

BA35X–VA Vertical Mounting Kit

User's Guide

Order Number: EK–350SV–UG. A01

This manual describes the rules for configuring the BA35X–VA vertical mounting kit and the procedures for replacing system building blocks (SBBs) and shelves.

Digital Equipment Corporation
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Preface

The *BA35X-VA Vertical Mounting Kit User's Guide* describes the rules for configuring the BA35X-VA vertical mounting kit and the procedures for replacing system building blocks (SBBs) and DECstor/me modular storage shelves.

Intended Audience

This manual is intended for personnel who are responsible for configuring, installing, and using BA350 DECstor/me modular storage shelf subsystems.

Structure

This manual is organized as follows:

- | | |
|-----------|--|
| Chapter 1 | Provides an overview of the vertical mounting kit and describes configuration rules and ac power distribution. |
| Chapter 2 | Contains the procedures for replacing SBBs, blowers, and shelves in a vertical mounting kit. The sequence for installing SBBs in a shelf is also included in this chapter. |

Related Documents

The following table lists documents (alphabetically by title) that contain information related to this product:

Document Title	Order Number
<i>BA350 Modular Storage Shelf SBB User's Guide</i>	EK-SBB35-UG
<i>BA350 Modular Storage Shelf Subsystem Configuration Guide</i>	EK-BA350-CG
<i>BA350 Modular Storage Shelf Subsystem User's Guide</i>	EK-BA350-UG
<i>BA350-EA Modular Storage Shelf User's Guide</i>	EK-350EA-UG
<i>BA350-LA Modular Storage Shelf User's Guide</i>	EK-350LA-UG
<i>BA350-SA Modular Storage Shelf User's Guide</i>	EK-350SA-UG
<i>Installation Notice—RZ73 Bus Termination and Jumper Installation Guide</i>	EK-RZ73X-IS
<i>MicroVAX/VAXserver 3100 and DECsystem 5100 RZ25 Installation Guide Addendum</i>	EK-RZ2MV-AD
<i>RZ Series Disk Drive Reference Manual</i>	EK-RZXXD-RM
<i>RZ22, RZ23, RZ24 Disk Drive Subsystem Service Manual</i>	EK-RZ234-SV
<i>RZ24 Hard Disk Drive Installation Guide</i>	EK-RZ24I-IS
<i>RZ25-S Mounting Bolt/Bracket Installation Instructions</i>	EK-RZ25S-IN
<i>RZ2x Hard Disk Drive Upgrade Installation Instructions</i>	EK-RZ2XH-UG

Document Title	Order Number
<i>RZ2x Series Drive Bracket Installation Sheet</i>	EK-RZ2XD-UG
<i>TLZ06 Cassette Tape Drive Installation Guide</i>	EK-STEXP-AD
<i>TLZ06 Cassette Tape Drive Owner's Manual</i>	EK-TLZ06-OM

Documentation Conventions

The following conventions are used in this manual:

boldface type	Boldface type indicates the first instance of terms being defined in text, in the glossary, or both.
<i>italic type</i>	Italic type indicates emphasis and complete manual titles. In the glossary, italic type is also used to indicate cross-references.

