



AlphaServer 1200 Pedestal–Rackmount

V3.8—29 June 1999

Systems and Options Catalog

Product Description

AlphaServer 1200 is an Alpha microprocessor server, available in a 533 MHz version with 4 MB ECC cache in a pedestal enclosure. Systems support two CPUs and are available in Pedestal and Rackmount configurations with a choice of Tru64 UNIX, OpenVMS, or Windows NT operating systems. AlphaServer 1200 offers the following high-reliability features: heat sensor, fan failure and power supply sensors, and ECC memory. Integrated on system motherboard are Fast Narrow Single-Ended SCSI-2 adapter for internal removable media devices, a diskette controller, two serial ports, one parallel port, and keyboard and mouse controller.

AlphaServer 1200 Pedestal System supports up to 10 internal storage devices including floppy diskette drive, CD-ROM, one additional 5.25-inch removable media device, and seven hot swap StorageWorks wide or narrow disk drives. The system supports up to 254 GB of internal storage with seven 36 GB disks.

System Ordering Rules

- AlphaServer 1200 Packaged Systems do not include a system disk, a SCSI adapter, or a Network adapter. Selection of a system disk, SCSI adapter, and Network adapter is mandatory. Users can select a 4.3 GB, 9.1 GB, 18.2 GB or 36.4 GB disk as the system disk.
- To order a complete system, select (1) a System, (2) a System Disk, (3) a SCSI adapter, and (4) a Network Adapter. Windows NT systems also require the selection of a graphics adapter and a Windows NT language kit.

M-series Cabinet Enclosures

- Cabinet enclosures are available in two sizes: 67-inch and 79-inch; see Cabinet Configuration Chart for maximum systems and StorageWorks shelves supported in M-series Cabinet Enclosures.

AlphaServer 1200 Pedestal systems support one drawer and up to three StorageWorks shelves.

ServerWORKS Manager provides advanced server and network management capabilities and is supplied with all AlphaServer systems. Simple Network Management Protocol (SNMP) enables information to pass from the managed system to the console for Tru64 UNIX, Windows NT and OpenVMS systems. Using ServerWORKS, the system manager may build and view topological maps of the network. Detailed server information is viewable, including system, network, storage, and environmental information. Alarms may be set against critical system parameters and events. All AlphaServer systems are supplied with management tools to complement ServerWORKS Manager. For more information, see the StorageWorks Software section of this catalog.

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Step 1—AlphaServer 1200 Pedestal Systems

Configuration menus require the **mandatory** selection of:

- Tru64 UNIX Packaged System from Step 1a, or
- OpenVMS Packaged System from Step 1b, or
- Windows NT Packaged System from Step 1c, and
- One UltraSCSI System Disk drive, one SCSI adapter, and one Ethernet Adapter from Step 1d
- Windows NT Packaged Systems also require the selection of a graphics adapter from Step 6, and a Windows NT language kit from Step 11

Note: See Step 4e for M-series Cabinet Enclosure configuration rules

Pedestal Systems include

- Alpha microprocessor 21164 533 MHz CPU with 4 MB ECC onboard cache
- Pedestal enclosure with:
 - 6 expansion slots
Five PCI slots and one PCI/EISA combination slot
 - Onboard Fast Narrow Single-Ended SCSI adapter for internal removable media devices (CD-ROM and tape) support only
 - 16 DIMM memory slots support 8 memory options
 - 10 storage slots
One diskette drive slot
One CD-ROM drive slot
One additional removable media slot
Seven StorageWorks wide and/or narrow hard drive slots
 - Two serial ports, support full duplex asynchronous modem control
 - One bi-directional enhanced parallel port
 - PS/2 style keyboard port and mouse port
- Dual 450 Watt self-switching (120/240V, 60/50Hz) power supplies. N+1 functionality is not supported. Both power supplies are required for normal operation.
- 1.44 MB diskette drive in dedicated slot
- 600 MB CD-ROM—uses one removable media slot
- 128 MB, 256 MB or 512 MB memory.
- 3-button mouse
- Integrated Advanced Server Management features, including ServerWorks Manager kit
- Hardware Warranty: Three-year on-site*
- Software Warranty¹
 - 90-day SPD conformance with advisory telephone support for Tru64 UNIX and OpenVMS
 - Warranty on Microsoft's Windows NT Server 4.0 is conformance to the written material accompanying the software for a period of ninety days
- Tru64 UNIX Unlimited User license, Server Extension license, Internet AlphaServer System Software kit, Netscape's Enterprise Server 3.0, **or**
- OpenVMS base license with System Manager license, Enterprise Integrated Package V2.0

