

# MicroVAX Diagnostic Monitor

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## Release Notes

Order Number: AA-PK29E-TE

These release notes describe restrictions, undocumented features, and other essential information about the MicroVAX Diagnostic Monitor (MDM) Version 5.0, Release 139. These release notes supersede all other MDM documentation.

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# Preface

These release notes describe update information, enhancements, new features, and bug fixes for the MicroVAX Diagnostic Monitor (MDM) Version 5.0, Release 139.

## Intended Audience

These release notes are intended for the following people:

- System managers who are installing MDM
- Individuals responsible for maintaining MicroVAX systems
- Diagnostic developers

## Document Structure

These notes are organized as follows:

- Chapter 1 lists updates.
- Chapter 2 lists known problems and corrections.

## Associated Documents

The following MDM documents are available:

- *MicroVAX Diagnostic Monitor Programmer's Guide*
- *MicroVAX Diagnostic Monitor Development Kit Installation Guide*
- *MicroVAX Diagnostic Monitor User's Guide*
- *MicroVAX Diagnostic Monitor Ethernet Server User's Guide*

- *MicroVAX Diagnostic Monitor Hard Disk User's Guide*
- *MicroVAX Diagnostic Monitor Reference Card*
- *MicroVAX Diagnostic Monitor Customer CD-ROM Booklet*
- *MicroVAX Diagnostic Monitor Maintenance CD-ROM Booklet*

# 1

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## Updates

This chapter updates information necessary to run the MicroVAX Diagnostic Monitor (MDM) software.

### 1.1 General MDM Updates

This section updates hardware and installation requirements.

#### 1.1.1 2 MB System Support Restriction

MDM Release 139 requires at least 2 megabytes (MB) of memory. The monitor uses about 1.5 MB. If the memory requirements exceed the available memory, MDM does not run.

#### 1.1.2 Operating Environment

Users of the MDM Development Kit must install VAXELN Version 4.0 for use with MDM Release 139.

### 1.2 Updates to Features and Functionalities

This section provides information on new MDM features and functionalities that were added in recent releases.

#### 1.2.1 MDM Network Boot from the InfoServer 100 via CD-ROM

The existing Customer and Maintenance Compact Discs can now be used to boot MDM from the InfoServer 100. A “bundled” image, *MDMNET.SYS*, on the existing compact discs can be used to accomplish this. It contains the MDM CD-ROM bootable image and all the MDM diagnostics.

At least 5 MB of memory are required to boot MDM from the InfoServer 100.

## Updates

### 1.2 Updates to Features and Functionalities

To downline load MDM from the InfoServer 100, take the following steps:

1. Load the MDM CD-ROM into the appropriate drive on the InfoServer 100.
2. Set up the InfoServer 100 to downline load:
  - *SET SERVER STATE ON*
  - *SET SERVER MOP ENABLED*

For more information, refer to the *InfoServer System Operations Guide*.

To boot MDM on the target system, use the solicitation boot request, *BOOT/100*, for your appropriate Ethernet device (XQA0, ESA0, or EZA0), and supply the file name *MDMNET* at the system prompt. For example:

```
>>> BOOT/100 EZA0
2...
Bootfile: MDMNET
```

#### 1.2.2 Booting from the TZ30 on the VAX 4000 Models 100, 100A, and 105 Systems

The existing MDM TK50 Maintenance Kit supports booting from a TZ30 connected to the onboard SCSI. The boot command is as follows:

```
>>> BOOT MKAnnn
```

where *nnn* is the TZ30 port number. Enter the *SHOW SCSI* command to display the port number.

#### 1.2.3 Booting MDM from a CD-ROM on the VAX 4000 Models 100, 100A, and 105 Systems

MDM supports booting from an RRD42 connected to an onboard SCSI bus on the VAX 4000 Model 100. A maintenance compact disc has been provided for this purpose.

The boot command is as follows:

```
>>> BOOT/100 DKAnnn
```

where *nnn* is the boot number of the RRD42. (Enter the *SHOW SCSI* command at the console prompt (>>>)) to display the boot number.)

When the system requests the name of the bootfile, supply the name `[SYS0.SYSEXE]MDMCD.SYS`, as in the following example:

```
Bootfile: [SYS0.SYSEXE]MDMCD.SYS
```

## 1.2 Updates to Features and Functionalities

**1.2.4 Booting MDM on VAX 4000 Models 100, 100A, 105, 200, 300, 400, 400A, 500, 500A, 600, 600A, and 700A Systems**

You can boot MDM on VAX 4000 Models 100, 100A, 105, 200, 300, 400, 400A, 500, 500A, 600, 600A, and 700A systems from either the Second Generation Ethernet Controller (SGEC), from the Single Host Adapter Chip (SHAC), from TK50/70, KRQ50, and TF85 devices, and over the network from the DEQNA, DELQA, and DESQA.

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**Note**


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The SHAC is optional on the VAX 4000 Model 100 system.

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**1.2.4.1 Booting from the SHAC on VAX 4000 Models 100, 100A, 105, 200, 300, 400, 400A, 500, 500A, 600, 600A, and 700A Systems**

You can boot MDM from an RF drive connected to the VAX 4000 Single Host Adapter Chip (SHAC). You must first install the MDM Hard Disk Kit on device DIA0: and use the MDMSHA.SYS bootable image. The boot command is as follows:

```
>>> BOOT/100 DIAn
```

where *n* is the boot number of the SHAC drive.

