19996	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0717	17426	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0718	19460	P4809	PB OF JOBS IN QUEUES
MCP	26.0719	19399	D1041	FILE SECURITY - FILE OPEN
MCP	26.0721	19397	P3538	SECURITYGUARD ATTRIBUTE
MCP	26.0722	20000	P4810	CM FROM II.7 TO II.6
MCP	26.0724	17412	P3348	MISCELLANEOUS FIX
MCP	26.0725	17411	P4811	TASK ATTRIBUTE PARTNER
MCP	26.0726	18930	D1058	USERDATAFILE
MCP	26.0727	17405	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0728	17404	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0729	17430	P4791	FAST DUPLICATION (AD) FIXES

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
MCP	26.0732	17403	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0733	17414	P4788	MEM IN SUBSPACES
MCP	26.0734	17413	P4062	SWAPOUT ON EVENT WAIT
MCP	26.0735	19471	P4813	FAULT STATEMENT IN DMSFREE
MCP	26.0736	17453	D0799	PATCH DATABASE
MCP	26.0737	19116	P4712	SEGMENT LARGE STACK IMAGES
MCP	26.0738	17396	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0739	17397	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0740	17395	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0741	17391	D0898	DCALGOL CONTROLCARD INTRINSIC
MCP	26.0742	17389	D1047	USERDATAFILE - HALT-LOAD UNIT
MCP	26.0743	17390	P4873	HARDCOPY-CONTROLLER INTERFACE
MCP	26.0744	17288	D1058	USERDATAFILE
MCP	26.0745	17379	P4816	HPT MESSAGES IN PACKERRMSG
MCP	26.0746	17380	P4817	GLOBAL DEFINE IN RC
MCP	26.0747	17377	P3348	MISCELLANEOUS FIX
MCP	26.0748	17378	P4818	CHANGE DIAGNOSTICS TO MCPTEST
MCP	26.0749	17374	P4819	ROLL-OUT
MCP	26.0750	17381	P4820	NO MEM IN SWAPSPACE FIXES
MCP	26.0753	19990	P4821	MISSING CONTINUATION PD NEXT
MCP	26.0754	17385	P4822	NO MEN IN SWAPSPACE
MCP	26.0755	17386	P4823	INVALID ADDRESS IN SWAPPER
MCP	26.0756	17387	P4824	NO MEMORY DUMP OUT OF OPEN
MCP	26.0757	17384	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0758	17383	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0759	18929	D1058	USERDATAFILE
MCP	26.0760	17393	P3348	MISCELLANEOUS FIX
MCP	26.0761	17382	P4811	TASK ATTRIBUTE PARTNER
MCP	26.0762	17372	P4825	PROGRAM DUMP NAMES
MCP	26.0763	17371	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0764	17410	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0765	17375	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0766	17362	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0767	19401	P4826	DS-TIMING PROBLEM
MCP	26.0768	17364	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0769	17394	P3521	RECOVER BAD TAPES
MCP	26.0770	17361	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0771	17358	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0772	19994	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0773	19991	P4827	PD WITH NO ON PART TO HPT DISK
MCP	26.0774	17360	P4809	PB OF JOBS IN QUEUES
MCP	26.0775	17359	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0776	19402	P4795	PROTECTED FILES
MCP	26.0777	17349	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0778	17350	P4828	BAD LOSEOLAYSPACE
MCP	26.0779	17351	P4829	MOM SNR IN RESIZEANDDEAL
MCP	26.0780	19984	P4830	ZERO BLOCKS
MCP	26.0781	19885	P4831	JOB FILE
MCP	26.0782	17353	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0783	19982	P4832	MASK BIT
MCP	26.0784	17348	P3348	MISCELLANEOUS FIX
MCP	26.0785	17346	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0786	17343	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0787	17409	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0788	17344	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0789	17345	D1112	RC BASE HPT DISK
MCP	26.0790	17369	P4834	ADDR FIX CONVERSION
MCP	26.0791	17347	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0792	17339	P4835	DISKPACK SEEK
MCP	26.0793	17341	P4836	JOBFORMATTER
MCP	26.0794	17340	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0795	17342	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0797	17336	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0799	17338	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0800	19405	D1052	TAPE FILES AND CATALOGING
MCP	26.0802	19406	P3523	TAPE FILES AND CATALOGING
MCP	26.0803	19979	P4945	PD NAME LEVELS
MCP	26.0804	17315	P4946	DEFAULT SERIAL NUMBER
MCP	26.0805	19978	P4947	AUTO CONTINUATION

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
MCP	26.0806	17318	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0807	17321	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0808	17322	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0809	17320	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0811	17306	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0812	17308	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0813	17307	P3348	MISCELLANEOUS FIX
MCP	26.0814	17309	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0815	17310	P4948	VOLUME BIT AT HALT-LOAD
MCP	26.0816	17311	P4949	REEL NUMBERS
MCP	26.0817	19977	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0818	17312	P4950	MESSAGES ON CATALOG ADD
MCP	26.0819	17313	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0820	17314	D0765	SYSTEM MESSAGE CHANGES
MCP	26.0821	19976	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0822	19411	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0823	19410	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0824	19409	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0825	19408	D1053	COBOL USE PROCEDURES
MCP	26.0826	19407	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0827	17355	P4951	? ? OK
MCP	26.0828	17305	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0829	17297	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0830	17299	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0831	17303	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0832	17525	P4952	BACKUPEUS
MCP	26.0833	17392	P4953	RESEQUENCE COPYDIR
MCP	26.0834	17531	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0835	17356	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0836	17357	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0837	17530	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0838	17523	P4954	TAPE F.A.S.T. INDEX AT H-L
MCP	26.0839	17522	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0840	17528	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0841	19412	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0842	17533	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0843	17565	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0844	17518	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0845	17564	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0846	17535	P4956	STACK OVERFLOW IN SWAPPER
MCP	26.0847	17520	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0848	17521	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0849	17519	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0850	19413	P3574	PROTECTED EOF SEARCHING
MCP	26.0851	17558	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0852	17559	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0853	17557	P4957	VOLUMED BIT
MCP	26.0854	17562	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0855	17546	P5041	PACK I-O
MCP	26.0856	17516	P5042	UNIT NUMBER
MCP	26.0857	17517	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0858	17547	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0859	17529	D1072	NEW PD FORMAT
MCP	26.0860	17319	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0861	17549	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0862	17540	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0863	17537	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0864	17538	P4096	RESOURCE MANAGEMENT
MCP	26.0865	17506	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0866	17509	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0867	17508	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0868	17510	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0869	17514	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0870	17514	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0871	17511	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0872	17513	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0873	17512	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0874	19414	P3419	STACK OVERFLOW
MCP	26.0875	19415	D1059	DISK MANAGEMENT REDESIGN

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
MCP	26.0876	17539	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0877	17608	P5043	SU ZERO
MCP	26.0878	17515	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0879	17536	P3541	STRETCH SWAPJOB STACKS
MCP	26.0880	17607	P5044	UINFO FOR NEW BACKUPS
MCP	26.0881	17605	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0882	17604	P5045	FAST OR VAST WRITE ERROR
MCP	26.0883	17527	P5055	ATTRIBUTE ERRORS
MCP	26.0884	17502	P5056	PD CALL
MCP	26.0885	17503	P5057	PD
MCP	26.0886	17504	P5058	MAXLEVEL
MCP	26.0887	17507	P3393	EFFICIENCY FIX
MCP	26.0888	17505	P5059	UNIT NUMBER OR FAMILY NAME
MCP	26.0889	17603	P5060	RESIZEANDDEALLOCATE CALLS
MCP	26.0890	17603	P5060	RESIZEANDDEALLOCATE CALLS
MCP	26.0891	17603	P5060	RESIZEANDDEALLOCATE CALLS
MCP	26.0892	17597	D1077	READY HEAD-PER-TRACK
MCP	26.0893	17601	P4096	RESOURCE MANAGEMENT
MCP	26.0894	17599	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0895	17600	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0896	17684	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0897	17685	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0898	17591	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0899	17592	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0900	17598	P5094	SYNCHRONIZE COPYDIR RC
MCP	26.0901	17590	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0902	17798	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0903	19684	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0904	19685	D1003	FILE ATTRIBUTE TITLE
MCP	26.0905	19686	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0907	17675	P3419	STACK OVERFLOW
MCP	26.0908	19688	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0909	19689	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0910	17788	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0911	17789	P5061	FIBLESS I-O ERROR MESSAGES
MCP	26.0913	17683	P5062	UNCONDITIONAL RETURN
MCP	26.0914	17681	P5100	COPYRIGHT II.7
MCP	26.0915	17674	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0916	17786	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0917	17785	P5096	PASS CODEFILEDESC
MCP	26.0919	17628	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0920	17627	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0921	17626	P3419	STACK OVERFLOW
MCP	26.0922	17625	P3419	STACK OVERFLOW
MCP	26.0923	17624	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0924	17623	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0925	17622	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0926	17792	P5063	HEAD PER TRACK COLD START
MCP	26.0927	17778	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0928	17783	D0736	STACK EXTENSION
MCP	26.0929	17621	D1078	GETSTATUS CALL
MCP	26.0930	17781	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0931	17771	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0932	17776	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0933	17772	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0934	17774	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0935	17773	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0936	17775	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0938	19692	P4336	RESOURCE ALLOCATION
MCP	26.0939	19691	D1050	INSTRUCTION BLOCK AND FETCH
MCP	26.0940	17768	D1079	S-N SPECIFICATION FOR H-P-T
MCP	26.0941	17767	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0942	17769	P5064	STARTSYSTEM AND H P T DISKS
MCP	26.0943	17764	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0944	17766	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0945	19693	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0946	19694	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0947	19695	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0948	19696	D1059	DISK MANAGEMENT REDESIGN

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
MCP	26.0949	19697	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0950	19698	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0951	19699	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0952	17762	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0953	17749	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0954	17751	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0955	17754	P4791	FAST DUPLICATION (AD)
MCP	26.0956	17753	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0958	17734	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0959	17821	D0912	CLEAR REMOTE FILES
MCP	26.0960	17741	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0961	17732	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0962	17730	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0963	17729	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0964	17636	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0965	17612	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0966	17727	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0967	17756	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0968	17755	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0969	17761	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0970	17760	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0971	17759	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0972	17744	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0973	17617	P5065	UNUSED ROWS
MCP	26.0974	17615	P5066	GETSTATUS HARD ERROR
MCP	26.0975	17763	P5067	BAD FORGESTSPACE
MCP	26.0977	17614	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0978	17613	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0979	19700	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0980	17722	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0981	17724	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0982	17723	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0983	17671	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0984	17672	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0985	19701	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0987	19703	D0915	TITLE, PACKNAME ATTRIBUTES
MCP	26.0989	17673	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0990	17666	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0991	17667	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0992	17668	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0993	17669	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0994	17670	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0995	17743	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0996	17665	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0997	17711	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0998	19705	D1059	DISK MANAGEMENT REDESIGN
MCP	26.0999	17710	P5068	STATUS DUMP
MCP	26.1000	17709	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1001	17706	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1002	17705	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1003	17664	P5069	STACK OVERFLOWS-PURGEIT
MCP	26.1004	17708	D1041	FILE SECURITY - FILE OPEN
MCP	26.1005	17663	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1006	17662	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1007	17713	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1008	17712	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1009	17715	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1010	17714	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1011	17660	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1012	17657	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1013	19706	D1041	FILE SECURITY - FILE OPEN
MCP	26.1015	19708	P4048	DISK ALLOCATION REWRITE
MCP	26.1016	19709	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1017	17700	P5098	CONRAC SPO COMPATIBILITY
MCP	26.1018	17701	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1019	17694	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1021	17658	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1022	19710	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1023	19711	D1105	WRITE LOCKED OUT DISK FAMILIES

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
MCP	26.1024	17704	P5070	CM #
MCP	26.1025	17702	P5071	LOADTRANSTABLE CALL
MCP	26.1026	17695	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1027	17699	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1028	17693	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1029	17692	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1030	17659	P5072	UNOWNED LIBERATE
MCP	26.1031	17690	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1032	17698	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1033	17688	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1034	17687	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1035	17654	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1036	17653	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1037	17652	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1038	17651	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1039	17650	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1040	17649	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1041	17648	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1042	17647	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1043	17646	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1044	17645	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1045	17644	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1046	17643	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1047	17642	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1048	17640	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1049	17641	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1050	17639	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1051	17587	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1052	19713	P5073	LIBRARY MAINT. INVALID INDEX
MCP	26.1053	17588	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1054	17686	P3419	STACK OVERFLOW
MCP	26.1055	17589	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1056	17580	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1057	17584	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1058	17575	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1059	17572	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1060	17638	P5065	UNUSED ROWS
MCP	26.1061	17579	P5097	CONRAC COMPATIBILITY
MCP	26.1062	17635	P5074	DUP COPY & BACKUP
MCP	26.1063	17633	P5065	UNUSED ROWS
MCP	26.1064	17571	P5097	CONRAC COMPATIBILITY
MCP	26.1065	17569	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
MCP	26.1067	17585	P5075	PARAMETER TO LOADTRANSTABLE
MCP	26.1068	17634	P5076	RESIDENT STATE
MCP	26.1069	18462	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1070	17574	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1071	18460	D0764	DIRECTORY PROJECT
MCP	26.1072	18502	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1073	18459	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1074	18458	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1075	19715	P5110	FILE CLOSE LOG ENTRY
MCP	26.1076	18501	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1077	18496	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1078	18456	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1079	18500	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1080	18454	D0764	DIRECTORY PROJECT
MCP	26.1081	18498	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1082	18499	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1083	19716	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1084	18453	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1085	18495	P5062	UNCONDITIONAL RETURN
MCP	26.1086	18493	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1087	18452	P5111	SEG ARRAY IN PACHERRMSG
MCP	26.1088	18490	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1089	17441	P5112	SWAPPER-DIRECT ARRAY PROBLEM
MCP	26.1090	18491	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1091	18492	P5113	GET-SETSTATUS CASES FOR B7700
MCP	26.1092	18438	D1092	CATALOGING OPTION
MCP	26.1093	17126	D0736	STACK EXTENSION

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
MCP	26.1094	18273	D1089	BAD FILE NAMES
MCP	26.1095	17124	P5114	IR TERM DUMP ON 3 PROC-S
MCP	26.1096	18272	D0736	STACK EXTENSION
MCP	26.1097	16943	D0892	MCS-WFM INTERFACE
MCP	26.1098	18274	P5055	ATTRIBUTE ERRORS
MCP	26.1099	17122	D0736	STACK EXTENSION
MCP	26.1100	17113	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1101	18406	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1103	17112	P5115	RETURN OF NON-RESIDENT FILES
MCP	26.1104	19720	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1105	17106	P5116	SWAPPER MEMORY ALLOCATION
MCP	26.1106	18392	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1107	19721	D1059	DISK MANAGEMENT REDESIGN
MCP	26.1110	17098	P4134	INV OP IN FAULTHANDLING
MCP	26.1111	19723	D1008	INPUT TAPE FILES
MCP	27.0277	16065	D0901	ORGUNIT
NDL	26.0001	14133	D0750	THRESHOLD SYSTEM DCP
NDL	26.0002	14132	P3547	STRING CONSTANTS
NDL	26.0003	15667	P3549	FULL DUPLEX LINE SWAP
NDL	26.0004	14128	D0785	DEFINES IN NDL
NDL	26.0005	16210	P3782	MCS NAME TABLE CHANGE
NDL	26.0006	16208	P3785	DCC STATION TABLE ADDITION
NDL	26.0007	16212	D0813	DOLLAR CARD ADDITIONS
NDL	26.0008	16213	D0814	DOLLAR CARD CHANGES
NDL	26.0009	16215	P3854	PARITY STATEMENT FIX
NDL	26.0010	16216	P3994	SECURED CARD FILE FIX
NDL	26.0011	16489	D0863	INITIALIZE STATEMENT
NDL	26.0012	16487	P4158	REORGANIZE PROCEDURES.
NDL	26.0013	16486	P4159	ERROR REPORTING
NDL	26.0014	16485	P4160	ERROR ABORT
NDL	26.0015	16484	P4161	$ PAGE
NDL	26.0016	17272	P4162	DIALIN, DIALOUT CHANGE
NDL	26.0017	17257	D0916	255 STATIONS PER LINE
NDL	26.0018	17265	P4342	TERMINAL DESCRIPTION
NDL	26.0019	17264	P4343	NIF AND DCPCODES
NDL	26.0020	18901	P4837	SPELLING ERROR
NDL	26.0021	17262	D1015	MULTI-LEVEL FILE PREFIXES
NDL	26.0022	17261	P4838	RESEQUENCING DOLLAR CARDS
ONLINEDUMP	26.0001	15711	P3520	REEL SWITCH ERROR
ONLINEDUMP	26.0002	15860	P3619	INVALID INDEX A REEL SWITCH
ONLINEDUMP	26.0003	15859	P3620	PREVENT COPY OF EMPTY FILES
ONLINEDUMP	26.0004	16137	P3669	EXPAND INTERNAL ARRAY SIZES
ONLINEDUMP	26.0005	16138	D0979	ONLINEDUMP TAPE COMPARE
ONLINEDUMP	26.0006	16139	P3671	FIX INV INDEX AT REEL SWITCH
ONLINEDUMP	26.0007	16140	P3672	INCREASE SAVE FACTOR
ONLINEDUMP	26.0008	16141	P3673	QUOTED STRING ON DUMP <ID>=
ONLINEDUMP	26.0009	16268	P3742	FIX LARGE DIRECTORY
ONLINEDUMP	26.0010	16270	D0979	ONLINEDUMP TAPE COMPARE
ONLINEDUMP	26.0011	16269	P3743	CANCEL I-O PENDINGS
ONLINEDUMP	26.0012	16274	D0981	RECOVER TAPE IO ERRORS ON DUMP
ONLINEDUMP	26.0013	17140	D0980	ADD DIRECTORY FOR PACKS
ONLINEDUMP	26.0014	17128	D0952	RECONSTRUCT "ONTO" FILE
ONLINEDUMP	26.0015	17237	D0897	DMSII REBUILD DATABASE
ONLINEDUMP	26.0016	16940	P4408	ERROR FOR RECON ONTO ITSELF
ONLINEDUMP	26.0017	19579	D0953	ADD FAMILYINDEX
ONLINEDUMP	26.0018	19548	P4221	FIX PROBLEM WITH ROWS COPIED
ONLINEDUMP	26.0019	19538	P4269	WAIT FOR EXCLUSIVE FILES
ONLINEDUMP	26.0020	17407	P3843	RECOVER TAPE IO ERRORS ON DUMP
ONLINEDUMP	26.0021	17532	P4890	DUMPING EMPTY DIRECT DATA SETS
PACKCONVERT	26.0001	17676	P3378	COPYRIGHT II.7
PACKCONVERT	26.0002	17120	P5127	CHANGE TO PACK CONVERTER
PATCH	26.0001	15977	P3550	$CHECKPOINT OPTION
PATCH	26.0002	15856	P3522	"NOISE STRING" ON $# CARD
PATCH	26.0003	18288	P5077	$MAKEHOST CARD
PATCH	26.0004	17883	D0815	NEWSEQ ERROR
PATCH	26.0005	16544	P3855	FIX FOR DS THROUGH CANDE
PATCH	26.0006	16546	P3856	VOID $-CARD HANDLING
PATCH	26.0007	16540	P3995	DUPLICATE SEQUENCE NUMBERS
PATCH	26.0008	16539	P3996	$ SEQ HANDLING

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
PATCH	26.0009	16538	P4163	$ MERGE CARD
PATCH	26.0010	16537	P4164	$ CARDS W BLANK SEQ NO-S
PATCH	26.0011	16466	P4241	$ VOIDT HANDLING
PATCH	26.0012	16536	P4242	CARD DROPPED DURING RESEQUENCE
PATCH	26.0013	19510	P4243	INVALID OP OCCURENCE
PATCH	26.0014	19511	P4244	BAD LISTINGS IN COMPARE PHASE
PATCH	26.0015	19504	P4164	$ CARDS WITH BLANK SEQ. NOS.
PATCH	26.0016	19501	P4245	SYSTEM-PATCH HEADING
PATCH	26.0017	19682	D0917	PATCH CONFLICTS
PATCH	26.0018	19677	P4452	$ CONTROL CARDS
PATCH	26.0019	19676	P4453	$* CARD
PATCH	26.0020	19675	P4454	OUT-OF-SEQUENCE
PATCH	26.0021	19672	P4455	PATCH CONFLICT OUTPUT
PATCH	26.0022	19680	P4456	REMOTE TERMINAL USE
PATCH	26.0023	19674	P4457	HEADER TIMES
PATCH	26.0024	18888	D0944	BLANKS IN FILE NAMES
PATCH	26.0025	18886	P4839	CARD FILE KIND IN $ ZIP
PATCH	26.0026	18885	D1016	SINGLE SPACING OUTPUT
PATCH	26.0027	18884	D1017	$. SQUASH OPTION
PLI		16610	D1080	CONTROLCARD
PLI		17463	D1081	UNSPEC BUILT-IN FUNCTION
PLI	26.0001	15923	P3857	TRANSLATE FUNCTION
PLI	26.0002	16588	P3858	PLI PROGRAMDUMP
PLI	26.0003	12444	P3859	EXTERNAL ENTRY VARIABLES
PLI	26.0004	15921	P3860	PREPROCESSOR GARBAGE COLLECT.
PLI	26.0005	16657	P3861	DYNAMIC ERROR MESSAGES
PLI	26.0006	16587	P3862	DOUBLE PRECISION-LABEL FIXES
PLI	26.0007	16586	P3863	NUMBER AND BIT CONVERSION
PLI	26.0008	15920	D0816	SORT-DEFAULT TAPES TO 0
PLI	26.0009	16656	P3864	COMPILER LOOP WHEN SEG TOO BIG
PLI	26.0010	16585	D0817	BINARY PICTURE IMPLEMENTATION
PLI	26.0011	15919	D0818	XREF FORMAT CHANGE
PLI	26.0012	16584	P3866	ADDR WARNING
PLI	26.0013	16583	P3867	COMPILER DEBUGGING
PLI	26.0014	16582	P3868	BIT ARRAY ASSIGNMENTS
PLI	26.0015	16581	P3869	H PICTURES
PLI	26.0016	16655	P3864	COMPILER LOOP ON SEG. TOO BIG
PLI	26.0017	17486	D0819	COMPILER OPTION - PROGRAMDUMP
PLI	26.0018	15918	P3870	WRITE FROM (<POINTER>)
PLI	26.0019	16652	D1098	COMPILER CONTROL CARDS
PLI	26.0020	15917	D0820	PARAMETERS TO MAIN PROCEDURE
PLI	26.0021	16579	P3872	DOUBLE PICTURES
PLI	26.0022	16578	P3873	BIT PROBLEMS
PLI	26.0023	15922	D0821	PREPROCESSOR PUT DATA STMT
PLI	26.0024	16571	D0827	PREPROCESSOR INITIAL ATTRIBUTE
PLI	26.0025	16570	P3874	INITIALIZE TASKVALUE, FILEKIND
PLI	26.0026	16569	P3875	CALL ON A BOUND PROCEDURE
PLI	26.0027	16577	P3876	SIMPLE-OVERLAY DEFINING
PLI	26.0028	12443	P3877	DOUBLE PICTURES
PLI	26.0029	12442	P3878	ERROR ANALYSIS
PLI	26.0030	12441	P3879	OPTIMIZATION
PLI	26.0031	16568	D0822	SORT-PACKSIZE, OPTIMIZATION
PLI	26.0032	16567	D0823	OPTIONS (WORDPOINTER)
PLI	26.0033	12440	P3880	SHORT BIT STRINGS
PLI	26.0034	16651	P3881	PICTURE VARIABLE SPEEDUP
PLI	26.0035	16650	P3882	OPTION FOR PLI COMPILE
PLI	26.0036	14727	P3883	ROUND OF PICTURE ITEM
PLI	26.0037	14728	P3884	FUNCTION CEIL INCORRECT
PLI	26.0038	16575	P3885	VARIABLE DECLARATION
PLI	26.0039	14726	P3886	TIME BIF RETURNS 0 MIN 60 SEC
PLI	26.0040	17480	P4959	PREFIX LABEL LOOP
PLI	26.0041	16574	P4358	DUMP STATEMENT
PLI	26.0042	16573	P4359	PACKNAME ATTRIBUTE ERROR
PLI	26.0043	16566	P3393	EFFICIENCY FIX
PLI	26.0044	16654	P4361	MISSING QUOTE
PLI	26.0045	17479	D1062	DATA MANAGEMENT INTERFACE
PLI	26.0046	17478	D1062	DATA MANAGEMENT INTERFACE
PLI	26.0047	17477	D1062	DATA MANAGEMENT INTERFACE
PLI	26.0048	17476	D1062	DATA MANAGEMENT INTERFACE

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
PLI	26.0049	17475	D1062	DATA MANAGEMENT INTERFACE
PLI	26.0050	17474	D1062	DATA MANAGEMENT INTERFACE
PLI	26.0051	17473	D1062	DATA MANAGEMENT INTERFACE
PLI	26.0052	17472	D1062	DATA MANAGEMENT INTERFACE
PLI	26.0053	17471	D1062	DATA MANAGEMENT INTERFACE
PLI	26.0054	17470	D1062	DATA MANAGEMENT INTERFACE
PLI	26.0055	17469	D1062	DATA MANAGEMENT INTERFACE
PLI	26.0056	17468	D1062	DATA MANAGEMENT INTERFACE
PLI	26.0057	17467	D1062	DATA MANAGEMENT INTERFACE
PLI	26.0058	17466	D1062	DATA MANAGEMENT INTERFACE
PLI	26.0059	17485	D1062	DATA MANAGEMENT INTERFACE
PLI	26.0060	17484	D1062	DATA MANAGEMENT INTERFACE
PLI	26.0061	18253	D1087	INDEPENDANT TASK
PLI	26.0063	18252	P4802	F FORMAT IN GET EDIT STATEMENT
PLI	26.0064	17482	D1063	MYJOB TASK IMPLEMENTATION
PLI	26.0065	19214	P4840	ERROR IN EXPRESSION HANDLING
PLI	26.0066	19213	P4841	FIELD WIDTH IN A-FORMAT
PLI	26.0067	16564	P4842	GENERIC FIX
PLI	26.0068	19169	D1066	RECORDIO OPTIMIZATION
PLI	26.0069	16563	P4960	COMPILER LOOPING
PLI	26.0070	19170	P4961	ASSIGN 0 IO PIC "$$$,$$$.99"
PLI	26.0071	16619	P4962	FORMMESSAGE BLOWS ADM
PLI	26.0072	16618	P4963	BAD DIAGNOSTIC FOR KEYFROM
PLI	26.0073	17465	P4964	FREE IN (AREA) SYNTAX ERROR
PLI	26.0074	17461	P4965	PREPROCESSOR IF TEST
PLI	26.0075	18043	P5078	BASED STRUCTURES
PLI	26.0076	17455	P5079	LINECNT FOR MULTIPLE COMPILES
PLI	26.0077	17460	P5101	II.7 COPYRIGHT
PLI	26.0078	16612	P5080	CONTROLCARD
PLI	26.0079	16613	P5081	COLON IN 48-CHAR SET
PLI	26.0080	16614	P5082	COMPLEX ATTRIBUTE
PLI	26.0081	16615	P5083	NEGATIVE CONSTANT EXPONENTS
PLI	26.0082	16616	P5084	INVALID INDEX WITH FLEVEL SET
PLI	26.0083	16617	P5085	PUT LIST ROUNDING
PLI	26.0084	16611	P5086	COMBINATION OF ATTRIBUTES
PLINTRN	26.0001	16649	D1064	PLI PROGRAMDUMP
PLINTRN	26.0002	17464	P4966	TRANSLATE BIF
PLINTRN	26.0003	16648	P4967	INVALID OP ON PICTURE FORMAT
PLINTRN	26.0004	14731	P4362	GET LIST
PLINTRN	26.0005	14730	P4363	FIELD WIDTHS
PLINTRN	26.0006	14729	P4364	MATH INTRINSIC
PLINTRN	26.0007	19223	P4366	EDIT OF BIT-STRING
PLINTRN	26.0008	16643	P4968	ISAM IORESULT WORD
PLINTRN	26.0009	16642	P4969	ISAM OPTIMIZATION
PLINTRN	26.0010	16641	P4970	ISAM ERRONEOUS ERRORS
PLINTRN	26.0011	16640	P4971	ISAM INVALID INDEX ON DELETE
PLINTRN	26.0012	16639	P4972	ISAM READ
PLINTRN	26.0013	16638	P4973	ISKEYWRITE RETURNS TRUE ALWAYS
PLINTRN	26.0014	19222	P4367	ISAM REWRITE UPDATE
PLINTRN	26.0015	16637	P4974	BIT STRING
PLINTRN	26.0016	16636	P4975	PICTURE DE-EDITTING
PLINTRN	26.0017	16635	P4976	ON CHAR, ONSOURCE
PLINTRN	26.0018	16634	P4977	ISAM DELETE
PLINTRN	26.0019	16602	P4365	EDITED OUTPUT FIELD TRUNCATION
PLINTRN	26.0020	16653	P4357	ERROR CONDITION ON INTRINSICS
PLINTRN	26.0021	16622	P4979	GET LIST
PLINTRN	26.0022	16653	P4357	ERROR CONDITION ON INTRINSICS
PLINTRN	26.0023	16631	D1062	DATA MANAGEMENT INTERFACE
PLINTRN	26.0024	16630	D1066	RECORDIO OPTIMIZATION
PLINTRN	26.0025	19219	P4843	FAULT IN ISOPEN
PLINTRN	26.0026	19217	D0945	GET LIST
PLINTRN	26.0027	19216	P4458	GET STRING LIST
PLINTRN	26.0028	16627	P4982	PUT EDIT OF BIT STRINGS
PLINTRN	26.0029	19215	P4844	GET STRING ERROR CONDITION
PLINTRN	26.0030	19212	P4845	MISSING STATEMENT NUMBER
PLINTRN	26.0031	16565	P4846	PUT EDIT B FORMAT
PLINTRN	26.0032	19211	P4847	RESTARTED TASK ATTRIBUTE
PLINTRN	26.0033	19168	P4987	PUNCHLIMIT AND PRINTLIMIT
PLINTRN	26.0034	16621	P4988	ISAM

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
PLINTRN	26.0035	16620	P4989	ISAM DELETE
PLINTRN	26.0036	18249	P4999	I-O RECORD SIZE
PLINTRN	26.0037	18248	P5004	GLOBAL FILES
PLINTRN	26.0038	17460	P5101	II.7 COPYRIGHT
PRINTAUDIT	26.0001	15648	P3370	AUDIT COMMENT RECORD
PRINTAUDIT	26.0002	15710	D0747	PRINTAUDIT DESCRIPTION
PRINTAUDIT	26.0003	15832	P3621	AUDITYPE INITIALYZE ERROR
PRINTAUDIT	26.0004	16329	P3348	MISCELLANEOUS FIX
PRINTAUDIT	26.0005	16317	P3348	MISCELLANEOUS FIX
PRINTAUDIT	26.0006	17872	P3348	MISCELLANEOUS FIX
PRINTAUDIT	26.0007	16271	P3348	MISCELLANEOUS FIX
PRINTAUDIT	26.0008	17153	P3348	MISCELLANEOUS FIX
PRINTAUDIT	26.0009	17232	P3370	DMSII AUDIT COMMENT RECORD
PRINTAUDIT	26.0010	17229	P4222	WAIT IF NO FILES
PRINTAUDIT	26.0011	19609	D0747	PRINTAUDIT DESCRIPTION
PRINTAUDIT	26.0012	19236	P3348	MISCELLANEOUS FIX
PRINTAUDIT	26.0013	19235	P4431	SPO INPUT
PRINTAUDIT	26.0014	19234	P4432	PARTIAL RECORDS
PRINTAUDIT	26.0015	19255	P4433	"*" SYNTAX
PRINTAUDIT	26.0016	19357	P4714	NEW TITLE FOR PACK
PRINTAUDIT	26.0017	19354	P3348	DMSII AUDIT COMMENT RECORD
PRINTAUDIT	26.0018	17363	D0754	ACCESS STRUCTURE IN DASDL
PRINTAUDIT	26.0019	17602	P4910	TAPE READ TWICE
PRINTAUDIT	26.0020	17742	D0747	PRINTAUDIT DESCRIPTION
PRINTAUDIT	26.0021	17740	D0754	ACCESS STRUCTURES IN DASDL
PRINTBIND	26.0001	17184	P4165	ERROR TERMINATE
PRINTBIND	26.0002	19569	P4246	EXTEND WORK AREA
PRINTBIND	26.0003	19568	P4247	CORRECT SEG ARRAY ERROR
PRINTCOPY	26.0001	17676	P3378	II.7 COPYRIGHT
PRINTIT	26.0001	17275	D0896	DATA BASE PRINT PROGRAM
PROPERTIES	26.0001	15579	P3446	STOP LISTING
PROPERTIES	26.0002	16932	P3954	FIX SEQUENCE ERROR
PROPERTIES	26.0003	19481	P4223	ERRORTYPE MNEMONICS
RECOVERY	26.0001	15646	P3369	ERASE PARTIAL AUDIT RECORD
RECOVERY	26.0002	15645	P3370	AUDIT COMMENT RECORD
RECOVERY	26.0003	15644	P3371	COSMETIC PATCH
RECOVERY	26.0004	15643	P3372	DEBUG TRACE
RECOVERY	26.0005	15642	P3373	DATA SET CREATE-DELETE
RECOVERY	26.0006	15641	P3374	STORAGE ALLOCATION TABLES
RECOVERY	26.0007	15640	P3375	AUDIT MISPOSITION AND LGRA
RECOVERY	26.0008	15665	P3376	UPPER BOUND OF ABORT ARRAY
RECOVERY	26.0009	15578	P3447	REVERSE REELSWITCH
RECOVERY	26.0010	15577	P3448	LASTRECORD DIAGNOSTIC
RECOVERY	26.0011	15535	P3456	STOP EXTRA RESTART AREAS
RECOVERY	26.0012	15534	P3457	DMSII ZEROES FOR COMPATABILITY
RECOVERY	26.0013	15533	P3458	RECOVERY OF RSD
RECOVERY	26.0014	15530	P3459	RECOVERY WITH LONG FILE TITLES
RECOVERY	26.0015	15799	P3460	REQUIRE AUDITED DATABASE
RECOVERY	26.0016	15781	P3567	HL AFTER RECENT ABORT OR HL
RECOVERY	26.0017	15930	P3568	SECURITY ERR ON DATA SET PURGE
RECOVERY	26.0018	15932	P3564	MOVE MYSELF ABORTED BITS TO D1
RECOVERY	26.0019	15931	P3371	COSMETIC PATCH
RECOVERY	26.0020	15914	D0805	ON-LINE DATA RECOVERY
RECOVERY	26.0021	15865	P3371	COSMETIC PATCH
RECOVERY	26.0022	15864	P3591	REELSWITCH LINKAGE
RECOVERY	26.0023	15833	P3622	NO NOTIFICATION OF ABORT
RECOVERY	26.0024	16145	P3674	BLOCK FOR VARIABLE FORMAT
RECOVERY	26.0025	16323	P3393	EFFICIENCY FIX
RECOVERY	26.0026	16361	P3744	LIST + INDEX RANDOM AUDIT
RECOVERY	26.0027	16320	P3745	SINGLE STRUCTURE TRACE
RECOVERY	26.0028	17880	D0754	RANDOM AND DIRECT ACCESS
RECOVERY	26.0029	17879	P3393	EFFICIENCY FIX
RECOVERY	26.0030	17878	P3744	LIST + INDEX RANDOM AUDIT
RECOVERY	26.0031	17877	P3744	LIST + INDEX RANDOM AUDIT
RECOVERY	26.0032	17873	P3744	LIST + INDEX RANDOM AUDIT
RECOVERY	26.0033	17876	P3744	LIST + INDEX RANDOM AUDIT
RECOVERY	26.0034	17875	P3744	LIST + INDEX RANDOM AUDIT
RECOVERY	26.0035	17874	P3561	STAT OPTION FOR RECOVERY
RECOVERY	26.0036	16273	P3744	LIST + INDEX RANDOM AUDIT

