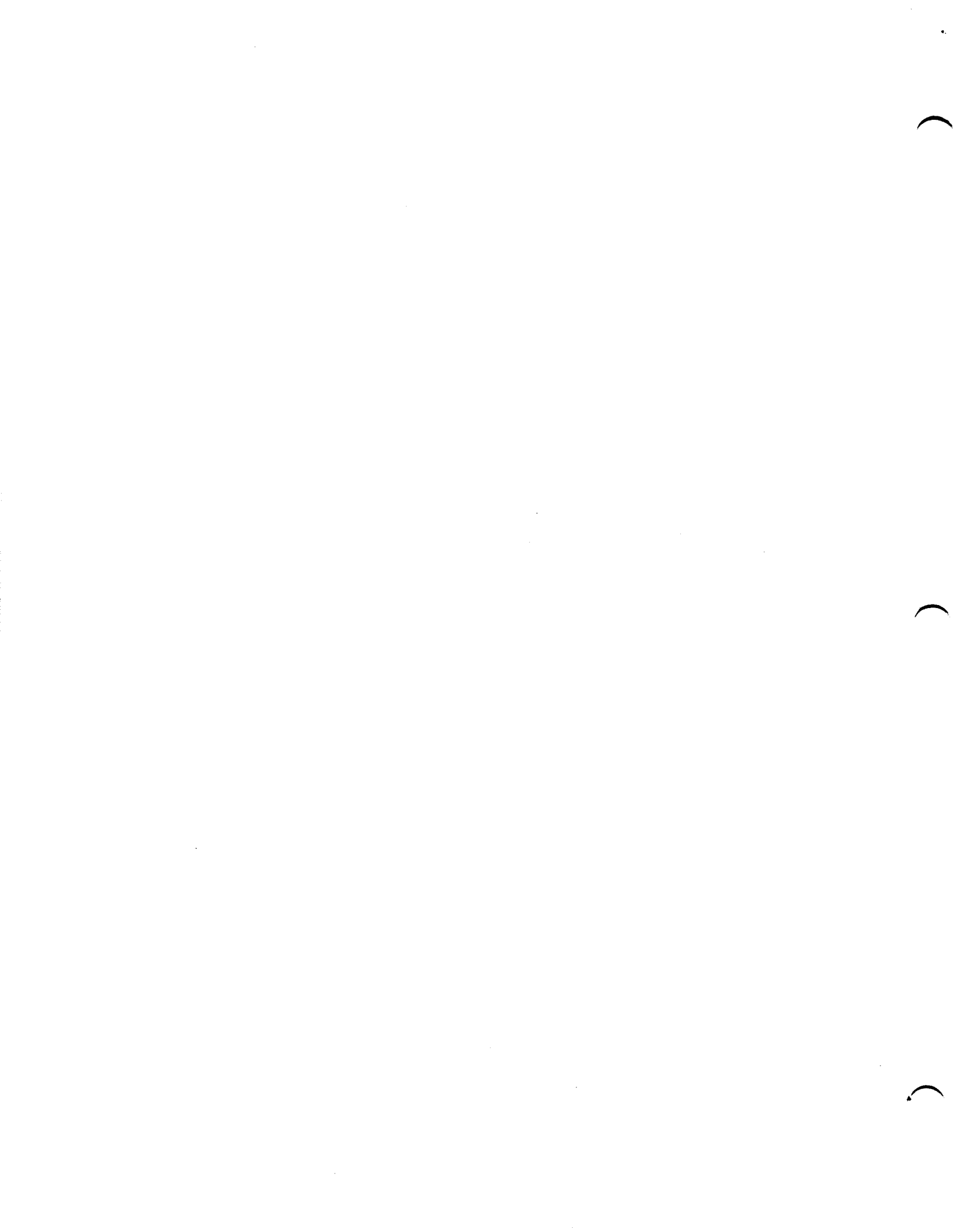


IDENTIFICATION

PRODUCT CODE: MAINDEC-8E-D168-D
PRODUCT NAME: PDP-8E MEMORY POWER ON/OFF TEST
DATE CREATED: JUNE 11, 1971
MAINTAINER: DIAGNOSTIC GROUP
AUTHOR: BRUCE HANSEN



1. ABSTRACT

THIS PROGRAM IS A MEMORY DATA VALIDITY TEST TO BE USED AFTER A SIMULATED POWER FAIL.

2. REQUIREMENTS

EQUIPMENT

FDP-8E EQUIPPED WITH TELETYPE

STORAGE

MEMORY LOCATIONS 0000(8) - - 7601(8)

BINARY LOADER AND RIM MUST BE STORED IN LAST MEMORY PAGE.

3. USAGE

3.1 LOADING

NORMAL BINARY TAPE LOADING PROCEDURES

3.2 START UP AND/OR ENTRY

LOAD ADDRESS 0200, PRESS CLEAR AND THEN CONT. THE PROGRAM SHOULD THEN HALT AT LOCATION 0031(8). LOAD ADDRESS 0201, PRESS CLEAR AND THEN CONT. THE PROGRAM SHOULD NOW LOOP.

