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PROGRAM

Address Test

TAPES

Binary: 095-000002-02

ABSTRACT

Address Test is a maintenance routine
designed to test the memory address
selection logic.

097-000007-02

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;                             MEMORY ADDRESS TEST

;1.       ABSTRACT
;                             MEMORY ADDRESS TEST IS A MAINTENANCE
;                             PROGRAM DESIGNED TO DETECT MALFUNCT-
;                             IONS IN THE MEMORY ADDRESS SELECTION
;                             LOGIC.  THE PROGRAM FILLS MEMORY WITH
;                             A ADDRESS PATTERN (C( ADDRESS=ADDRESS)
;                             SUCCESSFUL READ BACK OF THE PATTERN IS
;                             PROOF THAT ALL LOCATIONS EXIST.

;2.       MACHINE REQUIREMENTS
;2.1                          NOVA/SUPERNOVA PROCESSOR
;2.2                          4K READ/WRITE MEMORY.  SEE SECTION 7.

;3.       SWITCH SETTINGS
;                             STARTING ADDRESS= 0

;4.       OPERATING PROCEDURE
;4.                           READ IN THE PROGRAM VIA THE BINARY LOADER
;4.2                          SET THE SWITCHES TO 000000
;4.3                          PRESS START
;4.4                          THE PROGRAM WILL RUN UNTIL AN ERROR
;                             IS DETECTED OR IT IS MANUALLY STOPPED.


;5.       PROGRAM OUTPUT/ERROR DESCRIPTION
;5.1                          WHEN AN ERROR IS DETECTED THE PROGRAM
;                             WILL HALT.  EXAMINE AC3 TO OBTAIN THE
;                             ADDRESS OF THE FAILURE.  EXAMINE AC2
;                             TO OBTAIN THE DATA READ FROM THE AD-
;                             DRESS SPECIFIED BY AC3.
;5.2                          IF THE CARRY FLAG IS SET WHEN THE HALT
;                             IS EXECUTED THE MEMORY FAILED UPON
;                             READING OUT THE LOCATION JUST AFTER
;                             HAVING STORED IT.  THIS SUGGEST FAULTY
;                             CURRENTS AT THE FAILING LOCATION.  IF
;                             THE CARRY FLAG IS RESET WHEN THE HALT
;                             IS EXECUTED THE LOCATION FAILED AFTER
;                             HAVING BEEN SUCCESSFULLY READ ONCE.
;                             THIS SUGGEST THAT OTHER ADDRESS MAY
;                             EFFECT THE FAILING ADDRESS.
;5.3                          RECORD THE ADDRESS AND VALUE AT EACH
;                             HALT.  PRESS CONTINUE.  TRY TO FORM A
;                             PATTERN OF ERRORS.  ARE ALL THE ERRORS
;                             AT ONE X OR Y LINE VALUE?  DOES THE FAIL-
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;   ING LOCATION CONTAIN THE DATA OF ANOTHER
;   ADDRESS?
;6.   PROGRAM DESCRIPTION
;   THE PROGRAM CONSISTS OF A RELATIVELY
;   SIMPLE STORE AND CHECK MEMORY ROUTINE.
;   ON THE FIRST PASS AFTER STARTING, THE
;   ADDRESS OF THE PATTERN LOCATION IS STORED
;   IN THE PATTERN LOCATION. THE LOCATION
;   IS THEN READ OUT AND CHECKED FOR ERRORS.
;   THE PROCESS CONTINUES WITH SUCCESSIVE
;   LOCATIONS UNTIL THE END OF THE PATTERN
;   IS REACHED. THE CARRY WILL BE COMPLIMENTED
;   AT THE END OF A PASS. THE PROGRAM AGAIN
;   SCANS MEMORY READING AND CHECKING, BUT
;   NOT STORING, THE DATA.

;7.   LIMITATIONS/MISC
;   THE SIZE OF THE MEMORY TO BE TESTED MAY
;   BE MODIFIED BY CHANGING THE VALUE OF
;   PROGRAM LOCATION 14.

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            000000 . LOC 0
00000   020014 A:          LDA 0, LAST       ;START HERE!
00001   101020             MOVZ 0, 0
00002   101060             MOVC 0, 0
00003   034015             LDA 3, I ADR      ;AC3= STARTING PATTERN.
00004   175402 B:          INC 3, 3, SZC     ;C(CARRY) =1 IF FILL/CHECK.
00005   055400             STA 3, 0, 3       ;C(CARRY) =0 IF CHECK ONLY.
00006   031400             LDA 2, 0, 3
00007   156414             SUB# 2, 3, SZR    ;AC2=ERROR WORD.
00010   063077             HALT              ;AC3=ERROR ADDRESS.
00011   116414             SUB# 0, 3, SZR    ;TEST FOR END OF PASS.
00012   000004             JMP B
00013   000002             JMP A+2
00014   007577 LAST:       7577              ;END OF PATTERN WORD.
00015   000015 IADR:       .                 ;BEGIN PATTERN WORD.
                           . END
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