Supply [SYS0.SYSEXEXE]MDMSHA.SYS when the system requests the bootfile name, as in the following example:

```
Bootfile: [SYS0.SYSEXEXE]MDMSHA.SYS
```

**1.2.4.2 Booting from the SGEC on VAX 4000 Models 100, 100A, 105, 200, 300, 400, 400A, 500, 500A, 600, 600A, and 700A Systems**

You can boot MDM over a network by means of the Second Generation Ethernet Controller (SGEC) with the H3604 cover panel. You must first install the MDM Ethernet Maintenance Kit and use the NA18AW.SYS bootable image. The boot command is as follows:

```
>>> BOOT EZA0
```

## Updates

### 1.2 Updates to Features and Functionalities

#### 1.2.4.3 Booting from the TK50/70 Device on VAX 4000 Models 200, 300, 400, 400A, 500, 500A, 600, 600A, and 700A Systems

The existing MDM TK50 Maintenance Kit supports booting from a TK50/70 device. The boot command is as follows:

```
>>> BOOT MUA0
```

There is no support for booting MDM from a TK50/70 on VAX 4000 Models 100, 100A, and 105 systems.

#### 1.2.4.4 Booting from the KRQ50 Controller on VAX 4000 Models 200, 300, 400, 400A, 500, 500A, 600, 600A, and 700A Systems

To boot MDM from the KRQ50 controller, refer to the *MicroVAX Diagnostic Monitor Maintenance CD-ROM Booklet* for instructions on handling and setup procedures for your system. The boot command is as follows:

```
>>> BOOT/100 DUxn
2...
Bootfile: [SYS0.SYSEXEXE]MDMCD.SYS
```

where  $x$  is the drive controller port letter, and  $n$  is the drive controller unit number.

#### 1.2.4.5 Booting from the TF85 on VAX 4000 Models 200, 300, 400, 400A, 500, 500A, 600, 600A, and 700A Systems

You can boot MDM, load diagnostics from the TF85 on the SHAC, and run them on VAX 4000 Models 200, 300, 400, 400A, 500, 500A, 600, 600A, and 700A systems by using the existing TK50/70 kit.

The command to boot MDM from a TF85 drive on the SHAC is as follows:

```
>>> BOOT MIA $n$ 
```

where  $n$  is the TF85 controller port number.

#### 1.2.4.6 Booting from the DEQNA, DELQA, and DESQA on VAX 4000 Models 100, 100A, 105, 200, 300, 400, 400A, 500, 500A, 600, 600A, and 700A Systems

The MDM kits that support the DEQNA, DELQA, and DESQA bootable images are distributed as part of the Ethernet Server Kit. The bootable images are NA06AW.SYS and NA07AW.SYS. NA07AW.SYS tests the load device. The boot command is as follows:

```
>>> BOOT XQA0
```

## 1.2 Updates to Features and Functionalities

### 1.2.5 Booting MDM from a CD-ROM on the VAX 4000 Models 500A, 600A, and 700A

MDM supports booting from an RRD40/42 connected to an onboard Small Computer Systems Interface (SCSI) bus on the VAX 4000 Models 500A, 600A, and 700A systems. A maintenance compact disc has been provided for this purpose.

The boot command is as follows:

```
>>> BOOT DKAnnn
```

where *nnn* is the boot number of the RRD40/42. (Enter the SHOW DEVICE command at the console prompt (>>>)) to display the boot number.)

## Updates

### 1.2 Updates to Features and Functionalities

#### 1.2.6 Booting MDM on the DECsystem 5500 System

You may boot MDM from the network from the SGEC, the DEQNA, DELQA, and DESQA, and a CD-ROM.

##### 1.2.6.1 Booting from the SGEC on the DECsystem 5500 System

The MDM kit that supports the SGEC bootable images is distributed as part of the Ethernet Server Kit. You must first install the MDM Ethernet Maintenance Kit and then use the NAU07AW.SYS bootable image.

The boot command is as follows:

```
>>> BOOT EZA0
```

##### 1.2.6.2 Booting from the DEQNA, DELQA, and DESQA on the DECsystem 5500 System

The MDM kits that support the DEQNA, DELQA, and DESQA bootable images are distributed as part of the Ethernet Server Kit. The bootable images are NA06AW.SYS and NA07AW.SYS. NA07AW.SYS tests the load device.

The boot command is as follows:

```
>>> BOOT XQA0
```

##### 1.2.6.3 Booting MDM from a CD-ROM on the DECsystem 5500 System

MDM supports booting from an RRD4x connected to an onboard Small Computer Systems Interface (SCSI) bus on a DECsystem 5500. A maintenance compact disc has been provided for this purpose.

The boot command is as follows:

```
>>> BOOT/100 DIAn
```

where *n* is the boot number of the RRD4x. (Enter the SHOW SCSI command at the console prompt (>>>)) to display the boot number.)

When the system requests the name of the bootfile, supply the name [SYS0.SYSEXE]MDMCD.SYS, as in the following example:

```
Bootfile: [SYS0.SYSEXE]MDMCD.SYS
```

## 1.3 Enhanced Booting from TK50/TK70/TF85

MDM has enhanced booting from the TK50/TK70/TF85 by using the bundled image NA21C $x$  (for the Customer kit) and NA22C $x$  (for the Maintenance kit) as the primary boot image, where  $x$  is the revision letter of the image.

