

IDENTIFICATION

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PRODUCT CODE: MAINDEC-08-DHRKA-E-D  
PRODUCT NAME: RK8E DISKLESS CONTROL TEST  
DATE RELEASED: JANUARY, 1977  
MAINTAINER: DIAGNOSTIC ENGINEERING  
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1. ABSTRACT

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THE RK8E DISKLESS CONTROL TEST IS DESIGNED FOR THE PURPOSE OF CHECKOUT OF THE RK8E DISK CONTROL LOGIC NOT REQUIRING THE USE OF THE DISK DRIVE. THIS TEST SHOULD BE RUN WITH ALL EXISTING DRIVES SET TO THE LOAD POSITION.

2. REQUIREMENTS

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2.1 HARDWARE

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PDP-8/E, 8/M, OR 8/F COMPUTER OR OTHER FAMILY OF 8 COMPATIBLE COMPUTER WITH NECESSARY DW8E BUS ADAPTER.

AT LEAST 4K OF READ/WRITE MEMORY. AT LEAST 8K OF MEMORY IS NEEDED FOR OPERATION OF THE CONSOLE PACKAGE.

ASR-33 TELETYPE OR EQUIVALENT  
RK8E DISK CONTROL  
RK05J OR RK05F DISK DRIVE(S)

2.2 SPECIAL

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THE DISKLESS TEST CAN BE RUN WITH ALL DRIVES AVAILABLE CABLED TO THE RK8E CONTROL. HOWEVER, THE POWER MUST BE SUPPLIED TO THE DRIVES, AND ALL THE DRIVES MUST BE SET TO THE LOAD POSITION.

THE DISKLESS TEST CAN ALSO BE RUN WITH THE CABLES TO THE DRIVES DISCONNECTED FROM THE RK8E CONTROL.

2.3 STORAGE

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THE PROGRAM UTILIZES OR OCCUPIES LOCATIONS 0000 TO 7377 OF FIELD 0 AND LOCATIONS 0200 TO 1377 OF FIELD 1.

THE PROGRAM WILL ALSO TEST DATA BREAK TRANSFER TO ALL EXISTING EXTENDED FIELDS AS INDICATED BY SWP9-11 IF THE CONSOLE PACKAGE IS NOT ENABLED.

3. PRELIMINARY PROGRAMS

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ALL BASIC AND EXTENDED MEMORY DIAGNOSTICS SHOULD BE RUN PRIOR TO THIS TEST.

#### 4. SWITCH REGISTER SETTINGS

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- SWR0=1            ENTER SCOPE LOOP, AFTER AN ERROR HALT AT LOCATION "ERHLT9" RAISING THIS SWITCH AND PRESSING KFY CONTINUE WILL CAUSE A SCOPE LOOP ON THE CURRENT TEST. IF SWR2=0 AND THE TEST IS STILL FAILING, THE ERROR BELL SHOULD RING INDICATING AN ERROR.
- SWR1=1            INHIBIT END OF TEST HALT. AT THE COMPLETION OF THE TEST THE PROGRAM SHOULD HALT AT LOCATION "ENDHLT". RAISING THIS SWITCH WILL INHIBIT THE END OF TEST HALT.
- SWR2=1            INHIBIT ERROR BELL ON SCOPE LOOP.
- SWR3=1            GET ALL REGISTERS AFTER "ERHLT9". AFTER AN ERROR HALT AT LOCATION "ERHLT9", RAISING THIS SWITCH AND PRESSING KEY CONTINUE WILL RESULT IN THE TYPEOUT OF THE ABSOLUTE CONTENTS OF THE STATUS, COMMAND, CPC, LOWER DATA, AND SURFACE AND SECTOR REGISTERS. ONCE THIS SWITCH IS USED IT IS NECESSARY TO RESART THA DIAGNOSTIC AT THE START (LOCATION 0200).
- SWR4=1            STOP PROGRAM OR TEST HALT. RAISING THIS SWITCH WILL HALT THE PROGRAM AT THE COMPLETION OF THE CURRENT TEST. IF POSSIBLE THIS SWITCH SHOULD ALWAYS BE USED TO STOP THE PROGRAM.
- SWR9-11           AMOUNT OF EXTENDED BANKS OF MEMORY. AT INITIAL START OF THE PROGRAM, SWR9-11 INDICATES THE AMOUNT OF EXISTING EXTENDED MEMORY FIELDS AVAILABLE TO TEST.