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
RECOVERY	26.0037	15751	D0811	MAKE PACKNAME USE CONSISTENT
RECOVERY	26.0038	16923	P3371	DMSII COSMETIC CHARGE
RECOVERY	26.0039	16551	D0754	RANDOM AND DIRECT ACCESS
RECOVERY	26.0040	16937	D0754	RANDOM AND DIRECT ACCESS
RECOVERY	26.0041	16938	P3818	AUDIT OF BIT VECTORS
RECOVERY	26.0042	16935	P3561	STAT OPTION FOR RECOVERY
RECOVERY	26.0043	16924	P3846	LOST RESTART AREAS
RECOVERY	26.0044	16918	D0798	IMPLEMENTS PARTITIONED FILES
RECOVERY	26.0045	16914	P3744	LIST + INDEX RANDOM AUDIT
RECOVERY	26.0046	16931	P3744	LIST + INDEX RANDOM AUDIT
RECOVERY	26.0047	16913	P3744	LIST + INDEX RANDOM AUDIT
RECOVERY	26.0048	16908	P3744	LIST + INDEX RANDOM AUDIT
RECOVERY	26.0049	16902	D0754	RANDOM AND DIRECT ACCESS
RECOVERY	26.0050	17138	D0807	AUDIT AT END TRANSACTION
RECOVERY	26.0051	17127	P4143	ETR AND CLOSE FOR ABORT
RECOVERY	26.0052	17013	P4144	MISSING CONTROL WORD
RECOVERY	26.0053	17012	P4145	AUDIT SERIAL NUMBER
RECOVERY	26.0054	17234	D0897	DMSII REBUILD DATABASE
RECOVERY	26.0055	17237	D0897	DMSII REBUILD DATABASE
RECOVERY	26.0055	19353	P3587	INSERT INVALID TEXT IN GETDATA
RECOVERY	26.0056	19624	P4225	FUTURE IMPLEMENTATION
RECOVERY	26.0057	17281	P4206	INCLUDED FILES LABEL-EQUATABLE
RECOVERY	26.0058	16976	P4226	EXTEND AUDIT-RECOVERY FOR RDS
RECOVERY	26.0059	19626	P4197	FIX LOOPING IN INDEX SETS
RECOVERY	26.0060	19625	P4224	DMSII AUDIT NOT CLOSED IN TIME
RECOVERY	26.0061	19617	P4911	DISE, AISE-ONLY ENTRY
RECOVERY	26.0062	19618	D0897	DMSII REBUILD DATABASE
RECOVERY	26.0063	19616	P3393	EFFICIENCY FIX
RECOVERY	26.0064	19615	P4912	ATTRIBUTE ERROR 64
RECOVERY	26.0065	19564	P3639	NON-SPECIFIED INTRINSICS
RECOVERY	26.0066	19608	P4270	IMPROVE CODE SEG SIZES
RECOVERY	26.0067	19607	P4271	RECOVER NA CHAINS-LIM ERR
RECOVERY	26.0068	19606	P4272	DUP FILES
RECOVERY	26.0069	19604	P3371	COSMETIC PATCH
RECOVERY	26.0070	19605	P4273	ABORT DS-ABLE ON NO FILE
RECOVERY	26.0071	19596	P3727	REMOVE MYSIB, USE SIBINX
RECOVERY	26.0072	19141	D0897	DMS II REBUILD DATA BASE
RECOVERY	26.0073	19140	P4434	RESTART AREA
RECOVERY	26.0074	19292	P4715	UNNECESSARY RECONSTRUCTION
RECOVERY	26.0075	19106	P4716	AUDIT ERROR MESSAGES
RECOVERY	26.0076	19352	P3844	DMSII COSMETIC CHANGE
RECOVERY	26.0077	17427	P4878	TABLE SERIAL NUMBER
RECOVERY	26.0078	17423	P4879	H-L AND ABORT ERRORS
RECOVERY	26.0079	17416	D0754	RANDOM AND DIRECT ACCESS
RECOVERY	26.0080	17398	P3744	LIST & INDEX RANDOM AUDIT
RECOVERY	26.0081	17332	D0897	DMSII REBUILD DATABASE
RECOVERY	26.0082	17534	P3371	COSMETIC PATCH
RECOVERY	26.0083	17609	P5018	STORAGE TABLES
RECOVERY	26.0084	17793	P4913	ADDRESSCHECK WORD
RECOVERY	26.0085	17787	D0897	DMSII REBUILD DATABASE
RECOVERY	26.0086	17578	P3348	MISCELLANEOUS FIX
RJE		11755	D1082	SUMMARY OF II.7 RJE CHANGES
RJE	26.0001	15797	P3487	SS MESSAGE TRUNCATION
RJE	26.0002	15796	P3488	CONTROL MESSAGE CHANGE
RJE	26.0003	15793	P3551	REMOTE PUNCH HANDLING
RJE	26.0004	15794	P3552	RJE-DISPLAYWHO CORRECTION
RJE	26.0005	15795	P3553	CHANGE IN "TERM" KEYIN
RJE	26.0006	15790	P3783	DEBUGGING IMPROVEMENTS
RJE	26.0007	15791	P3784	REMOTE PUNCH CORRECTION
RJE	26.0008	15789	P3887	CARD DECK HANDLING CORRECTION
RJE	26.0009	15788	D0824	FORMMESAGE HANDLING CHANGE
RJE	26.0010	16356	D0825	HANDLING OF CONSIGNED BACKUP
RJE	26.0011	16355	P3997	DEBUG ENHANCEMENT
RJE	26.0012	16353	P4166	II.7 COMPATABILITY
RJE	26.0013	16354	P4167	NOLOGON FAULT
RJE	26.0014	16352	P4168	RSC INPUT FAULT HANDLING
RJE	26.0015	16351	D0864	MESSAGE SUPPRESSION CAPABILITY
RJE	26.0016	16350	D0898	INTERNAL WFL INVOCATION CHANGE
RJE	26.0017	17251	P4248	AUTOBACKUP DIRECTORY PURGING

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
RJE	26.0018	17252	P4249	REMOTE CARD READER ENABLING
RJE	26.0019	17249	D0928	BACKUP ON PACK
RJE	26.0020	17250	P4345	QUEUE FLUSHING
RJE	26.0021	17248	D0946	BACKUP HANDLING
RJE	26.0022	17247	P4459	EMPTY FILE FAULTS
RJE	26.0023	17238	P4848	SIGN-OFF DISCIPLINE CHANGE
RJE	26.0024	17239	P4849	SESSION LOGGING IMPROVEMENT
RJE	26.0025	17240	D1048	CHANGE OF SM RESPONSE
RJE	26.0026	17244	P4732	II.7 NIF PREFIX COMPATIBILITY
RJE	26.0027	18597	P4733	III.7 COPYRIGHT
RJE	26.0028	17242	D1090	PRINTING OF LOWER CASE LETTERS
RJE	26.0029	17243	P5117	BOT NOTICE CORRECTION
RLTABLEGEN	26.0001	17678	P5102	II.7 COPYRIGHT
SCR	26.0001	15508	P3393	EFFICIENCY FIX
SCR	26.0002	15728	P3582	$ MCP OPTION
SCR	26.0003	16013	P3755	FILEKIND (INTERNAL CHANGE)
SCR	26.0004	13680	D0735	DISK PACK CAPABILITIES
SCR	26.0005	13681	D0789	DISK VERIFY TEST 15
SCR	26.0006	13682	P3786	CYLINDER USE ON BX383-215
SCR	26.0007	13683	P3853	NEW SYMBOL
SCR	26.0008	13684	D0801	"WITH" IN INITIALIZE STATEMENT
SCR	26.0009	13685	P3787	ALLOW "GETAREA" TO WAIT
SCR	26.0010	13686	D0790	I-O STATEMENT "NO-OP"
SCR	26.0011	13687	P3788	"FOR SEGMENTS"
SCR	26.0012	13688	P3789	DISPLAY AT RUN-TIME ERRORS
SCR	26.0013	13689	D0786	IMPLEMENT UNITSTATE
SCR	26.0014	13690	D0791	DISPLAY STATEMENT
SCR	26.0015	13691	D0792	PRIMARY IN DISPLAY STMT
SCR	26.0016	13692	D0793	SYNTAX OF " <PRIMARY> "
SCR	26.0017	13693	P3790	VARIABLE NUMBER OF RUN PARMS
SCR	26.0018	13694	P3791	NORMAL STATE OP
SCR	26.0019	13695	P3792	"STATUS PKN"
SCR	26.0020	13696	D0794	"DEFAULT BUFFER" AS <PRIMARY>
SCR	26.0021	13697	D0795	DEFAULT BUFFER IN <SET START>
SCR	26.0022	13698	D0796	I-O LENGTH 131071 WORDS
SCR	26.0023	16222	D0744	CONTROLLER MESSAGE CHANGES
SCR	26.0024	17928	P4106	DUPLICATE SEQUENCE NUMBERS
SCR	26.0025	13699	D1018	MAX 35 PARALLEL I-O OPERATIONS
SCR	26.0026	13700	P4851	"RUNPARMS"
SCR	26.0027	13701	P4850	RELEASING BUFFER
SCR	26.0028	13702	P4852	"ERRORCOUNT" AS A <PRIMARY>
SCR	26.0029	13703	D1019	IOCW AS STATEMENT ATTRIBUTE
SCR	26.0030	13704	D1020	"MAXUNIT" AS A PRIMARY
SCR	26.0031	13705	D1021	"CHECKDATA"
SCR	26.0032	13706	D1022	GEQ & LEQ RELATIONAL OPERATORS
SCR	26.0033	13707	P4853	REDUCE PRIORITY OF MAINTENANCE
SCR	26.0034	13708	D1023	"DYNAMIC FILE" CAPABILITY
SCR	26.0035	13709	D1024	TRACK-TRACK MODE I-O MODIFIER
SCR	26.0036	13710	D1025	TESTING PRESENCE OF A FILE
SCR	26.0037	13711	D1026	LENGTH # FOR PATTERN <PRIMARY>
SCR	26.0038	13712	D1027	"FILEADDR"
SCR	26.0039	13713	P4854	HEAD-PER-TRACK DIRECTORY
SCR	26.0040	13714	P4855	PATH ROUTES NO PRINT ERRORS
SCR	26.0041	13715	P4856	"DEDICATED" WHEN "INITIALIZE"
SCR	26.0042	13716	D1027	FILEADDR
SCR	26.0043	13717	D1028	RELEASING DYNAMIC FILE
SCR	26.0044	13718	P4857	RESEQ. MAINTENANCE SYMBOLIC
SCR	26.0045	13719	D1023	"DYNAMIC FILE" CAPABILITY
SCR	26.0046	13720	P4858	FIX RUN STMT
SCR	26.0047	13721	D1029	IN HEX-OCTAL IN DISPLAY BUFFER
SCR	26.0048	13722	D1030	"STRING A MAT JOB
SCR	26.0049	13723	D1031	"RESERVED" DISK UNIT
SCR	26.0050	13724	P4859	ASSIGNMENT TO CARD READER
SCR	26.0051	13725	D1032	DISPLAY BUFFER ON SAME LINE
SCR	26.0053	13726	D1025	TESTING PRESENCE OF A FILE
SCR	26.0054	13727	P4793	DSWAITS
SCR	26.0055	13728	P4860	MAINTENANCE DSED
SCR	26.0056	13729	P4861	SECURITY OF USER DISK FILES
SCR	26.0057	13730	P4990	"LOAD" PK

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
SCR	26.0058	17679	P5103	II.7 COPYRIGHT
SCR	26.0059	13731	P4990	"LOAD" PK
SCR	26.0060	13732	P5118	FETESTPACK ON A RESERVED UNIT
SCR	26.0061	13733	P5119	CONDITIONAL SEEK BIT ON B380
SCTABLEGEN	26.0001	15552	D0744	CONTROLLER MESSAGE CHANGES
SCTABLEGEN	26.0002	16105	D1050	INSTRUCTION BLOCK AND FETCH
SCTABLEGEN	26.0002	14669	P3540	B7700 SYMBOL MERGE
SCTABLEGEN	26.0003	16189	D1050	INSTRUCTION BLOCK AND FETCH
SCTABLEGEN	26.0006	16222	D0744	CONTROLLER MESSAGE CHANGES
SCTABLEGEN	26.0007	16256	D0865	SUBSPACES QUEUE ATTRIBUTE
SCTABLEGEN	26.0008	17939	D0812	NOSUMMARY SYSTEM OPTION
SCTABLEGEN	26.0010	19533	D1059	DIRECTORY REWRITE
SCTABLEGEN	26.0012	19520	P4346	MCPTEST OPTION
SCTABLEGEN	26.0013	19241	D0990	"VL" DEFINE FOR SPO
SCTABLEGEN	26.0014	19257	P4875	PV MESSAGE
SCTABLEGEN	26.0015	19290	D0992	DD AND AD
SCTABLEGEN	26.0016	19167	D1102	CATALOG LEVEL ON "WM" MESSAGE
SCTABLEGEN	26.0017	17304	D1059	DISK MANAGEMENT REDESIGN
SCTABLEGEN	26.0017	17796	P5092	DE-IMPLEMENT "WC" MESSAGE
SCTABLEGEN	26.0018	17678	P5102	II.7 COPYRIGHT
SCTABLEGEN	26.0019	18438	D1092	CATALOGGING OPTION
SDLS	26.0001	15940	P3503	SDLS REOCCURING SEQ NUMBERS
SDLS	26.0002	19119	P4411	SDL TITLE
SORT	26.0001	15728	P3582	$ MCP OPTION
SORT	26.0002	16021	P4037	ROW ADDRESS WORD ADDITIONS
SORT	26.0003	16346	P3998	SORT IMPROVEMENTS
SORT	26.0004	18258	D1059	DISK MANAGEMENT REDESIGN
SORT	26.0005	16243	D0744	CONTROLLER MESSAGE CHANGES
SORT	26.0006	16941	D1059	DISK MANAGEMENT REDESIGN
SORT	26.0007	17491	P4991	ZERO CORESIZE
SORT	26.0008	17490	P4992	INV OP RUNNING SYSTEST
SORT	26.0009	17494	P4993	DISK SORT - I-O ERROR #17
SORT	26.0011	17492	P4994	SORT IN SWAPSPACE
SORT	26.0012	16561	P4995	STACKOVERFLOW IN SORT
SORT	26.0013	16560	P4996	SWAP JOBS IN SORT
SORT	26.0014	17489	P4997	SEG ARRAY IN SWAPSPACE
SORT	26.0015	17488	P4998	SYNTAX ERROR IN SORT
SORT	26.0016	17460	P5101	II.7 COPYRIGHT
SOURCENDL	26.0001	16217	P3888	NETWORK CHANGES
SOURCENDL	26.0002	16495	P3889	DEFINES
SOURCENDL	26.0003	16494	D0826	MOVE MCS SECTION
SOURCENDL	26.0004	16493	P3890	TC 500 SPEED UP
SOURCENDL	26.0005	16492	P3891	RJE FIXES
SOURCENDL	26.0006	17266	P4347	RJE FIXES
SOURCENDL	26.0007	18896	P4862	TC500-TC3500 TRADEOFF
SOURCENDL	26.0008	18895	P4863	NEW MCS NAMES
SOURCENDL	26.0009	18894	P4864	RJE LOST BLOCK
SOURCENDL	26.0010	17290	D1083	2741 INITIALIZATION
SOURCENDL	26.0011	17294	P5087	RJE TIMEOUT
SOURCENDL	26.0012	17293	P5088	RJE "0000" MESSAGE
SOURCENDL	26.0013	17291	P5089	TIMEOUT FAULT
TAPEDIR		19966	D1091	NEW COMMAND -TD- VS TAPEDIR
TAPEDIR	26.0001	15590	P3433	MISCELLANEOUS COMMENTS
TAPEDIR	26.0002	16345	P3718	BAD TAPE REPORTING IN TAPEDIR
TAPEDIR	26.0003	19651	P4460	DELTA AND CURSOR PLACEMENT
TAPEDIR	26.0004	18283	P4814	COPYRIGHT UPDATE
UDSTRCTTAB	26.0001	18541	D0995	"FAMILY" IN USERDATAFILE
UDSTRCTTAB	26.0002	18540	D1012	"SHOWFILES" IN USERDATAFILE
UDSTRCTTAB	26.0003	18539	D1046	"CANDEGETMSG" IN USERDATAFILE
USERSTRUCT	26.0001	18538	P4201	KEYWORDS IN MAKEUSER
USERSTRUCT	26.0002	18537	D1010	PATCH MARKS
USERSTRUCT	26.0003	18541	D1051	"FAMILY" ON USERDATAFILE
UTILOADER	26.0001	16056	P3793	ADD SET POOL TO SYMBOLIC
UTILOADER	26.0002	19497	D0900	TAPE LABEL RECOGNITION
UTILOADER	26.0003	18026	P4349	PARITY RETRY
UTILOADER	26.0004	19102	P4461	INCREASE NO-FILE TIME DELAY
UTILOADER	26.0005	19246	P4865	TAPE RETRIES
UTILOADER	26.0006	19259	P4866	TAPESEARCH
UTILOADER	26.0007	19998	P4867	KEEP RUNNING LIGHT ON

PATCH TABLE

PATCH NO.		PRI	SYSTEM NOTE	DESCRIPTION
UTILOADER	26.0008	19999	P4868	RESEQUENCE
UTILOADER	26.0009	17417	P4869	DISPLAY UNIT IN REWIND
UTILOADER	26.0009	17555	P5090	LOAD
UTILOADER	26.0010	17679	P5103	II.7 COPYRIGHT
UTILOADER	26.0011	17779	P3348	MISCELLANEOUS FIX
VERIFYAUDIT		17014	D0862	VERIFYAUDIT PROGRAM
VERIFYAUDIT	26.0001	19611	D0862	VERIFYAUDIT PROGRAM
VERIFYAUDIT	26.0002	19610	D0862	VERIFYAUDIT PROGRAM
VERIFYAUDIT	26.0003	19239	P3393	EFFICIENCY FIX
WFL	26.0001	14161	D0739	SERIALNO IN WFL
WFL	26.0002	14448	D0739	SERIALNO IN WFL
WFL	26.0003	14620	D0735	MINIMAL HEAD-PER-TRACK SYSTEM
WFL	26.0004	15542	D0751	DISPLAY IN WAIT STATEMENT
WFL	26.0005	14669	P3540	B7700 SYMBOL MERGE
WFL	26.0006	15501	P3554	DATACOM LOCKING CODE
WFL	26.0007	15778	P3555	INCREASE CODEFILE ROWSIZE
WFL	26.0008	15744	P3609	COMPILE-AND-GO FROM CLOSE
WFL	26.0009	15743	P3585	JUNK RECORD IN JOBFILE
WFL	26.0010	15734	P3586	RUN DECK FROM SECURED READER
WFL	26.0011	15776	P3584	SCAN FILE TITLES CORRECTLY
WFL	26.0012	16085	P3769	INVALID BCL PUNCHES
WFL	26.0013	16107	D0787	ABORT STATEMENT
WFL	26.0014	16074	D0788	SIMPLE COMPILE AND GO
WFL	26.0015	16192	D0885	INTERFACE RESOURCE ALLOCATION
WFL	26.0016	16205	P3723	CCTABLEGEN EXPANSION
WFL	26.0017	16233	D0803	NEW WFL STATEMENTS
WFL	26.0018	17930	P4107	DUPLICATE SEQUENCE
WFL	26.0019	17940	P4065	WFL COPY,COMPARE,CATALOG
WFL	26.0020	17954	P4108	RJE DECK INPUT
WFL	26.0022	17048	D1088	DO AND WHILE STATEMENTS
WFL	26.0023	15892	D0898	DCALGOL CONTROLCARD INTRINSIC
WFL	26.0024	19557	P3348	MISCELLANEOUS FIXES
WFL	26.0025	19558	P4350	CATALOG START
WFL	26.0026	19551	P4351	COPY AND BACKUP
WFL	26.0027	19544	P4352	SCR STATEMENT
WFL	26.0028	18023	P4353	WFL "ON" SYNTAX
WFL	26.0029	19093	D1059	DISK MANAGEMENT REDESIGN
WFL	26.0030	19126	D0947	DEFAULT KIND
WFL	26.0032	19251	P4870	BAD JOBNAME
WFL	26.0033	19270	P4871	MINIMUM STACK = 425 WORDS
WFL	26.0034	19303	D1036	DCALGOL BINDING ENHANCEMENT
WFL	26.0035	19466	P4872	PROPAGATE FAMILY
WFL	26.0036	19997	D1035	VARIATIONS ON TASK HISTORY
WFL	26.0037	17391	D0898	DCALGOL CONTROLCARD INTRINSIC
WFL	26.0038	17680	P5099	II.7 COPYRIGHT
WFL	26.0039	17726	D1059	DIRECTORY MANAGEMENT REDESIGN
WFL	26.0040	17725	D1059	DIRECTORY MANAGEMENT REDESIGN
WFL	26.0041	18489	P4352	SCR STATEMENT
XALGOL	26.0001	14535	P3393	EFFICIENCY FIX
XALGOL	26.0002	19660	D0921	OUTPUT MEDIA DIGIT 32
XALGOL	26.0004	19659	P4374	MONITOR DECLARATION
XALGOL	26.0005	17999	P5091	NEW COPYRIGHT INFORMATION
XREFANALY	26.0001	18594	P4734	II.7 COPYRIGHT
XREFANALY	26.0002	18518	P5120	VERSION IDENTIFICATION

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
D0727	BINDER	26.0002	205-0307	14750
D0728	BINDER	26.0003		14752
D0729	DATACOM	26.0031		14773
D0730	DATACOM	26.0032		14774
D0731	DUMPANALY	26.0001		14265
D0731	DUMPANALY	26.0018		15502
D0732	DUMPANALY	26.0005		14696
D0732	DUMPANALY	26.0016		15543
D0733	COBOL	26.0098	263-0005	18938
D0733	COBOL	26.0098	207-0052	18938
D0734	LOADER	26.0001		14166
D0735	CONTROLLER	26.0001		14250
D0735	CONTROLLER	26.0002		14702
D0735	CONTROLLER	26.0003		14207
D0735	CONTROLLER	26.0006		14620
D0735	CONTROLLER	26.0036		17975
D0735	MCP	26.0001		14053
D0735	MCP	26.0003		14063
D0735	MCP	26.0004		14250
D0735	MCP	26.0005		14094
D0735	MCP	26.0006		14242
D0735	MCP	26.0009		14157
D0735	MCP	26.0011		14183
D0735	MCP	26.0012		14182
D0735	MCP	26.0026		14450
D0735	MCP	26.0028		14702
D0735	MCP	26.0038		14675
D0735	MCP	26.0041		14764
D0735	MCP	26.0042		14765
D0735	MCP	26.0043		14661
D0735	MCP	26.0044		14763
D0735	MCP	26.0046		14663
D0735	MCP	26.0058		14762
D0735	MCP	26.0067		14761
D0735	MCP	26.0068		14634
D0735	MCP	26.0076		14620
D0735	MCP	26.0082		15635
D0735	MCP	26.0084		14616
D0735	MCP	26.0085		14618
D0735	MCP	26.0086		14760
D0735	MCP	26.0089		14622
D0735	MCP	26.0090		14614
D0735	MCP	26.0093		15609
D0735	MCP	26.0099		15619
D0735	MCP	26.0101		15620
D0735	MCP	26.0102		15618
D0735	MCP	26.0109		15625
D0735	MCP	26.0110		15536
D0735	MCP	26.0122		15572
D0735	MCP	26.0128		15569
D0735	MCP	26.0129		15537
D0735	MCP	26.0130		15627
D0735	MCP	26.0149		15779
D0735	MCP	26.0150		15775
D0735	MCP	26.0170		15772
D0735	MCP	26.0213		15729
D0735	MCP	26.0214		15729
D0735	MCP	26.0247		16106
D0735	MCP	26.0278		16061
D0735	MCP	26.0319		16223
D0735	MCP	26.0322		16224
D0735	MCP	26.0348		16242
D0735	MCP	26.0359		16248
D0735	MCP	26.0361		16027
D0735	MCP	26.0399		17863
D0735	MCP	26.0441		17976

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
D0735	MCP	26.1065		17569
D0735	SCR	26.0004		13680
D0735	WFL	26.0003		14620
D0736	CCTABLEGEN	26.0001		14144
D0736	MCP	26.0008		14144
D0736	MCP	26.0077		15630
D0736	MCP	26.0096		15610
D0736	MCP	26.0098		15615
D0736	MCP	26.0114		15547
D0736	MCP	26.0139		14670
D0736	MCP	26.0928		17783
D0736	MCP	26.1093	133-0295	17126
D0736	MCP	26.1096		18272
D0736	MCP	26.1099		17122
D0737	LOGANALY	26.0001		14506
D0737	MCP	26.0019		14162
D0737	MCP	26.0036		14667
D0738	CONTROLLER	26.0013		15721
D0738	IN-OUTPUT	26.0013		13766
D0738	IN-OUTPUT	26.0069		14713
D0738	IN-OUTPUT	26.0666		19387
D0739	CCTABLEGEN	26.0002		14161
D0739	MCP	26.0027		14448
D0739	MCP	26.0062		14652
D0739	MCP	26.0119		15538
D0739	MCP	26.0132		15566
D0739	MCP	26.0133		15551
D0739	MCP	26.0134		14649
D0739	MCP	26.0135		15549
D0739	WFL	26.0001		14161
D0739	WFL	26.0002		14448
D0740	ESPOL	26.0001		14544
D0741	ESPOL	26.0013		15631
D0742	DCALGOLINT	26.0001		14395
D0743	CANDE	26.0010		13897
D0744	CONTROLLER	26.0008		15552
D0744	CONTROLLER	26.0009		15565
D0744	CONTROLLER	26.0011		15563
D0744	CONTROLLER	26.0014		15998
D0744	CONTROLLER	26.0023		16222
D0744	JOBFORMAT	26.0002		16222
D0744	MCP	26.0257	203-0035	16117
D0744	MCP	26.0257	207-0054	16117
D0744	MCP	26.0257	132-0060	16117
D0744	MCP	26.0308		16201
D0744	MCP	26.0334		16222
D0744	SCR	26.0023		16222
D0744	SCTABLEGEN	26.0001		15552
D0744	SCTABLEGEN	26.0006		16222
D0744	SORT	26.0005		16243
D0745	DATACOM	26.0145		14397
D0746	DATACOM	26.0155	187-0135	15670
D0747	PRINTAUDIT	26.0002		15710
D0747	PRINTAUDIT	26.0011		19609
D0747	PRINTAUDIT	26.0020		17742
D0748	DUMPANALY	26.0020		15768
D0749	DATACOM	26.0242		16102
D0749	IN-OUTPUT	26.0113		15507
D0749	IN-OUTPUT	26.0172		15514
D0749	IN-OUTPUT	26.0192		15519
D0749	IN-OUTPUT	26.0193		15515
D0749	IN-OUTPUT	26.0194		15524
D0749	IN-OUTPUT	26.0590		19078
D0749	IN-OUTPUT	26.0604		19083
D0749	MCP	26.0127		15546
D0750	DCPPROGEN	26.0001		14131
D0750	NDL	26.0001		14133
D0751	WFL	26.0004		15542
D0752	CANDE	26.0005	202-0108	13902
D0752	CANDE	26.0005	222-9043	13902

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
D0753	CANDE	26.0007		13900
D0754	ACR	26.0039		15984
D0754	ACR	26.0073		16285
D0754	ACR	26.0081		16368
D0754	ACR	26.0086		16343
D0754	ACR	26.0099		16553
D0754	ACR	26.0114		16483
D0754	ACR	26.0191		19442
D0754	ACR	26.0205		17416
D0754	ACR	26.0208		17376
D0754	ACR	26.0211		17298
D0754	ACR	26.0214		19376
D0754	ACR	26.0219		17745
D0754	DASDL	26.0015		15581
D0754	DASDL	26.0034		16576
D0754	DASDL	26.0065		19362
D0754	DASDL	26.0068		19367
D0754	DASDL	26.0076		19376
D0754	DASDL	26.0079		19379
D0754	DASDL	26.0082		17582
D0754	DASDL	26.0084		18439
D0754	INTERFACE	26.0004		15884
D0754	INTERFACE	26.0022		19483
D0754	PRINTAUDIT	26.0018		17363
D0754	PRINTAUDIT	26.0021		17740
D0754	RECOVERY	26.0028		17880
D0754	RECOVERY	26.0039		16551
D0754	RECOVERY	26.0040		16937
D0754	RECOVERY	26.0049		16902
D0754	RECOVERY	26.0079		17416
D0755	ALGOL	26.0131		19670
D0755	ESPOL	26.0033		19670
D0756	CANDE	26.0011		15792
D0757	DUMPANALY	26.0015		15544
D0757	LOADER	26.0002		15562
D0758	BINDER	26.0005		15974
D0758	ESPOL	26.0016		15975
D0759	MCP	26.0175		15564
D0759	MCP	26.0186		15730
D0759	MCP	26.0197		15724
D0759	MCP	26.0198		15725
D0759	MCP	26.0216		15988
D0759	MCP	26.0233		16121
D0759	MCP	26.0234		16120
D0759	MCP	26.0282		16069
D0759	MCP	26.0283		16071
D0759	MCP	26.0321		16225
D0760	CANDE	26.0015		15886
D0761	CANDE	26.0017		15900
D0762	DUMPANALY	26.0024		15999
D0762	DUMPANALY	26.0026		16008
D0763	MCP	26.0220	113-0707	15994
D0764	MCP	26.0235		16116
D0764	MCP	26.1071		18460
D0764	MCP	26.1080		18454
D0765	MCP			
D0765	MCP	26.0820		17314
D0766	ALGOL	26.0010	222-9049	14591
D0767	BASIC	26.0001	114-0247	15704
D0768	BDMSCOBOL	26.0006		14573
D0768	DASDL	26.0005		15598
D0768	INTERFACE	26.0001		15804
D0769	COBOL	26.0022		15969
D0770	COBOL	26.0025	141-0130	15966
D0771	COBOL	26.0028	188-0033	15962
D0772	COBOL	26.0034	207-0022	15960
D0773	COBOL	26.0035		15959
D0774	ESPOL	26.0005		14539
D0775	BINDER			
D0776	ALGOL		205-0115	15858

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
D0777	ALGOL		193-0116	15880
D0777	ALGOL		205-0257	15880
D0778	FORTRAN	26.0029		14590
D0779	DUMPANALY	26.0029		16096
D0780	DATACOM	26.0264		16072
D0781	CONTROLLER	26.0101		18455
D0782	LOADER	26.0006		16058
D0783	ACR	26.0216		19378
D0783	DASDL	26.0078		19378
D0784	LOGANALY	26.0002		16309
D0785	NDL	26.0004		14128
D0786	SCR	26.0013		13689
D0787	WFL	26.0013		16107
D0788	WFL	26.0014		16074
D0789	SCR	26.0005		13681
D0790	SCR	26.0010		13686
D0791	SCR	26.0014		13690
D0792	SCR	26.0015		13691
D0793	SCR	26.0016		13692
D0794	SCR	26.0020		13696
D0795	SCR	26.0021		13697
D0796	SCR	26.0022		13698
D0797	LOADER	26.0003		15679
D0798	ACR	26.0065		16169
D0798	ACR	26.0080		16324
D0798	DASDL	26.0019		15826
D0798	DASDL	26.0036		16558
D0798	DASDL	26.0063		19364
D0798	DASDL	26.0083		17583
D0798	RECOVERY	26.0044		16918
D0799	ACR	26.0042		15876
D0799	ACR	26.0045		15871
D0799	ACR	26.0046		15870
D0799	ACR	26.0059		15837
D0799	ACR	26.0075		15857
D0799	ACR	26.0120		17157
D0799	ACR	26.0123		17154
D0799	ACR	26.0136		17230
D0799	ACR	26.0175		19594
D0799	ACR	26.0198		17428
D0799	DASDL	26.0018	201-0049	15817
D0799	DASDL	26.0058		19594
D0799	DASDL	26.0070		19369
D0799	DASDL	26.0074		19374
D0799	DASDL	26.0085		18440
D0799	DASDL	26.0088		18387
D0799	INTERFACE	26.0007		16342
D0799	INTERFACE	26.0015		17152
D0799	MCP	26.0310		15849
D0799	MCP	26.0475		17150
D0799	MCP	26.0552		19476
D0799	MCP	26.0736		17453
D0800	DASDL	26.0020		15825
D0800	DASDL	26.0029		16321
D0801	SCR	26.0008		13684
D0802	ALGOL	26.0039	107-0369	15836
D0803	CCTABLEGEN	26.0008		16233
D0803	WFL	26.0017		16233
D0804	CONTROLLER	26.0022		16236
D0804	MCP	26.0339		16250
D0804	MCP	26.0341		16244
D0805	ACR	26.0043		15915
D0805	MCP	26.0287		15850
D0805	RECOVERY	26.0020		15914
D0806	DASDL	26.0028		16359
D0807	ACR	26.0100		16549
D0807	COBOL	26.0079		16548
D0807	INTERFACE	26.0014		16550
D0807	RECOVERY	26.0050		17138
D0808	DUMPANALY	26.0033		16238

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
D0808	DUMPANALY	26.0046		17024
D0809	COBOL	26.0075	252-0013	16598
D0810	COMPARE	26.0001	161-0058	17854
D0811	ACR	26.0094		15751
D0811	DASDL	26.0035		15751
D0811	RECOVERY	26.0037		15751
D0812	CONTROLLER	26.0029		17939
D0812	CONTROLLER	26.0031		17947
D0812	MCP	26.0378		17939
D0812	MCP	26.0396		19747
D0812	SCTABLEGEN	26.0008		17939
D0813	NDL	26.0007		16212
D0814	NDL	26.0008		16213
D0815	PATCH	26.0004		17883
D0816	PLI	26.0008		15920
D0817	PLI	26.0010		16585
D0818	PLI	26.0011		15919
D0819	PLI	26.0017	200-0020	17486
D0820	PLI	26.0020		15917
D0821	PLI	26.0023		15922
D0822	PLI	26.0031	060-6951	16568
D0823	ESPOLINTRN	26.0043		17568
D0823	PLI	26.0032		16567
D0824	RJE	26.0009		15788
D0825	RJE	26.0010		16356
D0826	SOURCENDL	26.0003		16494
D0827	PLI	26.0024		16571
D0828	ALGOL		231-0029	
D0828	ALGOL		139-0088	
D0829	ALGOL	26.0052		16383
D0830	ALGOL	26.0059		16375
D0831	ALGOL	26.0068		16327
D0831	MCP	26.0271		16077
D0832	BACKUP	26.0008	174-0069	17162
D0833	BACKUP	26.0010		17174
D0834	BINDER	26.0009		16347
D0835	CARDLINE	26.0001	080-3005	17172
D0836	COBOL	26.0036		15958
D0837	COBOL	26.0046	263-0004	15951
D0838	BDMSCOBOL	26.0050		16365
D0839	BDMSCOBOL	26.0052		16363
D0840	BDMSCOBOL	26.0053		16362
D0841	COBOL	26.0054	207-0024	16369
D0842	COBOL	26.0057	060-6966	16302
D0843	COBOL	26.0064	060-6868	16306
D0844	COBOL	26.0070	207-0087	16373
D0845	COBOL	26.0077	184-0023	16595
D0846	CONTROLLER	26.0035		17972
D0846	CONTROLLER	26.0037		17980
D0846	CONTROLLER	26.0040		17987
D0846	MCP	26.0420		17972
D0847	ALGOL	26.0060		16379
D0848	ALGOL	26.0072	999-0730	16360
D0849	FORTRAN		205-0227	16528
D0850	BDMSALGOL	26.0089		16473
D0851	BACKUP			17182
D0852	BDMSCOBOL	26.0090		17142
D0852	BDMSCOBOL	26.0109		17217
D0853	BDMSCOBOL	26.0094		16469
D0854	ACR	26.0124		16471
D0854	ACR	26.0189		19444
D0854	INTERFACE	26.0017		17145
D0855	COBOL	26.0125		19226
D0856	DASDL	26.0044		17136
D0857	CONTROLLER	26.0019		16184
D0858	DUMPANALY	26.0021		15739
D0859	ACR	26.0152		17282
D0859	DASDL	26.0047		17133
D0860	DUMPANALY	26.0043	060-6992	17035
D0861	ACR	26.0139		17228

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
D0861	DASDL	26.0049		17131
D0862	ACR	26.0147		17224
D0862	VERIFYAUDIT			17014
D0862	VERIFYAUDIT	26.0001		19611
D0862	VERIFYAUDIT	26.0002		19610
D0863	NDL	26.0011		16489
D0864	RJE	26.0015		16351
D0865	CONTROLLER	26.0026		16256
D0865	SCTABLEGEN	26.0007		16256
D0866	CONTROLLER	26.0033		16410
D0867	DUMPANALY	26.0037		17933
D0868	DUMPANALY	26.0038		17932
D0868	DUMPANALY	26.0039		17984
D0869	DUMPANALY	26.0041		17989
D0870	DATACOM	26.0316		15823
D0870	DATACOM	26.0346		16406
D0870	DATACOM	26.0412		16413
D0870	DATACOM	26.0642		17807
D0871	DATACOM	26.0344		16402
D0871	DATACOM	26.0699		17810
D0872	ALGOL	26.0135	205-0402	17567
D0872	ALGOL	26.0135	133-0191	17567
D0872	ALGOL	26.0135	113-0021	17567
D0872	ALGOL	26.0135	200-0012	17567
D0872	ALGOL	26.0135	169-0107	17567
D0872	ALGOL	26.0135	203-0063	17567
D0872	ALGOL	26.0135	060-6801	17567
D0872	ESPOLINTRN	26.0041		17567
D0873	FILEDATA			18261
D0874	COBOL	26.0102		18921
D0875	DUMPANALY	26.0111		17593
D0876	DATACOM	26.0356	187-0137	16407
D0877	DATACOM	26.0434		16415
D0877	DATACOM	26.0669		17808
D0878	DATACOM	26.0444		16416
D0879	DATACOM	26.0455	194-0060	16419
D0880	IN-OUTPUT	26.0353		16026
D0881	IN-OUTPUT	26.0432		16038
D0881	MCP	26.0585	111-0219	19073
D0882	BDMSALGOL	26.0141		18457
D0883	MCP	26.0457		15888
D0884	MCP	26.0476		17037
D0884	MCP	26.0477		17037
D0885	WFL	26.0015		16192
D0886	BDMSCOBOL	26.0056		19337
D0887	ALGOL	26.0102	168-0100	18042
D0887	ESPOL	26.0028	168-0100	18042
D0888	COBOL	26.0078	149-0105	16594
D0889	COBOL	26.0082	203-0038	16593
D0890	COBOL	26.0093		17065
D0891	COBOL	26.0118	246-0013	19643
D0892	CONTROLLER	26.0044		16943
D0892	ESPOLINTRN	26.0048		18270
D0892	MCP	26.0510		18270
D0892	MCP	26.1097		16943
D0893	CANDE	26.0039	133-0195	18279
D0893	CANDE	26.0039	113-0751	18279
D0894	DUMPANALY	26.0054		16997
D0895	MCP	26.0218		15991
D0896	PRINTIT	26.0001		17275
D0897	ACR	26.0131		17009
D0897	ACR	26.0132		17008
D0897	ACR	26.0218		17782
D0897	ONLINEDUMP	26.0015		17237
D0897	RECOVERY	26.0054		17234
D0897	RECOVERY	26.0055		17237
D0897	RECOVERY	26.0062		19618
D0897	RECOVERY	26.0072		19141
D0897	RECOVERY	26.0081		17332
D0897	RECOVERY	26.0085		17787

