

AlphaServer 1000

CPU Upgrade Information

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Digital Equipment Corporation
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S3046

FCC ID: AO9-PB70

FCC NOTICE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

Any changes or modifications made to this equipment may void the user's authority to operate this equipment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur to radio or television reception. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help. The user may find the following booklet prepared by the Federal Communications Commission helpful: *How to Identify and Resolve Radio-TV Interference Problems*. This booklet is available from the U.S. Government Printing Office, Washington, D.C., 20402. Stock No. 004-00398-5.

All external cables connecting to this basic unit need to be shielded. For cables connecting to option boards, see the option manual or installation instructions.

This digital apparatus does not exceed the Class B limits for radio noise emissions set out in the radio interference regulations of the Canadian Department of Communications.

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Upgrading an AlphaServer 1000 System

Introduction

This guide, intended for customers and Digital service representatives, describes the procedure for upgrading the AlphaServer 1000 CPU module. The upgrade is a simple procedure requiring that you remove the system unit enclosure panels and replace the CPU card.

Special Notices

In this guide, warning notices provide information to prevent personal injury, and caution notices emphasize important information that can affect the operation of your system. Notes are used to provide information of general interest. Conventions used in entering commands are shown in the table below:

Convention	Meaning
Ctrl/ <i>x</i>	Ctrl/ <i>x</i> indicates that you hold down the Ctrl key while you press another key, indicated here by <i>x</i> .
boot	Commands that you enter are shown in this special typeface. Commands shown in lowercase letters can be entered in either uppercase or lowercase. Commands shown in uppercase letters must be entered in uppercase for the command to work.
show config	Console command abbreviations must be entered exactly as shown.
[]	In command descriptions, brackets indicate optional elements.
{ }	In command descriptions, braces containing items separated by commas indicate mutually exclusive items.
<i>italic type</i>	Italic type in console command sections indicates a variable.

Additional Information

For additional information, you may want to consult the *The AlphaServer 1000 Owner's Guide* (EK-DTSLV-OG), which contains information on how to start, use, update, troubleshoot, and configure your system. General system information such as console commands and system care is also available in the Owner's Guide.

Upgrading an AlphaServer 1000 System

Upgrade Kit Inventory

The AlphaServer 1000 upgrade kit contains the following items:

CPU module

Antistatic wrist strap

Firmware diskette

Conversion label

Return mailing label

Digital UNIX licensing agreement

OpenVMS licensing agreement

Upgrade guide

Preparing the System

To prepare your system for the upgrade:

1. Check your firmware version number. A firmware version of 3.0-15 (SRM) or 4.26 (ARC) or higher is required to properly display the model number on the operator control panel. The part number for the firmware update (Version 5.1) is AG-TTMWQ-BE. This version is included on the firmware diskette shipped with the upgrade kit.
2. Shut down the operating system following the instructions listed in the operating system documentation.
3. Set the On/Off switches on all external options connected to the system to the off position.
4. Set the On/Off switch on the system unit to the off position. An interlocking sensor switch inside the system unit will automatically turn off the system if you remove the top cover and have not turned off the system.

Removing Top Cover and Side Panels



Caution: Do not disconnect the system unit power cord or unplug the power cord from the power supply socket. The power cord grounds the system unit, preventing damage to the internal components.

To remove the top cover and left side panel, refer to Figure 1 and follow steps 1 through 4.

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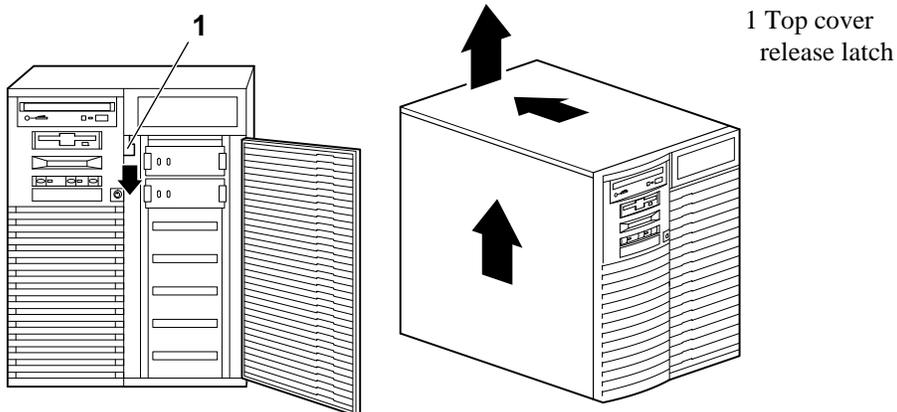


Caution: Make sure the system unit On/Off switch is in the "off" position before removing the system cover and panels.