This requires a minimum of 5 MB of memory as the bundled image is approximately 7,500 blocks. The enhancement is virtually transparent as no additional setup procedure is required. However, if you boot from TF85 you cannot use the solicitation boot request. The following sections describe which boot request to use depending on your boot device and the memory capacity of your system.

### 1.3.1 Standard Boot from TK50/70—for Systems with More than 5 MB of Memory

To perform a standard MDM boot from a TK50/70, issue the standard boot command:

```
>>> BOOT MUA0
```

This uses the bundled image NA21C $x$  (for the Customer kit) and NA22C $x$  (for the Maintenance kit) as the boot image. This is particularly useful for those systems with more than 5 MB as it significantly reduces load times for diagnostics.

### 1.3.2 Standard Boot from TF85—for Systems with More than 5 MB of memory

To perform a standard MDM boot from TF85, issue the standard boot command:

```
>>> BOOT MIA $n$ 
```

where  $n$  is the TF85 controller port number.

This uses the same files as the TK50/TK70 boot. It is particularly useful for those systems with more than 5 MB as it significantly reduces load times for diagnostics.

### 1.3.3 Solicitation Boot from TK50/TK70

For those systems with less than 5 MB, use the solicitation boot request:

```
>>> BOOT/100 MUA0
```

## Updates

### 1.3 Enhanced Booting from TK50/TK70/TF85

Supply MDM.SYS when the system requests the bootfile name, as in the following example:

```
Bootfile: MDM.SYS
```

This procedure uses NA04Cx.SYS as the boot image, where *x* is the revision letter of the file.

Loading and configuring diagnostics is much slower in this procedure.

#### 1.3.4 Device Diagnostic Support

Table 1–1 provides updates on device support.

**Table 1–1 Device Diagnostic Support**

Controller	Device	Revision	File Name
CPU	KA620	O	NAKAA
	KA630		
	KA640		
	KA650		
	KA655		
	KA670		
	KA675		
	KA680		
	KA681		
	KA690		
	KA691		
	KA692		
	KN210		
	KN220		
	KA52		
MEMORY	MS220	B	NAMSC
	MS630	J	NAMSA
	MS650	H	NAMTA
	MS670	E	NAMSB

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**Updates**  
**1.3 Enhanced Booting from TK50/TK70/TF85**

**Table 1–1 (Cont.) Device Diagnostic Support**

<b>Controller</b>	<b>Device</b>	<b>Revision</b>	<b>File Name</b>
	MS690		
LPV11 & LPV11SA	LP25	G	NALPA
	LP26		
	LP27		
	LG01		
	LG02		
RQDX2 & RQDX3	RX50	R	NARXA
	RD32		
	RX33		
	RD52		
	RD53		
	RD54		
KDA50–Q & KLESI	RA60	R	NAKDA
	RA70		
	RA81		
	RA82		
	RA90		
KLESI	RC25		
TQK50	TK50	J	NATKA
TQK70	TK70	J	NATKA
DEQNA	–	Q	NAXQA
DELQA	–	Q	NAXQA
DESQLA	–	Q	NAXQA
DLV11	–	D	NADLA
DZQ11 & DZV11	–	H	NADZA
DRV11–WA	–	I	NADRA
DRV11–J	–	F	NADRB
DPV11	–	I	NADPA
DMV11	–	I	NADMA

(continued on next page)

## Updates

### 1.3 Enhanced Booting from TK50/TK70/TF85

**Table 1–1 (Cont.) Device Diagnostic Support**

Controller	Device	Revision	File Name
KRQ50	RRD40 RRD50	K	NARRA
KMV11A (KMV1A)	–	H	NAKMA
KMV11B (KMV1B)	–	F	NAKMB
IEQ11	–	C	NAIEA
DHQ11	–	M	NADHA
CXY08	–		
CXA16	–		
CXB16	–		
CXF32	–		
DHF11	–		
DHV11	–		
DFA01	–	F	NADFA
VCB01	–	F	NAVCA
ADV11–DA	–	H	NAADA
AAV11–DA	–	H	NAAAA
AAV11–C	–	B	NAAAC
ADV11–C	–	C	NAADC
AXV11–C	–	F	NAAXA
VCB02	–	H	NAVCB
DSV11	–	I	NADSA
VSV11	VSV21–AA VSV21–CA VSV90	G	NAVVA
DRQ11–C	–	B	NADQA
LNV11	–	D	NALAA
LNV11–A	–	C	NALNA
KLESI	TU81 TU81E	I	NATUA

(continued on next page)

**Updates**  
**1.3 Enhanced Booting from TK50/TK70/TF85**

**Table 1–1 (Cont.) Device Diagnostic Support**

<b>Controller</b>	<b>Device</b>	<b>Revision</b>	<b>File Name</b>
TSV05	TS05	L	NATSA
DRQ3B	–	J	NAQBA
IBQ01	–	C	NAIBA
IAV11–A	–	E	NAIAA
IAV11–B	–	D	NAIAB
IDV11–A	–	D	NAIDA
IDV11–B	–	G	NAIDB
IDV11–C	–	E	NAIDC
IDV11–D	–	D	NAIDD
MIRA	–	G	NAMIA
KXJ11	–	H	NAKXA
ADQ32	–	F	NAAQA
KLESI	RV20	G	NARVA
DESNA	–	D	NACQA
DTC–04	–	C	NADTA
DTC–05	–	C	NADTB
IGQ11	–	D	NAIGA
KWV11–C	–	H	NAKWA
KWV11–W	–	B	NAKWB
POLARSTAR	–	C	NAQCA
GS03–WD–DHV11	–	A	NAGSA
GS03–WD–DQZ11	–	A	NAGSB
GS03–WD–CXY08	–	A	NAGSC
LANCE	–	E	NALAN
SGEC	–	G	NASGA
DSSI	RF30	F	NADSI
	RF71		
	TF85		
SHAC	RF30	G	NASHA