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
D0898	ALGOL	26.0101		15892
D0898	MCP	26.0511		15892
D0898	MCP	26.0741		17391
D0898	RJE	26.0016		16350
D0898	WFL	26.0023		15892
D0898	WFL	26.0037		17391
D0899	DUMPANALY	26.0075		19555
D0900	UTILOADER	26.0002		19497
D0901	MCP	26.0507		16946
D0901	MCP	27.0277		16065
D0902	DATACOM			18833
D0903	MCP	26.0502		16952
D0904	DATACOM	26.0506		16947
D0905	MCP	26.0508		16945
D0906	MCP	26.0509		16951
D0907	DATACOM	26.0522		19661
D0908	MCP	26.0530		16044
D0909	IN-OUTPUT	26.0531	252-0020	16049
D0910	IN-OUTPUT	26.0532		16050
D0911	IN-OUTPUT	26.0534		19494
D0912	DATACOM	26.0538	151-0188	16420
D0912	DATACOM	26.0538	133-0134	16420
D0912	DATACOM	26.0538	151-0176	16420
D0912	DATACOM	26.0731		17814
D0912	DATACOM	26.1102		17822
D0912	MCP	26.0959		17821
D0913	IN-OUTPUT	26.0540		19519
D0914	IN-OUTPUT	26.0542		19518
D0915	IN-OUTPUT	26.0543		19543
D0915	MCP	26.0987		19703
D0916	NDL	26.0017		17257
D0917	PATCH	26.0017		19682
D0918	BDMSALGOL	26.0110		19525
D0918	INTERFACE	26.0019		19486
D0919	BDMSALGOL	26.0109		19524
D0920	MCP	26.0695		18927
D0921	ESPOLINTRN	26.0024	111-0169	19660
D0921	XALGOL	26.0002	111-0169	19660
D0922	DIAGNOSTMCS	26.0003		17259
D0923	DIAGNOSTMCS	26.0001		16009
D0924	CANDE	26.0021		15889
D0925	CANDE	26.0022		15887
D0925	CANDE	26.0041		18277
D0926	CANDE	26.0024	198-0021	18849
D0927	CANDE	26.0025	162-0058	18848
D0927	CANDE	26.0025	201-0057	18848
D0927	CANDE	26.0025	261-0042	18848
D0927	CANDE	26.0025	151-0164	18848
D0927	CANDE	26.0025	198-0002	18848
D0928	RJE	26.0019		17249
D0929	CANDE	26.0027		18846
D0930	CANDE	26.0028	109-0103	18845
D0930	CANDE	26.0028	231-0028	18845
D0931	CANDE	26.0029		18843
D0932	CANDE	26.0030		18840
D0933	CANDE	26.0031		18842
D0934	CANDE	26.0034		18838
D0935	CANDE	26.0036	261-0049	18836
D0936	CANDE	26.0037		18835
D0937	CANDE	26.0038		18834
D0938	COBOL	26.0129	252-0001	19632
D0939	FORTRAN	26.0094	168-0088	16159
D0940	DATACOM	26.0565		17802
D0941	COPYAUD-II	26.0003		17137
D0941	COPYAUD-II	26.0005		19237
D0942	ESPOLINTRN	26.0028		18013
D0943	IN-OUTPUT	26.0557		18001
D0944	PATCH	26.0024		18888
D0945	PLINTRN	26.0026	262-0101	19217
D0946	RJE	26.0021	149-0140	17248

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
D0946	RJE	26.0021	149-0002	17248
D0947	WFL	26.0030		19126
D0948	ESPOLINTRN	26.0038	205-0009	19096
D0948	ESPOLINTRN	26.0038	168-0052	19096
D0948	ESPOLINTRN	26.0038	060-6919	19096
D0948	ESPOLINTRN	26.0038	201-0030	19096
D0948	ESPOLINTRN	26.0038	146-0055	19096
D0948	ESPOLINTRN	26.0038	114-0253	19096
D0949	COBOL	26.0097		17064
D0950	DCSTATUS	26.0003		16977
D0951	DCPPROGEN	26.0007	149-0102	17270
D0952	ONLINEDUMP	26.0014		17128
D0953	ONLINEDUMP	26.0017		19579
D0954	DUMPANALY	26.0065		16974
D0955	DUMPANALY	26.0069		19574
D0955	DUMPANALY	26.0090		19282
D0956	CANDE	26.0033		18839
D0957	CANDE	26.0033		18839
D0958	CANDE	26.0019	261-0051	15897
D0958	CANDE	26.0019	143-0107	15897
D0958	CANDE	26.0019	106-1007	15897
D0958	CANDE	26.0019	162-0063	15897
D0958	CANDE	26.0019	142-0207	15897
D0958	CANDE	26.0019	113-0713	15897
D0959	CANDE	26.0019	162-0063	15897
D0959	CANDE	26.0019	142-0207	15897
D0959	CANDE	26.0019	113-0713	15897
D0959	CANDE	26.0019	261-0051	15897
D0959	CANDE	26.0019	143-0107	15897
D0959	CANDE	26.0019	106-1007	15897
D0960	CANDE	26.0019	113-0713	15897
D0960	CANDE	26.0019	142-0207	15897
D0960	CANDE	26.0019	143-0107	15897
D0960	CANDE	26.0019	261-0051	15897
D0960	CANDE	26.0019	106-1007	15897
D0960	CANDE	26.0019	162-0063	15897
D0961	CANDE	26.0019	142-0207	15897
D0961	CANDE	26.0019	143-0107	15897
D0961	CANDE	26.0019	113-0713	15897
D0961	CANDE	26.0019	106-1007	15897
D0961	CANDE	26.0019	162-0063	15897
D0961	CANDE	26.0019	261-0051	15897
D0962	CANDE	26.0019	113-0713	15897
D0962	CANDE	26.0019	142-0207	15897
D0962	CANDE	26.0019	162-0063	15897
D0962	CANDE	26.0019	106-1007	15897
D0962	CANDE	26.0019	143-0107	15897
D0962	CANDE	26.0019	261-0051	15897
D0963	CANDE	26.0019	261-0051	15897
D0963	CANDE	26.0019	113-0713	15897
D0963	CANDE	26.0019	162-0063	15897
D0963	CANDE	26.0019	106-1007	15897
D0963	CANDE	26.0019	143-0107	15897
D0963	CANDE	26.0019	142-0207	15897
D0964	APL-700	26.0079		18131
D0965	APL-700	26.0086		18138
D0966	APL-700	26.0139		18191
D0967	APL-700	26.0146		18197
D0968	APL-700	26.0147		18198
D0969	APL-700	26.0149		18200
D0970	APL-700	26.0163		18214
D0971	APL-700	26.0167		18218
D0972	APL-700	26.0168		18219
D0973	APL-700	26.0169		18220
D0974	APL-700	26.0177		18228
D0975	APL-700	26.0182		18233
D0976	APL-700	26.0183		18234
D0977	CANDE	26.0019		15897
D0978	COBOL	26.0130	060-6944	19633
D0979	ONLINEDUMP	26.0005		16138

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
D0979	ONLINEDUMP	26.0010		16270
D0980	ONLINEDUMP	26.0013		17140
D0981	ONLINEDUMP	26.0012		16274
D0982	ALGOL	26.0123		17993
D0983	ALGOL	26.0127		17994
D0984	BDMSALGOL	26.0128		19427
D0985	COBOL	26.0139	207-0028	16452
D0986	COBOL	26.0154	125-0118	16455
D0986	COBOL	26.0154	132-0062	16455
D0987	CONTROLLER	26.0068		19306
D0987	MCP	26.0653		19306
D0988	CONTROLLER	26.0072		19389
D0988	IN-OUTPUT	26.0672		19389
D0988	MCP	26.0706		19445
D0989	CONTROLLER	26.0060		19154
D0989	MCP	26.0570		19154
D0990	SCTABLEGEN	26.0013		19241
D0991	IN-OUTPUT	26.0628		19088
D0992	CONTROLLER	26.0064		19290
D0992	SCTABLEGEN	26.0015		19290
D0993	ACR	26.0118		16480
D0993	ACR	26.0138		16983
D0993	ACR	26.0151		16955
D0995	LOGGER			17246
D0995	UDSTRCTTAB	26.0001		18541
D0996	DUMPALL	26.0009	190-0037	19650
D0997	DUMPALL	26.0010	190-0036	19649
D0998	DUMPANALY	26.0091		18897
D0999	IN-OUTPUT	26.0572		18002
D1000	IN-OUTPUT	26.0581	149-0160	19075
D1001	IN-OUTPUT	26.0582		18006
D1002	IN-OUTPUT	26.0589		19079
D1003	IN-OUTPUT	26.0592		19077
D1003	MCP	26.0904		19685
D1004	IN-OUTPUT	26.0601		19084
D1004	MCP	26.0634		19087
D1005	DUMPANALY	26.0002		14453
D1006	IN-OUTPUT	26.0630		19091
D1007	CONTROLLER	26.0038		17985
D1008	IN-OUTPUT	26.0684	200-0039	19392
D1008	IN-OUTPUT	26.0988		19704
D1008	MCP	26.1111		19723
D1009	CONTROLLER	26.0039		20003
D1009	CONTROLLER	26.0079		17986
D1009	CONTROLLER	26.0084		19983
D1009	CONTROLLER	26.0102		18494
D1010	USERSTRUCT	26.0002		18537
D1011	DUMPANALY	26.0003		14222
D1012	UDSTRCTTAB	26.0002		18540
D1013	MCP	26.0620		19272
D1014	MCP	26.0670		19430
D1015	NDL	26.0021		17262
D1016	PATCH	26.0026		18885
D1017	PATCH	26.0027		18884
D1018	SCR	26.0025		13699
D1019	SCR	26.0029		13703
D1020	SCR	26.0030		13704
D1021	SCR	26.0031		13705
D1022	SCR	26.0032		13706
D1023	SCR	26.0034		13708
D1023	SCR	26.0045		13719
D1024	SCR	26.0035		13709
D1025	SCR	26.0036		13710
D1025	SCR	26.0053		13726
D1026	SCR	26.0037		13711
D1027	SCR	26.0038		13712
D1027	SCR	26.0042		13716
D1028	SCR	26.0043		13717
D1029	SCR	26.0047		13721
D1030	SCR	26.0048	151-0239	13722

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
D1031	SCR	26.0049		13723
D1032	SCR	26.0051		13725
D1033	DUMPANALY	26.0035		17865
D1034	DUMPANALY	26.0008		14613
D1034	DUMPANALY	26.0017		15560
D1034	DUMPANALY	26.0031		16219
D1034	DUMPANALY	26.0032		16231
D1035	CCTABLEGEN	26.0011		19997
D1035	WFL	26.0036		19997
D1036	CONTROLLER	26.0065		19303
D1036	JOBFORMAT	26.0008		19303
D1036	WFL	26.0034		19303
D1037	CONTROLLER	26.0078		20012
D1037	CONTROLLER	26.0082		19993
D1038	DATACOM	26.0715		17815
D1039	DUMPANALY	26.0098		19463
D1040	IN-OUTPUT	26.0720		19398
D1041	IN-OUTPUT	26.0702		19395
D1041	MCP	26.0719		19399
D1041	MCP	26.1004		17708
D1041	MCP	26.1013		19706
D1042	DUMPANALY	26.0014		15548
D1043	LOADER	26.0031		20008
D1044	LOADER	26.0037		17419
D1045	LOADER	26.0033		20011
D1046	UDSTRCTTAB	26.0003		18539
D1047	MCP	26.0712		18932
D1047	MCP	26.0742		17389
D1048	RJE	26.0025		17240
D1049	DUMPANALY	26.0004		14452
D1050	CCTABLEGEN	26.0004		15767
D1050	CONTROLLER	26.0015		16105
D1050	CONTROLLER	26.0017		16189
D1050	CONTROLLER	26.0018		16185
D1050	MCP	26.0248		16098
D1050	MCP	26.0301		16182
D1050	MCP	26.0303		16193
D1050	MCP	26.0410		17956
D1050	MCP	26.0451		17050
D1050	MCP	26.0484		16972
D1050	MCP	26.0939		19691
D1050	SCTABLEGEN	26.0002		16105
D1050	SCTABLEGEN	26.0003		16189
D1051	USERSTRUCT	26.0003		18541
D1052	MCP	26.0800		19405
D1053	IN-OUTPUT	26.0796	150-0012	19403
D1053	IN-OUTPUT	26.0796	207-0082	19403
D1053	IN-OUTPUT	26.0796	060-6798	19403
D1053	IN-OUTPUT	26.0796	060-6797	19403
D1053	IN-OUTPUT	26.0796	060-6799	19403
D1053	MCP	26.0825		19408
D1054	DUMPANALY	26.0012		15613
D1055	BDMSALGOL	26.0069		16279
D1055	INTERFACE	26.0008		16341
D1056	ACR	26.0115		16909
D1056	ACR	26.0169		19601
D1056	BDMSALGOL	26.0085		16910
D1057	BDMSALGOL	26.0090		16477
D1058	MCP	26.0696		18926
D1058	MCP	26.0713		18931
D1058	MCP	26.0726		18930
D1058	MCP	26.0744		17288
D1058	MCP	26.0759		18929
D1059	CONTROLLER	26.0042		16969
D1059	CONTROLLER	26.0048		19547
D1059	CONTROLLER	26.0054		19094
D1059	CONTROLLER	26.0056		19124
D1059	CONTROLLER	26.0085		17317
D1059	CONTROLLER	26.0088		17526
D1059	CONTROLLER	26.0091		17797

FIXED PROBLEMS TABLE

NOTE	PATCH NO.	TROUBLE REPORT NO.	PRI
D1059	CONTROLLER 26.0094		17734
D1059	CONTROLLER 26.0096		17721
D1059	CONTROLLER 26.0097		17707
D1059	DUMPANALY 26.0113		17790
D1059	DUMPANALY 26.0115		17786
D1059	DUMPANALY 26.0124		18402
D1059	IN-OUTPUT 26.0603		19081
D1059	IN-OUTPUT 26.0615		19082
D1059	MCP 26.0223		15769
D1059	MCP 26.0401		17934
D1059	MCP 26.0422		17973
D1059	MCP 26.0480		16969
D1059	MCP 26.0481		16987
D1059	MCP 26.0483		16111
D1059	MCP 26.0513		19580
D1059	MCP 26.0516		19570
D1059	MCP 26.0519		19563
D1059	MCP 26.0521		16048
D1059	MCP 26.0523		19547
D1059	MCP 26.0536		19533
D1059	MCP 26.0537		19515
D1059	MCP 26.0547		18014
D1059	MCP 26.0554		18008
D1059	MCP 26.0555		19142
D1059	MCP 26.0559		16113
D1059	MCP 26.0562		19130
D1059	MCP 26.0564		19143
D1059	MCP 26.0566		19145
D1059	MCP 26.0567		19153
D1059	MCP 26.0571		19152
D1059	MCP 26.0575		19156
D1059	MCP 26.0576		19157
D1059	MCP 26.0579		19256
D1059	MCP 26.0580		19076
D1059	MCP 26.0595		19260
D1059	MCP 26.0596		19263
D1059	MCP 26.0600		19267
D1059	MCP 26.0606		19274
D1059	MCP 26.0607		19271
D1059	MCP 26.0611		19276
D1059	MCP 26.0613		19279
D1059	MCP 26.0616		19277
D1059	MCP 26.0617		19278
D1059	MCP 26.0618		19278
D1059	MCP 26.0621		19283
D1059	MCP 26.0623		19090
D1059	MCP 26.0626		19300
D1059	MCP 26.0627		19299
D1059	MCP 26.0635		19085
D1059	MCP 26.0636		19286
D1059	MCP 26.0646		19381
D1059	MCP 26.0647		19382
D1059	MCP 26.0648		19360
D1059	MCP 26.0649		19359
D1059	MCP 26.0650		19361
D1059	MCP 26.0651		19361
D1059	MCP 26.0658		19386
D1059	MCP 26.0673		19438
D1059	MCP 26.0676		19163
D1059	MCP 26.0677		19418
D1059	MCP 26.0678		19421
D1059	MCP 26.0681		19419
D1059	MCP 26.0685		19420
D1059	MCP 26.0689		19450
D1059	MCP 26.0690		19449
D1059	MCP 26.0693		19394
D1059	MCP 26.0694		19454
D1059	MCP 26.0701		19396
D1059	MCP 26.0705		19462
D1059	MCP 26.0709		20006

FIXED PROBLEMS TABLE

NOTE	PATCH NO.	TROUBLE REPORT NO.	PRI
D1059	MCP 26.0716		19996
D1059	MCP 26.0717		17426
D1059	MCP 26.0727		17405
D1059	MCP 26.0728		17404
D1059	MCP 26.0732		17403
D1059	MCP 26.0738		17396
D1059	MCP 26.0739		17397
D1059	MCP 26.0740		17395
D1059	MCP 26.0757		17384
D1059	MCP 26.0758		17383
D1059	MCP 26.0763		17371
D1059	MCP 26.0764		17410
D1059	MCP 26.0765		17375
D1059	MCP 26.0766		17362
D1059	MCP 26.0768		17364
D1059	MCP 26.0770		17361
D1059	MCP 26.0771		17358
D1059	MCP 26.0772		19994
D1059	MCP 26.0775		17359
D1059	MCP 26.0777		17349
D1059	MCP 26.0782		17353
D1059	MCP 26.0785		17346
D1059	MCP 26.0786		17343
D1059	MCP 26.0787		17409
D1059	MCP 26.0788		17344
D1059	MCP 26.0791		17347
D1059	MCP 26.0794		17340
D1059	MCP 26.0795		17342
D1059	MCP 26.0797		17336
D1059	MCP 26.0799		17338
D1059	MCP 26.0806		17318
D1059	MCP 26.0807		17321
D1059	MCP 26.0808		17322
D1059	MCP 26.0809		17320
D1059	MCP 26.0811		17306
D1059	MCP 26.0812		17308
D1059	MCP 26.0814		17309
D1059	MCP 26.0817		19977
D1059	MCP 26.0819		17313
D1059	MCP 26.0821		19976
D1059	MCP 26.0822		19411
D1059	MCP 26.0823		19410
D1059	MCP 26.0824		19409
D1059	MCP 26.0826		19407
D1059	MCP 26.0828		17305
D1059	MCP 26.0829		17297
D1059	MCP 26.0830		17299
D1059	MCP 26.0831		17303
D1059	MCP 26.0834		17531
D1059	MCP 26.0835		17356
D1059	MCP 26.0836		17357
D1059	MCP 26.0837		17530
D1059	MCP 26.0839		17522
D1059	MCP 26.0840		17528
D1059	MCP 26.0841		19412
D1059	MCP 26.0842		17533
D1059	MCP 26.0843		17565
D1059	MCP 26.0844		17518
D1059	MCP 26.0845		17564
D1059	MCP 26.0847		17520
D1059	MCP 26.0848		17521
D1059	MCP 26.0849		17519
D1059	MCP 26.0851		17558
D1059	MCP 26.0852		17559
D1059	MCP 26.0854		17562
D1059	MCP 26.0857		17517
D1059	MCP 26.0858		17547
D1059	MCP 26.0860		17319
D1059	MCP 26.0861		17549
D1059	MCP 26.0862		17540

FIXED PROBLEMS TABLE

NOTE	PATCH NO.	TROUBLE REPORT NO.	PRI
D1059	MCP 26.0863		17537
D1059	MCP 26.0865		17506
D1059	MCP 26.0866		17509
D1059	MCP 26.0867		17508
D1059	MCP 26.0868		17510
D1059	MCP 26.0869		17514
D1059	MCP 26.0870		17514
D1059	MCP 26.0871		17511
D1059	MCP 26.0872		17513
D1059	MCP 26.0873		17512
D1059	MCP 26.0875		19415
D1059	MCP 26.0876		17539
D1059	MCP 26.0878		17515
D1059	MCP 26.0881		17605
D1059	MCP 26.0894		17599
D1059	MCP 26.0895		17600
D1059	MCP 26.0896		17684
D1059	MCP 26.0897		17685
D1059	MCP 26.0898		17591
D1059	MCP 26.0899		17592
D1059	MCP 26.0901		17590
D1059	MCP 26.0902		17798
D1059	MCP 26.0903		19684
D1059	MCP 26.0905		19686
D1059	MCP 26.0908		19688
D1059	MCP 26.0909		19689
D1059	MCP 26.0910		17788
D1059	MCP 26.0915		17674
D1059	MCP 26.0916		17786
D1059	MCP 26.0919		17628
D1059	MCP 26.0920		17627
D1059	MCP 26.0923		17624
D1059	MCP 26.0924		17623
D1059	MCP 26.0925		17622
D1059	MCP 26.0927		17778
D1059	MCP 26.0930		17781
D1059	MCP 26.0931		17771
D1059	MCP 26.0932		17776
D1059	MCP 26.0933		17772
D1059	MCP 26.0934		17774
D1059	MCP 26.0935		17773
D1059	MCP 26.0936		17775
D1059	MCP 26.0941		17767
D1059	MCP 26.0943		17764
D1059	MCP 26.0944		17766
D1059	MCP 26.0945		19693
D1059	MCP 26.0946		19694
D1059	MCP 26.0947		19695
D1059	MCP 26.0948		19696
D1059	MCP 26.0949		19697
D1059	MCP 26.0950		19698
D1059	MCP 26.0951		19699
D1059	MCP 26.0952		17762
D1059	MCP 26.0953		17749
D1059	MCP 26.0954		17751
D1059	MCP 26.0956		17753
D1059	MCP 26.0958		17734
D1059	MCP 26.0960		17741
D1059	MCP 26.0961		17732
D1059	MCP 26.0962		17730
D1059	MCP 26.0963		17729
D1059	MCP 26.0964		17636
D1059	MCP 26.0965		17612
D1059	MCP 26.0966		17727
D1059	MCP 26.0967		17756
D1059	MCP 26.0968		17755
D1059	MCP 26.0969		17761
D1059	MCP 26.0970		17760
D1059	MCP 26.0971		17759
D1059	MCP 26.0972		17744

FIXED PROBLEMS TABLE

NOTE	PATCH NO.	TROUBLE REPORT NO.	PRI
D1059	MCP 26.0977		17614
D1059	MCP 26.0978		17613
D1059	MCP 26.0979		19700
D1059	MCP 26.0980		17722
D1059	MCP 26.0981		17724
D1059	MCP 26.0982		17723
D1059	MCP 26.0983		17671
D1059	MCP 26.0984		17672
D1059	MCP 26.0985		19701
D1059	MCP 26.0989		17673
D1059	MCP 26.0990		17666
D1059	MCP 26.0991		17667
D1059	MCP 26.0992		17668
D1059	MCP 26.0993		17669
D1059	MCP 26.0994		17670
D1059	MCP 26.0995		17743
D1059	MCP 26.0996		17665
D1059	MCP 26.0997		17711
D1059	MCP 26.0998		19705
D1059	MCP 26.1000		17709
D1059	MCP 26.1001		17706
D1059	MCP 26.1002		17705
D1059	MCP 26.1005		17663
D1059	MCP 26.1006		17662
D1059	MCP 26.1007		17713
D1059	MCP 26.1008		17712
D1059	MCP 26.1009		17715
D1059	MCP 26.1010		17714
D1059	MCP 26.1011		17660
D1059	MCP 26.1012		17657
D1059	MCP 26.1016		19709
D1059	MCP 26.1018		17701
D1059	MCP 26.1019		17694
D1059	MCP 26.1021		17658
D1059	MCP 26.1022		19710
D1059	MCP 26.1026		17695
D1059	MCP 26.1027		17699
D1059	MCP 26.1028		17693
D1059	MCP 26.1029		17692
D1059	MCP 26.1031		17690
D1059	MCP 26.1032		17698
D1059	MCP 26.1033		17688
D1059	MCP 26.1034		17687
D1059	MCP 26.1035		17654
D1059	MCP 26.1036		17653
D1059	MCP 26.1037		17652
D1059	MCP 26.1038		17651
D1059	MCP 26.1039		17650
D1059	MCP 26.1040		17649
D1059	MCP 26.1041		17648
D1059	MCP 26.1042		17647
D1059	MCP 26.1043		17646
D1059	MCP 26.1044		17645
D1059	MCP 26.1045		17644
D1059	MCP 26.1046		17643
D1059	MCP 26.1047		17642
D1059	MCP 26.1048		17640
D1059	MCP 26.1049		17641
D1059	MCP 26.1050		17639
D1059	MCP 26.1051		17587
D1059	MCP 26.1053		17588
D1059	MCP 26.1055		17589
D1059	MCP 26.1056		17580
D1059	MCP 26.1057		17584
D1059	MCP 26.1058		17575
D1059	MCP 26.1059		17572
D1059	MCP 26.1069		18462
D1059	MCP 26.1070		17574
D1059	MCP 26.1072		18502
D1059	MCP 26.1073		18459

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
D1059	MCP	26.1074		18458
D1059	MCP	26.1076		18501
D1059	MCP	26.1077		18496
D1059	MCP	26.1078		18456
D1059	MCP	26.1079		18500
D1059	MCP	26.1081		18498
D1059	MCP	26.1082		18499
D1059	MCP	26.1083		19716
D1059	MCP	26.1084		18453
D1059	MCP	26.1086		18493
D1059	MCP	26.1088		18490
D1059	MCP	26.1090		18491
D1059	MCP	26.1100		17113
D1059	MCP	26.1101		18406
D1059	MCP	26.1104		19720
D1059	MCP	26.1106		18392
D1059	MCP	26.1107		19721
D1059	SCTABLEGEN	26.0010		19533
D1059	SCTABLEGEN	26.0017		17304
D1059	SORT	26.0004		18258
D1059	SORT	26.0006		16941
D1059	WFL	26.0029		19093
D1059	WFL	26.0039		17726
D1059	WFL	26.0040		17725
D1060	LOADER	26.0024		19262
D1061	LOGANALY	26.0014		17610
D1062	PLI	26.0045		17479
D1062	PLI	26.0046		17478
D1062	PLI	26.0047		17477
D1062	PLI	26.0048		17476
D1062	PLI	26.0049		17475
D1062	PLI	26.0050		17474
D1062	PLI	26.0051		17473
D1062	PLI	26.0052		17472
D1062	PLI	26.0053		17471
D1062	PLI	26.0054		17470
D1062	PLI	26.0055		17469
D1062	PLI	26.0056		17468
D1062	PLI	26.0057		17467
D1062	PLI	26.0058		17466
D1062	PLI	26.0059		17485
D1062	PLI	26.0060		17484
D1062	PLINTRN	26.0023		16631
D1063	PLI	26.0064		17482
D1064	PLINTRN	26.0001		16649
D1065	COBOL	26.0158	222-9028	18941
D1066	PLI	26.0068		19169
D1066	PLINTRN	26.0024		16630
D1067	LOADER	26.0056		17325
D1068	LOADER	26.0057		17326
D1069	MAKEUSER	26.0003		18541
D1071	DUMPANALY	26.0019		15777
D1072	CONTROLLER	26.0069		19426
D1072	CONTROLLER	26.0090		17529
D1072	CONTROLLER	26.0095		17765
D1072	CONTROLLER	26.0100		14591
D1072	MCP	26.0859		17529
D1073	ALGOL	26.0137		17548
D1074	DIAGNOSTMCS	26.0005		17295
D1075	MCP			
D1076	DUMPANALY	26.0117		17738
D1077	MCP	26.0892		17597
D1078	MCP	26.0929		17621
D1079	MCP	26.0940		17768
D1080	PLI			16610
D1081	PLI		215-0048	17463
D1082	RJE			11755
D1083	SOURCENDL	26.0010		17290
D1084	MCP	26.0369		16253
D1085	DUMPANALY	26.0110		17594

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
D1086	DUMPANALY	26.0105		17550
D1087	PLI	26.0061		18253
D1088	CCTABLEGEN	26.0009		17048
D1088	WFL	26.0022		17048
D1089	MCP	26.1094		18273
D1090	RJE	26.0028		17242
D1091	TAPEDIR			19966
D1092	CONTROLLER	26.0103		18438
D1092	MCP	26.1092		18438
D1092	SCTABLEGEN	26.0019		18438
D1093	CANDE	26.0045		18269
D1094	CANDE	26.0046		18268
D1095	CANDE	26.0048		18266
D1096	CANDE	26.0049		18265
D1097	CANDE	26.0051		18263
D1098	PLI	26.0019	205-0224	16652
D1099	COBOL	26.0065		18531
D1100	COBOL	26.0177	132-0077	18561
D1101	CONTROLLER	26.0070		19424
D1102	CONTROLLER	26.0086		19167
D1102	SCTABLEGEN	26.0016		19167
D1103	IN-OUTPUT	26.0906		19687
D1104	IN-OUTPUT	26.0918		19690
D1105	IN-OUTPUT	26.1014		19707
D1105	MCP	26.1023		19711
D1106	MCP	26.0504		16949
D1107	MCP	26.0505		16948
D1108	IN-OUTPUT	26.0051	125-0092	14199
D1109	MCP	26.0095		15612
D1110	IN-OUTPUT	26.0195		15520
D1111	MCP	26.0703		19455
D1112	MCP	26.0789		17345
D1113	DUMPANALY			18824
P3340	BINDER	26.0001	114-0207	14753
P3341	CONTROLLER	26.0004	169-0084	14654
P3341	CONTROLLER	26.0004	241-0036	14654
P3342	CONTROLLER	26.0005	151-0187	14628
P3343	DM6700	26.0001		14582
P3344	DATACOM	26.0033		14775
P3345	DCSTATUS	26.0001	200-0018	14394
P3346	COPYAUD-II	26.0001		15647
P3346	COPYAUD-II	26.0002		16144
P3347	ALGOL	26.0139		18259
P3348	ACR	26.0001		14581
P3348	ACR	26.0062		16143
P3348	ACR	26.0067		16180
P3348	ACR	26.0092		17860
P3348	ACR	26.0133		17273
P3348	ACR	26.0149		19621
P3348	ACR	26.0167		19603
P3348	ACR	26.0209		17333
P3348	ALGOL	26.0006		14537
P3348	ALGOL	26.0042	113-0321	15842
P3348	ALGOL	26.0042	151-0045	15842
P3348	ALGOL	26.0042	999-0732	15842
P3348	ALGOL	26.0042	060-6864	15842
P3348	ALGOL	26.0042	060-6865	15842
P3348	ALGOL	26.0042	222-9034	15842
P3348	ALGOL	26.0042	188-0006	15842
P3348	ALGOL	26.0047	060-6965	16135
P3348	BACKUP	26.0002		16313
P3348	COBOL	26.0001		18296
P3348	COBOL	26.0121	174-0078	19640
P3348	CONTROLLER	26.0016		16081
P3348	CONTROLLER	26.0050		19536
P3348	CONTROLLER	26.0051		19536
P3348	CONTROLLER	26.0052		19536
P3348	DASDL	26.0048		17132
P3348	DASDL	26.0081		17581
P3348	DUMPANALY	26.0009		14619

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P3348	DUMPANALY	26.0102		17337
P3348	ESPOLINTRN	26.0020		11716
P3348	ESPOLINTRN	26.0040		19095
P3348	ESPOLINTRN	26.0042	130-0173	17501
P3348	ESPOLINTRN	26.0042	188-0012	17501
P3348	FORTRAN	26.0028		14589
P3348	LOADER	26.0004		16001
P3348	LOADER	26.0013		19571
P3348	LOADER	26.0015		19537
P3348	LOADER	26.0018		19092
P3348	LOADER	26.0019		19101
P3348	LOADER	26.0020		19240
P3348	LOADER	26.0046		17368
P3348	LOADER	26.0054		17323
P3348	LOADER	26.0073		17551
P3348	LOADER	26.0079		17800
P3348	LOADER	26.0088		17703
P3348	MCP	26.0138		15568
P3348	MCP	26.0202		15718
P3348	MCP	26.0228		15995
P3348	MCP	26.0284		16067
P3348	MCP	26.0312		16203
P3348	MCP	26.0345		16239
P3348	MCP	26.0363		17871
P3348	MCP	26.0382		17926
P3348	MCP	26.0486		16971
P3348	MCP	26.0633		19281
P3348	MCP	26.0724		17412
P3348	MCP	26.0747		17377
P3348	MCP	26.0760		17393
P3348	MCP	26.0784		17348
P3348	MCP	26.0813		17307
P3348	PRINTAUDIT	26.0004		16329
P3348	PRINTAUDIT	26.0005		16317
P3348	PRINTAUDIT	26.0006		17872
P3348	PRINTAUDIT	26.0007		16271
P3348	PRINTAUDIT	26.0008		17153
P3348	PRINTAUDIT	26.0012		19236
P3348	PRINTAUDIT	26.0017		19354
P3348	RECOVERY	26.0086		17578
P3348	UTILOADER	26.0011		17779
P3348	WFL	26.0024		19557
P3349	ACR	26.0002		15656
P3350	ACR	26.0003		15663
P3351	ACR	26.0004		15662
P3351	ACR	26.0057		15758
P3352	ACR	26.0005		15661
P3352	ACR	26.0058		15839
P3353	ACR	26.0006		15655
P3354	ACR	26.0007		15664
P3355	ACR	26.0008		15654
P3356	ACR	26.0009		15653
P3357	ACR	26.0010	060-6925	15652
P3358	ACR	26.0011		15651
P3359	ACR	26.0012		15658
P3360	ACR	26.0013		15660
P3360	ACR	26.0014		15659
P3361	ACR	26.0024	133-0003	15575
P3362	ACR	26.0015		15639
P3363	ACR	26.0016		15650
P3364	ACR	26.0017		15638
P3365	DMFILTER	26.0001		14600
P3366	DMFILTER	26.0002		14599
P3367	DMFILTER	26.0003		14598
P3368	DMFILTER	26.0004		14597
P3369	RECOVERY	26.0001		15646
P3370	PRINTAUDIT	26.0001		15648
P3370	PRINTAUDIT	26.0009		17232
P3370	RECOVERY	26.0002		15645
P3371	ACR	26.0054		17278

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P3371	ACR	26.0105		17278
P3371	ACR	26.0116		17278
P3371	ACR	26.0197		17429
P3371	ACR	26.0228		18451
P3371	RECOVERY	26.0003		15644
P3371	RECOVERY	26.0019		15931
P3371	RECOVERY	26.0021		15865
P3371	RECOVERY	26.0038		16923
P3371	RECOVERY	26.0069		19604
P3371	RECOVERY	26.0082		17534
P3372	RECOVERY	26.0004		15643
P3373	RECOVERY	26.0005		15642
P3374	RECOVERY	26.0006		15641
P3375	RECOVERY	26.0007		15640
P3376	RECOVERY	26.0008		15665
P3377	BACKUP	26.0001		18285
P3378	PACKCONVERT	26.0001		17676
P3378	PRINTCOPY	26.0001		17676
P3379	ACR	26.0194		19473
P3380	DUMPANALY	26.0006		14718
P3381	DUMPANALY	26.0007		14638
P3382	DASDL	26.0067		19366
P3383	ACR	26.0025		15808
P3384	DUMPANALY	26.0010		15637
P3384	DUMPANALY	26.0013		15622
P3385	DUMPANALY	26.0011		15614
P3386	BACKUP	26.0013		18287
P3387	ACR	26.0026		15807
P3388	IN-OUTPUT	26.0050	207-0086	14197
P3390	IN-OUTPUT	26.0052		14198
P3391	IN-OUTPUT	26.0054	156-0007	14639
P3392	IN-OUTPUT	26.0071	125-0108	14203
P3392	IN-OUTPUT	26.0097		14206
P3392	IN-OUTPUT	26.0112		15506
P3393	ACR	26.0072		16284
P3393	ACR	26.0142		17219
P3393	ACR	26.0148		19627
P3393	ACR	26.0155		16939
P3393	ACR	26.0171		19597
P3393	ALGOL	26.0031		14535
P3393	ALGOL	26.0037		15844
P3393	ALGOL	26.0040		15843
P3393	ALGOL	26.0119		18017
P3393	ALGOL	26.0120		18039
P3393	BASIC	26.0002		14535
P3393	COBOL	26.0003		18293
P3393	COBOL	26.0004		18294
P3393	COBOL	26.0120		19641
P3393	DIAGNOSTMCS	26.0004		20013
P3393	DM6700	26.0011		16960
P3393	DUMPANALY	26.0027		16011
P3393	DUMPANALY	26.0044		16956
P3393	DUMPANALY	26.0082		18031
P3393	ESPOL	26.0017		14535
P3393	ESPOL	26.0022		16326
P3393	ESPOLINTRN	26.0006		15509
P3393	IN-OUTPUT	26.0017		14190
P3393	IN-OUTPUT	26.0070		14202
P3393	IN-OUTPUT	26.0072		14201
P3393	IN-OUTPUT	26.0073		14200
P3393	IN-OUTPUT	26.0131		15508
P3393	IN-OUTPUT	26.0137		15512
P3393	IN-OUTPUT	26.0159		15513
P3393	IN-OUTPUT	26.0187		15516
P3393	IN-OUTPUT	26.0189		15517
P3393	IN-OUTPUT	26.0190		15518
P3393	IN-OUTPUT	26.0191		15521
P3393	IN-OUTPUT	26.0207		15525
P3393	IN-OUTPUT	26.0428		16037
P3393	IN-OUTPUT	26.0528		19493