Caution: When handling internal system components, use an antistatic wrist strap to avoid damaging the components.

1. Turn the front door lock to the right to unlock the system unit.
2. Pull down the top cover release latch on the front of the system until it catches in the down position.
3. Grasp the finger groove at the rear of the top cover and pull the top cover straight back about two inches; lift up on the cover.
4. Pull the top of the side panel back, then up and away from the unit and pull up on the panel to remove it.

Figure 1 Removing the Top Cover and Side Panels



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Removing the CPU Card

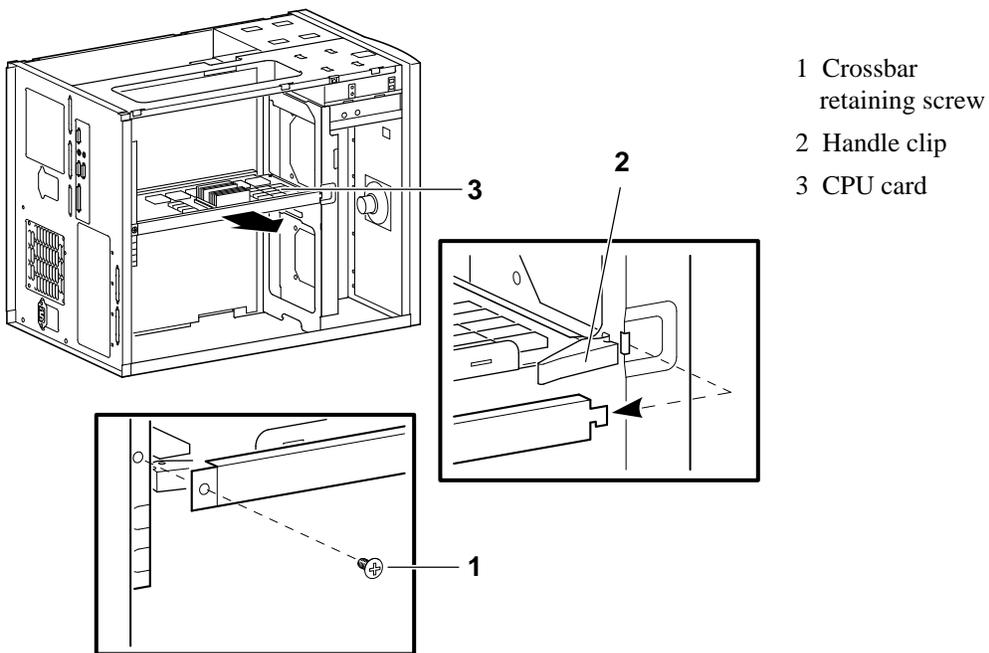
Your system comes with the CPU installed on a card that connects to the system board. To upgrade, you need to replace the CPU card.

Warning: CPU and memory modules have hot components. Wait 2 minutes after power is off before handling these modules. Take appropriate antistatic precautions when handling internal parts.

To remove the existing CPU card, refer to Figure 2 and follow these steps:

1. Unscrew the crossbar that secures the outer edge of the CPU card.
2. Lift up on the other end of the bar. Release the card by extending the handle clip on each end outward.
3. Holding the outer edge of the card, gently pull it out of its system board slot.

Figure 2 Removing or Installing the CPU Card



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Installing the CPU Card

To install the new CPU card, refer to Figure 2 and follow these steps:

1. Slide the card into its designated slot on the system board making sure it slips entirely into the slot.
2. Press inward on the handle clip on each end of the card until they catch in a closed position.
3. Place the crossbar in position and screw in the single retaining screw.

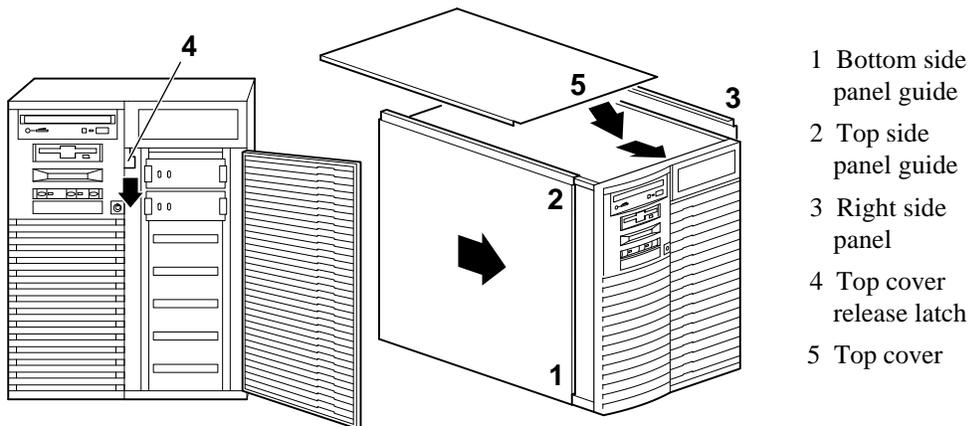
Replacing the Top Cover and Side Panel

Follow these steps and refer to Figure 3 to replace the top cover and side panel of the system unit:

