

TEXT LISTING

068-001139-00

PROGRAM

6096 QUAD-DENSITY FLOPPY
MOVING HEAD DISK DIAGNOSTIC

TEXT TAPE

097-001139-00

ABSTRACT

THIS PROGRAM IS A HARDWARE DIAGNOSTIC FOR THE 6096 QUAD-DENSITY FLOPPY CONTROLLER AND DRIVES. THE DEVICE CODE MAY BE 0-76 OCTAL WITH THE DEFAULT BEING 26.

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AUS ASSEMBLER REV 02.05
*****
NAME: SKYD.TX
DESCRIPTION: 6096 QUAD DENSITY FLOPPY MOVING HEAD DISK DIAGNOSTIC
REVISION HISTORY:
REV. DATE
00 09/05/79

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15:07:13 09/05/79
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PART NUMBER: 097-1139
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PROGRAM NAME: SKYD.SR, UNOVA 6096 QUAD DENSITY FLOPPY DISK
SYSTEM DIAGNOSTIC

REVISION HISTORY: N/A

MACHINE REQUIREMENTS:
1. UNOVA FAMILY CENTRAL PROCESSOR
2. MINIMUM OF 8K READ/WRITE MEMORY
3. UNOVA 6096 QUAD DENSITY FLOPPY DISK SYSTEM
4. 0-5 ADD ON 6096-B,C,D DRIVES
5. TELETYPE OR CRT AND CONTROL

TEST REQUIREMENTS: N/A

SUMMARY:
THIS PROGRAM IS A HARDWARE DIAGNOSTIC FOR THE
6096 QUAD DENSITY FLOPPY CONTROLLER
AND DRIVES.
THE DEVICE CODE MAY BE 0-76 OCTAL WITH THE
DEFAULT BEING 26

RESTRICTIONS:
THIS PROGRAM HAS NO HARDWARE RESTRICTIONS.

PROGRAM DESCRIPTION/THEORY OF OPERATION:
- BUSY, DONE, I/O BUS SELECT LOGIC
- DIR, DOB,, DATA PATHS AND
LOADING OF THE MEMORY ADDRESS
REGISTERS
- CLEAR OF MEMORY ADDRESS REGISTERS
- DISK SELECT LOGIC
- LOAD/FETCH OF THE CURRENT TRACK REGISTER
- LOAD/FETCH OF THE DESTINATION TRACK REGISTER
- LOAD/FETCH OF THE SECTOR REGISTER
- 1791 REGISTER INDEPENDENCE
- RECALIBRATE, INTERRUPT LOGIC
- INTERRUPT DISABLE, INTA LOGIC
- THAT SEEKS TO CYL'S 0,52,25,77 CAN AT
LEAST BE EXECUTED.
- DRIVE SELECT LOGIC/NOT READY STATUS

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; WITH OR WITHOUT MODIFICATION.
; LINE FEED IS USED TO CLOSE THE OPEN CELL WITH OR
; WITHOUT MODIFICATION AND TO OPEN THE SUCCEEDING
; CELL.
; CLOSE THE OPEN CELL WITH OR WITHOUT MODIFICATION
; AND OPEN THE PRECEDING CELL
; CLOSE THE OPEN CELL WITHOUT MODIFICATION, AND
; OPEN THE CELL POINTED TO BY ITS CONTENTS.
; + "ADR" / CLOSE THE OPEN CELL WITHOUT MODIFICATION, AND
; OPEN THE CELL POINTED TO BY ITS CONTENTS + "ADR".
; - "ADR" / CLOSE THE OPEN CELL WITHOUT MODIFICATION, AND
; OPEN THE CELL POINTED TO BY ITS CONTENTS - "ADR".
; MODIFICATION OF A CELL
; 11B.3.2 ONCE A CELL HAS BEEN OPENED ITS CONTENTS CAN BE MODIFIED
; BY TYPING THE NEW VALUE THE CELL IS TO CONTAIN IN THE
; FORM OF AN OCTAL EXPRESSION FOLLOWED BY "CR" OR "LF".
; IF A + OR - IS TYPED AS THE FIRST CHARACTER OF THE EX-
; PRESSION THEN THE VALUE OF THE EXPRESSION IS ADDED TO OR
; SUBTRACTED FROM THE OLD CONTENTS OF THE CELL. THE
; ADDRESS ITSELF OR AN EXPRESSION RELATIVE TO THE ADDRESS
; CAN BE DEPOSITED BY TYPING A " " OR " " + OCTAL EXPRESS-
; ION. A RUBOUT COMMAND GIVEN RIGHT AFTER OPENING A CELL
; ALLOWS THE MODIFICATION OF ITS CONTENTS AS IF THEY WERE
; TYPED IN JUST BEFORE THE COMMAND WAS ISSUED.