1. Service upgrades are available; see Step 12, Hardware and Software Supplemental Services

Step 1a—Tru64 UNIX Pedestal Systems

- Systems include pre-installed Tru64 UNIX V4.0D, Base license, Unlimited User license, Server Extension license, and Internet Access Software license and Netscape's Enterprise Server 3.0.
- Systems ordered in North America include U.S. English keyboard and two 120 V power cords. Selection of a country-specific keyboard and two power cords is mandatory for all non-North American orders.
- Order media and documentation separately.
- Minimum operating system supported is Tru64 UNIX V3.2G

Tru64 UNIX Pedestal Systems

Note: Tru64 UNIX Pedestal Packaged systems have **six** available PCI slots. Installation of mandatory options and recommended graphics reduces available PCI slots.

| Order Number | Operating System | CPU | Memory | SCSI Adapter | Hard Disk Drive | Network Adapter | Graphics | Monitor |
|--------------|------------------|-------|--------|--------------|-----------------|-----------------|-------------|-------------|
| DA-54KHC-CA | Tru64 UNIX | 5/533 | 128 MB | Mandatory | Mandatory | Mandatory | Recommended | Recommended |
| DA-54KHC-DA | Tru64 UNIX | 5/533 | 256 MB | Mandatory | Mandatory | Mandatory | Recommended | Recommended |
| DA-54KHC-EA | Tru64 UNIX | 5/533 | 512 MB | Mandatory | Mandatory | Mandatory | Recommended | Recommended |

Key: Mandatory items **must** be on purchase order at initial order acceptance.
Recommended items enhance system functionality.

Step 1b—OpenVMS Pedestal Systems

- Systems include pre-installed OpenVMS V7.1-1H2, Base license, and Enterprise Integration Package that includes: OpenVMS Management Station, DECamsd, Archive Backup System for OMT, Archive Backup Agent for NT, Datametrics ViewPoint Data Collector, Datametrics ViewPoint Management Console, eXcursion, ISG/Navigator ODBC & OLE DB Server, ISG/Navigator ODBC & OLE DB Client, Internet Product Suite, Pathworks V5.0 Lan Manager, Pathworks32, Team Links Mail Windows, MAPI Driver for All-In-1, DECwindows Motif, DECprint Supervisor, DEC TCP/IP, DECnet, OpenVMS Disk Services for Windows NT, Office Server for OpenVMS, Office Server Client Access license.
- Systems ordered in North America include U.S. English keyboard and two 120 V power cords. Selection of a country-specific keyboard and two power cords is mandatory for all non-North American orders.
- Order media and documentation separately.
- Minimum operating system supported is OpenVMS V7.1-1H1

OpenVMS Pedestal Packaged Systems

Note: OpenVMS Pedestal Packaged systems have **six** available PCI slots. Installation of mandatory options and recommended graphics reduces available PCI slots.

| Order Number | Operating System | CPU | Memory | SCSI Adapter | Hard Disk Drive | Network Adapter | Graphics | Monitor |
|--------------|------------------|-------|--------|--------------|-----------------|-----------------|-------------|-------------|
| DY-54KHC-CA | OpenVMS | 5/533 | 128 MB | Mandatory | Mandatory | Mandatory | Recommended | Recommended |
| DY-54KHC-DA | OpenVMS | 5/533 | 256 MB | Mandatory | Mandatory | Mandatory | Recommended | Recommended |
| DY-54KHC-EA | OpenVMS | 5/533 | 512 MB | Mandatory | Mandatory | Mandatory | Recommended | Recommended |

Key: Mandatory items **must** be on purchase order at initial order acceptance.
Recommended items enhance system functionality.

