IDENTIFICATION

PRODUCT CODE: AC-F055D-MC

PRODUCT NAME: CXQUBD0 DECX11 CROSS REF MAN

PRODUCT DATE: JUNE 1983

MAINTAINER: DEC/X11 SUPPORT GROUP

PREFACE

DEC/X11 Cross-Reference Manual provides the user with all the cross-reference material necessary to build Runtime Exerciser (RTE) programs for PDP-11 systems. A sample build of an RTE is included at the end of this document.

- Chapter 1 reviews the DEC/X11 build procedure and includes conventions and procedures for choosing or naming the various components of DEC/X11 software. A sample configuration worksheet is included, and use of the cross-reference data is explained.

- Chapter 2 contains the cross-reference data, including a summary of monitor capabilities, a cross-reference of device/option names to test module names, and complete abstracts for all modules (including tested devices, default and required parameters, and criteria for switch register settings).

- Chapter 3 contains information on running DECX in two special environments, XXDP+ Chain Mode and APT.

Users of the DEC/X11 Cross-Reference Manual should be familiar the information contained in the following documents.

DEC/X11 User's Manual (Order No. AC-F053?-MC)

XXDP+ User's Manual (Order No. AC-F348?-MC)

INTRODUCTION

This chapter outlines the DEC/X11 software naming conventions and reviews the RTE build procedure, guiding the user in the step-by-step preparation of a system configuration worksheet, including instructions for use of the cross-reference data presented in Chapter 2.

1.0 DEC/X11 NAMING CONVENTIONS

The naming of DEC/X11 software must comply with the conventions and standards outlined in the following sections.

1.1 Monitor Naming

Each monitor name consists of a single alphabetic character (i.e., A, B, C, etc.). All valid monitors are listed in Table 2-1.

1.2 Device/Option Module Naming

Each module name consists of four alphabetic characters of the following description:

Module Name: ddmv

- dd - Two-character device/option name
- m - Module identifier (to distinguish this module from others that may exist for the same device/option)
- v - Revision level

1.3 File Naming

Each file name consists of a six-character descriptor and a three-character file extension code. File names appear on both paper tape and mass media for file identification (e.g., monitor, library, RTE module, etc.).

File Name: sddmvp.ext

S - Software identifier

X - DEC/X11 software

E - RTE

C - Configurator

M - Map

ddmv - Module name (see section 1.2)

p - Patch level (0-9, A-Z)

.ext - File extension code

.OBJ - Object file .LIB - Library file .BIN or .BIC - RTE file (.BIC for XXDP+ Chain Mode)

1.4

Package Code Naming

The package code identifies a diagnostic software package as DEC/X11 software.

Package Code: ZZ-CXddmvp

ZZ - Diagnostic software identifier

C - PDP-11 CPU identifier

X - DEC/X11 software identifier

ddmv - Module name (see section 1.2)

p - Patch level (0-9, A-Z)

2.0 REVIEW OF BUILD PROCEDURE

This section reviews the basic build requirements, which are also described in the DEC/X11 User's Manual. A sample configuration is used to guide the user on a step-by-step basis through the procedures for completing a system configuration worksheet with all the necessary cross-reference data.

2.1 RTE Pre-Build Requirements

Before beginning,the user should refer to relevant hardware documentation and list the major components, options, and parameters of the system to be tested, including the following items:

- The PDP-11 CPU type and memory size
- All available CPU memory options (KE, cache memory, etc.)
- All available devices and options (clock, floating point hardware, etc.)
- All device parameters (DVA, VCT, baud rates, etc.)

With this data, the user is ready to cross-reference the known hardware data with the DEC/X11 software data contained in Chapter 2 and prepare a DEC/X11 system configuration worksheet.

2.1.1 Preparing The System Configuration Worksheet -

In Figure 1-1, a completed worksheet is shown for a pre-defined RTE file (EXERR1.BIN), in which the hardware data is cross-referenced to define the monitor, device/option modules, and parameters for the build.

The worksheet entries reflect the following system configuration:

1. A PDP-11/34 CPU with 64K of memory
2. A full range of memory options (KT, cache memory, parity checking, ECC)
3. Ten device/options.

With this list of known data, the user is ready to select the RTE file name, the monitor program, and the test module names.

DEC/X11 System Configuration Worksheet

Selected DEC/X11 Monitor For Listed

CPU and CPU options: C

FILE: EXERR1.BIN DATE: 20 SEPT 78

DEVICE	MOD	R	DVA	VCT	BR1	BR2	DVC	SR1	SR2	SR3	SR4
KW11-L	KWA	?	177546*	100*	6*	0*	1*	4			
LS11/LV01	LPA	?	177514*	200*	4*	0*	1*	10000			
RX11/RX01	RXA	?	177170*	264*	5*	0*	2*				
TMB11/TS03	TMA	?	172520*	224*	5*	0*	1*				
RK11-D/RK05	RKA	?	177400*	220*	5*	0*	1*				
RK611/RK06	RKB	?	177400*	210*	5*	0*	1*				
EIS	CPB	?									
11/34 Instr.	CPA	?									
FP11-A	FPB	?									

* Software default values

? Current revision levels of option modules

Figure 1-1. Sample Configuration Worksheet

2.2 Selecting An RTE File Name

In the sample worksheet, the user has chosen an RTE file name in accordance with the naming conventions outlined in section 1.3.

Sample RTE File Name: EXERR1.BIN

E - DEC/X11 software identifier for an RTE

XERR - RTE module name

1 - Current patch level

.BIN - File extension code

The next step in the preparation of a worksheet is the selection of an appropriate monitor.

2.3 Selecting The Monitor Program

In the sample worksheet, the user has selected Monitor C, based on CPU type, memory size, and the types of memory options available.

The data on which the selection of Monitor C was based is the following:

1. A PDP-11/34 CPU
2. A memory size of 64K
3. Available memory options:
   - Memory Management (KT)
   - Cache memory
   - Memory parity checking and ECC

To make the appropriate monitor determination, users should refer to Table 2-1, where the capabilities of each monitor are clearly delineated.

2.4 Selecting The Device/Option Modules

The final step in the preparation of the worksheet is the listing of all device names, module names, and parameters. First the user should list the device/option names in the left-most column.

Next, the second column can be filled with the appropriate DEC/X11 test module names by referring to section 4.1, where device/option names are cross-referenced to their corresponding test module names.

Thus, in the example, device and module names are associated as follows:

DEVICE	MOD
KW11-L	KWA
LS11/LV01	LPA
etc.	etc.
.	.
.	.

Using the DEC/X11 module names, the user can reference the device/option module abstracts (section 5.1) to derive the module revision level (column "R"), the default or required parameters, and the switch register settings (which permit the specification of additional capabilities, such as the provision of a line clock test message at a pre-defined time).

As an example, in the sample worksheet, switch register 1 is coded as follows:

SR1	MEANING
4	Permits test message every 15 minutes.
010000	Indicates 80-column, 64-character printer, and two passes between pauses.

The user should be aware that parameter values specified in section 5.1 are subject to change and should be checked against any current hardware documentation.

3.0 CROSS-REFERENCE DATA

This chapter contains three types of cross-reference data:

- A table of monitor capabilities (section 3.1)
- A cross-reference of hardware device/option modules to their corresponding DEC/X11 test modules (section 4.1)
- Abstracts of all device/option modules (arranged alphabetically by the DEC/X11 test module names derived in section 1.2), including parameters and switch register settings (section 5.1).

3.1 SUMMARY OF DEC/X11 MONITOR CAPABILITIES

There are six basic monitor types (A,B,C,D,E,Q) available to DEC/X11 users. However, monitors B, C, D,E, and Q have been expanded to accommodate APT processing, and as such have been renamed (F,G,H,I,R). (Monitors F, G, H, I and R must be used only with APT systems.)

Thus, there is a total of twelve monitors available to DEC/X11 users, as summarized below.

A,B - Non-KT (memory management) single-processor monitors (up to 28K words).

C,D - Single-processor monitors with KT (up to 124K words).

E - Single-processor monitors with KT (up to 2048K words).

Q - 22 bit LSI bus structure (up to 2048K words).

F - Non-KT APT single-processor monitor (up to 28K words).

G,H - APT single-processor monitors with KT (up to 124K words).

I - APT single-processor monitors with KT (up to 2048K words).

R - APT 22 bit LSI bus structure (up to 2048K words).

In order to cross-reference a PDP-11 processor to an appropriate monitor, the user must be familiar with the hardware configuration and know the following characteristics:

1. PDP-11 CPU type (e.g., 11/23, 11/34, 11/44, 11/60, 11/70)

2. Available memory size in these ranges:

   (a) Up to 28K words

   (b) Up to 124K words

   (c) Up to 2048K words

3. Available memory options (e.g., Memory Management (KT), cache memory, memory parity checking, ECC).

4. Available devices and options (e.g., line printer, line clock, etc.).

5. Special operations (e.g., error logging, 22-bit addressing, etc.).

Since one or more of these characteristics may provide the key to monitor selection, each monitor is listed with its capabilities in TABLE 2-1. An "x" indicates which commands and capabilities are supported by each monitor. (For details on the use of the commands, refer to the DEC/X11 User's Manual).

3.1.1 DEC/X11 Monitor Capabilities Summary -

COMMANDS & CAPABILITIES	A	B(F)	C(G)	D(H)	E(I)	Q(R)
COFF (CACHE MEMORY OFF)			x	x	x	
CON (CACHE MEMORY ON)			x	x	x	
DES (DESELECT MODULE)	x	x	x	x	x	x
EXAM (EXAMINE LOCATION)		x	x	x	x	x
EXIT (EXIT TO MONITOR)			x	x	x	x
FILL (FILL CHAR./COUNT)	x	x	x	x	x	x
LPOFF (LINE PRINTER OFF)		x	x	x	x	x
LPON (LINE PRINTER ON)		x	x	x	x	x
MAP (OUTPUT MAP)		x	x	x	x	x
MOD (MODIFY LOCATION)	x	x	x	x	x	x
MOFF (UNIBUS MAP OFF)					x	
MON (UNIBUS MAP ON)					x	
22ON (22 BIT ADDRESSING ON)						x
22OFF (22 BIT ADDRESSING OFF)						x
POFF (PARITY CHECKING OFF)		x	x	x	x	x
PON (PARITY CHECKING ON)		x	x	x	x	x
ROTOFF (BUFFER ROTATION OFF)		x	x	x	x	x
ROTON (BUFFER ROTATION ON)		x	x	x	x	x
RUN (START RUN MODE)	x	x	x	x	x	x
RUNL (START RUN LOCKED MODE)			x	x	x	x
SEL (SELECT MODULE)	x	x	x	x	x	x
SUM (OUTPUT SUMMARY)	x	x	x	x	x	x
SWR (MODIFY SWITCH REG.)	x	x	x	x	x	x

COMMANDS & CAPABILITIES	A	B(F)	C(G)	D(H)	E(I)	Q(R)
NPR TRANSFERS IN 28K WORDS	x	x	x	x	x	x
NPR TRANSFERS IN 124K WORDS			x	x	x	x
NPR TRANSFERS IN 2048K WORDS					x	x
MEMORY MANAGEMENT (KT)			x	x	x	x
BAD VECTOR SERVICE			x	x	x	x
SYSTEM CLOCK		x	x	x	x	x
RTE RELOCATION			x	x	x	x
11/60 ERROR LOGGING				x		
11/44 ERROR LOGGING					x	
11/70 ERROR LOGGING					x	
22-BIT ADDRESSING					x	x

Table 2-1 (cont). DEC/X11 Monitor Capabilities Summary

NOTES: 1. NPR = Non-processor request.

2. POFF and PON control ECC as well as parity. The following table summarizes the POFF and PON error trapping and correcting capabilities for PDP-11/60's and other CPUs.

	PDP-11/60			All other CPU's		
	Single-Bit Error Trapping	Double-Bit Error Trapping	Single-Bit Error Correction	Single-Bit Error Trapping	Double-Bit Error Trapping	Single-Bit Error Correction
POFF	No	No	Yes	No	No	Yes
PON	No	Yes	Yes	Yes	Yes	No

4.0 HARDWARE AND TEST MODULE CROSS-REFERENCE

This section provides an alphabetized listing of hardware device/option names, cross referenced to their corresponding DEC/X11 test module names. Once the name of a test module has been found, it can be used to find an alphabetically arranged abstract of the module, which provides a complete summary of its use (see section 2.3).

