

# **Rack-Mountable VAX 4000 Storage Backplane Assembly Conversion Guide**

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**Digital Equipment Corporation  
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# Preface

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This guide describes how to replace a Rev A01 or Rev B01 storage backplane assembly with a Rev B01 storage backplane assembly in a Rack-Mountable VAX 4000 system.

## Intended Audience

This document is intended for Digital Services personnel and licensed self-maintenance customers.

## Customer Responsibilities

Customers should not install the storage backplane assembly unless they are qualified self-maintenance customers. Only qualified maintenance personnel should perform the installation procedure. If you are not a qualified self-maintenance customer, call Digital Services to schedule a system conversion.

It is the customer's responsibility to perform a software backup before a Digital Services representative arrives at your site.

## Digital Services Responsibilities

The Digital Services representative should contact the customer to ensure that the customer's software is backed up before arriving at the site.

## Organization

This document contains one chapter, which describes the removal and replacement procedure.

The following conventions are used in this guide:

<b>Convention</b>	<b>Meaning</b>
<b>CAUTION</b>	Provides information to prevent damage to equipment or software.
<b>NOTE</b>	Provides general information about the current topic.

## Related Documents

Refer to the *Rack-Mountable VAX 4000 Model 500/600 Installation / Operator's Manual* as necessary.

# Chapter 1

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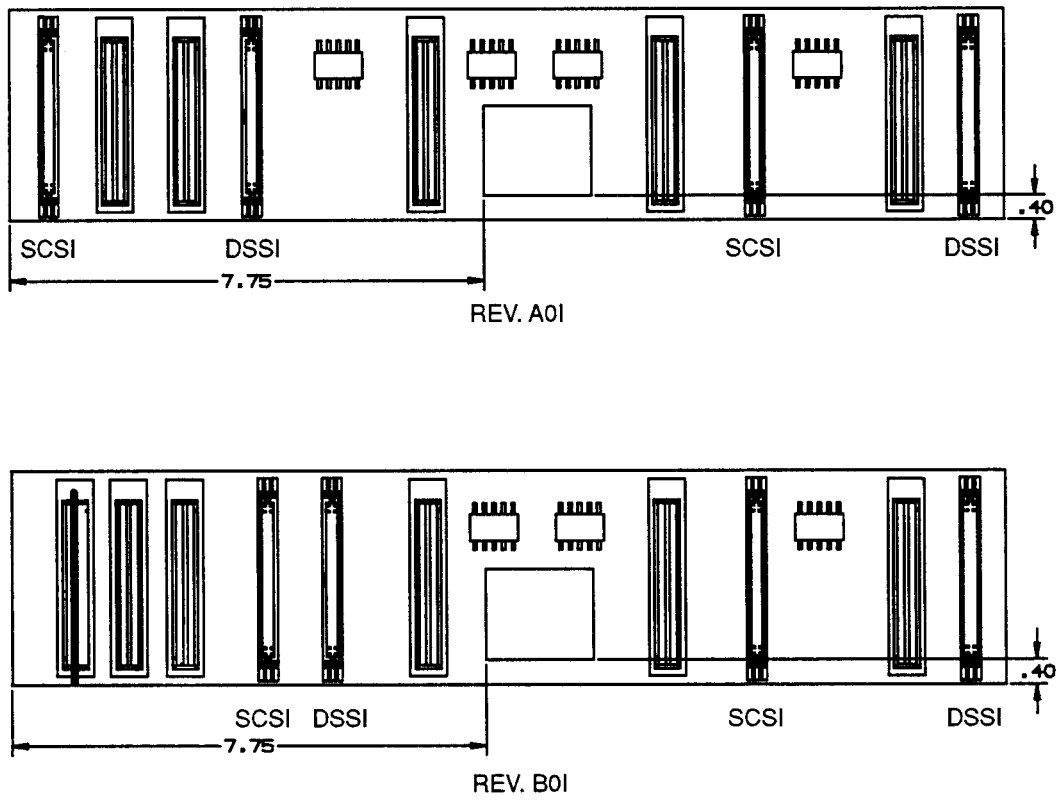
## Removal and Installation

### 1.1 Introduction

This chapter describes the procedure to remove and install a storage backplane assembly (P/N 70-28602-02) in the Rack-Mountable VAX 4000 system. This removal and installation procedure replaces a Rev A01 or Rev B01 storage backplane with a Rev B01 storage backplane.

