DPM

RSX11M TST KIT USR GD

CZQRIA0

AH-F154A-MC

FICHE 1 OF 1

JAN 1979

digital

MADE IN USA

IDENTIFICATION

PRODUCT CODE: AC-F153A-MC

PRODUCT NAME: CZQRIA0 RSX11M TST KIT USR GD

DATE: 26-OCT-78

MAINTAINER: DIAGNOSTIC ENGINEERING

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1.0 ABSTRACT

The purpose of the DPM RSX11M Test System (ZPXXX-RD) is threefold:

1. To provide all the neccessary utilities and support for the following diagnostic tasks: The Serial Bus Exerciser (DZKCH), the Remote Terminal Exerciser (DZKCI), and the DPM50 Diagnostic Monitor (CZKMP);

2. To provide Field Service with a means to verify complete system integrity before the customer's system is built;

3. To provide distribution media for the diagnostic tasks DZKCI, DZKCH, and CZKMPA, and the DPM50 diagnostics.

The user should keep in mind that the RSX11M operating system used in the DPM Test System is provided merely as a support to the on-line diagnostic tasks, and, as such, is not supported in the same manner as licensed DEC Software. Library versions will be updated only when RSX11M version changes, which cause conflicts between the diagnostics and the system, are issued.

Please note that although they were designed for 60-cycle operation, the test systems also operate under 50-cycles with no modifications.

2.0 DPM SYSTEM CONFIGURATIONS

There are two classes of DPM systems: The DPM6X, based on the PDP-11/34 Processor and the DPM8X, based on the PDP-11/70 Processor. Each class has at least 192K bytes of memory, a console terminal, a magtape drive, DECdataway controllers each with 63 user addresses, and a disk. The different minimum systems are enumerated in the table below.

DPMXX	DISK TYPE	MAGTAPE	NO. DECDATAWAY CONTROLLERS
DPM61	RK05	TS03	2
DPM62	RL01	TS03	2
DPM64	RK06	TS03	2
DPM65	RK07	TS03	2

DPM86	RM03	TUE16	4
DPM87	RP06	TUE16	4

3.0 BOOTING THE DPM RSX11M TEST SYSTEM

3.1 General

The DPM RSX11M Test System is shipped on three 9-track magnetic tapes. The first of these tapes contains a standalone version of DSC, the RSX-11M Disk Save and Compress Utility; the second contains the system for a particular hardware configuration; and the third contains the on-line and remote diagnostics for DPM system peripherals.

The following criteria for the target system are assumed by the test system:

1. minimum memory for this DPM configuration (see section 2.0);
2. a system console at the default address of 177560;
3. the system device to be booted at the appropriate default address;
4. industry compatable 9-track magtape.

Also required is a blank disk pack for the appropriate drive, which will serve as the system pack for the test system.

3.2 Booting the Test System

The DPM RSX11M Test System requires two separate procedures to start it up. These procedures, described in detail below, are: 1) Move the RSX system from tape 2 to the system disk and start it, and 2) move the diagnostics from tape 3 to the system disk. Step 1) is accomplished using the standalone DSC program on tape 1, and step 2) is performed during the RSX system startup procedure.

This is the complete startup procedure:

1. Load tape 1 (DSCSYS AP-0043C-BC) on magtape drive 0.

2. Boot the magtape using the standard hardware bootstrap. The console should print the following message:

   RSX-11S V2.1 BL22 DISK SAVE AND COMPRESS UTILITY

   DSC>

3. Remove the DSCSYS tape (tape 1)

4. Load tape no. 2 on magtape drive 0

5. Load the blank disk pack on drive 0

6. Check the magtape drive:
   If it is a TS03, TE10, or TU10, then type on the console:

   MT0:/VEC=224

   The console will return with the prompt DSC>.

7. Check the disk drive:
   If it is an RM03, then type on the console:

   DR:/VEC=254

   If it is an RL01, then type on the console:

   DL:/VEC=160

   The console will return with prompt DSC>.

8. Transfer tape 2 to the target disk using DSC.
   The command line format is

   devout/VE=devin

   where devout is the target system device mnemonic and devin is the magtape drive device mnemonic. The mnemonics are obtained from the following table:

DISK	devout	TAPE	devin
RK05	DK:	TS03	MT:
RK06	DM:	TU10	MT:
RK07	DM:	TE10	MT:
RP06	DB:	TU16	MM.
RL01	DL:	TU45	MM:
RM03	DR:		

DSC may type out a warning message:
DSC - *WARNING* 59 - devout

This indicates that there is no bad block file

on the target disk and may be ignored.
DSC will type this message

DSC - 45 START VFY PASS

and will return with the prompt DSC> when finished.

A verification error message, if one occurs, is only a warning and may be ignored, or the user may go back to step 8 and retry the operation.

