

4.0 STANDARD TEST PROCEDURE

4.2 HARDWARE SETUP

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4.3 LOADING THE PROGRAM

COMPUTERS / EMULATOR WILL USE THE BINARY PAPER TAPE
LABELED MAINDEC_08-DJKMAB-D_KM8-A_Option_Test_2_ADAPT

- A: IF THE COMPUTER CONTAINS 4K OF MEMORY OR MORE: DO STEP B,
- B: LOAD THE BINARY TAPE MENTIONED ABOVE USING THE STANDARD
BINARV LOADER TECHNIQUE, AFTER THE TAPE HAS BEEN SUCCESSFULLY
LOADED GO TO PARAGRAPH 4.4, PROGRAM INITIALIZATION
OR GET IT FROM THEN TEST DISK: GE DSK DJKMAE.SV

4.4 PROGRAM INITIALIZATION

THE PROGRAM WHEN LOADED IS INITIALIZED TO RUN WITHOUT THE HAROWARE
FRONT PANEL SWITCH REGISTER, WITHOUT OPTTON 1 + 2 TEST MODUE, AND
THE AMOUNT OR MEMORY REQUIRED TO RUN THE PROGRAM, IF IT
IS DESIRED TO CHANGE THE HARDWARE CONFIGURATION, LOAD ADDRESS
TO 0021 AND DEPOSIT INTO THIS LOCATION THE APPROPRIATE HARDWARE
CONFIGURATION FOR THE BITS LISTED BELOW:

IN DJKMAE.SV IT IS SET TO OCTAL 5077

BIT 0 = 0 THE PROGRAM WILL USE LOCATION 0020 AS A PSEUDO SWITCH REGISTER
BIT 0 = 1 THE PROGRAM WILL USE THE HARDWARE PRONT PANEL SWITCH REGISTER <-----

BIT 2 = 1 HAS A M8317 OPTION 2 MODULE <-----

BIT 4 = 0 THE PROGRAM WILL NOT UST THE OPTION 1 + 2 TEST MOOULE TO TEST THE M8317 <-----
BIT 4 = 1 THE PROGRAM WILL USE THE OPTION 1 + 2 TEST MOOULE TO TEST THE M8317

BIT 5 = 0 NOT RUNNING ON THE POP-8A XOR TESTER <-----
BIT 5 = 1 RUNNING ON PDP-8A XOR TESTER - BIT 4 MUST BE SET
TO A 1 ANO THE OPTION 1 + 2 TEST MODULES MUST BE USED

BITS 7-11 SPECIFIES TEE PDP-8A'S MEMORY SIZE, ALL ZEROES INDICATES <----- 37
1K OF MEMORY, AN ADDITION OF 1 TO THE NUMBER IN BITS
7-11 INCREASES MEMORY SIZE BY 1K,

GO TO PARAGRAPH 4.5, MEMORV EXTENSION/TIME SHARE TEST

4.5 RUN MEMORY EXTENSION/TIME SHARE TEST

THE PROG TO BE USED TO RUN THIS TEST IS AS FOLLOWS:

COMPUTERS / EMULATOR WITH AT LEAST 4K OF MEMORY

DJKMAE.SV

- A: LOAD ADDRESS TO THE FOLLOWING ADRESSES FOR THE PROG TO BE RUN

ADDRESS 0200

- B: SET THE SWITCH REGISTER OR PSEUDO SWITCH REGISTER, WHICHEVER
WAS SELECTED, TO 0000

- C: PRESS "INIT" AND THEN "RUN"

- D: SETTING THE SWITCH REGISTER OR PSEUOO SWITCH REGISTER, WHICHEVER
WAS SELECTED, TO 0400 WILL CAUSE TME COMPUTER TO HALT AT THE
END OR A PROGRAM PASS, THE LOCATION AT WHICH IT WILL HALT,
WILL BE THE FOLLOWING FOR THE PROG THAT IS REING RUN:

LOCATION 1463 • DJKMAE.SV

- E: THE PROGRAM WTLL NOW RUN UNTIL AN ERROR IS ENCOUNTERED OR
THE PROGRAM IS STOPPED BY THT OPERATOR OR SR3=1,

- F: AN ERROR MAY RESULT IN AN ERROR HALT OR A JMP SELF

4.6 RUN TIME SHARE DISABLE TEST

THE PROG TO BE USEO TO RUN THIS TEST ARE AS FOLLOWS:

COMPUTERS WITH AT LEAST 4K OF MEMORY

DJKMAE.SV

- A: ON THE CONTEXT MENU OF THE PDP8 EMULATOR A CHECKBOX CALLED "TIME SHARE" WILL DISABLE THE TIME SHARE LOGIC (SET IT TO THE OFF POSITION, NO TICK)
- B. LOAD ADDRESS TO ONE OF THE FOLLOWING ADDRESSES FOR THE PROG TO BE RUN:
 ADDRESS 4261 • DJKMAE.SV
- C: SET SWITCH REGISTER OR PSEUDO SWITCH REGISTER, WHICHEVER WAS SELECTED , TO 0000 , PRESS "INIT " AND THEN "RUN" ,
- D: THE PROGRAM SHOULD HALT ON A SUCCESSFULL PASS AT LOCATJON 4301 FOR DJKMAE.SV OR ATLOCATION 5141 IN CASE OF ERROR
- E: SET THE SWITCH THAT WAS SET IN STEP A ABOVE TO THE ON POSITION,
- F: GO TO PARAGRAPH 4.7, RUN B00TSTRAP/SIMULATOR TEST,

4.7 RUN BOOTSTRAP/SIMULATOR TEST

IF A OPTION 1 + 2 IEST MODULE IS NOT USED WITH THE PROGRAM, GO TO PARAGRAPH 4.7.2 RUN BOOTSTRAP TEST,

4.7.1 RUN SIMULATOR TEST

..... NOT AVAILABLE IN EMULATOR

4.7.2 RUN BOOTSTRAP TEST

THE PROG TO BE USED TO RUN THIS TEST IS AS FOLLOWS:

COMPUTERS WITH AT LEAST 4K OF MEMORY

DJKMAE.SV

- C: BOOT THE EMULATOR TO EITHER:

HI-LO PT RDR
 SI3040
 TD8E

THE EMULATOR WILL REMEMBER THE LAST BOOTSTRAP USED.

- D: LOAD ADDRESS TO ONE OF THE FOLLOWING ADDRESSES FOR THE PROG THAT IS TO BE RUN:

ADDRESS 4465 = DJKMAE.SV

- E: PRESS "INIT" AND THEN "RUN", THIS WILL CLEAR THE BOOTSTRAP LOCATIONS IN MEMORY THAT THE BOOTSTRAPS WILL LOAD INTO.

- F: THE PROGRAM WILL HALT AT LOCATION 4515 FOR DJKMAE.SV

- G: TOGGLE THE SWITCH WHILE HALT IS SET, THE MODULE SHOULD DO A BOOTSTRAP AND THE COMPUTER SHOULD STOP AT THE FIRST BOOTSTRAP LOCATION (BECAUSE HALT IS SET).

- H: LOAD ADDRESS TO THE FOLLOWING ADDRESS FOR THE PROG THAT IS BEING RUN:

ADDRESS 4400 = DJKMAE.SV

- I: THE PROGRAM WILL HALT AT ADDRESS 4400 FOR DJKMAE.SV

- J: SET TME SWITCH REGISTER OR THE PSEUDO SWITCH REGISTER, WHICHEVER WAS SELECTED, TO THE BOOTSTRAP TO BE COMPARED PROM THE TABLE BELOW:

| BOOTSTRAP ----- | S.R. SETTINGS ----- | |
|--------------------|------------------------|----------------------|
| HI-LO PT RDR | 0000 | ADAPTED EMULATOR |
| SI3040 | 0001 | ADAPTED EMULATOR |
| TD8E | 0002 | ADAPTED EMULATOR |
| RX8E | 0003 | NOT USED/IMPLEMENTED |
| RK8E | 0004 | NOT USED/IMPLEMENTED |