The Rev A01 storage backplane has four (4) power connectors; the Rev B01 storage backplane has three (3) power connectors. Either storage backplane can be used in Rack-Mountable VAX 4000 Models 300, 400 and 500. Only the Rev B01 storage backplane is replaceable in the Model 600. Figure 1-1 shows the Rev A01 and Rev B01 storage backplanes. A minimum of three power connector assemblies are required for all models of the Rack-Mountable VAX 4000 system.

Figure 1-1: Rev A01 and Rev B01 Storage Backplane Assemblies



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1-2 Removal and Installation



## 1.2 Removing the Storage Backplane Assembly

Perform the steps in the following procedure to remove the storage backplane assembly from the chassis:

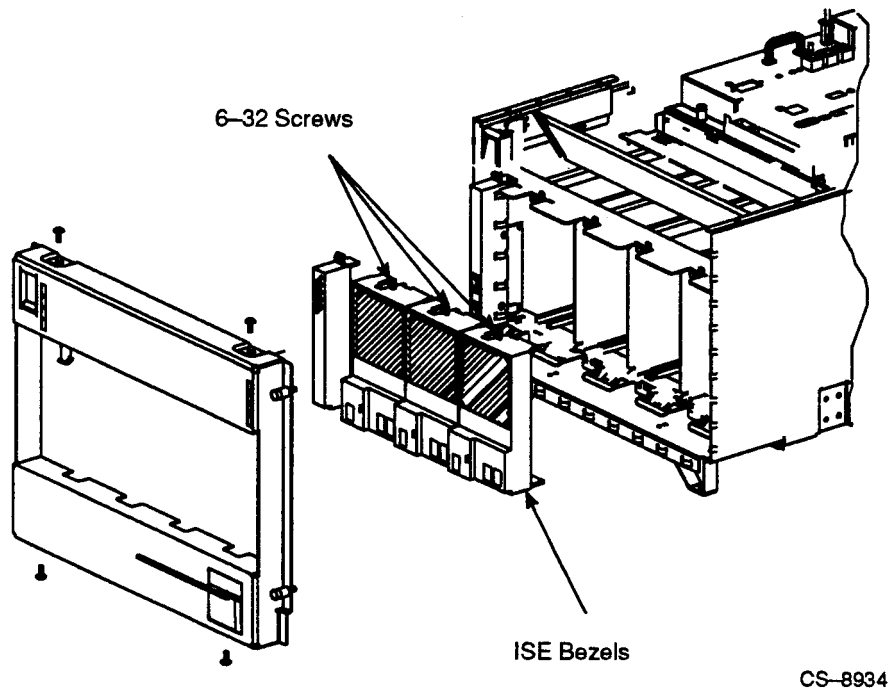
1. Turn the main ON/OFF power switch to OFF and disconnect the power cord from the wall receptacle.
2. Release the two captive fasteners on each side of the chassis that secure the chassis to the cabinet rails.
3. Remove two 10-32 x 1/2 inch screws from the top of the chassis bezel.
4. Remove two 10-32 x 1/2 inch screws from the bottom of the chassis bezel.
5. Remove the chassis bezel.
6. Loosen the captive 6-32 x 3/8 inch screw securing each of the integrated storage equipment (ISE) bezels (some may be blank bezel covers).

### NOTE

**Be sure to note the bus identification number of each ISE before removing the cover. Each ISE device must be installed in its correct slot.**

7. Remove the ISE bezels (see Figure 1–2).
8. Disconnect the cable from the bezel.
9. Loosen the two captive screws that secure the ISE device to the chassis.
10. Remove all ISE devices and set aside on a clear work surface.
11. If a TK70 tape drive is installed, slide the device part way out; reach in through the top of the chassis and remove the control cable by pressing the two connector locking tabs. Move the cable to the rear.
12. Slide the TK70 tape drive out and set it aside on a clear work surface.