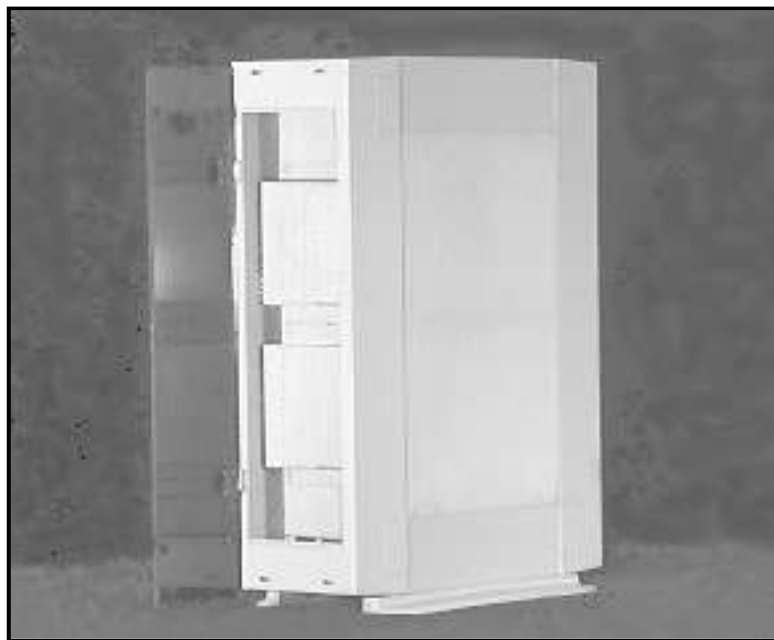
Introducing the Vertical Mounting Kit

This chapter describes the BA35X–VA vertical mounting kit. It also provides configuration rules and ac power distribution information.

1.1 Product Description

A **vertical mounting kit** is a floor-mounted stand that encloses a DECstor/me modular storage shelf. A typical BA35X–VA vertical mounting kit is shown in Figure 1–1.

Figure 1–1 Typical BA35X–VA Vertical Mounting Kit



CXO-3639A-PH

This manual refers to two versions of the vertical mounting kit: a single vertical mounting kit and a double vertical mounting kit, which are defined as follows:

- A **single vertical mounting kit** is used to enclose a single-height shelf such as the BA350–SA.
- A **double vertical mounting kit** is made up of two vertical mounting kits joined together and is used to enclose the double-height, BA350–EA shelf.

Introducing the Vertical Mounting Kit

1.1 Product Description

The part number for both versions of the vertical mounting kit is the same: BA35X–VA. Whether you purchase a single or double version depends on how many vertical mounting kits you order. For each single-height shelf, order one BA35X–VA vertical mounting kit; for each double-height (BA350–EA) shelf, order two BA35X–VA vertical mounting kits.

For example, if your configuration uses one BA350–EA (double-height) shelf and two BA350–SA (single-height) shelves, you would order four BA35X–VA vertical mounting kits:

- Two vertical mounting kits for the BA350–EA shelf
- One vertical mounting kit for each BA350–SA shelf

No tools are required to assemble or disassemble a vertical mounting kit—the parts “snap” together. Vertical mounting kits are shipped fully assembled with the ac distribution unit and the modular storage shelf installed. The modular storage shelf has system building blocks (SBBs) installed and small computer system interface (SCSI) buses configured according to the customer’s order. Shelf power supplies are connected to the ac distribution unit.

The physical specifications of the vertical mounting kits are described in Table 1–1.

Table 1–1 Physical Specifications of the Vertical Mounting Kits

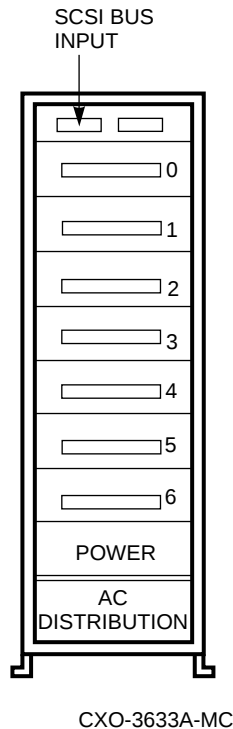
Specification	Single Vertical Mounting Kit	Double Vertical Mounting Kit
Height	578 mm (22.75 in)	578 mm (22.75 in)
Width	203 mm (10 in)	356 mm (14 in)
Depth	400 mm (15.75 in)	400 mm (15.75 in)
Weight	17 kg (37 lb)	29 kg (63 lb)

1.2 Configuration Rules

The following configuration rules apply to vertical mounting kits:

- Measure capacities by the number of shelves that can be installed:
 - One BA350–SA shelf can be installed in a single vertical mounting kit.
 - One BA350–EA shelf can be installed in a double vertical mounting kit.
- Connect no more than two vertical mounting kits in series to the same wall receptacle. (Each vertical mounting kit has an unswitched ac outlet for this purpose. See Section 1.3 for additional information.)
- Mount all shelves with the power supply at the bottom (slot 7), as shown in Figure 1–2.
- Reserve slot 6 for either a redundant power supply or a battery backup unit (BBU).

