

IDENTIFICATION

PRODUCT CODE:	MAINDEC-8E-D008
PRODUCT NAME:	POP-9/E INSTRUCTION TEST 2
DATE CREATED:	JUNE 10, 1971
MAINTAINER:	DIAGNOSTIC GROUP
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1. ABSTRACT

THIS PROGRAM IS AN EXTENSIVE TEST OF AUTOINDEXING, INDIRECT ADDRESSING, AND THE DCA INSTRUCTION FOR THE PDP-8/E. IT ALSO OFFERS MINIMAL TESTING FOR INTERRUPT AND THE AND, TAD, ISZ, JMS, JMP, AND PROCESSOR IOT INSTRUCTIONS.

2. REQUIREMENTS

2.1 EQUIPMENT

PDP-8/E EQUIPPED WITH TELETYPE

2.2 STORAGE

THE PROGRAM OCCUPIES MEMORY LOCATIONS 0000-4416.
THE BINARY LOADER MUST BE STORED IN THE LAST MEMORY PAGE.

2.3 PRELIMINARY PROGRAMS

IT IS ASSUMED THAT MAINDEC-8E-00A(N) HAS BEEN RUN SUCCESSFULLY.

3. LOADING PROCEDURE

3.1 METHOD

THE STANDARD BINARY LOADER IS USED.

4. STARTING PROCEDURE

4.1 CONTROL SWITCH SETTINGS (NONE)

4.2 STARTING ADDRESS

200

4.3 OPERATOR ACTION

A. SET THE SWITCH REGISTER TO 200. PRESS LOAD ADDRESS.

B. PUSH CLEAR AND THEN CONTINUE. A PROGRAMMED HALT OCCURS WHEN AN ERROR IS ENCOUNTERED.

- 5. OPERATING PROCEDURE
SAME AS SECTION 4.
- 6. ERRORS
 - 6.1 ERROR HALTS AND DESCRIPTION
SEE LISTING.
 - 6.2 ERROR RECOVERY
IF IT IS DESIRED TO LOOP ON THE TEST CAUSING THE ERROR,
REPLACE THE OPERATE INSTRUCTION PRECEDING THE HLT WITH A
JMP TO THE BEGINNING OF THE TEST.
- 7. RESTRICTIONS
- 8. MISCELLANEOUS
 - 8.1 EXECUTION TIME
ALL PERIPHERAL DEVICES MUST BE FUNCTIONING TO A DEGREE THAT
THE PROCESSOR CLEAR BUTTON WILL CLEAR THEIR FLAGS AND NO
FLAGS WILL TURN ON UNLESS AUTHORIZED.
THE TELETYPE BELL RINGS AT THE END OF 1500 PROGRAM PASSES
WHICH IS APPROXIMATELY EVERY 5 SECONDS.

9. PROGRAM DESCRIPTION

THE PROGRAM IS A SERIES OF MANY SMALL INDIVIDUAL TEST. EACH TEST IS PERFORMED USING PREVIOUSLY CHECK FUNCTINS TO VALIDATE THE TEST. WHEN AN ERROR IS ENCOUNTERED, THE OPERATOR SHOULD INSERT A JUMP INSTRUCTION INTO MEMORY TO CAUSE THE PROGRAM TO LOOP ON THE FAILING TEST. THE PROBLEM CAN THEN BE FOUND BY USING THE OSCILLOSCOPE.

THE INDIVIDUAL PROGRAM TESTS ARE GROUPED INTO THE FOLLOWING CLASSIFICATIONS AND ARE PERFORMED IN THE ORDER SHOWN:

1. DCA TEST

2. INDIRECT ADDRESSING TEST

- A. USING TAD
- B. USING AND

3. AUTOINDEX TEST

- A. USING AND
- B. USING DCA
- C. USING TAD

4. PROCESSOR IOT TEST

- A. USING CAP
- B. USING SRQ
- C. USING SPF
- D. USING KIE
- E. USING SKON
- F. USING ION
- G. USING IOT
- H. USING STP
- I. USING RTF

5. INTERRUPT TEST

- A. FOLLOWING NOP
- B. FOLLOWING TAD
- C. FOLLOWING AND
- D. FOLLOWING DCA
- E. FOLLOWING ISZ
- F. FOLLOWING JMP
- G. FOLLOWING JMS
- H. FOLLOWING CLA
- I. FOLLOWING TSF
- J. FOLLOWING SKP
- K. FOLLOWING JMP 1

6. CHECK FOR UNAUTHORIZED AUTOINDEXING

THE TELETYPE BELL RINGS APPROXIMATELY EVERY 5 SECONDS TO ASSURE THE OPERATOR THAT THE PROGRAM IS FUNCTIONING PROPERLY.

10. LISTING