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P3393	IN-OUTPUT	26.0533		19492
P3393	IN-OUTPUT	26.0645		19384
P3393	IN-OUTPUT	26.0682		19391
P3393	LOADER	26.0070		19974
P3393	LOADER	26.0080		17780
P3393	MCP	26.0021		14449
P3393	MCP	26.0040		14677
P3393	MCP	26.0083		14621
P3393	MCP	26.0136		15511
P3393	MCP	26.0153		15773
P3393	MCP	26.0163		15764
P3393	MCP	26.0167		15738
P3393	MCP	26.0168		15740
P3393	MCP	26.0169		15746
P3393	MCP	26.0176		15737
P3393	MCP	26.0180		15736
P3393	MCP	26.0200		15717
P3393	MCP	26.0209		15722
P3393	MCP	26.0219		15993
P3393	MCP	26.0245		15986
P3393	MCP	26.0253		16097
P3393	MCP	26.0259		16012
P3393	MCP	26.0280		16070
P3393	MCP	26.0281		16070
P3393	MCP	26.0382		17926
P3393	MCP	26.0887		17507
P3393	PLI	26.0043		16566
P3393	RECOVERY	26.0025		16323
P3393	RECOVERY	26.0029		17879
P3393	RECOVERY	26.0063		19616
P3393	SCR	26.0001		15508
P3393	VERIFYAUDIT	26.0003		19239
P3393	XALGOL	26.0001		14535
P3394	ESPOLINTRN	26.0005	169-0085	14205
P3394	IN-OUTPUT	26.0074	169-0085	14204
P3396	CANDE	26.0047		18267
P3397	MCP	26.0002		14491
P3398	MCP	26.0007		14117
P3398	MCP	26.0106		15621
P3399	ACR	26.0027		15806
P3400	MCP	26.0010		14167
P3401	MCP	26.0014	238-0035	14769
P3401	MCP	26.0014	132-0063	14769
P3401	MCP	26.0014	132-0061	14769
P3402	MCP	26.0015		14658
P3402	MCP	26.0162		15747
P3403	MCP	26.0016		14214
P3404	MCP	26.0018	113-0678	14217
P3404	MCP	26.0018	133-0198	14217
P3405	MCP	26.0020		14492
P3406	MCP	26.0022		14495
P3406	MCP	26.0048		14641
P3406	MCP	26.0066		14627
P3407	MCP	26.0023		14493
P3408	MCP	26.0024		14494
P3408	MCP	26.0047		14642
P3408	MCP	26.0078		15634
P3408	MCP	26.0091		14617
P3408	MCP	26.0154		15774
P3408	MCP	26.0183		15732
P3409	MCP	26.0025		14447
P3409	MCP	26.0049		14640
P3410	MCP	26.0029		14721
P3410	MCP	26.0030		14771
P3411	MCP	26.0034		14785
P3412	MCP	26.0035		14694
P3413	MCP	26.0037	238-0025	11706
P3413	MCP	26.0037	151-0177	11706
P3414	MCP	26.0039		14698
P3415	MCP	26.0053		14674

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P3416	MCP	26.0055		14637
P3417	MCP	26.0056		14636
P3418	MCP	26.0057		14635
P3419	MCP	26.0059		14632
P3419	MCP	26.0157		15771
P3419	MCP	26.0874		19414
P3419	MCP	26.0907		17675
P3419	MCP	26.0921		17626
P3419	MCP	26.0922		17625
P3419	MCP	26.1054		17686
P3420	MCP	26.0060	226-0193	14653
P3421	MCP	26.0061	151-0163	11707
P3422	MCP	26.0063		14650
P3423	MCP	26.0064	149-0089	14630
P3424	MCP	26.0065		14047
P3424	MCP	26.0079		15632
P3424	MCP	26.0080		15633
P3424	MCP	26.0094		15611
P3424	MCP	26.0100		15617
P3424	MCP	26.0103		15616
P3424	MCP	26.0104		15628
P3424	MCP	26.0120		15539
P3424	MCP	26.0266		16075
P3424	MCP	26.0327		16177
P3424	MCP	26.0368		16088
P3425	MCP	26.0045		14662
P3426	IN-OUTPUT	26.0075	112-0058	14624
P3426	IN-OUTPUT	26.0075	128-0210	14624
P3427	MCP	26.0081		15636
P3428	CANDE	26.0001		13906
P3428	MCP	26.0087		14623
P3429	MCP	26.0088	205-0376	14629
P3430	MCP	26.0092		15629
P3431	ESPOLINTRN	26.0002		19645
P3432	CANDE	26.0050		18264
P3433	TAPEDIR	26.0001		15590
P3434	ACR	26.0018		15605
P3434	DASDL	26.0001		15602
P3435	ACR	26.0019		15608
P3436	ACR	26.0020		15607
P3437	ACR	26.0021		15606
P3438	ACR	26.0022		15604
P3438	DASDL	26.0002		15601
P3439	ACR	26.0023		15587
P3440	DASDL	26.0003		15600
P3441	DASDL	26.0004		15599
P3442	DASDL	26.0006		15597
P3443	DASDL	26.0007		15596
P3444	DASDL	26.0008		15595
P3445	DASDL	26.0009		15594
P3446	PROPERTIES	26.0001		15579
P3447	RECOVERY	26.0009		15578
P3448	RECOVERY	26.0010		15577
P3449	ACR	26.0028		15805
P3450	ACR	26.0029		15529
P3451	ACR	26.0030		15528
P3452	ACR	26.0031		15649
P3453	ACR	26.0032		15531
P3454	DASDL	26.0010		15593
P3455	DASDL	26.0011		15585
P3456	RECOVERY	26.0011		15535
P3457	RECOVERY	26.0012		15534
P3458	RECOVERY	26.0013		15533
P3459	RECOVERY	26.0014		15530
P3460	RECOVERY	26.0015		15799
P3461	ALGOL	26.0001		14542
P3462	ALGOL	26.0002		14541
P3463	ALGOL	26.0003		14538
P3464	ALGOL	26.0004	244-0012	14612
P3465	ALGOL	26.0005		14611

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P3466	ESPOL	26.0003	114-0154	14540
P3467	COBOL	26.0002	194-0042	14407
P3468	CANDE	26.0002	226-0199	13905
P3469	DMALGOL	26.0007		15603
P3470	ESPOL	26.0002	999-0548	14543
P3470	ESPOL	26.0002	205-0152	14543
P3470	ESPOL	26.0002	114-0149	14543
P3471	ESPOL	26.0004		14601
P3472	ESPOL	26.0006	222-9038	14584
P3473	ESPOL	26.0007	180-0027	14580
P3473	ESPOL	26.0007	180-0026	14580
P3474	ESPOL	26.0008	180-0009	14579
P3475	ESPOL	26.0009	179-0161	14578
P3475	ESPOL	26.0009	180-0022	14578
P3476	ESPOL	26.0010	180-0028	14577
P3477	ESPOL	26.0011	180-0011	14574
P3478	ESPOL	26.0012	180-0008	14576
P3479	ESPOLINTRN	26.0001	241-0034	14585
P3480	ESPOLINTRN	26.0003		14602
P3481	ESPOLINTRN	26.0004	193-0111	14575
P3482	FORTRAN	26.0001	060-6917	14596
P3482	FORTRAN	26.0001	128-0188	14596
P3482	FORTRAN	26.0001	114-0243	14596
P3482	FORTRAN	26.0001	150-0009	14596
P3482	FORTRAN	26.0001	201-0028	14596
P3483	FORTRAN	26.0002		14595
P3483	FORTRAN	26.0013		15696
P3484	FORTRAN	26.0003	261-0027	14594
P3485	FORTRAN	26.0004		14593
P3486	FORTRAN	26.0005		14592
P3486	FORTRAN	26.0034		16148
P3487	RJE	26.0001	168-0056	15797
P3488	RJE	26.0002		15796
P3489	CANDE	26.0003		13904
P3490	CANDE	26.0004		13903
P3491	CANDE	26.0006		13901
P3492	CANDE	26.0008		13899
P3493	CANDE	26.0009	113-0708	13898
P3493	CANDE	26.0009	114-0213	13898
P3493	CANDE	26.0009	201-0025	13898
P3494	DATACOM	26.0141	183-0056	15503
P3495	DATACOM	26.0142		15505
P3496	DATACOM	26.0144	230-0024	14396
P3496	DATACOM	26.0144	151-0179	14396
P3496	DATACOM	26.0156		15669
P3496	DATACOM	26.0177		15672
P3496	DATACOM	26.0178		15671
P3496	DATACOM	26.0262		15821
P3496	DATACOM	26.0263		15820
P3496	DATACOM	26.0290		15822
P3496	DATACOM	26.0342		16403
P3496	DATACOM	26.0390		16409
P3496	DATACOM	26.0391		16411
P3496	DATACOM	26.0411		16412
P3496	DATACOM	26.0435		16414
P3496	DATACOM	26.0490		17015
P3496	DATACOM	26.0515		16979
P3496	DATACOM	26.0517		16421
P3496	DATACOM	26.0525		19662
P3496	DATACOM	26.0553		19665
P3496	DATACOM	26.0560		17801
P3496	DATACOM	26.0655		17806
P3496	DATACOM	26.0698		17813
P3496	DATACOM	26.0700		17811
P3496	DATACOM	26.0723		17816
P3496	DATACOM	26.0751		17819
P3496	DATACOM	26.1109		17826
P3497	DATACOM	26.0147		15666
P3498	DDL	26.0001	222-9032	15941
P3499	DMRECOVER	26.0001		15983

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P3500	DM6700	26.0002	194-0066	15705
P3501	DM6700	26.0003		15942
P3502	DM6700	26.0004		15939
P3503	SDLS	26.0001		15940
P3504	DCSTATUS	26.0002		15680
P3505	DCPPROGEN	26.0003		14129
P3506	DCPPROGEN	26.0004		15504
P3507	DCPPROGEN	26.0005	187-0142	15668
P3508	ACR	26.0033		15780
P3509	ACR	26.0034		15934
P3510	ACR	26.0035		15809
P3510	ACR	26.0044		15909
P3511	ACR	26.0036		15936
P3512	ACR	26.0037		15944
P3513	ACR	26.0038		15943
P3514	ACR	26.0040		15933
P3515	DASDL	26.0012		15584
P3516	DASDL	26.0013		15583
P3517	DASDL	26.0014		15582
P3518	DMFILTER	26.0005	210-0016	15763
P3519	INTERFACE	26.0002		15803
P3520	ONLINEDUMP	26.0001		15711
P3521	DUMPANALY	26.0100		17394
P3521	MCP	26.0769		17394
P3522	PATCH	26.0002		15856
P3523	IN-OUTPUT	26.0798		19404
P3523	MCP	26.0802		19406
P3524	IN-OUTPUT	26.0121		15510
P3525	JOBFORMAT	26.0001		15545
P3526	MCP	26.0105		15624
P3527	MCP	26.0107		15574
P3528	MCP	26.0108		15626
P3529	MCP	26.0111		15623
P3530	MCP	26.0115		15532
P3531	MCP	26.0116		15541
P3532	MCP	26.0117		15540
P3533	MCP	26.0118		15787
P3534	MCP	26.0123		15573
P3535	MCP	26.0124		15571
P3536	ACR	26.0150		17002
P3536	MCP	26.0125		15570
P3536	MCP	26.0165		15741
P3537	MCP	26.0126		15550
P3537	MCP	26.0384		17938
P3537	MCP	26.0387		17937
P3538	MCP	26.0568	113-0748	18003
P3538	MCP	26.0568	113-0765	18003
P3538	MCP	26.0721		19397
P3539	CONTROLLER	26.0007		15623
P3539	MCP	26.0140	130-0193	15559
P3540	CCTABLEGEN	26.0003		14669
P3540	CONTROLLER	26.0010		14669
P3540	MCP	26.0143		14669
P3540	SCTABLEGEN	26.0002		14669
P3540	WFL	26.0005		14669
P3541	MCP	26.0146		15556
P3541	MCP	26.0697		19457
P3541	MCP	26.0879		17536
P3542	MCP	26.0148	113-0701	15558
P3543	MCP	26.0151	080-6016	15557
P3544	MCP	26.0152		15713
P3545	MCP	26.0158		15714
P3545	MCP	26.0161		15748
P3546	MCP	26.0160		15765
P3546	MCP	26.0174		15766
P3547	DCPPROGEN	26.0002		14130
P3547	NDL	26.0002		14132
P3548	ACR	26.0078		16330
P3549	NDL	26.0003		15667
P3550	PATCH	26.0001		15977

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P3551	RJE	26.0003		15793
P3552	RJE	26.0004		15794
P3553	RJE	26.0005	183-0059	15795
P3554	WFL	26.0006		15501
P3555	WFL	26.0007		15778
P3556	ACR	26.0204		19348
P3556	LOADER	26.0021		19245
P3557	DASDL	26.0016		15818
P3558	DASDL	26.0017		15819
P3559	INTERFACE	26.0003	231-0042	15885
P3560	ACR	26.0088		16266
P3561	RECOVERY	26.0035		17874
P3561	RECOVERY	26.0042		16935
P3562	DASDL	26.0039		16921
P3563	GETDMRSF	26.0001		15881
P3564	ACR	26.0041		15908
P3564	RECOVERY	26.0018		15932
P3565	DMFILTER	26.0006	183-0067	15759
P3566	DMFILTER	26.0007	060-6949	15760
P3567	RECOVERY	26.0016		15781
P3568	RECOVERY	26.0017		15930
P3569	LOADER	26.0022		19250
P3570	DM6700	26.0005	183-0065	15877
P3571	DATACOM	26.0179	151-0180	15673
P3572	IN-OUTPUT	26.0188		15523
P3574	IN-OUTPUT	26.0196		15522
P3574	IN-OUTPUT	26.0208		15526
P3574	MCP	26.0367		16031
P3574	MCP	26.0657		19385
P3574	MCP	26.0675		19390
P3574	MCP	26.0850		19413
P3575	MCP	26.0164	107-0461	15749
P3575	MCP	26.0164	107-0459	15749
P3575	MCP	26.0270		16092
P3575	MCP	26.0597		19264
P3576	MCP	26.0166		15745
P3578	MCP	26.0171		15715
P3578	MCP	26.0181		15733
P3579	MCP	26.0173		15802
P3581	MCP	26.0182		15762
P3582	MCP	26.0184		15735
P3582	MCP	26.0229		16119
P3582	MCP	26.0230		16099
P3582	MCP	26.0231		16104
P3582	MCP	26.0236		16100
P3582	MCP	26.0250		16083
P3582	MCP	26.0326		16176
P3582	SCR	26.0002		15728
P3582	SORT	26.0001		15728
P3583	MCP	26.0185		15731
P3584	WFL	26.0011	162-0079	15776
P3585	WFL	26.0009		15743
P3586	WFL	26.0010		15734
P3587	ACR	26.0048		15869
P3587	ACR	26.0051		15866
P3587	ACR	26.0055		15854
P3587	ACR	26.0063		15827
P3587	ACR	26.0076		16263
P3587	ACR	26.0083		16367
P3587	RECOVERY	26.0055		19353
P3588	ACR	26.0049		15868
P3589	ACR	26.0050		15867
P3589	ACR	26.0134		17236
P3590	LOADER	26.0023		19254
P3591	RECOVERY	26.0022		15864
P3592	DIAGNOSTMCS	26.0002		16010
P3593	CANDE	26.0016		15901
P3594	DATACOM	26.0203	194-0091	15675
P3594	DATACOM	26.0203	149-0132	15675
P3594	DATACOM	26.0203	149-0131	15675

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P3594	DATACOM	26.0203	205-0433	15675
P3595	DIAGNOSTMCS	26.0006		18954
P3596	DUMPANALY	26.0022		15674
P3597	DUMPANALY	26.0023		15719
P3597	DUMPANALY	26.0025		16000
P3600	MCP	26.0201		15720
P3601	MCP	26.0204	133-0005	15801
P3602	MCP	26.0205	183-0049	15913
P3602	MCP	26.0205	183-0048	15913
P3603	MCP	26.0206		15800
P3604	MCP	26.0210		15723
P3605	MCP	26.0211		15726
P3606	MCP	26.0212		15727
P3607	MCP	26.0215		15987
P3608	MCP	26.0227		16002
P3609	DUMPANALY	26.0056		16995
P3609	MCP	26.0274		16079
P3609	MCP	26.0371		16258
P3609	WFL	26.0008		15744
P3610	MCP	26.0221		15996
P3611	MCP	26.0222		15997
P3611	MCP	26.0237		16101
P3612	MCP	26.0224		15990
P3613	MCP	26.0225		15985
P3614	ACR	26.0047		15835
P3614	ACR	26.0066		16262
P3614	ACR	26.0158		17211
P3615	ACR	26.0052		15863
P3616	ACR	26.0053		15862
P3617	BACKUP	26.0012	238-0066	17254
P3617	BACKUP	26.0012	174-0068	17254
P3618	ACR	26.0060		15834
P3619	ONLINEDUMP	26.0002		15860
P3620	ONLINEDUMP	26.0003	133-0006	15859
P3621	PRINTAUDIT	26.0003		15832
P3622	RECOVERY	26.0023		15833
P3623	MCP	26.0232		16003
P3624	BDMSALGOL	26.0008		15576
P3625	ALGOL	26.0009	151-0181	15586
P3626	BDMSALGOL	26.0011		15982
P3627	BDMSALGOL	26.0012		15981
P3628	BDMSALGOL	26.0021		15916
P3629	ALGOL	26.0013		14405
P3630	ALGOL	26.0018	080-3007	15973
P3631	ALGOL	26.0023	060-6636	15927
P3632	ALGOL	26.0024	205-0311	15911
P3633	ALGOL	26.0025	113-0558	15910
P3634	ALGOL	26.0026	141-0110	15907
P3635	ALGOL	26.0027	217-0005	15906
P3635	ALGOL	26.0027	217-0004	15906
P3636	ALGOL	26.0030	222-9046	15883
P3637	ALGOL	26.0032	060-6878	15882
P3638	BINDER	26.0004		15703
P3638	ESPOL	26.0014		15702
P3639	DUMPANALY	26.0057		16994
P3639	RECOVERY	26.0065		19564
P3640	BINDER	26.0006		15937
P3641	BINDER	26.0007	114-0223	15976
P3642	BINDER	26.0008		15872
P3643	BDMSCOBOL	26.0005		15580
P3644	BDMSCOBOL	26.0007		15798
P3645	BDMSCOBOL	26.0009		15709
P3646	BDMSCOBOL	26.0011		15707
P3647	BDMSCOBOL	26.0012		15708
P3648	COBOL	26.0013	146-0083	15971
P3649	COBOL	26.0014	161-0052	15972
P3650	COBOL	26.0016		11695
P3651	COBOL	26.0017	060-6939	15970
P3651	COBOL	26.0017	060-6932	15970
P3652	COBOL	26.0018	207-0033	15968

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P3652	MCP	26.0226		16006
P3652	MCP	26.0392		17951
P3652	MCP	26.0426		17964
P3653	COBOL	26.0019	207-0027	14404
P3654	COBOL	26.0020	207-0049	15964
P3655	COBOL	26.0024	244-0005	15967
P3656	COBOL	26.0026	168-0050	15965
P3657	COBOL	26.0027	194-0052	15963
P3658	COBOL	26.0031	125-0110	15961
P3659	COBOL	26.0033	184-0020	15945
P3660	DCALGOL	26.0015	999-0736	15706
P3661	ACR	26.0061		16142
P3662	ACR	26.0064		16168
P3663	DMALGOL	26.0014		15980
P3664	DMALGOL	26.0016		15978
P3665	DMALGOL	26.0017		15979
P3666	DMALGOL	26.0019		15929
P3667	DMALGOL	26.0028		15905
P3668	DMALGOL	26.0029		15904
P3669	ONLINEDUMP	26.0004		16137
P3670	LOADER	26.0026		19432
P3671	ONLINEDUMP	26.0006		16139
P3672	ONLINEDUMP	26.0007		16140
P3673	ONLINEDUMP	26.0008		16141
P3674	RECOVERY	26.0024		16145
P3675	ESPOL	26.0015		14536
P3676	ESPOLINTRN	26.0007		14433
P3677	ESPOLINTRN	26.0008	244-0021	14430
P3678	ESPOLINTRN	26.0009		14432
P3679	ESPOLINTRN	26.0010		14431
P3680	ESPOLINTRN	26.0011		15688
P3681	FORTRAN	26.0006	261-0017	14429
P3682	FORTRAN	26.0007		15701
P3683	FORTRAN	26.0008		14427
P3684	FORTRAN	26.0009		15700
P3685	FORTRAN	26.0010		15699
P3686	FORTRAN	26.0011		15698
P3687	FORTRAN	26.0012		15697
P3688	FORTRAN	26.0014	114-0201	15695
P3689	FORTRAN	26.0015	244-0020	15694
P3690	FORTRAN	26.0016	143-0130	15681
P3691	FORTRAN	26.0017	114-0239	15682
P3692	FORTRAN	26.0018	114-0240	15683
P3693	FORTRAN	26.0019	060-6927	15685
P3694	FORTRAN	26.0020	121-0139	15684
P3695	FORTRAN	26.0021	168-0055	15938
P3696	FORTRAN	26.0022	201-0032	15686
P3696	FORTRAN	26.0022	060-6881	15686
P3697	FORTRAN	26.0023	181-0015	15687
P3698	FORTRAN	26.0024		15691
P3699	FORTRAN	26.0025		15690
P3700	FORTRAN	26.0026	060-6916	15689
P3701	FORTRAN	26.0027	060-6942	15692
P3701	FORTRAN	26.0027	143-0091	15692
P3702	DATACOM	26.0238		16103
P3703	DATACOM	26.0243		15677
P3704	DATACOM	26.0244	109-0102	15676
P3705	DATACOM	26.0265		15678
P3705	DATACOM	26.0593		17803
P3706	ACR	26.0056		16315
P3706	ACR	26.0077		16331
P3707	ACR	26.0068		16264
P3708	ACR	26.0069		16179
P3709	ACR	26.0070		16259
P3710	ACR	26.0071		16283
P3710	ACR	26.0089		17882
P3711	ACR	26.0074	060-6961	15754
P3712	ALGOL	26.0022	113-0458	15928
P3713	ALGOL	26.0033	168-0071	15878
P3713	ALGOL	26.0033	140-0128	15878

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P3714	ALGOL	26.0035	125-0083	15855
P3715	ALGOL	26.0036	168-0066	15851
P3716	ALGOL	26.0038		15846
P3717	ALGOL	26.0041	179-0060	15831
P3717	ALGOL	26.0041	187-0145	15831
P3718	TAPEDIR	26.0002	222-9060	16345
P3719	ALGOL	26.0044	187-0146	15841
P3720	BACKUP	26.0003		16312
P3721	BACKUP	26.0004		16311
P3722	BACKUP	26.0005		16310
P3723	CCTABLEGEN	26.0007		16205
P3723	MCP	26.0323		16205
P3723	WFL	26.0016		16205
P3724	COBOL	26.0037	244-0029	15957
P3724	COBOL	26.0037	166-0059	15957
P3725	COBOL	26.0039	194-0079	15946
P3726	DATACOM	26.0239	114-0231	14712
P3727	ACR	26.0082		16299
P3727	ACR	26.0087		16344
P3727	ACR	26.0172		19599
P3727	ACR	26.0174		19593
P3727	INTERFACE	26.0005		16300
P3727	RECOVERY	26.0071		19596
P3728	ACR	26.0084		16319
P3729	ACR	26.0085		16318
P3730	ACR	26.0090		17881
P3731	ACR	26.0091		17861
P3732	DASDL	26.0021		15814
P3733	DASDL	26.0022		15813
P3734	DASDL	26.0023	060-6974	15816
P3735	DASDL	26.0024		15815
P3736	DASDL	26.0025		15812
P3737	DASDL	26.0026		15811
P3738	DASDL	26.0027		15810
P3739	DASDL	26.0030	060-6960	16358
P3740	DASDL	26.0031		17887
P3741	INTERFACE	26.0006	060-6962	15847
P3742	ONLINEDUMP	26.0009		16268
P3743	ONLINEDUMP	26.0011		16269
P3744	ACR	26.0079		16391
P3744	ACR	26.0112		16933
P3744	ACR	26.0207		17398
P3744	RECOVERY	26.0026		16361
P3744	RECOVERY	26.0030		17878
P3744	RECOVERY	26.0031		17877
P3744	RECOVERY	26.0032		17873
P3744	RECOVERY	26.0033		17876
P3744	RECOVERY	26.0034		17875
P3744	RECOVERY	26.0036		16273
P3744	RECOVERY	26.0045		16914
P3744	RECOVERY	26.0046		16931
P3744	RECOVERY	26.0047		16913
P3744	RECOVERY	26.0048		16908
P3744	RECOVERY	26.0080		17398
P3745	RECOVERY	26.0027		16320
P3746	DMFILTER	26.0008	183-0070	17886
P3747	DM6700	26.0006	185-0139	16348
P3748	DUMPANALY	26.0028		16108
P3749	ESPOLINTRN	26.0013		15830
P3750	IN-OUTPUT	26.0241	217-0007	15527
P3751	IN-OUTPUT	26.0249		16016
P3753	MCP	26.0246		15992
P3754	MCP	26.0251		16084
P3755	ESPOLINTRN	26.0012		16014
P3755	MCP	26.0252		16013
P3755	SCR	26.0003		16013
P3756	MCP	26.0254	261-0010	16015
P3756	MCP	26.0254	213-0035	16015
P3757	MCP	26.0255	151-0223	16093
P3758	MCP	26.0256		16094

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P3758	MCP	26.0325		16234
P3759	MCP	26.0273		16004
P3760	MCP	26.0258		16110
P3761	MCP	26.0260		15861
P3762	MCP	26.0261		15873
P3763	MCP	26.0267		16076
P3763	MCP	26.0306		16200
P3764	MCP	26.0268	169-0088	16091
P3765	MCP	26.0269		16080
P3766	MCP	26.0272		16078
P3767	MCP	26.0275		16062
P3767	MCP	26.0276		16062
P3768	DUMPANALY	26.0084		18029
P3769	MCP	26.0279	162-0100	16085
P3769	WFL	26.0012	162-0100	16085
P3770	MCP	26.0285		16066
P3771	MCP	26.0286	226-0222	16064
P3772	MCP	26.0288		16053
P3773	MCP	26.0289		15829
P3774	MCP	26.0291	162-0103	16060
P3775	MCP	26.0292		16052
P3776	MCP	26.0294	130-0201	16089
P3776	MCP	26.0294	208-7408	16089
P3776	MCP	26.0294	168-0068	16089
P3777	MCP	26.0324		16230
P3778	MCP	26.0329		16235
P3779	MCP	26.0331		16023
P3780	MCP	26.0332		16228
P3781	INTERFACE	26.0010	231-0069	16660
P3781	MCP	26.0335		16232
P3781	MCP	26.0336		16232
P3781	MCP	26.0337		16232
P3781	MCP	26.0338		16232
P3782	NDL	26.0005		16210
P3783	RJE	26.0006		15790
P3784	RJE	26.0007		15791
P3785	NDL	26.0006		16208
P3786	SCR	26.0006		13682
P3787	SCR	26.0009		13685
P3788	SCR	26.0011		13687
P3789	SCR	26.0012		13688
P3790	SCR	26.0017		13693
P3791	SCR	26.0018		13694
P3792	SCR	26.0019	060-6959	13695
P3793	UTILOADER	26.0001		16056
P3794	ALGOL	26.0077		16131
P3795	ALGOL	26.0081		16601
P3796	ALGOL	26.0082	179-0099	16559
P3797	BACKUP	26.0006		17888
P3798	BACKUP	26.0007	143-0128	16673
P3798	BACKUP	26.0007	124-0047	16673
P3799	BINDER	26.0011		16600
P3800	BINDER	26.0012		16557
P3801	COBOL	26.0029	162-0093	16596
P3802	COBOL	26.0060	125-0113	16370
P3802	COBOL	26.0060	244-0031	16370
P3802	COBOL	26.0060	253-0005	16370
P3802	COBOL	26.0060	210-0018	16370
P3802	COBOL	26.0060	166-0049	16370
P3802	COBOL	26.0060	257-0004	16370
P3803	COBOL	26.0062	231-0041	16371
P3803	COBOL	26.0062	149-0135	16371
P3804	COBOL	26.0068	203-0040	16308
P3805	COBOL	26.0071	231-0075	17889
P3806	COBOL	26.0074	264-0004	16599
P3807	COBOL	26.0076	060-6812	16597
P3807	COBOL	26.0076	273-0001	16597
P3807	COBOL	26.0076	203-0037	16597
P3807	COBOL	26.0076	168-0049	16597
P3808	DCALGOLINT	26.0002		17896

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P3808	FORTRAN	26.0069	268-0002	17896
P3808	FORTRAN	26.0069	174-0074	17896
P3808	FORTRAN	26.0069	132-0069	17896
P3808	FORTRAN	26.0069	132-0068	17896
P3808	FORTRAN	26.0069	222-9079	17896
P3808	FORTRAN	26.0069	060-6941	17896
P3809	DCALGOL	26.0076		16130
P3810	ACR	26.0093		15752
P3811	ACR	26.0095		16277
P3812	ACR	26.0096		16552
P3813	ACR	26.0097		16554
P3814	ACR	26.0098		16278
P3815	IN-OUTPUT	26.0583	194-0053	18007
P3815	IN-OUTPUT	26.0583	192-0165	18007
P3816	DCALGOLINT	26.0003		16152
P3817	ACR	26.0101		16934
P3817	ACR	26.0104		16929
P3818	ACR	26.0102		16938
P3818	RECOVERY	26.0041		16938
P3819	ACR	26.0103		16930
P3820	ACR	26.0106		16496
P3821	ACR	26.0107		16928
P3822	ACR	26.0108		16922
P3823	ACR	26.0110		16916
P3824	ACR	26.0111		16915
P3824	ACR	26.0121		17156
P3825	ACR	26.0113		16912
P3826	DASDL	26.0032	231-0069	16272
P3826	DMALGOL	26.0080		16556
P3827	DASDL	26.0033		16275
P3828	IN-OUTPUT	26.0584		19071
P3829	IN-OUTPUT	26.0586		19074
P3830	DASDL	26.0037		17958
P3831	DASDL	26.0038	222-9077	16920
P3832	DMDUMPER	26.0001		16513
P3833	DMFILTER	26.0009		16512
P3834	DMLOADGEN	26.0001	185-0138	16507
P3834	DMLOADGEN	26.0004		16510
P3835	DMLOADGEN	26.0002	183-0068	16535
P3836	DMLOADGEN	26.0003		16534
P3837	DMLOADGEN	26.0005		16509
P3838	DMMAPPER	26.0001		16511
P3839	INTERFACE	26.0009		16661
P3840	INTERFACE	26.0011		16659
P3841	INTERFACE	26.0012		16658
P3842	INTERFACE	26.0013		16276
P3843	IN-OUTPUT	26.0587		19072
P3843	ONLINEDUMP	26.0020		17407
P3844	IN-OUTPUT	26.0602		19080
P3844	RECOVERY	26.0076		19352
P3845	LOADER	26.0027		19433
P3846	RECOVERY	26.0043		16924
P3847	DUMPALL	26.0001	231-0071	17858
P3848	DUMPALL	26.0002	246-0008	17857
P3849	DUMPALL	26.0003		17856
P3850	DUMPALL	26.0004	209-0021	17855
P3851	FORTRAN	26.0067	142-0219	17894
P3852	FORTRAN	26.0068	114-0252	17895
P3853	SCR	26.0007		13683
P3854	NDL	26.0009	060-6971	16215
P3855	PATCH	26.0005		16544
P3856	PATCH	26.0006	226-0207	16546
P3857	PLI	26.0001	238-0028	15923
P3857	PLI	26.0001	109-0091	15923
P3858	PLI	26.0002		16588
P3859	PLI	26.0003		12444
P3860	PLI	26.0004	263-0021	15921
P3861	PLI	26.0005	205-0245	16657
P3861	PLI	26.0005	205-0029	16657
P3862	PLI	26.0006		16587

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P3863	PLI	26.0007		16586
P3864	PLI	26.0009		16656
P3864	PLI	26.0016		16655
P3865	CCTABLEGEN	26.0005		15716
P3866	PLI	26.0012		16584
P3867	PLI	26.0013		16583
P3868	PLI	26.0014		16582
P3869	PLI	26.0015		16581
P3870	PLI	26.0018		15918
P3871	DASDL	26.0086		18441
P3872	PLI	26.0021	262-0017	16579
P3872	PLI	26.0021	262-0016	16579
P3873	PLI	26.0022		16578
P3874	PLI	26.0025		16570
P3875	PLI	26.0026	060-6947	16569
P3875	PLI	26.0026	249-0020	16569
P3876	PLI	26.0027	262-0032	16577
P3877	PLI	26.0028	268-0011	12443
P3878	PLI	26.0029		12442
P3879	PLI	26.0030		12441
P3880	PLI	26.0033		12440
P3881	PLI	26.0034		16651
P3882	PLI	26.0035		16650
P3883	PLI	26.0036	262-0005	14727
P3884	PLI	26.0037	262-0008	14728
P3885	PLI	26.0038	113-0728	16575
P3886	PLI	26.0039	262-0009	14726
P3887	RJE	26.0008		15789
P3888	SOURCENDL	26.0001		16217
P3889	SOURCENDL	26.0002		16495
P3890	SOURCENDL	26.0004		16493
P3891	SOURCENDL	26.0005	130-0207	16492
P3892	ALGOL	26.0043	151-0185	15828
P3893	ALGOL	26.0045	168-0012	15840
P3893	ALGOL	26.0045	113-0439	15840
P3894	ALGOL	26.0046	166-0039	16124
P3894	ALGOL	26.0046	143-0097	16124
P3895	BDMSALGOL	26.0048	060-6963	16136
P3896	ALGOL	26.0049		16260
P3897	ALGOL	26.0050		16125
P3898	ALGOL	26.0051		16261
P3899	ALGOL	26.0053		16382
P3900	ALGOL	26.0054		14321
P3900	ALGOL	26.0055		14317
P3900	ALGOL	26.0056		14320
P3900	ALGOL	26.0057		16381
P3900	ALGOL	26.0058		16380
P3901	ALGOL	26.0061		16377
P3902	ALGOL	26.0062		16378
P3903	ALGOL	26.0063		16376
P3904	ALGOL	26.0064	130-0189	16265
P3905	ALGOL	26.0065		16128
P3905	ESPOL	26.0021		16128
P3906	BDMSALGOL	26.0066		16328
P3907	ALGOL	26.0067		16129
P3908	ALGOL	26.0129		19667
P3909	ALGOL	26.0073	146-0076	17899
P3910	ALGOL	26.0074		17890
P3911	ALGOL	26.0075		17884
P3912	BDMSALGOL	26.0078		16927
P3913	BDMSALGOL	26.0079		16555
P3914	LOADER	26.0059		17328
P3915	ALGOL	26.0086	151-0255	16482
P3916	ALGOL	26.0087		16132
P3917	ALGOL	26.0088	139-0087	16133
P3918	ALGOL	26.0091	109-0070	16134
P3919	BACKUP	26.0009	060-6956	17163
P3920	BACKUP	26.0011	140-0131	17164
P3921	BASIC	26.0003		16514
P3922	BINDER	26.0010		15925

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P3923	COBOL	26.0032	162-0080	15954
P3923	COBOL	26.0032	252-0002	15954
P3923	COBOL	26.0032	241-0037	15954
P3923	COBOL	26.0032	264-0003	15954
P3923	COBOL	26.0032	060-6825	15954
P3923	COBOL	26.0032	141-0139	15954
P3923	COBOL	26.0032	183-0074	15954
P3924	COBOL	26.0038	060-6883	15956
P3925	COBOL	26.0040	244-0001	15955
P3926	COBOL	26.0044	194-0074	15949
P3927	COBOL	26.0041	112-0061	15947
P3928	BDMSCOBOL	26.0042	117-0223	15757
P3929	COBOL	26.0043	203-0041	15948
P3930	COBOL	26.0045		15950
P3931	COBOL	26.0047	187-0149	15952
P3932	COBOL	26.0048	263-0003	15953
P3933	COBOL	26.0049		16366
P3934	BDMSCOBOL	26.0051		16364
P3935	COBOL	26.0055	194-0084	16301
P3936	COBOL	26.0058	194-0080	16303
P3937	COBOL	26.0059	252-0007	16304
P3938	COBOL	26.0061	194-0064	16305
P3939	COBOL	26.0063	244-0003	16307
P3940	COBOL	26.0069	184-0025	16374
P3941	COBOL	26.0072	207-0088	16372
P3943	COBOL	26.0081	183-0083	16591
P3943	COBOL	26.0081	132-0074	16591
P3943	COBOL	26.0081	244-0006	16591
P3943	COBOL	26.0081	194-0077	16591
P3943	COBOL	26.0081	163-0014	16591
P3944	COBOL	26.0083	176-0125	16592
P3945	BDMSCOBOL	26.0084		16547
P3946	COBOL	26.0085	176-0124	16589
P3947	COBOL	26.0086	060-6863	17067
P3948	COMPARE	26.0002		16541
P3949	ACR	26.0117	230-0042	16904
P3950	ACR	26.0119		16900
P3951	DASDL	26.0041	060-7017	16905
P3952	DASDL	26.0042		16901
P3952	DASDL	26.0064		19363
P3953	MCP	26.0443		17974
P3954	PROPERTIES	26.0002		16932
P3955	DM6700	26.0007		16533
P3956	DMALGOL	26.0034		16281
P3957	ESPOL	26.0019		14276
P3958	ESPOL	26.0020		16127
P3959	ESPOL	26.0023		17893
P3960	ESPOL	26.0024		16532
P3961	ESPOLINTRN	26.0014	130-0203	16150
P3962	ESPOLINTRN	26.0015		15924
P3963	ESPOLINTRN	26.0016		17859
P3964	ESPOLINTRN	26.0018		16506
P3965	FORTRAN	26.0030	241-0041	15693
P3966	FORTRAN	26.0032		16147
P3967	FORTRAN	26.0035	193-0115	16149
P3968	FORTRAN	26.0036		16401
P3968	FORTRAN	26.0037		16400
P3968	FORTRAN	26.0038		16399
P3968	FORTRAN	26.0039		16398
P3968	FORTRAN	26.0040		16397
P3968	FORTRAN	26.0041		16391
P3968	FORTRAN	26.0042		16390
P3968	FORTRAN	26.0043		16389
P3968	FORTRAN	26.0044		16388
P3968	FORTRAN	26.0045		16387
P3968	FORTRAN	26.0046		16386
P3968	FORTRAN	26.0047		16385
P3968	FORTRAN	26.0048		16396
P3968	FORTRAN	26.0049		16395
P3968	FORTRAN	26.0050		16394