4.1 Device Option List

DEVICE/OPTION	TEST MODULE
AA11/VT01-A	AAA
AA11-K	AAB
AAV-11	AAC
AD01-D	ADA
AD11-K	ADB
ADV-11	ADC
AFC11	AFA
AR-11	ARA
BDV11/KDF11-B	BMD
BM792-YA	BMC
BM873-YA,YB,YC,YD	BMC
BM873-YF	BME
M873-YH	BMF
BM873-YJ	BMG
BM873-SC,SE,SF	BMC
BUS EXERCISER (Q-BUS)	BTC
BUS EXERCISER (UNIBUS)	BTA,BTB
CB-11 (SCAN)	CBA
CB-11 (DISTRIBUTE)	CBB
CB-11	CBC
CD-11	CDA
C.I.S (11/24,11/44)	CIA
CM-11	CRA
CMS-11K	CMA
CMR-11	CMJ
CR-11	CRA
DC-11	DCA
DH-11	DHA
DJ-11	DJA
DL-11	DLA
DL-11E	DLB
DM11-BA	DMS
DM11-BB	DMB
DMC-11	DMC

Device/Option	Test Module
DMP-11(MASTER)	DMD
DMP-11(SLAVE)	DME
DMR-11	DMR
DN11	DNA
DP11	DPA
DPV11	DPV
DQ11	DQA
DR11-A	DRA
DR11-B	DRB
DR11-C,DR11-K	DRC
DR11-K	DRD
DR11-L,DR11-M	DRE
DR11-W	DRW
DR70	DRK
DRV11-B	DRF
DRV11-J	DRJ
DTE20	DTA
DU11	DUA
DUP11	DPB
DV11	DVA
DX11	DXA
DZ11	DZA
DZV11	DZB
E.I.S	CPB
FIS(40,LSI)	FPA
FP11-A,B,C,11/60	FPB
FP11-C(40/45)	FPA
GROSS TIMING	KWF
GT40	GTA
IBV11-A	IBA
ICR-11	ICB
ICS-11	ICA
INSTRUCTIONS	CPA
KE11	KEA
KG11	KGA
KIT11D	BBA
KL11	KLA
KMC11	KMC
KMC11-B	KMA
KUV11-AA	KUA
KW11-C	KWG
KW11-K	KWD
KW11-L	KWA
KW11-P	KWB
KW11-W	KWC
KWV11-K	KWE
LK-11	LKA
LP11	LPA

Device/Option	Test Module
LP20/LP05/LP10	LPF
LPA11	LPH
LPD	LPE
LPS11/LPS-AD/NP	LPD
LPS11/LPS-KW	LPB
LPS11/LPS-VC	LPC
M7855 BUS TESTER	BEA
M7942-YB	BMI
M9301-YA,B,C,D,E,F,H,J	BMI
M9301-SA,SB	BMC
M9311	BMI
M9312	BMH
M9400	BMC
YA,YC,YH,YK,YN	BMI
ML11-A	MLA
MNCAD	MNA
MNCDA	MND
MNCDI	MDB
MNCDO	MNE
MNCKW	MNC
MR11	BMC
NC11A	NCA
NCV-11A	NCB
PA611 READER	PAA
PA611 PUNCH	PAB
PC11	PCC
PCL-11	PLA
PCS-11	PCS
RA80/UDA50	DUB
RC11/RS64	RCA
RF11	RFA
RH01	RHA
RH11/RH70 SGL PT DSK	RPB
RK11/RK02,03,04,05	RKA
RK611/RK06,07	RKB
RKV11	RKA
RL11/RL01	RLA
RM02/03 RH11/70	RMA
RM03/RH11	RMB
RM02,3,5 RH11/70	RMC
RM02,03,05	RMD
RM80	RNA
RP04,05,06	RMD
RP11	RPA
RS03,RS04/RH11	RSA

Device/Option	Test Module
RX01	RXA
RX02	RXB
TA11	TAA
TC11	TCA
TM02,TM03 TE16,TU16,TU16-EK,TU77	TMB
TM11	TMA
TM78	TMD
TR79F	TRA
TS04	TSA
TU58	TUA
UDA-50/RA80	DUB
UDC11	UDA
VS11,VSV11	VSC
VS60	VSA
VSV01	VSB
VT20	VTA
VT20 on DH11	VTB
VTV30-K	VTC
VT30-H	VTV
VTV30-J/H	VTV
XY11	XYA
YA,YB,YC,YF,YH	BMC

5.0 DEC/X11 DEVICE/OPTION MODULE ABSTRACTS

The following pages contain abstracts for all DEC/X11 device/option modules, alphabetically arranged by test module name, as derived from the cross-reference information in section 2.2.

Since the information included in the abstracts is subject to change, the user should check it against current hardware documentation whenever possible.

5.1 Abstracts List

MODULE NAME:	AAA
REVISION LEVEL:	D
MODULE TYPE:	IOMOD
I.D. NUM.:	43
DEVICES TESTED:	AA11 CONTROLLER AND A VT01-A DISPLAY
DEFAULT PARAMETERS:	DVA-176756 VCT-140 BR1-4 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	AAB
REVISION LEVEL:	B
MODULE TYPE:	IOMOD
I.D. NUM.:	123
DEVICES TESTED:	AA11-K SCOPE CONTROLLER
DEFAULT PARAMETERS:	DVA-170416 VCT-360 BR1-4 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME: AAC

REVISION LEVEL: B

MODULE TYPE: BKMOD

I.D. NUM.: 140

DEVICES TESTED: AAV11 INTERFACE

DEFAULT PARAMETERS: DVA-170440 VCT-N/A BR1-0
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: LSI-11

MEANING OF SR1: NONE

MODULE NAME: ADA

REVISION LEVEL: E

MODULE TYPE: IOMOD

I.D. NUM.: 44

DEVICES TESTED: ONE AD01-D A/D CONVERTER

DEFAULT PARAMETERS: DVA-176770 VCT-130 BR1-5
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: MODIFY SR1 AS PER CONVERTER BIT LENGTH

SR1 = 0: DEFAULT - 10 BITS(SPREAD OF 1)
SR1 = 1: 11 OR 12 BITS(SPREAD OF 2)
SR1 = 2: 14 BITS(SPREAD OF 8)

MODULE NAME: ADB

REVISION LEVEL: B

MODULE TYPE: IOMOD

I.D. NUM.: 103

DEVICES TESTED: AD11-K

DEFAULT PARAMETERS: DVA-170400 VCT-340 BR1-6
BR2-4 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE IF SR1 = 1

MEANING OF SR1:
BIT0 = 1 ENABLES USE OF KW11-K CLOCK (KWD MODULE MUST NOT BE SELECTED).
BIT1 = 1 ENABLES TESTING OF CHANNELS OTHER THAN 0 FOR STABLE INPUT TESTING.
BIT2 = 1 ENABLES TESTING OF CHANNELS OTHER THAN 0 FOR NOISE TESTING.

NOTE: IF SR1 BITS 1 OR 2 EQUAL 1, SPECIAL SETUP IS REQUIRED.

MODULE NAME: ADC

REVISION LEVEL: B

MODULE TYPE: IOMOD

I.D. NUM.: 120

DEVICES TESTED: ADV11, AXV11

DEFAULT PARAMETERS: DVA-170400 VCT-400 BR1-6
BR2-4 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE IF SR1=1

MEANING OF SR1:
BIT0 = 1 ENABLES CLOCK OPTIONS (KWE MODULE SHOULD BE DESELECTED)
BIT1 = 1 ALLOWS SAMPLING OTHER CHANNELS
BIT2 = 1 ALLOWS NOISE TESTING FOR OTHER CHANNELS

NOTE: IF SR1 BITS 1 OR 2 EQUAL 1, SPECIAL SET UP IS REQUIRED

MODULE NAME:	AFA
REVISION LEVEL:	E
MODULE TYPE:	IOMOD
I.D. NUM.:	51
DEVICES TESTED:	AFC11 CONVERTER, ALL 8 CHANNELS OF ANALOG MULTIPLEXER
DEFAULT PARAMETERS:	DVA-172570 VCT-134 BR1-5 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	ARA
REVISION LEVEL:	B
MODULE TYPE:	IOMOD
I.D. NUM.:	133
DEVICES TESTED:	AR-11 A/D CONVERTER
DEFAULT PARAMETERS:	DVA-1 VCT-1 BR1-6 BR2-4 DVC-1 SR1-0
REQUIRED PARAMETERS:	ADDRESS AND VECTOR MUST BE SPECIFIED
MEANING OF SR1:	NONE

MODULE NAME:	BBA
REVISION LEVEL:	B
MODULE TYPE:	IOMOD
I.D. NUM.:	62
DEVICES TESTED:	KIT11D
DEFAULT PARAMETERS:	DVA-1 VCT-1 BR1-5 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	ADDRESS AND VECTOR
MEANING OF SR1:	NONE

MODULE NAME:	BEA
REVISION LEVEL:	B
MODULE TYPE:	IOMOD
I.D. NUM.:	73
DEVICES TESTED:	M7855 BUS-TESTERS
DEFAULT PARAMETERS:	DVA-170000 VCT-510 BR1-7 BR2-6 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME: BMC

REVISION LEVEL: N

MODULE TYPE: BKMOD

I.D. NUM.: 13

DEVICES TESTED: BOOTSTRAP ROMS (SPECIFIED BY SR1, BELOW).

DEFAULT PARAMETERS:
DVA-0 VCT-0 BR1-0
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS:
DVA-ADDR OF FIRST REQUESTED ROM
SR1-INDICATES TYPE OF ROM

MEANING OF SR1:
SET CORRESPONDING BITS IN SR1 TO A "1" FOR THE DESIRED ROM.

GROUP A (BIT 15 MUST BE A ZERO)
- BIT0 = YA
- BIT1 = YB
- BIT2 = MR11
- BIT3 = YC
- BIT4 = YF
- BIT5 = YH
- BIT6 = BM873 YA
- BIT7 = BM873 YB
- BIT8 = BM873 YC
- BIT9 = BM873 YD
- BIT10 = M9301 YA
- BIT11 = M9301 YB
- BIT12 = M9301 YC
- BIT13 = BM792 YL
- BIT14 = M9400(NOT YH)

GROUP B (BIT 15 MUST BE A ONE)
- BIT0 = BM873 SF
- BIT1 = BM873 SE
- BIT2 = BM873 SC
- BIT3 = M9301 SB
- BIT4 = M9301 SA
- BIT5 = M9301 YD
- BIT6 = M9400 YH
- BIT7 = M9301 YF
- BIT8 = M9301 YH
- BIT9 = M9301 YE
- BIT10 = M9301 YJ
- BIT11 = OPEN
- BIT12 = OPEN
- BIT13 = OPEN
- BIT14 = OPEN

MODULE NAME:	BMD
REVISION LEVEL:	E
MODULE TYPE:	BKMOD
I.D. NUM.:	143
DEVICES TESTED:	LSI-11/03, 11/23, 11/23B BDV11,KDF11B ROMS/EPROMS
DEFAULT PARAMETERS:	DVA-177520 VCT-0 BR1-0 BR2-0 DVC-1 SR1-0 ROM ADDRESS: 173000
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	BIT0 = 0 TEST 11/03, 11/23 BIT0 = 1 TEST 11/23B

MODULE NAME:	BME
REVISION LEVEL:	B
MODULE TYPE:	BKMOD
I.D. NUM.:	154
DEVICES TESTED:	BM873-YF BOOTSTRAP
DEFAULT PARAMETERS:	DVA-173000 VCT-0 BR1-0 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	BMF		
REVISION LEVEL:	B		
MODULE TYPE:	BKMOD		
I.D. NUM.:	155		
DEVICES TESTED:	BM873-YH		
DEFAULT PARAMETERS:	DVA-173000	VCT-0	BR1-0
	BR2-0	DVC-1	SR1-0
REQUIRED PARAMETERS:	NONE		
MEANING OF SR1:	NONE		

MODULE NAME:	BMG		
REVISION LEVEL:	B		
MODULE TYPE:	BKMOD		
I.D. NUM.:	156		
DEVICES TESTED:	BM873-YJ		
DEFAULT PARAMETERS:	DVA-173000	VCT-0	BR1-0
	BR2-0	DVC-1	SR1-0
REQUIRED PARAMETERS:	NONE		
MEANING OF SR1:	NONE		

MODULE NAME: BMH

REVISION LEVEL: B

MODULE TYPE: BKMOD

I.D. NUM.: 164

DEVICES TESTED: M9312

DEFAULT PARAMETERS: DVA-0 VCT-0 BR1-0
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: SR1 SETTINGS

MEANING OF SR1: SR1 SETTING FOR CROM:
SR1 = 0 DIAGNOSTIC ROM (ADDR: 173000)
SR1 = 1 BOOT ROM IN E-35 (ADDR: 173000)
SR1 = 2 BOOT ROM IN E-33 (ADDR: 173200)
SR1 = 3 BOOT ROM IN E-34 (ADDR: 173400)
SR1 = 4 BOOT ROM IN E-32 (ADDR: 173600)

MODULE NAME: BMI

REVISION LEVEL: A

MODULE TYPE: BKMOD

I.D. NUM.: 114

DEVICES TESTED: BOOTSTRAP ROM'S AS SPECIFIED IN SR1

DEFAULT PARAMETERS: DVA-0 VCT-0 BR1-0
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: SR1 SETTING

MEANING OF SR1: SR1 IS OCTAL NUMBER REPRESENTING DESIRED ROM TYPE:

1	M9301-YA	10	M9400-YH (YK)
2	M9301-YB	11	M9311
3	M9301-YC	12	M9301
4	M9400-YA (YC)	13	M9301-YE
5	M9301-YF	14	M9301-YJ
6	M7942-YF	15	M9400-YN
7	M9301-YD		

MODULE TESTS ROM BY CALCULATING AND CHECKING CRC AND LPC.

