## IDENTIFICATION

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

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

### 2.1 HARDWARE

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

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

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 SWR9-11
IF THE CONSOLE PACKAGE IS NOT ENABLED.

## 3. PRELIMINARY PROGRAMS

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 KEY 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 COM-
                PLETION 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 CON-
                TENTS 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
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## 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 CONCIDERED 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.