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P3968	FORTRAN	26.0051		16392
P3969	FORTRAN	26.0052	060-6943	16286
P3970	FORTRAN	26.0053		16287
P3971	FORTRAN	26.0054	244-0042	16298
P3972	FORTRAN	26.0056	244-0016	16340
P3973	FORTRAN	26.0057	261-0038	16339
P3974	FORTRAN	26.0058	130-0194	16338
P3975	FORTRAN	26.0059	142-0217	16337
P3975	FORTRAN	26.0059	060-6930	16337
P3976	FORTRAN	26.0060	222-0303	16336
P3977	FORTRAN	26.0061	193-0103	16335
P3978	FORTRAN	26.0062	204-0013	16334
P3979	FORTRAN	26.0063	205-0295	16333
P3980	FORTRAN	26.0064	146-0088	16332
P3981	FORTRAN	26.0065		17898
P3982	FORTRAN	26.0066	244-0017	17897
P3983	FORTRAN	26.0071	261-0015	16529
P3984	FORTRAN	26.0072	193-0034	16530
P3985	FORTRAN	26.0073	201-0021	16531
P3986	FORTRAN	26.0074		17891
P3987	FORTRAN	26.0077	263-0502	16527
P3988	FORTRAN	26.0078	205-0162	16526
P3989	FORTRAN	26.0080	126-0200	16524
P3990	FORTRAN	26.0081	241-0027	16523
P3991	FORTRAN	26.0082	121-0150	16522
P3992	FORTRAN	26.0084	142-0212	16520
P3993	DASDL	26.0087		18401
P3994	NDL	26.0010	116-0088	16216
P3995	PATCH	26.0007		16540
P3996	PATCH	26.0008		16539
P3997	RJE	26.0011		16355
P3998	SORT	26.0003		16346
P4000	CONTROLLER	26.0020	231-0044	16051
P4001	CONTROLLER	26.0021		16206
P4002	CONTROLLER	26.0024		16251
P4003	CONTROLLER	26.0025		16252
P4003	CONTROLLER	26.0032		17948
P4004	CONTROLLER	26.0028		17929
P4005	CONTROLLER	26.0030		17949
P4006	MCP	26.0574		19247
P4007	MCP	26.0654		19307
P4008	MCP	26.0610		19158
P4009	DUMPANALY	26.0030		16220
P4010	DUMPANALY	26.0034		17869
P4011	IN-OUTPUT	26.0240		14711
P4011	IN-OUTPUT	26.0730		19400
P4012	DUMPANALY	26.0036		17931
P4013	DUMPANALY	26.0040		17052
P4014	DUMPANALY	26.0042		17988
P4015	MCP	26.0293		16054
P4015	MCP	26.0295		16057
P4015	MCP	26.0296		16055
P4015	MCP	26.0299		16181
P4015	MCP	26.0347		16241
P4015	MCP	26.0349		16246
P4015	MCP	26.0398		17863
P4015	MCP	26.0403		17945
P4015	MCP	26.0423		17967
P4015	MCP	26.0452		17049
P4015	MCP	26.0463		17036
P4015	MCP	26.0468		17046
P4015	MCP	26.0472		17028
P4016	DATACOM	26.0318		15824
P4017	DATACOM	26.0340	149-0087	16405
P4018	DATACOM	26.0343	151-0202	16404
P4018	DATACOM	26.0343	188-0039	16404
P4019	DATACOM	26.0379		16408
P4020	DATACOM	26.0442		16417
P4021	DATACOM	26.0454	151-0220	16418
P4022	IN-OUTPUT	26.0309		16019

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P4023	IN-OUTPUT	26.0424		16040
P4024	IN-OUTPUT	26.0456		16043
P4025	IN-OUTPUT	26.0462	231-0074	16045
P4026	JOBFORMAT	26.0003		17927
P4027	LOADER	26.0007		16221
P4028	LOADER	26.0008		17941
P4029	LOADER	26.0009		16034
P4030	LOADER	26.0010		16663
P4031	MCP	26.0297		16187
P4032	MCP	26.0298		16017
P4033	MCP	26.0300		16183
P4034	MCP	26.0302	151-0155	16178
P4035	MCP	26.0304		16198
P4036	MCP	26.0305		16191
P4037	MCP	26.0307	151-0204	16020
P4037	MCP	26.0311		16018
P4037	MCP	26.0320		16022
P4037	MCP	26.0330		16024
P4037	MCP	26.0355		16025
P4037	MCP	26.0427		16035
P4037	SORT	26.0002		16021
P4038	ALGOL	26.0084	224-0019	17284
P4039	MCP	26.0313		16202
P4039	MCP	26.0328		15848
P4040	MCP	26.0314		16186
P4041	MCP	26.0315		16204
P4042	MCP	26.0317		16218
P4043	MCP	26.0350		16245
P4043	MCP	26.0351		16245
P4043	MCP	26.0362		16028
P4044	MCP	26.0352		16240
P4045	MCP	26.0354		16254
P4046	MCP	26.0357		16255
P4047	INTERFACE	26.0016		17148
P4047	MCP	26.0358		16267
P4047	MCP	26.0473		16481
P4047	MCP	26.0498		19489
P4048	MCP	26.0360		16029
P4048	MCP	26.0366		16030
P4048	MCP	26.0380		16033
P4048	MCP	26.0381		16032
P4048	MCP	26.0382		16033
P4048	MCP	26.0388		17946
P4048	MCP	26.0400		17944
P4048	MCP	26.0433		16039
P4048	MCP	26.0631		19086
P4048	MCP	26.1015		19708
P4049	ALGOL	26.0103	168-0095	18041
P4051	MCP	26.0365		17870
P4053	MCP	26.0370		16257
P4055	CONTROLLER	26.0027		17866
P4055	MCP	26.0373		17866
P4056	MCP	26.0374		17900
P4056	MCP	26.0376		17923
P4057	MCP	26.0375		17901
P4058	MCP	26.0377		17902
P4059	FORTRAN	26.0033		16151
P4060	MCP	26.0383		17942
P4061	MCP	26.0385	138-0155	16059
P4062	MCP	26.0389		17924
P4062	MCP	26.0404		17955
P4062	MCP	26.0446		17978
P4062	MCP	26.0573		19242
P4062	MCP	26.0624		19293
P4062	MCP	26.0734		17413
P4063	MCP	26.0393		17952
P4063	MCP	26.0466		17044
P4063	MCP	26.0489		17004
P4064	IN-OUTPUT	26.1108		19722
P4065	MCP	26.0395		17940

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P4065	WFL	26.0019		17940
P4066	MCP	26.0397		17950
P4068	MCP	26.0402		17943
P4068	MCP	26.0445		17979
P4068	MCP	26.0458		16042
P4069	MCP	26.0405		16671
P4070	MCP	26.0406		16670
P4071	MCP	26.0407		16669
P4072	MCP	26.0408		16668
P4073	MCP	26.0409		16672
P4074	MCP	26.0413		17962
P4075	MCP	26.0414		17959
P4076	MCP	26.0415		17960
P4077	MCP	26.0416		16666
P4078	MCP	26.0417		16665
P4079	MCP	26.0418		16667
P4080	CONTROLLER	26.0034		16041
P4080	MCP	26.0419		16041
P4082	MCP	26.0425		16036
P4083	MCP	26.0429		17965
P4083	MCP	26.0430		17965
P4084	MCP	26.0431		17966
P4085	MCP	26.0436		17957
P4086	MCP	26.0437		17971
P4086	MCP	26.0438		17971
P4087	MCP	26.0439		17970
P4088	MCP	26.0440		17969
P4088	MCP	26.0470		17030
P4089	MCP	26.0447		17982
P4090	MCP	26.0448		17977
P4091	MCP	26.0449	174-0070	16516
P4092	MCP	26.0450	133-0213	16515
P4093	MCP	26.0453		17051
P4094	MCP	26.0459		17990
P4095	MCP	26.0460		17983
P4096	CONTROLLER	26.0041		17032
P4096	MCP	26.0461		17032
P4096	MCP	26.0864		17538
P4096	MCP	26.0893		17601
P4097	MCP	26.0464		17042
P4098	MCP	26.0465		17045
P4099	MCP	26.0467		17043
P4100	MCP	26.0469		17034
P4101	DASDL	26.0040	230-0043	16906
P4102	MCP	26.0471		16664
P4103	MCP	26.0474		17147
P4104	MCP	26.0478		17027
P4105	MCP	26.0479		17031
P4106	SCR	26.0024		17928
P4107	DATACOM	26.0526		19664
P4107	WFL	26.0018		17930
P4108	WFL	26.0020	185-0134	17954
P4110	ALGOL	26.0071	130-0166	16282
P4111	ALGOL	26.0134	222-0320	19666
P4112	BDMSALGOL	26.0092		16476
P4113	ALGOL	26.0093		16475
P4114	BDMSALGOL	26.0094		16474
P4115	ALGOL	26.0096		16470
P4116	ALGOL	26.0097	132-0066	17179
P4116	ALGOL	26.0097	132-0071	17179
P4117	ALGOL	26.0098	201-0054	17178
P4118	ALGOL	26.0099	261-0009	17177
P4119	ALGOL	26.0100	169-0097	17176
P4120	BASIC	26.0004	241-0042	17192
P4120	BASIC	26.0004	196-0008	17192
P4120	BASIC	26.0004	121-0143	17192
P4120	BASIC	26.0004	133-0223	17192
P4121	CCTABLEGEN	26.0006		16005
P4122	BDMSCOBOL	26.0087		17158
P4123	BDMSCOBOL	26.0088		17159

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P4124	BDMSCOBOL	26.0089	230-0044	17160
P4125	BDMSCOBOL	26.0091		17143
P4126	BDMSCOBOL	26.0092		17144
P4127	ACR	26.0109		16919
P4128	ACR	26.0122		17155
P4129	ACR	26.0125		17007
P4130	ACR	26.0126		17006
P4131	ACR	26.0128		17129
P4132	ACR	26.0129		17011
P4133	ACR	26.0130		17010
P4134	MCP	26.1110		17098
P4135	COPYAUD-II	26.0006		19301
P4135	IN-OUTPUT	26.0668		19388
P4136	DASDL	26.0043		17141
P4137	DMALGOL	26.0070		16280
P4138	DMALGOL	26.0095		16472
P4139	DMFILTER	26.0010		17029
P4140	INTERFACE	26.0018		17146
P4141	ALGOL	26.0121		18020
P4142	COBOL	26.0171	168-0089	18959
P4143	RECOVERY	26.0051		17127
P4144	RECOVERY	26.0052		17013
P4145	RECOVERY	26.0053		17012
P4146	ESPOL	26.0025	249-0017	17181
P4146	ESPOL	26.0025	222-9042	17181
P4147	ESPOL	26.0026	181-0030	17180
P4148	ESPOLINTRN	26.0019		17253
P4149	FORTRAN	26.0031		16146
P4150	FORTRAN	26.0075	170-0014	17892
P4151	FORTRAN	26.0079	060-7015	16525
P4152	FORTRAN	26.0083		16521
P4153	FORTRAN	26.0085	060-6996	16519
P4154	MAKEUSER	26.0001		18536
P4155	DASDL	26.0045		17135
P4156	DASDL	26.0046		17134
P4157	MAKEUSER	26.0002		18535
P4158	DCPPROGEN	26.0006		17271
P4158	NDL	26.0012		16487
P4159	NDL	26.0013		16486
P4160	NDL	26.0014		16485
P4161	NDL	26.0015		16484
P4162	NDL	26.0016	060-7011	17272
P4163	PATCH	26.0009		16538
P4164	PATCH	26.0010		16537
P4164	PATCH	26.0015		19504
P4165	PRINTBIND	26.0001		17184
P4166	RJE	26.0012		16353
P4167	RJE	26.0013	157-0092	16354
P4167	RJE	26.0013	193-0328	16354
P4167	RJE	26.0013	193-0319	16354
P4168	RJE	26.0014	193-0327	16352
P4169	ALGOL	26.0104	139-0081	18033
P4170	ALGOL	26.0105	249-0025	18040
P4171	BACKUP	26.0014	261-0044	17189
P4171	BACKUP	26.0014	202-0137	17189
P4172	BACKUP	26.0015	143-0150	17188
P4172	BACKUP	26.0015	245-0004	17188
P4173	BACKUP	26.0016	143-0129	17187
P4174	BACKUP	26.0017	114-0271	19470
P4175	BACKUP	26.0018	202-0158	17186
P4176	COBOL	26.0015	150-0036	17059
P4176	COBOL	26.0015	249-0023	17059
P4176	COBOL	26.0015	187-0147	17059
P4177	COBOL	26.0080	145-0601	17058
P4177	COBOL	26.0080	125-0125	17058
P4177	COBOL	26.0080	117-0197	17058
P4178	COBOL	26.0095	164-0004	17066
P4179	COBOL	26.0096	060-7023	17054
P4179	COBOL	26.0096	060-7026	17054
P4180	COBOL	26.0099	180-9005	17053

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P4181	BDMSCOBOL	26.0100	231-0085	17222
P4182	BDMSCOBOL	26.0101	231-0084	17223
P4183	COBOL	26.0103		17063
P4184	COBOL	26.0104	210-0019	17062
P4185	COBOL	26.0105	196-0010	17060
P4185	COBOL	26.0105	060-7036	17060
P4186	COBOL	26.0106	112-0067	17061
P4187	COBOL	26.0107	255-0020	17056
P4188	COBOL	26.0108	244-0048	17057
P4189	DM6700	26.0008		16963
P4190	DM6700	26.0009		16962
P4191	DM6700	26.0010		16961
P4192	DM6700	26.0012		16959
P4193	DM6700	26.0013		16957
P4194	DM6700	26.0014		16958
P4195	ACR	26.0127		16982
P4197	ACR	26.0135		17235
P4197	ACR	26.0159		19628
P4197	RECOVERY	26.0059		19626
P4198	BDMSALGOL	26.0113		19530
P4199	ACR	26.0137		17283
P4200	MAKEUSER	26.0004		18534
P4201	USERSTRUCT	26.0001		18538
P4202	ACR	26.0140		16981
P4203	ACR	26.0141		17218
P4204	ACR	26.0143		17220
P4205	ACR	26.0144		17226
P4206	ACR	26.0145		17281
P4206	DASDL	26.0051		17281
P4206	DASDL	26.0066		19105
P4206	RECOVERY	26.0057		17281
P4207	ACR	26.0153		16984
P4208	ACR	26.0154		17215
P4208	ACR	26.0229		18407
P4209	ACR	26.0161		17280
P4210	ACR	26.0163		19620
P4211	ACR	26.0164		19619
P4212	ACR	26.0165	231-0086	19560
P4213	ACR	26.0177		19139
P4213	ACR	26.0178		19138
P4213	ALGOL	26.0116		18035
P4214	DASDL	26.0050		17231
P4215	DMFILTER	26.0011	210-0024	19614
P4216	DMFILTER	26.0012	210-0025	19613
P4217	INTERFACE	26.0020		19485
P4218	INTERFACE	26.0021		19622
P4219	INTERFACE	26.0023		19482
P4220	BACKUP	26.0023		18596
P4221	ONLINEDUMP	26.0018		19548
P4222	PRINTAUDIT	26.0010		17229
P4223	PROPERTIES	26.0003		19481
P4224	RECOVERY	26.0060		19625
P4225	RECOVERY	26.0056		19624
P4226	ACR	26.0146		16975
P4226	ACR	26.0160		19623
P4226	ACR	26.0186		19135
P4226	ACR	26.0193		19441
P4226	RECOVERY	26.0058		16976
P4227	DUMPALL	26.0005		19656
P4228	DUMPALL	26.0006	203-0059	19655
P4229	DUMPALL	26.0007		19652
P4230	ESPOL	26.0027		17175
P4231	ESPOL	26.0029		18036
P4232	ESPOL	26.0030		19577
P4233	ESPOLINTRN	26.0021	193-0114	16504
P4234	ESPOLINTRN	26.0022	196-0006	19647
P4234	ESPOLINTRN	26.0022	133-0211	19647
P4234	ESPOLINTRN	26.0022	162-0116	19647
P4235	LOGANALY	26.0004	060-6973	17183
P4235	LOGANALY	26.0004	166-0076	17183

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P4236	LOGANALY	26.0005	162-0102	17190
P4237	LOGANALY	26.0006	168-0048	17191
P4238	LOGANALY	26.0007	202-0153	19490
P4239	LOGANALY	26.0008	205-0459	19491
P4240	LOGANALY	26.0009	060-6969	19648
P4241	PATCH	26.0011	168-0097	16466
P4242	PATCH	26.0012		16536
P4243	PATCH	26.0013	169-0104	19510
P4244	PATCH	26.0014	169-0101	19511
P4245	PATCH	26.0016		19501
P4246	PRINTBIND	26.0002		19569
P4247	PRINTBIND	26.0003	168-0099	19568
P4247	PRINTBIND	26.0003	113-0649	19568
P4248	RJE	26.0017	244-0050	17251
P4249	RJE	26.0018	168-0096	17252
P4250	CANDE	26.0018		15896
P4251	COBOL	26.0115	255-0024	19644
P4251	COBOL	26.0115	174-0080	19644
P4251	COBOL	26.0115	117-0184	19644
P4251	COBOL	26.0115	164-0006	19644
P4252	DM6700	26.0015	185-0150	17221
P4252	DM6700	26.0015	185-0153	17221
P4253	CONTROLLER	26.0045		19581
P4254	CONTROLLER	26.0046		19576
P4255	BACKUP	26.0024		18545
P4256	MCP	26.0539		19535
P4257	DM6700	26.0016		19612
P4258	DCPPROGEN	26.0008	149-0124	17269
P4259	DCPPROGEN	26.0009	167-0096	17268
P4260	ACR	26.0166		19527
P4261	ACR	26.0170		19600
P4262	DASDL	26.0052		19562
P4263	DASDL	26.0053		19591
P4263	DASDL	26.0069		19368
P4264	DASDL	26.0054		19590
P4265	DASDL	26.0055		19589
P4266	DASDL	26.0056		19588
P4267	DASDL	26.0057		19587
P4268	DMFILTER	26.0013		19586
P4269	ONLINEDUMP	26.0019		19538
P4270	RECOVERY	26.0066		19608
P4271	RECOVERY	26.0067		19607
P4272	RECOVERY	26.0068		19606
P4273	RECOVERY	26.0070		19605
P4274	DUMPANALY	26.0045		17018
P4275	DUMPANALY	26.0047		16968
P4276	DUMPANALY	26.0048		16967
P4277	DUMPANALY	26.0049		16966
P4278	DUMPANALY	26.0050		16986
P4279	DUMPANALY	26.0051		17000
P4280	DUMPANALY	26.0052		16999
P4281	DUMPANALY	26.0053		16998
P4282	DUMPANALY	26.0055		16996
P4283	DUMPANALY	26.0059		16992
P4283	DUMPANALY	26.0094		19296
P4284	DUMPANALY	26.0060		17001
P4285	DUMPANALY	26.0061		16980
P4286	DUMPANALY	26.0062		16978
P4287	DUMPANALY	26.0063		16990
P4288	DUMPANALY	26.0064		17023
P4289	DUMPANALY	26.0066		17003
P4290	DUMPANALY	26.0067		19578
P4291	DUMPANALY	26.0068		19575
P4292	DUMPANALY	26.0070		19573
P4293	DUMPANALY	26.0071		19572
P4293	DUMPANALY	26.0072		19552
P4295	DUMPANALY	26.0073		19553
P4296	DUMPANALY	26.0074		19556
P4297	DUMPANALY	26.0077		19546
P4298	DUMPANALY	26.0078		19545

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P4299	DUMPANALY	26.0079		19531
P4300	DUMPANALY	26.0080		19532
P4301	DUMPANALY	26.0081		18032
P4302	DUMPANALY	26.0083		18030
P4303	DUMPANALY	26.0085		18028
P4304	IADMAPPER	26.0001		18015
P4305	LOADER	26.0011		19513
P4306	CANDE	26.0013		15903
P4306	LOADER	26.0012		19514
P4307	LOADER	26.0016		18027
P4308	LOADER	26.0017		19598
P4309	MCP	26.0485		16973
P4310	MCP	26.0487		16991
P4311	MCP	26.0488		17021
P4312	MCP	26.0491		16479
P4313	DATACOM	26.0492		17016
P4314	MCP	26.0493		17022
P4315	MCP	26.0494		17005
P4316	DATACOM	26.0495		17026
P4317	MCP	26.0496		16942
P4318	MCP	26.0497		16478
P4319	MCP	26.0499		19487
P4320	MCP	26.0500		19488
P4321	MCP	26.0501		16953
P4322	MCP	26.0503		16950
P4323	BDMSCOBOL	26.0111		17216
P4324	DCPPROGEN	26.0010	239-0009	18902
P4325	MCP	26.0512		19582
P4326	DATACOM	26.0514		16954
P4327	LOGANALY	26.0015		18595
P4328	DATACOM	26.0520	213-0043	17258
P4329	MCP	26.0524		19549
P4330	DATACOM	26.0527		19663
P4331	IN-OUTPUT	26.0529	185-0132	19496
P4332	IN-OUTPUT	26.0535	144-0072	19495
P4333	IN-OUTPUT	26.0541	134-0093	19517
P4334	IN-OUTPUT	26.0544	134-0099	19516
P4335	DATACOM	26.0545		17260
P4336	MCP	26.0546		18024
P4336	MCP	26.0938		19692
P4337	MCP	26.0548		19480
P4338	MCP	26.0549		19479
P4339	MCP	26.0550		19478
P4340	MCP	26.0551		19477
P4341	JOBFORMAT	26.0004		19129
P4341	MCP	26.0561		19129
P4342	NDL	26.0018	215-0046	17265
P4343	NDL	26.0019		17264
P4344	CANDE	26.0026		18847
P4345	RJE	26.0020		17250
P4346	SCTABLEGEN	26.0012		19520
P4347	SOURCENDL	26.0006	200-0022	17266
P4348	DUMPANALY	26.0076		19554
P4349	UTILOADER	26.0003		18026
P4350	WFL	26.0025		19558
P4351	WFL	26.0026		19551
P4352	WFL	26.0027		19544
P4352	WFL	26.0041		18489
P4353	WFL	26.0028		18023
P4354	CANDE	26.0019	106-1007	15897
P4354	CANDE	26.0019	113-0491	15897
P4354	CANDE	26.0019	151-0056	15897
P4354	CANDE	26.0019	999-0742	15897
P4354	CANDE	26.0019	162-0063	15897
P4354	CANDE	26.0019	113-0713	15897
P4354	CANDE	26.0019	261-0051	15897
P4355	LOADER	26.0014		19566
P4356	COBOL	26.0010	263-0026	19639
P4357	ESPOLINTRN	26.0017		16653
P4357	PLINTRN	26.0020	262-0033	16653

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P4357	PLINTRN	26.0022		16653
P4358	PLI	26.0041	176-0107	16574
P4359	PLI	26.0042	176-0108	16573
P4360	ALGOL	26.0118	169-0094	18037
P4361	PLI	26.0044	205-0381	16654
P4361	PLI	26.0044	060-6904	16654
P4362	PLINTRN	26.0004	262-0021	14731
P4363	PLINTRN	26.0005	205-0438	14730
P4364	PLINTRN	26.0006		14729
P4365	PLINTRN	26.0019	130-0192	16602
P4365	PLINTRN	26.0019	205-0324	16602
P4366	PLINTRN	26.0007	060-6975	19223
P4367	PLINTRN	26.0014	205-0383	19222
P4368	FORTRAN	26.0086	221-0002	16154
P4368	FORTRAN	26.0086	214-0001	16154
P4368	FORTRAN	26.0086	181-0013	16154
P4368	FORTRAN	26.0086	114-0259	16154
P4368	FORTRAN	26.0086	168-0091	16154
P4368	FORTRAN	26.0086	060-7016	16154
P4369	DMALGOL	26.0111		19526
P4370	BDMSALGOL	26.0112		19559
P4371	DMALGOL	26.0108		19523
P4372	DMALGOL	26.0106		19521
P4373	ALGOL	26.0117		19671
P4374	XALGOL	26.0004	130-0054	19659
P4375	FORTRAN	26.0070	215-0036	16166
P4376	FORTRAN	26.0076	060-6915	16162
P4377	FORTRAN	26.0087	241-0025	16164
P4378	FORTRAN	26.0088	113-0735	16165
P4378	FORTRAN	26.0088	113-0739	16165
P4379	FORTRAN	26.0089	128-0231	16163
P4380	FORTRAN	26.0090		16161
P4381	ESPOLINTRN	26.0023		16502
P4382	DMRECOVER	26.0002	185-0162	18022
P4382	DM6700	26.0017		18021
P4383	CANDE	26.0012		13896
P4384	CANDE	26.0014		15902
P4385	ESPOL	26.0018	114-0158	16126
P4386	IN-OUTPUT	26.0386	121-0148	16087
P4387	CANDE	26.0020		15890
P4388	CANDE	26.0023		18851
P4389	CANDE	26.0032		18841
P4390	CANDE	26.0035		18837
P4391	ALGOL	26.0122	060-7031	18038
P4392	COBOL	26.0114	143-0151	19638
P4393	COBOL	26.0117	143-0145	19631
P4394	COBOL	26.0119	203-0077	19642
P4394	COBOL	26.0119	197-0002	19642
P4395	CANDE	26.0040		18278
P4396	COBOL	26.0123	249-0019	19636
P4397	COBOL	26.0124	187-0133	19629
P4397	COBOL	26.0124	149-0147	19629
P4398	COBOL	26.0126	180-9007	19635
P4399	COBOL	26.0127		19634
P4400	JOBFORMAT	26.0005		19243
P4401	COBOL	26.0131	235-0019	19228
P4402	COBOL	26.0133	263-0025	19227
P4403	COBOL	26.0134	203-0066	19232
P4404	COBOL	26.0135	154-0062	19230
P4405	COBOL	26.0136	189-0018	19229
P4405	COBOL	26.0136	060-6929	19229
P4405	COBOL	26.0136	227-0065	19229
P4405	COBOL	26.0136	226-0236	19229
P4406	CONTROLLER	26.0053		18010
P4407	CONTROLLER	26.0055		19121
P4408	ONLINEDUMP	26.0016		16940
P4409	CONTROLLER	26.0057		19125
P4410	CONTROLLER	26.0058		19128
P4411	SDLS	26.0002		19119
P4412	DCSTATUS	26.0004		17263

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P4413	ACR	26.0176		18019
P4414	ACR	26.0180		19137
P4415	ACR	26.0181		19252
P4416	DASDL	26.0059		18018
P4417	DASDL	26.0060	231-0102	18016
P4418	DASDL	26.0061		19120
P4419	DASDL	26.0062		19253
P4420	COPYAUD-II	26.0004		19238
P4421	DMALGOL	26.0114		19529
P4422	DMALGOL	26.0115	231-0099	19528
P4423	DMFILTER	26.0014	183-0069	19117
P4424	DMFILTER	26.0015		19114
P4425	DMFILTER	26.0016		19113
P4426	DMFILTER	26.0017		19118
P4427	DMFILTER	26.0018		19109
P4428	DMFILTER	26.0019		19108
P4429	DMFILTER	26.0020		19111
P4430	DMFILTER	26.0021		19110
P4431	PRINTAUDIT	26.0013		19235
P4432	PRINTAUDIT	26.0014		19234
P4433	PRINTAUDIT	26.0015		19255
P4434	RECOVERY	26.0073		19140
P4435	DUMPANALY	26.0086		18009
P4436	DUMPANALY	26.0087		19123
P4437	DUMPANALY	26.0088		19122
P4438	ESPOLINTRN	26.0025	134-0091	16497
P4439	ESPOLINTRN	26.0026	146-0044	19541
P4440	ESPOLINTRN	26.0027	113-0729	19540
P4441	ESPOLINTRN	26.0029	128-0212	18012
P4442	ESPOLINTRN	26.0030		19539
P4443	ESPOLINTRN	26.0031	157-0078	19100
P4443	ESPOLINTRN	26.0031	134-0095	19100
P4444	FORTRAN	26.0091	201-0070	16160
P4445	FORTRAN	26.0092	225-4015	16155
P4446	FORTRAN	26.0093		16158
P4447	FORTRAN	26.0095	114-0272	16157
P4448	FORTRAN	26.0096	113-0752	16156
P4449	MCP	26.0556		18000
P4450	MCP	26.0558		17279
P4451	MCP	26.0563		16499
P4452	PATCH	26.0018		19677
P4453	PATCH	26.0019		19676
P4454	PATCH	26.0020		19675
P4455	PATCH	26.0021		19672
P4456	PATCH	26.0022		19680
P4457	PATCH	26.0023		19674
P4458	PLINTRN	26.0027	262-0108	19216
P4459	RJE	26.0022	193-0338	17247
P4460	TAPEDIR	26.0003		19651
P4461	UTILOADER	26.0004		19102
P4462	CANDE	26.0042		18276
P4463	CANDE	26.0043		18275
P4465	IN-OUTPUT	26.0986		19702
P4466	APL-700	26.0001		18053
P4467	APL-700	26.0002	261-0016	18054
P4468	APL-700	26.0003		18055
P4469	APL-700	26.0004		18056
P4470	APL-700	26.0005		18057
P4471	APL-700	26.0006		18058
P4472	APL-700	26.0007		18059
P4473	APL-700	26.0008	261-0031	18060
P4474	APL-700	26.0009		18061
P4475	APL-700	26.0010		18062
P4476	APL-700	26.0011		18063
P4477	APL-700	26.0012		18064
P4478	APL-700	26.0013		18065
P4479	APL-700	26.0014		18066
P4480	APL-700	26.0015		18067
P4481	APL-700	26.0016		18068
P4482	APL-700	26.0017		18069

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P4483	APL-700	26.0018		18070
P4484	APL-700	26.0019		18071
P4485	APL-700	26.0020		18072
P4486	APL-700	26.0021		18073
P4487	APL-700	26.0022		18074
P4488	APL-700	26.0023	168-7008	18075
P4488	APL-700	26.0023	168-7006	18075
P4489	APL-700	26.0024		18076
P4490	APL-700	26.0025		18077
P4491	APL-700	26.0026	261-0022	18078
P4492	APL-700	26.0027		18079
P4493	APL-700	26.0028		18080
P4494	APL-700	26.0029		18081
P4495	APL-700	26.0030		18082
P4496	APL-700	26.0031		18083
P4497	APL-700	26.0032		18084
P4498	APL-700	26.0033		18085
P4499	APL-700	26.0034	261-0033	18086
P4500	APL-700	26.0035		18087
P4501	APL-700	26.0036		18088
P4502	APL-700	26.0037	261-0012	18089
P4503	APL-700	26.0038		18090
P4504	APL-700	26.0039		18091
P4505	APL-700	26.0040	168-7003	18092
P4506	APL-700	26.0041		18093
P4507	APL-700	26.0042		18094
P4508	APL-700	26.0043		18095
P4509	APL-700	26.0044	261-0032	18096
P4509	APL-700	26.0044	261-0030	18096
P4510	APL-700	26.0045	261-0023	18097
P4511	APL-700	26.0046		18098
P4512	APL-700	26.0047		18099
P4513	APL-700	26.0048		18100
P4514	APL-700	26.0049	168-7002	18101
P4515	APL-700	26.0050	168-7005	18102
P4516	APL-700	26.0051		18103
P4517	APL-700	26.0052		18104
P4518	APL-700	26.0053		18105
P4519	APL-700	26.0054		18106
P4520	APL-700	26.0055		18107
P4521	APL-700	26.0056		18108
P4522	APL-700	26.0057		18109
P4523	APL-700	26.0058	146-0081	18110
P4524	APL-700	26.0059		18111
P4525	APL-700	26.0060		18112
P4526	APL-700	26.0061	261-0021	18113
P4527	APL-700	26.0062		18114
P4528	APL-700	26.0063		18115
P4529	APL-700	26.0064		18116
P4530	APL-700	26.0065		18117
P4531	APL-700	26.0066		18118
P4532	APL-700	26.0067		18119
P4533	APL-700	26.0068		18120
P4534	APL-700	26.0069		18121
P4535	APL-700	26.0070		18122
P4536	APL-700	26.0071		18123
P4537	APL-700	26.0072		18124
P4538	APL-700	26.0073		18125
P4539	APL-700	26.0074		18126
P4540	APL-700	26.0075		18127
P4541	APL-700	26.0076		18128
P4542	APL-700	26.0077		18129
P4543	APL-700	26.0078		18130
P4544	APL-700	26.0080		18132
P4545	APL-700	26.0081		18133
P4546	APL-700	26.0082		18134
P4547	APL-700	26.0083		18135
P4548	APL-700	26.0084		18136
P4549	APL-700	26.0085	168-7001	18137
P4550	APL-700	26.0087		18139

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P4551	APL-700	26.0088		18140
P4552	APL-700	26.0089		18141
P4553	APL-700	26.0090		18142
P4554	APL-700	26.0091		18143
P4555	APL-700	26.0092		18144
P4556	APL-700	26.0093		18145
P4557	APL-700	26.0094		18146
P4558	APL-700	26.0095		18147
P4559	APL-700	26.0096		18148
P4560	APL-700	26.0097		18149
P4561	APL-700	26.0098		18150
P4562	APL-700	26.0099		18151
P4563	APL-700	26.0100		18152
P4564	APL-700	26.0101		18153
P4564	APL-700	26.0164		18215
P4565	APL-700	26.0102		18154
P4566	APL-700	26.0103		18155
P4567	APL-700	26.0104		18156
P4568	APL-700	26.0105		18157
P4569	APL-700	26.0106		18158
P4570	APL-700	26.0107		18159
P4571	APL-700	26.0108		18160
P4572	APL-700	26.0109		18161
P4573	APL-700	26.0110		18162
P4574	APL-700	26.0111		18163
P4575	APL-700	26.0112		18164
P4576	APL-700	26.0113		18165
P4577	APL-700	26.0114		18166
P4578	APL-700	26.0115		18167
P4579	APL-700	26.0116		18168
P4580	APL-700	26.0117		18169
P4581	APL-700	26.0118		18170
P4582	APL-700	26.0119		18171
P4583	APL-700	26.0120		18172
P4584	APL-700	26.0121		18173
P4585	APL-700	26.0122	261-0043	18174
P4586	APL-700	26.0123		18175
P4587	APL-700	26.0124		18176
P4588	APL-700	26.0125		18177
P4589	APL-700	26.0126		18178
P4590	APL-700	26.0127		18179
P4591	APL-700	26.0128		18180
P4592	APL-700	26.0129		18181
P4593	APL-700	26.0130		18182
P4594	APL-700	26.0131		18183
P4595	APL-700	26.0132		18184
P4596	APL-700	26.0133		18185
P4597	APL-700	26.0134		18186
P4598	APL-700	26.0135		18187
P4599	APL-700	26.0136		18188
P4600	APL-700	26.0137		18189
P4601	APL-700	26.0138		18190
P4602	APL-700	26.0140		18192
P4603	APL-700	26.0141		18193
P4604	APL-700	26.0142		18194
P4605	APL-700	26.0143		18195
P4606	APL-700	26.0144	261-0024	18196
P4607	APL-700	26.0148		18199
P4608	APL-700	26.0150		18201
P4609	APL-700	26.0151		18202
P4610	APL-700	26.0152		18203
P4611	APL-700	26.0153		18204
P4612	APL-700	26.0154		18205
P4613	APL-700	26.0155		18206
P4614	APL-700	26.0156		18207
P4615	APL-700	26.0157		18208
P4616	APL-700	26.0158		18209
P4617	APL-700	26.0159		18210
P4618	APL-700	26.0160		18211
P4619	APL-700	26.0161		18212

