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AlphaServer 1000A: READ THIS FIRST

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Online Documentation

Your shipment should include documentation on a CDROM. This online document includes an easy-to-navigate hypertext version of all the information in the printed *Owner's Guide* plus additional resource information. You can install the CDROM files on any personal computer running Microsoft Windows Version 3.1 or later, Microsoft Windows NT Version 3.1 or later, or a Windows emulator. The disk on which you install the CDROM files must have approximately four megabytes of free space available.

To install the online documentation:

1. Insert the CDROM disc into your CDROM drive.
2. From the Windows Program Manager File menu, choose Run.
3. In the Command Line box, type D:\SETUP, where D is the letter of the CDROM drive.
4. Click OK.
5. Follow the instructions that appear on the screen.

Important Note on Firmware

Do **not** use the firmware versions on the "Alpha Systems Firmware Update, Version 3.5," CD (part no. AG-PTMWS-BE), which may be shipped with your AlphaServer 1000A system. Your system comes with the correct firmware versions already installed. If you should need to re-install the firmware for any reason, use the latest version of the firmware available on the World Wide Web:

`http://www.service.digital.com/alpha/server/as1000a`

The minimum console versions for the AlphaServer 1000A are Version 3.1-23 of the SRM console firmware and Version 4.46 of the ARC console firmware.

Windows NT and OpenVMS Alpha Operating Systems

Windows NT

Included in your shipment is a diskette that contains the hardware abstraction layer (HAL) for the Windows NT operating system. This diskette, which contains the hardware specific code for NT, must be inserted during the installation of the operating system. The system will prompt you to insert the diskette at the appropriate stages of the installation procedure.

If you are using the standard on-board VGA controller, you need to create a Cirrus driver diskette using the driver located in the \drvlib\video\Alpha\Cirrus directory on the operating system CDROM.

OpenVMS Alpha

The AlphaServer 1000A system is based on the 6.2-1H2 version of the OpenVMS Alpha operating system, and it is important to refer to documentation for version 6.2 specifically.

Online Information through Digital FTP Archive

If you are an Internet participant, you can obtain information related to the AlphaServer 1000A system through the Digital FTP archive:

```
ftp.digital.com:  /pub/DEC/Alpha/systems/as1000a/docs/
```

For access through the Digital World-Wide Web Server:

```
http://www.service.digital.com/alpha/server/as1000a
```

New Operator Interfaces

On AlphaGeneration systems, which are based on the Alpha architecture, control of the system hardware is provided by a console subsystem. The console subsystem contains firmware code (software code embedded in the hardware) that offers service functions. Some of these functions include initializing and testing the hardware, bootstrapping the system software, and providing a means for the system administrator or a management application to monitor and control the system.

Because the AlphaServer 1000A system is designed to support multiple operating systems, the server offers two separate operator interfaces: a command-line interface called the SRM console, and a menu interface called the ARC console. Refer to the *AlphaServer 1000A Owner's Guide* to learn how to use the SRM and ARC consoles.

SRM Command Line Console

The SRM console is a UNIX-style, command-line interface designed to facilitate interaction between the AlphaServer hardware and the Digital UNIX and OpenVMS Alpha operating systems. You need to enter console firmware commands at the SRM command line to configure and test the hardware and bootstrap the Digital UNIX or OpenVMS Alpha operating systems. This interface will be familiar to users of traditional Digital systems.

ARC Menu-Based Console

The ARC console is a graphical user interface designed to facilitate interaction between the AlphaServer hardware and the Microsoft Windows NT operating system. To configure your system hardware and boot Windows NT, you need to use the ARC menu interface. Users of window systems will be familiar with the menu-based style of interface.

When to Switch Consoles

You can perform most console-related tasks from the interface designed to interact with your operating system. However, the console interfaces are designed so that you can easily switch between them. You only need to switch between the consoles in the following instances:

- If you are running the Digital UNIX or OpenVMS operating systems, and need to run the RAID Configuration Utility (RCU) or other adapter configuration utilities, you must switch to the ARC console.
- If you are running Microsoft Windows NT and want to run system diagnostics with the `test` command, you must switch to the SRM console.

See the *AlphaServer 1000A Owner's Guide* for more on switching between the consoles.

Startup Displays

A startup display scrolls on your monitor or terminal screen during the startup sequence. The following example shows a sample of the initial startup display, which appears on all systems regardless of the operating system. (The initial lines, related to copyright and patent information, remain on-screen for a few seconds only.)