MODULE NAME:	BTA
REVISION LEVEL:	B
MODULE TYPE:	IOMODR
I.D. NUM.:	131
DEVICES TESTED:	BUS TESTER A
DEFAULT PARAMETERS:	DVA-170000 VCT-510 BR1-0 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	BTB
REVISION LEVEL:	B
MODULE TYPE:	IOMODR
I.D. NUM.:	56
DEVICES TESTED:	BUS TESTER B
DEFAULT PARAMETERS:	DVA-170020 VCT-520 BR1-0 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	BTC
REVISION LEVEL:	A
MODULE TYPE:	IOMODX
I.D. NUM.:	117
DEVICES TESTED:	BUS TESTER C (Q BUS TESTER)
DEFAULT PARAMETERS:	DVA-170020 VCT-520 BR1-0 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	CBA
REVISION LEVEL:	E
MODULE TYPE:	BKMOD
I.D. NUM.:	33
DEVICES TESTED:	CB11 SCAN
DEFAULT PARAMETERS:	DVA-0 VCT-0 BR1-0 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	DVA- STARTING ADDR OF SCAN GROUP TO BE TESTED. SR1- NUMBER OF SCAN MODULES IN GROUP.
MEANING OF SR1:	SR1 IS SET TO THE OCTAL NUMBER OF SCAN MODULES IN THE TEST GROUP (MUST BE AT CONSECUTIVE ADDRESSES).

MODULE NAME:	CBB
REVISION LEVEL:	E
MODULE TYPE:	BKMOD
I.D. NUM.:	34
DEVICES TESTED:	CB11 DISTRIBUTE
DEFAULT PARAMETERS:	DVA-0 VCT-0 BR1-0 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	DVA- ADDR OF FIRST CB11 DISTRIBUTE TO BE TESTED. SR1- OCTAL NUMBER OF DISTRIBUTE MODULES TO BE TESTED.
MEANING OF SR1:	SR1 MUST BE SET TO OCTAL NUMBER OF DISTRIBUTE MODULES TO BE TESTED (MUST BE SEQUENTIAL).

MODULE NAME:	CBC
REVISION LEVEL:	F
MODULE TYPE:	IOMOD
I.D. NUM.:	35
DEVICES TESTED:	CB11-HA
DEFAULT PARAMETERS:	DVA-164000 VCT-774 BR1-7 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	CDA
REVISION LEVEL:	G
MODULE TYPE:	IOMOD
I.D. NUM.:	14
DEVICES TESTED:	CD11 CONTROLLER AND 1 CARD READER
DEFAULT PARAMETERS:	DVA-172460 VCT-230 BR1-6 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	CIA
REVISION LEVEL:	A
MODULE TYPE:	BKMOD
I.D. NUM.:	1
DEVICES TESTED:	CIS IN 11/24 AND 11/44
DEFAULT PARAMETERS:	DVA-0 VCT-0 BR1-0 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	CMA
REVISION LEVEL:	B
MODULE TYPE:	IOMOD
I.D. NUM:	80
DEVICES TESTED:	CMS11-K READER/INTERFACEAMETERS:
DEFAULT PARAMETERS:	DVA-177160 VCT-230 BR1-6 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	CMJ
REVISION LEVEL:	A
MODULE TYPE:	IOMOD
ID. NUM.:	85
DEVICES TESTED:	CMR11
DEFAULT PARAMETERS:	DVA-170000 VCT-170 BR1-4 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	BIT15 = 1 DON'T DROP MODULE IF RETRY COUNT IS EXCEEDED BIT15 = 0 DROP MODULE IF RETRY COUNT IS EXCEEDED
MEANING OF SR2:	BIT0 = 1 INHIBIT CMR ALARM REPORT BIT0 = 0 ENABLE CMR ALARM REPORT

MODULE NAME: CPA

REVISION LEVEL: G

MODULE TYPE: BKMOD

I.D. NUM.: 113

DEVICES TESTED: STRAIGHT LINE INSTRUCTION SET FOR PDP-11

DEFAULT PARAMETERS: DVA-0 VCT-0 BR1-0
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: NONE

MODULE NAME: CPB

REVISION LEVEL: J

MODULE TYPE: BKMOD

I.D. NUM.: 2

DEVICES TESTED: EIS IN 11/40, 11/44, AND 11/45

DEFAULT PARAMETERS: DVA-0 VCT-0 BR1-0
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: SR1 MUST BE SPECIFIED.

MEANING OF SR1: SR1 = 0 11/40, 11/45 FULL EIS
SR1 = 1 11/40 WITHOUT EIS
SR1 = 4 ALL EIS, USE MFPS
SR1 = 5 NO EIS, USE MFPS

MODULE NAME:	CRA
REVISION LEVEL:	G
MODULE TYPE:	IOMOD
I.D. NUM.:	15
DEVICES TESTED:	CM11/CR11 CONTROLLER AND 1 CARD READER
DEFAULT PARAMETERS:	DVA-177160 VCT-230 BR1-6 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	DCA
REVISION LEVEL:	G
MODULE TYPE:	IOMOD
I.D. NUM.:	24
DEVICES TESTED:	DC11 ASYNCHRONOUS LINE INTERFACE
DEFAULT PARAMETERS:	DVA-174000 VCT-300 BR1-5 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	DHA
REVISION LEVEL:	L
MODULE TYPE:	IOMOD
I.D. NUM:	25
DEVICES TESTED:	DH11 16-LINE PROGRAMMABLE ASYNCHRONOUS MULTIPLEXER
DEFAULT PARAMETERS:	DVA-1 VCT-1 BR1-5 BR2-5 DVC-1 SR1-0
REQUIRED PARAMETERS:	ADDRESS AND VECTOR
MEANING OF SR1:	BAUD RATE SELECTED (0=9600 DEFAULT)

MODULE NAME: DJA

REVISION LEVEL: L

MODULE TYPE: IOMOD

I.D. NUM: 36

DEVICES TESTED: DJ11 16-LINE ASYNCHRONOUS
SERIAL LINE MULTIPLEXER

DEFAULT PARAMETERS: DVA-1 VCT-1 BR1-5
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: ADDRESS AND VECTOR

MEANING OF SR1: SR1 = 4 5 BIT CHARACTER
SR1 = 2 6 BIT CHARACTER
SR1 = 1 7 BIT CHARACTER
SR1 = 0 8 BIT CHARACTER

CHECK HARDWARE STRAPPING TO DETERMINE SR1. SET ITERATION COUNT - USED TO ADJUST PASS TIME FOR BAUD RATE.

SR1 = 40	75 BAUD (BIT5)
SR1 = 100	110 BAUD (BIT6)
SR1 = 200	134.5 BAUD(BIT7)
SR1 = 400	150 BAUD (BIT8)
SR1 = 1000	300 BAUD (BIT9)
SR1 = 2000	600 BAUD (BIT10)
SR1 = 4000	1200 BAUD (BIT11)
SR1 = 10000	1800 BAUD (BIT12)
SR1 = 20000	2400 BAUD (BIT13)
SR1 = 40000	4800 BAUD (BIT14)
SR1 = 100000	9600 BAUD (BIT15 OR NO BITS)

MODULE NAME: DLA

REVISION LEVEL: J

MODULE TYPE: IOMOD

I.D. NUM.: 26

DEVICES TESTED: UP TO 16 DL11/DLV11 ASYNCHRONOUS INTERFACE LINES

DEFAULT PARAMETERS: DVA-176500 VCT-1 BR1-4
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: VECTOR

MEANING OF SR1:

BIT0	BIT1	CHAR SIZE
0	0	8-BIT CHAR.
0	1	7-BIT CHAR.
1	0	6-BIT CHAR.
1	1	5-BIT CHAR.

BAUD RATE	BIT SET
9600	NONE
7200	BIT2
4800	BIT3
2400	BIT4
1800	BIT5
1200	BIT6
600	BIT7
300	BIT8
200	BIT9
150	BIT10
134.5	BIT11
110	BIT12
75	BIT13
50	BIT14

NOTE: DLV11 CONNECTOR MUST BE INSTALLED

MODULE NAME: DLB

REVISION LEVEL: B

MODULE TYPE: IOMOD

I.D. NUM.: 161

DEVICES TESTED: DL11-E ASYNCHRONOUS COMMUNICATION INTERFACE

DEFAULT PARAMETERS: DVA-175610 VCT-300 BR1-4
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: TO EXERCISE THOSE STATIC TESTS REQUIRING THE USE OF THE H315 MODEM TEST CONNECTOR (MODEM CONTROL LOGIC), BIT 15 OF SR1 MUST BE SET TO A "1".

NOTE: IF SR1 BIT15=1 AND THE MODEM TEST CONNECTOR IS NOT INSTALLED, FALSE ERRORS WILL BE REPORTED.

MODULE NAME: DMB

REVISION LEVEL: I

MODULE TYPE: IOMOD

I.D. NUM.: 27

DEVICES TESTED: DM11-BB 16-LINE DATASET CONTROL MULTIPLEXER

DEFAULT PARAMETERS: DVA-1 VCT-1 BR1-4
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: VECTOR AND ADDRESS

MEANING OF SR1: SR1 = 0 2 WORD DISPLACEMENT BETWEEN VECTORS
SR1 = 1 8 WORD DISPLACEMENT BETWEEN VECTORS
SR1 = 2 16 WORD DISPLACEMENT BETWEEN VECTORS

MODULE NAME:	DMC
REVISION LEVEL:	B
MODULE TYPE:	IOMOD
I.D. NUM.:	127
DEVICES TESTED:	DMC11 SYNCHRONOUS INTERFACE
DEFAULT PARAMETERS:	DVA-1 VCT-1 BR1-5 BR2-5 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	BIT0 = 0 LINE LOOP MODE; NO SETUP NECESSARY. BIT0 = 1 DMC RUNNING; INSTALL TURN-AROUND CONNECTOR

MODULE NAME:	DMD
REVISION LEVEL:	D
MODULE TYPE:	IOMDOX
I.D. NUM:	86
DEVICES TESTED:	DMP/DMV11
DEFAULT PARAMETERS:	DVA-160170 VCT-300 BR1-5 BR2-5 DVC-1 SR1-0
REQUIRED PARAMETERS:	SEE MODULE DOCUMENTATION FOR SR1 THRU SR4 SELECTIONS.

MODULE NAME:	DME
REVISION LEVEL:	B
MODULE TYPE:	IOMODX
I.D. NUM:	87
DEVICES TESTED:	DMP11
DEFAULT PARAMETERS:	DVA-160170 VCT-300 BR1-5 BR2-5 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	SEE MODULE DOCUMENTATION FOR SR2 SELECTIONS.

MODULE NAME:	DMR
REVISION LEVEL:	B
MODULE TYPE:	IOMOD
I.D. NUM:	166
DEVICES TESTED:	DMR11
DEFAULT PARAMETERS:	DVA-1 VCT-1 BR1-5 BR2-5 DVC-1 SR1-0
REQUIRED PARAMETERS:	ADDRESS AND VECTORB
MEANING OF SR1:	SEE MODULE DOCUMENTAION FOR SR1 THRU SR4.

