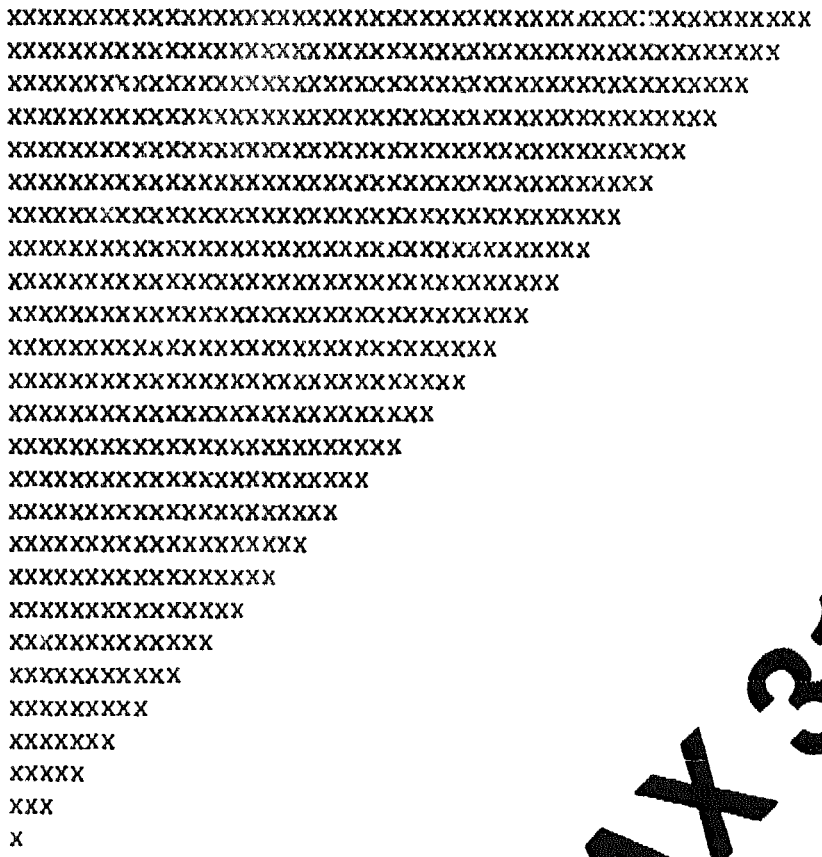
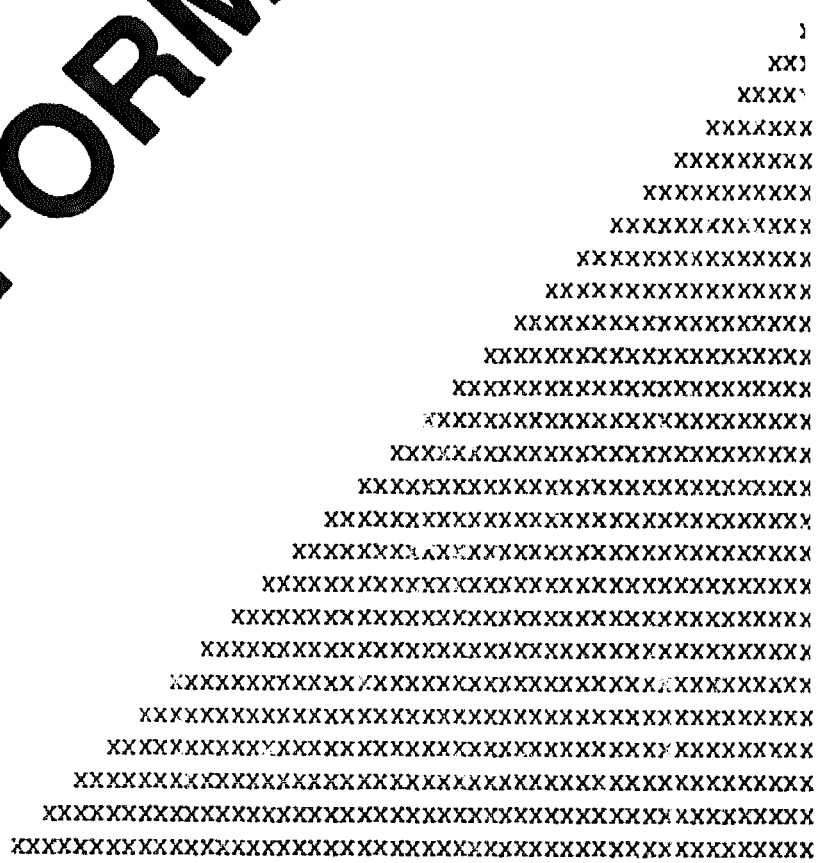


MicroVAX 3100 PLATFORM OPTIONS



MicroVAX 3100 Platform

Options

Order Number: EK-A0519-MG.001

November 1991

This manual provides reference, configuration, and installation information for the options that the MicroVAX 3100 platform systems support.

Revision Information: This is a new manual.

Digital Equipment Corporation
Maynard, Massachusetts

November 1991

The postpaid Reader's Comments forms at the end of this document request your critical evaluation to assist in preparing future documentation.

This document was prepared using VAX DOCUMENT, Version 2.0.

Preface

This manual provides reference, configuration, and installation information for each option that the MicroVAX™ 3100 platform systems support.

Audience

This manual is for Digital™ Services personnel. It is also for customers who have a self-maintenance agreement with Digital Equipment Corporation.

Structure of This Manual

This manual is divided into thirteen sections. It contains:

- An alphabetical listing of all the options that you can install in a MicroVAX 3100 platform system
- One section for each option that the MicroVAX 3100 platform systems support

Conventions

The following conventions are used in this manual:

Convention	Description
x	A lowercase italic *x* indicates the generic use of a letter. For example, *xxx* indicates any combination of three alphabetic characters.
italic type	Italic type emphasizes important information, indicates variables, and indicates the complete titles of manuals.
boldface type	Boldface type in examples indicates user input. Boldface type in text indicates the first instance of terms defined either in the text, in the glossary, or both.
nn nnn.nnn nn	A space character separates groups of 3 digits in numerals with 5 or more digits. For example, *10 000* equals *ten thousand*.
n.nn	A period in numerals signals the decimal point indicator. For example, *1.75* equals *one and three-fourths*.
MONOSPACE	Text displayed on the screen is shown in monospaced type.
Radix indicators	The radix of a number is written as a word enclosed in parentheses, for example, 23(decimal) or 34(hexadecimal).
UPPERCASE	A word in uppercase indicates a command.
Note	A note contains information that is of special importance to the user.
Caution	A caution contains information to prevent damage to the equipment.

List of Options

This manual contains descriptions of the following options that the MicroVAX 3100 platform systems support:

- DHW41-AA, -BA asynchronous communications option
- DHW42-AA, -BA, -CA, -UP asynchronous communications option
- DSW41-AA synchronous communications option
- DSW42-AA synchronous communications option
- MS44-BA, -DA, MS44L-BA memory options
- RRD42-EK CDROM drive option
- RX26-EL disk drive option
- RZ23L-EH disk drive option
- RZ[illegible]EH disk drive option
- RZ25-EK disk drive option
- TZ30-EL tape drive option
- TZK10-HG tape drive option

Overview

This manual describes the options that you can install in the system enclosures of MicroVAX 3100 platform systems. The option information is listed in alphabetical order. There is one section for each option. Each section contains information under the following headings:

- Description

  This subsection briefly describes the option.

- Ordering information

  This subsection gives the order numbers for each option variant.

- Option contents

  This subsection lists the option components.

- SCSI ID information

  This subsection describes how to set the ID of a small computer system interface (SCSI) device option. In a MicroVAX 3100 platform system, each SCSI device must have a unique SCSI ID. The following table lists the recommended SCSI IDs for the various SCSI devices that the MicroVAX 3100 platform systems support:

SCSI ID	Device
0	
1	RZ2* [1]
2	RZ2* [1]
3	RZ2* [1] (system disk)
4	RRD42
5	TZ30, TZK10, or RX26
6	SCSI controller (INITR)
7	

[1]These devices can be RZ23L, RZ24, or RZ25 disk drives.

- Installation

  This subsection provides instructions that describe how to install the option into a MicroVAX 3100 platform system. If there is model-specific information, it is also described.

- Diagnostic support

  This subsection provides the diagnostic test command used to test the option. It also references the *KA45 CPU System Maintenance* or the *KA47 CPU System Maintenance* manual. These manuals describe the diagnostic test and troubleshooting procedures for the option.

- Power requirements

  This subsection gives the dc (direct current) power requirements of the option.

When the information under a heading is not applicable to an option, that heading is excluded from the section. For example, options that are not SCSI devices do not have the heading SCSI ID Information.


DHW41-AA, -BA

DHW41-AA, -BA Asynchronous Communications Option

Description

The DHW41 is an asynchronous communications option for the MicroVAX 3100 Model 30 systems. There are two variants of the option that provide different communications interfaces (see Table DHW41–1).

Table DHW41–1 DHW41 Variants

Variant	Communications Interface
DHW41-AA	Eight DEC423 asynchronous lines
DHW41-BA	Four EIA-232 asynchronous lines with modem control

Ordering Information

Table DHW41–2 lists the order numbers of the DHW41 options that Digital Services personnel install in a MicroVAX 3100 Model 30 system.

Table DHW41–2 Ordering Information

System Type	Order Numbers
BA42-A enclosure	DHW41-AA, DHW41-BA

Option Contents

The DHW41 options contain components that you install in the system enclosure (internal components) and components that you connect to the system (external components).

Figure DHW41–1 shows the contents of a DHW41 option. The DHW41 input/output module is different for each option variant. Also, the external components for each variant are different. Table DHW41–3 gives the unique components of each variant.

Figure DHW41–1 DHW41 Option

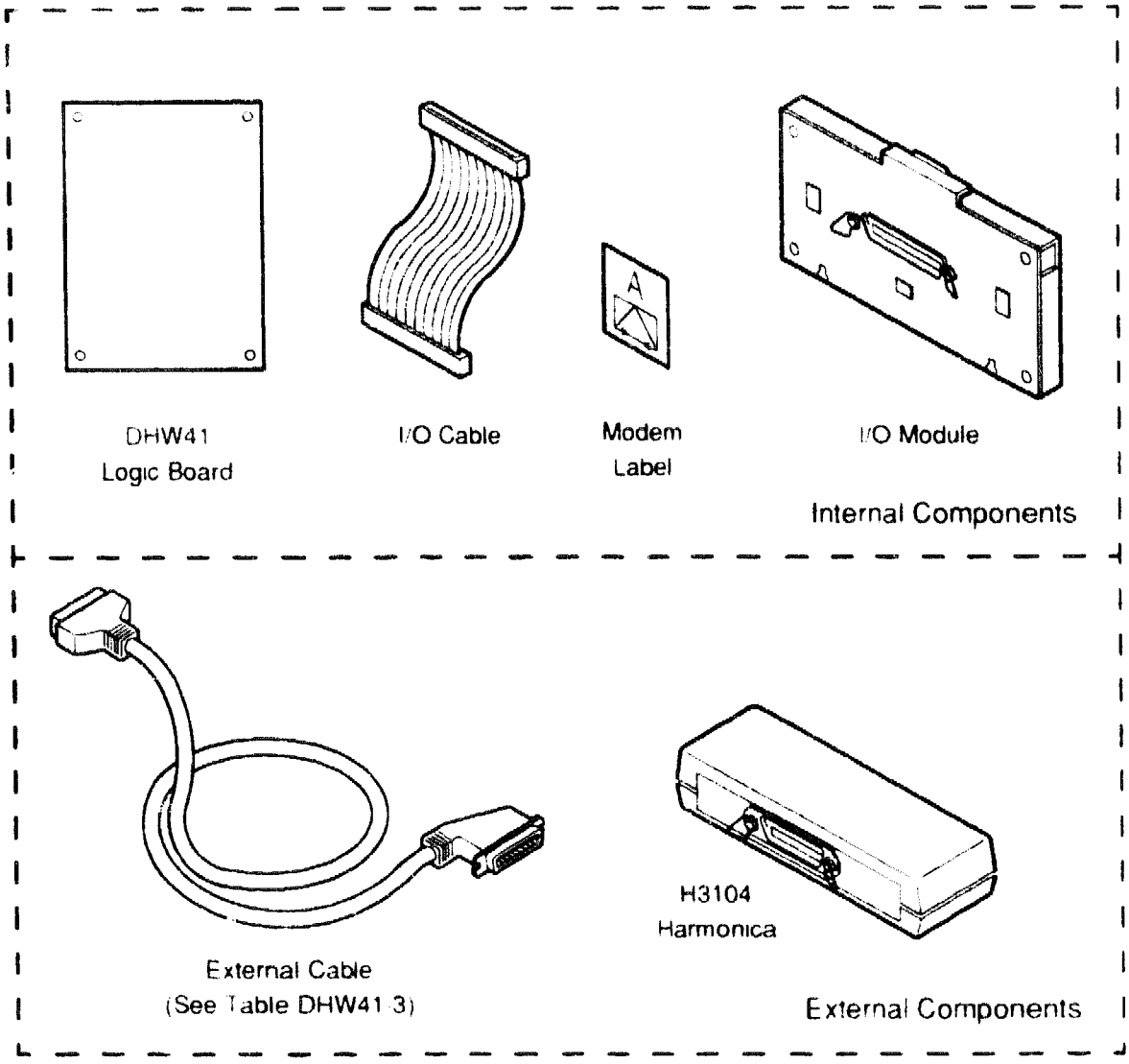


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Table DHW41–3 Unique Components of the DHW41 Variants

Variant	I/O Module	External Cable	Harmonica	Modem Label
DHW41-AA	36-way (70-28540-02)	BC16C-10 (17-01174-01)	H3104-00	
DHW41-BA	50-way (70-28541-01)	BC29J-06[1] (17-02941-01)		36-36016-01

[1]Cable with 50-way connector and four 25-way connectors.

Installation

The DHW41 asynchronous communications option contains components that you install in the system enclosure as follows:

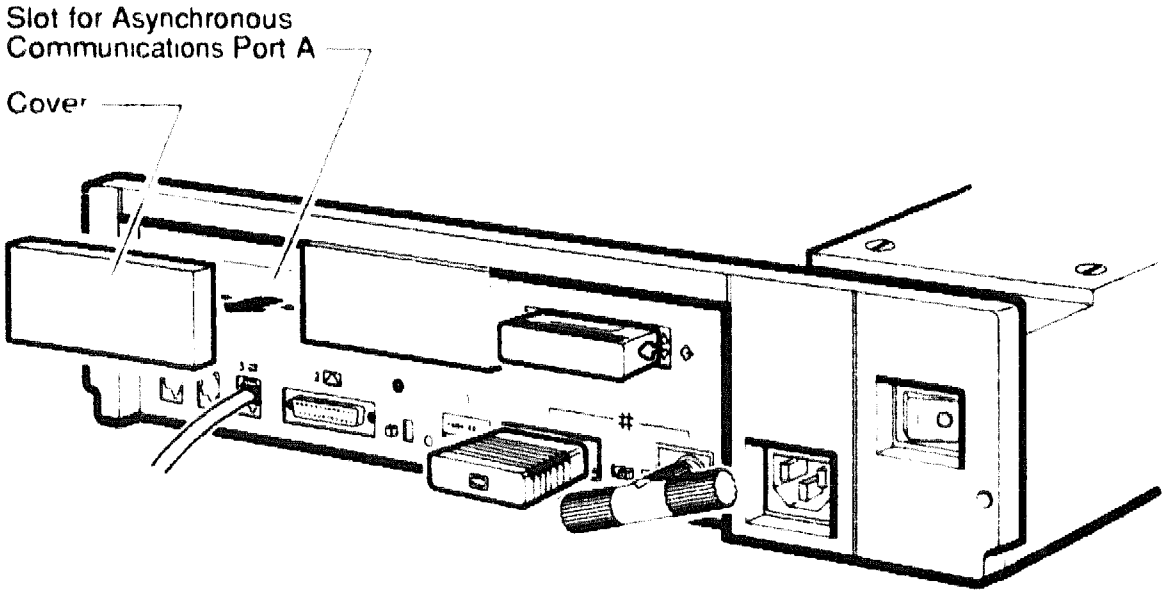
- A logic board (54-20662-01)
- An input/output cable (17-02942-01)
- One of the following input/output modules:
  - 8 data-only line input/output module (70-28540-02, DHW41-AA)
  - 4 modem control line input/output module (70-28541-01, DHW41-BA)

To install these components in the system enclosure, you must remove the enclosure cover and the drive-mounting shelf. See the *BA42-A Enclosure Maintenance* manual for more information.

To install the DHW41 input/output module, follow these steps:

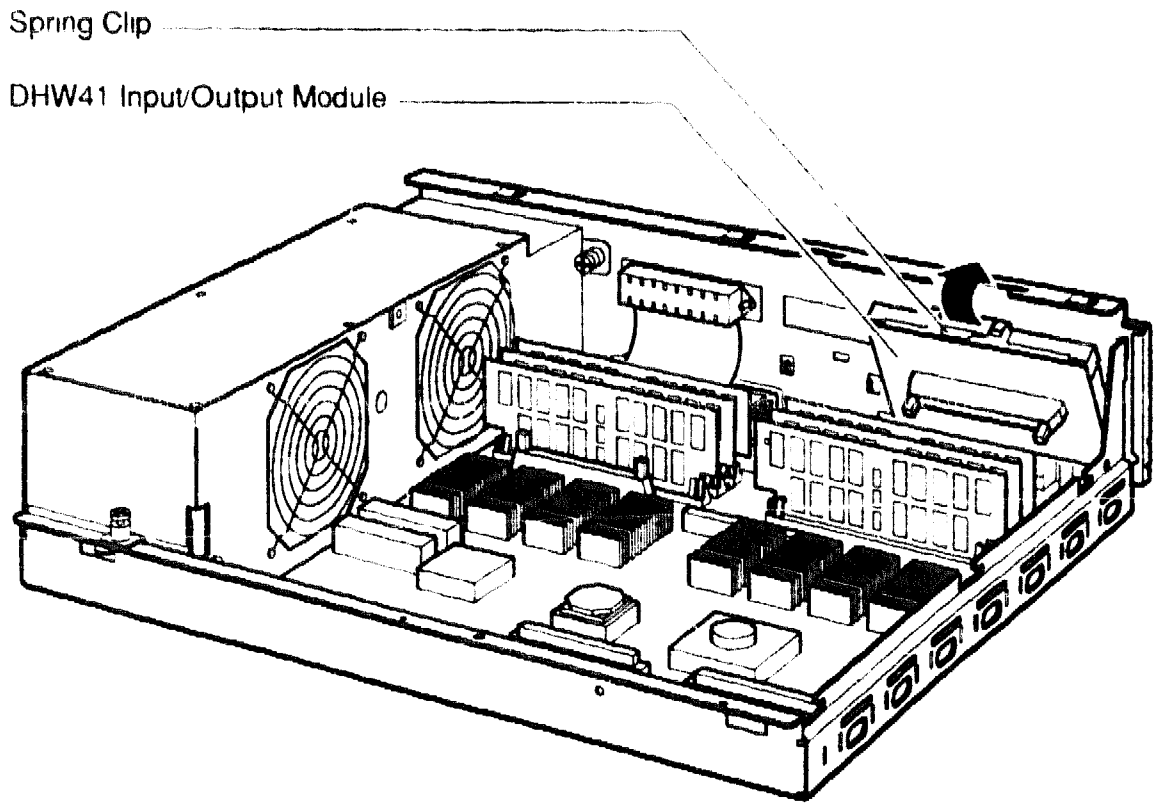
1. From inside the enclosure, push up the plastic tab on the cover that conceals asynchronous communications port A and remove the cover from the enclosure (see Figure DHW41–2).

Figure DHW41–2 Removing the Cover from Asynchronous Communications Port A



2. Place the DHW41 input/output module, with external connectors facing out, on the support tabs on the back of the enclosure (see Figure DHW41–3).
3. Tilt the DHW41 input/output module towards the back of the enclosure until the spring clip on the DHW41 input/output module clicks into position.

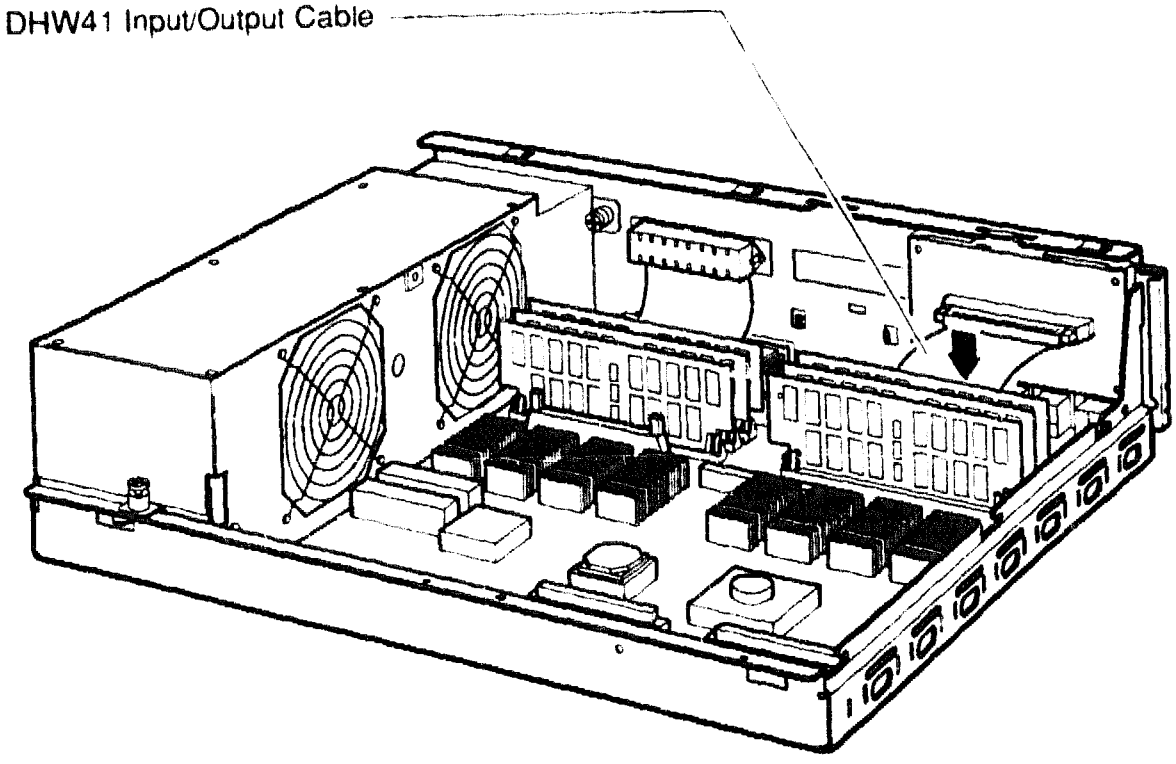
Figure DHW41–3 DHW41 Input/Output Module Installation



To install the DHW41 input/output cable, follow these steps:

1. Connect one end of the DHW41 input/output cable to the connector on the CPU module (see Figure DHW41–4).
2. Connect the other end of the DHW41 input/output cable to the DHW41 input/output module on the back of the enclosure (see Figure DHW41–4).
3. Ensure that the connector arms lock both cable connectors securely into position.

Figure DHW41–4 DHW41 Input/Output Cable Installation



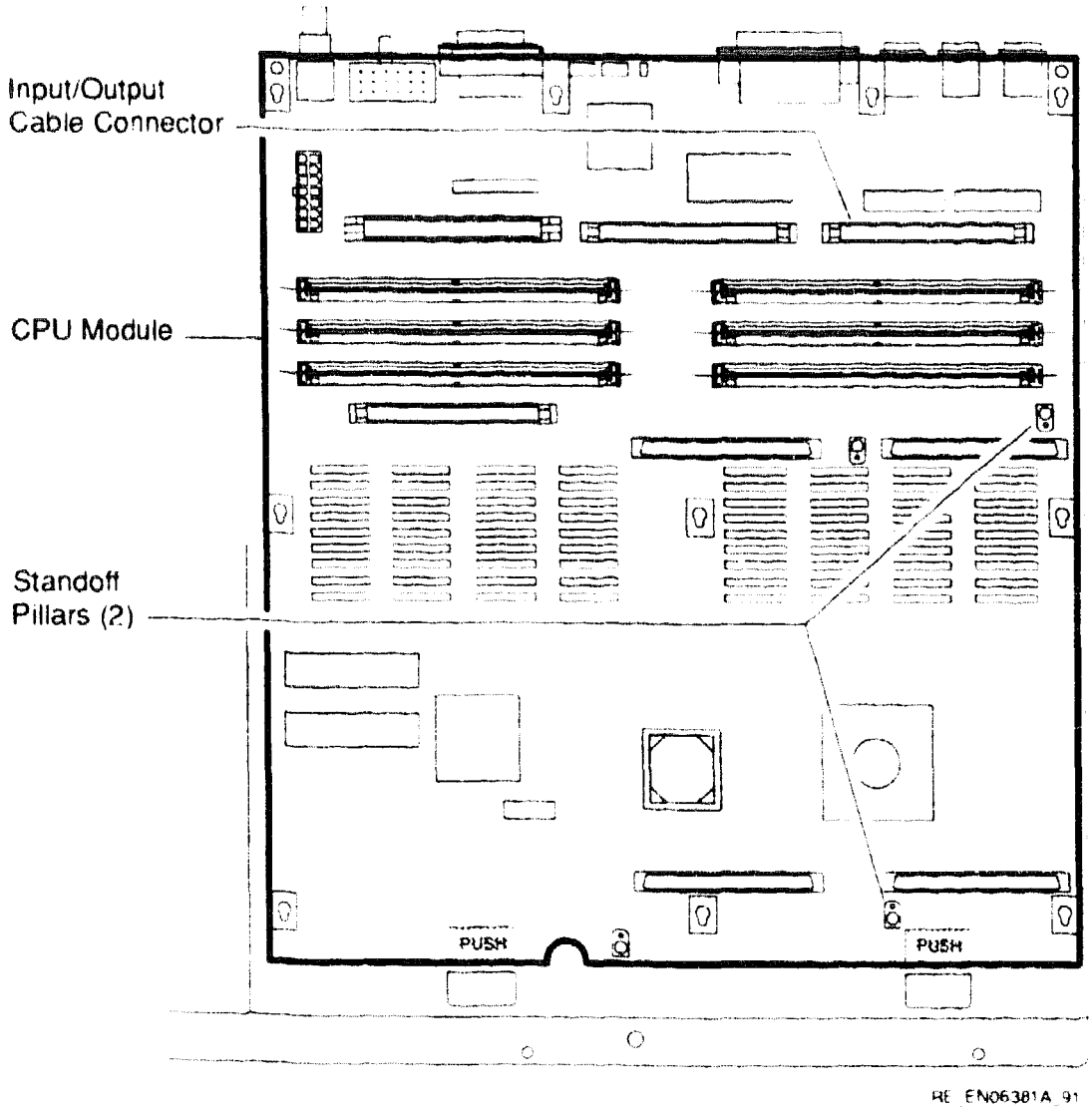
Install the DHW41 logic board as follows:

Caution

Static electricity can damage integrated circuits. Wear a wrist strap and place an antistatic mat under the system unit when working with the internal parts of the system unit.

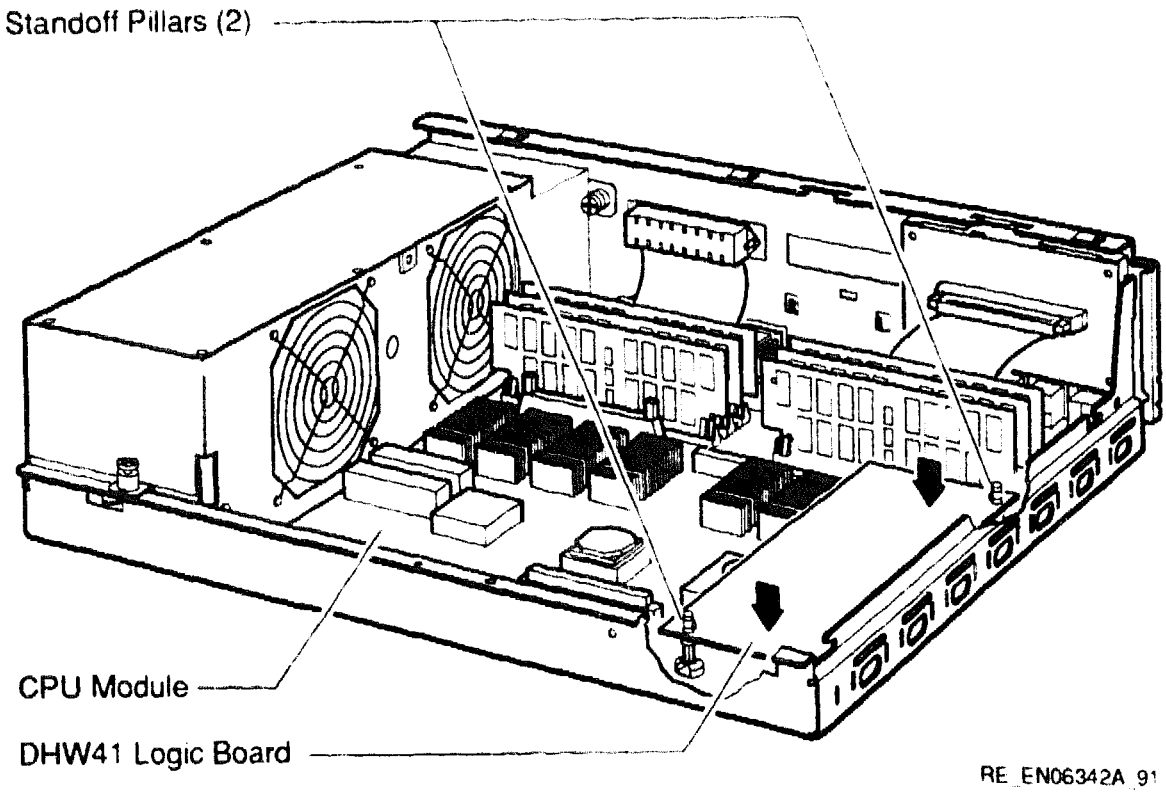
1. Place the DHW41 logic board in the enclosure. Align the connectors on the DHW41 logic board with the connectors on the CPU module and align the holes on the DHW41 logic board with the standoff pillars on the CPU module (see Figure DHW41–5).