Figure 1–2 Shelf Orientation in a Single Vertical Mounting Kit



To maintain the stability of a single vertical mounting kit, install SBBs in the order specified in Section 2.2.

1.3 AC Power Distribution

Each vertical mounting kit has an ac distribution unit that provides switch-controlled ac power to the shelf power supply. (The only exception to this is the double vertical mounting kit used with the SZ200 RAID subsystem, which has only one ac distribution unit.)

The ac distribution unit in your vertical mounting kit will be one of two types, depending on when you purchased your kit:

- The initial version of the ac distribution unit used with the vertical mounting kits had an *unswitched*, built-in, 10.2-centimeter (4-inch) power cord for connection to the ac distribution unit in a second vertical mounting kit. The short length of this built-in cord did not allow for much flexibility in configuration arrangements.
- The second-generation ac distribution units have replaced the unswitched power cord with a *switched* ac outlet. This ac outlet can be used for connecting either another vertical mounting kit's ac distribution unit or an optional redundant power supply in a BA350–EA shelf. In either case, you must order an ac power cord for this additional connection.

Introducing the Vertical Mounting Kit

1.3 AC Power Distribution

Table 1–2 lists the power cords available for ac distribution units. These power cords must be ordered separately because they are *country specific*. In general, the power cords listed in Table 1–2 have the following characteristics:

- Are rated at 10 amps at the specified operating voltage
- Are 2.5 meters (8.2 feet) long
- Have a country-specific plug
- Have an IEC 320 C–14 compatible connector

The only exception is the BN27S–03 power cord used in Japan and the United States; it is rated at 15 amps and is 3 meters (9.8 feet) long.

Table 1–2 Country-Specific Power Cords

Country	Voltage	Plug	Length meters (feet)	Part No.
Australia	250 Vac	AS 3112 - 1981	2.5 (8.2)	BN19H–2E
Central Europe	250 Vac	CEE 7/7 (Schuko)	2.5 (8.2)	BN19W–2E
Denmark	250 Vac	Afsnit 107	2.5 (8.2)	BN19K–2E
Europe—Central	250 Vac	CEE 7/7 (Schuko)	2.5 (8.2)	BN19W–2E
India	250 Vac	BS 546	2.5 (8.2)	BN19S–2E
Ireland	250 Vac	BS 1363	2.5 (8.2)	BN19A–2E
Israel	250 Vac	SI 32	2.5 (8.2)	BN18L–2E
Italy	250 Vac	CEI 213–16/VII	2.5 (8.2)	BN19M–2E
Japan	125 Vac	NEMA 5–15	3.0 (9.8)	BN27S–03 ¹
New Zealand	250 Vac	AS 3112 - 1981	2.5 (8.2)	BN19H–2E
South Africa	250 Vac	BS 546	2.5 (8.2)	BN19S–2E
Switzerland	250 Vac	SEV 1011	2.5 (8.2)	BN19E–2E
United Kingdom	250 Vac	BS 1363	2.5 (8.2)	BN19A–2E
United States	125 Vac	NEMA 5–15	3 (9.8)	BN27S–03 ¹

¹This power cord is rated at 15 amps.

Replacement Procedures

This chapter contains the following:

- A brief description of the components of the vertical mounting kit
- The sequence for installing system building blocks (SBBs) into a shelf
- The procedure for replacing SBBs or blowers
- The procedure for replacing shelves

Warning

A minimum of two people are needed to move a double vertical mounting kit containing a BA350–EA shelf because its weight exceeds 18 kilograms (40 pounds). Do not move vertical mounting kits with ac power cords connected.

Replacement Procedures

2.1 Components of the Vertical Mounting Kit

2.1 Components of the Vertical Mounting Kit

A standard vertical mounting kit is made up of the following components:

Note

The numbers in this list correspond to the numbered parts shown in Figure 2–1.