Example: Initial Startup Display

```
BIOS Emulation V1.15a
Copyright (c) 1993-1995 Digital Equipment Corporation
All Rights Reserved
Patent Pending

initializing keyboard
eb.....ea.e9.e8.e7.e6.e5.e4.e3.e2.e1.e0.
```

```
Vn.n-nnnn, built on Oct  4  1996  at 14:48:51
```

What follows this display depends on your operating system and the setting of the `os_type` environment variable. For systems running the Windows NT operating system (`os_type` is set to NT), the initial startup display is followed by another startup test display, shown in the following example:

Example: Windows NT Startup Display

```
BIOS Emulation V1.15a
Copyright (c) 1993-1995 Digital Equipment Corporation
All Rights Reserved
Patent Pending

Initializing firmware
Initializing EISA bus 0
Initializing device drives: NCRC810, SWXCR, QLOGIC, KZPSA...OK
```

For systems running Digital UNIX or OpenVMS, the initial startup display is followed by the console prompt (>>>). For systems running Windows NT, the Windows NT startup display is followed by the Windows NT Boot menu:

Example: Windows NT Boot Menu

```
Alpha Firmware Version n.nn
Copyright (c) 1993-1995 Microsoft Corporation
Copyright (c) 1993-1995 Digital Equipment Corporation

Boot menu:


      Boot the Windows NT operating system
      Boot an alternate operating system
      Run a program
      Supplementary menu...

Use the arrow keys to select, then press Enter.
```

Installing Microsoft Windows NT

Please note the following updates to Windows NT installation information in "Preparing Your Hard disk" in Chapter 3 of the *AlphaServer 1000A Owner's Guide*.

Step 7: Select "Create System Partition" and press the Enter key. When the list of available disks appears, select the disk to be prepared and press the Enter key. You are prompted for the size of the partition.

Step 8: Note that the number you enter depends on the maximum partition size. The number must equal the maximum size displayed minus 6. For example, if the largest possible value is 500, you would enter 494.

Step 9: Press the Enter key to format the partition. The system prompts you with a question: "Do you want to make this the system partition?" Enter "No." Once the formatting is completed, press the Enter key again.

Step 10: Select "Create System Partition" and press the Enter key. When the list of available disks appears, select the first disk again and press the Enter key. You are prompted for the size of the partition.

Step 11: Type 6 after the "Enter size" prompt, then press the Enter key. A 6-megabyte partition is created. This partition will be a file allocation table (FAT) system partition.

Configuration Utilities

If you add, remove, or configure EISA or ISA options, you must run the EISA Configuration Utility (ECU). The ECU is provided on two diskettes with your server system–a diskette for Digital UNIX and OpenVMS Alpha and a diskette for Microsoft Windows NT. The *AlphaServer 1000A Owner's Guide* explains how to run the EISA Configuration Utility.

The ECU does not automatically configure ISA cards. For example, if you add an Adaptec AHA154x to the bus, you need to choose the option "Add a board" within the ECU and select !ISA0000.CFG for the ISA slot. You can then manually configure the AHA154x, which will force the ECU to resolve ISA/EISA resource conflicts. Or, you can examine the resources used by the EISA cards using "View or edit details" and move those that conflict with the ISA cards.

Network Drivers

The DC21040 and DE435 Ethernet controllers are not automatically detected during Windows NT installation. To install the device driver for these adapters, use the diskette shipped with the option. The version shipped on the Windows NT CDROM may not be appropriate for your system.

During installation, respond to the prompt asking whether or not to automatically detect the network card installed by selecting `Do Not Detect` or `Continue` as appropriate. (The choice depends on whether you are performing an Express or Custom setup). When the "Add Network Adapter" dialog box is displayed, select `Other`, identify either the DC21040 or DE435 controller, and click on OK.

Configuration Restrictions

AlphaServer 1000A PCI option slots are categorized as primary (top three slots 11,12,13) and secondary (bottom four slots 1,2,3,4). The following restrictions apply to installation of PCI options. Please note that these restrictions are subject to updates; for the latest information on restrictions, refer to the list of supported options on the AlphaServer 1000A World Wide Web page.