Figure DHW41–5 Location of the Standoff Pillars on the DHW41 Logic Board



2. Press the DHW41 logic board until the connectors on the DHW41 logic board engage fully with the connectors on the CPU module and the standoff pillars lock the board in position.

Figure DHW41–6 DHW41 Logic Board Installation



After you install the DHW41 internal components, reinstall the drive-mounting shelf and the enclosure cover.

When you install the DHW41-BA variant, place the modem label, supplied with the option, over the existing icon for the asynchronous communications port A.

Diagnostic Support

The MicroVAX 3100 platform systems provide diagnostic support that tests the operation of a DHW41 option in a MicroVAX 3100 platform system.

Note

You cannot put the system in the Digital Services mode unless there is a loopback connector (29-24795-00) connected to asynchronous modem control port 2 on the back of the system unit.

Enter the following command at the console prompt to put the system in the Digital Services environment:

```
>>> SET DIAGENV 2
```

Connect a loopback connector to asynchronous port A on the back of the system unit. The loopback connector you connect depends on the option variant as follows:

- DHW41-AA—Connect the H3101-00 loopback connector
- DHW41-BA—Connect the H4081-A loopback connector

Enter one of the following commands at the console prompt to test the operation of the asynchronous communications option:

```
>>> T 14
```

```
>>> T ASYNC
```

If the test passes, install the external components.

If the test fails, the LED display on the back of the system unit displays a code in the range E0 to EE(hexadecimal), and the console terminal displays a hard error message containing the test number (14) and the test mnemonic (ASYNC) as shown in the following example:

```
?? 021 14 ASYNC 1280
```

See the *KA45 CPU System Maintenance* manual for more information.


DHW42-AA,
-BA,-CA,-UP

DHW42-AA, -BA, -CA, -UP Asynchronous Communications Option

Description

The DHW42 is an asynchronous communications option for the MicroVAX 3100 Model 40 and Model 80 systems. There are four variants of this option. Three variants provide different communications interfaces, and one variant is an upgrade option (see Table DHW42–1).

Table DHW42–1 DHW42 Variants

Variant	Communications Interface
DHW42-AA	Eight DEC423 asynchronous lines
DHW42-BA	Sixteen DEC423 asynchronous lines
DHW42-CA	Eight EIA-232 asynchronous lines with modem control
DHW42-UP	Eight to 16 DEC423 asynchronous line upgrade

Ordering Information

Table DHW42–2 lists the order numbers for the DHW42 options that Digital Services personnel install in a MicroVAX 3100 Model 40 or Model 80 system.

Table DHW42–2 Ordering Information

System Type	Order Numbers
BA42-B enclosure	DHW42-AA, DHW42-BA, DHW42-CA, DHW42-UP

Option Contents

The DHW42 option contains components that you install in the system enclosure (internal components) and components that you connect to the system (external components).

Figure DHW42–1 shows the contents of a DHW42 option. The DHW42 input/output module is different for each option variant. Also, the external components for each variant are different. Table DHW42–3 gives the unique components of each variant.

Figure DHW42–1 DHW42 Option

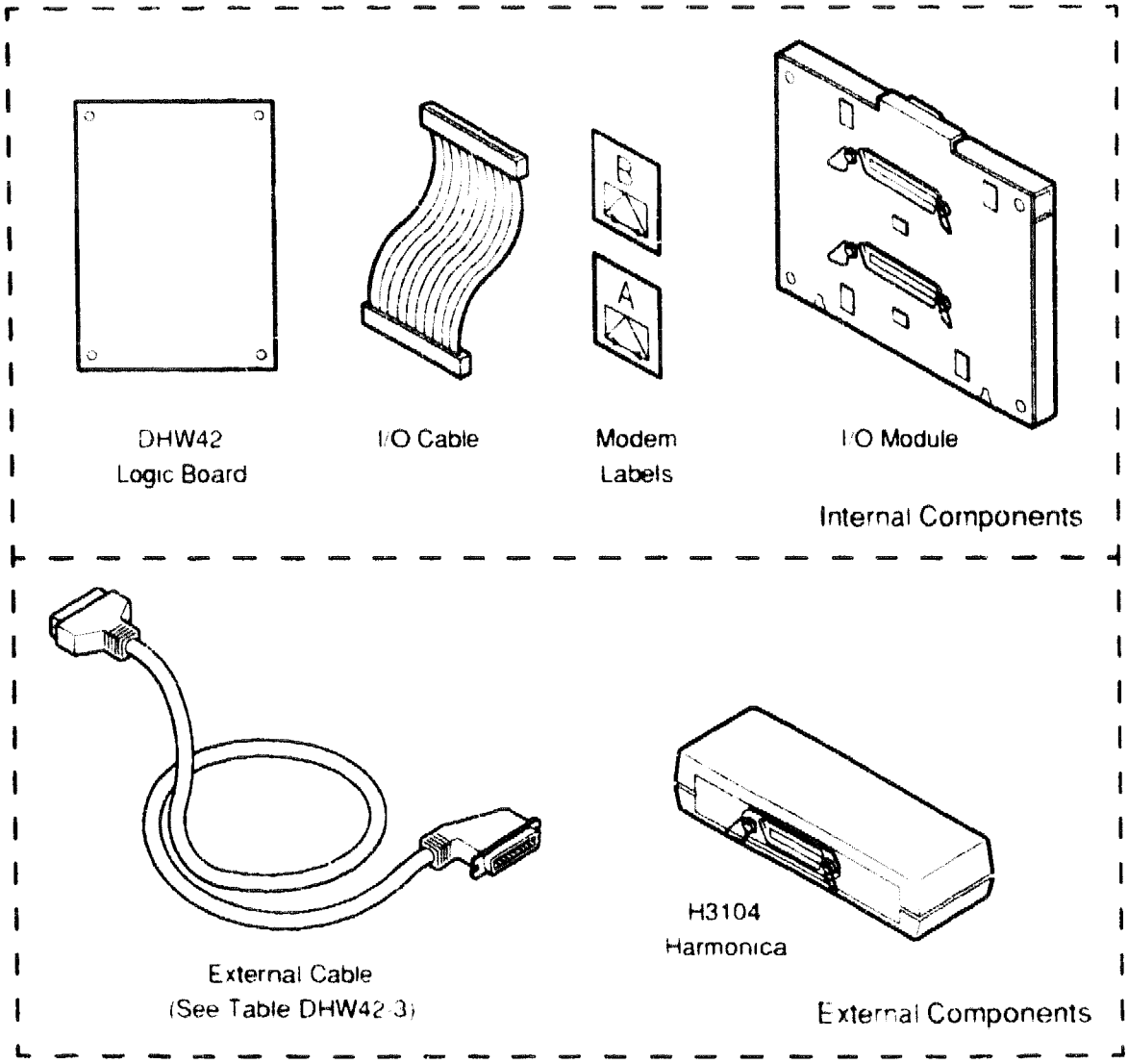


Table DHW42–3 Unique Components of the DHW42 Variants

Variant	I/O Module	External Cable	Harmonica	Modem Labels
DHW42-AA	36-way[1] (70-28542-02)	BC16C-10 (17-01174-01)	H3104-00	
DHW42-BA	36-way (70-28542-03)	BC16C-10[2] (17-01174-01)	H3104-00[2]	
DHW42-CA	50-way (70-28543-01)	BC29J-06[2] (17-02941-01)		36-36016-01
DHW42-UP	36-way (70-28542-03)	BC16C-10 (17-01174-01)	H3104-00	

[1]This I/O module contains only one 36-way connector.

[2]Two supplied.

Installation

The DHW42 asynchronous communications option contains components that you install in the system enclosure as follows:

- A logic board (54-20662-01)
- An input/output cable (17-02942-01)
- One of the following input/output modules:
  - 8 data-only line input/output module (70-28542-02)
  - 16 data-only line input/output module (70-28542-03)
  - 8 modem control line input/output module (70-28543-01)

To install these components in the system enclosure, you must remove the enclosure cover and the drive-mounting shelves. See the *BA42-B Enclosure Maintenance* manual for more information.

To install the DHW42 input/output module, follow these steps:

Note

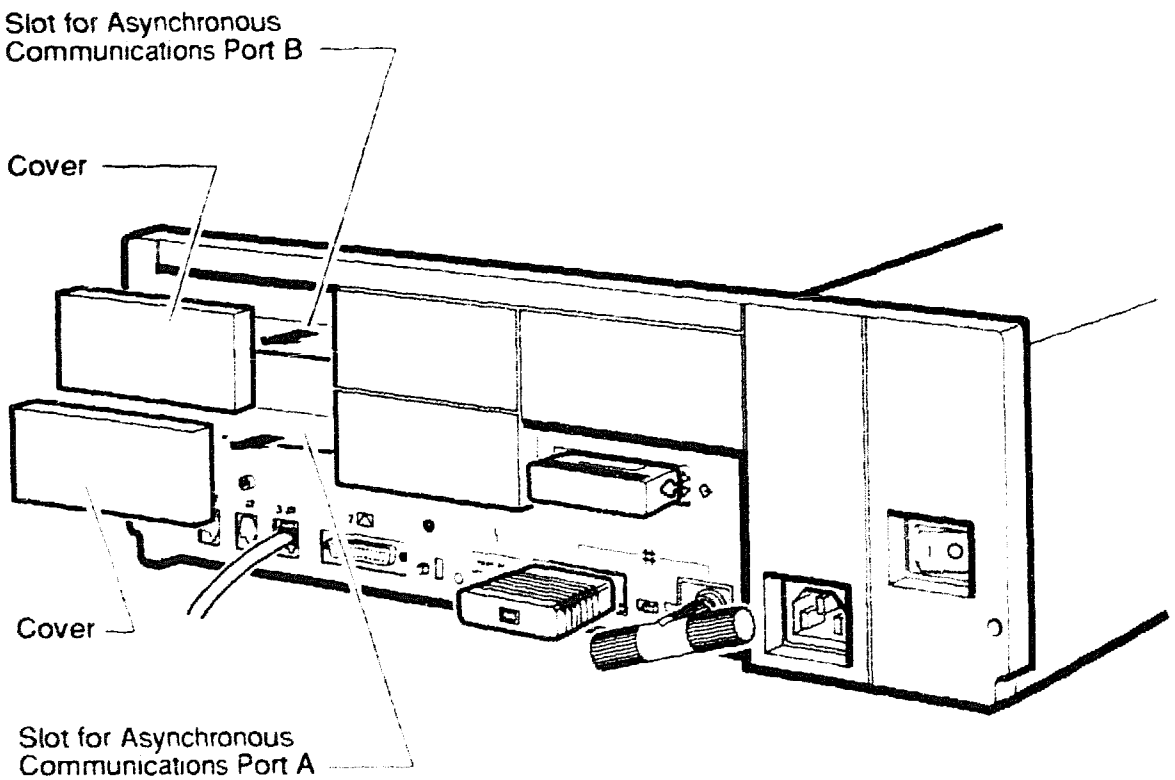
To install an input/output module, you must remove the asynchronous communications port covers from the back of the CPU module. The variant of the option determines the covers you remove as follows:

- DHW42-AA—remove the cover on the asynchronous communications port A only (the lower cover).
- DHW42-BA and DHW42-CA—remove the covers on the asynchronous communications ports A (lower port) and B (upper port).
- DHW42-UP—remove the cover on the asynchronous communications port B (the upper cover).

---

1. To remove a port cover, push up the plastic tab on the cover from inside the enclosure and remove the cover from the enclosure (see Figure DHW42–2).

Figure DHW42–2 Removing the Covers from Asynchronous Communications Port A and Port B



Note: 1. Remove lower cover first.
2. Remove lower cover only for DHW42-AA.

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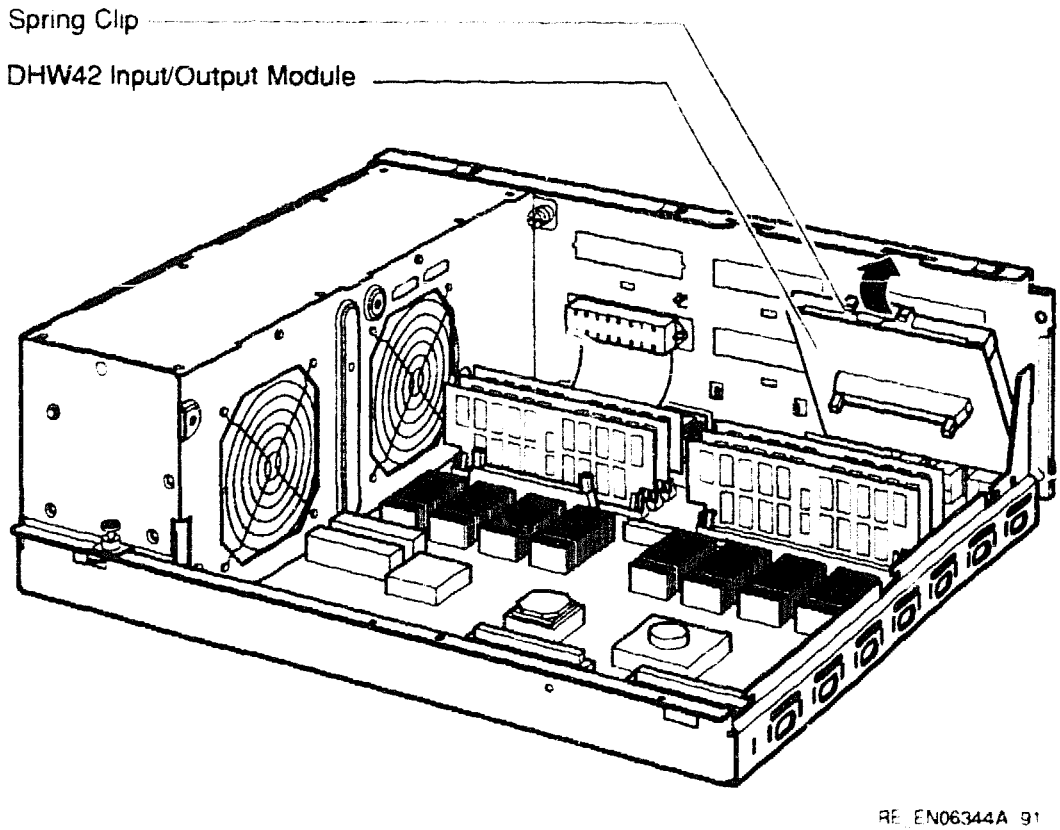
2. Place the DHW42 input/output module, with external connectors facing out, on the support tabs on the back of the enclosure (see Figure DHW42–3).

3. Tilt the DHW42 input/output module towards the back of the enclosure until the spring clip on the DHW42 input/output module clicks into position.

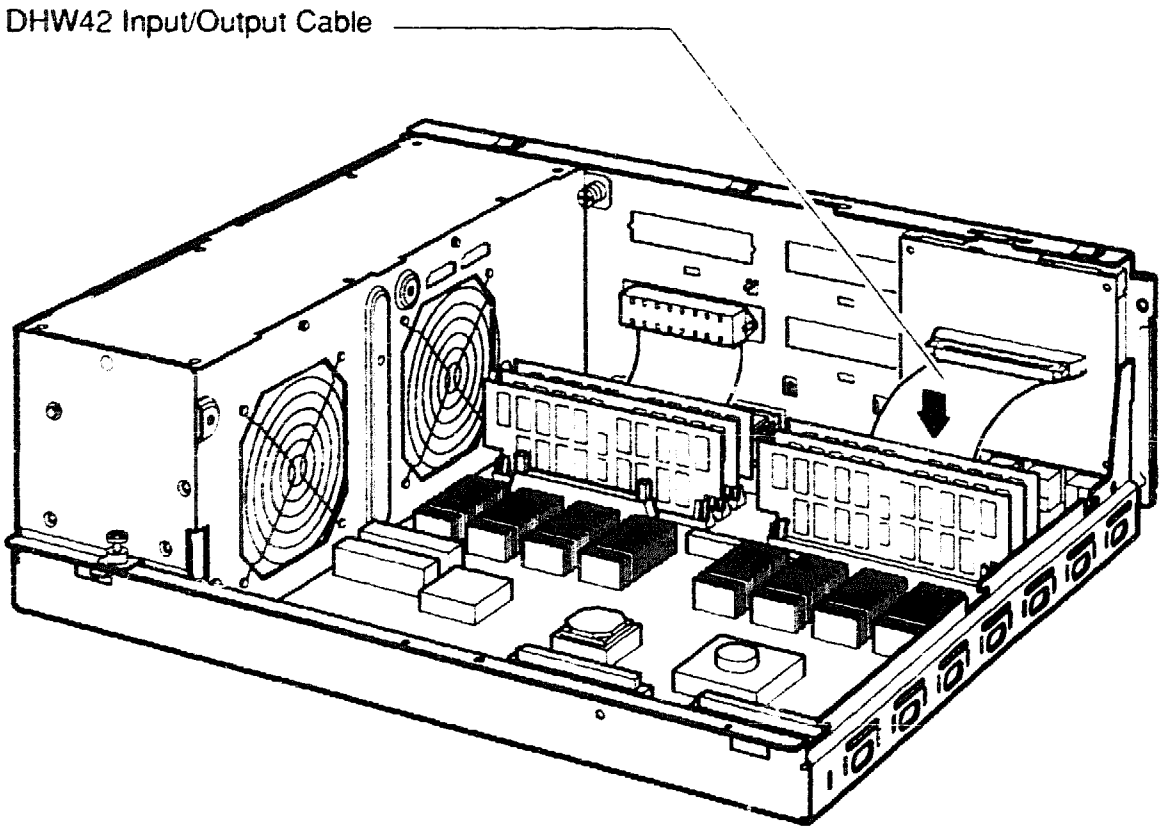
Figure DHW42–3 DHW42 Input/Output Module Installation



Install the DHW42 input/output cable as follows:

1. Connect one end of the DHW42 input/output cable to the connector on the CPU module (see Figure DHW42–4).
2. Connect the other end of the DHW42 input/output cable to the DHW42 input/output module on the back of the enclosure (see Figure DHW42–4).
3. Ensure that the connector arms lock both cable connectors securely into position.

Figure DHW42–4 DHW42 Input/Output Cable Installation



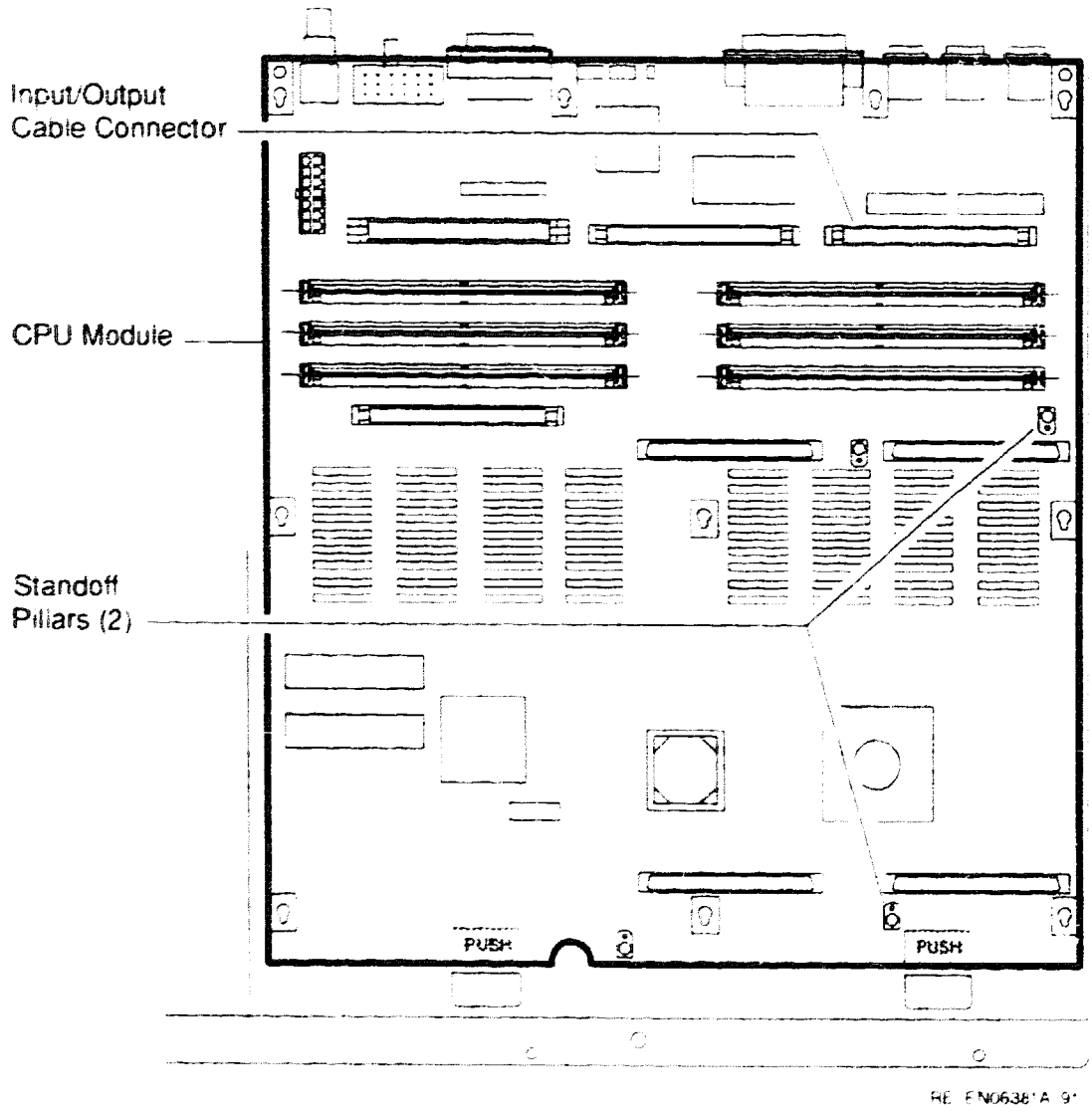
Install the DHW42 logic board as follows:

Caution

Static electricity can damage integrated circuits. Wear a wrist strap and place an antistatic mat under the system unit when working with the internal parts of the system unit.

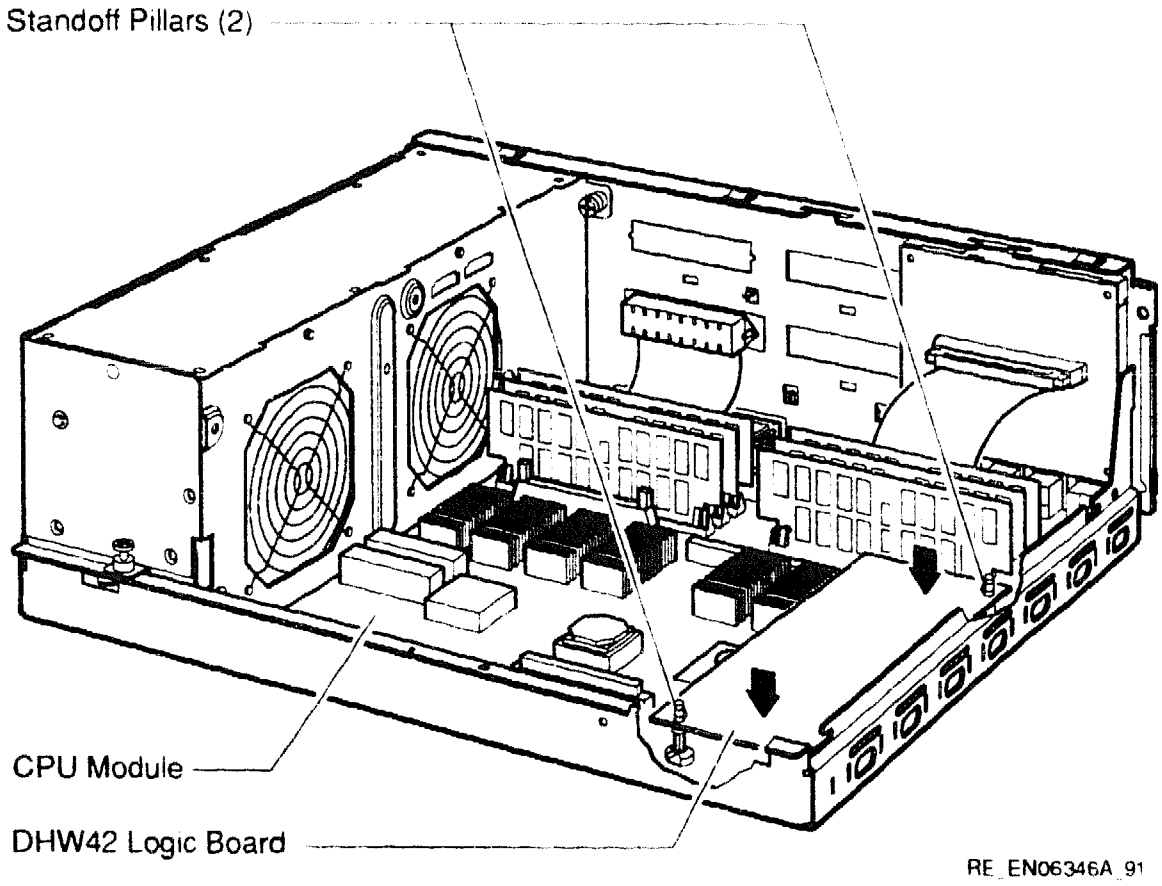
1. Place the DHW42 logic board in the enclosure. Align the connectors on the DHW42 logic board with the connectors on the CPU module, and align the holes on the DHW42 logic board with the standoff pillars on the CPU module (see Figure DHW42–5).

Figure DHW42–5 Location of the Standoff Pillars on the DHW42 Logic Board



2. Press the DHW42 logic board until the connectors on the DHW42 logic board engage fully with the connectors on the CPU module and the standoff pillars lock the board in position.

Figure DHW42–6 DHW42 Logic Board Installation



After you install the DHW42 internal components, install the drive-mounting shelves and the enclosure cover.

When you install the DHW41-CA variant, place the modem labels, supplied with the option, over the existing icons for the asynchronous communications ports A (lower port) and B (upper port).

Diagnostic Support

The MicroVAX 3100 platform systems provide diagnostic support that tests the operation of a DHW42 option in a MicroVAX 3100 platform system.

Note

You cannot put the system in the Digital Services mode unless there is a loopback connector (29-24795-00) connected to asynchronous modem control port 2 on the back of the system unit.

Enter the following command at the console prompt to put the system in the Digital Services environment:

```
>>> SET DIAGENV 2
```

Connect the loopback connectors to asynchronous ports A and B on the back of the system unit. The loopback connectors that you connect depend on the option variant as follows:

- DHW42-AA—Connect one H3101-00 loopback connector
- DHW42-BA—Connect two H3101-00 loopback connectors
- DHW42-CA—Connect two H4081-A loopback connectors
- DHW42-UP—Connect two H3101-00 loopback connectors

Enter one of the following commands at the console prompt to test the operation of the asynchronous communications option:

```
>>> T 14
```

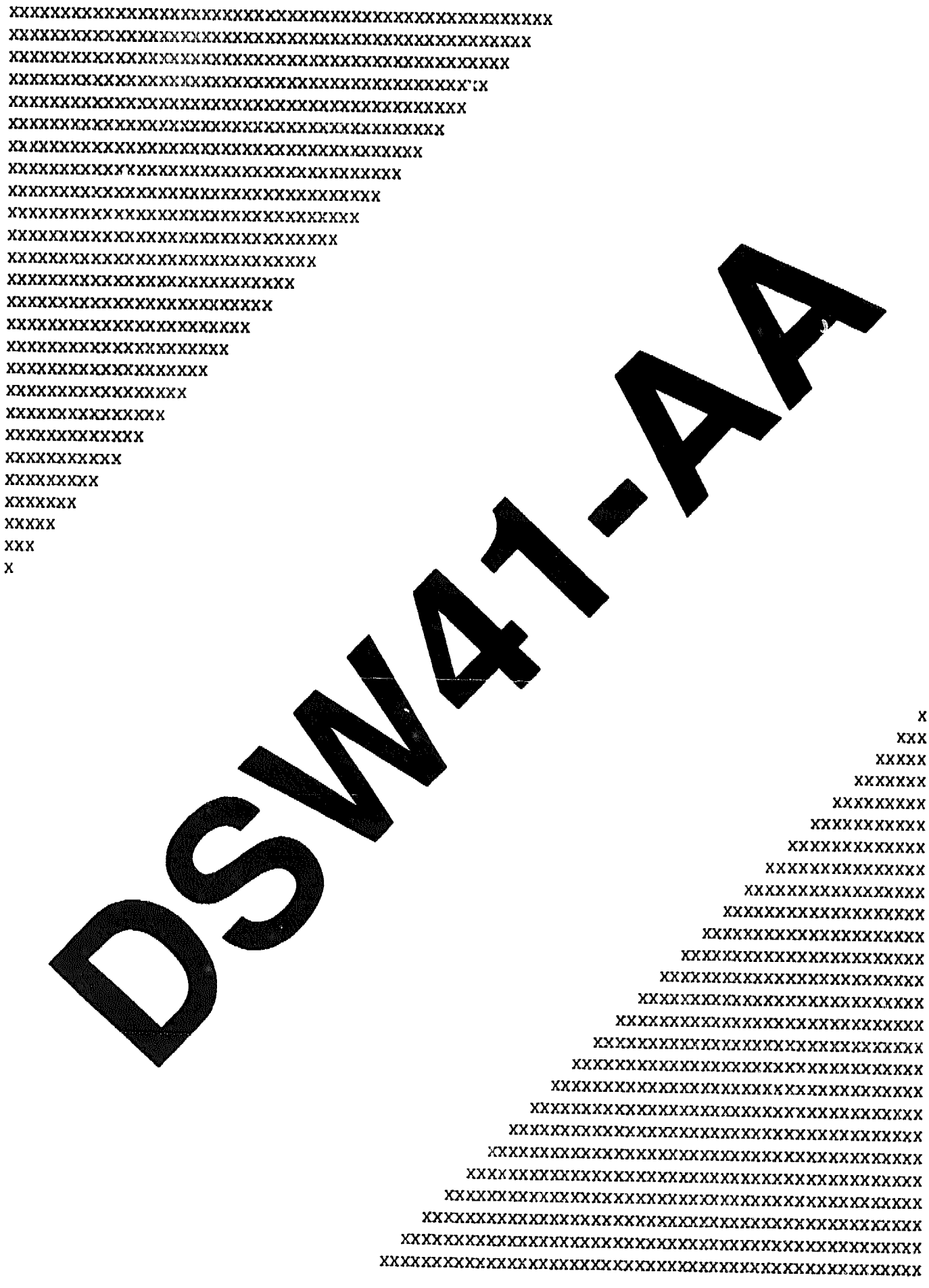
```
>>> T ASYNC
```

If the test passes, install the external components.

