

**DataGeneral**

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**TECHNICAL  
STATEMENT**

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TEXT LISTING

068-000537-00

PROGRAM

LINE PRINTER TEST 1

TEXT TAPE

097-000537-00

ABSTRACT

LINE PRINTER TEST 1 IS A MAINTENANCE PROGRAM DESIGNED TO TEST  
LINE PRINTER TYPES 4034A (DATA PRODUCTS), 4038B (DATA PRODUCTS),  
4034C (CENTRONICS), & 4034D (CENTRONICS). THIS PROGRAM WILL ALSO  
TEST THE ZONE SELECT AND FORMAT CONTROL OPTIONS.

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:3A.1 SWITCH OPTIONS
DIFFERENT BITS AND THEIR INTERPRETATION AT LOCATION
"SWREG" IS AS FOLLOWS:
BIT OCTAL BINARY INERPRETATION
VALUE VALUE
1 40000 1 LOOP ON ERROR
SKIP LOOPING ON ERROR
2 20000 1 PRINT TO CONSOLE
ABORT PRINT OUT TO CONSOLE
3 10000 1 DO NOT PRINT _% FAILURE
PRINT _% FAILURE
5 0 DO NOT PRINT ON THE LINE PRINTER
PRINT ON THE LINE PRINTER
6 02000 1 PRINT ON THE LINE PRINTER
DO NOT HALT ON ERROR
01000 1 HALT ON ERROR

:3A.2 SWITCH COMMANDS
ONCE THE PROGRAM STARTS EXECUTING THE STATE OF ANY OF
THE BITS CAN BE CHANGED BY HITTING KEYS 1-9, A-F. THE
PROGRAM WILL CONTINUE RUNNING AFTER UPDATING THE OPTIONS.
EACH KEY WILL COMPLEMENT THE STATE OF THE BIT AFFILIAT-
ED WITH IT, THUS BIT 4 CAN BE ALTERED BY HITTING KEY 4.
SETTIN OF ANY BIT OF LOCATION "SWREG" WILL SET BIT 0.
(DEFAULT MODE IS DEFINED AS ALL BITS OF SWREG SET TO 0)
THE PROGRAM CAN BE LOCKED INTO SWITCH MODIFICATION MODE
BY TYPING A 0, IN WHICH CASE MORE THAN ONE BITS CAN BE
CHANGED BEFORE THE CONTROL IS ALLOWED TO RETURN TO THE
MAIN PROGRAM.

:3A.2.1 OTHER COMMANDS
"CR" A "RETURN" CAN BE TYPED TO CONTINUE THE PROGRAM
AFTER ITS LOCKED IN A SWITCH MODIFICATION MODE
TO DEFAULT MODE AND RESTART THE PROGRAM.
"D THIS COMMAND GIVEN AT ANY TIME WILL RESET "SWREG"
PROGRAM. SWITCHES ARE LEFT WITH THE VALUES THEY
HAD BEFORE THE COMMAND WAS ISSUED.
"R THIS COMMAND GIVEN AT ANY TIME WILL RESTART THE
PROGRAM CONTROL TO GO TO OUT (NOTE: THIS IS AN
OPTIONAL COMMAND AND IS AVAILBE ONLY IF
OUTPK IS PRESENT)
M THIS COMMAND GIVEN AT ANY TIME WILL PRINT THE
CURRENT OPERATING MODES.

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:4. OPERATING PROCEDURE
:4.1 LOAD THE PROGRAM VIA THE BINARY LOADER
OR DIAGNOSTIC OPERATING SYSTEM.
:4.2 MAKE THE PRINTER READY AND SET IT TO THE
ON LINE CONDITION.
:4.3 SET THE SWITCHES TO 200
PRESS START(DIAG. OP. SYS. AUTO STARTS AT 200).
:4.5 THE PROGRAM WILL BEGIN BY REQUESTING THE
OPERATOR TO TYPE THE DEVICE CODE. A 2-DIGIT
OCTAL NUMBER FOLLOWED BY A CARRIAGE RETURN.
THIS NUMBER SHOULD CORRESPOND TO THE DEVICE
CODE OF THE PRINTER UNDER TEST (USUALLY 17).
:4.6 TYPE THE COLUMN WIDTH OF THE PRINTER(THIS
WILL NOT OCCUR OR RESTART UNLESS SWITCH
1 IS SET). THE OPERATOR SHOULD RESPOND
WITH A DECIMAL NUMBER REPRESENTING THE
WIDTH. THIS NUMBER IS USUALLY 80 OR 132.
OPERATOR THEN TYPES A CARRIAGE RETURN,
:4.7 THE PROGRAM WILL REQUEST A "Y" BE TYPED
IF THE ZONE SELECT OPTION IS TO BE TESTED.
OPERATOR TYPES "Y" IF YES, A CARRIAGE
RETURN IF NO.
:4.8 THE PROGRAM WILL REQUEST A "Y" BE TYPES
IF THE FORMAT CONTROL OPTION IS TO BE
TESTED. OPERATOR TYPES "Y" IF YES, A
CARRIAGE RETURN IF NO.
:4.9 EXECUTION OF THE TEST PROGRAM WILL BEGIN.
STARTING THE PROGRAM AT ONE OF THE
SEVERAL TEST WILL CAUSE THE PROGRAM
:4.10 TO REMAIN IN THAT TEST UNTIL MANUALLY
STOPPED. STARTING AT LOCATION 200
WILL CAUSE THE SEVERAL TEST TO
BE REPEATEDLY EXECUTED IN SEQUENCE.