(continued on next page)

## Updates

### 1.3 Enhanced Booting from TK50/TK70/TF85

**Table 1–1 (Cont.) Device Diagnostic Support**

Controller	Device	Revision	File Name
	RF31		
	RF35		
	RF36		
	RF71		
	RF72		
	RF73		
	RF74		
	TF85		
	TF857		
	EF51		
	EF52		
	EF53		
VS550	–	D	NAVSA
KFQSA	RF30	K	NAKFA
	RF31		
	RF35		
	RF36		
	RF71		
	RF72		
	RF73		
	RF74		
DIV32		D	NADIA
KWV32		B	NAKWC
DELIX <sup>1</sup>	–	D	NADXA
RQX05	–	E	NARQA
KZQSA	RRD40	F	NAKZA
	RRD42		

<sup>1</sup>Indicates diagnostics that are included on the media, but are not supported in the auto-configuration information. To use these diagnostics, you must use the custom configuration commands.

(continued on next page)

1.3 Enhanced Booting from TK50/TK70/TF85

Table 1–1 (Cont.) Device Diagnostic Support

Controller	Device	Revision	File Name
SCSI	TLZ04		
	TLZ06		
	TSZ07		
	RWZ01		
	TKZ60		
	RRD40	D	NASCA
	TLZ04		
	RZ22		
	RZ23		
	RZ24		
	RZ55		
	RZ56		
	RZ57		
RZ58			
DTQNA	–	B	NAZQA
DWQVA	–	B	NADWQ
DEQRA	–	B	NAQRA
DEFQA	–	B	NADFQ

1.3.5 MDM System Notes and Updates

A Software Performance Report (SPR) form is in each kit. SPRs inform software developers as soon as possible about problems found in the product, and provide users a way to offer suggestions based on actual use of the product.

1.3.6 TK50 Load Times

Table 1–2 is a chart of TK50 and TK70 load times for MDM releases 114 through 131. Load times, in any configuration, are not available for MDM Release 139. Load time is how long a system needs to load and configure the diagnostics for the individual devices in the system. The listed times do not include the length of time needed for the monitor to load initially (the elapsed time from the boot command to the display of the disclaimer).

## Updates

### 1.3 Enhanced Booting from TK50/TK70/TF85

**Table 1–2 TK Load Times (in minutes)**

Release	TK50	TK70	TK50	TK70	TK50	TK70	TK50	TK70
	(Config 1 )		(Config 2 )		(Config 3 )		(Config 4 )	
114	07:49	na*	06:50	na*	19:52	na*	09:30	na*
115	25:55	na*	39:44	na*	35:23	na*	14:21	na*
116	09:33	na*	12:21	na*	24:49	na*	12:19	na*
116A	11:21	na*	09:47	na*	25:59	na*	12:54	na*
118	10:25	na*	10:30	na*	29:46	na*	13:06	na*
120	10:12	06:55	10:11	07:01	31:02	23:21	13:15	07:55
121	07:30	04:59	06:04	05:57	17:49	15:22	07:40	05:55
122	06:18	05:08	06:22	05:07	19:04	16:28	07:48	06:03
123	07:26	05:11	06:29	05:12	19:41	16:42	09:17	06:10
124	09:36	07:00	09:17	06:50	21:55	18:52	11:08	08:18
125	10:05	07:40	10:10	07:30	22:25	21:04	12:12	08:45
126	09:47	07:09	09:42	07:03	23:25	21:11	11:20	08:30
127	09:31	07:08	09:36	07:00	24:02	21:23	11:27	08:24
128	08:03	07:21	10:11	06:20	23:29	20:26	11:07	07:38
129	09:12	06:33	08:25	05:49	23:11	19:31	na**	na**
130	07:18	05:50	08:32	05:51	22:57	19:15	na**	na**
131	09:10	06:30	22:42	05:56	24:02	20:31	na**	na**
132	na***	na***	na***	na***	na***	na***	na***	na***

\* Releases before 120 did not support TK70 drives. No comparisons can be made between those releases and releases from 120 to 131.

\*\* As of Version 4.0, Release 129, Config 4 is no longer supported.

\*\*\* As of Version 4.3, Release 132, no TK50/TK70 load times are available.

#### Key to Configuration Devices

Config 1 = CPU, MEM, DEQNA, TK, DHV11, RQDX2

Config 2 = CPU, MEM, DEQNA, TK, DMV11, TSV05, KDA50, CXY08

Config 3 = CPU, MEM, DEQNA, TK, DHV11, RQDX3, KDA50, RC25, DZV11, DZQ11, DPV11, KWV11–C

Config 4 = CPU, MEM, DEQNA, TK, RQDX3, VCB02

Load times are not CPU-dependent. For example, the difference in load times on the same system between a MicroVAX 3500/3600 CPU and a MicroVAX II CPU is less than 3 percent, even though the MicroVAX 3500/3600 CPU is 3.8 times faster than the MicroVAX II CPU.