If the test fails, the LED display on the back of the system unit displays a code in the range E0 to EE(hexadecimal), and the console terminal displays a hard error message containing the test number (14) and the test mnemonic (ASYNC) as shown in this example:

```
?? 021 14 ASYNC 1280
```

See the *KA45 CPU System Maintenance* or the *KA47 CPU System Maintenance* manual for more information.


DSW41-AA

DSW41-AA Synchronous Communications Option

Description

The DSW41 is a synchronous communications option for the MicroVAX 3100 Model 30 systems. The option provides a single synchronous communications line. There is only one variant (DSW41-AA) that supports the EIA-232/V.24 interface standard. This option also supports the following interface standards, but you must order the external cable separately (see Table DSW41–1):

- EIA-423/V.10
- EIA-422/V.11

Ordering Information

Table DSW41–1 lists the order numbers for the DSW41 options that Digital Services personnel install in a MicroVAX 3100 Model 30 system. It also gives the external cable requirements for the different communications interface standards.

Table DSW41–1 Ordering Information

System Type	Order Numbers
BA42-A enclosure	DSW41-AA[1]
	BC19E-02 (17-01111-01) cable[2] for EIA-423/V.10 interface
	BC19B-02 (17-01108-01) cable[2] for EIA-422/V.11 interface

[1]This option includes the BC19D-02 (17-01110-01) cable for the EIA-232/V.24 interface.

[2]You must order this item separately.

Option Contents

The DSW41 option contains components that you install in the system enclosure (internal components) and components that you connect to the system (external components). Figure DSW41–1 shows the contents of a DSW41 option.

Figure DSW41–1 DSW41 Option

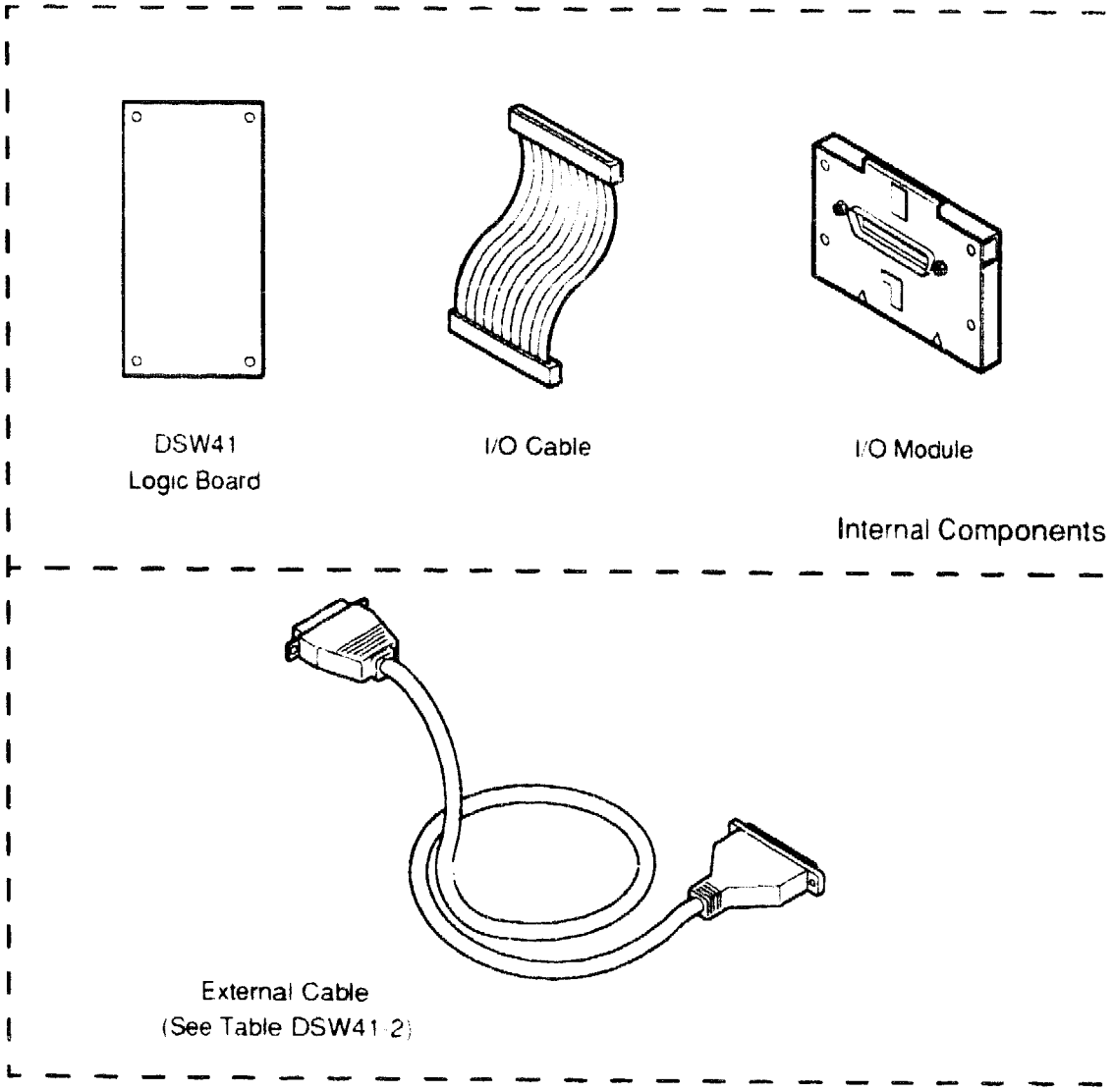


Table DSW41–2 DSW41 External Components

Variant	Interface Type	I/O Loopback	External Cable	Cable Loopback
DSW41-AA	EIA-232/V.24	H3199	BC19D-02[1] (17-01110-01)	H3248[2]
	EIA-423/V.10	H3199	BC19E-02[2] (17-01111-01)	H3198[2]
	EIA-422/V.11	H3199	BC19B-02[2] (17-01108-01)	H3198[2]

[1]Supplied with the DSW41-AA option.

[2]You must order these items separately.

Installation

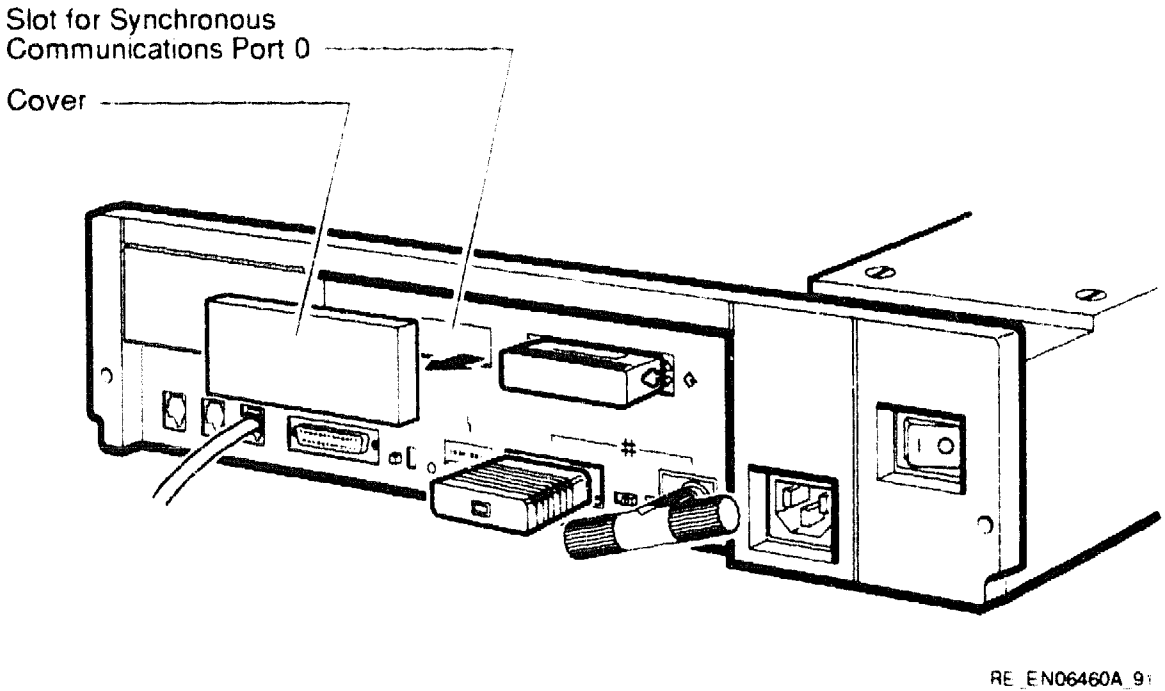
The DSW41 synchronous communications option contains components that you install in the system enclosure as follows:

- A logic board (54-20640-01)
- An input/output cable (17-02942-01)
- An input/output module (70-28540-01)

To install these components in the system enclosure, you must remove the enclosure cover and the drive-mounting shelf. See the *BA42-A Enclosure Maintenance* manual for more information. Install the DSW41 input/output module as follows:

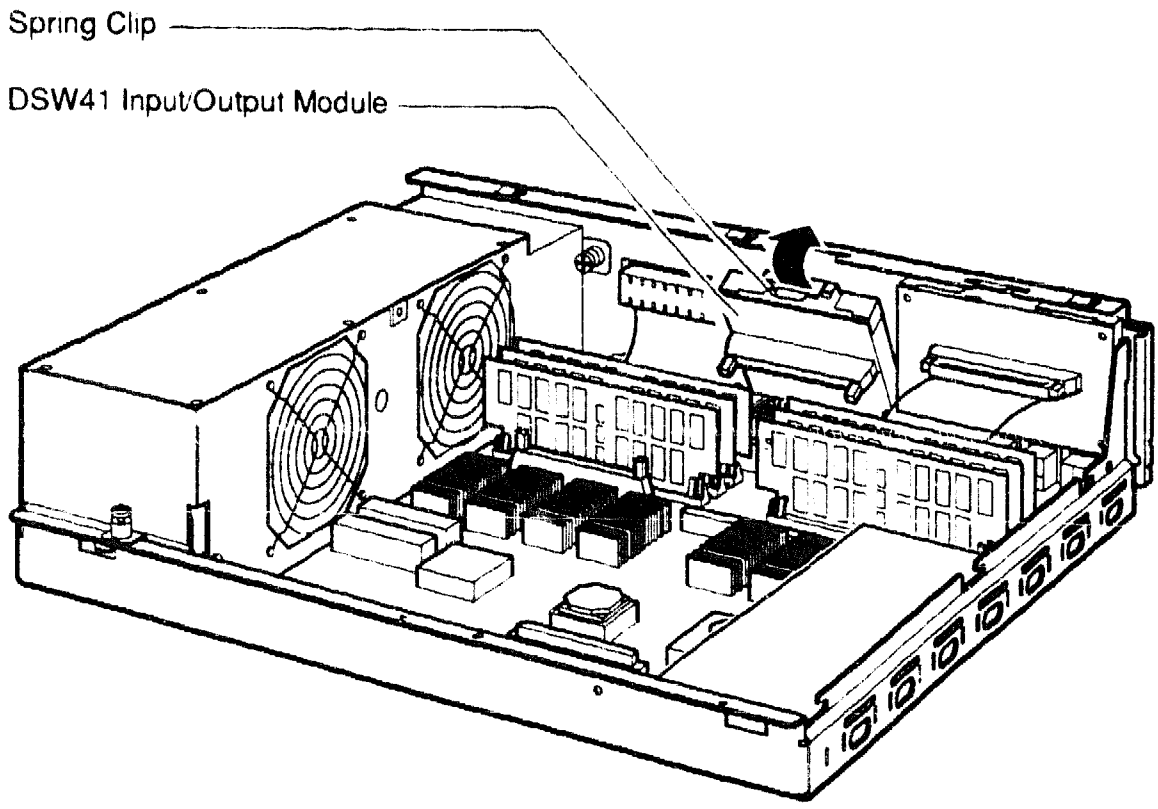
1. From inside the enclosure, push up the plastic tab on the cover that conceals synchronous communications port 0, and remove the cover from the enclosure (see Figure DSW41–2).

Figure DSW41–2 Removing the Cover from Synchronous Communications Port 0



2. Place the DSW41 input/output module, with external connectors facing out, on the support tabs on the back of the enclosure (see Figure DSW41–3).
3. Tilt the DSW41 input/output module towards the back of the enclosure until the spring clip on the DSW41 input/output module clicks into position.

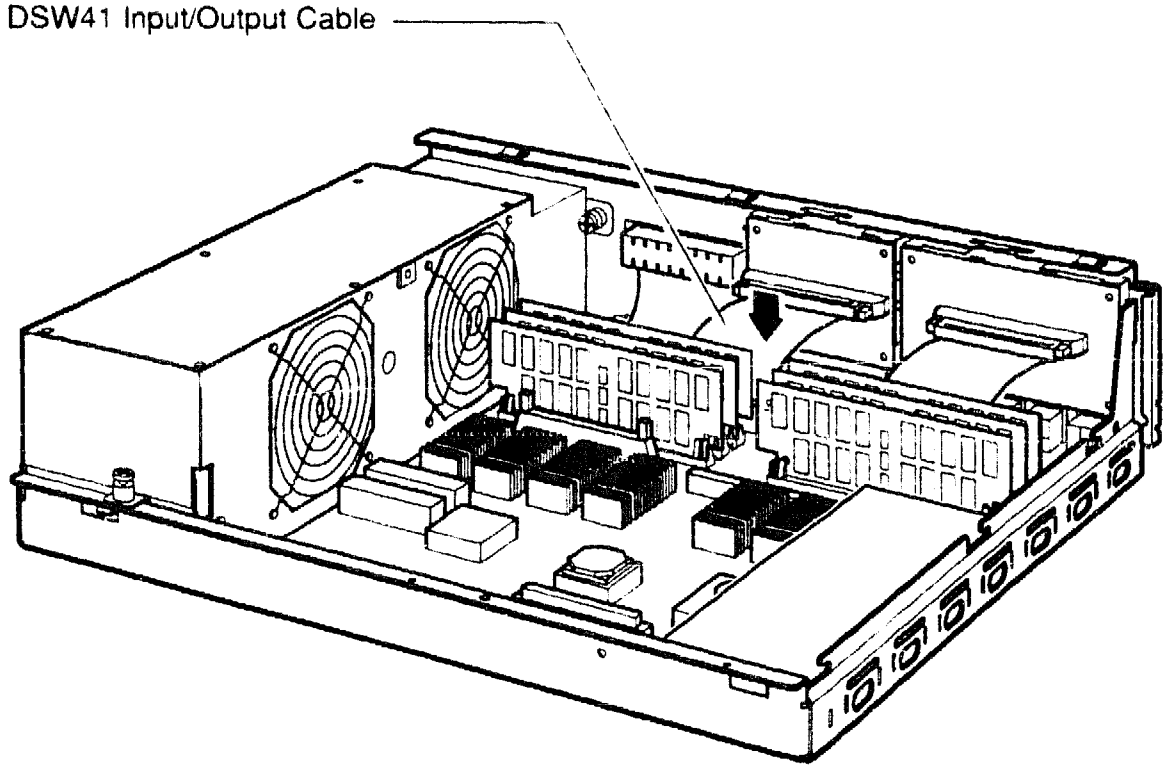
Figure DSW41–3 DSW41 Input/Output Module Installation



Install the DSW41 input/output cable as follows:

1. Connect one end of the DSW41 input/output cable to the connector on the CPU module (see Figure DSW41–4).
2. Connect the other end of the DSW41 input/output cable to the DSW41 input/output module on the back of the enclosure (see Figure DSW41–4).
3. Ensure that the connector arms lock both cable connectors securely into position.

Figure DSW41–4 DSW41 Input/Output Cable Installation



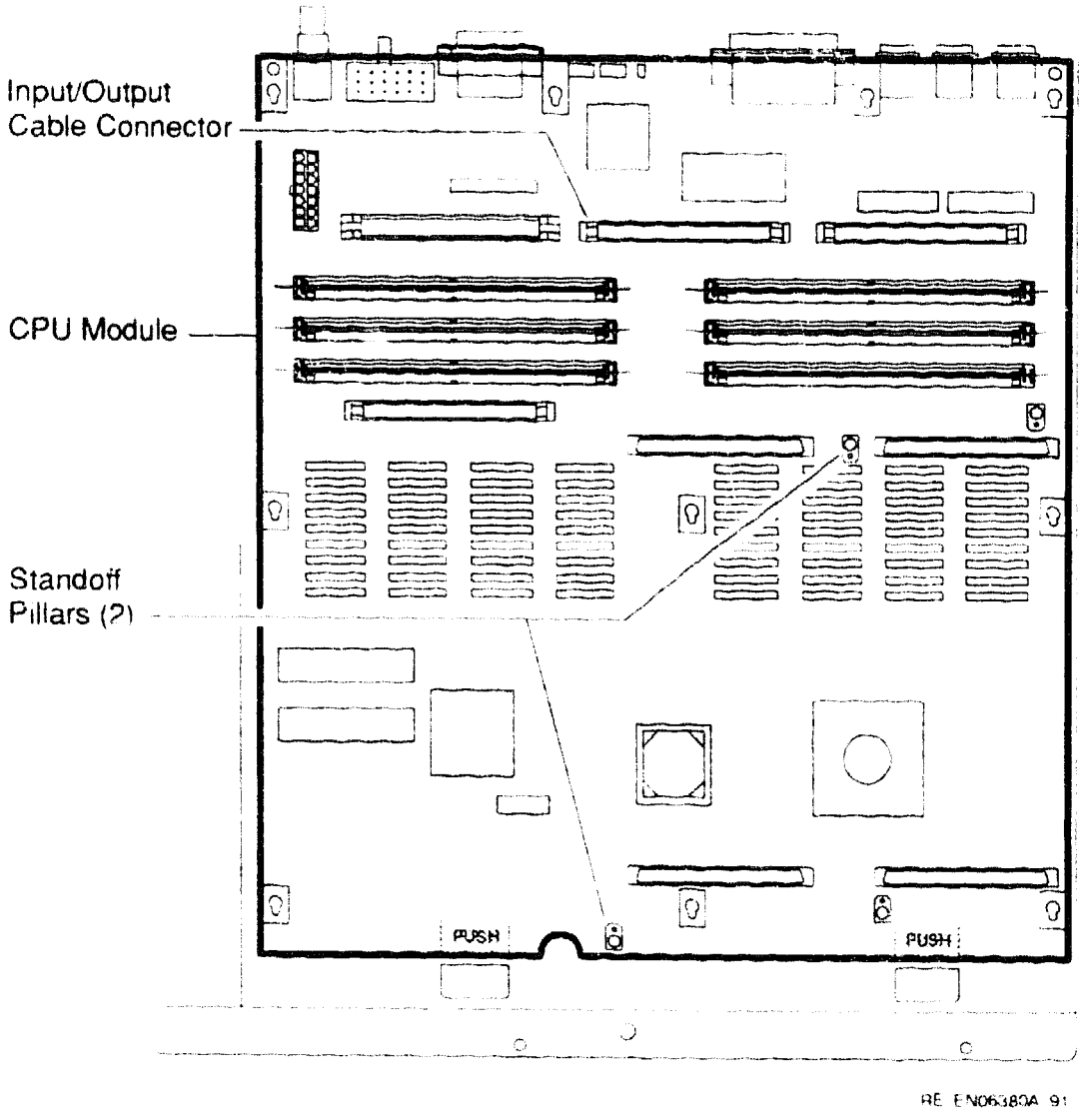
Install the DSW41 logic board as follows:

Caution

Static electricity can damage integrated circuits. Wear a wrist strap and place an antistatic mat under the system unit when working with the internal parts of the system unit.

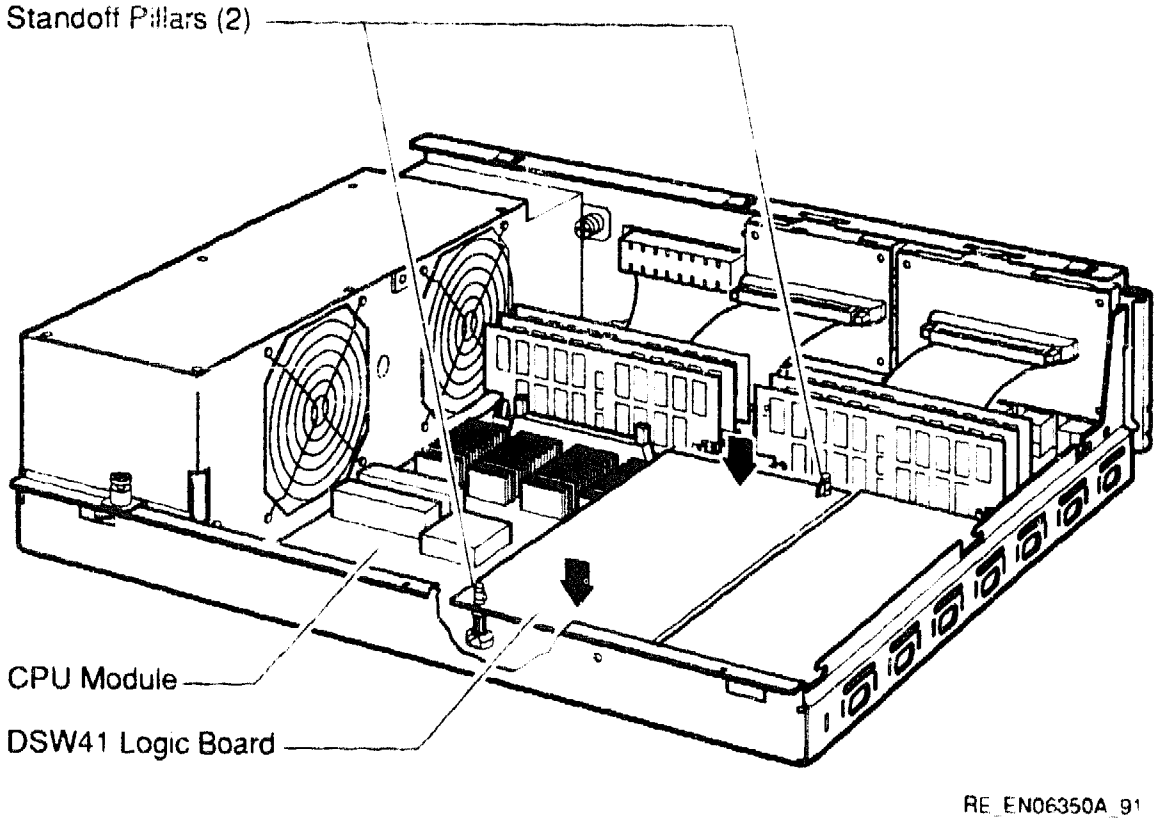
1. Place the DSW41 logic board in the enclosure. Align the connectors on the DSW41 logic board with the connectors on the CPU module, and align the holes on the DSW41 logic board with the standoff pillars on the CPU module (see Figure DSW41–5).

Figure DSW41–5 Location of the Standoff Pillars on the DSW41 Logic Board



2. Press the DSW41 logic board until the connectors on the DSW41 logic board engage fully with the connectors on the CPU module and the standoff pillars lock the board in position.

Figure DSW41–6 DSW41 Logic Board Installation



After you install the DSW41 internal components, install the drive-mounting shelf and the enclosure cover.

Diagnostic Support

The MicroVAX 3100 platform systems provide diagnostic support that tests the operation of a DSW41 option in a MicroVAX 3100 platform system.

Note

You cannot put the system in Digital Services mode unless there is a loopback connector (29-24795-00) connected to asynchronous modem control port 2 on the back of the system unit.

Enter the following command at the console prompt to put the system in the Digital Services environment:

```
>>> SET DIAGENV 2
```

Connect a loopback connector (H3199) to synchronous port 0 on the back of the system unit.

Enter one of the following commands at the console prompt to test the operation of the synchronous communications option:

```
>>> T 12
```

```
>>> T COMM
```

If the test passes, install the external cable.

If the test fails, the LED display on the back of the system unit displays a code in the range C0 to C8(hexadecimal), and the console terminal displays a hard error message containing the test number (12) and the test mnemonic (COMM) as shown in this example:

```
?? 020 12 COMM 0274
```

See the *KA45 CPU System Maintenance* manual for more information.


DSW42-AA

DSW42-AA Synchronous Communications Option

Description

The DSW42 is a synchronous communications option for the MicroVAX 3100 Model 40 and Model 80 systems. The option provides two synchronous communications lines. There is only one variant DSW42-AA that supports the EIA-232/V.24 interface standard. This option also supports the following interface standards, but you must order the external cables separately (see Table DSW42–1):

- EIA-423/V.10
- EIA-422/V.11

Ordering Information

Table DSW42–1 lists the order numbers for the DSW42 options that Digital Services personnel install in a MicroVAX 3100 Model 40 or Model 80 system. It also gives the external cable requirements for the different communications interface standards.

Table DSW42–1 Ordering Information

System Type	Order Numbers
BA42-B enclosure	DSW42-AA [1]
	BC19E-02 (17-01111-01) cable[2] for EIA-423/V.10 interface
	BC19B-02 (17-01108-01) cable[2] for EIA-422/V.11 interface

[1]This option includes two BC19D-02 (17-01110-01) cables for the EIA-232/V.24 interface.

[2]You must order these items separately; two are required.

Option Contents

The DSW42 option contains components that you install in the system enclosure (internal components) and components that you connect to the system (external components).

Figure DSW42–1 shows the contents of a DSW42 option.

Figure DSW42–1 DSW42 Option

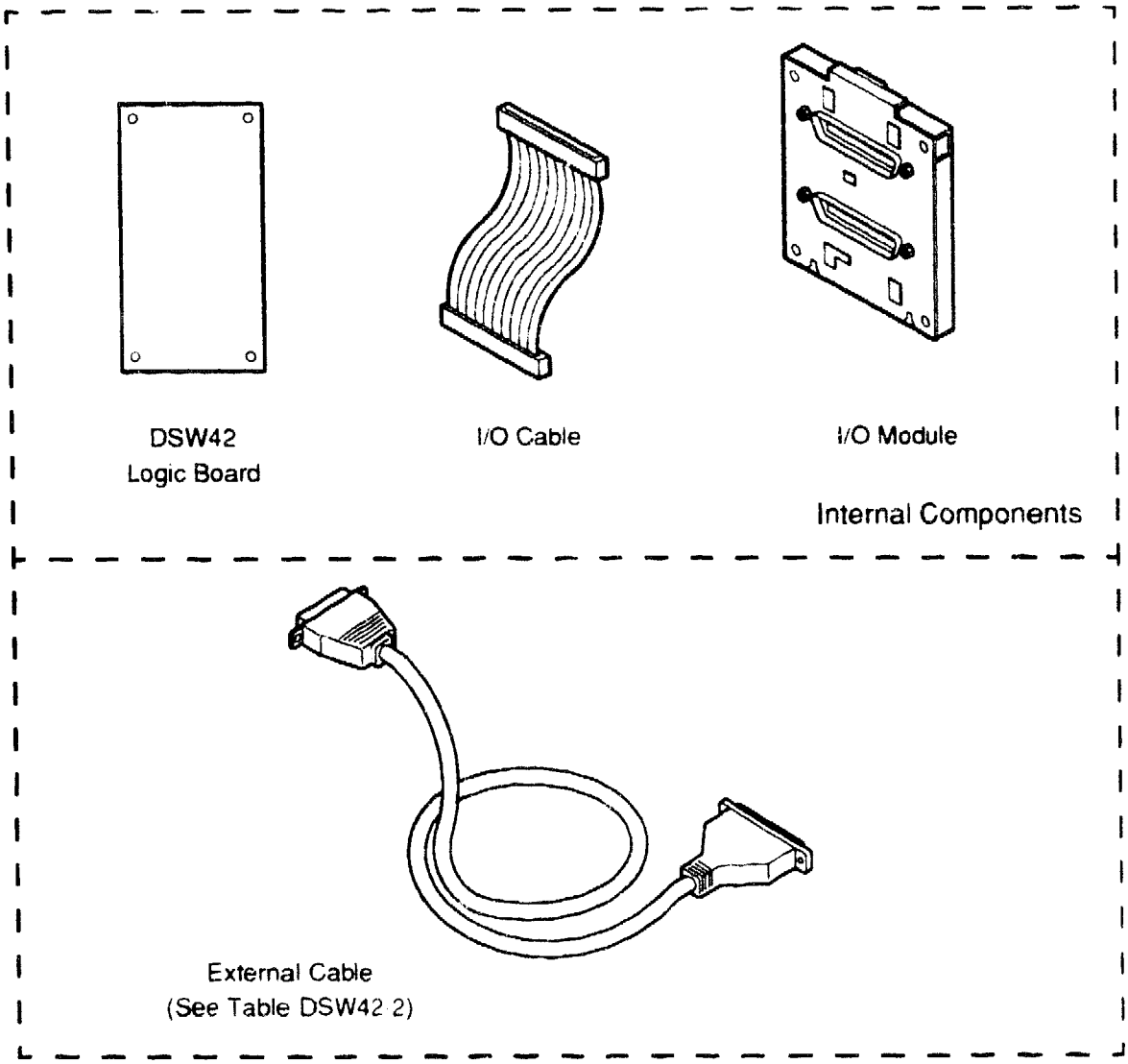


Table DSW42–2 DSW42 External Components

Variant	Interface Type	I/O Loopback	External Cable	Cable Loopback
DSW42-AA	EIA-232/V.24	H3199	BC19D-01[1] (17-01110-01)	H3248[2]
	EIA-423/V.10	H3199	BC19E-02[2] (17-01111-01)	H3198[2]
	EIA-422/V.11	H3199	BC19B-02[2] (17-01108-01)	H3198[2]

[1]Two supplied with the DSW41-AA option.

[2]You must order these items separately; two are required.