- ❶ Base and top.
- ❷ Front and rear bezels, one of which must be removed when you are replacing a component or changing the small computer system interface (SCSI) configuration.

Warning

Service procedures that involve accessing the rear of the shelf or removing the blower must be performed only by qualified service personnel.

To reduce the risk of electrical energy hazard, always disconnect the power cords from the shelf power supplies before removing shelf blower assemblies or performing service in the backplane area, such as modifying the SCSI bus.

- ❸ Front and rear doors, which are attached to bezels at the factory. These doors do not need to be removed for normal servicing.
- ❹ Two feet that can be mounted on either side. When installing multiple units, the feet on adjoining sides are reversed so that they do not extend beyond the sides of the vertical mounting kit.
- ❺ Eight bezel clips.
- ❻ A latch (factory-installed as part of the lock assembly).
- ❼ A lock (factory-installed as part of the lock assembly).
- ❽ A nut (factory-installed as part of the lock assembly).
- ❾ An ac distribution unit which can be replaced only by a qualified Digital Services engineer.
- ❿ A BA350–SA shelf.
- ⓫ A mounting bracket that secures the top to the shelf. (The ac distribution unit secures the base to the shelf.)
- ⓬ Four hinges, two on each door.

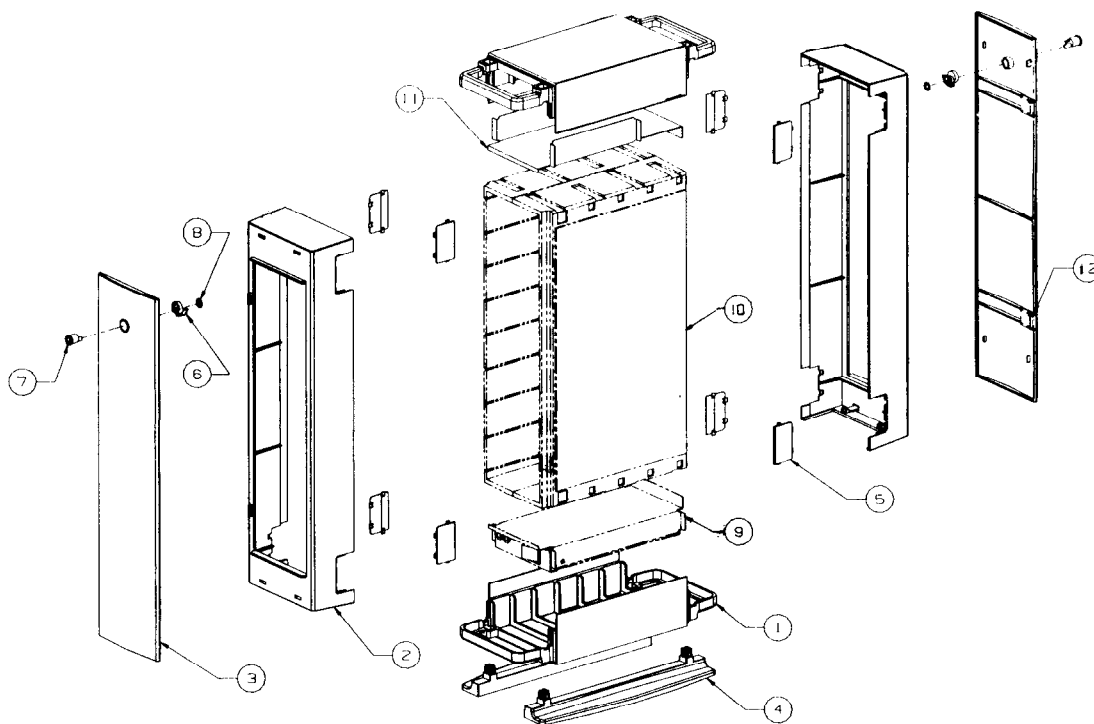
Note

The majority of vertical mounting kit components are duplicates and are used in two places. For example, the base and top are identical. The only difference is their orientation.

