



**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

11. 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) SUCESSFUL READ BACK OF THE PATTERN IS PROOF THAT ALL LOCATIONS EXIST.

12. MACHINE REQUIREMENTS

12.1 STANDRED NOVA PROCESSOR
12.2 4K READ/WRITE MEMORY. SEE SECTION 7.

13. SWITCH SETTINGS

STARTING ADDRESS = 0
SWITCHS 1-15 = SYNC ADDRESS

14. OPERATING PROCEEDURE

14.1 READ IN THE PROGRAM VIA THE BINARY LOADR
14.2 SET THE SWITCHES TO 000000
14.3 PRESS START
14.4 THE PROGRAM WILL RUN UNTILL A ERROR IS DETECTED OR IT IS MANUALLY STOPPED.

15. PROGRAM OUTPUT/ERROR DISCRIPTION

15.1 WHEN A 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.
15.2 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 SUCESSFULLY READ ONCE. THIS SUGGEST THAT OTHER ADDRESS MAY AFFECT THE FAILING ADDRESS.
15.3 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 FAILING LOCATION CONTAIN THE DATA OF ANOTHER ADDRESS?
15.4 IF THE OPERATOR WISHES TO SCOPE THE FAILURE HE MAY SYNC THE SCOPE AT A74 (A "P" PULSE). THE PROGRAM WILL ISSUE THIS PULSE WHENEVER THE CONSOLE SWITCHS ARE EQUAL TO THE PATTERN ADDRESS. THE THIRD MEMORY CYCLE AFTER SYNC THE MEMORY WILL BE REFFERANCED WITH A LOAD OF STORE CYCLE AT THE ADDRESS SPECIFIED .

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IT IS OFTEN USEFUL TO OBSERVE SELECTION CURRENTS AT ADDRESS OTHER THAN THE ADDRESS SYNC ON. SYNCING ON ADDRESS 400(Y-04) THERE SHOULD BE NO CURRENT ON Y-14... THE USER IS CAUTIONED TO SET A PROPER TIME REFERENCE ON THE SCOPE SUCH THAT CURRENTS PRODUCED BY EXECUTION OF THE PROGRAM INSTRUCTIONS DO NOT CONFUSE THE OBSERVATION.

16.

PROGRAM DISCRIPTION

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THE PROGRAM CONSIST 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 SUCESSIVE LOCATIONS UNTILL THE END OF THE PATTERN IS REACHED. THE CARRY WILL BE COMPLEMENTED AT THE END OF A PASS. THE PROGRAM AGAIN SCANS MEMORY READING AND CHECKING ,BUT NOT STORING, THE DATA.

17.

LIMITATIONS/MISC

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THE SIZE OF THE MEMORY TO BE TESTED MAY BE MODIFIED BY CHANGING THE VALUE OF PROGRAM LOCATION 17.

000000 .LOC 0

00000	125040	A:	MOV0 1,1	;	START HERE, SET CARRY FLAG
00001	034017		LDA 3,IADR	;	C(3)=STARTING PATTERN ADDRESS.
00002	020016		LDA 0,WC	;	WORD COUNT.
00003	064477	B:	READS 1	;	READ THE SWITCHES.
00004	166015		ADC# 3,1,SNR	;	IF SAME AS ADDRESS
00005	060377		NIOP CPU	;	SEND SYNC PULSE (A74).
00006	175402		INC 3,3,SZC	;	INCREMENT PATTERN ADDRESS.
00007	055400		STA 3,0,3	;	STORE ADDRESS DATA
00010	031400		LDA 2,0,3	;	READ BACK THE DATA
00011	156414		SUB# 2,3,SZR	;	CHECK THE DATA
00012	063077		HALT	;	C(2)=ERROR WORD,C(3)=ADDRESS
00013	101404		INC 0,0,SZR	;	COUNT WORDS,COMP CARRY ON END
00014	000003		JMP B		
00015	000001		JMP A+1	;	END OF A PASS
00016	170220	WC:	-7600+20	;	SIZE OF THE PATTERN.
00017	000017	IADR:	.	;	FIRST PATTERN LOCATION-1.

.END