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.		PRI
P4620	APL-700	26.0162			18213
P4621	BASIC	26.0005			17454
P4622	APL-700	26.0165			18216
P4623	APL-700	26.0166			18217
P4624	APL-700	26.0170			18221
P4625	APL-700	26.0171			18222
P4626	APL-700	26.0172			18223
P4627	APL-700	26.0173			18224
P4628	APL-700	26.0174			18225
P4629	APL-700	26.0175			18226
P4630	APL-700	26.0176			18227
P4631	APL-700	26.0178			18229
P4632	APL-700	26.0179			18230
P4633	APL-700	26.0180			18231
P4634	APL-700	26.0181			18232
P4635	APL-700	26.0184			18235
P4636	APL-700	26.0185			18236
P4637	APL-700	26.0186			18237
P4638	APL-700	26.0187			18238
P4639	APL-700	26.0188			18239
P4640	APL-700	26.0189			18240
P4641	ACR	26.0162			19565
P4642	BACKUP	26.0019			18903
P4643	BACKUP	26.0020			18904
P4644	BACKUP	26.0021			17436
P4645	BACKUP	26.0022			17435
P4646	COBOL	26.0023	187-0128		16453
P4647	COBOL	26.0110			19295
P4648	COBOL	26.0112			19294
P4649	COBOL	26.0113	222-9096		18942
P4650	COBOL	26.0116			18936
P4651	COBOL	26.0122	112-6066		16450
P4652	COBOL	26.0128	166-0077		18829
P4653	COBOL	26.0132	226-0246		18828
P4654	COBOL	26.0137	254-0001		18831
P4655	COBOL	26.0138	161-0062		18832
P4655	COBOL	26.0138	226-0241		18832
P4656	COBOL	26.0143	221-0004		16456
P4656	COBOL	26.0143	157-0080		16456
P4657	COBOL	26.0144	149-0111		16463
P4657	COBOL	26.0144	149-0134		16463
P4658	COBOL	26.0145	162-0122		16462
P4659	COBOL	26.0146	157-0063		16451
P4660	COBOL	26.0147	060-7053		16449
P4661	COBOL	26.0148	235-0017		18830
P4662	COBOL	26.0149	231-0026		16461
P4662	COBOL	26.0149	183-0084		16461
P4663	COBOL	26.0150	166-0069		16460
P4664	COBOL	26.0151	179-0050		16459
P4664	COBOL	26.0151	235-0021		16459
P4665	COBOL	26.0152	149-0168		16458
P4666	COBOL	26.0153	149-0169		16457
P4667	COBOL	26.0155	183-0045		16454
P4667	COBOL	26.0155	112-0070		16454
P4668	COBOL	26.0156	154-0058		18940
P4669	COBOL	26.0157	235-0016		18939
P4670	COBOL	26.0159			18943
P4671	COBOL	26.0160	141-0124		18947
P4671	COBOL	26.0160	125-0104		18947
P4672	COBOL	26.0162	138-0167		18946
P4673	COBOL	26.0166	149-0167		18948
P4674	CONTROLLER	26.0067			19383
P4677	CONTROLLER	26.0071			19425
P4678	CONTROLLER	26.0073			19164
P4678	CONTROLLER	26.0087			16112
P4678	MCP	26.0710			20005
P4679	CONTROLLER	26.0074			19447
P4680	CONTROLLER	26.0075			19452
P4681	CONTROLLER	26.0076			19458
P4682	CONTROLLER	26.0077			19468

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P4683	CONTROLLER	26.0080		19995
P4684	CONTROLLER	26.0081		17408
P4685	CONTROLLER	26.0083		19992
P4686	DATACOM	26.0594		17804
P4687	DATACOM	26.0638	180-0343	17805
P4688	DATACOM	26.0687	151-0256	17809
P4689	DATACOM	26.0752		17817
P4690	DCPPROGEN	26.0011	149-0097	17818
P4691	ACR	26.0156		17213
P4692	ACR	26.0157		17212
P4693	ACR	26.0168		19602
P4694	ACR	26.0173		19456
P4695	ACR	26.0182		19475
P4696	ACR	26.0183		19269
P4697	ACR	26.0184		19104
P4697	ACR	26.0196		19350
P4697	ACR	26.0215		17794
P4698	ACR	26.0187		19358
P4699	ACR	26.0188	060-7055	19356
P4700	ACR	26.0217		17791
P4701	ACR	26.0190		19443
P4702	FORTRAN	26.0097		16153
P4703	ACR	26.0192	189-0028	19355
P4704	ACR	26.0195		19453
P4705	ACR	26.0201		17422
P4706	ACR	26.0202		17421
P4707	ACR	26.0203		17420
P4708	ACR	26.0206		17399
P4711	DMALGOL	26.0125	224-0032	19249
P4712	DMALGOL	26.0130		19349
P4712	MCP	26.0737		19116
P4713	INTERFACE	26.0024		19474
P4714	PRINTAUDIT	26.0016		19357
P4715	RECOVERY	26.0074	060-6970	19292
P4716	ACR	26.0185		19134
P4716	RECOVERY	26.0075		19106
P4717	DUMPALL	26.0008	190-0039	18924
P4717	DUMPALL	26.0008	190-0038	18924
P4718	DUMPALL	26.0011	143-0146	18923
P4719	DUMPALL	26.0012	162-0131	18921
P4719	DUMPALL	26.0012	214-0007	18921
P4720	DUMPALL	26.0013		18922
P4721	DUMPANALY	26.0089		19244
P4722	DUMPANALY	26.0092		19297
P4723	DUMPANALY	26.0093		19288
P4724	DUMPANALY	26.0096		19464
P4725	DUMPANALY	26.0097		19465
P4726	DUMPANALY	26.0099		19459
P4727	DUMPANALY	26.0101		17335
P4728	ESPOLINTRN	26.0032		19099
P4729	ESPOLINTRN	26.0033		19098
P4730	DATACOM	26.0912		17820
P4731	COUNTANALY	26.0001		17677
P4731	GUARDFILE	26.0001		17677
P4731	IADMAPPER	26.0002		17677
P4732	RJE	26.0026		17244
P4733	RJE	26.0027		18597
P4734	XREFANALY	26.0001		18594
P4735	DUMPALL	26.0015	134-0102	18917
P4735	DUMPALL	26.0015	246-0017	18917
P4735	DUMPALL	26.0015	148-0012	18917
P4736	DUMPALL	26.0016		18906
P4737	DUMPALL	26.0017		18908
P4738	DMALGOL	26.0138		17544
P4739	DUMPALL	26.0014	190-0034	18920
P4750	ESPOLINTRN	26.0034	146-0090	18893
P4750	ESPOLINTRN	26.0034	233-0005	18893
P4750	ESPOLINTRN	26.0034	201-0029	18893
P4750	ESPOLINTRN	26.0034	128-0232	18893
P4750	ESPOLINTRN	26.0034	114-0220	18893

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P4750	ESPOLINTRN	26.0034	216-0017	18893
P4751	ESPOLINTRN	26.0035		18892
P4751	ESPOLINTRN	26.0036		18892
P4751	ESPOLINTRN	26.0044		17500
P4751	ESPOLINTRN	26.0047		17498
P4752	JOBFORMAT	26.0005		19248
P4753	JOBFORMAT	26.0006		19268
P4754	JOBFORMAT	26.0007		18905
P4755	JOBFORMAT	26.0009		19428
P4756	JOBFORMAT	26.0010		17440
P4757	JOBFORMAT	26.0011		17352
P4758	LOADER	26.0028		19434
P4759	LOADER	26.0029		19435
P4760	LOADER	26.0030		20007
P4761	LOADER	26.0032		20009
P4762	LOADER	26.0034		20004
P4763	LOADER	26.0035		20002
P4764	LOADER	26.0036		20001
P4765	LOADER	26.0038		17418
P4766	LOADER	26.0039		17406
P4767	LOGANALY	26.0010	202-0186	17434
P4768	LOGANALY	26.0011		17437
P4769	LOGANALY	26.0012		17433
P4770	LOGANALY	26.0013		17432
P4771	MCP	26.0569		19155
P4772	MCP	26.0577	162-0090	18005
P4773	MCP	26.0578		18004
P4774	MCP	26.0591		19258
P4775	MCP	26.0598		19265
P4775	MCP	26.0605		19275
P4776	MCP	26.0599		19266
P4777	MCP	26.0608		19273
P4778	MCP	26.0609		19162
P4779	MCP	26.0612		19160
P4780	MCP	26.0619		19280
P4781	MCP	26.0622		19298
P4782	MCP	26.0625		19302
P4783	MCP	26.0629		19089
P4784	MCP	26.0632		19289
P4785	MCP	26.0637		19097
P4786	MCP	26.0639		19284
P4787	MCP	26.0643		19417
P4788	MCP	26.0644		19416
P4788	MCP	26.0733		17414
P4789	MCP	26.0652		19304
P4790	MCP	26.0656		19161
P4791	MCP	26.0659		19429
P4791	MCP	26.0660		19429
P4791	MCP	26.0661		19429
P4791	MCP	26.0662		19429
P4791	MCP	26.0663		19429
P4791	MCP	26.0664		19429
P4791	MCP	26.0665		19429
P4791	MCP	26.0729		17430
P4791	MCP	26.0955		17754
P4792	MCP	26.0667		19436
P4793	MCP	26.0671		19437
P4793	SCR	26.0054		13727
P4794	MCP	26.0674		19440
P4795	COBOL	26.0161	158-0002	18945
P4795	MCP	26.0776		19402
P4796	MCP	26.0679		19165
P4797	MCP	26.0680		19446
P4798	MCP	26.0683		18935
P4799	MCP	26.0686		19166
P4800	MCP	26.0688	193-0339	19393
P4800	MCP	26.0688	244-0050	19393
P4801	MCP	26.0691		19451
P4801	MCP	26.0692		19451
P4802	PLI	26.0063	262-0039	18252

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P4803	IN-OUTPUT	26.1020	112-0027	19712
P4805	MCP	26.0707		19467
P4806	MCP	26.0708		19469
P4807	MCP	26.0711		18934
P4808	MCP	26.0714		19461
P4809	MCP	26.0718		19460
P4809	MCP	26.0774		17360
P4810	MCP	26.0722		20000
P4811	MCP	26.0725		17411
P4811	MCP	26.0761		17382
P4813	MCP	26.0735		19471
P4814	TAPEDIR	26.0004		18283
P4815	COPYAUD-II	26.0007		19133
P4816	MCP	26.0745		17379
P4817	MCP	26.0746		17380
P4818	MCP	26.0748		17378
P4819	MCP	26.0749		17374
P4820	MCP	26.0750		17381
P4821	MCP	26.0753		19990
P4822	MCP	26.0754		17385
P4823	MCP	26.0755		17386
P4824	MCP	26.0756		17387
P4825	MCP	26.0762		17372
P4826	MCP	26.0767		19401
P4827	MCP	26.0773		19991
P4828	MCP	26.0778		17350
P4829	MCP	26.0779		17351
P4830	MCP	26.0780		19984
P4831	MCP	26.0781		19885
P4832	MCP	26.0783		19982
P4834	MCP	26.0790		17369
P4835	MCP	26.0792		17339
P4836	MCP	26.0793		17341
P4837	NDL	26.0020	205-0490	18901
P4838	NDL	26.0022	272-0003	17261
P4839	PATCH	26.0025	999-2014	18886
P4840	PLI	26.0065	192-0161	19214
P4841	PLI	26.0066	205-0338	19213
P4841	PLI	26.0066	205-0408	19213
P4842	PLI	26.0067	179-0180	16564
P4843	PLINTRN	26.0025		19219
P4844	PLINTRN	26.0029	205-0323	19215
P4845	PLINTRN	26.0030	205-0389	19212
P4846	PLINTRN	26.0031		16565
P4847	PLINTRN	26.0032		19211
P4848	RJE	26.0023		17238
P4849	RJE	26.0024		17239
P4850	SCR	26.0027		13701
P4851	SCR	26.0026		13700
P4852	SCR	26.0028		13702
P4853	SCR	26.0033		13707
P4854	SCR	26.0039	151-0215	13713
P4854	SCR	26.0039	151-0216	13713
P4854	SCR	26.0039	151-0244	13713
P4855	SCR	26.0040		13714
P4856	SCR	26.0041		13715
P4857	SCR	26.0044		13718
P4858	SCR	26.0046		13720
P4859	SCR	26.0050		13724
P4860	SCR	26.0055		13728
P4861	SCR	26.0056		13729
P4862	SOURCENDL	26.0007		18896
P4863	SOURCENDL	26.0008		18895
P4864	SOURCENDL	26.0009	060-6954	18894
P4865	UTILOADER	26.0005		19246
P4866	UTILOADER	26.0006		19259
P4867	UTILOADER	26.0007		19998
P4868	UTILOADER	26.0008		19999
P4869	UTILOADER	26.0009		17417
P4870	WFL	26.0032		19251

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P4871	WFL	26.0033		19270
P4872	WFL	26.0035		19466
P4873	CONTROLLER	26.0066		19422
P4873	ESPOLINTRN	26.0037		19422
P4873	HARDCOPY	26.0001		19422
P4873	MCP	26.0641		19422
P4873	MCP	26.0743		17390
P4874	DUMPANALY	26.0095		19285
P4874	DUMPANALY	26.0123		18404
P4874	MCP	26.0640		19285
P4875	CONTROLLER	26.0061		19257
P4875	SCTABLEGEN	26.0014		19257
P4876	ALGOL	26.0124		17992
P4876	ESPOL	26.0032		17992
P4877	CONTROLLER	26.0062		19159
P4877	MCP	26.0614		19159
P4878	ACR	26.0199		17427
P4878	RECOVERY	26.0077		17427
P4879	ACR	26.0200		17423
P4879	RECOVERY	26.0078		17423
P4880	COBOL	26.0163	060-6748	18965
P4881	COBOL	26.0164	060-6913	18950
P4882	COBOL	26.0165	138-0164	18949
P4883	COBOL	26.0168		18951
P4884	COBOL	26.0170	203-0071	18952
P4884	COBOL	26.0170	203-0070	18952
P4884	COBOL	26.0170	203-0069	18952
P4884	COBOL	26.0170	194-0090	18952
P4884	COBOL	26.0170	225-4017	18952
P4885	COBOL	26.0173	060-6983	18953
P4886	CONTROLLER	26.0043		16970
P4888	COBOL	26.0008		18295
P4889	DCALGOL	26.0132		19658
P4890	ONLINEDUMP	26.0021		17532
P4891	ACR	26.0179		19112
P4892	ACR	26.0210		17334
P4893	ACR	26.0212		17454
P4894	ACR	26.0213		17543
P4895	COBOL	26.0169		18960
P4896	DASDL	26.0071		19370
P4897	DASDL	26.0072		19372
P4898	DASDL	26.0073		19373
P4899	BDMSALGOL	26.0136		19346
P4900	DASDL	26.0075		19375
P4901	DASDL	26.0077		19377
P4902	DMALGOL	26.0083		16925
P4903	DMFILTER	26.0022		19343
P4903	DMLOADGEN	26.0006		19343
P4904	DMFILTER	26.0023		19342
P4905	DMFILTER	26.0024		19115
P4906	DMDUMPER	26.0002		19340
P4906	DMFILTER	26.0026		19340
P4906	DMLOADGEN	26.0008		19340
P4906	DMMAPPER	26.0003		19340
P4907	DMFILTER	26.0025		19341
P4907	DMLOADGEN	26.0007		19341
P4908	DMMAPPER	26.0002		19344
P4909	INTERFACE	26.0025		17795
P4910	PRINTAUDIT	26.0019		17602
P4911	RECOVERY	26.0061		19617
P4912	RECOVERY	26.0064		19615
P4913	RECOVERY	26.0084		17793
P4914	DUMPANALY	26.0103		17316
P4915	DUMPANALY	26.0104		17563
P4916	ESPOLINTRN	26.0039	253-0009	17439
P4916	ESPOLINTRN	26.0039	193-0302	17439
P4917	LOGANALY	26.0003		17611
P4918	LOADER	26.0025		19291
P4919	LOADER	26.0040		17402
P4920	LOADER	26.0041		17401

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P4921	LOADER	26.0042		17400
P4922	LOADER	26.0043		17365
P4923	LOADER	26.0044		17366
P4924	LOADER	26.0045		17367
P4925	LOADER	26.0047		19986
P4926	LOADER	26.0048		19987
P4927	LOADER	26.0049		19988
P4928	LOADER	26.0050		19989
P4929	LOADER	26.0051		17301
P4930	LOADER	26.0052		17302
P4931	LOADER	26.0053		17300
P4932	LOADER	26.0055		17324
P4933	LOADER	26.0058		17327
P4934	LOADER	26.0060		17329
P4935	LOADER	26.0061		17330
P4936	LOADER	26.0062		17331
P4937	LOADER	26.0063		17354
P4938	LOADER	26.0064		19967
P4939	LOADER	26.0065		19968
P4940	LOADER	26.0066		19970
P4941	LOADER	26.0067		19971
P4942	LOADER	26.0068		19972
P4943	LOADER	26.0069		19973
P4944	LOADER	26.0071		19975
P4945	MCP	26.0803		19979
P4946	MCP	26.0804		17315
P4947	MCP	26.0805		19978
P4948	MCP	26.0815		17310
P4949	MCP	26.0816		17311
P4950	MCP	26.0818		17312
P4951	MCP	26.0827		17355
P4952	MCP	26.0832		17525
P4953	MCP	26.0833		17392
P4954	MCP	26.0838		17523
P4955	COBOL	26.0021		18298
P4956	MCP	26.0846		17535
P4957	MCP	26.0853		17557
P4958	COBOL	26.0030		18297
P4959	PLI	26.0040		17480
P4960	PLI	26.0069	208-7411	16563
P4961	PLI	26.0070	205-0392	19170
P4962	PLI	26.0071	205-0419	16619
P4963	PLI	26.0072	205-0246	16618
P4964	PLI	26.0073	265-0016	17465
P4965	PLI	26.0074	162-0110	17461
P4966	PLINTRN	26.0002	238-0028	17464
P4967	PLINTRN	26.0003	205-0375	16648
P4968	PLINTRN	26.0008		16643
P4969	PLINTRN	26.0009		16642
P4970	PLINTRN	26.0010		16641
P4971	PLINTRN	26.0011		16640
P4972	PLINTRN	26.0012		16639
P4973	PLINTRN	26.0013	222-9024	16638
P4973	PLINTRN	26.0013	243-0003	16638
P4974	PLINTRN	26.0015		16637
P4975	PLINTRN	26.0016	205-0375	16636
P4976	PLINTRN	26.0017	200-0020	16635
P4976	PLINTRN	26.0017	222-9054	16635
P4977	PLINTRN	26.0018		16634
P4978	COBOL	26.0140	207-0077	18963
P4979	PLINTRN	26.0021		16622
P4980	COBOL	26.0141	263-0010	18290
P4982	PLINTRN	26.0028	262-0038	16627
P4983	COBOL	26.0142		18964
P4984	COBOL	26.0167		18961
P4987	PLINTRN	26.0033		19168
P4988	PLINTRN	26.0034	205-0330	16621
P4988	PLINTRN	26.0034	205-0337	16621
P4989	PLINTRN	26.0035		16620
P4990	SCR	26.0057		13730

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P4990	SCR	26.0059		13731
P4991	SORT	26.0007	188-0047	17491
P4992	SORT	26.0008	263-0028	17490
P4993	SORT	26.0009	060-7043	17494
P4994	SORT	26.0011	171-4003	17492
P4995	SORT	26.0012		16561
P4996	SORT	26.0013	060-7044	16560
P4997	SORT	26.0014	241-0029	17489
P4998	SORT	26.0015	231-0023	17488
P4999	PLINTRN	26.0036		18249
P5000	COBOL	26.0172	128-0233	18958
P5000	COBOL	26.0172	238-0081	18958
P5000	COBOL	26.0172	238-0082	18958
P5001	COBOL	26.0174		18955
P5002	COBOL	26.0175		18956
P5003	COBOL	26.0176	231-0094	18957
P5004	PLINTRN	26.0037		18248
P5005	ACR	26.0220		17717
P5006	ACR	26.0221		17716
P5007	ACR	26.0222		17697
P5008	ACR	26.0223		17696
P5009	ACR	26.0224		17577
P5010	ACR	26.0225		17570
P5011	ACR	26.0226		18465
P5012	ACR	26.0227		18461
P5013	DASDL	26.0080		19380
P5016	DMLOADGEN	26.0009		19339
P5017	DMLOADGEN	26.0010		19338
P5018	RECOVERY	26.0083		17609
P5020	DUMPANALY	26.0106		17542
P5021	DUMPANALY	26.0107		17541
P5022	DUMPANALY	26.0109		17595
P5025	DUMPANALY	26.0112		17596
P5026	DUMPANALY	26.0118		17737
P5027	DUMPANALY	26.0119		17731
P5028	ESPOLINTRN	26.0046		17499
P5029	JOBFORMAT	26.0013		18289
P5030	LOADER	26.0074		17554
P5031	LOADER	26.0075		17553
P5032	LOADER	26.0076		17552
P5033	LOADER	26.0078		17777
P5034	LOADER	26.0081		17770
P5035	LOADER	26.0082		17752
P5036	LOADER	26.0083		17739
P5037	LOADER	26.0084		17733
P5038	LOADER	26.0085		17718
P5039	LOADER	26.0086		17719
P5040	LOADER	26.0087		17720
P5041	MCP	26.0855		17546
P5042	MCP	26.0856		17516
P5043	MCP	26.0877		17608
P5044	MCP	26.0880		17607
P5045	MCP	26.0882		17604
P5055	MCP	26.0883		17527
P5055	MCP	26.1098		18274
P5056	MCP	26.0884		17502
P5057	MCP	26.0885		17503
P5058	MCP	26.0886		17504
P5059	MCP	26.0888		17505
P5060	MCP	26.0889		17603
P5060	MCP	26.0890		17603
P5060	MCP	26.0891		17603
P5061	MCP	26.0911		17789
P5062	MCP	26.0913		17683
P5062	MCP	26.1085		18495
P5063	MCP	26.0926		17792
P5064	MCP	26.0942		17769
P5065	MCP	26.0973		17617
P5065	MCP	26.1060		17638
P5065	MCP	26.1063		17633

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P5066	MCP	26.0974		17615
P5067	MCP	26.0975		17763
P5068	MCP	26.0999		17710
P5069	MCP	26.1003		17664
P5070	MCP	26.1024		17704
P5071	MCP	26.1025		17702
P5072	MCP	26.1030		17659
P5073	MCP	26.1052		19713
P5074	MCP	26.1062		17635
P5075	MCP	26.1067		17585
P5076	MCP	26.1068		17634
P5077	PATCH	26.0003		18288
P5078	PLI	26.0075	168-0064	18043
P5078	PLI	26.0075	168-0063	18043
P5079	PLI	26.0076		17455
P5080	PLI	26.0078	260-0008	16612
P5081	PLI	26.0079	268-0015	16613
P5082	PLI	26.0080		16614
P5083	PLI	26.0081	205-0478	16615
P5084	PLI	26.0082	174-0081	16616
P5085	PLI	26.0083	205-0480	16617
P5086	PLI	26.0084	205-0316	16611
P5087	SOURCENDL	26.0011		17294
P5088	SOURCENDL	26.0012		17293
P5089	SOURCENDL	26.0013		17291
P5090	UTILOADER	26.0009		17555
P5091	ALGOL	26.0133		17999
P5091	BINDER	26.0013		17999
P5091	ESPOL	26.0034		17999
P5091	XALGOL	26.0005		17999
P5092	SCTABLEGEN	26.0017		17796
P5093	BINDER	26.0014		18928
P5093	ESPOLINTRN	26.0045		18928
P5094	DUMPANALY	26.0108		17598
P5094	MCP	26.0900		17598
P5095	DUMPANALY	26.0120		18464
P5096	DUMPANALY	26.0116		17785
P5096	MCP	26.0917		17785
P5097	CONTROLLER	26.0099		17579
P5097	MCP	26.1061		17579
P5097	MCP	26.1064		17571
P5098	CONTROLLER	26.0098		17700
P5098	MCP	26.1017		17700
P5099	DUMPANALY	26.0114		17680
P5099	JOBFORMAT	26.0012		17680
P5099	WFL	26.0038		17680
P5100	CCTABLEGEN	26.0012		17681
P5100	CONTROLLER	26.0093		17681
P5100	MCP	26.0914		17681
P5101	PLI	26.0077		17460
P5101	PLINTRN	26.0038		17460
P5101	SORT	26.0016		17460
P5102	HARDCOPY	26.0001		17678
P5102	RLTABLEGEN	26.0001		17678
P5102	SCTABLEGEN	26.0018		17678
P5103	LOADER	26.0077		17679
P5103	SCR	26.0058		17679
P5103	UTILOADER	26.0010		17679
P5104	DUMPANALY	26.0121		18463
P5105	BACKUP	26.0025		18517
P5106	BACKUP	26.0026		18516
P5107	BACKUP	26.0027		18515
P5108	BACKUP	26.0028		18519
P5109	DUMPANALY	26.0122		18405
P5109	DUMPANALY	26.0125		18393
P5110	MCP	26.1075	170-0011	19715
P5111	MCP	26.1087		18452
P5112	MCP	26.1089		17441
P5113	MCP	26.1091		18492
P5114	MCP	26.1095	106-1016	17124

FIXED PROBLEMS TABLE

NOTE	PATCH NO.		TROUBLE REPORT NO.	PRI
P5115	MCP	26.1103		17112
P5116	MCP	26.1105		17106
P5117	RJE	26.0029		17243
P5118	SCR	26.0060	060-7050	13732
P5119	SCR	26.0061	162-0142	13733
P5120	XREFANALY	26.0002		18518
P5122	CANDE	26.0044	113-0731	18271
P5122	CANDE	26.0044	109-0105	18271
P5127	PACKCONVERT	26.0002		17120

FTR ACTION TABLE

FTR NO.	SNOTE	PATCH NUMBER		PRI	DESCRIPTION
060-6636	P3631	ALGOL	26.0023	15927	RESERVED WORD SYNTAXING
060-6748	P4880	COBOL	26.0163	18965	REPORT WRITER ABSOLUTE LINE
060-6797	D1053	IN-OUTPUT	26.0796	19403	COBOL USE PROCEDURES
060-6798	D1053	IN-OUTPUT	26.0796	19403	COBOL USE PROCEDURES
060-6799	D1053	IN-OUTPUT	26.0796	19403	COBOL USE PROCEDURES
060-6801	D0872	ALGOL	26.0135	17567	I-O STATEMENTS AND FORMATS
060-6812	P3807	COBOL	26.0076	16597	MOVE TRUNCATION WARNINGS
060-6825	P3923	COBOL	26.0032	15954	ATTRIBUTES
060-6863	P3947	COBOL	26.0086	17067	LOCAL-STORAGE ENTRIES
060-6864	P3348	ALGOL	26.0042	15842	MISCELLANEOUS FIX
060-6865	P3348	ALGOL	26.0042	15842	MISCELLANEOUS FIX
060-6868	D0843	COBOL	26.0064	16306	READ AND WRITE STATEMENTS
060-6878	P3637	ALGOL	26.0032	15882	INCORRECT RESIZE
060-6881	P3696	FORTRAN	26.0022	15686	ARGUMENT MISMATCH SYNTAX ER
060-6883	P3924	COBOL	26.0038	15956	PICTURE CHARACTER STRINGS
060-6904	P4361	PLI	26.0044	16654	MISSING QUOTE
060-6913	P4881	COBOL	26.0164	18950	NO WARNING MESSAGES ON ERRL
060-6915	P4376	FORTRAN	26.0076	16162	OPT=1 IOLIST
060-6916	P3700	FORTRAN	26.0026	15689	TYPE DECLARATION SYNTAX ERR
060-6917	P3482	FORTRAN	26.0001	14596	FORTRAN SCANR AND FORMATER
060-6919	D0948	ESPOLINTRN	26.0038	19096	FORTRAN FORMAT ERROR MESSAG
060-6925	P3357	ACR	26.0010	15652	AUDIT REEL SWITCH
060-6927	P3693	FORTRAN	26.0019	15685	ARRAYS WITH VARIABLE BOUNDS
060-6929	P4405	COBOL	26.0136	19229	EDITED NUMERIC INITIAL VALU
060-6930	P3975	FORTRAN	26.0059	16337	FORMAL SUBPROGRAMS WITH OPT
060-6932	P3651	COBOL	26.0017	15970	DUMP STATEMENT
060-6939	P3651	COBOL	26.0017	15970	DUMP STATEMENT
060-6941	P3808	FORTRAN	26.0069	17896	BATCH COMPILER
060-6942	P3701	FORTRAN	26.0027	15692	$CHECK
060-6943	P3969	FORTRAN	26.0052	16286	NO ERROR MSG ON ERRONEOUS A
060-6944	D0978	COBOL	26.0130	19633	SAVE DOLLAR OPTION
060-6947	P3875	PLI	26.0026	16569	CALL ON A BOUND PROCEDURE
060-6949	P3566	DMFILTER	26.0007	15760	CORRECT DM-STAT DECLARATION
060-6951	D0822	PLI	26.0031	16568	SORT-PACKSIZE, OPTIMIZATION
060-6954	P4864	SOURCENDL	26.0009	18894	RJE LOST BLOCK
060-6956	P3919	BACKUP	26.0009	17163	RANGE OPTION FIX
060-6959	P3792	SCR	26.0019	13695	"STATUS PKN"
060-6960	P3739	DASDL	26.0030	16358	TOO LARGE POPULATION
060-6961	P3711	ACR	26.0074	15754	DELETE OF COUNTED RECORD
060-6962	P3741	INTERFACE	26.0006	15847	INTERFACE INVOKE LOOP
060-6963	P3895	BDMSALGOL	26.0048	16136	OUTPUT MAPPING
060-6965	P3348	ALGOL	26.0047	16135	MISCELLANEOUS FIX
060-6966	D0842	COBOL	26.0057	16302	REDEFINES
060-6969	P4240	LOGANALY	26.0009	19648	OPERATOR ENTRIES
060-6970	P4715	RECOVERY	26.0074	19292	UNNECESSARY RECONSTRUCTION
060-6971	P3854	NDL	26.0009	16215	PARITY STATEMENT FIX
060-6973	P4235	LOGANALY	26.0004	17183	LOG WITH TIME RANGE
060-6974	P3734	DASDL	26.0023	15816	INCREASE FIELD SIZE
060-6975	P4366	PLINTRN	26.0007	19223	EDIT OF BIT-STRING
060-6983	P4885	COBOL	26.0173	18953	PICTURE 99PPP+
060-6992	D0860	DUMPANALY	26.0043	17035	FULLDUMP SETS STACKDUMP
060-6996	P4153	FORTRAN	26.0085	16519	FORMAL ARRAYS
060-7011	P4162	NDL	26.0016	17272	DIALIN, DIALOUT CHANGE
060-7015	P4151	FORTRAN	26.0079	16525	REAL LOWER BOUNDS
060-7016	P4368	FORTRAN	26.0086	16154	NEW IMPLEMENTATION OF DATA
060-7017	P3951	DASDL	26.0041	16905	STRIP QUOTES
060-7023	P4179	COBOL	26.0096	17054	MOVING NON-NUMERIC LITERALS
060-7026	P4179	COBOL	26.0096	17054	MOVING NON-NUMERIC LITERALS
060-7031	P4391	ALGOL	26.0122	18038	USERDATA STATEMENT
060-7036	P4185	COBOL	26.0105	17060	TWO DIMENSIONAL ARRAYS
060-7043	P4993	SORT	26.0009	17494	DISK SORT - I-O ERROR #17
060-7044	P4996	SORT	26.0013	16560	SWAP JOBS IN SORT
060-7050	P5118	SCR	26.0060	13732	FETESTPACK ON A RESERVED UN
060-7053	P4660	COBOL	26.0147	16449	PICTURE SYNTAX CHECKING
060-7055	P4699	ACR	26.0188	19356	NOTLOCKED EXCEPTION ON FIND
080-3005	D0835	CARDLINE	26.0001	17172	BINARY AND JOB DECK LISTING
080-3007	P3630	ALGOL	26.0018	15973	CONSTANT PARAMETER FOR-LIST

FTR ACTION TABLE

FTR NO.	SNOTE	PATCH NUMBER		PRI	DESCRIPTION
080-6016	P3543	MCP	26.0151	15557	EXCLUSIVE FILES
106-1007	D0958	CANDE	26.0019	15897	STATION CAPACITY
106-1007	D0959	CANDE	26.0019	15897	LOGIN CONTROL
106-1007	D0960	CANDE	26.0019	15897	INPUT: CONTROL, EMPTY, SIGN
106-1007	D0961	CANDE	26.0019	15897	OBJECT FILES
106-1007	D0962	CANDE	26.0019	15897	CONTROL COMMANDS
106-1007	D0963	CANDE	26.0019	15897	DATACOM ERROR RECOVERY
106-1007	P4354	CANDE	26.0019	15897	STATION TABLES, CONTROL LOG
106-1016	P5114	MCP	26.1095	17124	IR TERM DUMP ON 3 PROC-S
107-0369	D0802	ALGOL	26.0039	15836	STRINGS IN PICTURES
107-0459	P3575	MCP	26.0164	15749	GETAREA
107-0461	P3575	MCP	26.0164	15749	GETAREA
109-0070	P3918	ALGOL	26.0091	16134	SCALELEFT FIX
109-0091	P3857	PLI	26.0001	15923	TRANSLATE FUNCTION
109-0102	P3704	DATACOM	26.0244	15676	INSERT USING SEG ARRAY
109-0103	D0930	CANDE	26.0028	18845	RECORD FORMATS
109-0105	P5122	CANDE	26.0044	18271	PROBLEMS WITH "END"
111-0169	D0921	ESPOLINTRN	26.0024	19660	OUTPUT MEDIA DIGIT 32
111-0169	D0921	XALGOL	26.0002	19660	OUTPUT MEDIA DIGIT 32
111-0219	D0881	MCP	26.0585	19073	TAPE LABELS - UNIT NUMBER
112-0027	P4803	IN-OUTPUT	26.1020	19712	PAPERTAPE READER-CLOSE REWI
112-0058	P3426	IN-OUTPUT	26.0075	14624	PAPER TAPE PUNCH LOW ON TAP
112-0061	P3927	COBOL	26.0041	15947	ERRONEOUS SYNTAX ERROR
112-0067	P4186	COBOL	26.0106	17061	BLANK WHEN ZERO
112-0070	P4667	COBOL	26.0155	16454	INSTALLATION INTRINSICS
112-6066	P4651	COBOL	26.0122	16450	INDEX DATA NAMES
113-0021	D0872	ALGOL	26.0135	17567	I-O STATEMENTS AND FORMATS
113-0321	P3348	ALGOL	26.0042	15842	MISCELLANEOUS FIX
113-0439	P3893	ALGOL	26.0045	15840	POINTER VARIABLE REPLACEMEN
113-0458	P3712	ALGOL	26.0022	15928	MAIN PROGRAM FOLLOWING GLOB
113-0491	P4354	CANDE	26.0019	15897	STATION TABLES, CONTROL LOG
113-0558	P3633	ALGOL	26.0025	15910	INCORRECT CONSTANT EVALUATI
113-0649	P4247	PRINTBIND	26.0003	19568	CORRECT SEG ARRAY ERROR
113-0678	P3404	MCP	26.0018	14217	NEW MCS IN SWAPSPACE
113-0701	P3542	MCP	26.0148	15558	STACKOVERFLOW
113-0707	D0763	MCP	26.0220	15994	PRIVATE TASK
113-0708	P3493	CANDE	26.0009	13898	FILE MODIFIER, LFILES, ETC.
113-0713	D0958	CANDE	26.0019	15897	STATION CAPACITY
113-0713	D0959	CANDE	26.0019	15897	LOGIN CONTROL
113-0713	D0960	CANDE	26.0019	15897	INPUT: CONTROL, EMPTY, SIGN
113-0713	D0961	CANDE	26.0019	15897	OBJECT FILES
113-0713	D0962	CANDE	26.0019	15897	CONTROL COMMANDS
113-0713	D0963	CANDE	26.0019	15897	DATACOM ERROR RECOVERY
113-0713	P4354	CANDE	26.0019	15897	STATION TABLES, CONTROL LOG
113-0728	P3885	PLI	26.0038	16575	VARIABLE DECLARATION
113-0729	P4440	ESPOLINTRN	26.0027	19540	ONE (1) RAISED TO A POWER
113-0731	P5122	CANDE	26.0044	18271	PROBLEMS WITH "END"
113-0735	P4378	FORTRAN	26.0088	16165	INSTALLATION INTRINSICS
113-0739	P4378	FORTRAN	26.0088	16165	INSTALLATION INTRINSICS
113-0748	P3538	MCP	26.0568	18003	SECURITYGUARD ATTRIBUTE
113-0751	D0893	CANDE	26.0039	18279	FILE ACCESS
113-0752	P4448	FORTRAN	26.0096	16156	ARRAY SUBSCRIPTS
113-0765	P3538	MCP	26.0568	18003	SECURITYGUARD ATTRIBUTE
114-0149	P3470	ESPOL	26.0002	14543	ARRAY DECLARATION SYNTAX ER
114-0154	P3466	ESPOL	26.0003	14540	WAIT STATEMENT
114-0158	P4385	ESPOL	26.0018	16126	LAYOUT SYNTAX ERROR
114-0201	P3688	FORTRAN	26.0014	15695	CTIME CAUSES SYSTEM HANG
114-0207	P3340	BINDER	26.0001	14753	INCORRECTLY PRINTED MESSAGE
114-0213	P3493	CANDE	26.0009	13898	FILE MODIFIER, LFILES, ETC.
114-0220	P4750	ESPOLINTRN	26.0034	18893	FORTRAN FORMATTED OUTPUT
114-0223	P3641	BINDER	26.0007	15976	DECLARATION OF INPUT ALTERE
114-0231	P3726	DATACOM	26.0239	14712	CORRECT MSG SIZE
114-0239	P3691	FORTRAN	26.0017	15682	SINGLE-BY-DEFAULT COMPILES
114-0240	P3692	FORTRAN	26.0018	15683	LIBRARY OPTION W CANDE COMP
114-0243	P3482	FORTRAN	26.0001	14596	FORTRAN SCANR AND FORMATER
114-0247	D0767	BASIC	26.0001	15704	DELIMITERS BETWEEN LIST ITE
114-0252	P3852	FORTRAN	26.0068	17895	USER INTRINSIC AFFECTING IN
114-0253	D0948	ESPOLINTRN	26.0038	19096	FORTRAN FORMAT ERROR MESSAG
114-0259	P4368	FORTRAN	26.0086	16154	NEW IMPLEMENTATION OF DATA
114-0271	P4174	BACKUP	26.0017	19470	FORTRAN KEY START