Installation

The DSW42 synchronous communications option contains components that you install in the system enclosure as follows:

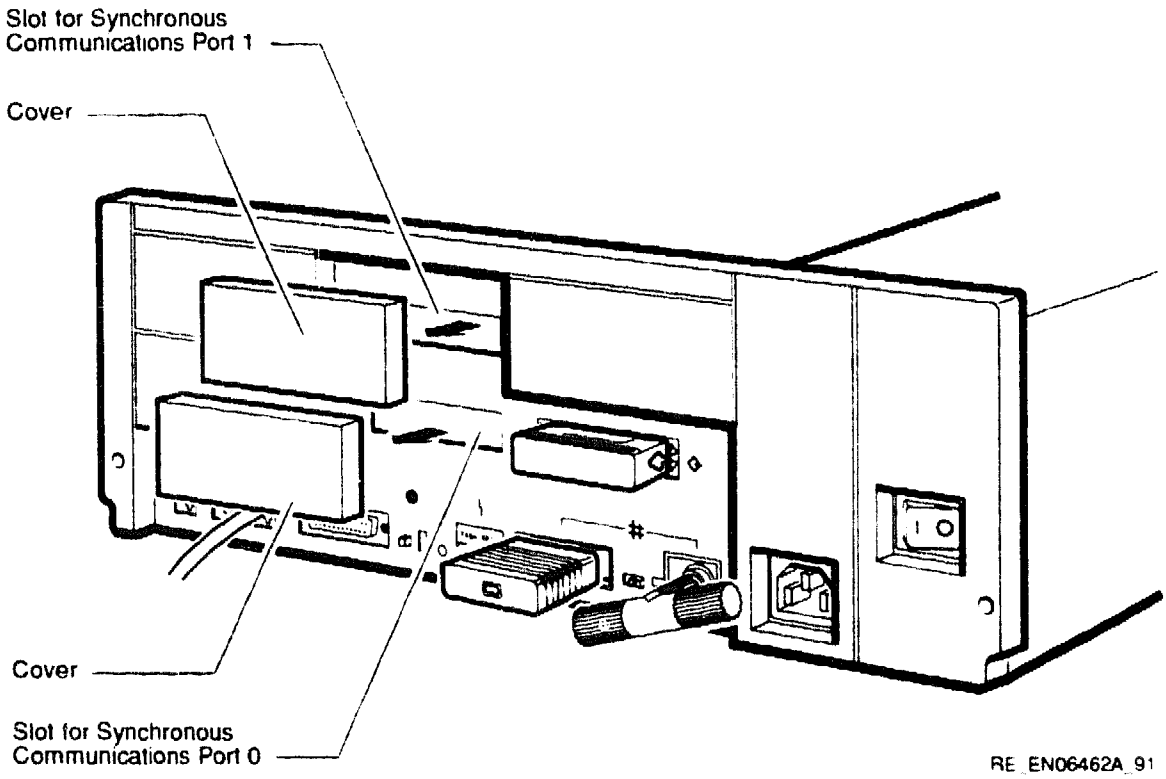
- A logic board (54-20640-01)
- An input/output cable (17-02942-01)
- An input/output module (70-28542-01)

To install these components in the system enclosure, you must remove the enclosure cover and the drive-mounting shelves. See the *BA42-B Enclosure Maintenance* manual for more information.

Install the DSW42 input/output module as follows:

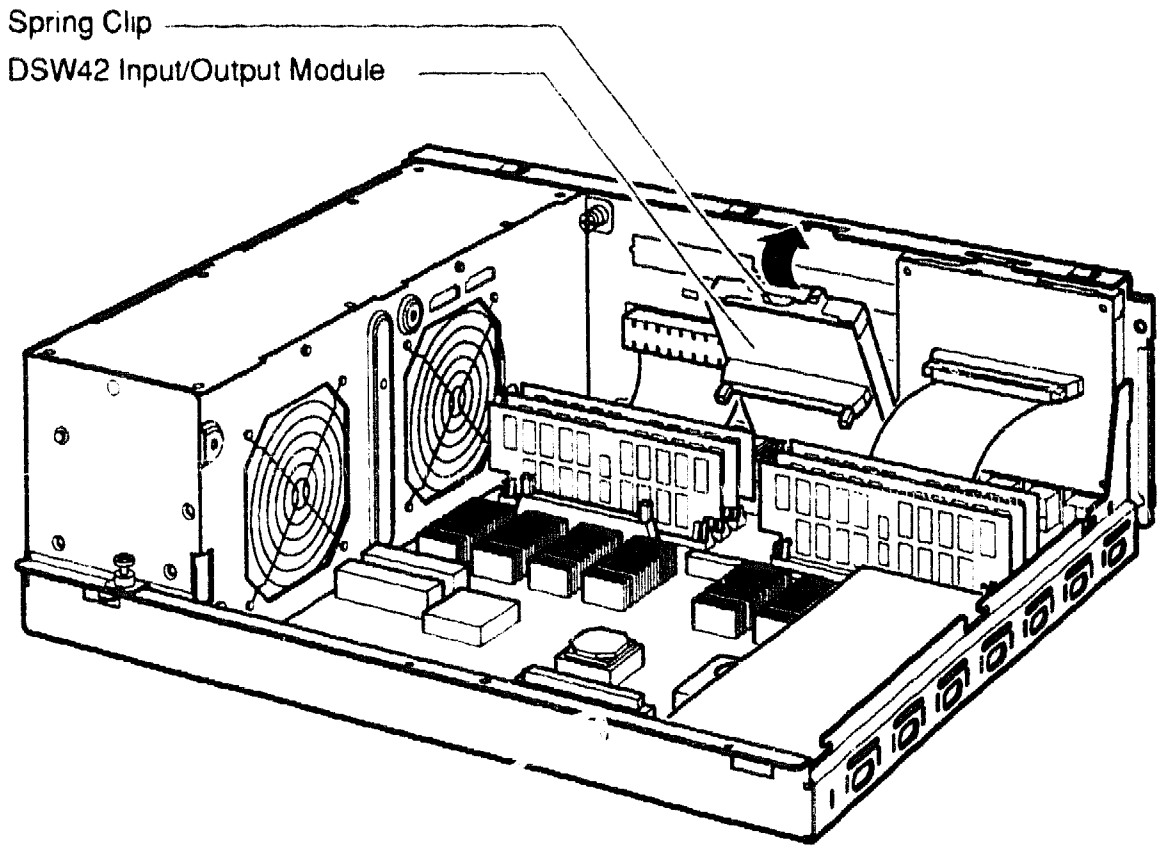
1. From inside the enclosure, push up the plastic tabs on the covers that conceal synchronous communications port 0 and port 1, and remove the covers from the enclosure (see Figure DSW42–2).

Figure DSW42–2 Removing the Covers from Synchronous Communications Port 0 and Port 1



2. Place the DSW42 input/output module, with external connectors facing out, on the support tabs on the back of the enclosure (see Figure DSW42–3).
3. Tilt the DSW42 input/output module towards the back of the enclosure until the spring clip on the DSW42 input/output module clicks into position.

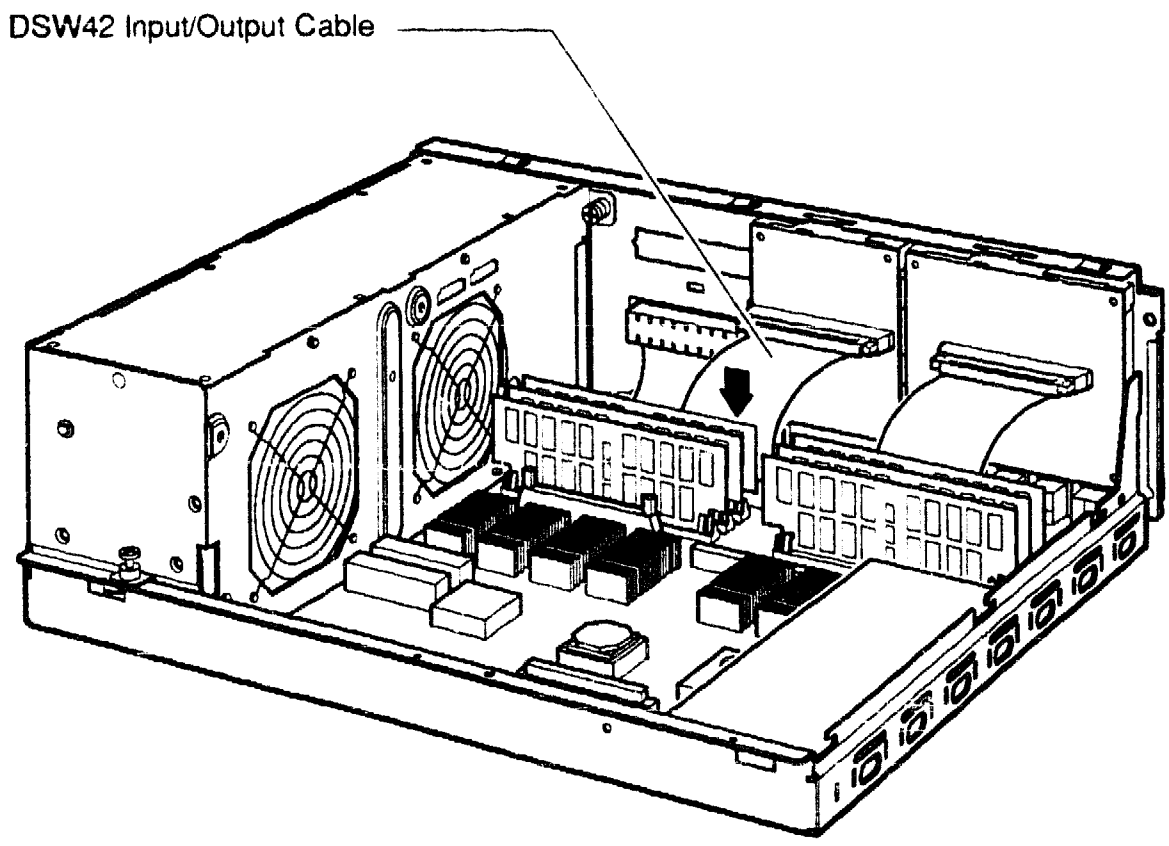
Figure DSW42–3 DSW42 Input/Output Module Installation



Install the DSW42 input/output cable as follows:

1. Connect one end of the DSW42 input/output cable to the connector on the CPU module (see Figure DSW42–4).
2. Connect the other end of the DSW42 input/output cable to the DSW42 input/output module on the back of the enclosure (see Figure DSW42–4).
3. Ensure that the connector arms lock both cable connectors securely into position.

Figure DSW42–4 DSW42 Input/Output Cable Installation



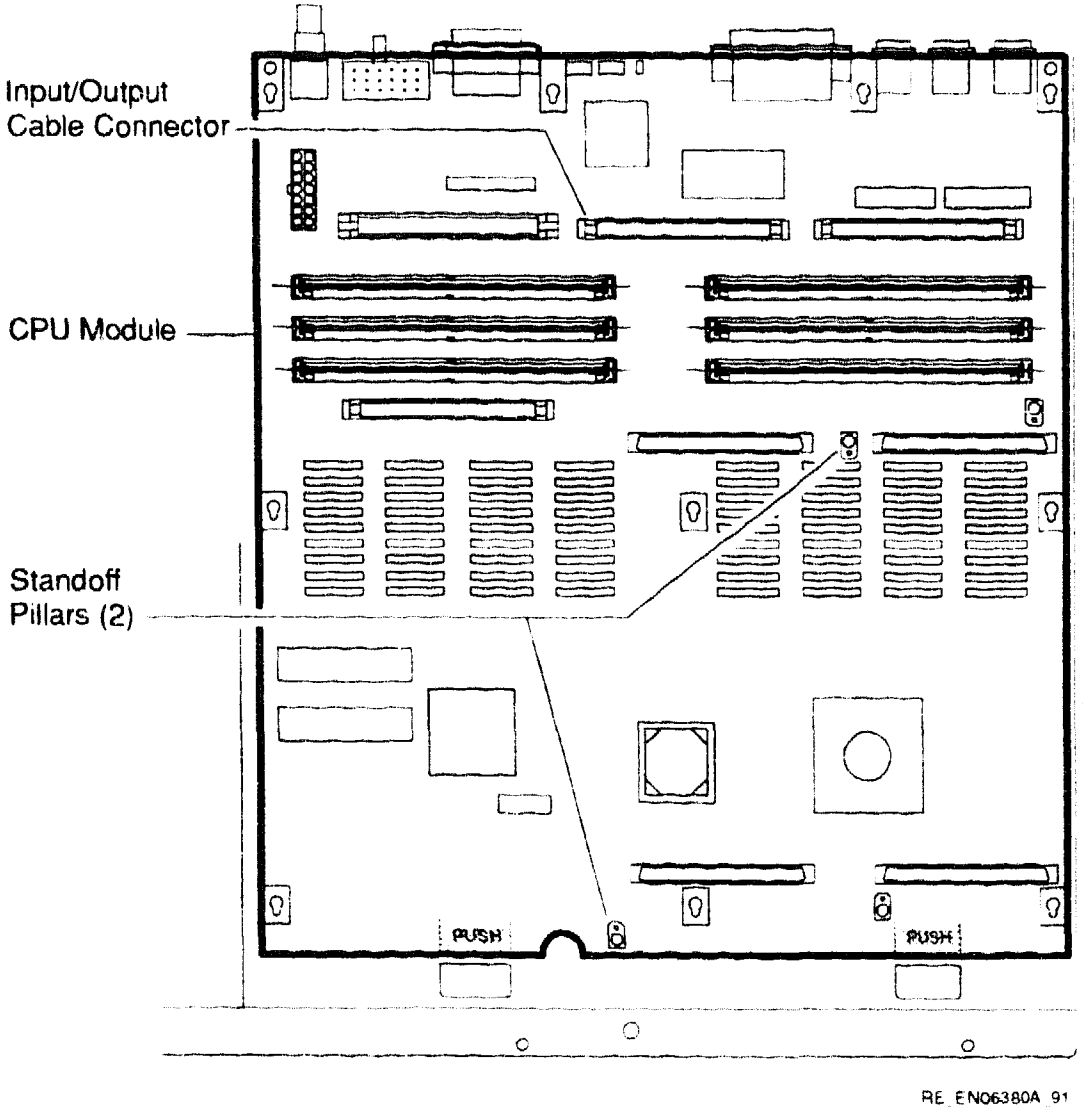
Install the DSW42 logic board as follows:

Caution

Static electricity can damage integrated circuits. Wear a wrist strap and place an antistatic mat under the system unit when working with the internal parts of the system unit.

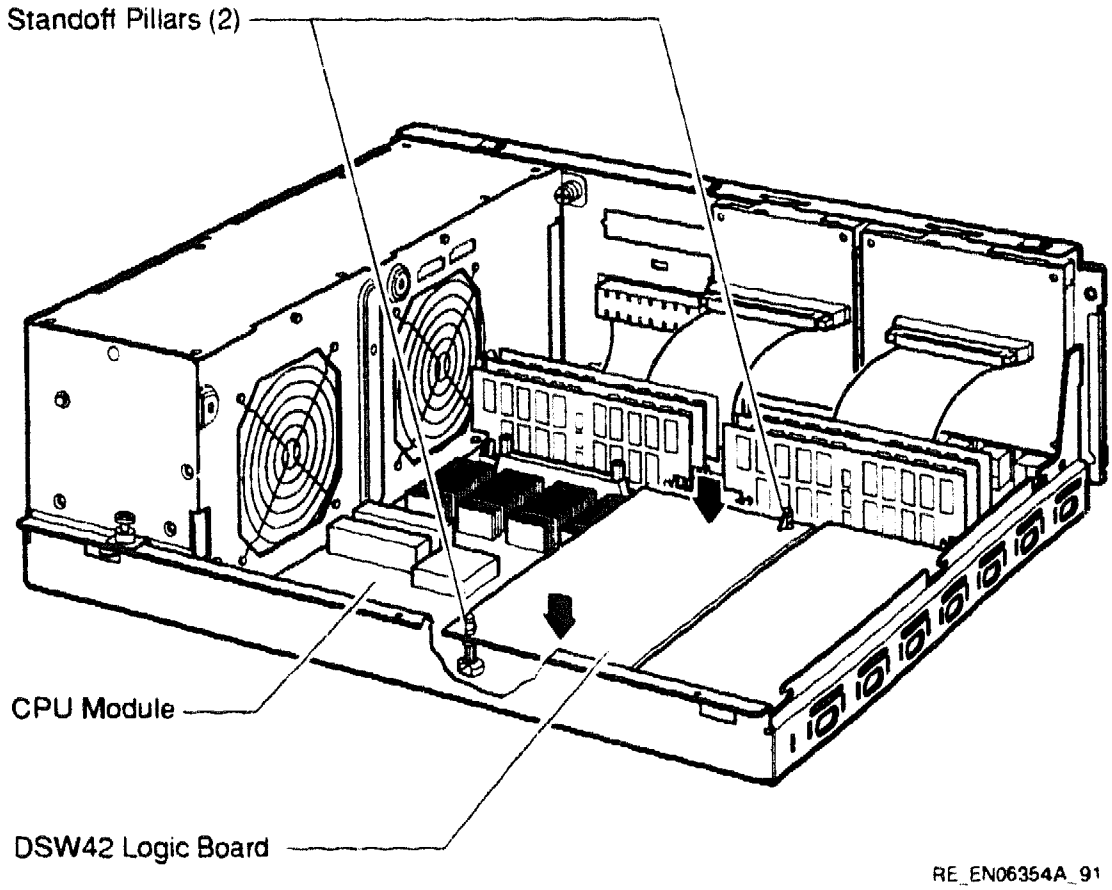
1. Place the DSW42 logic board in the enclosure. Align the connectors on the DSW42 logic board with the connectors on the CPU module, and align the holes on the DSW42 logic board with the standoff pillars on the CPU module (see Figure DSW42–5).

Figure DSW42–5 Location of the Standoff Pillars on the DSW42 Logic Board



2. Press the DSW42 logic board until the connectors on the DSW42 logic board engage fully with the connectors on the CPU module and the standoff pillars lock the board in position.

Figure DSW42–6 DSW42 Logic Board Installation



After you install the DSW42 internal components, install the drive-mounting shelves and the enclosure cover.

Diagnostic Support

The MicroVAX 3100 platform systems provide diagnostic support that tests the operation of a DSW42 option in a MicroVAX 3100 platform system.

Note

You cannot put the system in Digital Services mode unless there is a loopback connector (29-24795-00) connected to asynchronous modem control port 2 on the back of the system unit.

Enter the following command at the console prompt to put the system in the Digital Services environment:

```
>>> SET DIAGENV 2
```

Connect the loopback connectors (H3199) to the synchronous ports 0 and 1 on the back of the system unit.

Enter one of the following commands at the console prompt to test the operation of the synchronous communications option:

```
>>> T 12
```

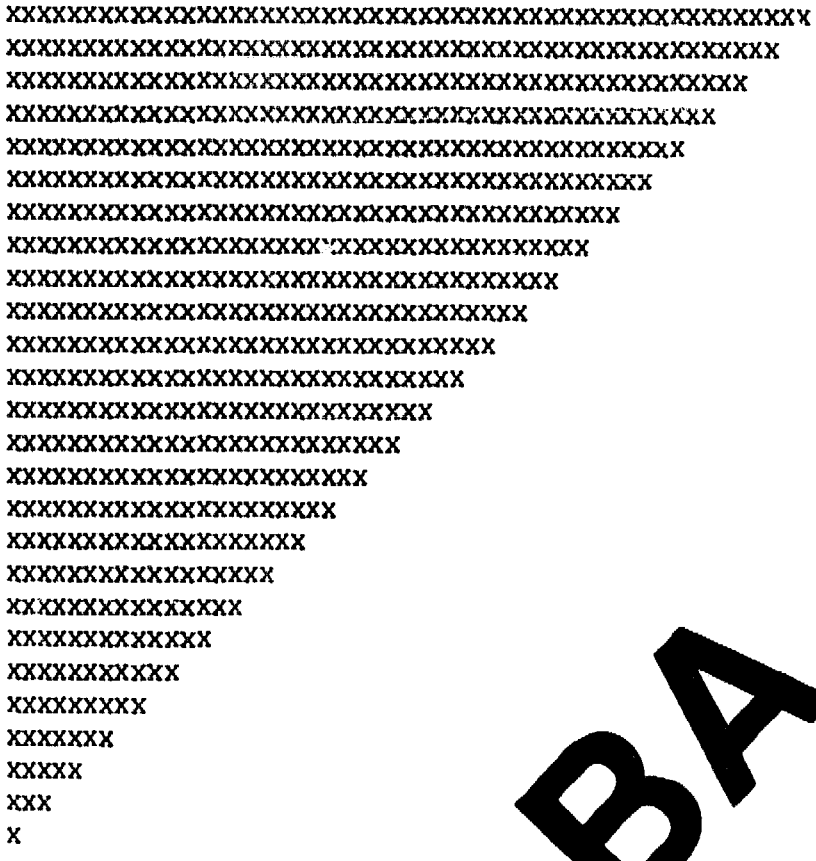
```
>>> T COMM
```

If the test passes, install the external cable.

If the test fails, the LED display on the back of the system unit displays a code in the range C0 to C8(hexadecimal), and the console terminal displays a hard error message containing the test number (12) and the test mnemonic (COMM) as shown in this example:

```
?? 020 12 COMM 0274
```

See the *KA45 CPU System Maintenance* or the *KA47 CPU System Maintenance* manual for more information.



MS44-BA;-DA
MS44L-BA

MS44-BA, -DA, MS44L-BA Memory Options

Description

The MS44-BA, MS44-DA, and MS44L-BA are memory options for the MicroVAX 3100 platform systems. The MS44-BA and the MS44L-BA are equivalent; the only difference being the component layout. The memory modules in a MS44-BA option have components on both sides of the module. The memory modules in a MS44L-BA option have components on one side only. Table MS44–1 shows the variants of the memory options that MicroVAX 3100 systems support.

Table MS44–1 MS44 and MS44L Variants

Variant	Memory Size
MS44-BA	8M bytes
MS44L-BA	8M bytes
MS44-DA	32M bytes

Ordering Information

Table MS44–2 lists the order numbers of the MS44 options that Digital Services personnel install in a MicroVAX 3100 platform system.

Table MS44–2 Ordering Information

System Type	Order Numbers
KA45 CPU system	MS44-BA, MS44L-BA
KA47 CPU system	MS44-BA, MS44L-BA, MS44-DA

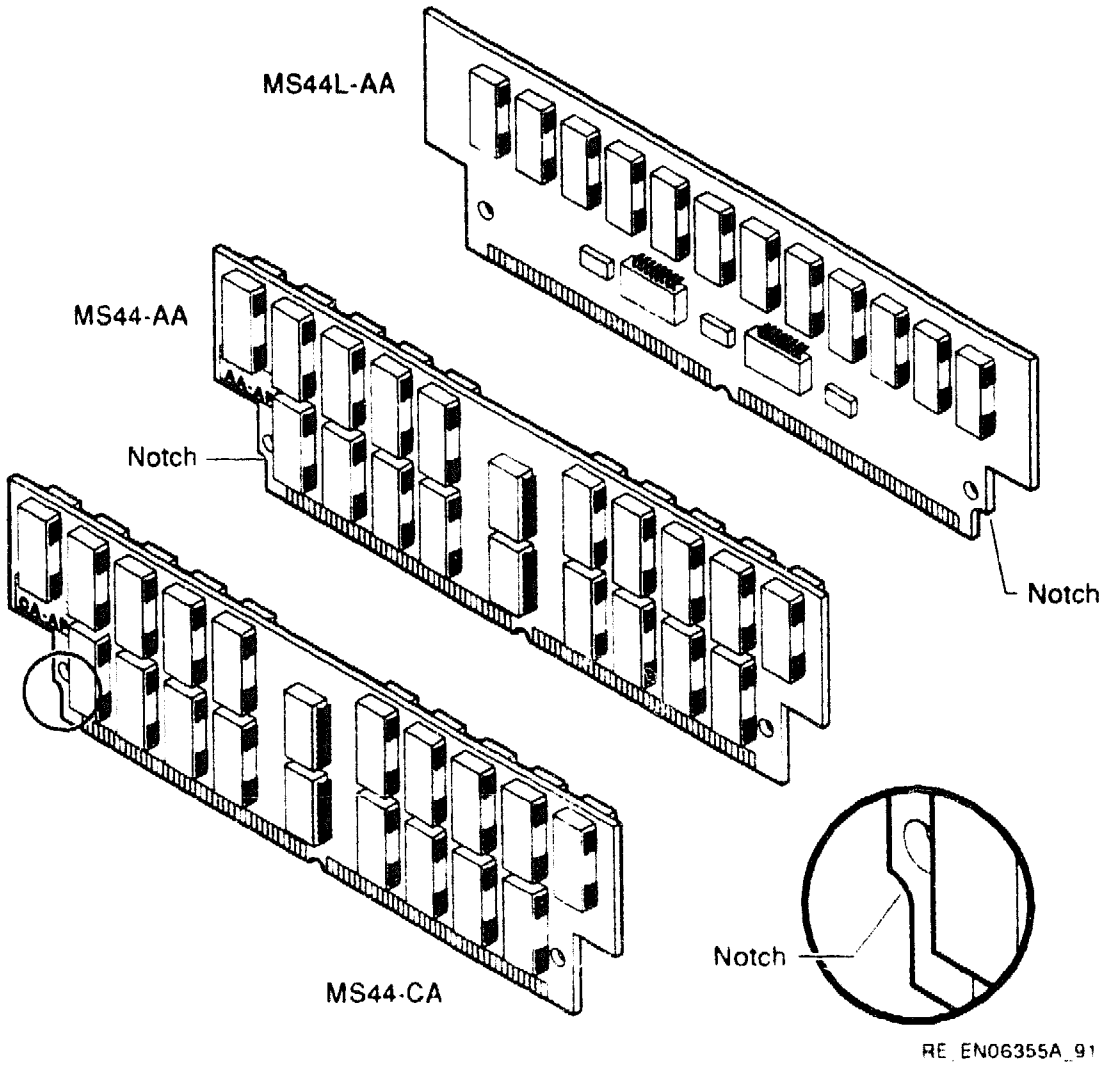
Option Contents

Each memory option contains two memory modules as follows:

- MS44-BA contains two MS44-AA (54-19103-AA) 4M-byte memory modules
- MS44L-BA contains two MS44L-AA 4M-byte memory modules
- MS44-DA contains two MS44-CA (54-19103-CA) 16M-byte memory modules

Figure MS44–1 shows the memory modules.

Figure MS44–1 MS44 and MS44L Memory Modules



Installation

To install an MS44 memory option in a MicroVAX 3100 platform system, you must remove the enclosure cover. See the *BA42-A Enclosure Maintenance* or the *BA42-B Enclosure Maintenance* manual for more information.

Caution

Use only memory modules that are qualified by Digital.

To install an MS44 or MS44L memory option, follow these steps:

1. Identify the connectors on the CPU module into which you must install the MS44 or MS44L memory option. See the *KA45 CPU System Maintenance* or the *KA47 CPU System Maintenance* manual for connector identification and memory configuration information. On the CPU module, the memory connectors are labeled: 1H 1L, 2H 2L, and 3H 3L. You install a memory option in the relevant pair of connectors.

   Caution

   The connectors are keyed so that you can install the MS44 or the MS44L memory modules only with the correct orientation. Do not force the modules into the connectors with an incorrect orientation.

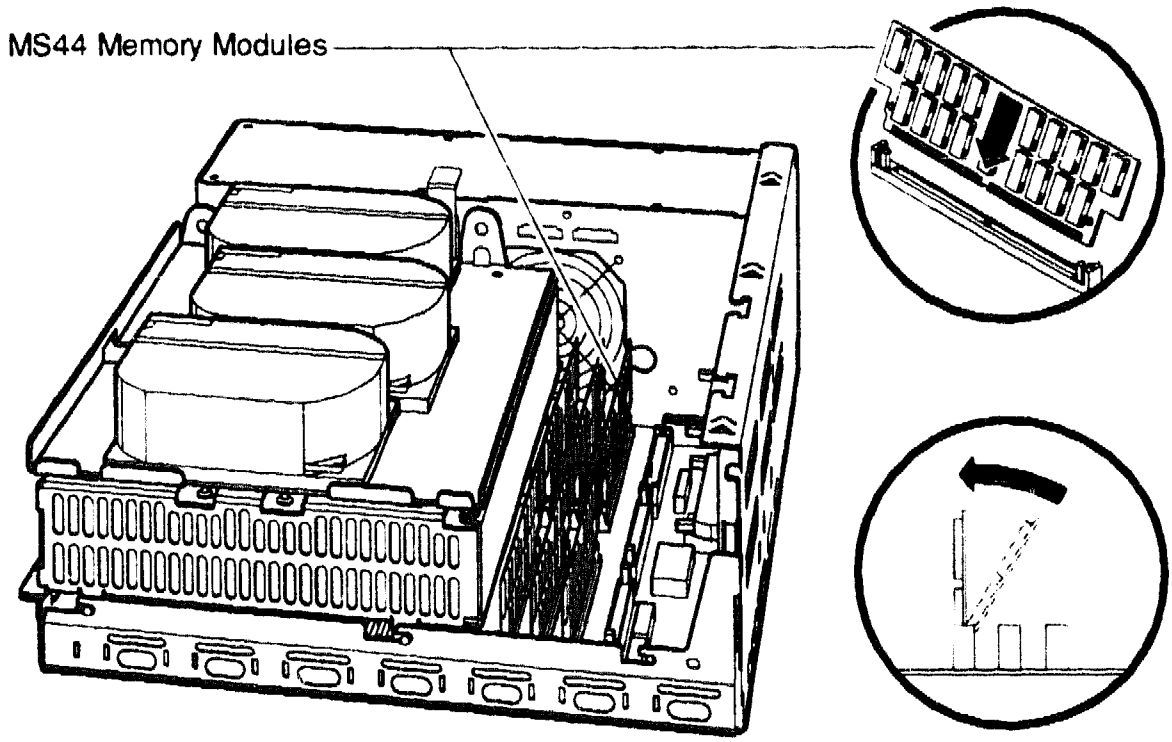
2. Insert the first memory module into its connector at an angle (see Figure MS44–2).

   Caution

   Ensure that you insert the memory module fully into its connector before you tilt the memory module.

3. Tilt the memory module towards the front of the enclosure (see Figure MS44–2) until the metal locking clips on the connector lock the memory module in position.

Figure MS44–2 Memory Module Installation



4. Repeat the procedure in steps 1 and 2 for the second memory module.

Diagnostic Support

The MicroVAX 3100 platform systems provide diagnostic support that tests the operation of an MS44 or MS44L memory option in a MicroVAX 3100 platform system.