MODULE NAME: DMS

REVISION LEVEL: A

MODULE TYPE: IOMOD

I.D. NUM: 116

DEVICES TESTED: DM11-BA 8 LINE MUX

DEFAULT PARAMETERS: DVA-1 VCT-1 BR1-4
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: SR1 = 0 2 WORD VECTOR DISPLACEMENT
SR1 = 1 8 WORD VECTOR DISPLACEMENT
SR1 = 2 16 WORD VECTOR DISPLACEMENT

MODULE NAME: DNA

REVISION LEVEL: H

MODULE TYPE: IOMOD

I.D. NUM.: 37

DEVICES TESTED: DN11 AUTOMATIC CALLING UNIT

DEFAULT PARAMETERS: DVA-175200 VCT-1 BR1-4
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: VECTOR

MEANING OF SR1: NONE

MODULE NAME:	DPA
REVISION LEVEL:	E
MODULE TYPE:	IOMOD
I.D. NUM.:	30
DEVICES TESTED:	DP11 SYNCHRONOUS INTERFACE
DEFAULT PARAMETERS:	DVA-174770 VCT-440 BR1-5 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	DPB
REVISION LEVEL:	B
MODULE TYPE:	IOMOD
I.D. NUM.:	70
DEVICES TESTED:	DUP SYNCHRONOUS INTERFACE
DEFAULT PARAMETERS:	DVA-1 VCT-1 BR1-5 BR2-5 DVC-1 SR1-0
REQUIRED PARAMETERS:	ADDRESS AND VECTOR
MEANING OF SR1:	NONE

MODULE NAME: DPV

REVISION LEVEL: A

MODULE TYPE: IOMOD

I.D. NUM: 151

DEVICES TESTED: DPV11

DEFAULT PARAMETERS: DVA-1 VCT-1 BR1-5
BR2-5

REQUIRED PARAMETERS: ADDRESS AND VECTOR

MEANING OF SR1:
BIT0 = 0 BIT ORIENTED PROTOCOL
BIT0 = 1 BYTE ORIENTED PROTOCOL
BIT1 = 0 INTERNAL LOOPBACK (MAINTENANCE MODE)
BIT1 = 1 EXTERNAL LOOPBACK (ONBOARD CONNECTOR - H3260,RS432)

MODULE NAME: DQA

REVISION LEVEL: I

MODULE TYPE: IOMOD

I.D. NUM.: 31

DEVICES TESTED: DQ11 NPR COMMUNICATION DEVICE

DEFAULT PARAMETERS: DVA-1 VCT-1 BR1-5
BR2-5 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: NONE

MODULE NAME: DRA

REVISION LEVEL: D

MODULE TYPE: IOMOD

I.D. NUM.: 55

DEVICES TESTED: DR11-A I/O REG TRANSFER DEVICE

DEFAULT PARAMETERS: DVA-167770 VCT-410 BR1-5
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: NONE

MODULE NAME: DRB

REVISION LEVEL: I

MODULE TYPE: IOMOD

I.D. NUM.: 132

DEVICES TESTED: DR11-B DIRECT MEMORY ACCESS INTERFACE

DEFAULT-PARAMETERS: DVA-172410 VCT-124 BR1-5
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: NONE

MODULE NAME:	DRC
REVISION LEVEL:	I
MODULE TYPE:	IOMOD
I.D. NUM.:	57
DEVICES TESTED:	DR11-C GENERAL DEVICE INTERFACE
DEFAULT PARAMETERS:	DVA-167770 VCT-1 BR1-5 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	VECTOR
MEANING OF SR1:	NONE

MODULE NAME:	DRD
REVISION NAME:	C
MODULE TYPE:	IOMOD
I.D. NUM.:	65
DEVICES TESTED:	DR11-K GENERAL DEVICE INTERFACE
DEFAULT PARAMETERS:	DVA-167770 VCT-1 BR1-4 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	VECTOR
MEANING OF SR1:	NONE

MODULE NAME:	DRE
REVISION LEVEL:	C
MODULE TYPE:	IOMOD
I.D. NUM.:	72
DEVICES TESTED:	DR11M OUTPUT, DR11L INPUT INTERFACES
DEFAULT PARAMETERS:	DVA-0 VCT-1 BR1-4 BR2-4 DVC-1 SR1-0
REQUIRED PARAMETERS:	DVA MUST BE SUPPLIED VCT, DVC, ADDR2, VECT2, SR1
MEANING OF SR1:	INDICATES DEVICES CABLED TOGETHER.

MODULE NAME:	DRF
REVISION LEVEL:	D
MODULE TYPE:	IOMODX
I.D. NUM.:	121
DEVICES TESTED:	DRV11-B INTERFACES
DEFAULT PARAMETERS:	DVA-172410 VCT-124 BR1-4 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	DRJ		
REVISION LEVEL:	A		
MODULE TYPE:	IOMOD		
I.D. NUM:	90		
DEVICES TESTED:	DRJ11-J		
DEFAULT PARAMETERS:	DVA-164160	VCT-300	BR1-4
	BR2-0	DVC-1	SR1-0
REQUIRED PARAMETERS:	NONE		
MEANING OF SR1:	NONE		

MODULE NAME:	DRK		
REVISION LEVEL:	A		
MODULE TYPE:	IOMODX		
I.D. NUM:	81		
DEVICES TESTED:	DR70		
DEFAULT PARAMETERS:	DVA-1767000	VCT-254	BR1-4
	BR2-0	DVC-1	SR1-0
REQUIRED PARAMETERS:	NONE		
MEANING OF SR1:	NONE		

MODULE NAME:	DRW
REVISION LEVEL:	C
MODULE TYPE:	IOMOD
I.D. NUM.:	165
DEVICES TESTED:	DR11-W
DEFAULT PARAMETERS:	DVA-172410 VCT-124 BR1-5 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	DTA
REVISION LEVEL:	D
MODULE TYPE:	IOMOD
I.D. NUM.:	157
DEVICES TESTED:	DTE20
DEFAULT PARAMETERS:	DVA-174400 VCT-774 BR1-4 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	DUA
REVISION LEVEL:	I
MODULE TYPE:	IOMOD
I.D. NUM.:	32
DEVICES TESTED:	DU11 SYNCHRONOUS, ASYNCHRONOUS INTERFACE
DEFAULT PARAMETERS:	DVA-1 VCT-1 BR1-5 BR2-5 DVC-1 SR1-0
REQUIRED PARAMETERS:	ADDRESS AND VECTOR
MEANING OF SR1:	BIT0 = 0 SYNCHRONOUS TEST BIT0 = 1 ASYNCHRONOUS (ISOCRONOUS) TEST

MODULE NAME:	DUB
REVISION LEVEL:	C
MODULE TYPE:	IOMOD
I.D. NUM.:	104
DEVICES TESTED:	UDA-50, RA80
DEFAULT PARAMETERS:	DVA-172150 VCT-154 BR1-5 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	BIT1 = 1 ALLOW DISK TRANSFERS BIT1 = 0 NO DISK TRANSFERS BIT2 = 1 DO NOT REPORT ERRORS AS THEY OCCUR BIT2 = 0 REPORT ERRORS AS THEY OCCUR BIT3 = 1 DO NOT PRINT ERROR SUMMARY AT EOP BIT3 = 0 PRINT ERROR SUMMARY AT EOP BIT9 = 1 RUN DUAL PORT MODE (VALID IF SR1 BIT1 IS SET) BIT9 = 0 DO NOT RUN DUAL PORT MODE BIT10 = 1 SELECT RANDOM BLOCK ADDRESSING. (VALID IF SR1 BIT1 IS SET) BIT10 = 0 SELECT SEQUENTIAL BLOCK ADDRESSING BIT11 = 1 BYPASS DATA COMPARE BIT11 = 0 DO DATA COMPARE
MEANING OF SR2:	BITS 0-5 - BURST RATE.

MODULE NAME:	DVA
REVISION LEVEL	B
MODULE TYPE:	IOMOD
I.D. NUM.:	74
DEVICES TESTED:	UP TO 4 DV11 SYNCRONOUS INTERFACES
DEFAULT PARAMETERS:	DVA-175000 VCT-310 BR1-5 BR2-5 DVC-1 SR1-0
REQUIRED PARAMETERS:	SYNC MUST BE SET TO "377" FOR TESTING OF ASYNC LINE CARDS
MEANING OF SR1:	NONE

MODULE NAME:	DXA
REVISION LEVEL:	G
MODULE TYPE:	IOMODR
I.D. NUM.:	40
DEVICES TESTED:	DX11 TESTS UP TO 2 DX11B'S IN OFF-LINE MODE
DEFAULT PARAMETERS:	DVA-176200 VCT-1 BR1-4 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	VECTOR
MEANING OF SR1:	NONE

MODULE NAME:	DZA
REVISION LEVEL:	E
MODULE TYPE:	IOMOD
I.D. NUM.:	77
DEVICES TESTED:	DZ11
DEFAULT PARAMETERS:	DVA-1 VCT-1 BR1-5 BR2-5 DVC-1 SR1-0
REQUIRED PARAMETERS:	DVA, VCT
MEANING OF SR1:	SPECIFIES BAUD RATE. DEFAULT IS 0 = 9600

MODULE NAME:	DZB
REVISION LEVEL:	C
MODULE TYPE:	IOMOD
I.D. NUM.:	142
DEVICES TESTED:	DZV11
DEFAULT PARAMETERS:	DVA-1 VCT-1 BR1-4 BR2-4 DVC-1 SR1-0
REQUIRED PARAMETERS:	DVA, VCT
MEANING OF SR1:	SPECIFIES BAUD RATE. DEFAULT IS 0 = 9600

MODULE NAME:	FPA
REVISION LEVEL:	G
MODULE TYPE:	BKMOD
I.D. NUM.:	16
DEVICES TESTED:	11/45, 11/70, FP11-A OR LSI-11 FIS
DEFAULT PARAMETERS:	DVA-0 VCT-0 BR1-0 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	SET SR1
MEANING OF SR1:	BIT0=0 11/45,11/70 FP11-C BIT0=1 11/40 OR LSI-11 FIS

MODULE NAME:	FPB
REVISION LEVEL:	E
MODULE TYPE:	IOMOD
I.D. NUM:	100
DEVICES TESTED:	FP11-B OR FP11-C
DEFAULT PARAMETERS:	DVA-0 VCT-244 BR1-5 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME: GTA

REVISION LEVEL: E

MODULE TYPE: IOMODR

I.D. NUM.: 45

DEVICES TESTED: GT40

DEFAULT PARAMETERS: DVA-172000 VCT-320 BR1-4
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: NONE

MODULE NAME: IBA

REVISION LEVEL: D

MODULE TYPE: IOMOD

I.D. NUM.: 141

DEVICES TESTED: IBV11-A INSTRUMENTATION INTERFACE (IBBUS)

DEFAULT PARAMETERS: DVA-160150, VCT-640, BR1-6
BR2-6 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: BIT0 = 0 RANDOM PATTERN TRANSFERS
BIT0 = 1 COMPLEMENT PATTERN TRANSFERS

MODULE NAME:	ICA
REVISION LEVEL:	D
MODULE TYPE:	IOMOD
I.D. NUM.:	135
DEVICES TESTED:	ICS-11
DEFAULT PARAMETERS:	DVA-771776 VCT-234 BR1-6 BR2-6 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	ICB
REVISION LEVEL:	C
MODULE TYPE:	IOMOD
I.D. NUM.:	71
DEVICES TESTED:	ICR-11 CONTROLLER
DEFAULT PARAMETERS:	DVA-171776 VCT-234 BR1-6 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	KEA
REVISION LEVEL:	D
MODULE TYPE:	BKMOD
I.D. NUM.:	17
DEVICES TESTED:	KE11 OPTION ON NON-11/40, 45, AND 70
DEFAULT PARAMETERS:	DVA-177300 VCT-0 BR1-0 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	KGA
REVISION LEVEL:	D
MODULE TYPE:	BKMOD
I.D. NUM.:	41
DEVICES TESTED:	KG11 OPTION
DEFAULT PARAMETERS:	DVA-170700 VCT-000 BR1-0 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME: KLA

REVISION LEVEL: E

MODULE TYPE: IOMOD

I.D. NUM.: 42

DEVICES TESTED: KL11 FULL DUPLEX ASYNCHRONOUS LINE (UP TO 16)

DEFAULT PARAMETERS: DVA-174000 VCT-300 BR1-5
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: NONE

MODULE NAME: KMA

REVISION LEVEL: A

MODULE TYPE: IOMOD

I.D. NUM: 82

DEVICES TESTED: KMC11-B

DEFAULT PARAMETERS: DVA-1 VCT-1 BR1-5
BR2-5 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1:
BITS 0 - 5 NPR/BR RATE MULTIPLIER
BITS 6 - 11 NPR RATE MULTIPLIER
BIT 12 = 1 RECEIVE ONLY
BIT 13 = 1 TRANSMIT ONLY
BIT 14 = 1 NPRATE = RTMULV
NPR/BR = SZMULV
BIT 15 = 1 NPRATE = RTMULV * SR1 <6:11>
NPR/VR = SZMULV * SR1 <0:5>
BITS 14&15 = 0 DEFAULT RATE
BITS 14&15 = 1 ILLEGAL

* NOTE: SR1 MAY BE SET UP AT CONFIGURATION TIME, OR RUN TIME WITH THE "MOD" COMMAND.