FTR ACTION TABLE

FTR NO.	SNOTE	PATCH NUMBER		PRI	DESCRIPTION
114-0272	P4447	FORTRAN	26.0095	16157	INCORRECT EXPRESSIONS
116-0088	P3994	NDL	26.0010	16216	SECURED CARD FILE FIX
117-0184	P4251	COBOL	26.0115	19644	REPORT WRITER
117-0197	P4177	COBOL	26.0080	17058	MOVE STATEMENTS:
117-0223	P3928	BDMSCOBOL	26.0042	15757	DMSII GENERATE STATEMENTS
121-0139	P3694	FORTRAN	26.0020	15684	COMPLEX ACTUAL ARGUMENTS
121-0143	P4120	BASIC	26.0004	17192	BASIC SEGMENTATION
121-0148	P4386	IN-OUTPUT	26.0386	16087	DATACOM DIRECT I-O
121-0150	P3991	FORTRAN	26.0082	16522	COMPLEX INVALID OP
124-0047	P3798	BACKUP	26.0007	16673	FORMMESSAGE ERROR
125-0083	P3714	ALGOL	26.0035	15855	INCLUDE FILES ON TAPE
125-0092	D1108	IN-OUTPUT	26.0051	14199	TAPE FILES - SIZE ATTRIBUTE
125-0104	P4671	COBOL	26.0160	18947	SUBSCRIPTS
125-0108	P3392	IN-OUTPUT	26.0071	14203	READ NO
125-0110	P3658	COBOL	26.0031	15961	MOVE STATEMENTS
125-0113	P3802	COBOL	26.0060	16370	REDEFINES
125-0118	D0986	COBOL	26.0154	16455	REPORT WRITER:
125-0125	P4177	COBOL	26.0080	17058	MOVE STATEMENTS:
126-0200	P3989	FORTRAN	26.0080	16524	DATA-EQUIV ERRORS
128-0188	P3482	FORTRAN	26.0001	14596	FORTRAN SCANR AND FORMATER
128-0210	P3426	IN-OUTPUT	26.0075	14624	PAPER TAPE PUNCH LOW ON TAP
128-0212	P4441	ESPOLINTRN	26.0029	18012	NAMELIST OUTPUT
128-0231	P4379	FORTRAN	26.0089	16163	OPT=1 PRECEDENCE
128-0232	P4750	ESPOLINTRN	26.0034	18893	FORTRAN FORMATTED OUTPUT
128-0233	P5000	COBOL	26.0172	18958	FILE DESCRIPTION ENTRIES
130-0054	P4374	XALGOL	26.0004	19659	MONITOR DECLARATION
130-0166	P4110	ALGOL	26.0071	16282	ERRONEOUS SYNTAX ERROR
130-0173	P3348	ESPOLINTRN	26.0042	17501	MISCELLANEOUS FIX
130-0189	P3904	ALGOL	26.0064	16265	COMPILER INCORRECT TERMINAT
130-0192	P4365	PLINTRN	26.0019	16602	EDITED OUTPUT FIELD TRUNCAT
130-0193	P3539	MCP	26.0140	15559	INVALID OP IN GETSPACE
130-0194	P3974	FORTRAN	26.0058	16338	OPTIMIZED I-O LISTS
130-0201	P3776	MCP	26.0294	16089	FAULT HANDLING
130-0203	P3961	ESPOLINTRN	26.0014	16150	FORTALG FORMATENCODER
130-0207	P3891	SOURCENDL	26.0005	16492	RJE FIXES
132-0060	D0744	MCP	26.0257	16117	CONTROLLER MESSAGE CHANGES
132-0061	P3401	MCP	26.0014	14769	IOERROR USES ALL STACKS
132-0062	D0986	COBOL	26.0154	16455	REPORT WRITER:
132-0063	P3401	MCP	26.0014	14769	IOERROR USES ALL STACKS
132-0066	P4116	ALGOL	26.0097	17179	BATCH COMPILER FIX
132-0068	P3808	FORTRAN	26.0069	17896	BATCH COMPILER
132-0069	P3808	FORTRAN	26.0069	17896	BATCH COMPILER
132-0071	P4116	ALGOL	26.0097	17179	BATCH COMPILER FIX
132-0074	P3943	COBOL	26.0081	16591	NON-EXECUTABBLE STATEMENTS
132-0077	D1100	COBOL	26.0177	18561	RELATION CONDITIONS
133-0003	P3361	ACR	26.0024	15575	MAKES DMSII SWAPPABLE
133-0005	P3601	MCP	26.0204	15801	DMSII ABORT IN SWAP SPACE
133-0006	P3620	ONLINEDUMP	26.0003	15859	PREVENT COPY OF EMPTY FILES
133-0134	D0912	DATACOM	26.0538	16420	CLEAR REMOTE FILES
133-0191	D0872	ALGOL	26.0135	17567	I-O STATEMENTS AND FORMATS
133-0195	D0893	CANDE	26.0039	18279	FILE ACCESS
133-0198	P3404	MCP	26.0018	14217	NEW MCS IN SWAPSPACE
133-0211	P4234	ESPOLINTRN	26.0022	19647	BASIC FILE STATEMENT
133-0213	P4092	MCP	26.0450	16515	DMS TIMING
133-0223	P4120	BASIC	26.0004	17192	BASIC SEGMENTATION
133-0295	D0736	MCP	26.1093	17126	STACK EXTENSION
134-0091	P4438	ESPOLINTRN	26.0025	16497	WRITEAFTER FOR FORTRANMONIT
134-0093	P4333	IN-OUTPUT	26.0541	19517	OPEN-CLOSE LOGGING
134-0095	P4443	ESPOLINTRN	26.0031	19100	FORERR-S RCW
134-0099	P4334	IN-OUTPUT	26.0544	19516	COBOL-FORTRAN MULTIFILE TAP
134-0102	P4735	DUMPALL	26.0015	18917	INPUT SCANNER CLEAN-UP
138-0155	P4061	MCP	26.0385	16059	SWAPPER
138-0164	P4882	COBOL	26.0165	18949	STACK DOLLAR OPTION
138-0167	P4672	COBOL	26.0162	18946	INSTALLATION INTRINSICS
139-0081	P4169	ALGOL	26.0104	18033	INFO FILE
139-0087	P3917	ALGOL	26.0088	16133	DIRECT OWN ARRAYS CORRECTED
139-0088	D0828	ALGOL			POINTER VALUE ADJUSTMENT
140-0128	P3713	ALGOL	26.0033	15878	BEGIN-END COUNT IN VECTORMO
140-0131	P3920	BACKUP	26.0011	17164	FILE ID ON PUNCH
141-0110	P3634	ALGOL	26.0026	15907	DIRECT I-O SYNTAXING

FTR ACTION TABLE

FTR NO.	SNOTE	PATCH	NUMBER	PRI	DESCRIPTION
141-0124	P4671	COBOL	26.0160	18947	SUBSCRIPTS
141-0130	D0770	COBOL	26.0025	15966	COMP-1 ARRAYS
141-0139	P3923	COBOL	26.0032	15954	ATTRIBUTES
142-0207	D0958	CANDE	26.0019	15897	STATION CAPACITY
142-0207	D0959	CANDE	26.0019	15897	LOGIN CONTROL
142-0207	D0960	CANDE	26.0019	15897	INPUT: CONTROL, EMPTY, SIGN
142-0207	D0961	CANDE	26.0019	15897	OBJECT FILES
142-0207	D0962	CANDE	26.0019	15897	CONTROL COMMANDS
142-0207	D0963	CANDE	26.0019	15897	DATACOM ERROR RECOVERY
142-0212	P3992	FORTRAN	26.0084	16520	CRUNCH CODE FILES
142-0217	P3975	FORTRAN	26.0059	16337	FORMAL SUBPROGRAMS WITH OPT
142-0219	P3851	FORTRAN	26.0067	17894	STRAY ERRORS-EQUIV, VARBOUN
143-0091	P3701	FORTRAN	26.0027	15692	$CHECK
143-0097	P3894	ALGOL	26.0046	16124	INVALID OP INVALIDATED
143-0107	D0958	CANDE	26.0019	15897	STATION CAPACITY
143-0107	D0959	CANDE	26.0019	15897	LOGIN CONTROL
143-0107	D0960	CANDE	26.0019	15897	INPUT: CONTROL, EMPTY, SIGN
143-0107	D0961	CANDE	26.0019	15897	OBJECT FILES
143-0107	D0962	CANDE	26.0019	15897	CONTROL COMMANDS
143-0107	D0963	CANDE	26.0019	15897	DATACOM ERROR RECOVERY
143-0128	P3798	BACKUP	26.0007	16673	FORMMESSAGE ERROR
143-0129	P4173	BACKUP	26.0016	17187	PARITY HANDLING
143-0130	P3690	FORTRAN	26.0016	15681	CRUNCHING OF INPUT FILES
143-0145	P4393	COBOL	26.0117	19631	COMPILER FILE CARD
143-0146	P4718	DUMPALL	26.0011	18923	SPECIAL CHARACTERS
143-0150	P4172	BACKUP	26.0015	17188	BFILE LABEL EQUATION
143-0151	P4392	COBOL	26.0114	19638	DIVIDE STATEMENTS
144-0072	P4332	IN-OUTPUT	26.0535	19495	BLOCK ATTRIBUTE
145-0601	P4177	COBOL	26.0080	17058	MOVE STATEMENTS:
146-0044	P4439	ESPOLINTRN	26.0026	19541	ERROR CHECK ON MONITOR OUTP
146-0055	D0948	ESPOLINTRN	26.0038	19096	FORTRAN FORMAT ERROR MESSAG
146-0076	P3909	ALGOL	26.0073	17899	SEG ARRAY IN LIBRARY FILES
146-0081	P4523	APL-700	26.0058	18110	DOMAIN CHECK OF ZERO CIRCLE
146-0083	P3648	COBOL	26.0013	15971	REDEFINES CLAUSE
146-0088	P3980	FORTRAN	26.0064	16332	RECURSIVE STATEMENT FUNCTIO
146-0090	P4750	ESPOLINTRN	26.0034	18893	FORTRAN FORMATTED OUTPUT
148-0012	P4735	DUMPALL	26.0015	18917	INPUT SCANNER CLEAN-UP
149-0002	D0946	RJE	26.0021	17248	BACKUP HANDLING
149-0087	P4017	DATACOM	26.0340	16405	HOLD ON EVENT ARRAY ELEMENT
149-0089	P3423	MCP	26.0064	14630	UNINITIATED I-O
149-0097	P4690	DCPPROGEN	26.0011	17818	LINE ABORT ON MULT-DROP LIN
149-0102	D0951	DCPPROGEN	26.0007	17270	STATUS ERROR LOGGING
149-0105	D0888	COBOL	26.0078	16594	ASCII DATA ITEMS
149-0111	P4657	COBOL	26.0144	16463	GROUP COMP MOVE STACK BUILD
149-0124	P4258	DCPPROGEN	26.0008	17269	STATUS ERRORS
149-0131	P3594	DATACOM	26.0203	15675	QUEUE DISK TANKING ERRORS
149-0132	P3594	DATACOM	26.0203	15675	QUEUE DISK TANKING ERRORS
149-0134	P4657	COBOL	26.0144	16463	GROUP COMP MOVE STACK BUILD
149-0135	P3803	COBOL	26.0062	16371	RELATION CONDITIONS
149-0140	D0946	RJE	26.0021	17248	BACKUP HANDLING
149-0147	P4397	COBOL	26.0124	19629	STATISTICS WITH PERFORM
149-0160	D1000	IN-OUTPUT	26.0581	19075	FILE ATTRIBUTE - SINGLEPACK
149-0167	P4673	COBOL	26.0166	18948	FILLER ITEMS
149-0168	P4665	COBOL	26.0152	16458	ALPHA MOVES WITH TRANSLATIO
149-0169	P4666	COBOL	26.0153	16457	2-DIM EDITED ALPHA MOVE
150-0009	P3482	FORTRAN	26.0001	14596	FORTRAN SCANR AND FORMATER
150-0012	D1053	IN-OUTPUT	26.0796	19403	COBOL USE PROCEDURES
150-0036	P4176	COBOL	26.0015	17059	ELEMENTARY NUMERIC 01 LEVEL
151-0045	P3348	ALGOL	26.0042	15842	MISCELLANEOUS FIX
151-0056	P4354	CANDE	26.0019	15897	STATION TABLES, CONTROL LOG
151-0155	P4034	MCP	26.0302	16178	STACKOVERFLOW IN IOERROR
151-0163	P3421	MCP	26.0061	11707	JOBDESC FILE
151-0164	D0927	CANDE	26.0025	18848	WFM INTERFACE
151-0176	D0912	DATACOM	26.0538	16420	CLEAR REMOTE FILES
151-0177	P3413	MCP	26.0037	11706	SYSTEMSTATUS INTRINSIC
151-0179	P3496	DATACOM	26.0144	14396	IMPROVE LOCKING CODE
151-0180	P3571	DATACOM	26.0179	15673	PROPER CLUSTER EXCHANGE INF
151-0181	P3625	ALGOL	26.0009	15586	REPLACE BINDING OF VALUE AR
151-0185	P3892	ALGOL	26.0043	15828	LOOPS IN LARGE SEGMENTS
151-0187	P3342	CONTROLLER	26.0005	14628	OT OUTSIDE STACK RANGE

FTR ACTION TABLE

FTR NO.	SNOTE	PATCH NUMBER		PRI	DESCRIPTION
151-0188	D0912	DATACOM	26.0538	16420	CLEAR REMOTE FILES
151-0202	P4018	DATACOM	26.0343	16404	DATACOM FILE PREFIX LENGTH
151-0204	P4037	MCP	26.0307	16020	ROW ADDRESS WORD ADDITIONS
151-0215	P4854	SCR	26.0039	13713	HEAD-PER-TRACK DIRECTORY
151-0216	P4854	SCR	26.0039	13713	HEAD-PER-TRACK DIRECTORY
151-0220	P4021	DATACOM	26.0454	16418	RECONFIGURATION RESULT MESS
151-0223	P3757	MCP	26.0255	16093	BADDISK FILES
151-0239	D1030	SCR	26.0048	13722	"STRING A MAT JOB
151-0244	P4854	SCR	26.0039	13713	HEAD-PER-TRACK DIRECTORY
151-0255	P3915	ALGOL	26.0086	16482	COMPILER ABNORMAL TERMINATI
151-0256	P4688	DATACOM	26.0687	17809	MOVE STATION ERROR
154-0058	P4668	COBOL	26.0156	18940	ERROR FOR ILLEGAL COMPARES
154-0062	P4404	COBOL	26.0135	19230	BOOLEAN EXPRESSION SYNTAX
156-0007	P3391	IN-OUTPUT	26.0054	14639	BACKUP TAPE EOT-EOJ LOG ENT
157-0063	P4659	COBOL	26.0146	16451	REPORT WRITER CONTROL LEVEL
157-0078	P4443	ESPOLINTRN	26.0031	19100	FORERR-S RCW
157-0080	P4656	COBOL	26.0143	16456	REPORT WRITER
157-0092	P4167	RJE	26.0013	16354	NOLOGON FAULT
158-0002	P4795	COBOL	26.0161	18945	NEXT GROUP NEXT PAGE FOR RH
161-0052	P3649	COBOL	26.0014	15972	ARITHMETIC OPERANDS
161-0058	D0810	COMPARE	26.0001	17854	SYSTEM COMPARE IMPROVEMENTS
161-0062	P4655	COBOL	26.0138	18832	OCCASIONAL MISSING RETURN C
162-0058	D0927	CANDE	26.0025	18848	WFM INTERFACE
162-0063	D0958	CANDE	26.0019	15897	STATION CAPACITY
162-0063	D0959	CANDE	26.0019	15897	LOGIN CONTROL
162-0063	D0960	CANDE	26.0019	15897	INPUT: CONTROL, EMPTY, SIGN
162-0063	D0961	CANDE	26.0019	15897	OBJECT FILES
162-0063	D0962	CANDE	26.0019	15897	CONTROL COMMANDS
162-0063	D0963	CANDE	26.0019	15897	DATACOM ERROR RECOVERY
162-0063	P4354	CANDE	26.0019	15897	STATION TABLES, CONTROL LOG
162-0079	P3584	WFL	26.0011	15776	SCAN FILE TITLES CORRECTLY
162-0080	P3923	COBOL	26.0032	15954	ATTRIBUTES
162-0090	P4772	MCP	26.0577	18005	SPACE STATEMENT FOR REMOTE
162-0093	P3801	COBOL	26.0029	16596	INTERRUPTS
162-0100	P3769	MCP	26.0279	16085	INVALID BCL PUNCHES
162-0100	P3769	WFL	26.0012	16085	INVALID BCL PUNCHES
162-0102	P4236	LOGANALY	26.0005	17190	LOG ERRORS CORRECTION
162-0103	P3774	MCP	26.0291	16060	SYSTEMSTATUS
162-0110	P4965	PLI	26.0074	17461	PREPROCESSOR IF TEST
162-0116	P4234	ESPOLINTRN	26.0022	19647	BASIC FILE STATEMENT
162-0122	P4658	COBOL	26.0145	16462	CORRECTED J SIGN
162-0131	P4719	DUMPALL	26.0012	18921	CORRECT IOWORDS FOR 80 CHAR
162-0142	P5119	SCR	26.0061	13733	CONDITIONAL SEEK BIT ON B38
163-0014	P3943	COBOL	26.0081	16591	NON-EXECUTABBLE STATEMENTS
164-0004	P4178	COBOL	26.0095	17066	SORT CAUSES INV. INDEX
164-0006	P4251	COBOL	26.0115	19644	REPORT WRITER
166-0039	P3894	ALGOL	26.0046	16124	INVALID OP INVALIDATED
166-0049	P3802	COBOL	26.0060	16370	REDEFINES
166-0059	P3724	COBOL	26.0037	15957	WRITE STATEMENTS
166-0069	P4663	COBOL	26.0150	16460	MOVING ALL LITERAL
166-0076	P4235	LOGANALY	26.0004	17183	LOG WITH TIME RANGE
166-0077	P4652	COBOL	26.0128	18829	REPORT WRITER SOURCE CLAUSE
167-0096	P4259	DCPPROGEN	26.0009	17268	DISCONNECT DURING DELAY
168-0012	P3893	ALGOL	26.0045	15840	POINTER VARIABLE REPLACEMEN
168-0048	P4237	LOGANALY	26.0006	17191	DCP FAULT ANALYSIS
168-0049	P3807	COBOL	26.0076	16597	MOVE TRUNCATION WARNINGS
168-0050	P3656	COBOL	26.0026	15965	MOVES TO EDITED ITEM
168-0052	D0948	ESPOLINTRN	26.0038	19096	FORTRAN FORMAT ERROR MESSAG
168-0055	P3695	FORTRAN	26.0021	15938	SEPARATE COMPILATIONS
168-0056	P3487	RJE	26.0001	15797	SS MESSAGE TRUNCATION
168-0063	P5078	PLI	26.0075	18043	BASED STRUCTURES
168-0064	P5078	PLI	26.0075	18043	BASED STRUCTURES
168-0066	P3715	ALGOL	26.0036	15851	AREACLASS DOLLAR OPTION
168-0068	P3776	MCP	26.0294	16089	FAULT HANDLING
168-0071	P3713	ALGOL	26.0033	15878	BEGIN-END COUNT IN VECTORMO
168-0088	D0939	FORTRAN	26.0094	16159	INTRINSIC NAMES
168-0089	P4142	COBOL	26.0171	18959	FILE RECORD SIZE
168-0091	P4368	FORTRAN	26.0086	16154	NEW IMPLEMENTATION OF DATA
168-0095	P4049	ALGOL	26.0103	18041	$ PAGE INHIBITED IF VOIDING
168-0096	P4249	RJE	26.0018	17252	REMOTE CARD READER ENABLING

FTR ACTION TABLE

FTR NO.	SNOTE	PATCH NUMBER		PRI	DESCRIPTION
168-0097	P4241	PATCH	26.0011	16466	$ VOIDT HANDLING
168-0099	P4247	PRINTBIND	26.0003	19568	CORRECT SEG ARRAY ERROR
168-0100	D0887	ALGOL	26.0102	18042	FILE MNEMONIC PACK RECOGNIZ
168-0100	D0887	ESPOL	26.0028	18042	FILE MNEMONIC PACK RECOGNIZ
168-7001	P4549	APL-700	26.0085	18137	MATRIX DIVIDE-INVERT FIX
168-7002	P4514	APL-700	26.0049	18101	CHANGE COMPARISON TOLERANCE
168-7003	P4505	APL-700	26.0040	18092	SELECT NOT CLEARING BACK PO
168-7005	P4515	APL-700	26.0050	18102	ELIMINATE UPDATE ON RECOV F
168-7006	P4488	APL-700	26.0023	18075	FIX TO GROUP COPY
168-7008	P4488	APL-700	26.0023	18075	FIX TO GROUP COPY
169-0084	P3341	CONTROLLER	26.0004	14654	JOBSYNC
169-0085	P3394	ESPOLINTRN	26.0005	14205	IPC - RANDOM BINARY I-O
169-0085	P3394	IN-OUTPUT	26.0074	14204	IPC-RANDOM BINARY I-O
169-0088	P3764	MCP	26.0268	16091	ZIP WITH ARRAY
169-0094	P4360	ALGOL	26.0118	18037	REMOVEFILE, CHANGEFILE
169-0097	P4119	ALGOL	26.0100	17176	REMOVEFILE, CHANGEFILE
169-0101	P4244	PATCH	26.0014	19511	BAD LISTINGS IN COMPARE PHA
169-0104	P4243	PATCH	26.0013	19510	INVALID OP OCCURENCE
169-0107	D0872	ALGOL	26.0135	17567	I-O STATEMENTS AND FORMATS
170-0011	P5110	MCP	26.1075	19715	FILE CLOSE LOG ENTRY
170-0014	P4150	FORTRAN	26.0075	17892	FORMAL PARAMETER CALLS
171-4003	P4994	SORT	26.0011	17492	SORT IN SWAPSPACE
174-0068	P3617	BACKUP	26.0012	17254	SCANNER IMPROVEMENTS
174-0069	D0832	BACKUP	26.0008	17162	RANGE CHECKING
174-0070	P4091	MCP	26.0449	16516	DMS CALL BEFORE OPEN
174-0074	P3808	FORTRAN	26.0069	17896	BATCH COMPILER
174-0078	P3348	COBOL	26.0121	19640	MISCELLANEOUS FIX
174-0080	P4251	COBOL	26.0115	19644	REPORT WRITER
174-0081	P5084	PLI	26.0082	16616	INVALID INDEX WITH FLEVEL S
176-0107	P4358	PLI	26.0041	16574	DUMP STATEMENT
176-0108	P4359	PLI	26.0042	16573	PACKNAME ATTRIBUTE ERROR
176-0124	P3946	COBOL	26.0085	16589	SEGMENTATION OF WRAP-UP LOO
176-0125	P3944	COBOL	26.0083	16592	COMPILER WAITING WITH NO FI
179-0050	P4664	COBOL	26.0151	16459	FLOATING EDITING PICTURES
179-0060	P3717	ALGOL	26.0041	15831	QUOTES CONTAINED IN PICTURE
179-0099	P3796	ALGOL	26.0082	16559	LARGE ARRAY LOWER BOUNDS
179-0161	P3475	ESPOL	26.0009	14578	INCORRECT CODE LISTINGS
179-0180	P4842	PLI	26.0067	16564	GENERIC FIX
180-0008	P3478	ESPOL	26.0012	14576	VECTORMODE MULTIPLE ASSIGNM
180-0009	P3474	ESPOL	26.0008	14579	LONG ID"S IN VECTORMODE
180-0011	P3477	ESPOL	26.0011	14574	INVALID VECTORMODE SYNTAX
180-0022	P3475	ESPOL	26.0009	14578	INCORRECT CODE LISTINGS
180-0026	P3473	ESPOL	26.0007	14580	VECTORMODE CODE PRINTOUT
180-0027	P3473	ESPOL	26.0007	14580	VECTORMODE CODE PRINTOUT
180-0028	P3476	ESPOL	26.0010	14577	MULTIPLE VECTORMODE INCREME
180-0343	P4687	DATACOM	26.0638	17805	INVALID DCP MESSAGE LINKS
180-9005	P4180	COBOL	26.0099	17053	INV INDEX IN SORT
180-9007	P4398	COBOL	26.0126	19635	INVALID INDEX IN RENAMES
181-0013	P4368	FORTRAN	26.0086	16154	NEW IMPLEMENTATION OF DATA
181-0015	P3697	FORTRAN	26.0023	15687	ARGUMENT QUANTITY SYNTAX ER
181-0030	P4147	ESPOL	26.0026	17180	NEWTAPE, CODE FILES CRUNCHE
183-0045	P4667	COBOL	26.0155	16454	INSTALLATION INTRINSICS
183-0048	P3602	MCP	26.0205	15913	DM6700 MON DIES IF DS OLD P
183-0049	P3602	MCP	26.0205	15913	DM6700 MON DIES IF DS OLD P
183-0056	P3494	DATACOM	26.0141	15503	SET LINE TOGGLE DCWRITE
183-0059	P3553	RJE	26.0005	15795	CHANGE IN "TERM" KEYIN
183-0065	P3570	DM6700	26.0005	15877	MOD-STR RESIDENT ALTERS LIS
183-0067	P3565	DMFILTER	26.0006	15759	SEG ARRAY ON MANY INVOKES
183-0068	P3835	DMLOADGEN	26.0002	16535	OVERFLOW PAST COLUMN 72
183-0069	P4423	DMFILTER	26.0014	19117	KEYCOUNT, KEYNUM
183-0070	P3746	DMFILTER	26.0008	17886	FIX DMFILTER ALIAS
183-0074	P3923	COBOL	26.0032	15954	ATTRIBUTES
183-0083	P3943	COBOL	26.0081	16591	NON-EXECUTABBLE STATEMENTS
183-0084	P4662	COBOL	26.0149	16461	GROUP INDICATE
184-0020	P3659	COBOL	26.0033	15945	COMP-1 "STACK" ARRAYS
184-0023	D0845	COBOL	26.0077	16595	CALL SYSTEM WITH STATEMENTS
184-0025	P3940	COBOL	26.0069	16374	COMP-2 ITEMS WITHIN DISPLAY
185-0132	P4331	IN-OUTPUT	26.0529	19496	FILE REQUIRES REEL NUMBER
185-0134	P4108	WFL	26.0020	17954	RJE DECK INPUT
185-0138	P3834	DMLOADGEN	26.0001	16507	VALIDITY LINKS

FTR ACTION TABLE

FTR NO.	SNOTE	PATCH NUMBER		PRI	DESCRIPTION
185-0139	P3747	DM6700	26.0006	16348	HOLES IN DATABASE
185-0150	P4252	DM6700	26.0015	17221	CLOBBERED FINE TABLE
185-0153	P4252	DM6700	26.0015	17221	CLOBBERED FINE TABLE
185-0162	P4382	DMRECOVER	26.0002	18022	NA CHAIN
187-0128	P4646	COBOL	26.0023	16453	SECTION AND PARAGRAPH NAMES
187-0133	P4397	COBOL	26.0124	19629	STATISTICS WITH PERFORM
187-0135	D0746	DATACOM	26.0155	15670	FULL DUPLEX LINE SWAP
187-0137	D0876	DATACOM	26.0356	16407	INVALID DLS TO DCWRITE
187-0142	P3507	DCPPROGEN	26.0005	15668	FULL DUPLEX LINE SWAP
187-0145	P3717	ALGOL	26.0041	15831	QUOTES CONTAINED IN PICTURE
187-0146	P3719	ALGOL	26.0044	15841	INTRINSIC OPTIMIZATION
187-0147	P4176	COBOL	26.0015	17059	ELEMENTARY NUMERIC 01 LEVEL
187-0149	P3931	COBOL	26.0047	15952	CONDITION NAMES
188-0006	P3348	ALGOL	26.0042	15842	MISCELLANEOUS FIX
188-0012	P3348	ESPOLINTRN	26.0042	17501	MISCELLANEOUS FIX
188-0033	D0771	COBOL	26.0028	15962	NUMERIC CLASS TEST
188-0039	P4018	DATACOM	26.0343	16404	DATACOM FILE PREFIX LENGTH
188-0047	P4991	SORT	26.0007	17491	ZERO CORESIZE
189-0018	P4405	COBOL	26.0136	19229	EDITED NUMERIC INITIAL VALU
189-0028	P4703	ACR	26.0192	19355	WAITING FOR OVERLAYDONE
190-0034	P4739	DUMPALL	26.0014	18920	PRINT DELIMITER CHAR OVERRI
190-0036	D0997	DUMPALL	26.0010	19649	AREAS AND AREASIZE INCREASE
190-0037	D0996	DUMPALL	26.0009	19650	PROTECTION OUTPUT FILES (DK
190-0038	P4717	DUMPALL	26.0008	18924	PACK OPTIONS
190-0039	P4717	DUMPALL	26.0008	18924	PACK OPTIONS
192-0161	P4840	PLI	26.0065	19214	ERROR IN EXPRESSION HANDLIN
192-0165	P3815	IN-OUTPUT	26.0583	18007	CLOSE HERE
193-0034	P3984	FORTRAN	26.0072	16530	VECTORMODE LOOPS
193-0103	P3977	FORTRAN	26.0061	16335	DATA STMT MALFUNCTION
193-0111	P3481	ESPOLINTRN	26.0004	14575	BINARY I-O WITH COMMON VAR
193-0114	P4233	ESPOLINTRN	26.0021	16504	IMPROVES FREE FIELD OUTPUT
193-0115	P3967	FORTRAN	26.0035	16149	DBLE AND CMPLX ENTRY ARGUME
193-0116	D0777	ALGOL		15880	DOLLAR CARD SYNTAX
193-0302	P4916	ESPOLINTRN	26.0039	17439	BINARY I-O
193-0319	P4167	RJE	26.0013	16354	NOLOGON FAULT
193-0327	P4168	RJE	26.0014	16352	RSC INPUT FAULT HANDLING
193-0328	P4167	RJE	26.0013	16354	NOLOGON FAULT
193-0338	P4459	RJE	26.0022	17247	EMPTY FILE FAULTS
193-0339	P4800	MCP	26.0688	19393	LEFT ASSIGNED-GLOBAL TAPE
194-0042	P3467	COBOL	26.0002	14407	COMPILER NEWTAPE FILE
194-0052	P3657	COBOL	26.0027	15963	COPY
194-0053	P3815	IN-OUTPUT	26.0583	18007	CLOSE HERE
194-0060	D0879	DATACOM	26.0455	16419	STATION WITH NO LINE ASSIGN
194-0064	P3938	COBOL	26.0061	16305	COMPILER ERROR RECOVERY
194-0066	P3500	DM6700	26.0002	15705	LOOP ON FIND NTH PAT EOF
194-0074	P3926	COBOL	26.0044	15949	GLOBAL ARRAYS
194-0077	P3943	COBOL	26.0081	16591	NON-EXECUTABBLE STATEMENTS
194-0079	P3725	COBOL	26.0039	15946	"MONITOR ALL"
194-0080	P3936	COBOL	26.0058	16303	ERROR RECOVERY
194-0084	P3935	COBOL	26.0055	16301	STATISTICS
194-0090	P4884	COBOL	26.0170	18952	LISTING
194-0091	P3594	DATACOM	26.0203	15675	QUEUE DISK TANKING ERRORS
196-0006	P4234	ESPOLINTRN	26.0022	19647	BASIC FILE STATEMENT
196-0008	P4120	BASIC	26.0004	17192	BASIC SEGMENTATION
196-0010	P4185	COBOL	26.0105	17060	TWO DIMENSIONAL ARRAYS
197-0002	P4394	COBOL	26.0119	19642	DECIMAL-POINT IS COMMA
198-0002	D0927	CANDE	26.0025	18848	WFM INTERFACE
198-0021	D0926	CANDE	26.0024	18849	USERCODE-PASSWORD HANDLING
200-0012	D0872	ALGOL	26.0135	17567	I-O STATEMENTS AND FORMATS
200-0018	P3345	DCSTATUS	26.0001	14394	ERRONEOUS LINE TALLY INFO
200-0020	D0819	PLI	26.0017	17486	COMPILER OPTION - PROGRAMDU
200-0020	P4976	PLINTRN	26.0017	16635	ON CHAR, ONSOURCE
200-0022	P4347	SOURCENDL	26.0006	17266	RJE FIXES
200-0039	D1008	IN-OUTPUT	26.0684	19392	FILE ATTRIBUTES - BLOCKSIZE
201-0021	P3985	FORTRAN	26.0073	16531	VRBLE FILES AND READER FILE
201-0025	P3493	CANDE	26.0009	13898	FILE MODIFIER, LFILES, ETC.
201-0028	P3482	FORTRAN	26.0001	14596	FORTRAN SCANR AND FORMATER
201-0029	P4750	ESPOLINTRN	26.0034	18893	FORTRAN FORMATTED OUTPUT
201-0030	D0948	ESPOLINTRN	26.0038	19096	FORTRAN FORMAT ERROR MESSAG
201-0032	P3696	FORTRAN	26.0022	15686	ARGUMENT MISMATCH SYNTAX ER

FTR ACTION TABLE

FTR NO.	SNOTE	PATCH NUMBER		PRI	DESCRIPTION
201-0049	D0799	DASDL	26.0018	15817	PATCH DATA BASE
201-0054	P4117	ALGOL	26.0098	17178	XREFANALYZER FIX
201-0057	D0927	CANDE	26.0025	18848	WFM INTERFACE
201-0070	P4444	FORTRAN	26.0091	16160	OPTLSS1 COMPILATION
202-0108	D0752	CANDE	26.0005	13902	RESEQ OVERRIDE
202-0137	P4171	BACKUP	26.0014	17189	BACKUP FILES ON PACK
202-0153	P4238	LOGANALY	26.0007	19490	FAULT RECOVERY
202-0158	P4175	BACKUP	26.0018	17186	KEY LENGTH CHECKS
202-0186	P4767	LOGANALY	26.0010	17434	HEADING ON IOERROR SUMMARY
203-0035	D0744	MCP	26.0257	16117	CONTROLLER MESSAGE CHANGES
203-0037	P3807	COBOL	26.0076	16597	MOVE TRUNCATION WARNINGS
203-0038	D0889	COBOL	26.0082	16593	ATTRIBUTES
203-0040	P3804	COBOL	26.0068	16308	MOVE CORRESPONDING
203-0041	P3929	COBOL	26.0043	15948	INV OP ON SYNTAX ERROR
203-0059	P4228	DUMPALL	26.0006	19655	OPTIMIZE SKIP IN LIST ROUTI
203-0063	D0872	ALGOL	26.0135	17567	I-O STATEMENTS AND FORMATS
203-0066	P4403	COBOL	26.0134	19232	FORWARD LABEL
203-0069	P4884	COBOL	26.0170	18952	LISTING
203-0070	P4884	COBOL	26.0170	18952	LISTING
203-0071	P4884	COBOL	26.0170	18952	LISTING
203-0077	P4394	COBOL	26.0119	19642	DECIMAL-POINT IS COMMA
204-0013	P3978	FORTRAN	26.0062	16334	OPT=1 EQUIVALENCE LOOP
205-0009	D0948	ESPOLINTRN	26.0038	19096	FORTRAN FORMAT ERROR MESSAG
205-0029	P3861	PLI	26.0005	16657	DYNAMIC ERROR MESSAGES
205-0115	D0776	ALGOL		15858	DOLLAR CARD IN SYNTACTIC IT
205-0152	P3470	ESPOL	26.0002	14543	ARRAY DECLARATION SYNTAX ER
205-0162	P3988	FORTRAN	26.0078	16526	CHARACTER ORIENTED INPUT FI
205-0224	D1098	PLI	26.0019	16652	COMPILER CONTROL CARDS
205-0227	D0849	FORTRAN		16528	ORDER OF DECLARATIONS
205-0245	P3861	PLI	26.0005	16657	DYNAMIC ERROR MESSAGES
205-0246	P4963	PLI	26.0072	16618	BAD DIAGNOSTIC FOR KEYFROM
205-0257	D0777	ALGOL		15880	DOLLAR CARD SYNTAX
205-0295	P3979	FORTRAN	26.0063	16333	I-O LIST REFERENCING
205-0307	D0727	BINDER	26.0002	14750	ADDITIONAL PARAMETER SYNTAX
205-0311	P3632	ALGOL	26.0024	15911	ARRAY ID AS POINTER PRIMARY
205-0316	P5086	PLI	26.0084	16611	COMBINATION OF ATTRIBUTES
205-0323	P4844	PLINTRN	26.0029	19215	GET STRING ERROR CONDITION
205-0324	P4365	PLINTRN	26.0019	16602	EDITED OUTPUT FIELD TRUNCAT
205-0330	P4988	PLINTRN	26.0034	16621	ISAM
205-0337	P4988	PLINTRN	26.0034	16621	ISAM
205-0338	P4841	PLI	26.0066	19213	FIELD WIDTH IN A-FORMAT
205-0375	P4967	PLINTRN	26.0003	16648	INVALID OP ON PICTURE FORMA
205-0375	P4975	PLINTRN	26.0016	16636	PICTURE DE-EDITTING
205-0376	P3429	MCP	26.0088	14629	PROTECTED TAPES
205-0381	P4361	PLI	26.0044	16654	MISSING QUOTE
205-0383	P4367	PLINTRN	26.0014	19222	ISAM REWRITE UPDATE
205-0389	P4845	PLINTRN	26.0030	19212	MISSING STATEMENT NUMBER
205-0392	P4961	PLI	26.0070	19170	ASSIGN 0 IO PIC "$$$,$$$.99
205-0402	D0872	ALGOL	26.0135	17567	I-O STATEMENTS AND FORMATS
205-0408	P4841	PLI	26.0066	19213	FIELD WIDTH IN A-FORMAT
205-0419	P4962	PLI	26.0071	16619	FORMMESSAGE BLOWS ADM
205-0433	P3594	DATACOM	26.0203	15675	QUEUE DISK TANKING ERRORS
205-0438	P4363	PLINTRN	26.0005	14730	FIELD WIDTHS
205-0459	P4239	LOGANALY	26.0008	19491	LOG DUMP CORRECTION
205-0478	P5083	PLI	26.0081	16615	NEGATIVE CONSTANT EXPONENTS
205-0480	P5085	PLI	26.0083	16617	PUT LIST ROUNDING
205-0490	P4837	NDL	26.0020	18901	SPELLING ERROR
207-0022	D0772	COBOL	26.0034	15960	DISPLAY AND ACCEPT STATEMEN
207-0024	D0841	COBOL	26.0054	16369	RERUN
207-0027	P3653	COBOL	26.0019	14404	FILE-LIMITS
207-0028	D0985	COBOL	26.0139	16452	COBOL COMPATIBILITY
207-0033	P3652	COBOL	26.0018	15968	COPY REPLACING
207-0049	P3654	COBOL	26.0020	15964	SAME RECORD AREA FOR SORT F
207-0052	D0733	COBOL	26.0098	18938	RELATION CONDITIONS
207-0054	D0744	MCP	26.0257	16117	CONTROLLER MESSAGE CHANGES
207-0077	P4978	COBOL	26.0140	18963	LABEL PROCEDURES
207-0082	D1053	IN-OUTPUT	26.0796	19403	COBOL USE PROCEDURES
207-0086	P3388	IN-OUTPUT	26.0050	14197	COBOL CHARACTER ORIENTED FI
207-0087	D0844	COBOL	26.0070	16373	MOVING NON-NUMERIC LITERALS
207-0088	P3941	COBOL	26.0072	16372	DISPLAY