Step 1c—Windows NT Packaged System Windows NT

- DIGITAL OEM license agreement for Windows NT mandates compliance with specific configuration rules:
- Windows NT Language Configuration**
 - Selection of language-specific Windows NT Server 4.0 license/media (CD-ROM) kit is mandatory, see Step 11.
- Selection of graphics option is **mandatory** for Windows NT Pedestal Packaged Systems (Step 6)
- Video monitor is **required** for system management; order separately if not available at customer site Windows NT Packaged Systems

Windows NT Packaged Systems

Note: Windows NT Pedestal Packaged systems have **six** available PCI slots. Installation of mandatory options reduces available PCI slots.

| Order Number | Operating System | CPU | Memory | SCSI Adapter | Hard Disk Drive | Network Adapter | Graphics | Monitor |
|--------------|------------------|-------|--------|--------------|-----------------|-----------------|-----------|----------|
| DN-54KHC-BA | Windows NT | 5/533 | 64 MB | Mandatory | Mandatory | Mandatory | Mandatory | Required |
| DN-54KHC-DA | Windows NT | 5/533 | 256 MB | Mandatory | Mandatory | Mandatory | Mandatory | Required |
| DN-54KHC-EA | Windows NT | 5/533 | 512 MB | Mandatory | Mandatory | Mandatory | Mandatory | Required |

Key: Mandatory items **must** be on purchase order at initial order acceptance.
Required items are essential for full system operation.

Step 1d—Mandatory Options

Selection of a System Disk Drive, a SCSI Adapter, and a Network Adapter is **mandatory**. Additional options are supported, select as required.

Select one System Disk Drive—Mandatory

If more than one size of disk is ordered the Operating System will be factory installed on the smallest disk.

| Order Number | System Disk and Minimum O/S version supported | Tru64 UNIX | Windows NT | OpenVMS |
|--------------------------|---|------------|------------|----------|
| DS-RZ1CF-VW | 4.3 GB 7200 RPM UltraSCSI disk | V3.2G | 4.0 | V7.1-1H1 |
| DS-RZ1DA-VW | 9.1 GB 7200 RPM UltraSCSI disk | V4.0B | 4.0 | V7.1-1H1 |
| DS-RZ1EA-VW ¹ | 18.2 GB 7200 RPM UltraSCSI disk | V4.0B | 4.0 | V7.1-1H1 |
| DS-RZ1DD-VW | 9.1 GB 10000 RPM UltraSCSI disk | V3.2G | 4.0 | V7.1-1H1 |
| DS-RZ1ED-VW ¹ | 18.2 GB 10000 RPM UltraSCSI disk | V3.2G | 4.0 | V7.1-1H1 |
| DS-RZ1FB-VW ¹ | 36.4GB 7200 RPM 16 bit Ultra SCSI disk drive | V4.0B | 4.0 | V7.1-1H1 |

1. 18.2 GB disk drives are not supported on KZPAC-xx PCI-based RAID controllers.

Select one SCSI Adapter—Mandatory

Systems include cable to connect KZPxx adapters to internal storage shelf. See Step 4c for cables to connect KZPxx adapter to external shelf. To configure internal shelf in split-bus mode an H8520-AA kit is required.

| Order Number | SCSI Adapter and Minimum O/S version supported | Tru64 UNIX | Windows NT | OpenVMS |
|--------------|--|------------|------------|----------|
| KZPCM-DA | PCI-based dual port UltraSCSI Single-ended adapter and 10/100 Mbit Ethernet Combo adapter, uses 1 PCI slot | V4.0D | 4.0 | V7.1-1H1 |
| KZPBA-CA | PCI-based one port UltraSCSI Single-ended adapter | V3.2G | 4.0 | V7.1-1H1 |
| KZPAC-AA | PCI-based one port RAID controller with 4 MB cache, not factory configured as RAID set | V3.2G | 4.0 | V7.1-1H1 |
| KZPAC-CA | PCI-based three port RAID controller with 4 MB cache, not factory configured as RAID set | V3.2G | 4.0 | V7.1-1H1 |
| KZPAC-CB | Same as –CA above with 8 MB cache memory | V3.2G | 4.0 | V7.1-1H1 |

Select one Network Adapter—Mandatory

Note: Network adapter is not required if KZPCM is selected as SCSI adapter.

| Order Number | Network Adapter and Minimum O/S version supported | Tru64 UNIX | Windows NT | OpenVMS |
|--------------|--|------------|------------|----------|
| DE500-BA | PCI-based 10/100 Mbit Fast Ethernet adapter UTP with cluster failover | V4.0D | 4.0 | V7.1-1H1 |
| DE504-BA | PCI-based 10/100 Mbit Quad Channel Ethernet adapter, High-connectivity | V4.0D | 4.0 | V7.1-1H1 |