MODULE NAME:	KMC
REVISION LEVEL:	B
MODULE TYPE:	IOMOD
I.D. NUM.:	136
DEVICES TESTED:	KMC-11
DEFAULT PARAMETERS:	DVA-1 VCT-1 BR1-5 BR2-5 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	BITS 0 - 5 NPR/BR RATE MULTIPLIER BITS 6 - 11 NPR RATE MULTIPLIER BIT12 = 1 RECEIVE ONLY BIT13 = 1 TRANSMIT ONLY BIT14 = 1 MULTIPLY LOW DEFAULT NPR AND NPR/BR VALUES BY SR1 MULTIPLIER VALUES (BITS 6-11 AND 0-5) TO OBTAIN NPR AND NPR/BR RATES. BIT15 = 1 USE LOW DEFAULT VALUES FOR NPR AND NPR/BR RATES (DO NOT MULTIPLY BY SR1 VALUE). BIT14,BIT15 = 0: USE HIGH DEFAULT VALUES FOR NPR AND NPR/BR RATES.

MODULE NAME: KUA

REVISION LEVEL: B

MODULE TYPE: NBKMOD

I.D. NUM.: 163

DEVICES TESTED: KUV11-AA

DEFAULT PARAMETERS: DVA-177540 VCT-1 BR1-0
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1:

BIT0 = 0 LOAD MICRO CODE FOR CPB AND FPB REGARDLESS OF KUV11-AA RAM TEST RESULTS.
BIT0 = 1 DO NOT LOAD MICRO-CODE IF RAM TEST FAILS.
BIT1 = 0 TYPE ERROR MESSAGE FOR EACH RAM-TEST ERROR ENCOUNTERED.
BIT1 = 1 TYPE ONLY A SUMMARY OF RAM-TEST ERRORS AT END OF TEST.

MODULE NAME: KWA

REVISION LEVEL: G

MODULE TYPE: IOMOD

I.D. NUM.: 11

DEVICES TESTED: KW11-L LINE CLOCK

DEFAULT PARAMETERS: DVA-177546 VCT-100 BR1-6
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1:

SR1 = 0 NO TIME MSG./60HZ
SR1 = 1 NO TIME MSG./50HZ
SR1 = 2 TIME MSG. EVERY 5 MIN., 60 HZ
SR1 = 3 TIME MSG. EVERY 5 MIN., 50 HZ
SR1 = 4 TIME MSG. EVERY 15 MIN., 60 HZ
SR1 = 5 TIME MSG. EVERY 15 MIN., 50 HZ
SR1 = 6 TIME MSG. EVERY 60 MIN., 60 HZ
SR1 = 7 TIME MSG. EVERY 50 MIN., 50 HZ

MODULE NAME: KWB

REVISION LEVEL: K

MODULE TYPE: IOMOD

I.D. NUM.: 12

DEVICES TESTED: KW11-P PROGRAMMABLE CLOCK

DEFAULT PARAMETERS: DVA-172540 VCT-104 BR1-6
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1:

SR1 = 0 NO TIME MSG./60 HZ
SR1 = 1 NO TIME MSG./50 HZ
SR1 = 2 TIME MSG. EVERY 5 MIN., 60 HZ
SR1 = 3 TIME MSG. EVERY 5 MIN., 60 HZ
SR1 = 4 TIME MSG. EVERY 15 MIN., 60 HZ
SR1 = 5 TIME MSG. EVERY 15 MIN., 50 HZ
SR1 = 6 TIME MSG. EVERY 60 MIN., 60 HZ
SR1 = 7 TIME MSG. EVERY 60 MIN., 50 HZ
SR1 = 10 RUN AT LINE FREQ. ONLY
SR1 = 20 RUN AT 10K HZ FREQ. ONLY
SR1 = 30 RUN AT 100K HZ FREQ. ONLY

NOTE: SR1 VALUE 0 THRU 7 CAN BE USED WITH SR1 VALUES 10, 20, AND 30 TO OBTAIN MESSAGE PRINTOUT AT A FIXED FREQUENCY.

MODULE NAME: KWC

REVISION LEVEL: B

MODULE TYPE: IOMOD

I.D. NUM.: 134

DEVICES TESTED: KW11-W WATCHDOG TIMER

DEFAULT PARAMETERS: DVA-172400 VCT-1 BR-7
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: VECTOR ADDRESS

MEANING OF SR1: NONE

MODULE NAME: KWD

REVISION LEVEL: B

MODULE TYPE: IOMOD

I.D. NUM.: 102

DEVICES TESTED: KW11-K

DEFAULT PARAMETERS: DVA-170404 VCT-344 BR1-6
BR2-6 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: USED FOR SELECTIVE TESTING OF PARTICULAR FREQUENCIES. (SET TO 0 TO ENABLE, 1 TO DISABLE)

BIT	FREQUENCY
0	1MHZ
1	100KHZ
2	10KHZ
3	1KHZ
4	100HZ
5	RANDOM (OVERRIDES ANY DISABLE SETTINGS)
6	LINE FREQUENCY
7	OVERFLOW B (OVERRIDES ANY DISABLE SETTINGS)

MODULE NAME: KWE

REVISION LEVEL: B

MODULE TYPE: IOMOD

I.D. NUM.: 122

DEVICES TESTED: KWV11K

DEFAULT PARAMETERS: DVA-170420, VCT-440, BR1-6
BR2-6 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: USED FOR SELECTIVE TESTING
OF PARTICULAR FREQUENCIES.
(SET TO 0 TO ENABLE, 1 TO DISABLE)

BIT	FREQUENCY
0	1MHZ
1	100KHZ
2	10KHZ
3	1KHZ
4	100HZ
5	RANDOM
6	LINE FREQUENCY

MODULE NAME: KWF

REVISION LEVEL: B

MODULE TYPE: NBKMOD

I.D. NUM.: 162

DEVICES TESTED: KW11-L ON 2040 PDP-11 CONSOLE

DEFAULT PARAMETERS: DVA-177546, VCT-100, BR1-6
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: AVERAGE TIMER COUNT
SR1 = 0 MODULE USES DEFAULT TIMER COUNT
OF 000037 (KD11-A CPU)
SR1 NOT 0 MODULE USES CONTENTS OF SR1
AS TIMER COUNT

MODULE NAME: KWG

REVISION LEVEL: A

MODULE TYPE: IOMOD

I.D. NUM: 91

DEVICES TESTED: CSS KW11-C

DEFAULT PARAMETERS: DVA-160200 VCT-300 BR1-6
BR2-6 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: NONE

MODULE NAME: LKA

REVISION LEVEL: B

MODULE TYPE: IOMOD

I.D. NUM.: 101

DEVICES TESTED: LK11

DEFAULT PARAMETERS: DVA-160060 VCT-360 BR1-4
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: NONE

MODULE NAME: LPA

REVISION LEVEL: F

MODULE TYPE: IOMOD

I.D. NUM.: 3

DEVICES TESTED: 1 LP11 CONTROLLER AND ANY LP11 LINEPRINTER

DEFAULT PARAMETERS: DVA-177514 VCT-200 BR1-4
BR2-0 DVC-1 SR1-0
SR2-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: THE 16 SR1 BITS HAVE THE FOLLOWING FUNCTIONS:

X PPP PPP PPP XXX AAA

AAA = (0) FOR 80 COLUMNS, 64 CHARACTERS
(1) FOR 80 COLUMNS, 96 CHARACTERS
(2) FOR 132 COLUMNS, 64 CHARACTERS
(3) FOR 132 COLUMNS, 96 CHARACTERS

PPP PPP PPP = RELATIVE PAUSE SIZE PER PASS; I.E., AS EACH BIT OF THE RELATIVE PAUSE SIZE (PPP PPP PPP) IS SET, FROM LSB TO MSB, THE NUMBER OF LINES TO BE PRINTED IS REDUCED BY ONE HALF.

(000) = ALL LINES (ALSO IF SR2 NE 0)
(001) = 100(8) LINES PRINTED
(002) = 040(8) LINES PRINTED
(004) = 020(8) LINES PRINTED
.
.
.
(100) = 001(8) LINES PRINTED

X AND XXX ARE UNUSED BITS

MEANING OF SR2: NON-ZERO TO ELIMINATE PAUSE FUNCTION. SET TO NON-ZERO IF LINE PRINTER IS LP04 (NO PAUSE ALLOWED).

MODULE NAME:	LPB
REVISION LEVEL:	F
MODULE TYPE:	IOMOD
I.D. NUM.:	46
DEVICES TESTED:	LPS11 CONTROLLER AND 1 LPSKW CLOCK
DEFAULT PARAMETERS:	DVA-170404 VCT-1 BR1-6 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	VECTOR ADDRESS MUST BE SUPPLIED
MEANING OF SR1:	NONE

MODULE NAME:	LPC
REVISION LEVEL:	E
MODULE TYPE:	IOMOD
I.D. NUM.:	47
DEVICES TESTED:	LPS11 CONTROLLER AND 1 LPS-VC SCOPE CONTROL
DEFAULT PARAMETERS:	DVA-170416 VCT-001 BR1-4 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	VECTOR ADDRESS MUST BE SUPPLIED
MEANING OF SR1:	NONE

MODULE NAME:	LPD
REVISION LEVEL:	F
MODULE TYPE:	IOMOD
I.D. NUM.:	50
DEVICES TESTED:	LPS11 INTERFACE AND 1 LPSAD OR LPS-N? CONTROLLER
DEFAULT PARAMETERS:	DVA-170400 VCT-1 BR1-6 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	ADDRESS AND VECTOR
MEANING OF SR1:	BIT15 = 1 DMA CONVERSIONS (LPSADNP) BIT15 = 0 BR CONVERSIONS (LPSAD12)

MODULE NAME:	LPE
REVISION LEVEL:	D
MODULE TYPE:	IOMOD
I.D. NUM.:	63
DEVICES TESTED:	LPD PHOTO-COMP INTERFACES
DEFAULT PARAMETERS:	DVA-172710 VCT-320 BR1-4 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	LPF
REVISION LEVEL:	B
MODULE TYPE:	IOMOD
I.D. NUM.:	160
DEVICES TESTED:	LP20/LP05/LP10
DEFAULT PARAMETERS:	DVA-175400 VCT-754 BR1-4 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	SR1 SETUP
MEANING OF SR1:	SR1(LO BYTE): BIT02 SPECIFIES THE TYPE OF CHARACTER SET. IF IT IS A "1" IT INDICATES A 64-CHARACTER SET. ANY OTHER COMBINATION IN THE LO BYTE SIGNIFIES A 96-CHARACTER SET. SR1(HI BYTE):SPECIFIES PRINTING OPTIONS: SR1+1 = 0 PRINT ON FIRST PASS ONLY SR1+1 = 1 NEVER PRINT SR1+1 = 2 PRINT ON ALL PASSES

MODULE NAME: LPH

REVISION LEVEL: D

MODULE TYPE: IOMOD

I.D. NUM.: 152

DEVICES TESTED: LPA11-XX A/D INTERFACE

DEFAULT PARAMETERS: DVA-170460 VCT-300 BR1-6
BR2-6 DVC-1 SR1-0

REQUIRED PARAMETERS: LPA11-XX(KMC-11, M8200-YC, M8254, CLOCK)
REMOVE OUTPUTS FROM DR11K'S IF CONFIGURED (VIA SR1).
IF LPH IS INCLUDED IN YOUR RUNTIME EXERCISER, THEN LPI OR LPG MUST BE INCLUDED.