Figure 1-2: Removing the ISE Devices



**CAUTION**

When removing the DSSI and SCSI cables from the backplane assembly, label the cables and connectors to ensure their correct replacement.

13. Remove the DSSI cable (P/N 17-02502-02) and SCSI cable (P/N 17-02542-02) from the storage backplane (see Figure 1-3).

**CAUTION**

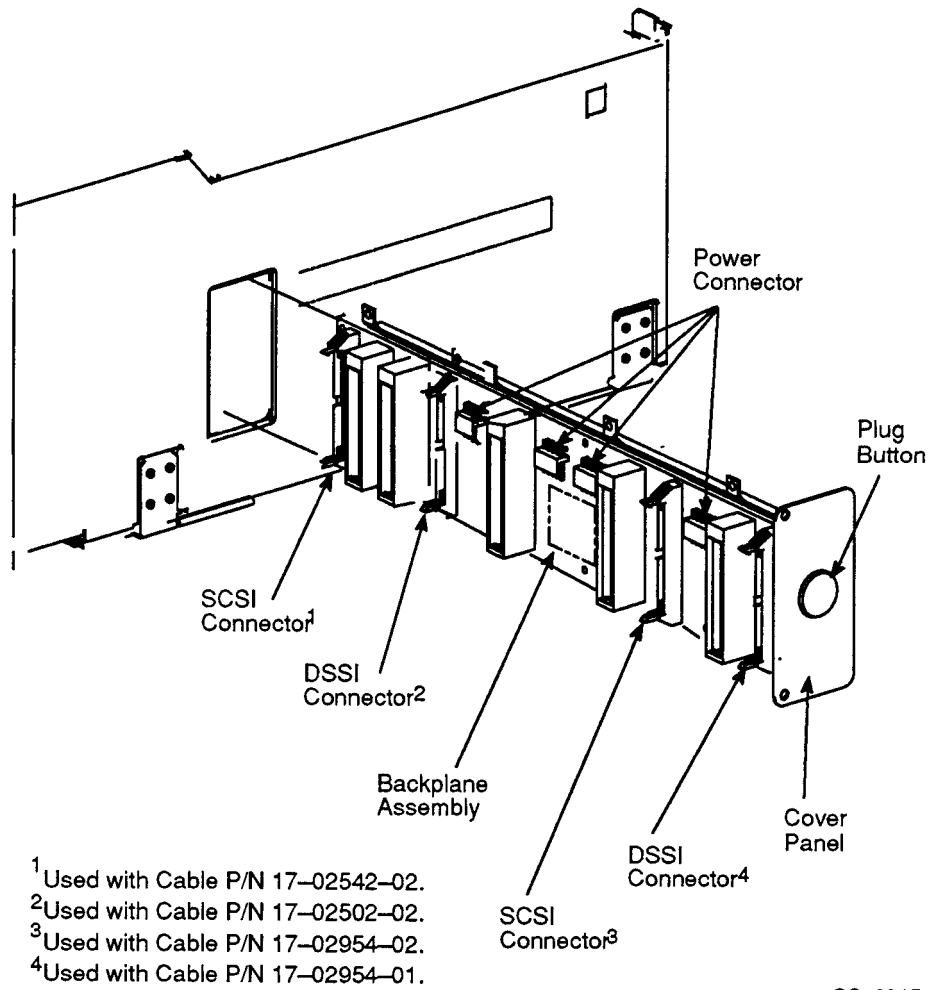
When removing the storage backplane assembly, be sure that the all connector extractors will not be interfering with the side of the chassis as the assembly is removed from the chassis.

14. Remove the DSSI cable (P/N 17-02954-01) and SCSI cable (17-02954-02) from the storage backplane.
15. Unplug the four power card connectors (or three power card connectors if you are removing a Rev B01 storage backplane) from the storage backplane. Pull the cables down and away from the storage backplane. See Figure 1-3.
16. If you removed a Rev A01 storage backplane, fold back and tie the power cable disconnected from the left-most power connector with tie wrap, and lay on bottom of the chassis. This power cable is not used.