9. Halt the processor.

10. Remove the system tape (tape 2) from drive 0 and mount in its place tape 3, the diagnostics tape.

11. Boot the target disk using the standard hardware bootstrap.

12. The system will come up and print the following messages:

```
DEVICE DB00:  NOT IN CONFIGURATION

(one or more of these depending on the
hardware configuration)

 RSX-11M V3.1 BL22  124K MAPPED
>RED DM0:=SY0:  the left hand side depends on
>RED DM0:=LB0:  the type of target disk
>@[1,2]STARTUP
>*PLEASE ENTER TIME AND DATE:  enter date or
                               hit return
>TIM
 14:35:05  13-OCT-78
>INS $ISBRPT
>INS $ISBERR
>INS $ISBONL
>INS $ISBINI
>INS [7,7]FDCTIM
>FIX FDCTIM
>LOA SB:/PAR=GEN
>RUN FDCTIM M/RSI=205
>INS $PIP
>INS $FLX
```

```
>*DO YOU WANT TO LOAD IPG DIAGNOSTICS FROM
 MAGTAPE?
  enter Y here if the diagnostics are to be
  loaded
  an N answer terminates the startup procedure
  and produces the message >@<EOF>.

>*DO YOU HAVE A TU16 OR TU45 MAGTAPE?
  enter Y if so
  a Y answer will cause this line to be print-
  ed,
     >LOA MM:
  an N answer will cause this one,
     >LOA MT:

>;MOUNT TAPE NUMBER 3 ON THE MAGTAPE DRIVE 0
>*IS THE DRIVE READY?
  enter Y when the drive is ready
>SET /UIC=[200,270]
>FLX /CO/BL:60=MM0:*.TSK
>FLX=MM0:*.IMG/IM=248
>@<EOF>
>
```

When this point is reached, the diagnostics are on the system disk in account [200,270]. For instructions on running them, see section 5.0. To obtain a listing of the Remote LSI-11 Diagnostics, type the following command line,

```
>PIP *.IMG;*/LI
```

4.0 INSTALLATION OF DIAGNOSTIC TASKS ON A CUSTOMER'S SYSTEM

4.1 General

The three diagnostic tasks, DZKCI, DZKCH, and CZKMP require services provided by the RSX-11M operating system. They can, therefore, run on the customer's system concurrently with this normal operation. They will test only terminals which are not attached to customer tasks, and will abort if the operator attempts to test a terminal which is attached. This section describes how to install the diagnostic tasks on the customer's system.

4.2 Creating the Diagnostic Account

The following procedure creates an account under

[200,270] in which the on-line diagnostic tasks and the remote LSI-11 diagnostics will reside.

1. Log onto the customer's system as a PRIVILEGED USER WITH THE CUSTOMER'S ASSISTANCE OR KNOWLEDGE (PREFERABLY THE FORMER!).
2. Run the account program: >RUN $ACNT
3. Enter option A.
4. Enter new account 200,270.
5. Create new password, DIAGB.
6. Enter the system device default code SY.
7. Enter your first name ( ).
8. Enter your last name ( ).
9. Type control/Z to exit the program (^Z)

4.3 Loading the Diagnostics

This procedure loads the diagnostic tasks and remote LSI-11 diagnostics from tape 3 to the system device in account [200,270].

1. Load tape 3 on drive 0
2. Log onto the customer's system:

```
>HEL
ACCOUNT OR NAME:  200,270
PASSWORD:  DIAG B - this is unechoed
```

3. Allocate the tape drive:

```
>ALL MM0:  (or ALL MT0:  for TS03, TE10,
            TU10 drivers)
```

4. Transfer the diagnostic tasks from tape 3 to the disk:

```
>FLX/CO/BL:60=MM0:*.TSK
```

5. Transfer the remote diagnostic images from tape 3 to the disk:

FLX=MM0:*.IMG/IM=248

6. Deallocate the magtape:

>DEA MM0: (or MT0:)

The diagnostic tasks are now ready to run. See Section 5.0 for starting instructions and the diagnostics' documents for run instructions.

5.0 EXECUTING THE DIAGNOSTIC TASKS

5.1 General

There are essentially three different methods of executing the diagnostic tasks. The difference in the three methods is due to the type of RSX-11M system running at the time - the DPM test system, or the customer's system - and, if the tasks are to be run on-line under the customer's system, whether they are to be run from the DPM test pack or from the customer's system device.

NOTE: All the names and devices within the inner parentheses are alternative choices depending on the test to be run or the DPM test pack used.

5.2 Standalone Under DPM Test System

This mode is almost equivalent to the traditional diagnostic operation in that no customer's tasks run concurrently with the diagnostics.

1. Boot the DPM Test System, which was created from tape in section 3.
2. Run the task:

   >RUN DZKCH (DZKCI, CZXMP)

3. Refer to the specific document for diagnostic run instructions.

5.3 On-line Under the Customer's System

5.3.1 Using the DPM Test Pack

1. Load the DPM Test Pack on drive n

2. Log onto the Customer's sytem:

```
>HEL
ACCOUNT OR NAME:  200,270
PASSWORD:  DIAGB   this is unechoed
```

3. Allocate and mount the DPM Test Pack:

```
>ALL DKn:(DRn:,DBn:,DMn:,DLn:)
>MOU DKn:(DRn:,DBn:,DMn:,DLn:) SYSTEM
```

4. Run the task:

```
>RUN DKn:(DRn:,etc.) DZKCH (DZKCI,
CZKMP)
```

5. Refer to the specific document for diagnostic run instructions

5.3.2 Using the Customer's System Pack

1. Log onto the customer's sytem as in step 2 of section 5.3.1 above

2. Run the task:

```
>RUN DZKCH (DZKCI, CZKMP)
```

NOTE: Care must be taken in selecting terminals to be tested under sections 5.3.1 and 5.3.2 above. The diagnostics will not detach or disturb in any other way any terminal which is attached to any other task in the customer's system. Therefore, any terminal to be tested must be unattached before any of the diagnostics can be run. In the case of a DPM01 terminal, all four of the DPM01 addresses must be unattached to run either diagnostic.