MEANING OF SR1: STATES WHAT DEVICES ARE ON THE I/O BUS.
SET THE BITS FOR THE DEVICES CONFIGURED.

DEVICE	BIT
1ST AD11K	0
1ST KW11K	1
1SR DR11K	2
1ST AA11K	3
2ND AD11K	4
2ND DR11K	5
N/A	6
3RD DR11K	7
4TH DR11K	8
5TH DR11K	9
AR11K	10
LPS-11	11
LPSAD (LPS A/D)	12
LPSKW (LPS REAL TIME CLOCK)	13
LPSVC (LPS D/A)	14
LPSDR (LPS DIGITAL J/O)	15

MODULE NAME:	MLA
REVISION LEVEL:	A
MODULE TYPE:	IOMODX
I.D. NUM:	150
DEVICES TESTED:	ML11-A
DEFAULT PARAMETERS:	DVA-172000 VCT-204 BR1-5 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	BIT0 = 0 RETRY LIMIT EXCEEDED, ABORT FUNCTION CONTINUE TEST BIT0 = 1 RETRY LIMIT EXCEEDED, FATAL ERROR, DROP DRIVE BIT1 = 0 ACCESS SEQUENTIAL SECTOR ADDRESSES BIT1 = 1 ACCESS RANDOM SECTOR ADDRESSES BIT2 = 0 COUNT/REPORT DATA LATES BIT2 = 1 COUNT DATA LATES

MODULE NAME: MNA

REVISION LEVEL: A

MODULE TYPE: IOMOD

I.D. NUM.: 92

DEVICES TESTED: MNCAD (A/D) MINC MODULE

DEFAULT PARAMETERS: DVA-171000 VCT-400 BR1-6
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1:
BIT0 = 0 INHIBIT USE OF MNCKW OPTION.
BIT0 = 1 ENABLE USE OF MNCKW OPTION. "MNC" MUST BE DESELECTED IF CONFIGURED AND ONLY ONE MNCAD AND ONLY 1 MNCAD WILL BE RUN.
BIT1 = 0 INHIBIT SAMPLING ADDITIONAL CHANNELS FOR STABLE INPUT.
BIT1 = 1 ENABLE SAMPLING CHANNEL ZERO THRU CHANNEL SPECIFIED IN LOCATION CLSTCH FOR STABLE INPUT (+1-) TOLERANCE SPECIFIED BY OFFAL.
BIT2 = 0 USE CHANNEL ZERO ONLY FOR NOISE TESTING.
BIT2 = 1 USE CHANNEL ZERO THRU CHANNEL SPECIFIED IN NLSTCH FOR NOISE TESTING.

OPTIONS: LOCATIONS IN MODULE FOR SPECIFYING LIMITS:
ARMLIM: SPECIFIES RMS NOISE LIMIT.
APKLIM: SPECIFIES PEAK NOISE LIMIT.

MODULE NAME:	MNB
REVISION LEVEL:	A
MODULE TYPE:	IOMOD
I.D. NUM.:	93
DEVICES TESTED:	MNCDI (DIGITAL IN) MINC MODULE
DEFAULT PARAMETERS:	DVA-171160 VCT-130 BR1-4 BR1-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	IF SR1=1 THEN: $BASE1 = MNCDO ADDRESS $VECT1 = MNDCO VECTOR
DEVICE SETUP:	FRONT PANEL SWITCHES MUST BE DOWN. IF SR1=1, THEN THE WRAP-AROUND CABLE MUST BE INSTALLED TO THE MNCDO DEVICE, THE MNCDO DEVICE, AND MNE MUST BE DESELECTED IF IT IS CONFIGURED.
MEANING OF SR1:	BIT0 = 0 RUN MNCDI LOGIC TEST. BIT0 = 1 RUN MNCDI LOGIC TEST, MNCDO LOGIC TEST, AND MNCDO TO MNCDI WRAPAROUND CONTROL AND DATA TESTS.

MODULE NAME:	MNC
REVISION LEVEL:	A
MODULE TYPE:	IOMOD
I.D. NUM.:	94
DEVICES TESTED:	MNCKW (CLOCK) MINC MODULE
DEFAULT PARAMETERS:	DVA-171020 VCT-440 BR1-4 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
DEVICE SETUP:	THE FRONT PANEL SWITCHES MUST SELECT THE SCHMITT TRIGGER INPUT. (PULL OUT "ST1" AND "ST2" AND ROTATE TO THE END.)
MEANING OF SR1:	SELECTS TEST FREQUENCIES. A '1' DISABLES TESTING. BIT0 = 1MHZ BIT1 = 100KHZ BIT2 = 10KHZ BIT3 = 1KHZ BIT4 = 100HZ BIT5 = RANDOM FREQUENCY (OVERRIDES DESELECTION OF ANY FREQUENCY)

MODULE NAME: MND

REVISION LEVEL: A

MODULE TYPE: BKMOD

I.D. NUM.: 95

DEVICES TESTED: MNCDA (D/A) MINC MODULE

DEFAULT PARAMETERS: DVA-171060 VCT-0 BR1-0
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: NONE

MODULE NAME: MNE

REVISION LEVEL: A

MODULE TYPE: IOMOD

I.D. NUM.: 96

DEVICES TESTED: MNCDO (DIGITAL OUT) MINC MODULE

DEFAULT PARAMETERS: DVA-171260 VCT-340 BR1-4
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: NONE

MODULE NAME: NCA

REVISION LEVEL: D

MODULE TYPE: IOMODR

I.D. NUM.: 66

DEVICES TESTED: NC-11A INTERFACE

DEFAULT PARAMETERS: DVA-164000 VCT-270 BR1-7
BR2-0 DVC-1 SR1-0

MEANING OF SR1:
BIT0 = 1 INHIBIT WORD INCREMENT MODE
BIT1 = 1 INHIBIT ODD BYTE INCREMENT MODE
BIT2 = 1 INHIBIT EVEN BYTE INCREMENT MODE
BIT3 = 1 INHIBIT LIST MODE

MODULE NAME: NCB

REVISION LEVEL: A

MODULE TYPE: IOMODX

I.D. NUM.: 97

DEVICES TESTED: NCV-11A INTERFACE

DEFAULT PARAMETERS: DVA-172760 VCT-370 BR1-6
BR2-0 DVC-1 SR1-0

MEANING OF SR1:
BIT0 = 1 INHIBIT MATRIX WORD INCREMENT MODE
BIT1 = 1 INHIBIT LIST MODE

MODULE NAME:	PAA
REVISION LEVEL:	F
MODULE TYPE:	IOMOD
I.D. NUM.:	53
DEVICES TESTED:	UP TO 16 PA611 TYPESET READERS
DEFAULT PARAMETERS:	DVA-172600 VCT-300 BR1-4 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	PAB
REVISION LEVEL:	G
MODULE TYPE:	IOMOD
I.D. NUM.:	54
DEVICES TESTED:	UP TO 16 PA611 TYPESET PUNCHES
DEFAULT PARAMETERS:	DVA-172700 VCT-0 BR1-4 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	VECTOR ADDRESS MUST BE SUPPLIED
MEANING OF SR1:	BITS 0 - 7: IF SET = DISABLE PUNCHING CHANNEL. IF CLEAR = ALLOW PUNCHING CHANNEL.

MODULE NAME:	PCC
REVISION LEVEL:	E
MODULE TYPE:	IOMOD
I.D. NUM.:	20
DEVICES TESTED:	ONE PC11 READER AND PUNCH
DEFAULT PARAMETERS:	DVA-177550 VCT-070 BR1-4 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	SET SR1
MEANING OF SR1:	SR1 = 0 READER ONLY SR1 = 1 PUNCH ONLY SR1 = 2 READER AND PUNCH

MODULE NAME:	PCS
REVISION LEVEL:	B
MODULE TYPE:	IOMOD
I.D. NUM.:	147
DEVICES TESTED:	PCS CONTROLLER AND FILE BOX IOCM CONTROL MODULE WITH FILE BOX
DEFAULT PARAMETERS:	DVA-171376 VCT-234 BR1-0 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE

MODULE NAME: PLA

REVISION LEVEL: B

MODULE TYPE: IOMODX

I.D. NUM.: 106

DEVICES TESTED: PCL11 INTER-PROCESSOR COMMUNICATION DEVICE.

DEFAULT PARAMETERS: DVA-164200 VCT-170 BR1-5
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: SETUP OF SR1

MEANING OF SR1:
BIT15 = 0 IF RETRY LIMIT EXCEEDED, RESET RETRY LIMIT AND CONTINUE.
BIT15 = 1 IF RETRY LIMIT EXCEEDED, ASSUME HARD ERROR AND DROP MODULE.
BITS 0 - 7 CONTAIN RECEIVER TDM BUS ADDRESS (RECEIVER NUMBER). THIS IS AN OCTAL NUMBER BETWEEN 1 AND 37.

MODULE NAME: RCA

REVISION LEVEL: D

MODULE TYPE: IOMODX

I.D. NUM.: 21

DEVICES TESTED: RC11 CONTROLLER AND UP TO 4 RS64 DISKS

DEFAULT PARAMETERS: DVA-177440 VCT-210 BR1-5
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: NONE

MODULE NAME: RFA

REVISION LEVEL: G

MODULE TYPE: IOMODX

I.D. NUM.: 4

DEVICES TESTED: RF11 CONTROLLER AND UP TO 8 RS11 DISKS

DEFAULT PARAMETERS: DVA-177460 VCT-204 BR1-5
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1:

BIT0 = 0 DRIVE DROPPED IF RETRY COUNT EXCEEDED ON HARD ERROR.
BIT0 = 1 FUNCTION ABORTED IF RETRY LIMIT EXCEEDED ON HARD ERROR.
BIT1 = 0 DRIVE DROPPED IF RETRY COUNT EXCEEDED ON SOFT ERROR.
BIT1 = 1 FUNCTION ABORTED IF RETRY LIMIT EXCEEDED ON SOFT ERROR.
BIT2 = 0 DON'T TYPE DATA LATE ERRORS.
BIT2 = 1 TYPE DATA LATE ERRORS.

MODULE NAME: RHA

REVISION LEVEL: A

MODULE TYPE: SBKMOD

I.D. NUM: 105

DEVICES TESTED: CSS RH01

DEFAULT PARAMETERS: NONE

REQUIRED PARAMETERS: NONE

MEANING OF SR1: NONE

MODULE NAME:	RKA
REVISION LEVEL:	G
MODULE TYPE:	IOMODX
I.D. NUM.:	5
DEVICES TESTED:	RK11 CONTROLLER AND UP TO 8 DISK DRIVES OF FOLLOWING TYPE: RK02,RK03,RK04,RK05
DEFAULT PARAMETERS:	DVA-177400 VCT-220 BR1-5 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	BIT0 = 0 FUNCTION ABORTED IF RETRY EXCEEDED ON HARD OR SOFT ERROR. BIT0 = 1 DRIVE DROPPED IF RETRY COUNT EXCEEDED ON HARD OR SOFT ERROR. BIT2 = 0 WILL NOT TYPE OUT DATA LATE ERRORS, BUT WILL KEEP TRACK OF THE NUMBER OF DATA LATE ERRORS BIT2 = 1 TYPE OUT DATA LATE ERRORS AND KEEP TRACK OF THE NUMBER OF DATA LATE ERRORS IN "DLTCNT".

MODULE NAME: RKB

REVISION LEVEL: H

MODULE TYPE: IOMODX

I.D. NUM.: 124

DEVICES TESTED: 1 TO 8 RK06/7 DRIVES ON 1 (OR 2 DUAL PORT) RK611 CONTROLLER(S)

DEFAULT PARAMETERS: DVA-177400 VCT-210 BR1-5
BR2-0 DVC-1 SR0-0

REQUIRED PARAMETERS: FOR DUAL-PORT OPERATION, DVA AND VCT ADDRESSES FOR THE SECOND RK611

MEANING OF SR1:

BIT0 = 1 IF THE RETRY LIMIT IS EXCEEDED ON ANY FUNCTION, A HARD ERROR IS ASSUMED AND THE DRIVE IS DROPPED.
BIT0 = 0 IF THE RETRY LIMIT IS EXCEEDED, THE FUNCTION IS ABORTED AND THE TESTING CONTINUES.