1.3 Enhanced Booting from TK50/TK70/TF85

1.3.7 Order Number Reference

Table 1–3 lists order numbers for current diagnostics.

Table 1–3 Order Number Reference

Order Number	Title
ZNA02–GZ	MV DIAG MDM ENET CUST DOC
ZNA02–P5	MV DIAG MDM ENET CUST TK50
ZNA02–PH <sup>1</sup>	MV DIAG MDM ENET CUST RL02
ZNA02–PM	MV DIAG MDM ENET CUST 1600 bpi MT9
QX–K32AA–AA	MDM CD–ROM DIAGNOSTIC SINGLE USE LICENSE
QZ–K32AA–H8	MDM CD–ROM MAINTENANCE DIAGNOSTIC MEDIA KIT
QZ–K32AA–U8	MDM CD–ROM CUSTOMER KIT
QX–K32AA–A8	MDM CD–ROM ANNUAL DIAGNOSTIC UPDATE SERVICE
QZ–K14AA–U3	MV DIAG CUST RX50
QZ–K14AA–U5	MV DIAG CUST TK50
QZ–K05AA–H5	MV DIAG MDM ENET MAINT TK50
QZ–K05AA–HH <sup>1</sup>	MV DIAG MDM ENET MAINT RL02
QZ–K05AA–GZ	MV DIAG MDM ENET MAINT DOC
QZ–K15AA–GZ	MV DIAG DEV DOC KIT
QZ–K15AA–H5	MV DIAG DEV TK50
QZ–K15AA–HM	MV DIAG DEV KIT 1600 bpi MT
QZ–K17AA–H5	MV DIAG ULTRIX ENET MAINT TK50
QZ–K17AA–HM	MV DIAG ULTRIX ENET MAINT 1600 bpi MT
QZ–K17AA–GZ	MV DIAG ULTRIX ENET DOC KIT
QZ–K17AA–U5	MV DIAG ULTRIX ENET CUST TK50
QZ–K17AA–UM	MV DIAG ULTRIX ENET CUST 1600 bpi MT
QZ–K18AA–U5	MV DIAG RA/RD CUST DIAG TK50
QZ–K18AA–UM	MV DIAG RA/RD CUST DIAG 1600 bpi MT
QZ–K18AA–H5	MV DIAG RA/RD MAINT DIAG TK50

<sup>1</sup>As of Version 4.6, Release 135, MDM releases are no longer distributed on the RL02 media.

(continued on next page)

## Updates

### 1.3 Enhanced Booting from TK50/TK70/TF85

**Table 1–3 (Cont.) Order Number Reference**

<b>Order Number</b>	<b>Title</b>
QZ-K18AA-HM	MV DIAG RA/RD MAINT DIAG 1600 bpi MT
QZ-K19AA-H3	MAINT DIAG RX50
QZ-K19AA-H5	MAINT DIAG TK50
QZ-K19AA-GZ	MAINTENANCE DOCUMENTATION KIT

## 1.3 Enhanced Booting from TK50/TK70/TF85

## 1.3.8 Automatic Distribution of Diagnostics

Each geographic area within the U.S.A. has a designated diagnostic contact. (See Table 1-4 for a list of the contacts.) Field personnel should work with their area contact for all diagnostic needs, including additions and deletions to the ADS mailing lists for all VAX, PDP-11, MicroVAX, MICRO-11, and KLAD systems, and any newly released system. They should also work with their area contact to resolve problems.

Table 1-4 Area Contacts for Diagnostic Distribution

Area	Contact	Direct	DTN
CSC-ATLANTA	Judy Ellis JUDYELLIS@ALF	404-343-1736	343-1736
CSC-COLO	Don Decker CSC32::D_DECKER	719-592-5420	592-5420
NO. CENTRAL	Nancy Conley NANCY CONLEY@OHF	313-347-5721	471-5721
IN-DEC	Maddy Vega SENIOR::VEGA	508-841-7771	237-7771
MID-ATLANTIC	Kelly Hall MAASUP::HALL	301-381-3163	327-3163
NEW YORK/ NEW JERSEY	Wayne Wolfrum KYOA::WOLFRUM	908-819-3954	332-3954
NORTHEAST	Pearl Magiera NERSW5::MAGIERA	617-895-5003	221-5003
SO. CENTRAL	Lynne Creber USHS01::CREBER	713-953-2760	441-2760
SOUTH	Vicki Crawford ODIXIE::CRAWFORD	404-772-2651	385-2651
WEST	Rhonda Terry RHONDA TERRY@WRO	408-496-3021	521-3021
FED. SYS.	Rick Tomaszewski TOMASZEWSKI@DER	301-306-6615	379-6615
GIA	Terry Munroe KAOFS::MUNROE	819-772-7715	640-7715

## Updates

### 1.3 Enhanced Booting from TK50/TK70/TF85

#### 1.3.9 Debugging Devices

The DEQNA, DELQA, and DESQA are the proper load devices to use in a debugging session.

#### 1.3.10 MDM Boot Capabilities

Table 1–5 lists the MDM boot and diagnostic load capabilities for media versus system. You must order the appropriate kits.

**Table 1–5 MDM Boot Capabilities**

Boot Media	MicroVAX/rtVAX	DECsystem 5400/5500
RX	Yes	Not available
TK	Yes	Yes
TF	Yes	No
Network	Yes	Yes <sup>1</sup>
Hard Disk	Yes	No

<sup>1</sup>Host boot node can be on ULTRIX or VMS host, provided DECnet is installed.