Note

You cannot put the system in Digital Services mode unless there is a loopback connector (29-24795-00) connected to asynchronous modem control port 2 on the back of the system unit.

Enter the following command at the console prompt to put the system in the Digital Services environment:

```
>>> SET DIAGENV 2
```

Enter one of the following commands at the console prompt to test the operation of the memory option:

```
>>> T 5
```

```
>>> T MEM
```

If the test fails, the LED display on the back of the system unit displays a code in the range 50 to 54(hexadecimal), and the console terminal displays a hard error message containing the test number (5) and the test mnemonic (MEM) as shown in this example:

```
?? 001 5 MEM 0770
```

See the *KA45 CPU System Maintenance* or the *KA47 CPU System Maintenance* manual for more information.


RRD42-EK

RRD42-EK CDROM Drive Option

Description

The RRD42 CDROM drive is a compact disc, read-only memory, SCSI device. It reads data from industry standard 600M-byte discs. The RRD42 CDROM is for MicroVAX 3100 Model 40 and Model 80 systems only.

Ordering Information

The order number for the RRD42 CDROM drive that Digital Services personnel install in a MicroVAX 3100 platform system is as follows:

- RRD42-EK

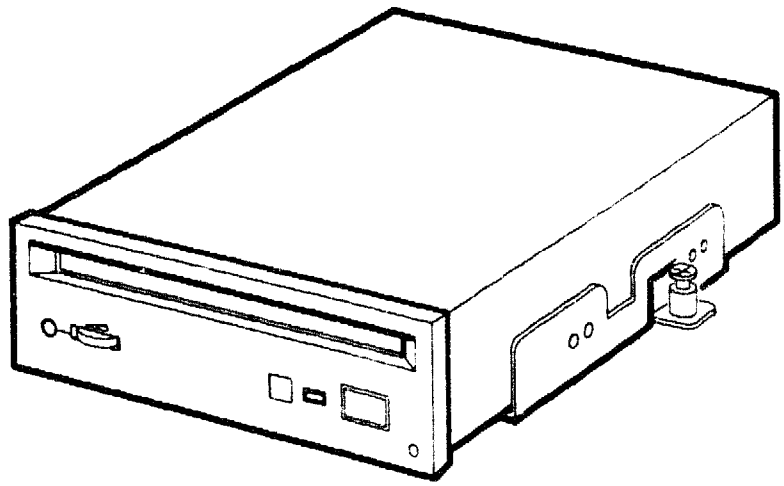
Option Contents

The RRD42-EK option contains the following components:

- RRD42-AA CDROM drive, which has the mounting hardware attached
- Documentation

Figure RRD42–1 shows the RRD42-EK option.

Figure RRD42–1 RRD42-EK Option



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SCSI ID Information

In a MicroVAX 3100 platform system, each SCSI device must have a unique SCSI ID number. When you install an RRD42-EK option, you must set the SCSI ID of that device to an ID that is not used by any of the other SCSI devices in the system. See Table 2-3 in the *KA45 CPU System Maintenance* or the *KA47 CPU System Maintenance* manual.

To set the SCSI ID of the RRD42-EK option, follow these steps:

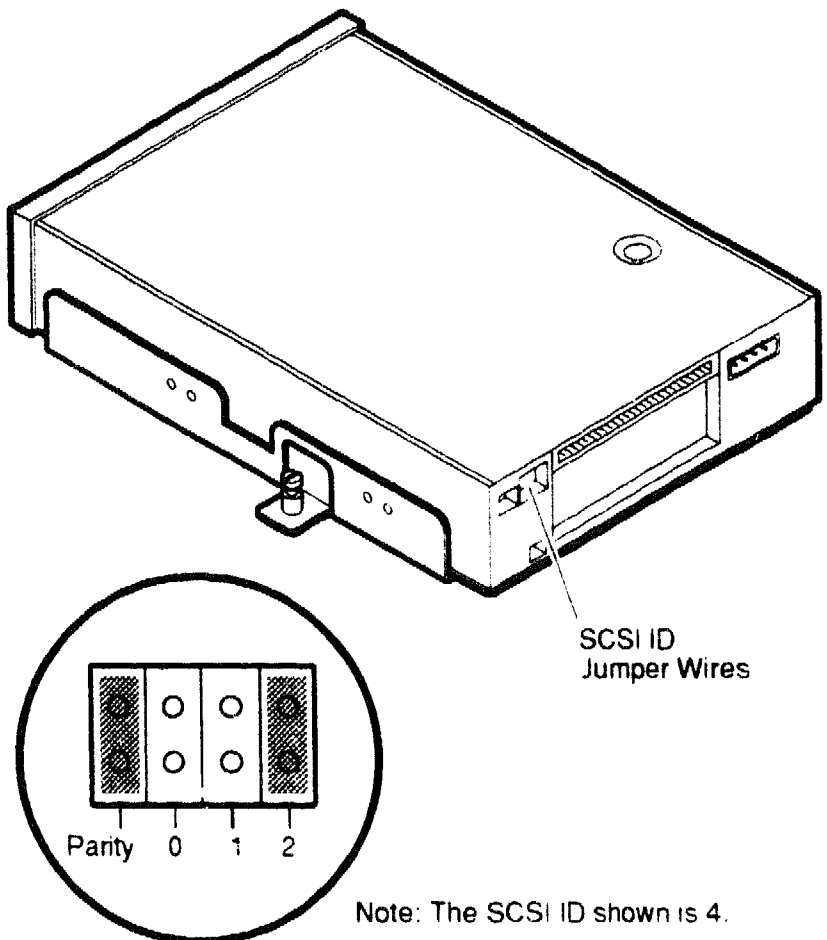
1. Locate the SCSI ID jumper wires on the back of the RRD42-EK option (see Figure TZK10–2).
2. Determine the SCSI ID number that you want to assign to the RRD42-EK option.

Note

When the system is in console mode, you can use the command SHOW CONFIG to view the SCSI ID numbers that the existing devices in the system use.

3. Position the jumper wires for the SCSI ID number that you want. Table RRD42–1 shows the SCSI ID numbers and the jumper wire combinations that correspond to these numbers.

Figure RRD42–2 RRD42 SCSI ID Jumper Wire Locations



Note: The SCSI ID shown is 4.

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Table RRD42–1 RRD42 SCSI ID Jumper Wire Combinations

SCSI ID	0	1	2
0	Out	Out	Out
1	In	Out	Out
2	Out	In	Out
3	In	In	Out
4[1]	Out	Out	In
5	In	Out	In
6[2]	Out	In	In
7	In	In	In

[1]Recommended SCSI ID for CDROM drives.

[2]Reserved for the SCSI controller.

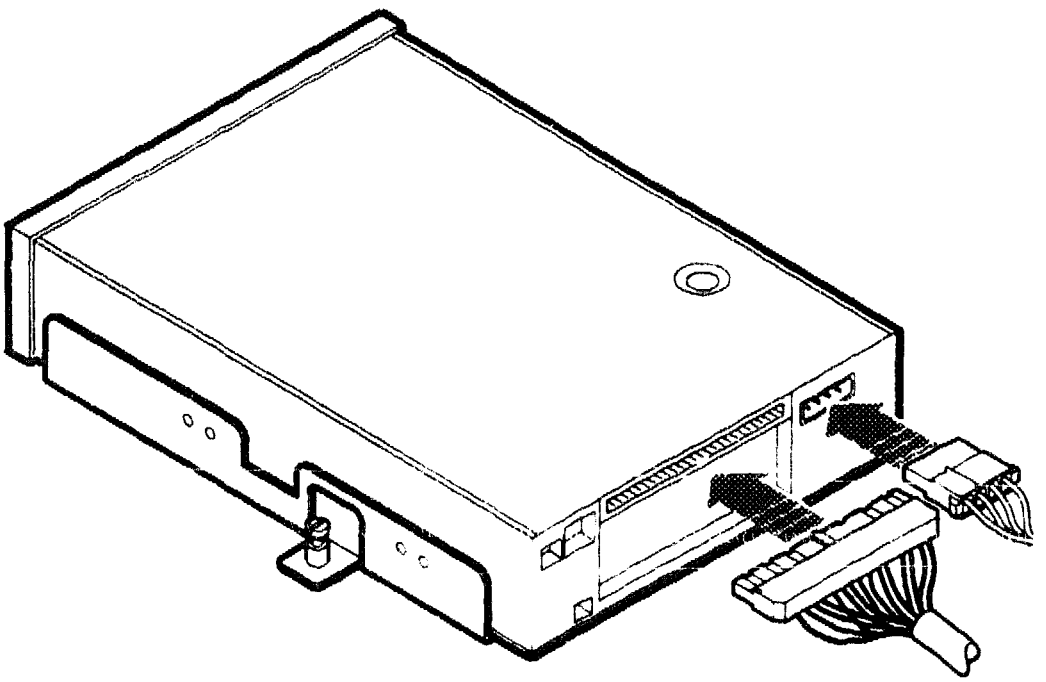
Installation

You can install the RRD42-EK option in the left position on the lower drive-mounting shelf of a MicroVAX 3100 Model 40 or Model 80 system. To install an RRD42-EK option into a Model 40 system, you must remove the enclosure cover and the upper drive-mounting shelf. See the *BA42-B Enclosure Maintenance* manual for more information.

To install an RRD42-EK option, follow these steps:

1. Push the blank bezel insert that covers the left drive-mounting position out of the front bezel of the enclosure. See the *BA42-A Enclosure Maintenance* manual for information about mass storage device orientation and combinations.
2. Insert lock-out screws to hold down any disk drive clips securely in the drive position on the drive-mounting shelf.
3. Identify the power cable that supplies power to the drive-mounting shelf on which you want to install the RRD42-EK option. Connect this power cable to the power connector on the back of the RRD42-EK option (see Figure RRD42–3).

Figure RRD42–3 Connecting the Power Cable and the SCSI Cable



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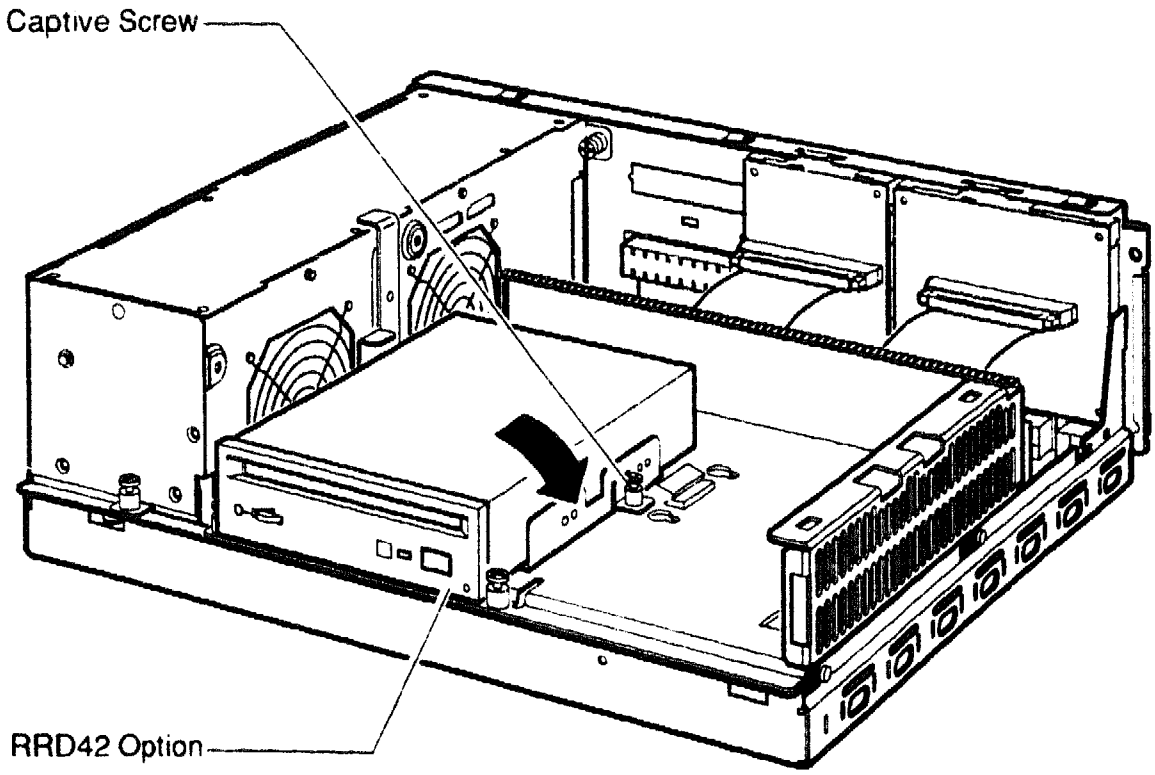
4. Identify the SCSI cable connector that has a pull-tab number that corresponds to the drive position into which you want to install the RRD42-EK option. Connect this connector to the back of the RRD42-EK option (see Figure RRD42–3).

5. Align the tabs on the RRD42-EK option mounting bracket with the cutouts in the drive-mounting shelf. Tilt the drive to locate the tabs in the drive-mounting shelf cutouts (see Figure RRD42–4).

Figure RRD42–4 Installing the RRD42-EK Option



6. Press the RRD42-EK option and tighten the captive screw on the mounting bracket to secure the RRD42-EK option in position (see Figure RRD42–4).

After you install the RRD42-EK option, install the upper drive-mounting shelf and the enclosure cover.

Diagnostic Support

The MicroVAX 3100 platform systems provide diagnostic support that tests the operation of an RRD42-EK option in a MicroVAX 3100 platform system.

Note

You cannot put the system in Digital Services mode unless there is a loopback connector (29-24795-00) connected to asynchronous modem control port 2 on the back of the system unit.

Enter the following command at the console prompt to put the system in the Digital Services environment:

```
>>> SET DIAGENV 2
```

Enter one of the following commands at the console prompt to test the operation of the RRD42-EK option:

```
>>> T 10
```

```
>>> T SCSI
```

When the system is in the Digital Services environment, you must install a test disk in the RRD42 CDROM drive.

If the test fails, the LED display on the back of the system unit displays a code in the range A0 to A5(hexadecimal), and the console terminal displays a hard error message containing the test number (10) and the test mnemonic (SCSI) as shown in this example:

```
?? 015 10 SCSI 0050
```

See the *KA45 CPU System Maintenance* or the *KA47 CPU System Maintenance* manual for more information.

Power Requirements

Table RRD42–2 gives the dc power requirements of the RRD42-EK options.

Table RRD42–2 Power Requirements

Mode	Current (A[1])		Power (W[2])
	5 V Circuit	12 V Circuit	
Random seek	0.25	1.50	19.25
Power only	0.25	0.80	10.85

[1] Amperes

[2] Watts

Documentation

The RRD42-EK option contains the following document:

- *MicroVAX 3100 Platform Options Cover Letter, EK-A0541-CL*


RX26-EL

RX26-EL Disk Drive Option

Description

The RX26 diskette drive is a high density, double-sided, 3.5 inch, SCSI device. It reads data from and writes data to industry standard diskettes. Table RX26–1 lists the types of diskettes that the RX26 diskette drive supports.

Table RX26–1 RX26 Diskettes

Diskette Type	Capacity (Formatted)
High density (HD)	1.44M bytes
Extra density (ED)	2.88M bytes

In the MicroVAX 3100 platform systems, there is only one option variant that Digital Services personnel install, that is, the RX26-EL option.

Ordering Information

The order number for the RX26 diskette drive that Digital Services personnel install in a MicroVAX 3100 platform system is as follows:

- RX26-EL

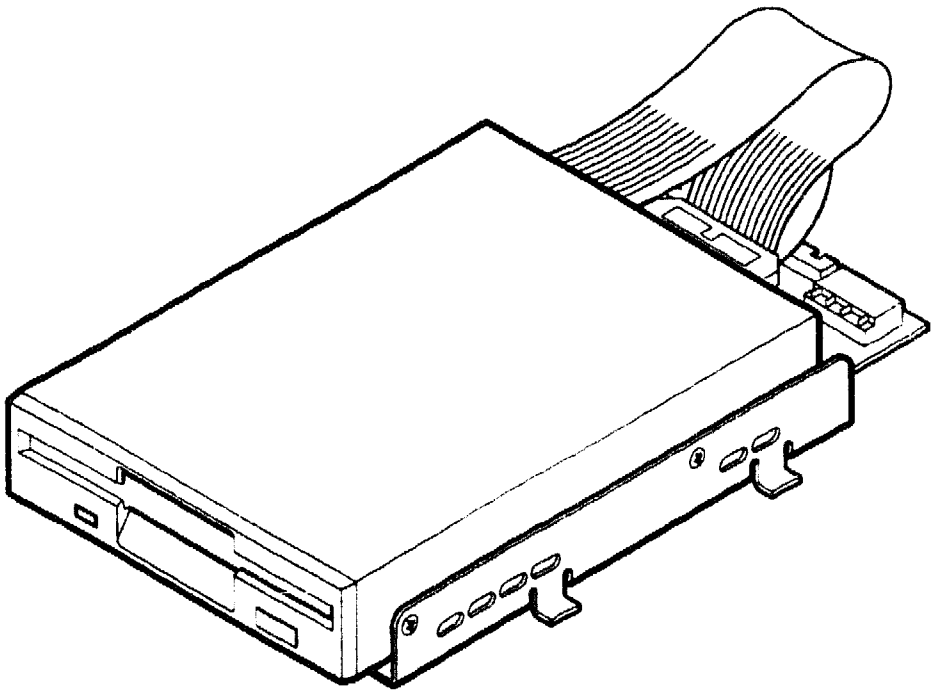
Option Contents

The RX26-EL option contains the following components:

- RX26-AA diskette drive, which has the mounting hardware attached
- Floppy disk interface/small computer system interface (FDI/SCSI) board (54-20764-02)
- FDI ribbon cable (17-00285-00)
- Bezel insert for Model 30 systems (74-39104-01)
- Bezel insert for Model 40 and Model 80 systems (74-39607-01)
- Documentation

Figure RX26–1 shows the RX26-EL option.

Figure RX26–1 RX26-EL Option



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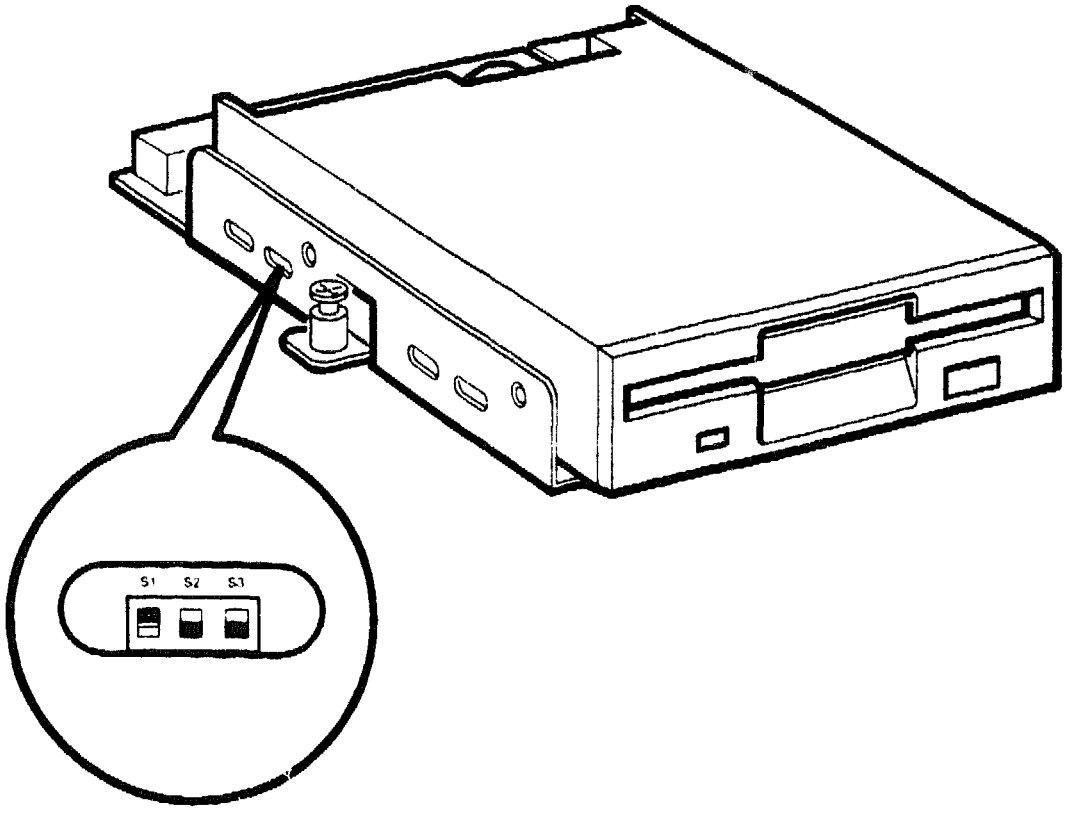
SCSI ID Information

In a MicroVAX 3100 platform system, each SCSI device must have a unique SCSI ID number. When you are adding a SCSI device to an existing system, you must set the SCSI ID of that device to an ID that is not used by any of the other SCSI devices in the system. See Table 2-3 in the *KA45 CPU System Maintenance* or the *KA47 CPU System Maintenance* manual.

To set the SCSI ID of the RX26-EL option, follow these steps:

1. On the RX26 mounting bracket, locate the ventilation slot that allows access to the SCSI ID switches on the FDI/SCSI board (see Figure RX26–2).

Figure RX26–2 Ventilation Slot for SCSI ID Switch Access



Note: The SCSI ID shown is 4 (S1 is on S2 is off and S3 is off).

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2. Determine the SCSI ID number that you want to assign to the RX26-EL option.

Note

When the system is in console mode, you can use the command SHOW CONFIG to view the SCSI ID numbers that the existing devices in the system use.

3. Use a small flat-blade screwdriver to set the switches to the SCSI ID number that you want. Table RX26–2 shows the SCSI ID numbers and the switch positions that correspond to these numbers.

Table RX26–2 RX26 FDI/SCSI Board SCSI ID Switch Positions

SCSI ID	SCSI Switch Positions		
	S1	S2	S3
0	Off	Off	Off
1	Off	Off	On
2	Off	On	Off
3	Off	On	On
4	On	Off	Off
5	On	Off	On
6[1]	On	On	Off
7	On	On	On

[1]Reserved for the SCSI controller.

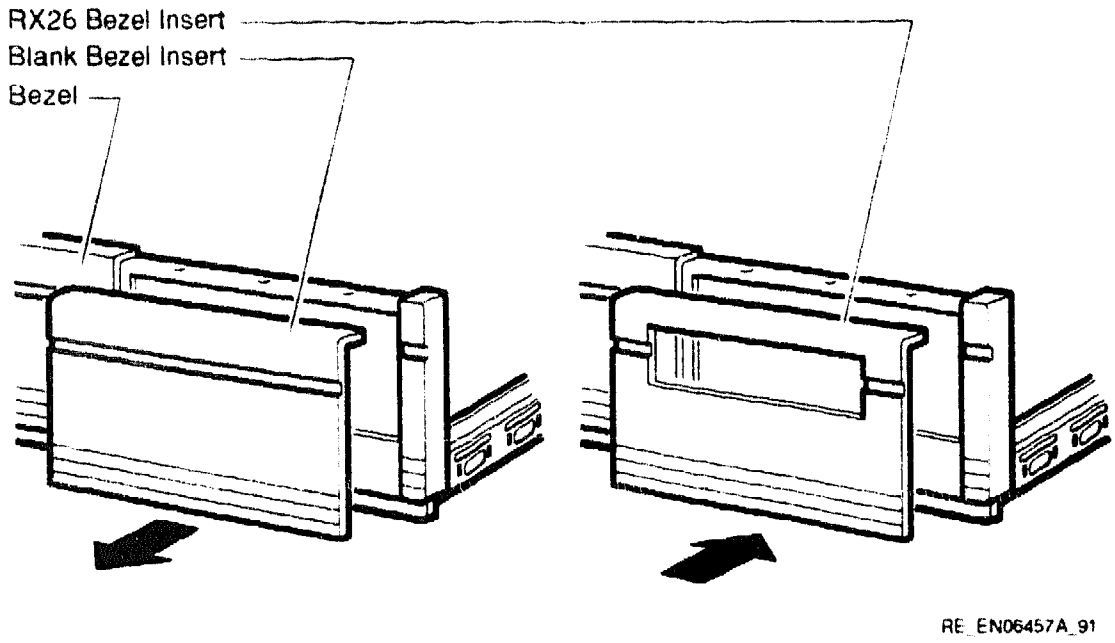
Installation

To install an RX26-EL option in a MicroVAX 3100 platform system, you must remove the enclosure cover (see the *BA42-A Enclosure Maintenance* manual). When you want to install an RX26-EL option in a Model 40 or Model 80 system, you must remove the enclosure cover and the upper drive-mounting shelf (see the *BA42-B Enclosure Maintenance* manual).

To install the RX26-EL option, follow these steps:

1. Identify the drive position into which you want to install the RX26-EL option. See the *BA42-A Enclosure Maintenance* or the *BA42-B Enclosure Maintenance* manual for information about mass storage device orientation and combinations.
2. Insert lock-out screws to hold down any disk drive clips securely in the RX26 drive position on the drive-mounting shelf.
3. For Model 30 systems, push the blank bezel insert from inside the front bezel of the enclosure cover, and clip on the Model 30 bezel supplied with the option (see Figure RX26–3).

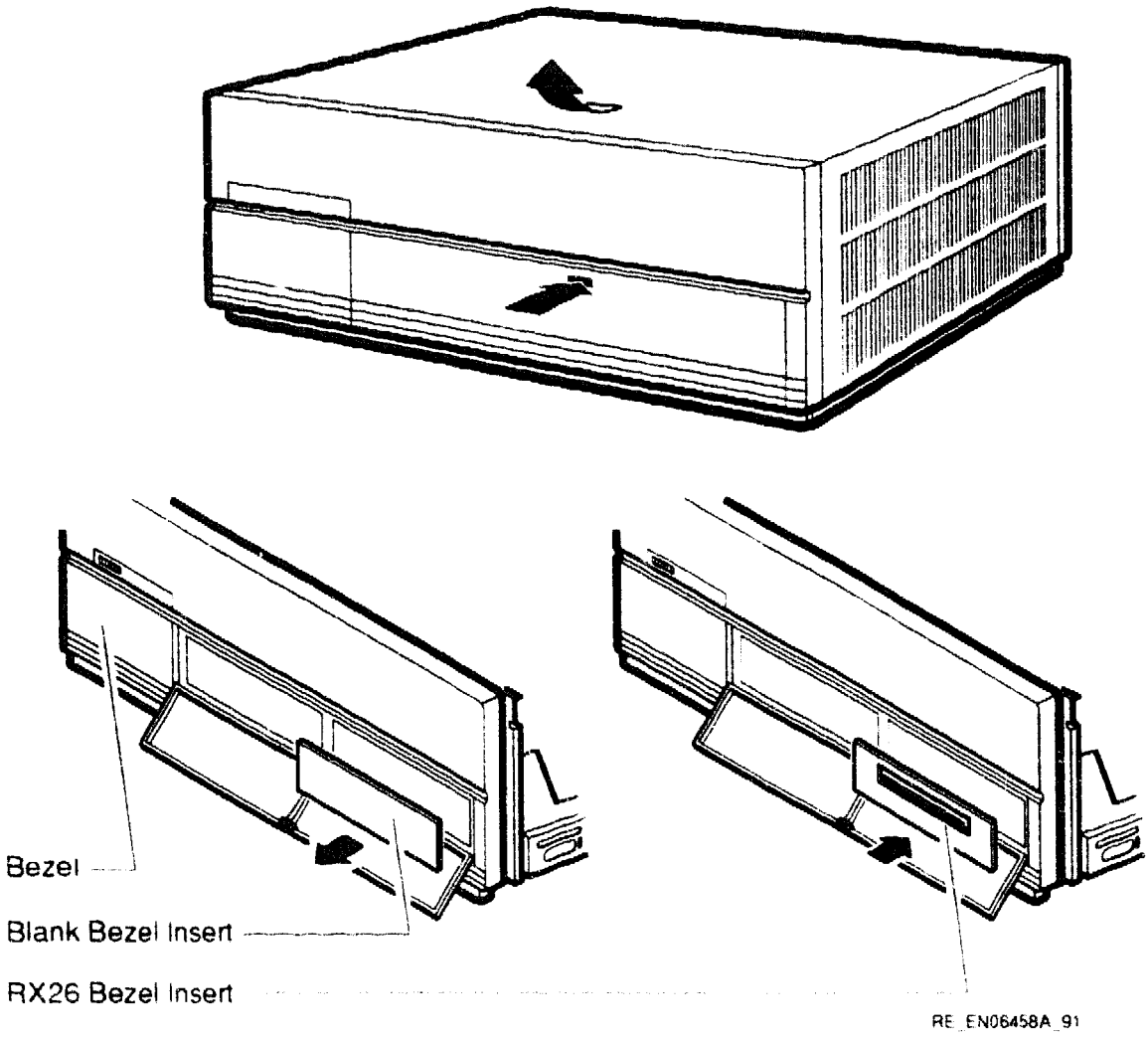
Figure RX26–3 Installing an RX26 Bezel Insert in a Model 30 System



For Model 40 and Model 80 systems, install the RX26 bezel inserts as follows:

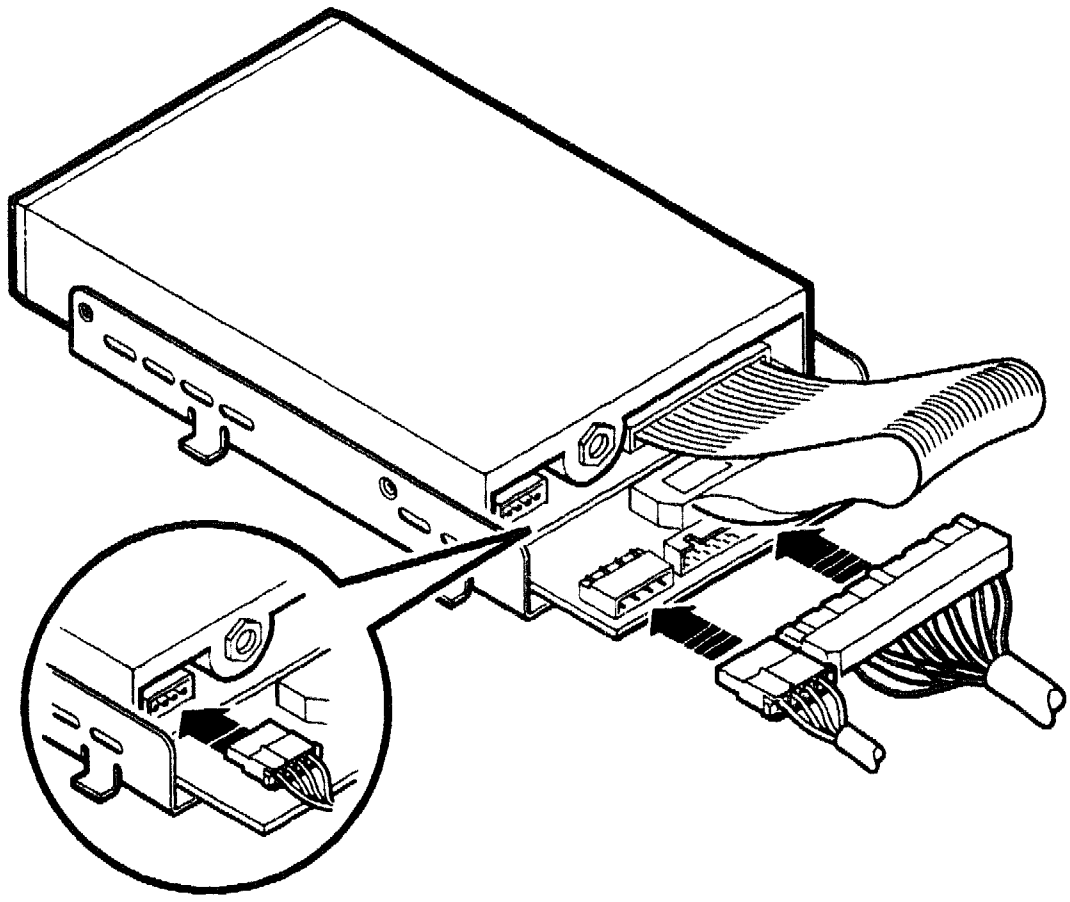
1. From inside the enclosure, push the blank bezel insert that covers the left or right removable-media drive position out of the front bezel of the enclosure.
2. Remove the blank bezel insert from the enclosure.
3. Clip the Model 40 and Model 80 bezel insert to the front bezel of the enclosure (see Figure RX26–4).