Step 2—Additional CPU Modules (SMP Upgrades)

AlphaServer 1200 System supports one additional CPU

| | |
|-----------------|--|
| KN307-DB | Tru64 UNIX SMP upgrade includes one 5/533 CPU and Tru64 UNIX SMP license |
| KN307-DC | OpenVMS SMP upgrade includes one 5/533 CPU and OpenVMS SMP license |
| KN307-DD | Windows NT SMP upgrade includes one 5/533 CPU |

Step 3—Memory

- System supports up to eight memory kits (each kit includes industry-standard SDIMMs with ECC support)
- System supports maximum of 4 GB memory.
- 128 MB systems include two 64 MB options, leaving six available memory banks for expansion. 256 MB and 512 MB systems include either one 256 MB or one 512 MB option, leaving seven available memory banks for expansion.
- To expand a 128 MB system, select a 256 MB or 512 MB option and install in Memory Bank 0. System memory can then be expanded using 64 MB, 256 MB or 512 MB memory kits.

| | |
|-----------------|---------------------------------------|
| MS300-BA | 64 MB (2 x 32 MB SDIMMs) memory kit |
| MS300-DA | 256 MB (2 x 128 MB SDIMMs) memory kit |
| MS300-EA | 512 MB (2 x 256 MB SDIMMs) memory kit |

Step 4—Storage

Selection of a SCSI adapter is **mandatory**, see Step 1c.

Step 4a—Internal Storage

- Pedestal enclosure supports ten storage devices
 - One dedicated diskette drive slot
 - Two removable media slots
 - Seven 3.5-inch internal hard disk drives
- Systems include
 - One CD-ROM drive and support for one additional removable device connected to onboard Fast Narrow Single-Ended (FNSE) SCSI-2 adapter.

Internal Disk Drives

- Selection of one System Disk Drive is mandatory, see Step 1c.
- Up to six additional hard disk drives are supported internally.

| | |
|--------------------------------|---|
| DS-RZ1CF-VA | 4.3 GB 7200 RPM 8-bit Narrow SCSI disk drive |
| DS-RZ1CF-VW | 4.3 GB 7200 RPM 16-bit UltraSCSI disk drive |
| DS-RZ1DA- VW | 9.0 GB 7200 RPM 16-bit UltraSCSI disk drive |
| DS-RZ1DD-VW | 9.0 GB 10000 RPM 16-bit UltraSCSI disk drive |
| DS-RZ1EA-VW¹ | 18.2 GB 7200 RPM 16-bit UltraSCSI disk drive |
| DS-RZ1ED-VW¹ | 18.2 GB 10000 RPM 16-bit UltraSCSI disk drive |
| DS-RZ1FB-VW¹ | 36.4GB 7200 RPM 16 bit Ultra SCSI disk drive |

1. Not supported on KZPAC-xx PCI-based RAID controllers.

Step 4a—Internal Storage (*continued*)

Internal UltraSCSI Cable Kit

| | |
|-----------------|--|
| H8520-AA | UltraSCSI bus splitter kit. Required when configuring internal storage shelf in split-bus mode. Includes SCSI bus extender card, SCSI data cables, terminator, power harness assembly, and installation guide. |
|-----------------|--|

Internal Removable Media

- Systems include CD-ROM drive in 5.25" drive connected to onboard FNSE SCSI-2 adapter.
- System supports one additional removable media device. Optional 5.25" half-height removable media slot in Pedestal systems is connected to onboard FNSE SCSI-2 adapter.

Step 4a—Internal Storage (continued)**Internal Tape Drive and additional CD-ROM**

| | |
|-----------------|---|
| RRD47-VD | 600 MB 32X CD-ROM half-height, 5.25 inch Top Gun Blue |
| PBXTZ-AA | 2.0 GB QIC SCSI tape drive 5.25-inch half-height (TZK11) 217 Gray |
| TLZ09-LK | 8.0 GB 4 mm DAT SCSI tape drive 5.25-inch x 1.6-inch Frost White |
| TLZ10-LK | 12/24 GB 4 mm DAT SCSI tape drive 5.25-inch Frost White |

Tabletop Tape Drives

| | |
|--------------------------------|---|
| DS-TLZ10-DB¹ | 12/24 GB 4 mm DAT tabletop narrow single-ended SCSI drive |
| DS-TZ89N-TA¹ | 35/70 GB DLT tabletop single-ended tape drive |

1. Requires KZPBA-CA UltraSCSI adapter, one BN21K-xx cable, and one BN19P-1K power cord.
2. For maximum performance, tape libraries must be configured with Fast Wide Differential (FWD) adapters for tape backup.