- K: PRESS "INIT" AND THEN "RUN",
- L: THE PROGRAM SHOULD HALT AT LOCATION 4461 POR DJKMAE.SV
- M: DO STEPS A THROUGH L FOR EACH BOOTSTRAP
- N: GO TO PARAGRAPH 4.8, RUN AUTO RESTART/POWER FAIL TEST,

4.8 RUN AUTO RESTART/POWER FAIL TEST

THE PROG TO BE USED TO RUN THIS TEST ARE AS FOLLOWS

COMPUTERS WITH AT LEAST 4K OF MEMORY

DJKMAE.SV

THE BATTERY SUPPLY SHOULD BE FULLY CHARGED TO RUN THIS TEST (JOKE)

NOTE: THE ONLY RESTARTS THAT CAN BE TESTED
ARE AT 0200

F: LOAD ADDRESS TO 4600 FOR DJKMAE.SV

G: PRESS "INIT" AND THEN "RUN"

H: THE PROGRAM WILL NOW FILL A BUFFER AREA WITH A COMPLEMENTING
5252 DATA PATTERN, AND THEN HALT AT LOCATION 4640 FOR
DJKMAE.SV

I: NOW SET THE SWITCH REGISTER OR THE PSEUDO SWITCH REGISTER, WHICHEVER
WAS SELECTED, TO THE AUTO RESTART TO BE TESTED FROM THE TABLE BELOW

| AUTO RESTART | S.R. SETTINGS |
|--------------|---------------|
| ----- | ----- |
| 0000 | 0003 |
| 0200 | 0002 |
| 2000 | 0001 |
| 4200 | 0000 |

J: PRESS "INIT" AND THEN "RUN"

K: THE PROGRAM NOW STARTS COMPARING THE DATA THAT WAS PUT IN
THE BUFFER AREA

L: THE OPERATOR WILL NOW SWITCH THE POWER SWITCH TO OFF. WHEN
THE PSEUDO POWER HAS GONE DOWN, THE PROGRAM SHOULD HALT AT
LOCATION 4763 FOR DJKMAE.SV

M: WITH A MINIMAL AMOUNT OF DELAY, THE OPERATOR MUST SWITCH THE
POWER SWITCH TO PW, AT THIS TIME THE EMULATOR SHOULD DO A AUTO
RESTART TO THE AUTO RESTART SELECTED, THE PROGRAM THEN CHECKS
FOR THE CORRECT AUTO RESTART AND THEN GOES BACK TO COMPARING DATA

N: STEPS L AND M SHOULD BE REPEATED SEVERAL TIMES FOR EACH OF THE
AUTO RESTARTS,

4.9 PDP-8A XOR TESTING

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5.0 ERRORS

5.1 MEMORY EXTENSION/TIME SHARE TEST ERRORS

ALL ERRORS DETECTED UNDER THIS TEST WILL RESULT IN A HALT, AN
ERROR HALT OR A JMP SELF FOR THE PROG LISTED BELOW

DJKMAE.LS

REFER TO THE APPROPRIATE LISTING FOR THE ERROR, THE TEST BEING
EXERCISED AND FOR THE TEST SEQUENCE BEING EXECUTED.