FTR ACTION TABLE

FTR NO.	SNOTE	PATCH NUMBER		PRI	DESCRIPTION
208-7408	P3776	MCP	26.0294	16089	FAULT HANDLING
208-7411	P4960	PLI	26.0069	16563	COMPILER LOOPING
209-0021	P3850	DUMPALL	26.0004	17855	CORRECTS CHARACTER SIZE ERR
210-0016	P3518	DMFILTER	26.0005	15763	CONVERSION OF STATUS TASK A
210-0018	P3802	COBOL	26.0060	16370	REDEFINES
210-0019	P4184	COBOL	26.0104	17062	IPC PARAMETER MISMATCH
210-0024	P4215	DMFILTER	26.0011	19614	LOOPING IN DMFILTER
210-0025	P4216	DMFILTER	26.0012	19613	QUALIFICATION LOOK UP
213-0035	P3756	MCP	26.0254	16015	LIBRARY MAINTENANCE
213-0043	P4328	DATACOM	26.0520	17258	SET-APPLICATION-NUMBER DCWR
214-0001	P4368	FORTRAN	26.0086	16154	NEW IMPLEMENTATION OF DATA
214-0007	P4719	DUMPALL	26.0012	18921	CORRECT IOWORDS FOR 80 CHAR
215-0036	P4375	FORTRAN	26.0070	16166	INFINITE LOOP FROM EQUIVALE
215-0046	P4342	NDL	26.0018	17265	TERMINAL DESCRIPTION
215-0048	D1081	PLI		17463	UNSPEC BUILT-IN FUNCTION
216-0017	P4750	ESPOLINTRN	26.0034	18893	FORTRAN FORMATTED OUTPUT
217-0004	P3635	ALGOL	26.0027	15906	MISUSE OF STATION ATTRIBUTE
217-0005	P3635	ALGOL	26.0027	15906	MISUSE OF STATION ATTRIBUTE
217-0007	P3750	IN-OUTPUT	26.0241	15527	ERRORTYPE ATTRIBUTE
221-0002	P4368	FORTRAN	26.0086	16154	NEW IMPLEMENTATION OF DATA
221-0004	P4656	COBOL	26.0143	16456	REPORT WRITER
222-0303	P3976	FORTRAN	26.0060	16336	FORTRAN COMPILER LOOPING
222-0320	P4111	ALGOL	26.0134	19666	$SET MERGE AFTER POP
222-9024	P4973	PLINTRN	26.0013	16638	ISKEYWRITE RETURNS TRUE ALW
222-9028	D1065	COBOL	26.0158	18941	REPORT WRITER PAGE CLAUSE
222-9032	P3498	DDL	26.0001	15941	"%" IN COLUMN 72
222-9034	P3348	ALGOL	26.0042	15842	MISCELLANEOUS FIX
222-9038	P3472	ESPOL	26.0006	14584	DEFAULT LABEL DECLARATION
222-9042	P4146	ESPOL	26.0025	17181	SCANNER CORRECTED
222-9043	D0752	CANDE	26.0005	13902	RESEQ OVERRIDE
222-9046	P3636	ALGOL	26.0030	15883	DBLE PRECISION VALUE AS IND
222-9049	D0766	ALGOL	26.0010	14591	EXPANDED CASE STATEMENT
222-9054	P4976	PLINTRN	26.0017	16635	ON CHAR, ONSOURCE
222-9060	P3718	TAPEDIR	26.0002	16345	BAD TAPE REPORTING IN TAPED
222-9077	P3831	DASDL	26.0038	16920	CORRECT CONDITIONAL STATEME
222-9079	P3808	FORTRAN	26.0069	17896	BATCH COMPILER
222-9096	P4649	COBOL	26.0113	18942	OBJECT-COMPUTER PARAGRAPH
224-0019	P4038	ALGOL	26.0084	17284	COMPLEX SELECTION EXPRESSIO
224-0032	P4711	DMALGOL	26.0125	19249	VARIABLE FORMAT TYPES
225-4015	P4445	FORTRAN	26.0092	16155	$ LEVEL
225-4017	P4884	COBOL	26.0170	18952	LISTING
226-0193	P3420	MCP	26.0060	14653	WORKINGSETS
226-0199	P3468	CANDE	26.0002	13905	"USURP" ERR WITH MANY CHANG
226-0207	P3856	PATCH	26.0006	16546	VOID $-CARD HANDLING
226-0222	P3771	MCP	26.0286	16064	PACK EXCLUSIVE OPEN WAIT
226-0236	P4405	COBOL	26.0136	19229	EDITED NUMERIC INITIAL VALU
226-0241	P4655	COBOL	26.0138	18832	OCCASIONAL MISSING RETURN C
226-0246	P4653	COBOL	26.0132	18828	QUALIFICATION
227-0065	P4405	COBOL	26.0136	19229	EDITED NUMERIC INITIAL VALU
230-0024	P3496	DATACOM	26.0144	14396	IMPROVE LOCKING CODE
230-0042	P3949	ACR	26.0117	16904	LOCK TO MODIFY DETAILS
230-0043	P4101	DASDL	26.0040	16906	INCREASE NUMBER OF STRUCTUR
230-0044	P4124	BDMSCOBOL	26.0089	17160	DATABASE IS TOO LARGE
231-0023	P4998	SORT	26.0015	17488	SYNTAX ERROR IN SORT
231-0026	P4662	COBOL	26.0149	16461	GROUP INDICATE
231-0028	D0930	CANDE	26.0028	18845	RECORD FORMATS
231-0029	D0828	ALGOL			POINTER VALUE ADJUSTMENT
231-0041	P3803	COBOL	26.0062	16371	RELATION CONDITIONS
231-0042	P3559	INTERFACE	26.0003	15885	DESCRIPTION TOO BIG
231-0044	P4000	CONTROLLER	26.0020	16051	REMOTESPO FILE OPEN
231-0069	P3781	INTERFACE	26.0010	16660	FILEHANDLERQ
231-0069	P3826	DASDL	26.0032	16272	ARRAYS TOO SMALL
231-0071	P3847	DUMPALL	26.0001	17858	TAPEMARK SKIP USING LIST OP
231-0074	P4025	IN-OUTPUT	26.0462	16045	MISSING END-OF-FILE
231-0075	P3805	COBOL	26.0071	17889	KEY STATEMENTS
231-0084	P4182	BDMSCOBOL	26.0101	17223	DMSII - TASK ATTRIBUTES
231-0085	P4181	BDMSCOBOL	26.0100	17222	INVALID SYNTAX ERROR BDMSCO
231-0086	P4212	ACR	26.0165	19560	VARIABLE FORMAT DELETE BUG
231-0094	P5003	COBOL	26.0176	18957	REPORT WRITER
231-0099	P4422	DMALGOL	26.0115	19528	LARGE TEXT PROPERTIES

FTR ACTION TABLE

FTR NO.	SNOTE	PATCH	NUMBER	PRI	DESCRIPTION
231-0102	P4417	DASDL	26.0060	18016	$ VOIDT
233-0005	P4750	ESPOLINTRN	26.0034	18893	FORTRAN FORMATTED OUTPUT
235-0016	P4669	COBOL	26.0157	18939	TRUNCATION OF NUMERIC LITER
235-0017	P4661	COBOL	26.0148	18830	SERIALNO TO BCL ITEM
235-0019	P4401	COBOL	26.0131	19228	ERROR RECOVERY
235-0021	P4664	COBOL	26.0151	16459	FLOATING EDITING PICTURES
238-0025	P3413	MCP	26.0037	11706	SYSTEMSTATUS INTRINSIC
238-0028	P3857	PLI	26.0001	15923	TRANSLATE FUNCTION
238-0028	P4966	PLINTRN	26.0002	17464	TRANSLATE BIF
238-0035	P3401	MCP	26.0014	14769	IOERROR USES ALL STACKS
238-0066	P3617	BACKUP	26.0012	17254	SCANNER IMPROVEMENTS
238-0081	P5000	COBOL	26.0172	18958	FILE DESCRIPTION ENTRIES
238-0082	P5000	COBOL	26.0172	18958	FILE DESCRIPTION ENTRIES
239-0009	P4324	DCPPROGEN	26.0010	18902	TOGGLES IN FULL DUPLEX
241-0025	P4377	FORTRAN	26.0087	16164	$ INCLUDE
241-0027	P3990	FORTRAN	26.0081	16523	FORTRAN CORE ESTIMATES
241-0029	P4997	SORT	26.0014	17489	SEG ARRAY IN SWAPSPACE
241-0034	P3479	ESPOLINTRN	26.0001	14585	BASIC INTRINSICS
241-0036	P3341	CONTROLLER	26.0004	14654	JOBSYNC
241-0037	P3923	COBOL	26.0032	15954	ATTRIBUTES
241-0041	P3965	FORTRAN	26.0030	15693	LABELLED ATTRIBUTE STATEMEN
241-0042	P4120	BASIC	26.0004	17192	BASIC SEGMENTATION
243-0003	P4973	PLINTRN	26.0013	16638	ISKEYWRITE RETURNS TRUE ALW
244-0001	P3925	COBOL	26.0040	15955	COPY
244-0003	P3939	COBOL	26.0063	16307	LINKAGE SECTION
244-0005	P3655	COBOL	26.0024	15967	LEVEL NUMBERS
244-0006	P3943	COBOL	26.0081	16591	NON-EXECUTABBLE STATEMENTS
244-0012	P3464	ALGOL	26.0004	14612	ALGOL ERROR CLEANUP
244-0016	P3972	FORTRAN	26.0056	16340	VARIABLE FRMT IN EQUIV: OPT
244-0017	P3982	FORTRAN	26.0066	17897	DO LOOP INCREMENTS
244-0020	P3689	FORTRAN	26.0015	15694	PAUSE SYNTAX ERROR
244-0021	P3677	ESPOLINTRN	26.0008	14430	FORMATENCODER - FORMAT SPEC
244-0029	P3724	COBOL	26.0037	15957	WRITE STATEMENTS
244-0031	P3802	COBOL	26.0060	16370	REDEFINES
244-0042	P3971	FORTRAN	26.0054	16298	DEBUG TRACE CAUSED BAD GO T
244-0048	P4188	COBOL	26.0108	17057	"J" SIGNED DISPLAY ITEMS
244-0050	P4248	RJE	26.0017	17251	AUTOBACKUP DIRECTORY PURGIN
244-0050	P4800	MCP	26.0688	19393	LEFT ASSIGNED-GLOBAL TAPE
245-0004	P4172	BACKUP	26.0015	17188	BFILE LABEL EQUATION
246-0008	P3848	DUMPALL	26.0002	17857	D-DSED MTPDPK ROUTINE
246-0013	D0891	COBOL	26.0118	19643	CLASS CONDITIONS
246-0017	P4735	DUMPALL	26.0015	18917	INPUT SCANNER CLEAN-UP
249-0017	P4146	ESPOL	26.0025	17181	SCANNER CORRECTED
249-0019	P4396	COBOL	26.0123	19636	STATISTICS WITH BINDING
249-0020	P3875	PLI	26.0026	16569	CALL ON A BOUND PROCEDURE
249-0023	P4176	COBOL	26.0015	17059	ELEMENTARY NUMERIC 01 LEVEL
249-0025	P4170	ALGOL	26.0105	18040	NEW SYMBOLIC TO DISKPACK
252-0001	D0938	COBOL	26.0129	19632	SOURCE INPUT
252-0002	P3923	COBOL	26.0032	15954	ATTRIBUTES
252-0007	P3937	COBOL	26.0059	16304	BLOCK CONTAINS CLAUSE
252-0013	D0809	COBOL	26.0075	16598	ACCESS MODE CLAUSE
252-0020	D0909	IN-OUTPUT	26.0531	16049	B5500 TAPE SERIAL NUMBERS
253-0005	P3802	COBOL	26.0060	16370	REDEFINES
253-0009	P4916	ESPOLINTRN	26.0039	17439	BINARY I-O
254-0001	P4654	COBOL	26.0137	18831	INVALID SYNTAX ERROR ON SEA
255-0020	P4187	COBOL	26.0107	17056	MOVING NUMERIC LITERALS
255-0024	P4251	COBOL	26.0115	19644	REPORT WRITER
257-0004	P3802	COBOL	26.0060	16370	REDEFINES
260-0008	P5080	PLI	26.0078	16612	CONTROLCARD
261-0009	P4118	ALGOL	26.0099	17177	ECOLOGICAL PRESERVATION
261-0010	P3756	MCP	26.0254	16015	LIBRARY MAINTENANCE
261-0012	P4502	APL-700	26.0037	18089	TRANSPOSE OF CHARACTER OBJE
261-0015	P3983	FORTRAN	26.0071	16529	STACK OVERFLOW
261-0016	P4467	APL-700	26.0002	18054	CONTEXT CHANGE DETECTION
261-0017	P3681	FORTRAN	26.0006	14429	PARITY ERROR ON READ STATEM
261-0021	P4526	APL-700	26.0061	18113	ACCOUNT FILE, WS, FILES MED
261-0022	P4491	APL-700	26.0026	18078	LOCALIZATION CHECK OF SYS V
261-0023	P4510	APL-700	26.0045	18097	FORMATTING OBJECTS OF ZERO
261-0024	P4606	APL-700	26.0144	18196	INCREASE HOURS IN SIGN OFF
261-0027	P3484	FORTRAN	26.0003	14594	SPEED UP DIMENSION

FTR ACTION TABLE

FTR NO.	SNOTE	PATCH NUMBER		PRI	DESCRIPTION
261-0030	P4509	APL-700	26.0044	18096	E FORMAT ZERO DISPLAY
261-0031	P4473	APL-700	26.0008	18060	QUAD-SVQ FIX
261-0032	P4509	APL-700	26.0044	18096	E FORMAT ZERO DISPLAY
261-0033	P4499	APL-700	26.0034	18086	RESET RESTARTING ON STACK N
261-0038	P3973	FORTRAN	26.0057	16339	SCANNING OF ERRONEOUS FILES
261-0042	D0927	CANDE	26.0025	18848	WFM INTERFACE
261-0043	P4585	APL-700	26.0122	18174	BASE VALUE FIX
261-0044	P4171	BACKUP	26.0014	17189	BACKUP FILES ON PACK
261-0049	D0935	CANDE	26.0036	18836	COMPILE FOR SYNTAX
261-0051	D0958	CANDE	26.0019	15897	STATION CAPACITY
261-0051	D0959	CANDE	26.0019	15897	LOGIN CONTROL
261-0051	D0960	CANDE	26.0019	15897	INPUT: CONTROL, EMPTY, SIGN
261-0051	D0961	CANDE	26.0019	15897	OBJECT FILES
261-0051	D0962	CANDE	26.0019	15897	CONTROL COMMANDS
261-0051	D0963	CANDE	26.0019	15897	DATACOM ERROR RECOVERY
261-0051	P4354	CANDE	26.0019	15897	STATION TABLES, CONTROL LOG
262-0005	P3883	PLI	26.0036	14727	ROUND OF PICTURE ITEM
262-0008	P3884	PLI	26.0037	14728	FUNCTION CEIL INCORRECT
262-0009	P3886	PLI	26.0039	14726	TIME BIF RETURNS 0 MIN 60 S
262-0016	P3872	PLI	26.0021	16579	DOUBLE PICTURES
262-0017	P3872	PLI	26.0021	16579	DOUBLE PICTURES
262-0021	P4362	PLINTRN	26.0004	14731	GET LIST
262-0032	P3876	PLI	26.0027	16577	SIMPLE-OVERLAY DEFINING
262-0033	P4357	PLINTRN	26.0020	16653	ERROR CONDITION ON INTRINSI
262-0038	P4982	PLINTRN	26.0028	16627	PUT EDIT OF BIT STRINGS
262-0039	P4802	PLI	26.0063	18252	F FORMAT IN GET EDIT STATEM
262-0101	D0945	PLINTRN	26.0026	19217	GET LIST
262-0108	P4458	PLINTRN	26.0027	19216	GET STRING LIST
263-0003	P3932	COBOL	26.0048	15953	CONDITION NAMES
263-0004	D0837	COBOL	26.0046	15951	SORT SYNTAX
263-0005	D0733	COBOL	26.0098	18938	RELATION CONDITIONS
263-0010	P4980	COBOL	26.0141	18290	CLOSE STATEMENT
263-0021	P3860	PLI	26.0004	15921	PREPROCESSOR GARBAGE COLLEC
263-0025	P4402	COBOL	26.0133	19227	LARGE PROGRAM SEGMENTS
263-0026	P4356	COBOL	26.0010	19639	FLOATING-POINT DATA ITEMS
263-0028	P4992	SORT	26.0008	17490	INV OP RUNNING SYSTEST
263-0502	P3987	FORTRAN	26.0077	16527	XREF OF LABELS
264-0003	P3923	COBOL	26.0032	15954	ATTRIBUTES
264-0004	P3806	COBOL	26.0074	16599	"COMP-1" SAVEARRAYS
265-0016	P4964	PLI	26.0073	17465	FREE IN (AREA) SYNTAX ERROR
268-0002	P3808	FORTRAN	26.0069	17896	BATCH COMPILER
268-0011	P3877	PLI	26.0028	12443	DOUBLE PICTURES
268-0015	P5081	PLI	26.0079	16613	COLON IN 48-CHAR SET
272-0003	P4838	NDL	26.0022	17261	RESEQUENCING DOLLAR CARDS
273-0001	P3807	COBOL	26.0076	16597	MOVE TRUNCATION WARNINGS
999-0548	P3470	ESPOL	26.0002	14543	ARRAY DECLARATION SYNTAX ER
999-0730	D0848	ALGOL	26.0072	16360	ASCENDING SEQUENCE NUMBERS
999-0732	P3348	ALGOL	26.0042	15842	MISCELLANEOUS FIX
999-0736	P3660	DCALGOL	26.0015	15706	DISKHEADER ARRAYS
999-0742	P4354	CANDE	26.0019	15897	STATION TABLES, CONTROL LOG
999-2014	P4839	PATCH	26.0025	18886	CARD FILE KIND IN $ ZIP

DOCUMENTS AFFECTED

DOCUMENT	SYSTEM NOTE	MARKETING NO.	MARKETING DATE
ALGOL	D0755	5000649	04-74
ALGOL COMPILER	D0775	5000136	06-72
ALGOL COMPILER	D0776	5000136	06-72
ALGOL COMPILER	D0830	5000136	06-72
ALGOL COMPILER	D0848	5000136	06-72
ALGOL COMPILER	D0872	5000136	06-72
ALGOL COMPILER	D1073	5000136	06-72
ALGOL LANGUAGE	D0942	5000649	04-74
ALGOL LANGUAGE	D0755	5000649	04-74
ALGOL LANGUAGE	D0802	5000128	06-72
ALGOL LANGUAGE	D0828	5000649	04-74
ALGOL LANGUAGE	D0829	5000128	06-72
ALGOL LANGUAGE	D0830	5000128	06-72
ALGOL LANGUAGE	D0831	5000128	06-72
ALGOL LANGUAGE	D0872	5000649	04-74
ALGOL LANGUAGE	D1073	5000649	04-74
BASIC LANGUAGE	D0767	5000383	07-71
BINDER	D0728	5000045	11-71
CANDE	D0893	5000615	10-72
CANDE	D0925	5000615	10-72
CANDE LANGUAGE	D0743	5000318	10-72
CANDE LANGUAGE	D0752	5000318	10-72
CANDE LANGUAGE	D0756	5000318	10-72
CANDE LANGUAGE	D0761	5000318	10-72
CANDE LANGUAGE	D0925	5000318	10-72
CANDE LANGUAGE	D0926	5000318	10-72
CANDE LANGUAGE	D0930	5000318	10-72
CANDE LANGUAGE	D0931	5000318	10-72
CANDE LANGUAGE	D0932	5000318	10-72
CANDE LANGUAGE	D0933	5000318	10-72
CANDE LANGUAGE	D0934	5000318	10-72
CANDE LANGUAGE	D0935	5000318	10-72
CANDE LANGUAGE	D0956	5000318	10-72
CANDE LANGUAGE	D0957	5000318	10-72
CANDE LANGUAGE	D0958	5000318	10-72
CANDE LANGUAGE	D0959	5000318	10-72
CANDE LANGUAGE	D0960	5000318	10-72
CANDE LANGUAGE	D0961	5000318	10-72
CANDE LANGUAGE	D0962	5000318	10-72
CANDE LANGUAGE	D0963	5000318	10-72
CANDE LANGUAGE	D0977	5000318	10-72
CANDE OPERATIONS	D0753	5000615	10-72
CANDE OPERATIONS	D0760	5000615	10-72
CANDE OPERATIONS	D0924	5000615	10-72
CANDE OPERATIONS	D0936	5000615	10-72
CANDE OPERATIONS	D0956	5000615	10-72
CANDE OPERATIONS	D0957	5000615	10-72
CANDE OPERATIONS	D0958	5000615	10-72
CANDE OPERATIONS	D0959	5000615	10-72
CANDE OPERATIONS	D0960	5000615	10-72
CANDE OPERATIONS	D0961	5000615	10-72
CANDE OPERATIONS	D0962	5000615	10-72
CANDE OPERATIONS	D0963	5000615	10-72
CANDE OPERATIONS	D0977	5000615	10-72
COBOL	D0855	5000656	01-74
COBOL	D0874	5000656	01-74
COBOL	D0938	5000656	01-74
COBOL	D0985	5000656	01-74
COBOL	D0986	5000656	01-74
COBOL	D1065	5000656	01-74
COBOL	D1099	5000656	01-74
COBOL FILTER	D0891	5000011	11-70
COBOL REFERENCE	D0768	5000656	01-74
COBOL REFERENCE	D0769	5000656	01-74

DOCUMENTS AFFECTED

DOCUMENT	SYSTEM NOTE	MARKETING NO.	MARKETING DATE
COBOL REFERENCE	D0770	5000565	01-74
COBOL REFERENCE	D0771	5000656	01-74
COBOL REFERENCE	D0773	5000656	01-74
COBOL REFERENCE	D0809	5000656	01-74
COBOL REFERENCE	D0836	5000656	01-74
COBOL REFERENCE	D0841	5000656	01-74
COBOL REFERENCE	D0842	5000656	01-74
COBOL REFERENCE	D0843	5000656	01-74
COBOL REFERENCE	D0844	5000656	01-74
COBOL REFERENCE	D0845	5000656	01-74
D NOTES	D0826	5000763	04-74
DASDL	D0783	5000821	04-74
DASDL	D0783	5000821	04-74
DASDL	D0806	5000821	04-74
DASDL	D0811	5000821	04-74
DASDL	D0811	5000821	04-74
DASDL	D0811	5000821	04-74
DASDL REFERENCE	D0800	5000821	04-74
DASDL REFERENCE	D0856	5000821	04-74
DASDL REFERENCE	D0861	5000821	04-74
DC ALGOL	D0912	5000052	06-73
DC ALGOL	D0951	5000052	06-73
DC ALGOL REFERENCE	D0898	5000052	06-73
DC ALGOL REFERENCE	D0940	5000052	06-73
DCALGOL REFERENCE	D0729	5000052	06-73
DCALGOL REFERENCE	D0742	5000052	06-73
DCALGOL REFERENCE	D0746	5000052	06-73
DCALGOL REFERENCE	D0780	5000052	06-73
DCALGOL REFERENCE	D0872	5000052	06-73
DMS II DASDL	D0747	5000821	04-74
DMSII DASDL	D0799	5000821	04-74
DMSII DASDL REF	D0754	5000821	04-74
DMSII DASDL REFERN	D0754	5000821	04-74
DMSII DASDL REFERN	D0754	5000821	04-74
DMSII DASDL REFERN	D0798	5000821	04-74
DMSII DASDL REFERN	D0896	5000821	04-74
DMSII HOST LANGUAG	D0838	5000839	04-74
DMSII HOST LANGUAG	D0839	5000839	04-74
DMSII HOST LANGUAG	D0840	5000839	04-74
DMSII HOST LANGUAG	D0918	5000839	04-74
DMSII HOST LANGUAG	D0919	5000839	04-74
DUMP ANALYZER	D0748	5000334	11-71
DUMP ANALYZER	D0875	5000334	11-71
DUMP ANALYZER	D0998	5000334	11-71
DUMP ANALYZER	D1039	5000334	11-71
DUMP ANALYZER	D1085	5000334	11-71
DUMP ANALYZER	D1086	5000334	11-71
DUMPANALYZER	D0731	5000334	11-71
DUMPANALYZER	D0732	5000334	11-71
ESPOL COMPILER	D0848	5000094	06-72
ESPOL LANGUAGE	D0740	5000094	06-72
ESPOL LANGUAGE	D0741	5000094	06-72
ESPOL LANGUAGE	D0758	5000094	06-72
FORTRAN	D0939	5000458	06-72
FORTRAN	D0948	5000458	06-72
FORTRAN REFERENCE	D0849	5000458	06-72
HANDBOOK	D1059	5000276	01-72
HOST	D0768		04-74
HOST LANGUAGE	D0853	5000839	04-74
I-O SUBSYSTEM	D0730	5000185	07-71
I-O SUBSYSTEM	D0738	5000185	07-71
I-O SUBSYSTEM	D0749	5000185	07-71
I-O SUBSYSTEM	D0908	5000185	07-71
I-O SUBSYSTEM	D0909	5000185	07-71
I-O SUBSYSTEM	D0910	5000185	07-71
I-O SUBSYSTEM	D0911	5000185	07-71
I-O SUBSYSTEM	D0913	5000185	07-71
I-O SUBSYSTEM	D0914	5000185	07-71
I-O SUBSYSTEM	D0915	5000185	07-71

DOCUMENTS AFFECTED

DOCUMENT	SYSTEM NOTE	MARKETING NO.	MARKETING DATE
I-O SUBSYSTEM	D0943	5000185	07-71
I-O SUBSYSTEM	D0988	5000185	07-71
I-O SUBSYSTEM	D0999	5000185	07-71
I-O SUBSYSTEM	D1000	5000185	07-71
I-O SUBSYSTEM	D1001	5000185	07-71
I-O SUBSYSTEM	D1002	5000185	07-71
I-O SUBSYSTEM	D1003	5000185	07-71
I-O SUBSYSTEM	D1004	5000185	07-71
I-O SUBSYSTEM	D1006	5000185	07-71
I-O SUBSYSTEM	D1008	5000185	07-71
I-O SUBSYSTEM	D1040	5000185	07-71
I-O SUBSYSTEM	D1041	5000185	07-71
I-O SUBSYSTEM	D1053	5000185	07-71
I-O SUBSYSTEM	D1059	5000185	07-71
MAINTENANCE AND TE	D0735	5000169	10-73
MAKEUSER PROGRAM	D0920	5000227	11-71
MAKEUSER PROGRAM	D1058	5000227	11-71
MARK II.6 D NOTES	D1012	5000763	04-74
MASTER CONTROL PRO	D0735	5000086	12-71
MASTER CONTROL PRO	D0759	5000086	12-71
MAT	D1018	5000169	10-73
MAT	D1019	5000169	10-73
MAT	D1020	5000169	10-73
MAT	D1021	5000169	10-73
MAT	D1022	5000169	10-73
MAT	D1023	5000169	10-73
MAT	D1024	5000169	10-73
MAT	D1025	5000169	10-73
MAT	D1026	5000169	10-73
MAT	D1027	5000169	10-73
MAT	D1028	5000169	10-73
MAT	D1029	5000169	10-73
MAT	D1030	5000169	10-73
MAT	D1031	5000169	10-73
MAT	D1032	5000169	10-73
MCP	D0892	5000086	12-71
MCP	D0898	5000086	12-71
MCP	D0903	5000086	12-71
MCP	D0904	5000086	12-71
MCP	D0905	5000086	12-71
MCP	D0906	5000086	12-71
MCP	D1050	5000086	12-71
MCP	D1059	5000086	12-71
MCP	D1077	5000086	12-71
MCP	D1079	5000086	12-71
MCS II	D1074	5000219	09-71
MISCELLANEA	D1060	5000367	04-74
MISCELLANEA	D1059	5000367	04-74
MISCELLANEA	D1067	5000367	04-74
MISCELLANEA	D1068	5000367	04-74
NDL	D1015	5000078	08-71
NDL	D0814	5000078	08-71
NDL	D0750	5000078	08-71
NDL	D0813	5000078	08-71
NDL	D0785	5000078	08-71
NDL	D0916	5000078	08-71
NDL	D0863	5000078	08-71
ON-LINE MAT	D0794	5000169	10-73
ON-LINE MAT	D0786	5000169	10-73
ON-LINE MAT	D0792	5000169	10-73
ON-LINE MAT	D0790	5000169	10-73
ON-LINE MAT	D0791	5000169	10-73
ON-LINE MAT	D0789	5000169	10-73
ON-LINE MAT	D0796	5000169	10-73
ON-LINE MAT	D0795	5000169	10-73
ON-LINE MAT	D0793	5000169	10-73
PENDING	D0923	0000000	00-00
PL-I LANGUAGE	D1080	5000201	10-72
PL-I LANGUAGE	D1081	5000201	10-72

DOCUMENTS AFFECTED

DOCUMENT	SYSTEM NOTE	MARKETING NO.	MARKETING DATE
PL-1 LANGUAGE	D1098	5000201	10-72
PROGRAM BINDER	D0775	5000045	11-71
PROGRAM BINDER	D0834	5000045	11-71
PROGRAM BINDER	D0727	5000045	11-71
PROGRAM BINDER	D0831	5000045	11-71
REMOTE JOB ENTRY	D1090	5000300	04-74
REMOTE JOB ENTRY	D0864	5000300	04-74
REMOTE JOB ENTRY	D1048	5000300	04-74
REMOTE JOB ENTRY	D0824	5000300	04-74
REMOTE JOB ENTRY	D0825	5000300	04-74
RJE	D0892	5000300	04-74
RJE	D0904	5000300	04-74
RJE	D1082	5000300	04-74
RJE	D0905	5000300	04-74
SOFTWARE HANDBOOK	D0797	5000722	07-73
SOFTWARE HANDBOOK	D0751	5000722	07-73
SOFTWARE HANDBOOK	D0745	5000722	07-73
SOFTWARE HANDBOOK	D0738	5000722	07-73
SOFTWARE HANDBOOK	D0758	5000722	07-73
SOFTWARE HANDBOOK	D0732	5000722	07-73
SOFTWARE HANDBOOK	D0731	5000722	07-73
SOFTWARE HANDBOOK	D0739	5000722	07-73
SOFTWARE HANDBOOK	D0765	5000722	07-73
SOFTWARE HANDBOOK	D0763	5000722	07-73
SYSTEM DUMP ANALYS	D0894	5000334	11-71
SYSTEM DUMP ANALYZ	D1076	5000334	11-71
SYSTEM DUMP ANALYZ	D0954	5000334	11-71
SYSTEM DUMP ANALYZ	D0808	5000334	11-71
SYSTEM DUMP ANALYZ	D0762	5000334	11-71
SYSTEM DUMP ANALYZ	D0779	5000334	11-71
SYSTEM DUMPANALYZE	D0955	5000334	11-71
SYSTEM DUMPANALYZE	D0899	5000334	11-71
SYSTEM HANBOOK	D1006	5000276	01-72
SYSTEM HANDBOOK	D1004	5000276	01-72
SYSTEM HANDBOOK	D1053	5000276	01-72
SYSTEM HANDBOOK	D1038	5000276	01-72
SYSTEM HANDBOOK	D0907	5000276	01-72
SYSTEM HANDBOOK	D0992	5000276	01-72
SYSTEM HANDBOOK	D0988	5000276	01-72
SYSTEM HANDBOOK	D0810	5000276	01-72
SYSTEM HANDBOOK	D0915	5000276	07-71
SYSTEM HANDBOOK	D1003	5000276	01-72
SYSTEM HANDBOOK	D1002	5000276	01-72
SYSTEM HANDBOOK	D1001	5000276	01-72
SYSTEM HANDBOOK	D1000	5000276	01-72
SYSTEM HANDBOOK	D0999	5000276	01-72
SYSTEM HANDBOOK	D0744	5000276	01-72
SYSTEM HANDBOOK	D1035	5000276	01-72
SYSTEM HANDBOOK	D0803	5000276	01-72
SYSTEM HANDBOOK	D0835	5000276	01-72
SYSTEM HANDBOOK	D0903	5000276	01-72
SYSTEM HANDBOOK	D1008	5000276	01-72
SYSTEM HANDBOOK	D0997	5000276	01-72
SYSTEM HANDBOOK	D0996	5000276	01-72
SYSTEM HANDBOOK	D0943	5000276	01-72
SYSTEM HANDBOOK	D0833	5000276	01-72
SYSTEM HANDBOOK	D0851	5000276	01-72
SYSTEM HANDBOOK	D1041	5000276	01-72
SYSTEM HANDBOOK	D1040	5000276	01-72
SYSTEM HANDBOOK	D0776	5000276	01-72
SYSTEM HANDBOOK	D0777	5000276	01-72
SYSTEM MISCELLANEA	D0736	5000367	04-74
SYSTEM MISCELLANEA	D1044	5000367	04-74
SYSTEM MISCELLANEA	D1045	5000367	04-74
SYSTEM MISCELLANEA	D1043	5000367	04-74
SYSTEM MISCELLANEA	D0810	5000367	04-74
SYSTEM MISCELLANEA	D0996	5000367	04-74
SYSTEM MISCELLANEA	D0997	5000367	04-74
SYSTEM MISCELLANEA	D0775	5000367	04-74

DOCUMENTS AFFECTED

DOCUMENT	SYSTEM NOTE	MARKETING NO.	MARKETING DATE
SYSTEM MISCELLANEA	D0734	5000367	10-73
SYSTEMHANDBOOK	D0832	5000276	01-72
USEDATE-MAKEUSER	D1012	5000797	04-74
USERDATA-MAKEUSER	D1047	5000797	04-74
USERDATE-MAKEUSER	D1046	5000797	04-74
USERDATE-MAKEUSER	D1051	5000797	04-74
USERDATE-MAKEUSER	D0995	5000797	04-74
USERDATE-MAKEUSER	D0906	5000797	04-74
USERDATE-MAKEUSER	D1010	5000797	04-74
WFL USERS GUIDE	D0744	5000714	04-73
WFM MANUAL	D0992	5000706	04-73
WFM MANUAL	D1035	5000706	04-73
WFM REF	D1061	5000706	04-73
WFM REFERENCE	D0784	5000706	04-73
WFM USER-S GUIDE	D1072	5000714	04-73
WFM USER-S GUIDE	D1037	5000714	04-73
WFM USER-S GUIDE	D0992	5000714	04-73
WFM USER-S GUIDE	D0989	5000714	04-73
WFM USER-S GUIDE	D0744	5000714	04-73
WFM USER-S GUIDE	D1035	5000714	04-73
WFM USER-S GUIDE	D0803	5000714	04-73
WFM USERS	D0788	5000714	04-73
WFM USERS	D0787	5000714	04-73
WFM USERS GUIDE	D0739	5000714	04-73
WFM USERS GUIDE	D0738	5000714	04-73
WFM USERS GUIDE	D0751	5000714	04-73
WFM USERS GUIDE	D0737	5000714	04-73