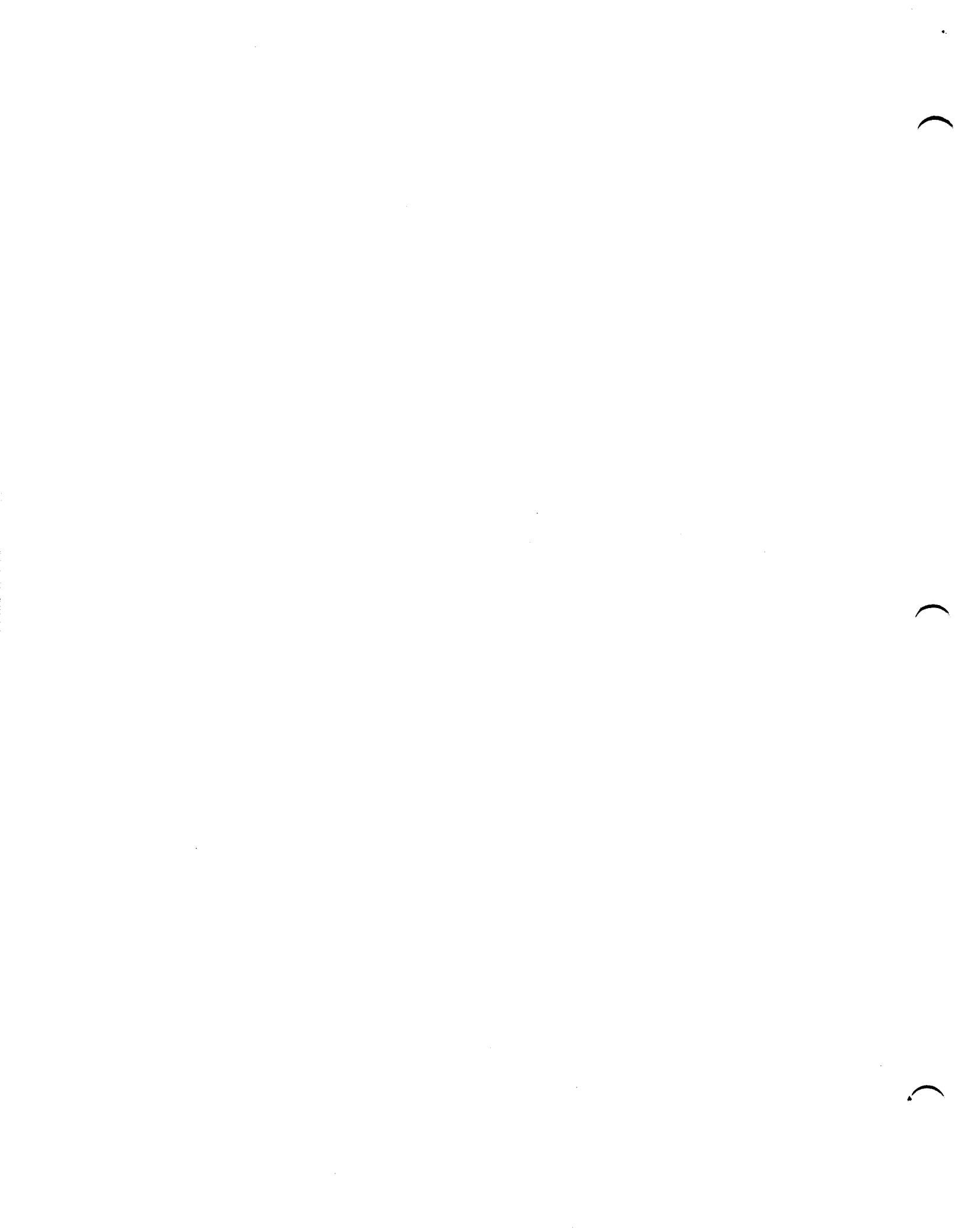


IDENTIFICATION

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

POP-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) = 5292 (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

```

0200 JMP START
5013 JMP COMPAR
0201

0000
0001
0002
0003
0004
0005
0006
0007
0010
0011
0012
0013
0014
0015
0016
0017
0020
0021
0022
0023
0024
0025
0026
0027
0030
0031
0032
0033
0034
0035
0036
0037
0040
0041
0042
0043
0044
0045
0046
0047
0050
0051
0052
0053
0054
0055
0056
0057
0060

*0
UPPER,
LOWER,
LOWM,
HIGH,
START,

*0
CLA GLL
TAD K0201
DCA LOWM
TAD K4001
DCA HIGH
TAD UPREG
DCA I LOWM
TAD LOREG
DCA I HIGH
TAD LOWM
CIA
TAD K4001
SEA CLA
JMP WRKON
HLT
COMPAR,

*0
CLA GLL
TAD K0201
DCA LOWM
TAD K4001
DCA HIGH
TAD I LOWM
DCA UPPER
TAD I HIGH
DCA LOWER
TAD UPPER
TAD LOWER
CMA
SEA
HLT
TAD LOWM
CIA
TAD K4001
SEA CLA
JMP COMPAR+5
JMP COMPAR
K0201,
K4001,
UPREG,

/PDP 8E MEMORY POWER ON OFF TEST
*200
JMP START
JMP COMPAR

/START INITIAL

/TURN POWER ON OFF

/LOWM=UPPER ADDRESS 202-4001
/HIGH=LOWER ADDRESS 4002-7601

/ERROR, DOES NOT COMPARE

/RETURN TO CHECK MEMORY
/END OF TEST AREA GO TO SETUP

/ERROR WORD 2525

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