- A DJ-ML200 PCI NVRAM module must be installed in one of the primary PCI slots (11,12,13 at the top).
- A KZPSA-BB Fast Wide Differential SCSI controller must be installed in one of the primary slots if you plan to run Windows NT or any ARC firmware utilities, such as storage configuration utilities. Once the ARC utilities are run, the KZPSA-BB controller can be moved to one of the secondary slots, if desired, on systems running OpenVMS Alpha. The option can also be moved to a secondary slot, if desired, on systems running Digital UNIX if the firmware revision level of the module is A10. Use the `show device` command at the console prompt to determine the module firmware revision level.
- A PB2GA-Jx S3-Trio64 PCI graphics card must be installed in one of the primary slots if you plan to run Windows NT or any ARC firmware utilities, such as storage or OpenVMS Alpha configuration utilities. On systems running Digital UNIX, once the ARC utilities are run, the PB2GA-Jx can be moved to a secondary slot if desired, or, if you are not planning to run any ARC firmware utilities, you can install the PB2GA-Jx option in either a primary or secondary slot.
- A KZPSC-xx PCI RAID controller must be installed in one of the primary slots.
- A DE500 Ethernet controller should be installed in one of the primary slots.

The following example shows how PCI options that contain a PCI-to-PCI bridge are represented in the `show config` display . For each option that contains a PCI-to-PCI bridge, the bus number increments by 1, and the logical slot numbers start anew at 0. The system configuration represented in the example contains the following options, with the PCI-to-PCI bridge options referenced by numbered callouts:

Primary Bus
- Physical PCI slot 11: KZPSM option with PCI-to-PCI bridge ⊇
- Physical PCI slot 12: KZPSM option with PCI-to-PCI bridge ⊄
- Physical PCI slot 13: —

Secondary Bus
- Physical PCI slot 1: —
- Physical PCI slot 2: —
- Physical PCI slot 3: KZPSM option with PCI-to-PCI bridge ⊂
- Physical PCI slot 4: NCR810 SCSI controller

Note: The on-board SCSI controller (Qlogic 1020A) is always device pka.

Example: show config Display

```
>>> show config
Firmware
SRM Console:    V3.1-23
ARC Console:    V4.46
PALcode:     VMS PALcode X5.48-115, OSF PALcode X1.35-84
Serial ROM:  V2.8

Processor
DECchip (tm) 21064A-6

MEMORY
      32 Meg of System Memory
      Bank 0 = 32 Mbytes () Starting at 0x00000000

PCI Bus
      Bus 00  Slot 07: Intel  8275EB PCI to Eisa Bridge

      Bus 00  Slot 08: Digital PCI to PCI Bridge Chip

         Bus 02  Slot 00: ISP1020 SCSI Controller
                             pka0.7.0.2000.0         SCSI Bus ID 7
                             dka0.0.0.2000.0         RZ29B
                             dka500.5.0.2000.0       RRD45

         Bus 02  Slot 03: Digital PCI to PCI Bridge Chip ⊂
            Bus 3     Slot 0     ewa.0.0.0.3000.0  08-00-3C-E6-6B-41
            Bus 3     Slot 0     ISP1020 Controller
```

```
            pkb0.7.0.3001.0
            dkb0.0.0.3001.0
            dkb100.0.0.3001.0

      Bus 02  Slot 04: NCR 810 SCSI Controller
                                 dkc100.1.0.2004.0
            dkc200.2.0.2004.0

   Bus 00  Slot 11: Digital PCI to PCI Bridge Chip ⊇
      Bus 04  Slot 0: DEC 21040 Network Controller
                           ewb0.0.0.4000.0   08-12-2E-C3-04-92
      Bus 04  Slot 1:  ISP1020 Controller
      pkd0.7.0.4001.0

   Bus 00  Slot 12: Digital PCI to PCI Bridge Chip ⊄
      Bus 05  Slot 0: DEC 21040 Network Controller
                           ewc0.0.0.5000.0      08-24-3D-C6-08-04
      Bus 05  Slot 1: ISP1020 Controller
      pke0.7.0.5001.0

EISA Bus Modules (installed)
      Slot 01: MLX0075 SCSI Controller
            dkc0.7.0.2004.0

>>>
```

Resetting Environment Variables

Whenever you reset the following SRM environment variables, you must initialize the firmware to put the new setting into effect:

auto_action

console

language

os_type

bus_probe_algorithm

To reset SRM environment variables, use the `set` command and initialize the system with the `init` command. For example, to change the device on which power-up output is displayed from a serial terminal to a graphics monitor, set the console environment variable to "graphics" and then enter the `init` command:

```
>>> show console
console serial
>>> set console graphics
>>> init
       .
       .
       .
>>> show console
console graphics
```

The *AlphaServer 1000A Owner's Guide* explains the functions of the environment variables.

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