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:5-b
:5.6.1
:5.6.2
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:5.7.1
:5.7.2
:5.8

ERROR DESCRIPTION/PROGRAM OUTPUT
PRINTER DIAGNOSTIC (START ADDRESS=501)
WHEN AN ERROR IS DETECTED BY THE
DIAGNOSTIC THE PROGRAM WILL HALT AT
LOCATION EKRI*1. EXAMINE AC3 TO
OBTAIN THE ADDRESS OF THE FAILING
ROUTINE. CONSULT THE LISTING TO DETER-
MINE THE CAUSE OF THE ERROR. PRESSING
CONTINUE WILL CAUSE THE PROGRAM TO
ENTER A FAILING LOOP SUITABLE FOR
SCOPING. SETTING SWITCH 3(1) WILL PRINT
THE FAILURE RATE. SETTING SWITCH 1(1)
WILL CAUSE THE PROGRAM TO PROCEED
TO THE NEXT TEST.
A SPECIAL CARRIAGE POSITIONER TEST IS PROVIDED
(APPLICABLE TO PRINTER TYPES 4034C AND 4034D
ONLY) TO PROVIDE VISUAL VERIFICATION OF PROPER
OPERATION. FIRST SECTION PRINTS A LINE OF LETTERS
DIAGONALLY OVER SEVERAL PAGES, FROM COLUMN 1 TO
COLUMN N. THE SECOND SECTION PRINTS A SOLID
RIGHT TRIANGLE, FORMED BY POSITION PRINTING
OF ONE LETTER.
THE WORD "PASS" WILL BE PRINTED ON THE
TELETYPE AT THE END OF EACH ITERATION
OF THE DIAGNOSTIC.
WHEN A HALT IS EXECUTED IN ROUTINES
OTHER THAN THE DIAGNOSTIC CONSULT THE
LISTING FOR THE CAUSE OF THE ERROR.

SINGLE LETTER TEST
THESE ROUTINES STARTING AT LOCATIONS
402-403-404 PRINT TWO PAGES OF THE
LETTERS E, Z, AND M. PAGES OF THESE
LETTERS OFTEN PROVE USEFUL WHEN
MAKING MECHANICAL ADJUSTMENTS ON
THE PRINTER.
ONE LETTER EACH LINE (STARTING ADDRESS=505)
THE FIRST LINE PRINTED CONTAINS ALL SPACES.
THE LETTER A IS PRINTED ON THE SECOND LINE,
B'S ARE PRINTED ON THE THIRD, ETC. A
TOTAL OF 4 PAGES ARE PRINTED.
PRINT CHARACTER SET (STARTING ADDRESS=50b)
THE CHARACTER SET IS PRINTED AND RIPPLES
SUCH THAT AFTER 64 LINES EACH PRINT
HAMMER HAS PRINTED EVERY CHARACTER OF
THE SET.
ZONE PRINT OPTION (START ADDRESS=507)
IF THE OPERATOR FAILED TO TYPE A "Y"
FOR THE ZONE SELECT OPTION THIS TEST
WILL NOT BE EXECUTED.
THIS TEST PRINTS A PAGE WITH A (1) IN
THE FIRST POSITION OF ZONE 1. A PAGE
WITH A 2 IN THE FIRST POSITION OF
ZONE 2, ETC.

FURNAT CONTROL OPTION (START ADDRESS=510)
IF THE OPERATOR FAILED TO TYPE A "Y"
FOR THE FURNAT OPTION THIS TEST WILL
NOT BE EXECUTED.
THIS TEST USES THE FURNAT CONTROL
OPTION FOR VERTICAL PAPER MOTION. A
LINE INDICATING THE NUMBER OF LINES
TO BE SLEWED IS PRINTED ON THE LINE
PRIOR TO THE OPERATOR MUST COUNT
THE NUMBER OF LINES FROM THE PREVIOUS
LINE TO CHECK THE SLEWING. THE
SECOND PART OF THE TEST SLEWS AS
A FUNCTION OF THE FURNAT CONTROL
TAPE. THE OPERATOR MUST CHECK
THE PRINTER OUTPUT WITH THE HOLLS
PUNCHED IN THE FORMAT TAPE.

KEYBOARD ECHO ON PRINTER (START ADDRESS=511)
THIS ROUTINE PERMITS THE OPERATOR TO
INPUT A STRING OF CHARACTERS VIA THE
TELETYPE TO BE OUTPUT ON THE PRINTER.
CHARACTERS ARE STORED IN MEMORY AND
SENT TO THE PRINTER UPON RECEIPT OF A
(CNLT Z) CHARACTER. THE TYPED LINE
WILL BE ECHOED ON THE PRINTER
UNTIL ANOTHER TELETYPE KEY IS STRUCK.
A (ESC) KEY WILL CAUSE
A CARRIAGE RETURN AND LINE FEED TO
BE PRINTED ON THE TELETYPE BUT
NOT SENT TO THE PRINTER.
STARTING THIS PROGRAM AT LOCATION 200
WILL CAUSE ALL OF THE PREVIOUSLY
MENTIONED TESTS, EXCEPT THE KEYBOARD
TEST, TO BE REPEATEDLY EXECUTED.
*EOT

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0007 .MAIN

\*\*00000 TOTAL ERRORS, 00000 PASS 1 ERRORS