#### 5. OPERATOR AND/OR PROGRAM ACTION

##### 5.1 STANDARD TEST PROCEDURE

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- A. START AS SPECIFIED THROUGHOUT THIS DOCUMENTATION IS KEY CLEAR AND THEN KEY CONTINUE ON A PDP8/E, PDP8/F, OR PDP8/M COMPUTER.
- B. LOAD THE PROGRAM INTO FIELD 0 USING THE STANDARD BINARY LOADER TECHNIQUE.

- C. IF IT IS DESIRED TO CHANGE THE IOT CODES WITHIN THE PROGRAM, FOLLOW THE PROCEDURE IN SECTION 5.4.
- D. RUN THE DISKLESS CONTROL TEST PORTION BY FOLLOWING THE PROCEDURE IN SECTION 5.2.
- E. RUN THE MANUAL SCOPE TEST BY FOLLOWING THE PROCEDURE IN SECTION 5.3.

5.2 DISKLESS CONTROL TEST

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- A. SET THE SWITCH LABELED "RUN/LOAD" TO THE "LOAD" POSITION ON ALL DRIVES, OR DISCONNECT DRIVES FROM RK8E CONTROL.
  - B. IF DRIVES ARE CABLED TO THE RK8E CONTROL, VERIFY AC POWER IN THE DRIVE(S) IS ON.
  - C. SET THE SWITCH REGISTER TO 0200 AND PRESS LOAD ADDRESS.
  - D. SET THE SWITCH REGISTER TO 0000.
  - E. SET SWR9-11 TO THE AMOUNT OF AVAILABLE EXTENDED R/W MEMORY BANKS AND START THE COMPUTER RUNNING.
  - F. SET SWR1=1 IF THE OPERATOR DESIRES TO INHIBIT THE END OF TEST HALT AT LOCATION "ENDHLT".
  - G. SWR4=1 SHOULD ALWAYS BE USED TO STOP THE PROGRAM.
  - H. THE PROGRAM SHOULD PRINT THE FOLLOWING MESSAGE AT THE COMPLETION OF EACH SUCCESSFUL PASS APROX. EVERY 3.5 MINUTES.  
  
"RK8E DISKLESS PASS COMPLETE"
  - I. ANY HALTS OR TYPEOUTS OTHER THAN THE PASS COMPLETE TYPEOUT AND THE END OF TEST HALT MENTIONED ABOVE WILL BE CONSIDERED AN ERROR CONDITION. IN ALL CASES ACCESS "ERRORS" SECTION 6 IN THIS DOCUMENTATION.
  - J. FOR ABSOLUTE LOCATIONS OF ALL KNOWN HALTS ACCESS PAGE 1 OF THE PROGRAM LISTING.

5.3 MANUAL SCOPE TEST FOR 16 BIT COUNTER

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THIS TEST ENABLES THE OPERATOR TO TEST THE 16 BIT COUNTER WHICH CANNOT BE TESTED UNDER PROGRAM CONTROL IN THE REGULAR DISKLESS TEST. TO RUN THIS TEST, SIMPLY FOLLOW THE FOLLOWING INSTRUCTIONS.

- A. RUN THE DISKLESS CONTROL TEST PORTION PRIOR TO THIS MANUAL TEST.
- B. SET THE SWITCH REGISTER TO 0204 AND PRESS LOAD ADDRESS.