Figure RX26–4 Installing an RX26 Bezel Insert in a Model 40 or Model 80 System



4. Identify the power cable that supplies power to the drive-mounting shelf on which you want to install the RX26-EL option. Connect the large power-cable connector to the power connector on the FDI/SCSI board, and connect the small power-cable connector to the connector on the RX26-EL option (see Figure RX26–5).

Figure RX26–5 Connecting the Power Cables and the SCSI Cable



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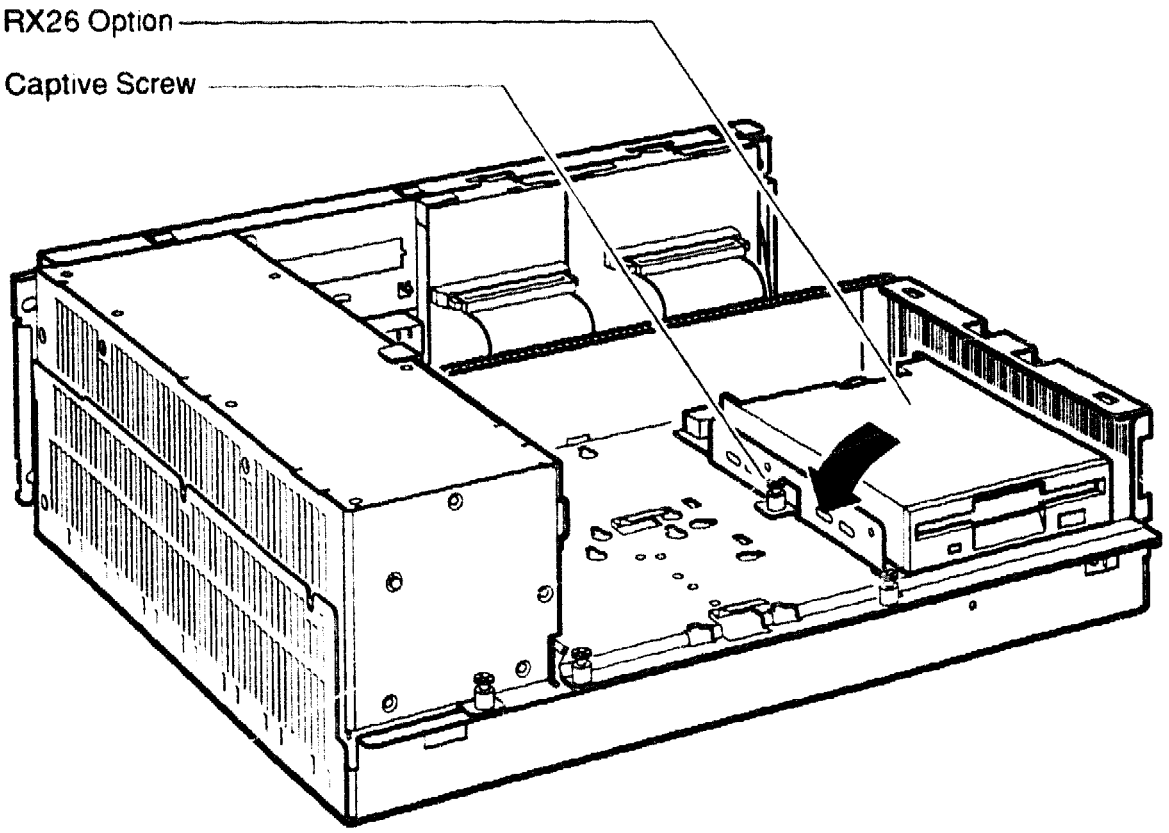
5. Identify the SCSI cable connector that has a pull-tab number that corresponds to the drive position into which you want to install the RX26-EL option. Connect this connector to the FDI/SCSI board (see Figure RX26–5).
6. Align the tabs on the RX26 mounting bracket with the cutouts in the drive-mounting shelf. Tilt the drive to locate the tabs in the drive-mounting shelf cutouts (see Figure RX26–6).

Figure RX26–6 Installing the RX26-EL Option



7. Press the RX26-EL option and tighten the captive screw on the mounting bracket to secure the RX26-EL option in position (see Figure RX26–6).

After you install the RX26-EL option, install the drive-mounting shelf (if removed) and the enclosure cover.

Diagnostic Support

The MicroVAX 3100 platform systems provide diagnostic support that tests the operation of an RX26 diskette drive in a MicroVAX 3100 platform system.

Note

You cannot put the system in Digital Services mode unless there is a loopback connector (29-24795-00) connected to asynchronous modem control port 2 on the back of the system unit.

Enter the following command at the console prompt to put the system in the Digital Services environment:

```
>>> SET DIAGENV 2
```

When the system is in the Digital Services environment, you must install the test diskette in the RX26 diskette drive.

Enter one of the following commands at the console prompt to test the operation of the RX26 diskette drive:

```
>>> T 10
```

```
>>> T SCSI
```

If the test fails, the LED display on the back of the system unit displays a code in the range A0 to A5(hexadecimal), and the console terminal displays a hard error message containing the test number (10) and the test mnemonic (SCSI) as shown in this example:

```
?? 001  10 SCSI 0050
```

See the *KA45 CPU System Maintenance* or the *KA47 CPU System Maintenance* manual for more information.

Power Requirements

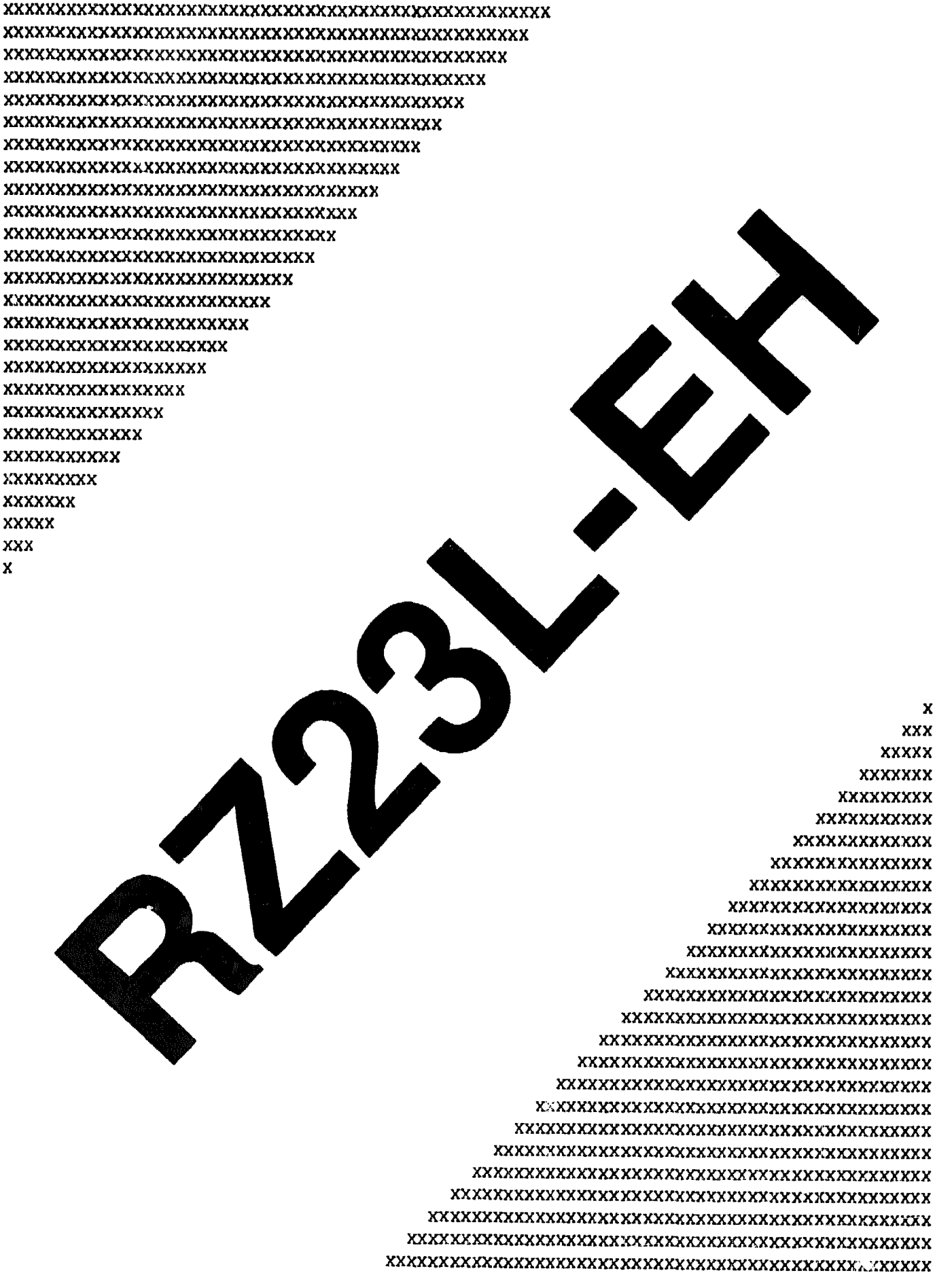
Table RX26–3 gives the dc power requirements of the RX26 diskette drive.

Table RX26–3 RX26 Power Requirements

Mode	Current (A[1])	Power (W[2])
Random seek	0.92	4.60
Power only	0.50	0.30

[1]Amperes

[2]Watts


RZ23L-EH

RZ23L-EH Disk Drive Option

Description

The RZ23L disk drive is a high performance 3.5 inch, SCSI device. It has a formatted disk capacity of 120M bytes. RZ23L disk drives store data in fixed-length blocks on 95 millimeter (mm) thin-film rigid media disks. The storage medium, in the disk drive, is fixed (not operator removable).

Ordering Information

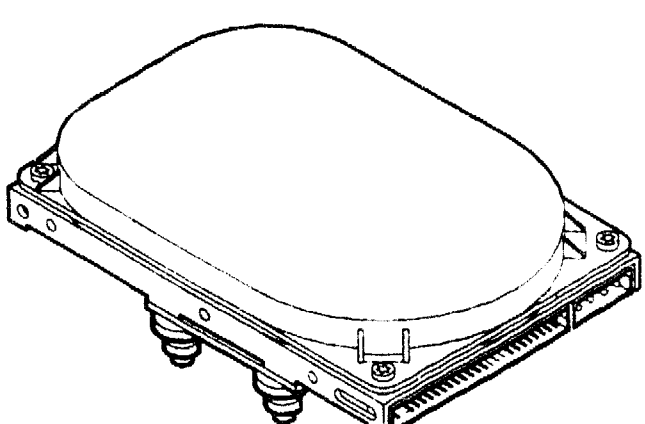
The order number for the RZ23L disk drive that Digital Services personnel install in a MicroVAX 3100 platform system is as follows:

- RZ23L-EH

Option Contents

The RZ23L-EH option contains one component, the RZ23L-E disk drive, which has the mounting hardware attached. Figure RZ23L–1 shows the RZ23L-EH option.

Figure RZ23L–1 RZ23L-EH Option



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SCSI ID Information

In a MicroVAX 3100 platform system, each SCSI device must have a unique SCSI ID number. When you install an RZ23L-EH option, you must set the SCSI ID to an ID that is not used by any of the other SCSI devices in the system. See Table 2-3 in the *KA45 CPU System Maintenance* or the *KA47 CPU System Maintenance* manual.

You set the SCSI ID of the RZ23L-EH option as follows:

1. Locate the SCSI ID jumper wires on the RZ23L-EH option (see Figure RZ23L–2).
2. Determine the SCSI ID number that you want to assign to the RZ23L-EH option.

Note

When the system is in console mode, you can use the command SHOW CONFIG to view the SCSI ID numbers that the existing devices in the system use.

3. Position the jumper wires for the SCSI ID number that you choose. Table RZ23L–1 shows the SCSI ID numbers and the jumper wire combinations that correspond to these numbers.

Figure RZ23L–2 RZ23L-EH SCSI ID Jumper Wire Locations

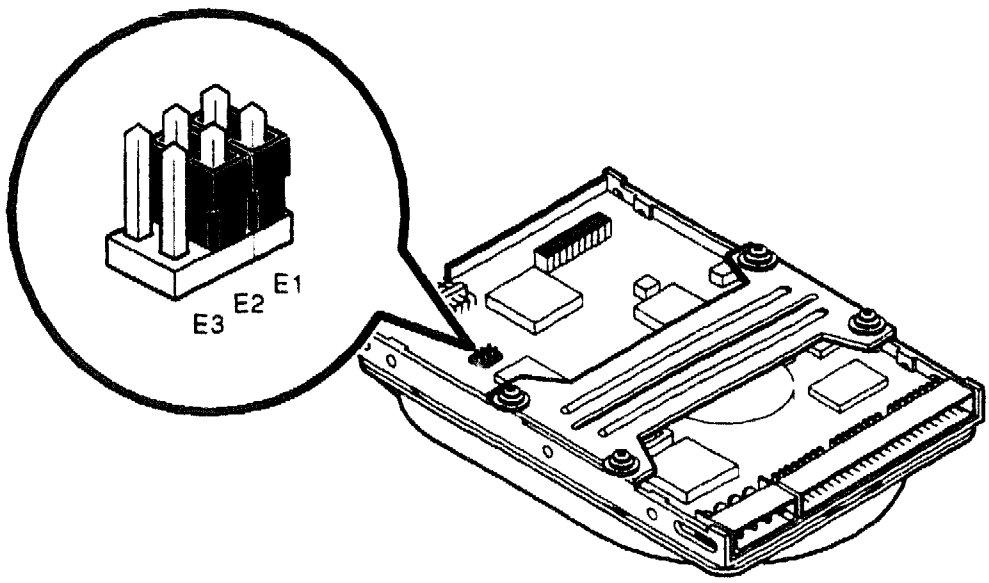


Table RZ23L–1 RZ23L-EH SCSI ID Jumper Wire Combinations

SCSI ID	E1	E2	E3
0	Out	Out	Out
1[1]	In	Out	Out
2[1]	Out	In	Out
3[1]	In	In	Out
4	Out	Out	In
5	In	Out	In
6[2]	Out	In	In
7	In	In	In

[1]Recommended SCSI ID for disk drives.

[2]Reserved for the SCSI controller.

Jumper wire E4, if present, is not used.

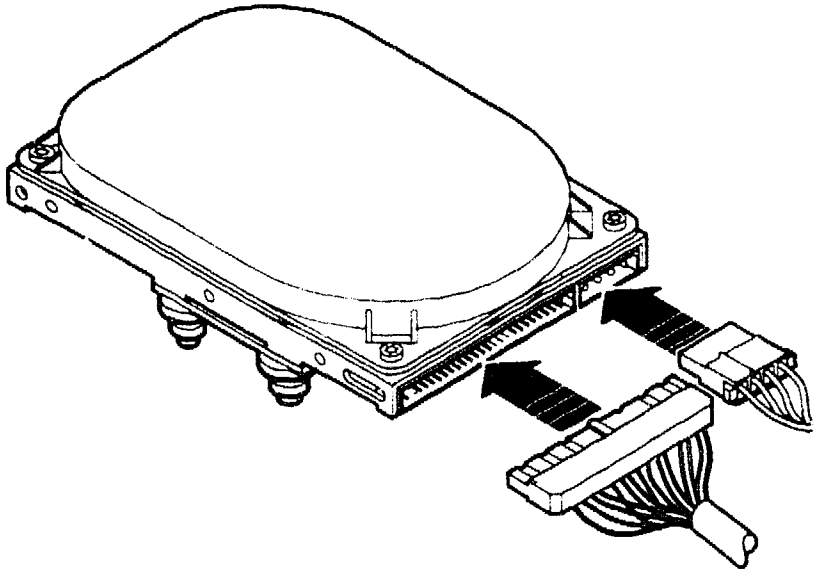
Installation

To install an RZ23L-EH option in a MicroVAX 3100 platform system, you must remove the enclosure cover. When you want to install an RZ23L-EH option on the lower drive-mounting shelf of a MicroVAX 3100 Model 40 or Model 80 system, you must also remove the upper drive-mounting shelf. See the *BA42-A Enclosure Maintenance* or the *BA42-B Enclosure Maintenance* manual for more information.

To install an RZ23L-EH option, follow these steps:

1. Identify the drive-mounting shelf position into which you want to install the RZ23L-EH option. See the *BA42-A Enclosure Maintenance* or the *BA42-B Enclosure Maintenance* manual for information about mass storage device orientation and combinations.
2. Identify the power cable that supplies power to the drive-mounting shelf on which you want to install the RZ23L-EH option. Connect this power cable to the power connector on the back of the RZ23L-EH option (see Figure RZ23L–3).

Figure RZ23L–3 Connecting the Power Cable and the SCSI Cable



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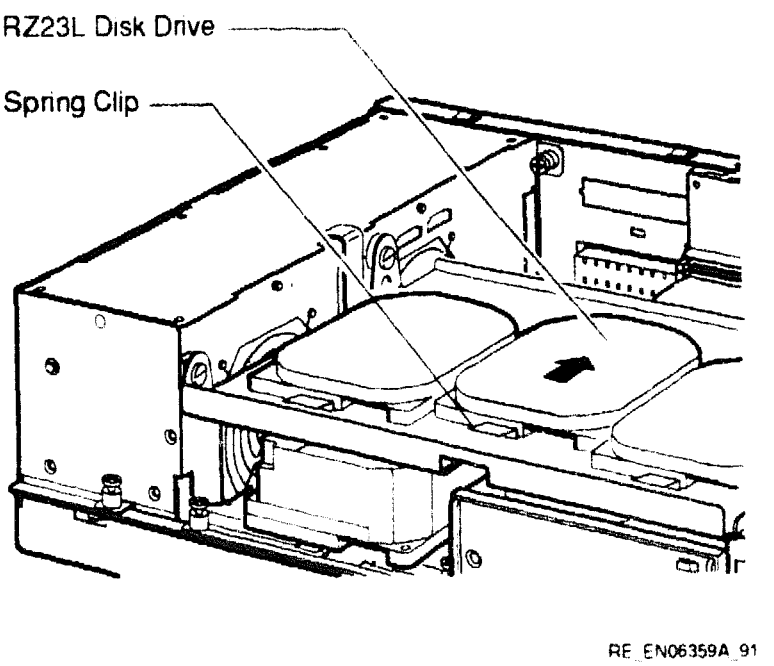
3. Identify the SCSI cable connector that has a pull-tab number that corresponds to the drive position into which you want to install the RZ23L-EH option. Connect this connector to the back of the RZ23L-EH option (see Figure RZ23L–3).
4. Identify the spring clip for the drive position into which you want to install the RZ23L-EH option, and remove the lock-out screw, if it has not already been removed.
5. Position the rubber grommets of the RZ23L-EH option in the cutouts of the drive-mounting shelf.
6. Push the RZ23L-EH option back until the rubber grommets are secure in the cutouts and the spring clip on the drive-mounting shelf locks the RZ23L-EH option in position (see Figure RZ23L–4).

Figure RZ23L–4 Installing the RZ23L-EH Option



After you install the RZ23L-EH option, install the upper drive-mounting shelf (if removed) and the enclosure cover.

Diagnostic Support

The MicroVAX 3100 platform systems provide diagnostic support that tests the operation of an RZ23L-EH option in a MicroVAX 3100 platform system.

Note

You cannot put the system in Digital Services mode unless there is a loopback connector (29-24795-00) connected to asynchronous modem control port 2 on the back of the system unit.

Enter the following command at the console prompt to put the system in the Digital Services environment:

```
>>> SET DIAGENV 2
```

Enter one of the following commands at the console prompt to test the operation of the RZ23L-EH option:

```
>>> T 10
```

```
>>> T SCSI
```

If the test fails, the LED display on the back of the system unit displays a code in the range A0 to A5(hexadecimal), and the console terminal displays a hard error message containing the test number (10) and the test mnemonic (SCSI) as shown in this example:

```
?? 001 10 SCSI 0050
```

See the *KA45 CPU System Maintenance* or the *KA47 CPU System Maintenance* manual for more information.

Power Requirements

Table RZ23L–2 gives the dc power requirements of the RZ23L-EH options.

Table RZ23L–2 Power Requirements

Mode	Current (A[1])		Power (W[2])
	5 V Circuit	12 V Circuit	
Random seek	0.28	0.15	3.80
Power only	0.01	0.075	0.50

[1] Amperes

[2] Watts


RZ24-EH

RZ24-EH Disk Drive Option

Description

The RZ24 disk drive is a high performance 3.5 inch, SCSI device. It has a formatted disk capacity of 209M bytes. The RZ24 disk drives store data in fixed-length blocks on 130 mm thin-film rigid media disks. The storage medium, in the disk drive, is fixed (not operator removable).

Ordering Information

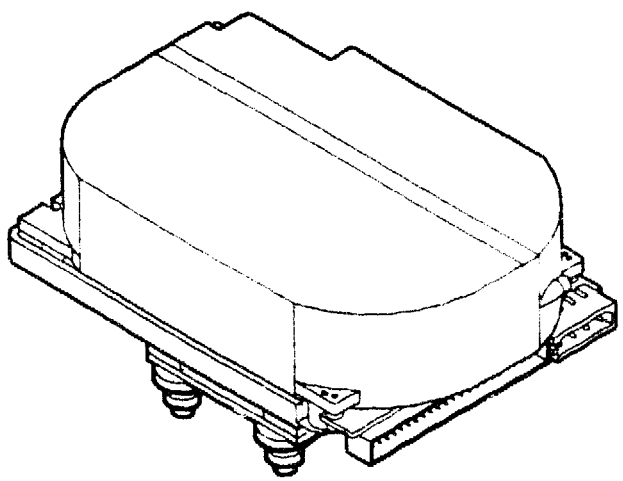
The order number for the RZ24 disk drive that Digital Services personnel install in a MicroVAX 3100 platform system is as follows:

- RZ24-EH

Option Contents

The RZ24-EH option contains one component, the RZ24-E disk drive, which has the mounting hardware attached. Figure RZ24–1 shows the RZ24-EH option.

Figure RZ24–1 RZ24-EH Option



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SCSI ID Information

In a MicroVAX 3100 platform system, each SCSI device must have a unique SCSI ID number. When you install an RZ24-EH option, you must set the SCSI ID of that device to an ID that is not used by any of the other SCSI devices in the system. See Table 2-3 in the *KA45 CPU System Maintenance* or the *KA47 CPU System Maintenance* manual.

You set the SCSI ID of the RZ24-EH option as follows:

1. Locate the SCSI ID jumper wires on the RZ24-EH option (see Figure RZ24–2).
2. Determine the SCSI ID number that you want to assign to the RZ24-EH option.

Note

When the system is in console mode, you can use the command SHOW CONFIG to view the SCSI ID numbers that the existing devices in the system use.

3. Position the jumper wires for the SCSI ID number that you choose. Table RZ24–1 shows the SCSI ID numbers and the jumper wire combinations that correspond to these numbers.

Figure RZ24–2 RZ24-EH SCSI ID Jumper Wire Locations

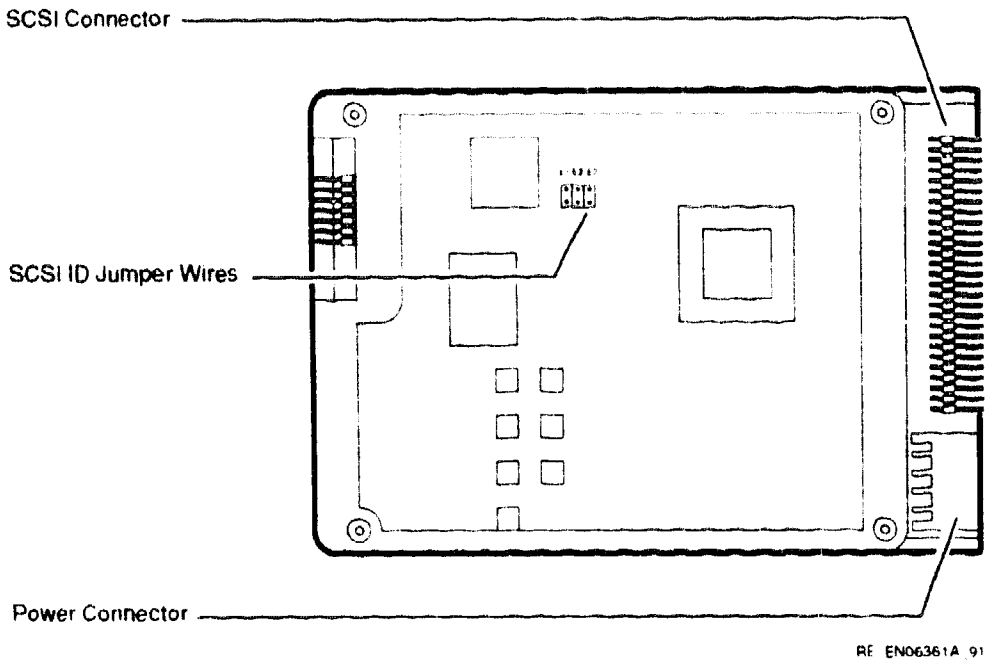


Table RZ24–1 RZ24 SCSI ID Jumper Wire Combinations

SCSI ID	E1	E2	E3
0	Out	Out	Out
1[1]	Out	Out	In
2[1]	Out	In	Out
3[1]	Out	In	In
4	In	Out	Out
5	In	Out	In
6[2]	In	In	Out
7	In	In	In

[1]Recommended SCSI ID for disk drives.

[2]Reserved for the SCSI controller.

Jumper wire E4, if present, is not used.

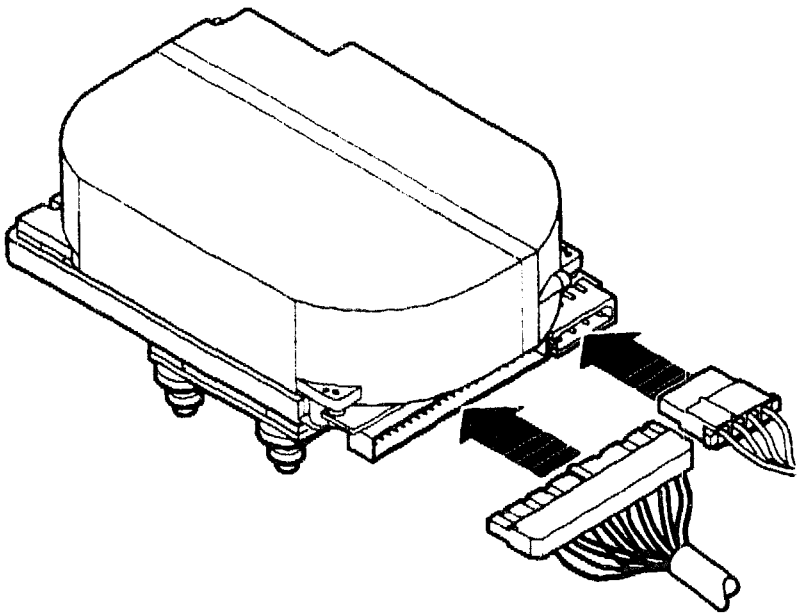
Installation

To install an RZ24-EH option into a MicroVAX 3100 platform system, you must remove the enclosure cover. When you want to install an RZ24-EH option on the lower drive-mounting shelf of a MicroVAX 3100 Model 40 or Model 80 system, you must also remove the upper drive-mounting shelf. See the *BA42-A Enclosure Maintenance* or the *BA42-B Enclosure Maintenance* manual for more information.

To install an RZ24-EH option, follow these steps:

1. Identify the drive-mounting shelf position into which you want to install the RZ24-EH option. See the *BA42-A Enclosure Maintenance* or the *BA42-B Enclosure Maintenance* manual for information about mass storage device orientation and combinations.
2. Identify the power cable that supplies power to the drive-mounting shelf on which you want to install the RZ24-EH option. Connect this power cable to the power connector on the back of the RZ24-EH option (see Figure RZ24–3).