Replacement Procedures

2.1 Components of the Vertical Mounting Kit

Figure 2-1 BA35X-VA Vertical Mounting Kit Assembly Drawing



2.2 Installing SBBs

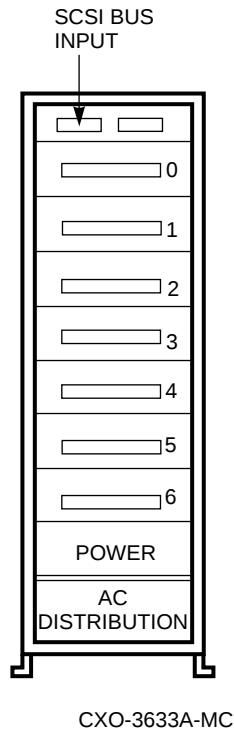
The location of storage SBBs in a shelf is primarily governed by two things: the SCSI bus and the stability of the vertical mounting kit. Having considered both of these factors, Digital recommends that you install SBBs in the following sequence (refer to Figure 2-2 for slot number locations):

1. Slot 7—Primary ac power supply
2. Slot 6—Redundant ac power supply, battery backup unit (BBU), or storage SBB
3. Slot 5—Storage SBB
4. Slot 4—Storage SBB
5. Slot 3—Storage SBB
6. Slot 2—Storage SBB
7. Slot 1—Storage SBB
8. Slot 0—Storage SBB

Replacement Procedures

2.2 Installing SBBs

Figure 2–2 Slot Numbers



2.3 Replacing SBBs or Blowers

To replace an SBB or blower, use the following procedure:

Step	Procedure
1.	Open the door.
2.	Grasp the bezel at the bottom with one hand and steady the vertical mounting kit with the other.
3.	Pull down on the two tabs located inside the bezel at the bottom and pull the bezel out and up.
4.	Lift the bezel off the top.
5.	Replace the SBB or blower as described in the shelf user's guide.
6.	Ensure that all eight bezel clips are firmly mounted and align the bezel with the top.
7.	Replace the bezel by holding the top of the bezel in place and rotating the lower part down and in.
8.	Snap the bezel into place on the base.
9.	Apply power and verify proper operation.
10.	Close the door.

2.4 Replacing a Shelf

To replace a shelf in a vertical mounting kit, perform the following procedure:

Step	Procedure
1.	Open the door.
2.	Turn off the ac power switches on the ac distribution unit.
3.	Disconnect the ac input power cord from the wall receptacle and from the ac distribution unit.
4.	Grasp the bezel at the bottom with one hand and steady the vertical mounting kit with the other.
5.	Pull down on the two tabs located inside the bezel at the bottom and pull the bezel out and up.
6.	Lift the bezel off the top.
7.	Disconnect the power cords from the ac power supplies.
8.	Record the slot number of each storage SBB.
9.	Starting with slot 0, remove all SBBs. Remove the ac power supply in slot 7 last.
10.	Record the connectors to which each SCSI cable is attached.
11.	Disconnect the SCSI cables from the shelf.
12.	Remove the rear bezel (repeat steps 4, 5, and 6).
13.	Remove the top.
14.	Remove the mounting bracket.
15.	Lift the shelf off the ac distribution unit.
16.	Align the shelf being installed so that slot 7 (the power slot) is at the bottom and the front of the shelf is over the front of the ac distribution unit.
17.	Install the mounting bracket and the top.
18.	Ensure that all eight bezel clips are firmly mounted and align the bezel with the top.
19.	Replace the bezel by holding the top of the bezel in place and rotating the lower part down and in.
20.	Snap the bezel into place on the base.
21.	Connect the SCSI cables as noted in step 10.
22.	Install the ac power supply in slot 7.
23.	Starting with slot 6, install the SBBs in the slots noted in step 8.
24.	Connect the ac power cord to the shelf power supply.
25.	Replace the front bezel (repeat steps 18, 19, and 20).
26.	Verify that the ac power switch on the ac distribution unit is in the off position.
27.	Connect the ac input power cord to the ac distribution unit.
28.	Turn on the ac power switch and verify that the SBBs, SCSI buses, and blowers are functioning properly.

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