BIT6 = 1 INCREMENT DISK ADDRESS EACH CYCLE (SEQUENTIAL SEEKS).
BIT6 = 0 GENERATE RANDOM DISK ADDRESS FOR EACH CYCLE.

BIT2 = 1 TYPE OUT ADDRESS OF ALL BADSPOTS NOT IN MODULE TABLE, AND ADD TO TABLE.
BIT2 = 0 ADD NEW BADSPOTS TO MODULE TABLE, BUT DO NOT TYPE OUT.

MODULE NAME:	RLA
REVISION LEVEL:	G
MODULE TYPE:	IOMODX
I.D. NUM.:	146
DEVICES TESTED:	RL11,RLV11,RLV12,RL01,RL02
DEFAULT PARAMETERS:	DVA-174400 VCT-160 BR1-5 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	BIT0 = 1 DROP DRIVE ON ERROR. BIT0 = 0 CONTINUE TESTING ON ERROR. BIT1 = 1 WRITE/READ DATA AT A RANDOM BIT1 = 0 WRITE/READ DATA AT INCREMENTAL SECTOR. BIT2 = 1 DO NOT PRINT SOFT ERRORS. BIT2 = 0 PRINT SOFT ERRORS. BIT3 = 1 CONTROLLER IS AN RLV12 BIT3 = 0 CONTROLLER IS AN RL11/RLV11

MODULE NAME: RMC

REVISION LEVEL: A

MODULE TYPE: IOMODX

I.D. NUM: 107

DEVICES TESTED: RH11/70 RM02,3,5

DEFAULT PARAMETERS: DVA-176700 VCT-254 BR1-5
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1:
BIT02 = 1 COUNT DATA LATE ERRORS
BIT02 = 0 COUNT AND PRINT DATA LATE ERRORS
BIT04 = 1 PORT B SELECTED
BIT04 = 0 PORT A SELECTED
BIT10 = 1 RANDOM BLOCK ADDRESSING
BIT10 = 0 SEQUENTIAL BLOCK ADDRESSING
BIT12 = 1 DUAL PORT
BIT12 = 0 SINGLE PORT
BIT15 = 1 32 REGISTERS ON RH70
BIT15 = 0 22 REGISTERS ON RH70

MODULE NAME: RMD

REVISION LEVEL: B

MODULE TYPE: IOMODX

I.D. NUM.: 153

DEVICES TESTED: RP04/5/6 RM02/3/5

DEFAULT PARAMETERS: DVA-176700 VCT-254 BR1-5
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1:
BIT2 = 1 TYPE OUT DATA LATE ERRORS.
BIT2 = 0 DO NOT TYPE OUT DATA LATE ERRORS.
BIT4 = 1 TESTS PORT-A OF DUAL PORTED DRIVES.
BIT4 = 0 TESTS PORT-B OF DUAL PORTED DRIVES.
BIT5 = 1 DISABLE RANDOM SEEKS.
BIT5 = 0 ENABLE RANDOM SEEKS.
BIT6 = 1 TYPE OUT BADSPOTS NOT IN BADSPOT TABLE.
BIT6 = 0 DO NOT TYPE OUT BADSPOTS.
BIT7 = 1 CONTROLLER IS AN RH70.
BIT7 = 0 CONTROLLER IS AN RH11.

MODULE NAME: RNA

REVISION LEVEL: B

MODULE TYPE: IOMODX

I.D. NUM: 112

DEVICES TESTED: RM80

DEFAULT PARAMETERS: DVA-1767000 VCT-254 BR1-5
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1:

BIT0 = 1 ACCESS ANY CYLINDER ADDRESS
BIT0 = 0 ACCESS FE CYLINDER ADDRESS ONLY
BIT2 = 1 COUNT DATE LATES
BIT2 = 0 COUNT/REPORT DATA LATES
BIT4 = 1 SELECT PORT "B"
BIT4 = 0 SELECT PORT "A"
BIT10 = 1 RANDOM BLOCK ADDRESSING
BIT10 = 0 SEQUENTIAL BLOCK ADDRESSING
BIT12 = 1 DUAL PORT
BIT12 = 0 SINGLE PORT
BIT15 = 1 32 REGISTER RH70
BIT15 = 0 22 REGISTER RH70

* NOTE: BIT4 HAS NO MEANING IN SINGLE PORT OPERATION.

MODULE NAME: RPA

REVISION LEVEL: M

MODULE TYPE: IOMODX

I.D. NUM.: 6

DEVICES TESTED: RP11 CONTROLLER AND UP TO 8 DRIVES

DEFAULT PARAMETERS: DVA-176710 VCT-254 BR1-5
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS:
BIT0 = 1 IF HIGH DENSITY
BIT1 = 0 DROPS MODULE AFTER 3 UNRECOVERABLE ERRORS.
BIT1 = 1 GOES ON TO NEXT BLOCK AFTER AN UNRECOVERABLE ERROR.
BIT2 = 0 WILL TYPE OUT DATA LATE ERRORS, BUT KEEPS A TOTAL COUNT IN LOCATION DLTCNT.
BIT2 = 1 WILL NOT TYPE OUT DATE LATE ERRORS AND WILL NOT KEEP COUNT OF THEM. THERE IS A TABLE AT LOCATION "BADLOC" IN WHICH UP TO 20 CYLINDER-TRACK COMBINATIONS MAY BE ENTERED. FOR ANY CYL-TR LISTED IN THAT TABLE, THERE WIL BE NO ERRORS REGISTERED. THIS I INTENDED FOR USE WITH PACKS WIT KNOWN BADSPOTS. REFER TO THE LISTING AT LOCATION BADLOC FOR DIRECTIONS ON HOW TO ENTER DIS ADDRESSES INTO THE TABLE.

NOTE: ANY ADDRESS ENTERED IN THIS TABLE WILL APPLY TO ALL DISKS UNDER TES

MODULE NAME:	RPB
REVISION LEVEL:	I
MODULE TYPE:	IOMODX
I.D. NUM:	60
DEVICES TESTED:	RH11/70 SGL PT DSK
DEFAULT PARAMETERS:	DVA-176700 VCT-254 BR1-5 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	BIT0 = 1 REPORT HARD ERROR, DROP DRIVE WHEN RETRY LIMIT EXEEDED. BIT0 = 0 ABORT FUNCTION,CONTINUE TESTING IF RETRY LIMIT EXCEEDED. BIT2 = 1 COUNT, DON'T REPORT DATA LATE ERRORS. BIT2 = 0 COUNT, REPORT DATA LATE ERRORS BIT5 = 1 18 BIT FORMAT. BIT5 = 0 NORMAL FORMAT.

MODULE NAME: RSA

REVISION LEVEL: J

MODULE TYPE: IOMODX

I.D. NUM.: 61

DEVICES TESTED: ONE RH11 CONTROLLER AND UP TO 8 RS03 AND RS04 DISKS

DEFAULT PARAMETERS: DVA-172040 VCT-204 BR1-5
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1:
BIT0 = 0 ABORTS FUNCTION ON RETRY LIMIT EXCEEDED
BIT0 = 1 DRIVE DROPPED ON RETRY LIMIT EXCEEDED
BIT2 = 0 WILL TYPE OUT DATA-LATE ERRORS
BIT2 = 1 WILL NOT TYPE OUT DATA-LATE ERRORS

MODULE NAME: RXA

REVISION LEVEL: E

MODULE TYPE: IOMOD

I.D. NUM.: 67

DEVICES TESTED: RX01 FLOPPY DISK

DEFAULT PARAMETERS: DVA-177170 VCT-264 BR1-5
BR2-0 DVC-2 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1:
BIT0 = 0 IF RETRY LIMIT IS EXCEEDED, CONTINUE WITH NEXT TEST.
BIT0 = 1 IF RETRY LIMIT IS EXCEEDED ON ANY FUNCTION, REPORT A HARD ERROR AND DROP MODULE.
BIT1 = 0 USE ALTERNATING DATA PATTERNS OF ONES AND ZEROS.
BIT1 = 1 USE DECREMENTING DATA PATTERNS

MODULE NAME: RXB

REVISION LEVEL: C

MODULE TYPE: IOMODX

I.D. NUM.: 137

DEVICES TESTED: RX02 FLOPPY DISK

DEFAULT PARAMETERS: DVA-177170 VCT-264 BR1-5
BR2-0 DVC-2 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: BIT0 = 0 IF RETRY LIMIT IS EXCEEDED, CONTINUE TESTING.
BIT0 = 1 IF RETRY LIMIT IS EXCEEDED ON ANY FUNCTION, REPORT A HARD ERROR AND DROP MODULE.

MODULE NAME: TAA

REVISION LEVEL: D

MODULE TYPE: IOMOD

I.D. NUM.: 7

DEVICES TESTED: TA11 CONTROLLER AND 2 CASSETTE DRIVES

DEFAULT PARAMETERS: DVA-177500 VCT-260 BR1-6
BR2-0 DVC-2 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: NONE

MODULE NAME: TCA

REVISION LEVEL: G

MODULE TYPE: IOMODX

I.D. NUM.: 10

DEVICES TESTED: TC11 DECTAPE CONTROLLER AND UP TO 8 DECTAPE DRIVES

DEFAULT PARAMETERS: DVA-177340 VCT-214 BR1-6
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: BIT0 = 0 LETS MODULE SKIP FORWARD AFTER RETRY LIMIT REACHED.
BIT0 = 1 CAUSES DEVICE TO BE DROPPED IF RETRY LIMIT REACHED.

MODULE NAME: TMA

REVISION LEVEL: J

MODULE TYPE: IOMODX

I.D. NUM.: 22

DEVICES TESTED: TM11 CONTROLLER AND UP TO 8 DRIVES

DEFAULT PARAMETERS: DVA-172520 VCT-224 BR1-5
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: BIT0 = 0 CONTINUE IF RETRY LIMIT IS EXCEEDED.
BIT0 = 1 DROP MODULE IF RETRY LIMIT IS EXCEEDED.

MODULE NAME: TMB

REVISION LEVEL: M

MODULE TYPE: IOMODX

I.D. NUM.: 130

DEVICES TESTED: TM02/TM03 CONTROLLER AND UP TO 8 TU16 OR TE16 (UP TO 4 TU77)

DEFAULT PARAMETERS:

DVA-172440	VCT-224	BR1-5
BR2-0	DVC-1	SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1:

BIT0 = 0 ABORT IF RETRY LIMIT IS EXCEEDED.
BIT0 = 1 SLAVE IS DROPPED IF RETRY LIMIT EXCEEDED.
BIT1 = 0 ALL SLAVES AUTOMATICALLY FOUND.
BIT1 = 1 SLAVES MUST BE SELECTED BY OPERATOR.
BIT2 = 0 SOFT ERROR IF RETRY LIMIT EXCEEDED.
BIT2 = 1 PRINT SOFT ERROR ON OCCURRENCE
BIT3 = 0 USE DEFAULT RETRY LIMIT
BIT3 = 1 USE ALTERNATE RETRY LIMIT
BIT4 = 0 PRINT SOFT ERROR SUMMARY AT EOT
BIT4 = 1 SUPPRESS SOFT ERROR SUMMARY PRINTOUT
BIT5 = 0 ALTERNATE DENSITY ONLY AT BOT
BIT5 = 1 ALTERNATE DENSITY EACH CYCLE
BIT6 = 0 TEST 1600 BPI
BIT6 = 1 DO NOT TEST 1600 BPI
BIT7 = 0 TEST 800 BPI
BIT7 = 1 DO NOT TEST 800 BPI

MODULE NAME: TMD

REVISION LEVEL: A

MODULE TYPE: IOMODX

I.D. NUM: 110

DEVICES TESTED: TM78 MAG TAPE

DEFAULT PARAMETERS: DVA-172400 VCT-224 BR1-5
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1:
BIT0 = 0 DATA COMPARE
BIT0 = 1 NO DATA COMPARE
BIT1 = 0 RUN ALL DEVICES
BIT1 = 1 RUN SELECTED DEVICES
BIT2 = 0 REPORT ERRORS
BIT2 = 1 NO ERROR REPORT
BIT3 = 0 ERROR SUMMARY - EOT
BIT3 = 1 NO ERROR SUMMARY- EOT
BIT4 = 0 GCR (6250 BPI)
BIT4 = 1 NO GCR
BIT5 = 0 PE (1600 BPI)
BIT5 = 1 NO PE

MODULE NAME: TRA

REVISION LEVEL: D

MODULE TYPE: IOMOD

I.D. NUM.: 125

DEVICES TESTED: TR79F TAPE DRIVES

DEFAULT PARAMETERS: DVA-164000 VEC-170 BR1-4
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1:
BIT0 = 1 DROPS DRIVE EXCEEDING RETRY LIMIT
BIT0 = 0 FUNCTION STOPPED, TESTING CONTINUES IF RETRY LIMIT EXCEEDED.