**NOTE**

**Ensure the the power cable lies flat so as not to obstruct the path of the ISEs when they are returned to the chassis.**

Figure 1-3: Rev A01 Storage Backplane Assembly Showing DSSI, SCSI and Power Connections



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17. Pull the chassis out to the lock position.
18. Remove the metal plug button from the side of the storage backplane assembly (see Figure 1–5).
19. Remove the two 6-32 x 3/8 inch screws from the storage backplane assembly cover panel (see Figure 1–5).
20. Slide the storage backplane assembly out through the opening in the chassis to your right (see Figure 1–5).

### 1.3 Replacing the Storage Backplane Assembly

To replace the storage backplane assembly, perform the following steps:

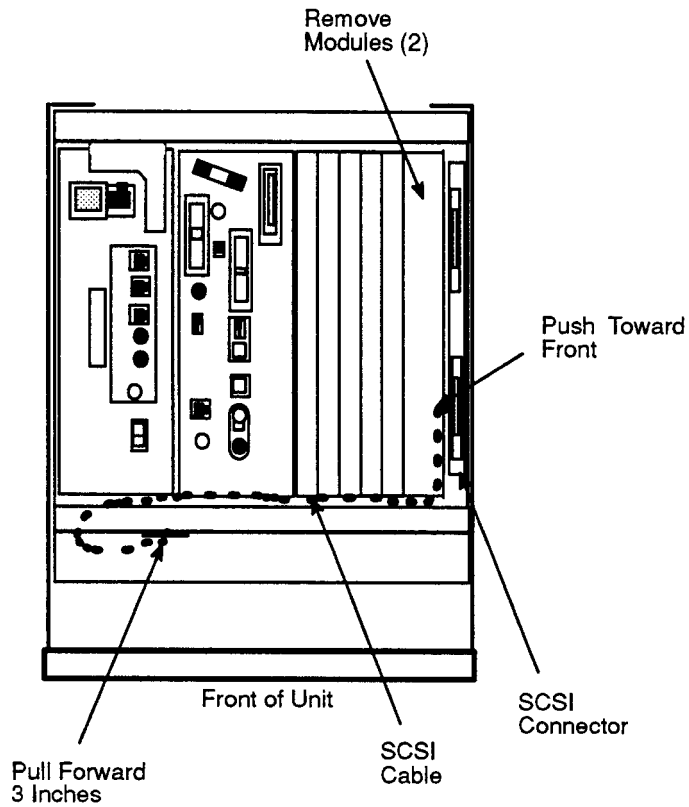
1. If you removed a Rev B01 storage backplane, proceed to step 2. If you removed a Rev A01 storage backplane, you must extend the length of the SCSI cable from the SCSI connector in so that it reaches the left-most connector on the Rev B01 storage backplane. Extend the length of the SCSI cable as follows:
  - a. Remove the two module covers and modules (if installed) to the right of the SCSI connector in to gain access to the SCSI cable.

#### CAUTION

**Static electricity can damage modules and electronic components. Digital recommends using a grounded antistatic wrist strap and a grounded work surface when handling any modules.**

- b. Reach into the opening where you removed the modules, and gently push the SCSI cable toward the front of the unit (see Figure 1–4). Reach into the empty ISE slot from the front of the unit, and gently pull the SCSI cable to the left of the assembly, so that it will reach the left-most SCSI connector when the storage backplane is replaced.

Figure 1-4: Extending the SCSI Cable



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- c. Replace the modules and covers to the right of the SCSI connector in.
2. Remove the continuity card (P/N 50-21156-01) from the left-most connector on the Rev B01 storage backplane assembly.

**CAUTION**

**When installing the storage backplane assembly, be sure that the assembly is properly aligned to the rails. Also, ensure that all connector extractors**