Figure RZ24–3 Connecting the Power Cable and the SCSI Cable



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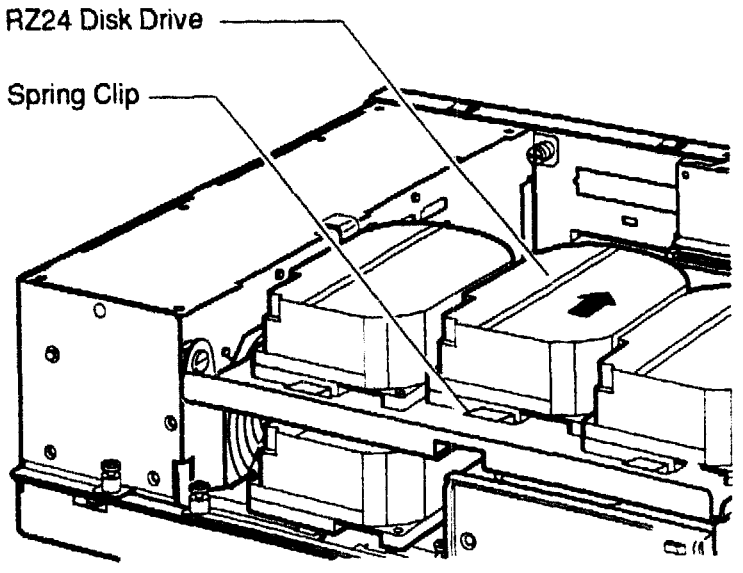
3. Identify the SCSI cable connector that has a pull-tab number that corresponds to the drive position into which you want to install the RZ24-EH option. Connect this connector to the back of the RZ24-EH option (see Figure RZ24–3).
4. Identify the spring clip for the drive position into which you want to install the RZ24-EH option, and remove the lock-out screw, if not already removed.
5. Position the rubber grommets of the RZ24-EH option in the cutouts of the drive-mounting shelf.
6. Push the RZ24-EH option back until the rubber grommets are secure in the cutouts and the spring clip on the drive-mounting shelf locks the RZ24-EH option in position (see Figure RZ24–4).

Figure RZ24–4 Installing the RZ24-EH Option



After you install the RZ24-EH option, install the upper drive-mounting shelf (if removed) and the enclosure cover.

Diagnostic Support

The MicroVAX 3100 platform systems provide diagnostic support that tests the operation of an RZ24-EH option in a MicroVAX 3100 platform system.

Note

You cannot put the system in Digital Services mode unless there is a loopback connector (29-24795-00) connected to asynchronous modem control port 2 on the back of the system unit.

Enter the following command at the console prompt to put the system in the Digital Services environment:

```
>>> SET DIAGENV 2
```

Enter one of the following commands at the console prompt to test the operation of the RZ24-EH option:

```
>>> T 10
```

```
>>> T SCSI
```

If the test fails, the LED display on the back of the system unit displays a code in the range A0 to A5(hexadecimal), and the console terminal displays a hard error message containing the test number (10) and the test mnemonic (SCSI) as shown in this example:

```
?? 001 10 SCSI 0050
```

See the *KA45 CPU System Maintenance* or the *KA47 CPU System Maintenance* manual for more information.

Power Requirements

Table RZ24–2 gives the dc power requirements of the RZ24-EH option.

Table RZ24–2 Power Requirements

Mode	Current (A[1])		Power (W[2])
	5 V Circuit	12 V Circuit	
Random seek	0.40	0.30	6.6
Power only	0.25	0.23	4.35

[1]Amperes

[2]Watts


RZ25-EK

RZ25-EK Disk Drive Option

Description

The RZ25 disk drive is a high performance 3.5 inch, SCSI device. It has a formatted disk capacity of 400M bytes. RZ25 disk drives store data in fixed-length blocks on thin-film rigid media disks. The storage medium in the disk drive is fixed (not operator removable).

Ordering Information

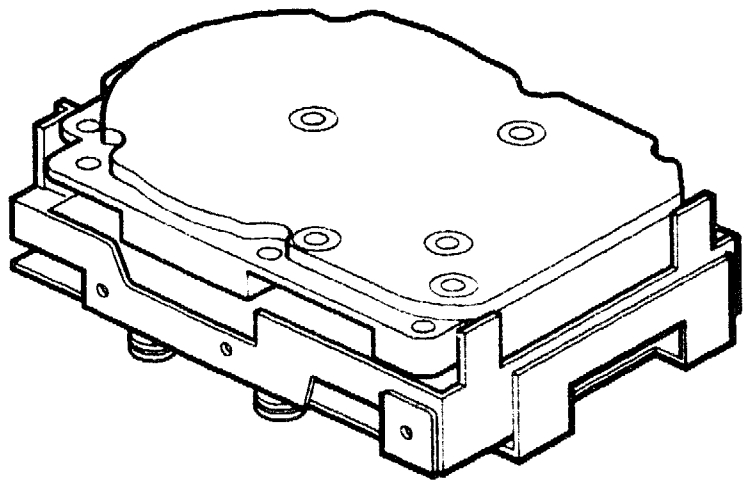
The order number for the RZ25 disk drive that Digital Services personnel install in a MicroVAX 3100 platform system is as follows:

- RZ25-EK

Option Contents

The RZ25-EK option contains one component, the RZ25-E disk drive, which has the mounting hardware attached. Figure RZ25–1 shows the RZ25-EK option.

Figure RZ25–1 RZ25-EK Option



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SCSI ID Information

In a MicroVAX 3100 platform system, each SCSI device must have a unique SCSI ID number. When you install an RZ25-EK option, you must set the SCSI ID to an ID that is not used by any of the other SCSI devices in the system. See Table 2-3 in the *KA45 CPU System Maintenance* or the *KA47 CPU System Maintenance* manual.

To set the SCSI ID of the RZ25-EK option, follow these steps:

1. Locate the SCSI ID jumper wires on the RZ25-EK option (see Figure RZ25–2).
2. Determine the SCSI ID number that you want to assign to the RZ25-EK option.

Note

When the system is in console mode, you can use the command SHOW CONFIG to view the SCSI ID numbers that the existing devices in the system use.

3. Position the jumper wires for the SCSI ID number that you choose. Table RZ25–1 shows the SCSI ID numbers and the jumper wire combinations that correspond to these numbers.

Figure RZ25–2 RZ25-EK SCSI ID Jumper Wire Locations

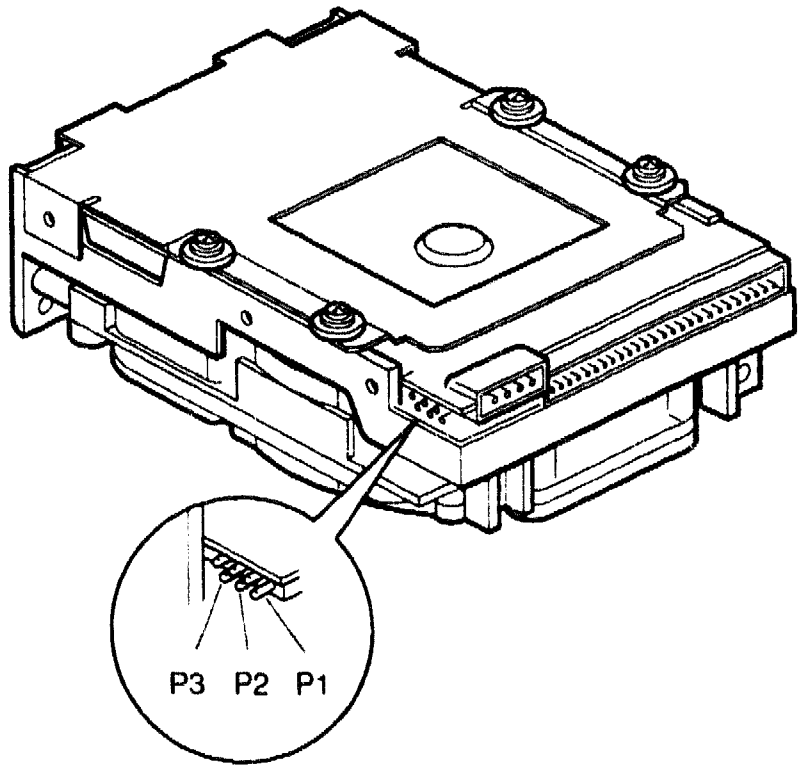

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Table RZ25–1 RZ25 SCSI ID Jumper Wire Combinations

SCSI ID	P1	P2	P3
0	Out	Out	Out
1[1]	Out	Out	In
2[1]	Out	In	Out
3[1]	Out	In	In
4	In	Out	Out
5	In	Out	In
6[2]	In	In	Out
7	In	In	In

[1]Recommended SCSI ID for disk drives.

[2]Reserved for the SCSI controller.

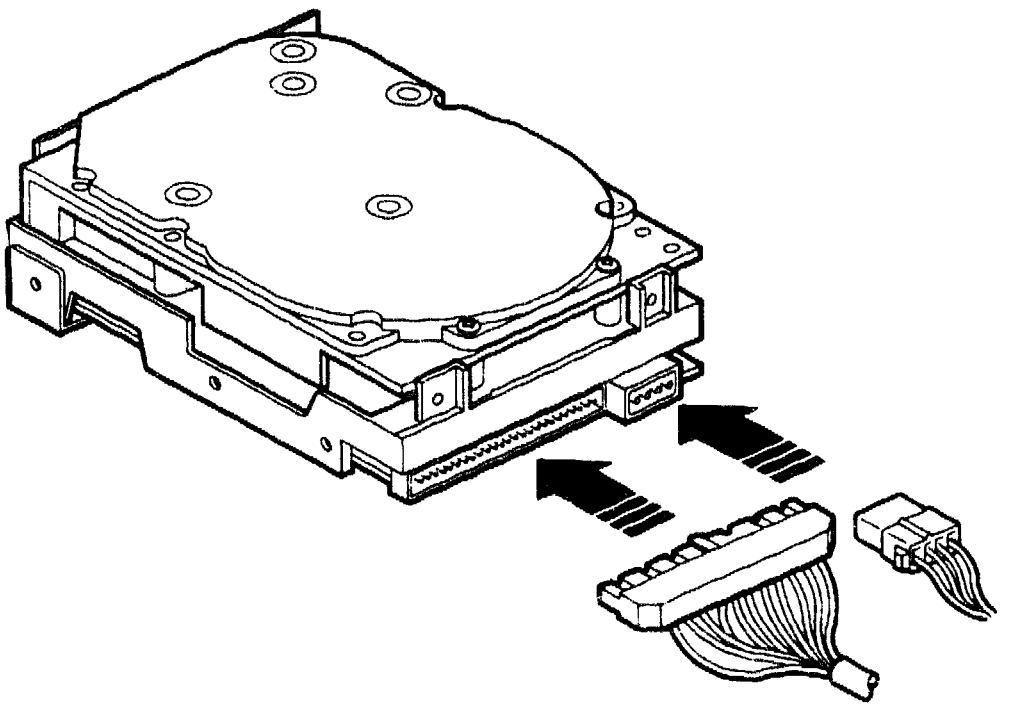
Installation

To install an RZ25-EK option in a MicroVAX 3100 platform system, you must remove the enclosure cover. When you want to install an RZ25-EK option on the lower drive-mounting shelf of a MicroVAX 3100 Model 40 or Model 80 system, you must also remove the upper drive-mounting shelf. See the *BA42-A Enclosure Maintenance* or the *BA42-B Enclosure Maintenance* manual for more information.

Install an RZ25-EK option as follows:

1. Identify the drive-mounting shelf position into which you want to install the RZ25-EK option. See the *BA42-A Enclosure Maintenance* or the *BA42-B Enclosure Maintenance* manual for information about mass storage device orientation and combinations.
2. Identify the power cable that supplies power to the drive-mounting shelf on which you want to install the RZ25-EK option. Connect this power cable to the power connector on the back of the RZ25-EK option (see Figure RZ25–3).

Figure RZ25–3 Connecting the Power Cable and the SCSI Cable



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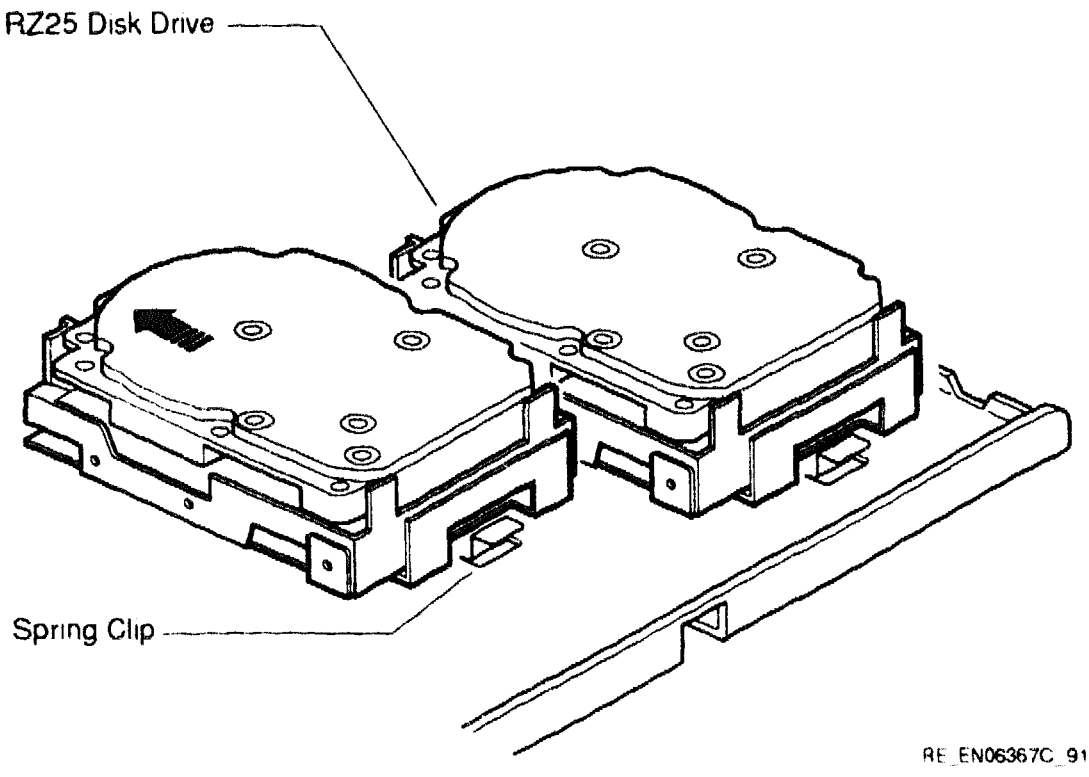
3. Identify the SCSI cable connector that has a pull-tab number that corresponds to the drive position into which you want to install the RZ25-EK option. Connect this connector to the back of the RZ25 option (see Figure RZ25–3).
4. Identify the spring clip for the drive position into which you want to install the RZ25-EK option, and remove the lock-out screw, if it has not already been removed.
5. Position the rubber grommets of the RZ25-EK option in the cutouts of the drive-mounting shelf.
6. Push the RZ25-EK option back until the rubber grommets are secure in the cutouts, and the spring clip on the drive-mounting shelf locks the RZ25-EK option in position (see Figure RZ25–4).

Figure RZ25–4 Installing the RZ25-EK Option



After you install the RZ25-EK option, install the upper drive-mounting shelf (if removed) and the enclosure cover.

Diagnostic Support

The MicroVAX 3100 platform systems provide diagnostic support that tests the operation of an RZ25-EK option in a MicroVAX 3100 platform system.

Note

You cannot put the system in Digital Services mode unless there is a loopback connector (29-24795-00) connected to asynchronous modem control port 2 on the back of the system unit.

Enter the following command at the console prompt to put the system in the Digital Services environment:

```
>>> SET DIAGENV 2
```

Enter one of the following commands at the console prompt to test the operation of the RZ25-EK option:

```
>>> T 10

>>> T SCSI
```

If the test fails, the LED display on the back of the system unit displays a code in the range A0 to A5(hexadecimal), and the console terminal displays a hard error message containing the test number (10) and the test mnemonic (SCSI) as shown in this example:

```
?? 001 10 SCSI 0050
```

See the *KA45 CPU System Maintenance* or the *KA47 CPU System Maintenance* manual for more information.

Power Requirements

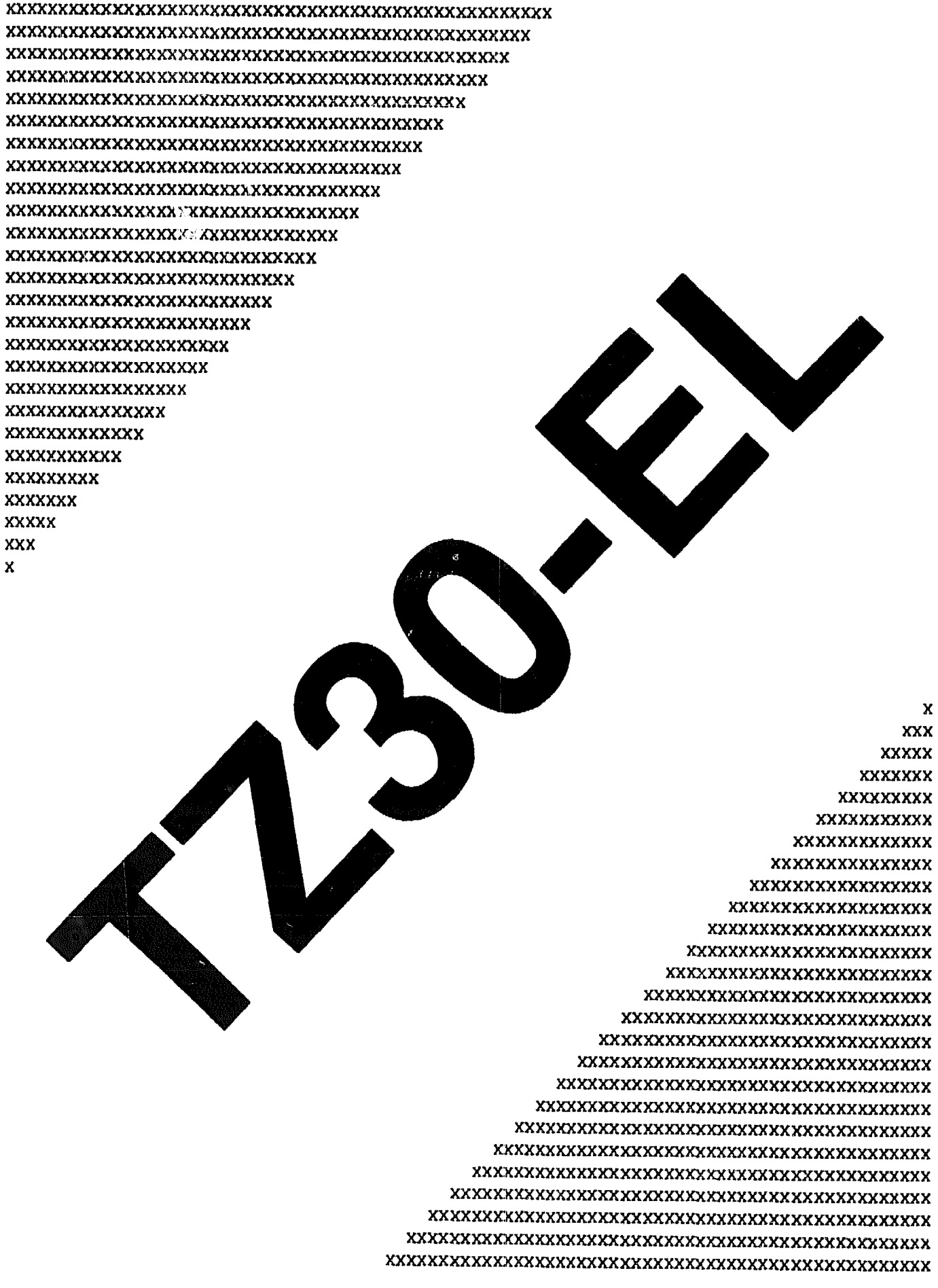
Table RZ25–2 gives the dc power requirements of the RZ25-EK option.

Table RZ25–2 Power Requirements

Mode	Current (A[1])		Power (W[2])
	5 V Circuit	12 V Circuit	
Random seek	0.7	0.9	14.1
Power only	0.5	0.55	9.1

[1] Amperes

[2] Watts


TZ30-EL

TZ30-EL Tape Drive Option

Description

The TZ30 tape drive is a single reel tape, SCSI device. It reads data from and writes data to 95M-byte CompacTape™ or CompacTape II tape cartridges.

Ordering Information

The order number for the TZ30 tape drive that Digital Services personnel install in a MicroVAX 3100 platform system is as follows:

- TZ30-EL

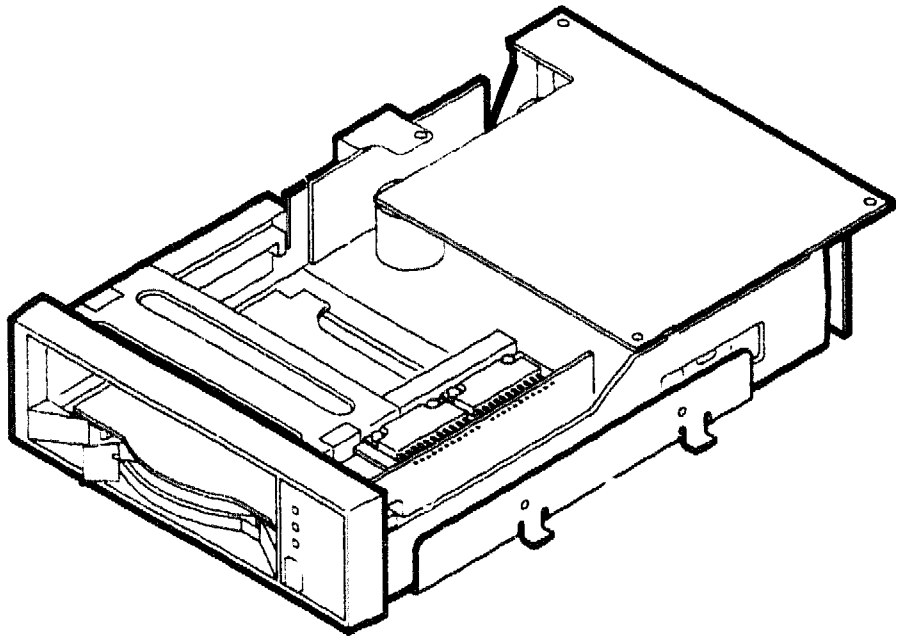
Option Contents

The TZ30-EL option contains the following components:

- TZ30-AX tape drive, which has the mounting hardware attached
- Bezel insert (for Model 30 systems only, 74-42115-01)
- Documentation

Figure TZ30–1 shows the TZ30-EL option.

Figure TZ30–1 TZ30-EL Option



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SCSI ID Information

In a MicroVAX 3100 platform system, each SCSI device must have a unique SCSI ID number. When you are adding a SCSI device to an existing system, you must set the SCSI ID of that device to an ID that is not used by any of the other SCSI devices in the system. See Table 2-3 in the *KA45 CPU System Maintenance* or the *KA47 CPU System Maintenance* manual.

To set the SCSI ID of the TZ30-EL option, follow these steps:

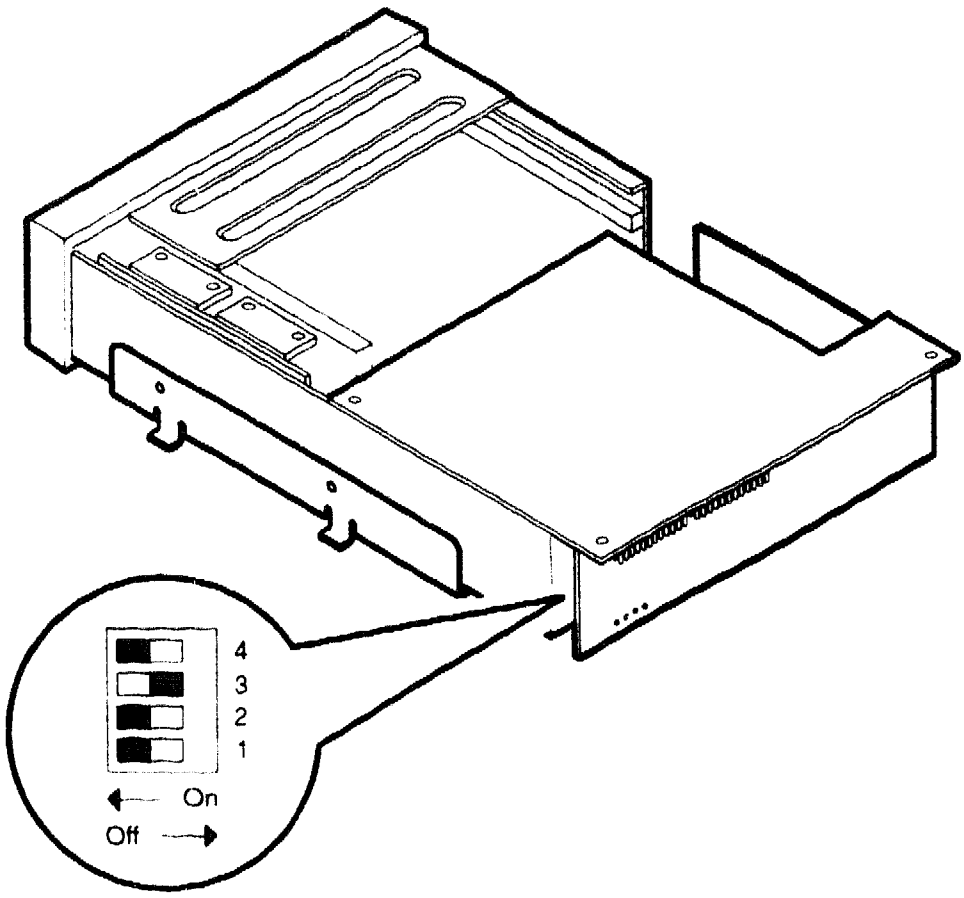
1. Locate the SCSI ID switches on the right side of the TZ30-EL option (see Figure TZ30–2).
2. Determine the SCSI ID number that you want to assign to the TZ30-EL option.

Note

When the system is in console mode, you can use the command SHOW CONFIG to view the SCSI ID numbers that the existing devices in the system use.

3. Set the switches for the SCSI ID number that you want. Table TZ30–1 shows the SCSI ID numbers and the SCSI ID switch positions that correspond to these numbers.

Figure TZ30–2 TZ30 SCSI ID Switch Locations



Notes 1. S1 is not used (always on)
2. The SCSI ID shown is 5 (S2 is on, S3 is off, and S4 is on)

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Table TZ30–1 TZ30 SCSI ID Switch Positions

SCSI ID	1	2	3	4
0	On	Off	Off	Off
1	On	Off	Off	On
2	On	Off	On	Off
3	On	Off	On	On
4	On	On	Off	Off
5[1]	On	On	Off	On
6[2]	On	On	On	Off
7	On	On	On	On

[1]Recommended SCSI ID for tape drives.

[2]Reserved for the SCSI controller.

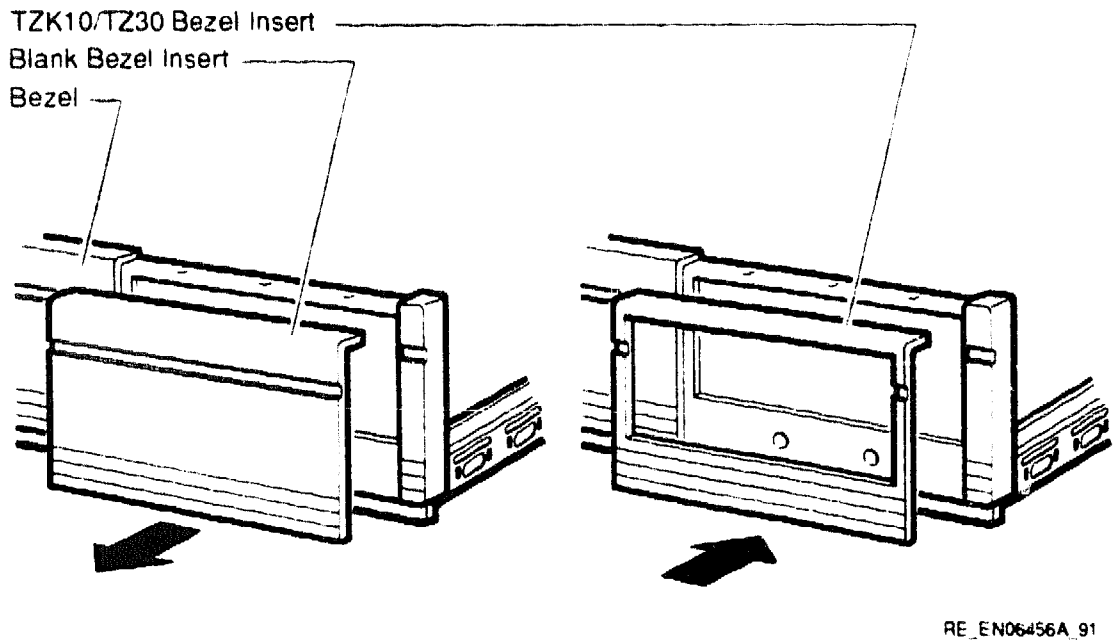
Installation

To install a TZ30-EL option to a MicroVAX 3100 platform system, you must remove the enclosure cover (see the *BA42-A Enclosure Maintenance* manual). When you want to install a TZ30-EL option on the lower drive-mounting shelf of a Model 40 or Model 80 system, you must also remove the upper drive-mounting shelf (see the *BA42-B Enclosure Maintenance* manual).

To install a TZ30-EL option, follow these steps:

1. Identify the position into which you want to install the TZ30-EL option. See the *BA42-A Enclosure Maintenance* or the *BA42-B Enclosure Maintenance* manual for information about mass storage device orientation and combinations.
2. Insert lock-out screws to hold down any disk-drive clips securely in the TZ30-EL option mounting position on the drive-mounting shelf.
3. For Model 30 systems, install the TZ30 bezel insert as follows:
   a. From inside the enclosure, push the blank bezel insert out of the front bezel of the enclosure.
   b. Clip the TZ30 bezel insert on the front bezel of the enclosure (see Figure TZ30–3).