5.1.1 MEMORY EXTENSION/TIME SHARE TEST ERROR RECOVERY

REFER TO THE APPROPRIATE SECTION BELOW FOR THE ACTION TO BE TAKEN:

ERROR HALT ERRORS

A ERROR HALT IS WHEN THE COMPUTER HALTS AT LOCATION 5132 FOR
DJKMAE.SV, THE CONTENTS OF THE ACCUMULATOR FOR THIS ERROR
HALT WILL CONTAIN THE LOCATION AT WHICH THE ERROR WAS DETECTED
BY THE PROGRAM, REFER TO THE APPROPRIATE PROGRAM LISTING FOR
THE CAUSE OF THE ERROR. SET THE SWITCH REGISTER TO 7000 AND
PRESS "INIT" AND THEN "RUN".
THERE MAY BE 1 OR MORE ERROR HALTS, IF THE ERROR WAS A DATA
ERROR, THE PROGRAM IS NOW IN A SCOPE LOOP.

HALT/JMP SELF ERRORS

ANY ERROR ENCOUNTERED DURING A TEST SEQUENCE WHICH RESULTS IN A

HALT OR A JMP SELF, REPLACE THE HALT OR JMP SELF WITH A JMP TEST(X)
(X=TEST BEING EXECUTED I.E. JMP TEST1, JMP TEST2, ETC,)

5,2 TIME SHARE DISABLE TEST ERRORS

ANY ERRORS DETECTED BY THIS TEST WILL RESULT IN A HALT AT LOCATION 5141
FOR DJKMAE.SV. THE CONTENTS OF THE AC WILL CONTAIN THE
ADDRESS WHERE THE ERROR WAS DETECTED BY THE PROGRAM.

5.2.1 TIME SHARE DISABLE TEST ERROR RECOVERY

SET THE SWITCH REGISTER OR PSEUOO SWITCH REGISTER WHICHEVER WAS
SELECTED AT PROGRAM INITIALIZATION TO 7000 AND PRESS "INIT" AND
"RUN". THE PROGRAM IS NOW IN A SCOPE LOOP.

5.3 BOOTSTRAP TEST ERRORS

BOOTSTRAP ERRORS WILL BE GENERALLY OF TWO TYPES, WHICH ARE:
1) FAILED TO DO A BOOTSTRAP; 2) BOOTSTRAP FAILEO TO COMPARE,
ANY ERRORS DUE TO 2 ABOVE WLLL RESULT IN A ERROR HALT AT LOCATION
5132 FORDJKMAE.SV. THE CONTENTS OF THE AC WILL CONTAIN TME ADDRESS
WHERE THE ERROR WAS DETECTED BY THE PROGRAM.

5.3.1 BOOTSTRAP TEST ERROR RECOVERY

FOR FAILURE TYPE 2 ABOVE, PRESSING CONTINUE 3 MORE TIMES WILL
RESULT IN 3 MORE HALTS, WHICH WLLL GIVE THE ADDRESS WHICH DIDN'T
COMPARE, TME EXPECTED CONTENT OF THAT ADDRESS ANO THE ACTUAL CONTENT
OF THAT ADDRESS.

5.4 AUTO RESTART/POWER FAIL TEST ERRORS

ANY ERRORS ENCOUNTERED DURING THIS TEST MAY BE DUE TO THE
FAILURE TO DO A AUTO RESTART, A AUTO RESTART TO THE WRONG ADDRESS,
OR A DATA COMPARE ERROR.

5.4.1 AUTO RESTART/POWER FAIL TEST ERROR RECOVERY

AFTER ASSURING THE MODULE TO BE SETUP CORRECTLV AND RETRYING
THE TEST, USE A SCOPE ANO THE LOGIC PRINTS TO TROUBLE SHOOT
THE PROBLEM.

6.0 SWITCH REGISTER SETTINGS

6.1 NORMAL OPERATING SWITCHES

SR3=1 (0400) HALT PROGRAM AT COMPLETION OF A PROGRAM PASS

6.2 ERROR RELATED SWITCHES

SR0=1 (4000) 1NHIBIT ERROR HALT
SR1=1 (2000) LOOP ON ERROR
SR2=1 (1000) LOOP ON TEST SUCH AS TEST1, TEST2, ETC.

7,0 REVISIONS

8.0 PROGRAM DESCRIPTION

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