



**DATA GENERAL
CORPORATION**

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PROGRAM

Address Test

TAPES

Binary: 095-000002

ABSTRACT

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

MEMORY ADDRESS TEST

- ;1. ABSTRACT
- MEMORY ADDRESS TEST IS A MAINTENANCE PROGRAM DESIGNED TO DETECT MALFUNCTIONS 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 ADDRESS 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-

ING LOCATION CONTAIN THE DATA OF ANOTHER
ADDRESS?

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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.

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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, IADR      ;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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