1. Align the guides on the top and bottom inside of the side panel with the lip of the system unit frame.
2. Tilt the side panel top towards the unit and lift the flange at the top of the panel over the system unit frame.
3. Slide the panel forward into position.
4. Align the top cover with the top of the side panels and slide the cover gently onto the unit from the rear (5). Hold down the top cover release latch (4) until the top cover is in place, and then release it to secure the cover and panels.
5. Lock the top cover and side panels using the system unit key.
6. Set the On/Off switches on all external options connected to the system to the "on" position.
7. Set the On/Off switch on the system unit to the "on" position.

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Figure 3 Replacing the Top Cover and Side Panels



Updating Firmware

Depending on the firmware version you are currently using, you may need to update your firmware. (See the minimum versions cited in "Preparing the System.") The Windows NT (ARC) firmware and the Digital UNIX and OpenVMS (SRM) firmware reside in the four FlashROM chips located on the system board. You can load new firmware into the FlashROM from any of the following sources:

- CDROM drive
- Network
- Diskette drive

Upgrading an AlphaServer 1000 System

Updating Firmware Using the CDROM Drive

To update an OpenVMS or Digital UNIX system:

1. At the console prompt (>>>), enter the show device command:

```
>>> show device  
  
dka0.0.0.6.0      DKA0              RZ26L              440C  
dka400.4.0.6.0   DKA400           TOSHIBA CD-ROM XM-4101TA 0064  
dva0.0.0.0.1     DVA0  
ena0.0.0.1.1     ENA0              08-00-2B-38-67-6B  
pka0.7.0.6.0     PKA0              SCSI Bus ID 7
```

In the previous example, the CDROM drive has a device ID of dka400.

2. Load the Firmware Update compact disc into the drive.
3. Boot the system from the update utility disc, using the device ID determined in step 1 (in this case, dka400) and the filename given in the Firmware Update document on the compact disc. For example:

```
>>> boot -fl 0,A0 dka400  
Bootfile: [alpha1000]as1000_vv_v.exe
```
4. Update the system, entering the following command at the update prompt:

```
APU-> update
```
5. Confirm the update:

```
APU-> verify
```

A successful update will produce the following display:

```
ARC Rom Verify Successful  
SRM Rom Verify Successful
```
6. Exit from the Firmware Update Utility by pressing the Reset button or turning the system off and on.

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To update a Windows NT system:

1. Load the Firmware Update compact disc into the drive and select "Install new firmware."
2. Shut down the Windows NT operating system. Turn the system off and then on.
3. From the Boot menu, select "Supplementary." From the Supplementary menu, select "Install new firmware."
4. Update the system, entering the following command at the update prompt:
`APU-> update`
5. Confirm the update:
`APU-> verify`
A successful update will produce the following display:
`ARC Rom Verify Successful`
`SRM Rom Verify Successful`
6. Exit from the Firmware Update Utility by pressing the Reset button or turning the system off and on.

Updating Firmware Using the Network

To update the firmware using the network, refer to the Read Me instructions on the Web Server.

Updating Firmware Using the Diskette Drive

To update a Digital UNIX or OpenVMS system using the diskette drive:

1. Insert the diskette with the new firmware version in the diskette drive.
2. Enter the following command at the SRM console prompt:
`>>> boot dva0`
3. Load and execute the update utility:
`APU-> update`
4. Turn the system off and on.
5. Confirm the update:
`>>> show version`

To update a Windows NT system using the diskette drive, follow the same procedure outlined in "To Update a Windows NT System" above.

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Note: To update your system using the SRM console, use a diskette formatted with the Alpha boot block. To update using the ARC console, use an FAT formatted diskette.

Completing the Upgrade

To complete the upgrade, verify that the CPU is installed correctly by checking the operator control panel display:

1. Check that the top and side panels are in place and turn the system on.
2. When the startup procedure is complete, the operator control panel will display the message "Model 4/xxx," where "xxx" is the desired CPU speed.

For future reference, write the number of the upgraded CPU on the conversion label included in the upgrade kit. For Model 4/233, the upgrade number is PB71U. For Model 4/266, the number is PB72U.

To return the old CPU to Digital, pack it in the box that contained your new CPU. Pack this CPU box inside the upgrade kit box, locate the prepaid return label in the upgrade kit, and return the package to Digital Equipment Corporation.