Step 4b— UltraSCSI StorageWorks Shelves

- UltraSCSI configurations require UltraSCSI components (controllers, adapters, shelves, disks, and cables).
- UltraSCSI adapters and RAID controllers support UltraSCSI disks at UltraSCSI speeds in UltraSCSI Top Gun Blue shelves (DS-BA356-xx).
- Fast10 BA356-xx SCSI shelves may not be retrofitted. Replace Fast10 SCSI shelf with DS-BA356-xx shelf.
- UltraSCSI and Fast10 drives can be mixed in DS-BA356 Top Gun Blue UltraSCSI shelf. Drives negotiate maximum transfer speeds with UltraSCSI adapter /controller.
- KZPAC ordered with systems will be factory reset to operate in UltraSCSI mode.
- KZPAC controllers ship in Fast10 mode, but can run at UltraSCSI speeds by running RCU utility.

UltraSCSI Connectors and Cables

- KZPBA-CA PCI one port UltraSCSI Single-Ended adapter, 68HD connector, requires BN38C cables (2 to 20 m) to connect to UltraSCSI shelf.
- KZPBA-CB PCI one port UltraSCSI Differential adapter, 68HD connector, requires BN38C cables (2 to 25 m) to connect to UltraSCSI shelf.
- KZPAC-AA/CA/CB RAID controller, VHDCI connector, require BN37A cables (.3 to 20 m) to connect to UltraSCSI shelf.
- KZPCM-DA PCI dual port UltraSCSI Single-Ended adapter and 10/100M-bit Ethernet Combo adapter. Internal 68-pin and 50-pin HD connectors and two external 68-pin VHDCI connectors.

BN38C VHDCI to 68HD Cables—KZPBA UltraSCSI adapter to UltraSCSI shelf

| | |
|-----------------|------------------------------|
| BN38C-02 | 2 m VHDCI male to 68HD male |
| BN38C-03 | 3 m VHDCI male to 68HD male |
| BN38C-05 | 5 m VHDCI male to 68HD male |
| BN38C-10 | 10 m VHDCI male to 68HD male |
| BN38C-20 | 20 m VHDCI male to 68HD male |

Step 4b— UltraSCSI StorageWorks Shelves (continued)**BN37A VHDCI to VHDCI Cables—KZPAC RAID controller and KZPCM UltraSCSI adapter to UltraSCSI shelf**

| | |
|-----------------|---------------------------------|
| BN37A-0C | 0.3 m VHDCI male to VHDCI male |
| BN37A-0E | 0.5 m VHDCI male to VHDCI male |
| BN37A-01 | 1.0 m VHDCI male to VHDCI male |
| BN37A-1E | 1.5 m VHDCI male to VHDCI male |
| BN37A-02 | 2.0 m VHDCI male to VHDCI male |
| BN37A-2E | 2.5 m VHDCI male to VHDCI male |
| BN37A-03 | 3.0 m VHDCI male to VHDCI male |
| BN37A-05 | 5.0 m VHDCI male to VHDCI male |
| BN37A-10 | 10.0 m VHDCI male to VHDCI male |
| BN37A-15 | 15.0 m VHDCI male to VHDCI male |
| BN37A-20 | 20.0 m VHDCI male to VHDCI male |
| BN37A-25 | 25.0 m VHDCI male to VHDCI male |

Step 4b—UltraSCSI StorageWorks Shelves (continued)**DS-BA356 StorageWorks UltraSCSI Shelf Kits**

DS-BA36-xx UltraSCSI Top Gun Blue shelf provides support for UltraSCSI disk drives. Shelf is configured as single-bus or split-bus configuration and includes a personality module, and a 180W power supply.