MODULE NAME: TSA

REVISION LEVEL: A

MODULE TYPE: IOMODX

I.D. NUM.: 167

DEVICES TESTED: TS11/TS04 TAPE SUBSYSTEM

DEFAULT PARAMETERS: DVA-172520 VCT-224 BR1-5
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1:
BIT0 = 0 IF AN UNRECOVERABLE ERROR OCCURS ON ANY FUNCTION, THE FUNCTION IS ABORTED AND TESTING CONTINUES
BIT0 = 1 IF AN UNRECOVERABLE ERROR OCCURS ON ANY FUNCTION, THE DEVICEIS DROPPED FROM THE TEST CYCLE
BIT1 = 0 ALL RECOVERABLE ERRORS ARE REPORTED
BIT1 = 1 RECOVERABLE ERRORS ARE NOT REPORTED

MODULE NAME: TUA

REVISION LEVEL: C

MODULE TYPE: SBKMOD

I.D. NUM: 115

DEVICES TESTED: TU58 CONTROLLER WITH 1 OR 2 DRIVES

DEFAULT PARAMETERS: DVA-176500 VCT-300 BR1-4
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: NONE

NOTE: DVC = 1 TEST DRIVE 0
DVC = 2 TEST DRIVE 1
DVC = 3 TEST DRIVES 0 AND 1

MODULE NAME:	UDA
REVISION LEVEL:	D
MODULE TYPE:	IOMOD
I.D. NUM.:	52
DEVICES TESTED:	UDC11 CONTROLLER (MAINTENANCE MODE)
DEFAULT PARAMETERS:	DVA-171774 VCT-234 BR1-6 BR2-4 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	VSA
REVISION LEVEL:	C
MODULE TYPE:	IOMODP
I.D. NUM.:	75
DEVICES TESTED:	DECGRAPHIC-11 DISPLAY SYSTEM AND VS60 CONSOLE
DEFAULT PARAMETERS:	DVA-172000 VCT-320 BR1-4 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	SR1 = 0 EXECUTE VS60 INSTRUCTIONS SR1 = 1 EXECUTE NOP'S FOR HIGHEST NPR RATE

MODULE NAME: VSB

REVISION LEVEL: B

MODULE TYPE: IOMOD

I.D. NUM: 76

DEVICES TESTED: VSV01 DISPLAY SYSTEM

DEFAULT PARAMETERS: DVA-172600 VCT-360 BR1-4
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NUMBER OF BIT MAPS IN LOCATION DVID1

MEANING OF SR1: NONE

MODULE NAME: VSC

REVISION LEVEL: B

MODULE TYPE: IOMOD

I.D. NUM: 83

DEVICES TESTED: CSS VSV11/VS11 GRAPHIC SYS

DEFAULT PARAMETERS: DVA-172010 VCT-320 BR1-4
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1:
SR1 = 0 TEST PATTERN ONLY
SR1 = 1 DISPLAY BOUNCING BALL AND BELL
SR1 = 2 TEST PATTERN ONLY
SR1 = 3 TEST PATTERN, BOUNCING BALL AND BELL (TWO CHANNELS)
SR1 = 4 TEST PATTERN ONLY
SR1 = 5 PATTERN AND BOUNCING BALL
SR1 = 6 TEST PATTERN ONLY
SR1 = 7 TEST PATTERN AND BOUNCING BALL (TWO CHANNELS)

MODULE NAME: VTA

REVISION LEVEL: B

MODULE TYPE: IOMOD

I.D. NUM.: 64

DEVICES TESTED: VT20 SYSTEMS

DEFAULT PARAMETERS: DVA-175610 VCT-340 BR1-5
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: NONE

MEANING OF SR1: NONE

MODULE NAME: VTB

REVISION LEVEL: B

MODULE TYPE: IOMODX

I.D. NUM.: 126

DEVICES TESTED: VT20'S ON DH11

DEFAULT PARAMETERS: DVA-160020 VCT-350 BR1-5
BR2-0 DVC-1 SR1-0

REQUIRED PARAMETERS: BAUD RATES IN L0BR TO L17BR IF NOT 9600

MEANING OF SR1: NONE

MODULE NAME:	VTC
REVISION LEVEL:	A
MODULE TYPE:	BKMOD
I.D. NUM:	111
DEVICES TESTED:	VTV30-K
DEFAULT PARAMETERS:	DVA-174000
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	VTV
REVISION LEVEL:	A
MODULE TYPE:	IOMOD
I.D. NUM:	170
DEVICES TESTED:	VTV30-H/J
DEFAULT PARAMETERS:	DVA-164000 VCT-170 BR1-4 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	SR1 = 0 6X6 CHARACTER MATRIX SR1 = 1 8X8 CHARACTER MATRIX

MODULE NAME:	XYA
REVISION LEVEL:	D
MODULE TYPE:	IOMOD
I.D. NUM.:	23
DEVICES TESTED:	ONE XY11 PLOTTER
DEFAULT PARAMETERS:	DVA-172554 VCT-120 BR1-5 BR2-0 DVC-1 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

MODULE NAME:	XYB
REVISION LEVEL:	A
MODULE TYPE:	IOMOD
I.D. NUM:	84
DEVICES TESTED:	CSS XY311
DEFAULT PARAMETERS:	DVA-172554 VCT-120 BR1-4 BR2-0 DVC-0 SR1-0
REQUIRED PARAMETERS:	NONE
MEANING OF SR1:	NONE

6.0 RUNNING DEC/X11 IN SPECIAL ENVIRONMENTS

There are two special environments under which a DEC/X11 exerciser program may be run in which operational differences will be encountered:

1. Running an RTE as a chain file under the control of an XXDP+ monitor.

2. Running an RTE under control of an APT monitor.

Both situations are described in the following sections.

6.1 Running RTE In XXDP+ Chain Mode

When a DEC/X11 Runtime Exerciser (RTE) program (filename.BIC) is included in an XXDP+ Chain file (filename.CCC), the loading, starting, and execution of the RTE incurs the following changes.

1. When the XXDP+ monitor is loaded and Chain Mode is initiated (via .C filename), the RTE file is eventually automatically executed (i.e., a RUN command is not required).

2. When an RTE is running in Chain Mode, all RTE keyboard commands operate in the manner described for stand-alone operation.

3. As with all programs run in Chain Mode, the RTE must periodically return to the XXDP+ monitor. However, a return occurs only when the RTE is in the lowest portion of memory (whether or not due to relocation) and a system end-of-pass occurs (i.e., all I/O option modules complete an end-of-pass). When the proper number of returns has been made (as defined by an XXDP+ pass count), the XXDP+ monitor terminates execution of the RTE and initiates execution of the next program in the chain file.

In sum, a return to the monitor is caused under the following conditions:

(a) If Memory Management (KT) is not present, the RTE cannot be relocated and therefore remains in the lowest portion of memory. Thus, a system end-of-pass causes a return to the XXDP+ monitor.

(b) If KT is present on the system, the RTE relocates through memory as described in the DEC/X11 User's Manual, i.e., via both constant and random (if selected) relocation. Cycling under Chain Mode occurs in 28K segments instead of the normal 4K segments. When the RTE is in the lowest portionofmemory and a system end-of-pass occurs, the RTE returns to the XXDP+ monitor.

4. If the RTE file is running when a Control C (C) is entered, the RTE stops and Command Mode (CMD>) is entered. This does not affect the XXDP+ pass count. Thus, when a RUN command is subsequently entered, the RTE is restarted and the incrementation of the pass count continues until the value specified in the chain file is reached. At that point, the XXDP+ monitor terminates execution of the RTE and the next program in the chain is loaded.

6.2 Running RTE Under APT Control

When a DEC/X11 Runtime Exerciser (RTE) is created for use under APT control, the following initial build requirements and operational differences must be considered.

6.2.1 Configuring For APT -

When an RTE is initially configured for use under APT control, the following requirements must be met.

1. When the Configuration Table (C-Table) is constructed, all required background modules (BKMODs) must be entered last. This is necessary because BKMODs are the slowest group of modules to be sorted by the DEC/X11 monitor. Thus, proper configuration ensures that no discrepancies will occur when a comparison is made between the module-map listing (in the E-Table) and the actual positon of the modules in the module listing.

2. When a DEC/X11 APT monitor name (i.e., F,G,H,I,R) is entered in the C-Table,the name must reflect the APT equivalent of the basic DEC/X11 monitor (i.e., B,C,D,E,Q). A DEC/X11 APT monitor should be selected according to the following specifications.

   . Monitor F is for non-KT systems (e.g., 11/03,11/04,etc.).

   . Monitor G is for KT and 18 bit systems (e.g., 11/23,11/34, etc.) (excluding 11/60 and 11/70).

   . Monitor H is for 11/60 systems.

   . Monitor I is for 11/70 systems.

   . Monitor R is for 11/23B systems.

6.2.2 APT Interface Locations -

The following interface differences are encountered when running an RTE under APT control.

1. APT Parameter Block Word 4: This location contains a value that defaults the runtime of the longest test to 15 minutes.

2. APT Parameter Block Word 5: This location contains a value that defaults the runtime of the first test to two minutes.

3. APT Mailbox Word 4: This location contains the module pass count. The contents of the location are incremented every time the slowest of the resident and selected IOMODs completes an end-of-pass. BKMODs do not affect the incrementation of the counter as long as IOMODs are resident and selected. However,if BKMODs are the only resident or selected modules, each BKMOD module increments the counter when it completes an end-of-pass.

4. APT E-Table Word 1: The lower byte of this word defaults to 001 to define APT Mode, as opposed to stand-alone. The upper byte defaults to a value of 200, which causes the program to act on the assumption that a UUT Console Terminal is available.

5. APT E-Table Word 3: The lower-byte of this word defaults to a Soft Error Limit value of 37 octal, while the upper-byte defaults to a Hard Error Limit of 001. These values respectively indicate that the occurrence of 37 soft errors or 1 hard error within a module will result in the reporting of a fatal error to APT. Either byte can be adjusted up to the maximum of 37 octal. However, the hard error limit should exceed only 1 during debugging, since a higher limit would change the pass/fail criteria of the RTE.

6. APT Module Map: Each byte in the module map provides an octal device count entry for each module. If the byte is 0, the module is deselected. The formatting of a device count is described in the DEC/X11 User's Manual, several examples of device count entries are shown below.

   . A 000 entry deselects the module. . A 001 entry selects the module to test device zero. . A 002 entry selects the module to test device one. . A 003 entry selects the module to test devices zero and one.

In order to monitor or modify any of the words described above, the user can derive an appropriate absolute address by adding the value contained in location 44 to the value associated below with the word to be changed.

APT Parameter Block Word 4:	004
APT Parameter Block Word 5:	006
APT Mailbox Word 4:	022
APT E-Table Word 1:	034
APT E-Table Word 3:	040
APT Module Map:	100

Example: Find the absolute address of APT Mailbox Word 4 (location 44=5764 octal).

```
5764  =  Contents of location 44
+#22  =  APT Mailbox Word 4 value
----
6006  =  Absolute address of APT Mailbox Word 4
```

6.3 Error Reporting Under APT

When a module detects a fatal error, four of the five module-name characters (excluding the revision letter) are reported to APT. For example, if module RKBA1 detects a fatal error, RKB1 is reported to APT.

If the monitor detects a fatal error, a special four-letter code (MOxx) is reported to APT. The first two letters of the code (MO) indicate monitor detection, while the remaining two (xx) define the type of fatal error detected.

If xx =
- CQ Control queue overflow error
- TQ Type queue overflow error
- PE Parity error (memory, cache, or ECC)
- ME Memory error
- KT Memory management (KT) trap error
- SE System error (trap through location 04 or 10)

If a console terminal device is available, all error messages are output to the console device. This includes any fatal error message, which also evokes the output of a run summary prior to terminating the RTE.