## 1.4 MDM Diagnostic Notes and Updates

All diagnostics have been rebuilt and are incompatible with previous versions of MDM. The diagnostics are source-compatible only. The following diagnostics have been revised for MDM Release 139. *The last letter indicates the revision level.*

NAADAH  
NADFAF  
NADFQB  
NADHAM  
NADPAI  
NADRAJ  
NADSAI  
NADZAH  
NAKMAH  
NAKWAH  
NAKWCB  
NALANE  
NAQBAJ  
NARXAR  
NASCAD

**Updates**  
**1.4 MDM Diagnostic Notes and Updates**

NASGAG  
NAVSAD  
NAZQAB



# 2

---

## Problems and Corrections

This chapter discusses known monitor and diagnostic problems.

### 2.1 Monitor Problems

Possible monitor problems are divided into four categories:

- Menu Mode problems
- Command Line Mode problems
- Development problems
- Miscellaneous problems

The following sections describe miscellaneous problems. There are no known Menu Mode, Command Line Mode, or Development problems in this release.

#### 2.1.1 MDM Documentation

The following sections describe miscellaneous documentation problems.

##### 2.1.1.1 MDM Programmer's Guide: Update on DSL\$GET\_ENVIRONMENT Call

The `DSL$GET_ENVIRONMENT.CPU_TYPE` field in the `DSL$GET_ENVIRONMENT` call on page 7-40 of the MDM Programmer's Guide does not include the following CPU types: *DSL\$KA52*, *DSL\$KA53*, *DSL\$KA660*, *DSL\$KA670*, *DSL\$KA675*, *DSL\$KA680*, *DSL\$KA681*, *DSL\$KA690*, *DSL\$KA691*, and *DSL\$KA692*. These are all NVAX computer CPU types.

## Problems and Corrections

### 2.1 Monitor Problems

#### 2.1.1.2 MDM Hard Disk User's Guide: Update on Booting from a SHAC Attached to a DSSI Controller

Chapter 3, Section 3.3 of the MDM Hard Disk User's Guide does not have any information on booting from a SHAC attached to a DSSI controller. The boot command is as follows:

```
>>> BOOT/100 DIA $n$ 
```

where  $n$  is the boot number of the SHAC drive.

Supply [SYS0.SYSEXEXE]MDMSHA.SYS when the system requests the bootfile name, as in the following example:

```
Bootfile: [SYS0.SYSEXEXE]MDMSHA.SYS
```

You must first install the MDM Hard Disk Kit on device DIA0.

#### 2.1.1.3 MDM Programmer's Guide: Clarification in DSL\$Disable\_Controller Description

The description given for the DSL\$Disable\_Controller call on page 7-26 of the MDM Programmer's Guide indicated that the CONFIGURE section does not generate error messages. This is inaccurate as error messages can be provided in the CONFIGURE section.

### 2.1.2 Unsupported Devices

Unsupported devices can display detailed messages from within tests; the detail message flag cannot be turned off for these devices.

### 2.1.3 Unsupported DSSI/KFQSA Test Configuration

MDM does not support testing of DSSI drives configured in a way that both the SHAC and KFQSA diagnostics attempt to test the same DSSI drive. The SHAC diagnostic reports erroneous PDIA/PDIB errors that the unit is currently in use.

## Problems and Corrections

### 2.1 Monitor Problems

#### 2.1.4 RF Boot Off DSSI Hangs After Reset Config/Config Commands Issued

MDM can boot the hard disk kits from the MicroVAX 3300/3400 DSSI port. The monitor boots (MDMDIA.SYS image) and loads the diagnostics correctly on the initial load. However, when you perform a Reset Configure (through either the CLM Reset Configure command or the Menu Mode menu 5.4—Activate Menu) and then perform a Configure, the monitor displays the following message and hangs:

The system is preparing for testing.

This may take several minutes.  
Please wait...

*You should reboot the system for testing to continue.*

#### 2.1.5 `Ctrl/C>>` Stops the VCB02

The VCB02 diagnostic stops running if you enter `Ctrl/C>>` mode. If you enter the Continue command as in `MDM Ctrl/C>>Continue`, the message VCB02A stopped appears.

*If you wish to continue testing the VCB02, issue the Halt command at the `MDM Ctrl/C>>` prompt, restart testing at the `MDM>>` prompt, and allow the test to complete.*

#### 2.1.6 MDM Intermittently Configures the DFA01 as a DZQ11

When MDM configures a system with a DFA01, the monitor sometimes sees the device as a DZQ11.

*You need to configure the system again to avoid this.*

#### 2.1.7 uVDOS V4.0 Banner Does Not Appear on VAX 4000 Models 100 and 100A Systems

When you boot MDM on the VAX 4000 Models 100 and 100A systems, the “uVDOS V4.0 built on ... 12:01” banner does not appear on the screen. However, the MDM introductory banner appears and normal console activity can be carried out without any problems.

## Problems and Corrections

### 2.2 Diagnostic Problems

## 2.2 Diagnostic Problems

The following sections describe diagnostic problems.

### 2.2.1 DSSI—Verify Test 4 Fails When the Drive Is Off Line

When you run the verify test 4 of the DSSI diagnostic with the drive off line, the test fails. The verify tests are supposed to run whether or not a drive is attached and on line. This is only a READ test, but still needs the DUP code to run, which does not happen if the drive is off line.