- Each DS-BA356 shelf supports
 - Seven 3.5-inch hard disk drives or
 - One 5.25-inch device and four 3.5-inch hard disk drives, or
 - Two 5.25-inch devices and one 3.5-inch hard disk drive
- Installation of redundant power supply reduces number of 3.5-inch devices by one

Pedestal Enclosure

| | |
|--------------------|---|
| DS-BA356-KF | UltraSCSI single-ended pedestal, single-bus personality module, 180W power supply |
| DS-BA356-KG | UltraSCSI single-ended pedestal, split-bus personality module, 180W power supply |
| DS-BA356-KH | UltraSCSI pedestal, differential personality module, 180W power supply |

Shelves supported in SW8xx and SW5xx Cabinets

| | |
|--------------------|---|
| DS-BA356-JD | UltraSCSI single-ended METRIC rack, single-bus personality module, 180 W power supply |
| DS-BA356-JE | UltraSCSI single-ended METRIC rack, split-bus personality module, 180 W power supply |
| DS-BA356-JF | UltraSCSI single-ended METRIC rack, single-bus, differential personality module, 180 W power supply |
| DS-BA35X-HH | 180 W power supply |

Tape Drives and additional CD-ROM for StorageWorks shelves

| | |
|--------------------|---|
| TLZ09-VA | 8 GB 4 mm DAT 93 MB/min (compressed) narrow SCSI tape drive in 5.25-inch StorageWorks carrier |
| DS-TLZ10-VA | 12/24 GB 4 mm DAT narrow SCSI tape drive in StorageWorks carrier |
| TLZ9L-VA | 32/64 GB 4 mm DAT SCSI tape drive loader in StorageWorks carrier |
| DS-TZ89N-VW | 35/70 GB DLT single-ended tape drive in StorageWorks carrier |
| TZ88N-VA | 20/40 GB DLT 3 MB/s narrow SCSI cartridge tape drive in 5.25-inch StorageWorks carrier |
| TZK11-VA | 2 GB QIC narrow SCSI tape drive in StorageWorks carrier |
| DS-RRD47-VA | 600 MB 32X CD-ROM drive in StorageWorks carrier |

Step 4c—Storage Controllers

- Selection of one SCSI adapter/controller is mandatory, see Step 1c.
- The following adapters and controllers are supported on AlphaServer 1200 Systems.
- Charts indicate minimum level of operating system supported.

Note: Minimum operating system level support for Tru64 UNIX with MEMORY CHANNEL is V4.0B.

| Order Number | Description | Maximum # Supported | | |
|---------------------------|---|---------------------|----------------|------------------|
| | | Tru64 UNIX | Windows NT 4.0 | OpenVMS V7.1-1H1 |
| KZPCM-DA | PCI-based dual port UltraSCSI Single-ended adapter and 10/100Mbit Ethernet Combo adapter , uses 1 PCI slot. Internal 68-pin and 50-pin HD connectors and two external 68-pin VHDCI SCSI connectors. | 2 | 2 | 2 |
| BN37A-02 | 2 meter VHDCI male to VHDCI male UltraSCSI cable for external connections. Required for each UltraSCSI StorageWorks shelf attached to KZPCM. | | | |
| KZPBA-CA | PCI-based one port UltraSCSI Single-ended adapter , internal 68-pin and 50-pin HD connectors and external 68-pin HD connector. | 4 | 4 | 4 |
| BN38C-02 | 2 meter 68-pin HD male to VHDCI male UltraSCSI cable. Required for each external UltraSCSI shelf attached to KZPBA. | | | |
| KZPBA-CB ¹ | PCI-based one port UltraSCSI Differential adapter , 68-pin HD connector | 4 | 4 | 4 |
| FR-PCTAZ-FB | PCI-based one port UltraSCSI Differential adapter , for use with HSZ70 and HSZ22 only 68-pin HD connector | | 4 | |
| BN38C-02 | 2 meter 68-pin HD male to VHDCI male UltraSCSI cable. Required for each UltraSCSI shelf attached to KZPBA adapter. | | | |
| KZPSA-BB | PCI-based one port Fast Wide Differential (FWD) SCSI adapter , 68-pin HD external connector. Requires DWZZB signal converter if connecting directly to StorageWorks shelf. | 4 | 4 | 4 |
| BN21K-xx | 16-bit SCSI cable, 68-pin HD straight male connector with thumb latches and one 68-pin HD right angle male connector with screw fasteners. | | | |
| KZPAC-AA ² | PCI-based one port UltraSCSI RAID controller with 4 MB cache memory , includes RAID Array 230/Plus Subsystem software and documentation kit. VHDCI male connector. Tape drives are not supported. | 4 | 4 | 4 |
| BN37A-02 | 2 meter VHDCI male to VHDCI male UltraSCSI cable for external connections. Required for each UltraSCSI StorageWorks shelf attached to KZPAC. | | | |
| KZPAC-CA ^{2,3,4} | PCI-based three port UltraSCSI RAID controller with 4 MB cache memory , includes RAID Array 230/Plus Subsystem Software and documentation kit. Tape drives are not supported. SCSI cable is required for each active port. Requires BN31K-0E or KZPAC-SB for third port external connection. | 3 | 3 | 3 |
| KZPAC-CB ^{2,3,4} | Same as KZPAC-CA with 8 MB cache memory | 3 | 3 | 3 |
| KZPSC-UB ³ | Cache battery-backup for KZPAC controller | | | |
| BN37A-1E | 1.5 meter VHDCI male to VHDCI male UltraSCSI cable for external connections. Required for each UltraSCSI StorageWorks shelf attached to KZPAC. Note: Manufacturing may substitute BN37A-02 cable for certain cabinet configurations | | | |