3.3 ERRORS IN USAGE

ERRORS DETECTED BY THE PROGRAM CAUSE THE PROGRAM TO HALT AT MEMORY LOCATION 0047(8). THE CONTENTS OF MEMORY ADDRESS 0011(8) AND 0012(8) INDICATE THE ADDRESSES OF THE DATA THAT FAILED TO CHECK-SUM. MEMORY ADDRESSES 0007(8) AND 0010(8) CONTAIN THE DATA WORDS THAT FAILED TO CHECK-SUM.

LOWER ADDRESS = (0011(8)) = 202(8)-4001(8)

UPPER ADDRESS = (0012(8)) = 4002(8)-7601(8)

LOWER ERROR WORD = (0007(8)) = 2525(8)

UPPER ERROR WORD = (0010(8)) = 5252(8)

3.4 ERROR RECOVERY

PRESS CONTINUE TO TEST FOR OTHER ERROR WORDS IN MEMORY. TO RELOAD MEMORY DO 3.2.

4. DESCRIPTION

4.1 THIS PROGRAM TESTS MEMORY FOR BIT DROP OUT AND PICK UP AFTER
A SIMULATED POWER FAILURE WAS OCCURRED.

BY STARTING THE PROGRAM AT MEMORY ADDRESS 200(8), DATA WORDS
CONSISTING OF 2525(8) ARE WRITTEN INTO MEMORY LOCATIONS
0202(8) - 4001(8), AND DATA WORDS CONSISTING OF 5252(8)
ARE WRITTEN INTO MEMORY LOCATIONS 4002(8) - 7601(8) AFTER
WHICH THE PROGRAM HALTS AT MEMORY ADDRESS 0031(8). LOAD
ADDRESS 0201(8) AND RESTART THE PROGRAM; THE PROGRAM WILL 2'S
ADD THE CONTENTS OF MEMORY LOCATION 202(8) WITH 4002(8). IF
THE RESULT EQUALS 7777(8) THE PROGRAM WILL 2'S ADD THE CONTENTS
OF MEMORY LOCATIONS 203(8) WITH 4003(8) ETC. UNTIL THE MEMORY
ADDRESSES OF 4001(8) AND 7601(8) ARE TESTED. THE PROGRAM
STAYS IN THE 2'S ADD COMPARE LOOP UNTIL AN ERROR OCCURS.
CONCURRENTLY CYCLE THE POWER TO THE PDP-8E OFF AND ON. AFTER
THE POWER HAS BEEN REAPPLIED TO THE PDP-8E, LOAD ADDRESS
201(8) AND PRESS CLEAR AND THEN CONTINUE. IF AN ERROR OCCURRED
DURING THE POWER CYCLING, THE PROGRAM HALTS AT LOCATION
0047(8). THE PROGRAM MAY BE RESTARTED AT MEMORY ADDRESS
0201(8) AS MANY TIMES AS DESIRED. RESTART ADDRESS TO FILL
MEMORY WITH DATA WORDS IS 0200(8).

4.2 EXAMPLES AND/OR APPLICATIONS

A HALT OCCURS AT MEMORY ADDRESS 0047(8).

ADDRESS 007(8) = 2535 (DATA WORD)

ADDRESS 0010(8) = 5252 (DATA WORD)

ADDRESS 0011(8) = 0270 (ADDRESS WORD)

ADDRESS 0012(8) = 4070 (ADDRESS WORD)

BIT 0 WAS PICKED UP AT MEMORY ADDRESS 0270(8).

5. EXECUTION TIME

1 MSEC/LOOP

Address	Instruction	Comments
0200	JMP START	
5013	JMP COMPAR	
5032		
0000		
0001	JMP 1	
0002		
0003		
0004		
0005		
0006		
0007		
0010		
0011		
0012		
0013		
0014	CLA CLL	/START INITIAL
0015	TAD K0201	
0016	DCA LOWM	
0017	TAD K4001	
0018	DCA HIGH	
0019	TAD UPREG	
0020	DCA I LOWM	
0021	TAD LOREG	
0022	DCA I HIGH	
0023	TAD LOWM	
0024		
0025	CIA	
0026	TAD K4001	
0027	SEA CLA	
0030	JMP WRKON	
0031	HLT	/TURN POWER ON OFF
0032	CLA CLL	
0033	TAD K0201	
0034	DCA LOWM	
0035	TAD K4001	
0036	DCA HIGH	
0037	TAD I LOWM	/LOWM=UPPER ADDRESS 202-4001
0040	DCA UPPER	/HIGH=LOWER ADDRESS 4002-7601
0041	TAD I HIGH	
0042	DCA LOWER	
0043	TAD UPPER	
0044	TAD LOWER	
0045	CMA	
0046	SEA	
0047	HLT	/ERROR, DOES NOT COMPARE
0050	TAD LOWM	
0051	CIA	
0052	TAD K4001	
0053	SEA CLA	
0054	JMP COMPAR+5	/RETURN TO CHECK MEMORY
0055	JMP COMPAR	/END OF TEST AREA GO TO SETUP
0056		
0057		
0060		/ERROR WORD 2525

/PDP 8E MEMORY POWER ON OFF TEST

0061 5252

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/ERROR WORD 5252

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