; OTHER ODT COMMANDS
; 11B.3.5 RUBOUT
; THIS KEY IS USED TO DELETE ERRONEOUSLY TYPED
; DIGITS. EACH TIME THE KEY IS PRESSED THE RIGHT MOST
; DIGIT IS DELETED AND ECHOED ON THE TERMINAL. IF
; THE RUBOUT KEY IS PRESSED RIGHT AFTER OPENING A
; CELL THEN IT DELETES THE RIGHT MOST DIGIT OF THE CELLS
; CONTENTS. THIS ALLOWS THE MODIFICATION OF THE CELL
; AS IF ITS CONTENTS WERE TYPED IN JUST BEFORE THE
; KEY WAS PRESSED.
; "ADR"B INSERT A BREAK POINT AT LOCATION "ADR".
; ONLY ONE BREAK POINT CAN BE INSERTED AND ANY
; ENTRY TO ODT AFTER EXECUTING A BREAK POINT WILL
; CAUSE IT TO BE DELETED.
; D DELETE THE BREAK POINT IF ANY.
; P RESTART THE EXECUTION OF THE PROGRAM AT LOCATION
; POINTED BY 4A.
; "ADR"R START EXECUTING THE PROGRAM AT "ADR" AFTER AN
; IO=RESET.
; K KILL THE STRING TYPED SO FAR. THE ODT RESPONDS
; WITH A "?" AND THE OPEN CELL IS CLOSED WITHOUT
; MODIFICATION.
; = PRINT THE OCTAL VALUE OF THE INPUT ONLY.
; THIS WILL CLOSE ANY OPEN CELLS WITHOUT
; MODIFICATION AND WILL NOT OPEN A CELL

; NOTE:
; IN PROGRAMS WHICH RELOCATE THEMSELVES THE
; USER SHOULD PLACE BREAK POINTS ONLY IN THE
; ORIGINAL PROGRAM AREA. IF A BREAK POINT IS
; PLACED OUTSIDE THIS AREA THE RESULTS WILL
; BE UNPREDICTABLE.

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; THIS DIAGNOSTIC IS EQUIPED WITH A BUILT IN ODT WHICH CAN
; BE ACCESSED BY HITTING CONTROL O (^O) AT ANY TIME DURING
; THE EXECUTION OF THE PROGRAM (AFTER SETTING THE PARA-
; METERS).
; ON ENTERING ODT THE ADDRESS OF THE LOCATION HAVING THE
; NEXT INSTRUCTION TO BE EXECUTED WILL BE TYPED=OUT.
; CONVENTIONS AND SYMBOLS
; THE FOLLOWING CONVENTIONS ARE USED BY THE ODT:
; ? PRESSING ANY ILLEGAL KEY CAUSES THE ODT TO RES-
; POND WITH A "?".
; a OUT IS READY AND AT YOUR SERVICE.
; 11B.2 COMMAND STRUCTURE
; AN ODT COMMAND HAS THE FOLLOWING FORMAT:
; (ARGUMENT) (COMMAND)
; AN ARGUMENT MAY BE ONE OF THE FOLLOWING:
; "EXP" AN OCTAL EXPRESSION CONSISTING OF OCTAL NUMBERS
; SEPARATED BY PLUS (+) OR MINUS (-) SIGNS. LEAD-
; ING ZEROS NEED NOT BE TYPED.
; "ADR" AN ADDRESS IS THE SAME AS AN EXPRESSION EXCEPT
; THAT BIT 0 IS NEGLECTED.
; A COMMAND IS A SINGLE TELETYPE CHARACTER
; ODT COMMANDS
; THE LOCATIONS THAT CAN BE EXAMINED AND MODIFIED BY THE
; USER ARE CALLED CELLS. THESE CELLS ARE OF TWO TYPES:
; INTERNAL CPU CELLS AND MEMORY LOCATIONS.
; 11B.3.1 OPENING INTERNAL CELLS
; THE COMMAND TO OPEN ONE OF THE INTERNAL REGISTERS IS OF
; THE FORM "NA" WHERE N IS ANY OCTAL EXPRESSION BETWEEN
; 0 AND 7
; 0-3 FOR ACCUMULATORS 0-3
; 4 FOR PC OF THE NEXT INSTRUCTION TO BE EXECUTED IN
; THE EVENT OF A "P" COMMAND.
; 5 CPU AND I/O STATUS
; BIT INTERPRETATION
; 15 STATUS OF I/O DONE FLAG
; 14 STATUS OF INTERRUPTS (ION FLAG)
; 13 STATUS OF CARRY BIT
; 6 ADDRESS OF THE LOCATION HAVING THE BREAK POINT (IF
; ANY)
; 7 INSTRUCTION AT THE BREAK POINT LOCATION
; OTHER COMMANDS TO OPEN CELLS ARE:
; "ADR" / OPEN THE CELL AND PRINT ITS CONTENTS
; ./ OPEN THE CELL CURRENTLY POINTED TO BY THE POINTER
; AND PRINT ITS CONTENTS.
; + "ADR" / ADD "ADR" TO THE POINTER, OPEN THE CELL
; AND PRINT ITS CONTENTS.
; - "ADR" / SUBTRACT "ADR" FROM THE POINTER, OPEN
; THE CELL AND PRINT ITS CONTENTS.
; "CR" THE RETURN KEY IS USED TO CLOSE THE OPEN CELL

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: 12. SPECIAL NOTES/SPECIAL FEATURES:
:
: 1. SOME SCOPE LOOPS WILL REQUIRE A RECALIBRATE
: TO INITIALIZE THE DISK DRIVE FOLLOWING A FAILURE.
: SET SWPAK 13 = 1 TO INTRODUCE THE RECALIBRATE TO THE
: UNIT UNDER TEST.
:
: 2. DISK PACKS
: ONLY USE DISK PACKS FORMATTED BY THE DGC DISK
: PACK FORMATTER PROGRAM. THE DIAGNOSTIC PROGRAM
: WILL WRITE OVER MOST OF THE DISK SURFACE.
:
: 13. RUN TIME: 5 MINUTES PER DRIVE

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10012 .MAIN

**00000 TOTAL ERRORS, 0000 FIRST PASS ERRORS

0013 MAIN

0700 007440 MC 9/02