### 2.2.2 MIRA—Out of Range Input Causes Wait

When running utility tests 3, 4, or 5 on the MIRA, you see general SETUP messages. Then you are prompted to enter a 1 or 2 and press `Return`, corresponding to the particular mode (maintenance or installation) that you are in.

If you enter an out-of-range number (either 0 or greater than 2), the cursor moves to the beginning of the next line and waits. To continue the test, enter a 1 or 2 and press `Return`. The test continues according to which value you entered.

### 2.2.3 RC25—nakdal—Functional Tests Can Give Fatal Bugcheck

When running the functional tests with pass set to 0 on the KDA50 diagnostic running on the RC25 with the KA650, the following fatal bugcheck occurs:

```
** Fatal Bugcheck, uVDOS V3.0. UNXINTEXC, unexpected interrupt
                                     or exception

Job 000300D2, Program: nakda

  R0      ...   R4      R5      R6      R7
00000001 ... 00000005 00000001 00000000 00000005
7fffffff ... 000011ea 7ffffd18 80055bf0 80004e04
  R8      ...   AP      FP      SP      PC

KERNEL/INTERRUPT STACK

  80055BF4 04170000
  80055BF8 000096D4
  80055BFC 000000A0

System shutdown complete - use console to halt system
```

This occurs on different pass numbers ranging from 1 to 137; however, it usually occurs after running test 1.

## Problems and Corrections

### 2.2 Diagnostic Problems

#### 2.2.4 DTQNA/nazqaa—Cumulative Pass Count as Printed is Confusing

A progress message printed during the running of exerciser and functional tests gives the total count of the number of passes of all tests run. This count is incremented each time the diagnostic runs any test and the message is printed after every 10 passes. When the monitor prints out the following messages, it could be confusing as to exactly how many passes were executed. The following is an example:

```
pass 1 test 1 started
pass 2 test 1 started
the test has run 10 passes
```

#### 2.2.5 DZV11/nadzaf—Fails Exerciser Test 1 with DTQNA in Config

A bus timing problem occurs with the DZV11/DZQ11/DTQNA configured in a system. The failure happens with the DZV11 as the second DZA device. This failure occurs only after the initial boot, not after a `reset config` or `config`. The failure has also been observed when the DZV11 is the first DZA device in the configuration, but the occurrence is less frequent.

The failure observed when the bus is set up is as follows:

```
nakaa 160000 000
namta 160000 000
narxa 172150 154
natka 174500 260
nadza 160100 300    dzq11
nadza 160110 310    dzv11
nadha 160500 320
nazqa 172570 330    dtqna
naxqa 174440 120
```

#### 2.2.6 ADV11D-A—Gets Fatal Bugcheck with Utility Tests 5 and 6

When testing the utilities for the ADV11-DA, tests 5 and 6 are looking for a CSR of a second device. Because the device is not a part of this setup, enter `CTRL/C` and then the `Halt` command to exit the test. The system responds with the following message and then crashes:

```
Fatal bugcheck, VAXELN V4.0 FATLMEMERR, unrecoverable memory error
Current Job = 000300c2
Program Name = NAADA

Test 5 of the utility is "D/A-A/D loopback test"
Test 6 of the utility is "Real time clock start test"
```

## Problems and Corrections

### 2.2 Diagnostic Problems

#### 2.2.7 KDA—Diagnostic Produces Fatal Bugcheck During Config if Nonexistent CSR Is Used

When you use a KA650 CPU with no KDA board, specify a nonexistent CSR address for a KDA. Then, perform a configure of the system. The KDA diagnostic should see if a device is at the specified address. The KDA disables itself when there is no response. This is what happens with a MicroVAX CPU.

However, this action produces a fatal bugcheck if the CPU is a KA650 or with a TK50. The following detail messages are produced:

```
***** Fatal Bugcheck, VAXELN V4.0 FATLMEMERR, unrecoverable
memory error

    current job = 000300c2
    Program Name= NAKDA

Press return to view remainder of bugcheck info.....

    Register Dump
        R0 = 8018ac78
            .
            .
        PSL=041d0008
    Kernel/Interrupt Stack
        800747f8../....

system shutdown complete
```

## Problems and Corrections

### 2.2 Diagnostic Problems

#### 2.2.8 NALAA—LPS40 Fails Utility Test 2

The NALAA diagnostic utility test 2, "Print Engine Emulator Test", fails if the device is not connected. Utility test 2 neither tells the operator that it has failed nor gives the operator an opportunity to connect the emulator test device.

#### 2.2.9 NALAA—LPS40 Fails Utility Test 4

The NALAA diagnostic utility test 4, "Print Engine Emulator Test", fails. The diagnostic does not advise the operator that the test is for a duplex printer only.

#### 2.2.10 CXF32—Fails Utility Test 1 on MicroVAX 3500/3600 Systems

The diagnostic fails utility test 1, "Staged loopback test", with all ports looped back or with just one port looped back when run under the KA650 CPU. This error occurs regardless of which half of the board is being tested. A typical example follows:

```
There were 17 data errors in 10 cycles.  
Interrupt failure occurred while transmitting on line 8.  
DHCX0A - Error number 30  
Error during port interrupt test.
```

#### 2.2.11 VS550—Diagnostic Fails When Exercised with the TK70

When the VS550 and the TK70 diagnostics are exercised together, the VS550 fails during exerciser test 2 with the following error:

```
VS550 - Error Number 12  
there were errors during the test  
M7651 is the FRU
```

This error occurs when exercising the whole system or when just exercising the TK70 and VS550 together.