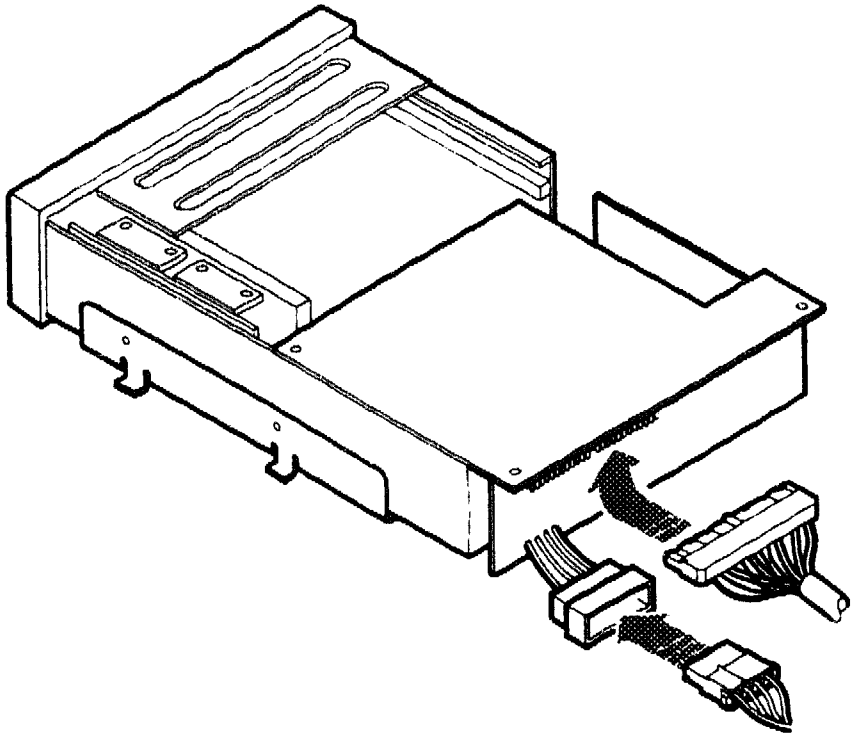
Figure TZ30–3 Installing the TZ30 Bezel Insert in a Model 30 System



For Model 40 and Model 80 systems, push the blank bezel insert that covers the right drive-mounting position on the lower drive-mounting shelf. Remove the blank bezel insert from the enclosure.

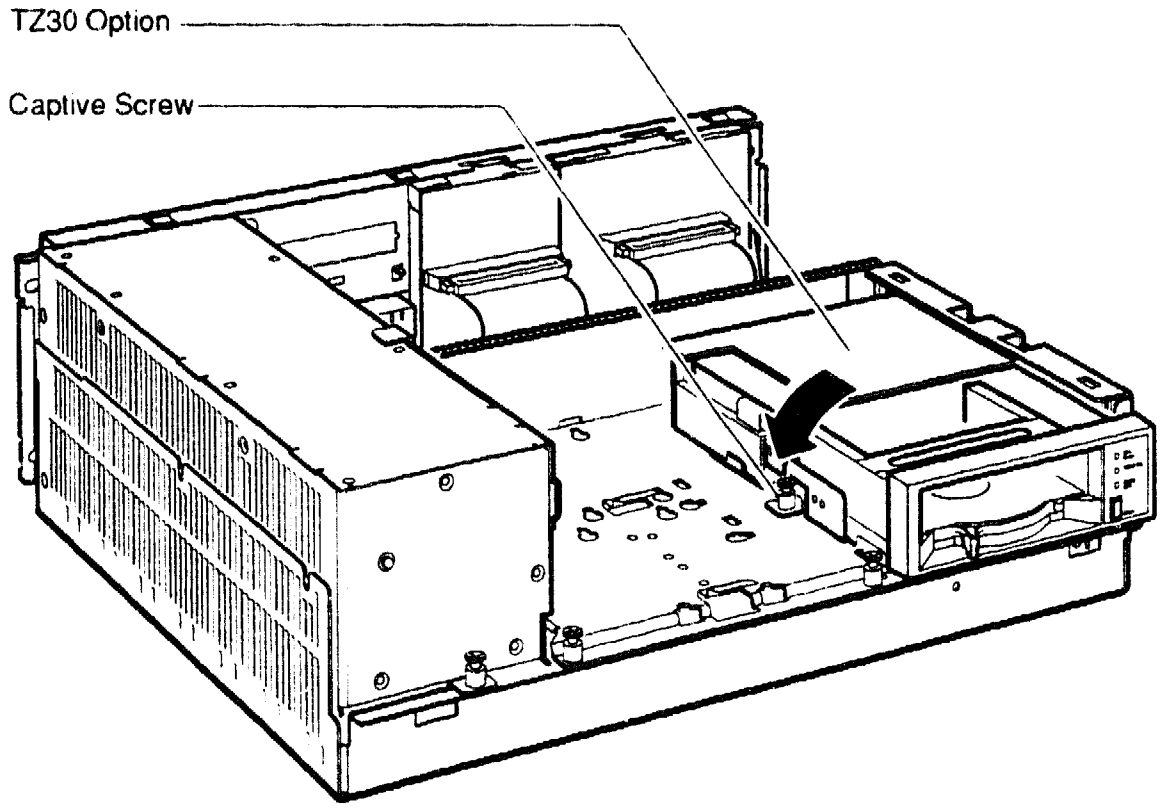
4. Identify the power cable that supplies power to the drive-mounting shelf on which you want to install the TZ30-EL option. Connect this power cable to the flying lead connector of the TZ30-EL option (see Figure TZ30–4).

Figure TZ30–4 Connecting the Power Cable and the SCSI Cable



5. Identify the SCSI cable connector that has a pull-tab number that corresponds to the drive position into which you want to install the TZ30-EL option. Connect this connector to the back of the TZ30 option (see Figure TZ30–4).
6. Align the tabs on the TZ30 mounting bracket with the cutouts in the drive-mounting shelf. Tilt the drive to locate the tabs in the drive-mounting shelf cutouts (see Figure TZ30–5).

Figure TZ30–5 Installing the TZ30 Option



7. Press the TZ30 option and tighten the captive screw on the mounting bracket to secure the TZ30 option in position (see Figure TZ30–5).

After you install the TZ30 option, install the upper drive-mounting shelf (if removed) and the enclosure cover.

Diagnostic Support

The MicroVAX 3100 platform systems provide diagnostic support that tests the operation of a TZ30 tape drive in a MicroVAX 3100 platform system.

Note

You cannot put the system in Digital Services mode unless there is a loopback connector (29-24795-00) connected to asynchronous modem control port 2 on the back of the system unit.

Enter the following command at the console prompt to put the system in the Digital Services environment:

```
>>> SET DIAGENV 2
```

Enter one of the following commands at the console prompt to test the operation of the TZ30-EL option:

```
>>> T 10
```

```
>>> T SCSI
```

When the system is in the Digital Services environment, you must install a test tape in the TZ30-EL option.

If the test fails, the LED display on the back of the system unit displays a code in the range A0 to A5(hexadecimal), and the console terminal displays a hard error message containing the test number (10) and the test mnemonic (SCSI) as shown in this example:

```
?? 001 10 SCSI 0050
```

See the *KA45 CPU System Maintenance* or the *KA47 CPU System Maintenance* manual for more information.

Power Requirements

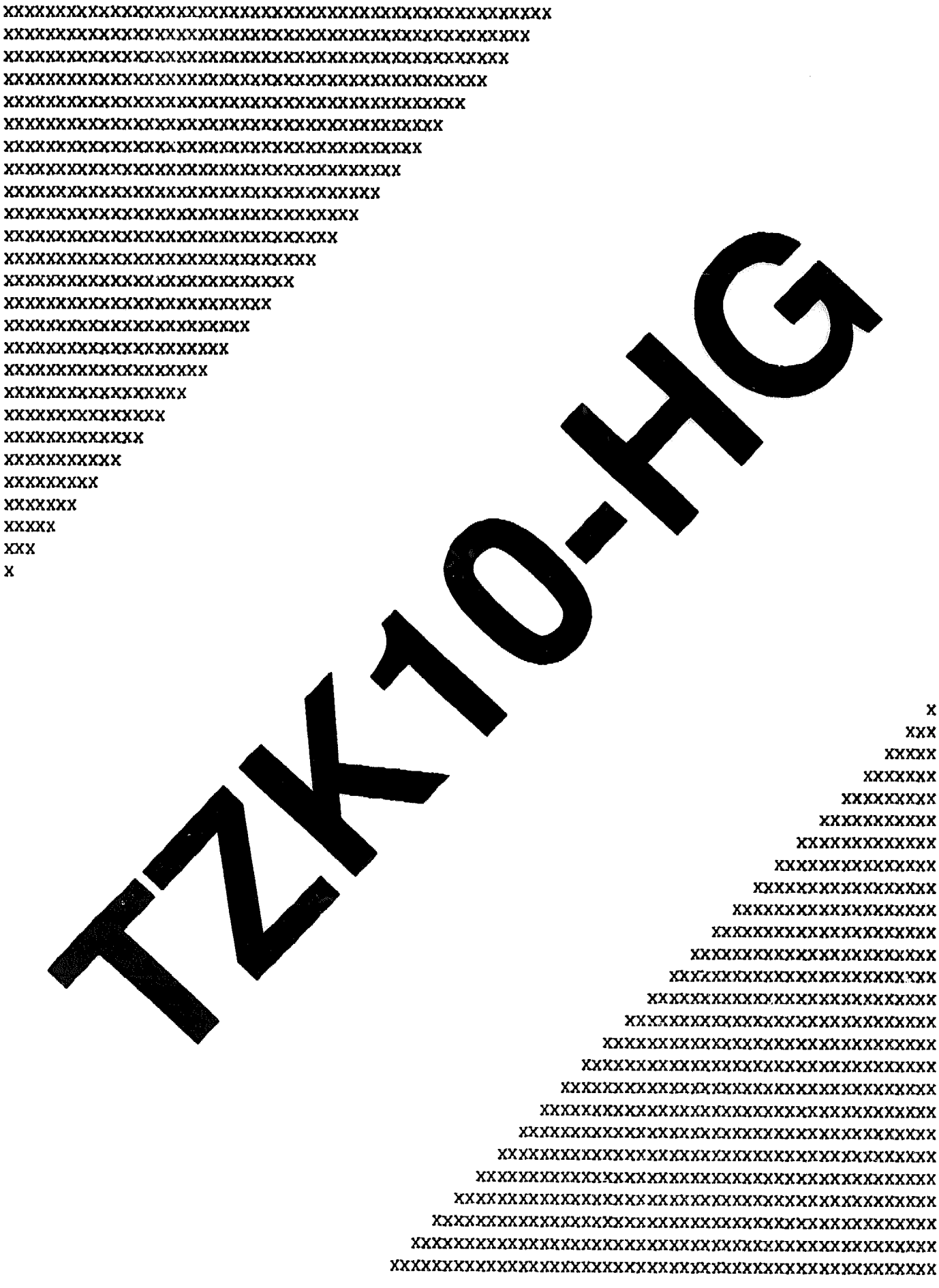
Table TZ30–2 gives the dc power requirements of the TZ30-EL option.

Table TZ30–2 Power Requirements

Current (A[1])		Power (W[2])
5 V Circuit	12 V Circuit	
1.20	1.00	20.00

[1] Amperes

[2] Watts


TZK10-HG

TZK10-HG Tape Drive Option

Description

The TZK10 tape drive is a quarter inch cartridge (QIC), SCSI device. It reads data from and writes data to industry-standard tape cartridges. Table TZK10–1 gives the tape cartridges that the TZK10 tape drive supports.

Table TZK10–1 TZK10 Tape Cartridges

Cartridge	Capacity (bytes)	Format
DC6525	Up to 525M	QIC-525
DC6320	Up to 320M	QIC-320

In a MicroVAX 3100 platform system, there is only one option variant that Digital Services personnel install, that is, the TZK10-HG option.

Ordering Information

The order number for the TZK10 tape drive that Digital Services personnel install in a MicroVAX 3100 platform system is as follows:

- TZK10-HG

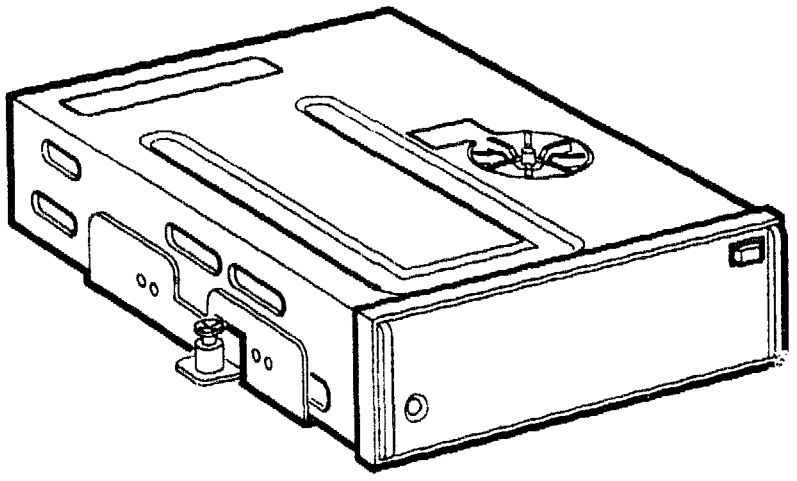
Option Contents

The TZK10-HG tape drive option contains the following components:

- TZK10-AA tape drive, which has the mounting hardware attached
- Bezel insert (for Model 30 systems only, 74-37501-01)
- Dress bezel insert (for Model 30 systems only, 74-42531-01)
- Documentation

Figure TZK10–1 shows the TZK10-HG option.

Figure TZK10–1 TZK10-HG Option



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SCSI ID Information

In a MicroVAX 3100 platform system, each SCSI device must have a unique SCSI ID number. When you are adding a SCSI device to an existing system, you must set the SCSI ID of that device to an ID that is not used by any of the other SCSI devices in the system. See Table 2-3 in the *KA45 CPU System Maintenance* or the *KA47 CPU System Maintenance* manual.

To set the SCSI ID of the TZK10-HG option, follow these steps:

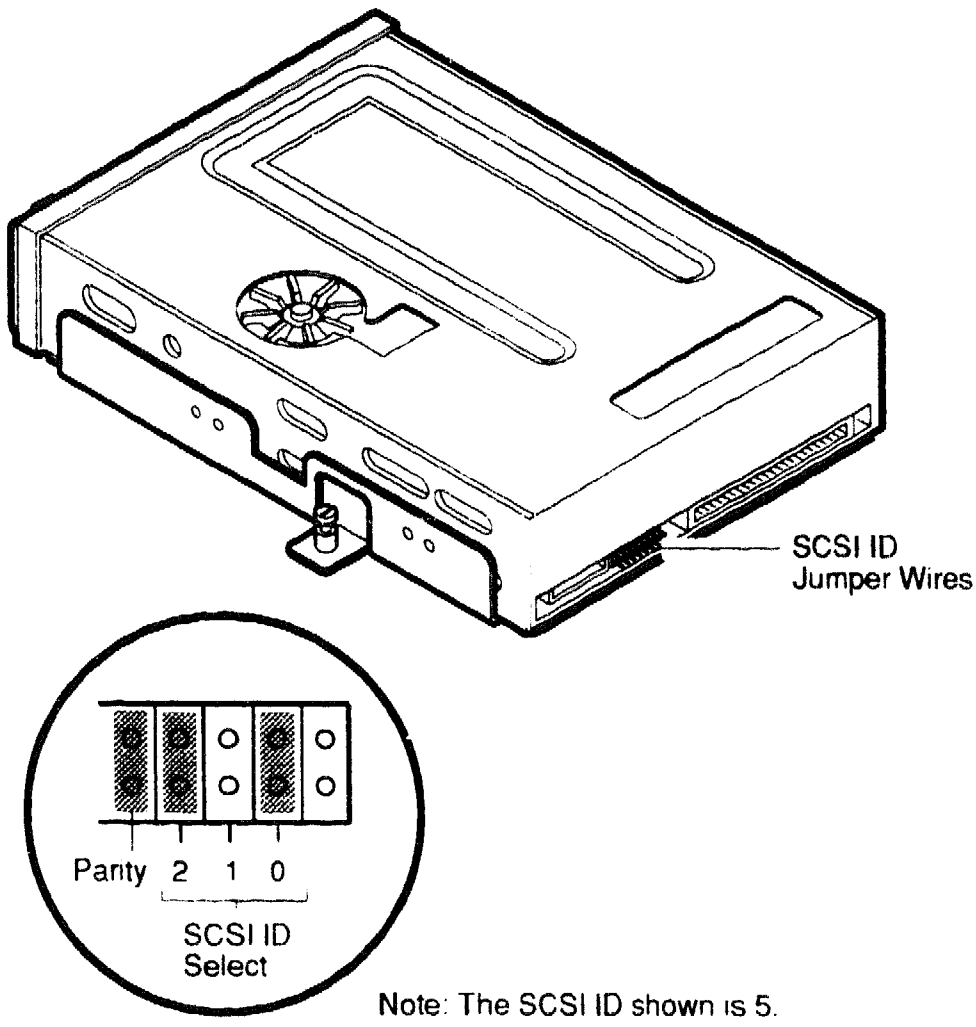
1. Locate the SCSI ID jumper wires on the back of the TZK10-HG option (see Figure TZK10–2).
2. Determine the SCSI ID number that you want to assign to the TZK10-HG option.

Note

When the system is in console mode, you can use the command SHOW CONFIG to view the SCSI ID numbers that the devices in the system use.

3. Position the jumper wires for the SCSI ID number that you want. Table TZK10–2 shows the SCSI ID numbers and the jumper wire combinations that correspond to these numbers.

Figure TZK10–2 TZK10 SCSI ID Jumper Wire Locations



Note: The SCSI ID shown is 5.

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Table TZK10–2 TZK10 SCSI ID Jumper Wire Combinations

SCSI ID	2	1	0
0	Out	Out	Out
1	Out	Out	In
2	Out	In	Out
3	Out	In	In
4	In	Out	Out
5[1]	In	Out	In
6[2]	In	In	Out
7	In	In	In

[1]Recommended SCSI ID for tape drives.

[2]Reserved for the SCSI controller.

The other jumper wire positions are not used.

Installation

To install a TZK10-HG option in a MicroVAX 3100 platform system, you must remove the enclosure cover (see the *BA42-A Enclosure Maintenance*) manual. When you want to install a TZK10-HG option on the lower drive-mounting shelf of a Model 40 or Model 80 system, you must also remove the upper drive-mounting shelf (see the *BA42-B Enclosure Maintenance*) manual.

You can install a TZK10-HG option in the following:

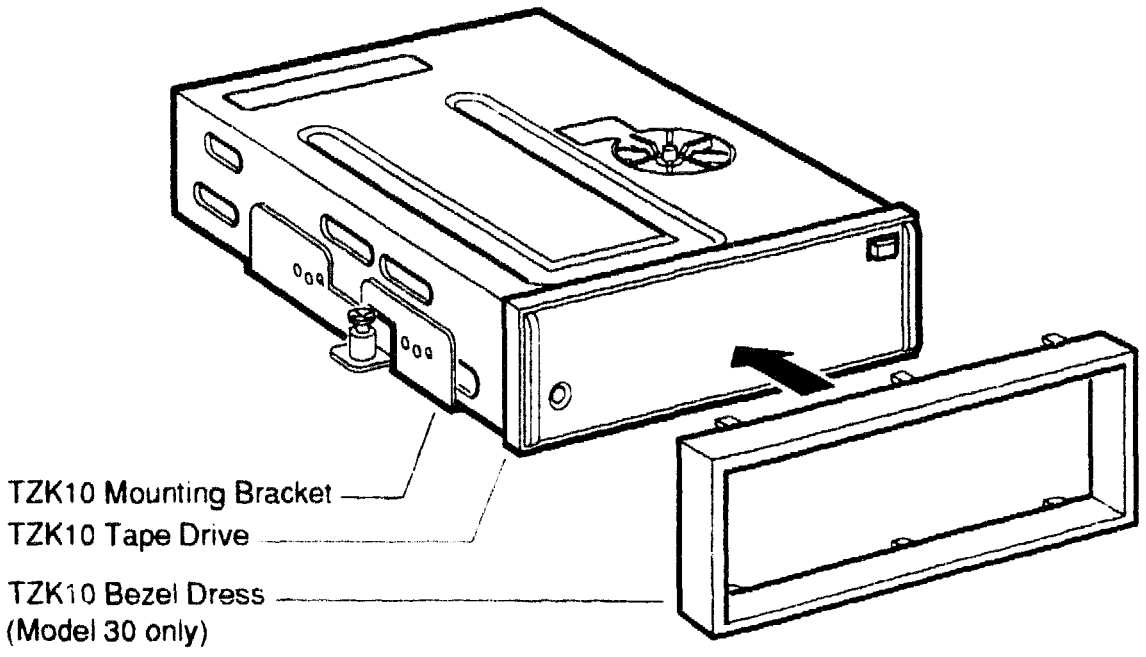
- A Model 30 system (right-hand position only)
- The right-hand position in a Model 40 or Model 80 system
- The left-hand position in a Model 40 or Model 80 system

Preparing to Install a TZK10-HG Option in a Model 30 System

To prepare a Model 30 system for the installation of a TZK10-HG option, follow these steps:

1. Attach the dress bezel insert to the front flange of the TZK10-HG option (see Figure TZK10–3).

Figure TZK10–3 Attaching the Dress Bezel Insert



2. From inside the enclosure, push the blank bezel insert out of the front bezel of the enclosure.
3. Remove the blank bezel insert from the enclosure.
4. Clip the Model 30 bezel insert to the front bezel of the enclosure.

Preparing to Install a TZK10-HG Option in the Right-Hand Position of a Model 40 or Model 80 System

To prepare a Model 40 or Model 80 system for the installation of a TZK10-HG option in the right-hand drive position, follow these steps:

1. Push the blank bezel insert that covers the right-hand drive-mounting position on the lower drive-mounting shelf out of the front bezel of the enclosure.
2. Remove the blank bezel insert from the enclosure.

Preparing to Install a TZK10-HG Option in the Left-Hand Position of a Model 40 or Model 80 System

To prepare a Model 40 or Model 80 system for the installation of a TZK10-HG option in the left-hand drive position, follow these steps:

1. From inside the enclosure, push the blank bezel insert that covers the left-hand drive-mounting position on the lower drive-mounting shelf out of the front bezel of the enclosure.
2. Remove the blank bezel insert from the enclosure.
3. Remove the four screws that secure the mounting bracket to the TZK10 tape drive.
4. Turn the TZK10 tape drive through an angle of 180°.
5. Position the TZK10 tape drive on the mounting bracket. Align the holes that are labeled *Q* on the bracket with the screw holes on the TZK10 tape drive.

Installing the TZK10-HG Option

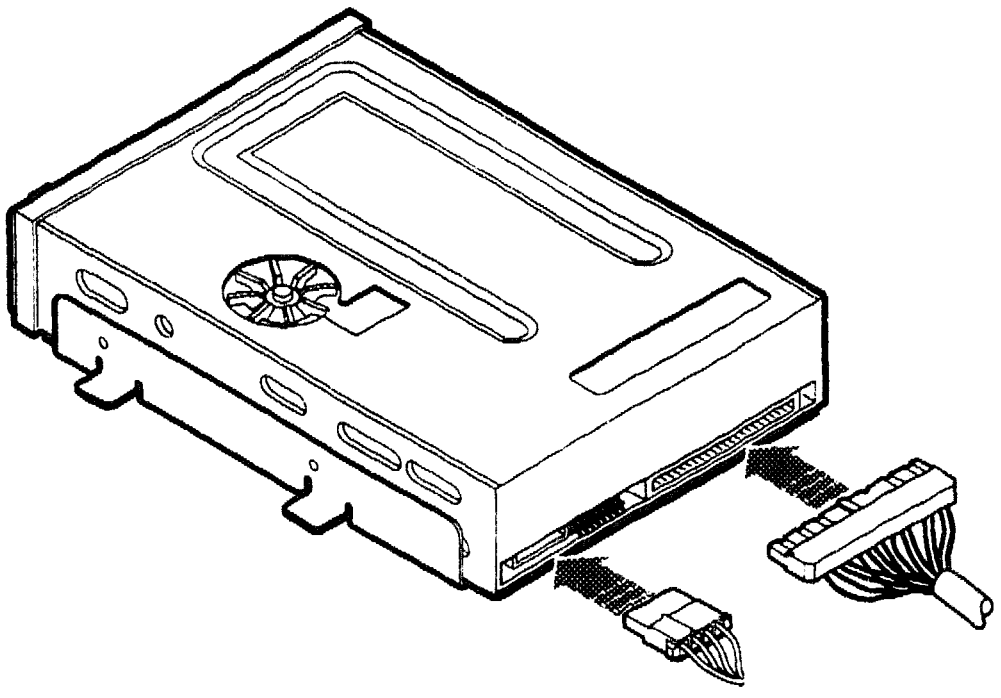
Note

The following procedure describes how to install a TZK10-HG option in the right-hand removable media position of a Model 40 system. The procedure for the installation of a TZK10 option in a Model 30 system or in the left-hand removable media position of a Model 40 system is similar.

Install a TZK10-HG option as follows:

1. Install lock-out screws to hold down any disk drive clips securely in the drive position on the drive-mounting shelf.
2. Identify the power cable that supplies power to the drive-mounting shelf on which you want to install the TZK10-HG option. Connect this power cable to the power connector on the back of the TZK10-HG option (see Figure TZK10–4).

Figure TZK10–4 Connecting the Power Cable and the SCSI Cable



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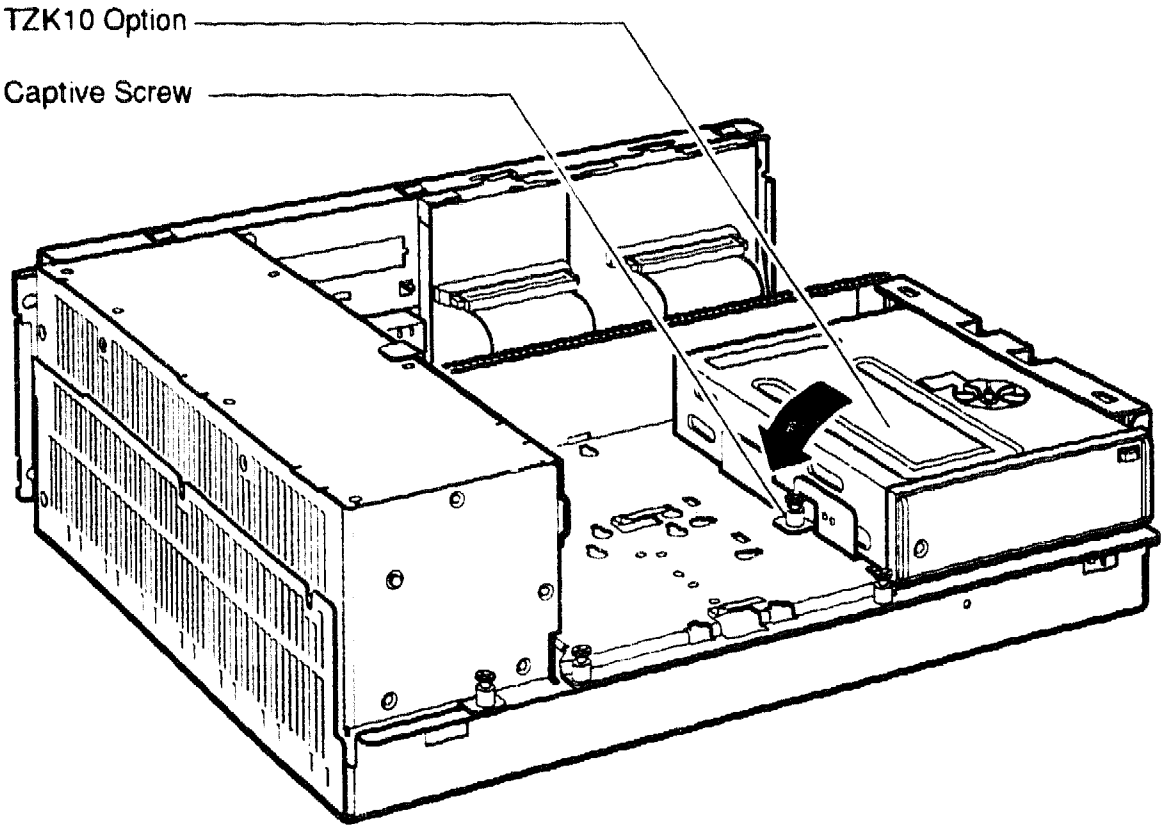
3. Identify the SCSI cable connector that has a pull-tab number that corresponds to the drive position into which you want to install the TZK10-HG option. Connect this connector to the back of the TZK10-HG option (see Figure TZK10–4).
4. Align the tabs on the TZK10-HG option mounting bracket with the cutouts in the drive-mounting shelf. Tilt the drive to locate the tabs in the drive-mounting shelf cutouts (see Figure TZK10–5).

Figure TZK10–5 Installing the TZK10-HG Option



5. Press the TZK10-HG option and tighten the captive screw on the mounting bracket to secure the TZK10-HG option in position (see Figure TZK10–5).

After you install the TZK10-HG option, install the upper drive-mounting shelf (if removed) and the enclosure cover.

Diagnostic Support

The MicroVAX 3100 platform systems provide diagnostic support that tests the operation of a TZK10-HG option in a MicroVAX 3100 platform system.

Note

You cannot put the system in Digital Services mode unless there is a loopback connector (29-24795-00) connected to asynchronous modem control port 2 on the back of the system unit.

Enter the following command at the console prompt to put the system in the Digital Services environment:

```
>>> SET DIAGENV 2
```

Enter one of the following commands at the console prompt to test the operation of the TZK10-HG option:

```
>>> T 10
```

```
>>> T SCSI
```

When the system is in the Digital Services environment, you must install a test tape in the TZK10 tape drive.

If the test fails, the LED display on the back of the system unit displays a code in the range A0 to A5(hexadecimal), and the console terminal displays a hard error message containing the test number (10) and the test mnemonic (SCSI) as shown in this example:

```
?? 001 10 SCSI 0050
```

See the *KA45 CPU System Maintenance* or the *KA47 CPU System Maintenance* manual for more information.

Power Requirements

Table TZK10–3 gives the dc power requirements of the TZK10-HG option.

Table TZK10–3 TZK10 Power Requirements

Current (A[1])		Power (W[2])
5 V Circuit	12 V Circuit	
1.00	1.75	25.00

[1] Amperes

[2] Watts