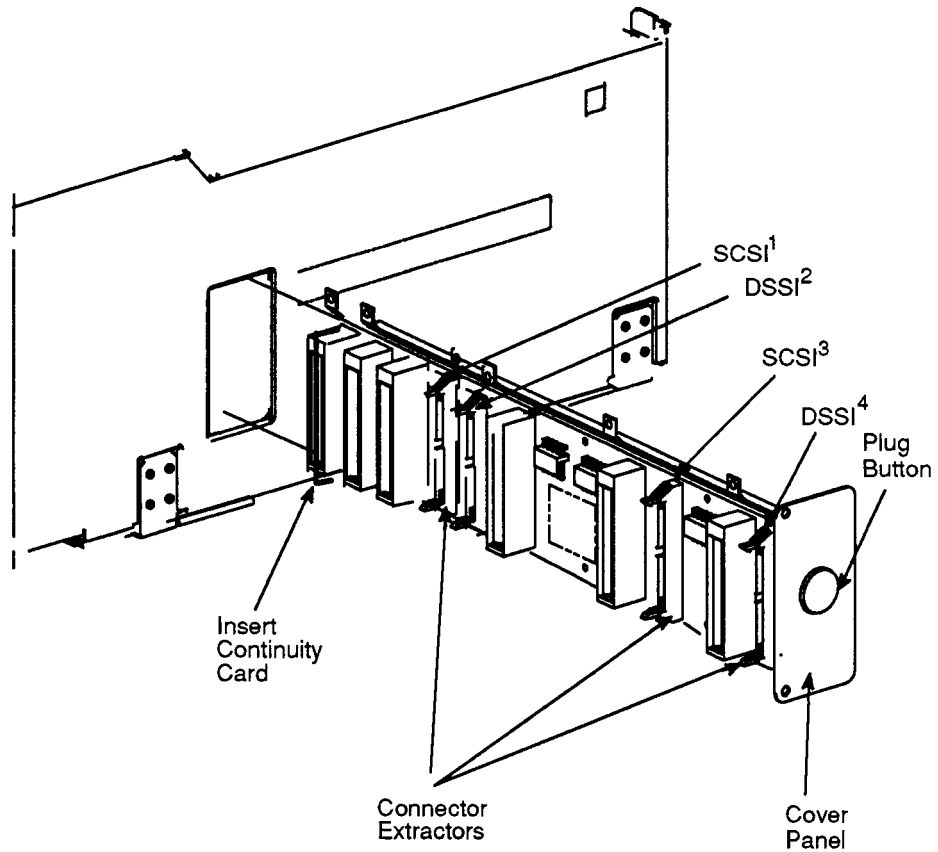
**(shown in Figure 1-5) are not interfering with the side of the chassis as the assembly is pushed in place.**

3. Slide the backplane assembly to your left through the opening on the right of the chassis (see Figure 1-5).
4. Replace the two 6-32x3/8 inch screws to the storage backplane assembly cover panel (see Figure 1-5).
5. Replace the metal plug button on the side of the assembly (see Figure 1-5).
6. Connect the three remaining power cables to the power connections on the storage backplane assembly.
7. Replace the DSSI cable (P/N 17-02954-01) and SCSI cable (P/N 17-02954-02) on the storage backplane.
8. Return continuity card to left-most connector on storage backplane assembly.

**CAUTION**

**The continuity card must be properly installed so that the storage backplane functions properly.**

Figure 1-5: Rev B01 Storage Backplane Assembly



- <sup>1</sup>Used with Cable P/N 17-02542-02.
- <sup>2</sup>Used with Cable P/N 17-02502-02.
- <sup>3</sup>Used with Cable P/N 17-02954-02.
- <sup>4</sup>Used with Cable P/N 17-02954-01.

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9. Connect the DSSI cable (P/N 17-02502-02) and SCSI cable (P/N 17-02542-02) to the storage backplane assembly.
10. Replace TK70 tape drive if one was removed.
11. Replace all ISE devices.
12. Replace the two captive screws that secure each ISE device to the chassis.
13. Replace the ISE bezels.
14. Tighten the captive 6-32 x 3/8 inch screw securing each ISE bezel (some may be blank bezel covers).
15. Replace the chassis bezel.
16. Replace the two 10-32 x 1/2 inch screws on the bottom of the chassis bezel.
17. Replace the two 10-32 x 1/2 inch screws on the top of the chassis bezel.
18. Return the VAX 4000 to the cabinet.
19. Replace the two captive fasteners on each side of the chassis that secure the chassis to the cabinet rails.
20. Plug in the power cord into the ac power source and turn the main ON/OFF power switch to ON.