#### 2.2.12 DSIA—Diagnostic Prints Nonstandard "CR" Message When Prompting User

When running utility test 2 of the DSIA diagnostic, you see the following message:

```
You may type "exit" to exit from this utility  
or "CR" to display the local program directory.
```

## Problems and Corrections

### 2.2 Diagnostic Problems

The message should read as follows:

```
You may type "exit" to exit from this utility or  
press <RETURN> to display the local program directory.
```

#### 2.2.13 KDA50—Diagnostic Errors When Run for Extended Period on rtVAX Systems

An intermittent failure is reported when you run utilities on an rtVAX system over an extended period of time (about 24 hours) with the following configuration: CPU, memory, RQDX3, TK70, DHV11, DHQ11, DZV11, RC25, KDA50 (RA82), DPV11, DZQ11, and KVV11-C. The error reported is:

```
KDA50QA - Error Number 21  
Controller detected internal error.  
M7164 controller processor module.
```

#### 2.2.14 RQX05—Diagnostic Fails Intermittently in Service/Exerciser Mode on MicroVAX II Systems

An intermittent failure occurs when running the RQX05 diagnostic in the Service/Exerciser mode on MicroVAX II systems. This stops all further testing of the device. The following error message is reported:

```
RQX05A - Error Number 415  
Read sector failure at errchk compliment  
The drive unit is the FRU
```

#### 2.2.15 NASCAB—Diagnostic Errors When Run with RRD40 and RRD42 on DECsystem 5500 Systems

When exercising the SCSI diagnostic by itself for an extended period of time with the RRD40 and/or the RRD42 on it, the drives fail and produce an error. The drives also fail if run separately. This failure is also seen if the NASCAB diagnostic is exercised with the rest of the system. It appears that once a device fails, it is no longer tested during that particular test run. The following error message is reported:

```
SCSA - Error Number 6007      25-JUN-1994 08:31:50.15  
FAILURE : Verify Mode Exerciser failed - Device ID 04.  
FRU : Device at SCSI ID mention above.
```

```
SCSA - Error Number 6007      25-JUN-1994 02:33:55.23  
FAILURE : Verify Mode Exerciser failed - Device ID 06.  
FRU : Device at SCSI ID mention above.
```

## Problems and Corrections

### 2.2 Diagnostic Problems

#### 2.2.16 AXV11--CA—Diagnostic Fails to Set Individual CSR Bit Correctly During Functional Test on VAX 4000 Models 400 and 500 Systems

The AXV11--CA diagnostic produces error number 1 during functional test on VAX 4000 Model 500. The message reported is:

```
AXV11--CA - Error Number 1
Failed to correctly set individual CSR bit
When setting CSR bit 14
DATA expected 0100000000000000
DATA read     0100100000000000
```

The value of the DATA read may fluctuate.

#### 2.2.17 VCB02/DFA0/TK70—Produces a "Hang" During MDM Boot with the VCB02 as a Console on VAX 4000 Model 500 Systems

If the VCB02 is configured as a console on a system with DFA01 and TK70, and MDM is booted from the TK70, the MDM introductory screen information is not displayed completely when booting the VAX 4000 Model 500. The system seems to “hang” after displaying the copyright information.

*To avoid this, press the  key until the system responds with the rest of the introductory screen information.*

#### 2.2.18 KFQSA—Produces Error During Functional Test on MicroVAX 3800/3900 Systems

The KFQSA diagnostic reports the following error message while testing the MicroVAX 3800/3900:

```
KFQSA - Error Number 35000008
Data Error: long gap encountered
The DSSI is the FRU.
```

*This error is associated with reading a tape that does not have a logical end-of-tape. An example of this is a blank tape or a tape that is not properly formatted.*

## Problems and Corrections

### 2.2 Diagnostic Problems

#### 2.2.19 KXJ11—Diagnostic Fails During Functional Test on VAX 4000 Model 500 Systems

The KXJ11 diagnostic fails during functional test in service mode. The errors reported are as follows:

```
KXJ11A - Error Number 69
KXJ11-CA module failed local PDP-11 test code.
M7616 KXJ11-CA J-11 Microprocessor
```

```
KXJ11A - Error Number 53
KXJ11-CA selftest SLU2 error.
M7616 KXJ11-CA J-11 Microprocessor
```

#### 2.2.20 DPV11—Diagnostic Reports "Passed" Message During Exerciser Test on VAX 4000 Model 400 Systems

During exerciser testing of a VAX 4000 Model 400 system, the DPV11 diagnostic reports a "DPV11 Passed" message and drops off from the test suite. The pass count is set to zero (PASS=0).

## Reader's Comments

MicroVAX Diagnostic Monitor  
Release Notes  
AA-PK29E-TE

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Your comments and suggestions help us improve the quality of our publications.

Thank you for your assistance.

<b>I rate this manual's:</b>	Excellent	Good	Fair	Poor
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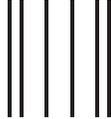
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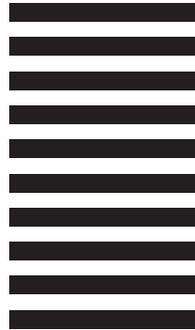
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