1. Tru64 UNIX and OpenVMS operating systems currently support the KZPBA-CB adapter via direct attachment in existing environments. Multi-host shared SCSI bus configurations using the KZPBA-CB adapter are not supported on Tru64 UNIX systems at this time.

2. 18.2 GB and 36.4 GB disk drives are not supported on KZPAC-xx PCI-based RAID controllers

3. KZPSC-UB is recommended for KZPAC RAID controllers.

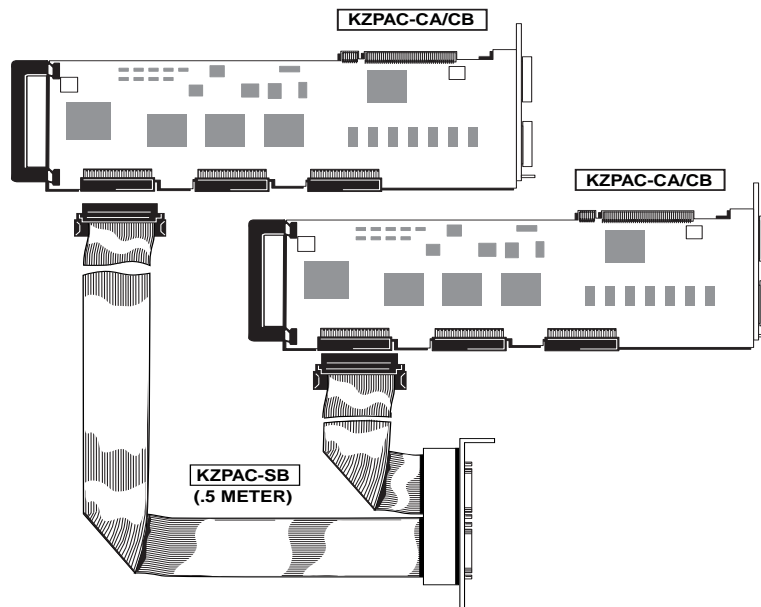
4. KZPAC RAID Array 230/Plus Controller supports 9 GB Drives—for configuration information on getting around the 32 GB Logical Drive Limit of the KZPAC, see the *Systems and Option Catalog* file for Storage RAID Controllers dated 10 September 1998 and Customer Update dated 15 August 1997 at:

<http://webir.das.dec.com/info/CU5911/CU5911HM.HTM>

Step 4c—Storage Controllers (continued)**SCSI cables for KZPAC-CA/CB controllers**

| | | |
|-----------------------------|---|--|
| BN37A-02 | 2 meter VHDCI male to VHDCI male UltraSCSI cable | |
| BN31S-1E | 1.5 meter VHDCI to 68-pin HD SCSI cable for external connections. Required for each Fast10 StorageWorks shelf attached to KZPAC. | |
| BN31K-0E | SCSI cable/bulkhead assembly kit with one port for KZPAC-CA/CB, allows connection of one third port output using one PCI bulkhead slot. | |
| KZPAC-SB⁵ | SCSI cable/bulkhead assembly kit with two ports for KZPAC-CA/CB, allows connection of two third port outputs using one PCI bulkhead slot. | |

5. KZPAC-SB two port SCSI cable/bulkhead assembly kit is required for third port connection. Three remaining slots support two KZPAC three port controllers with KZPAC-SB two port SCSI cable/bulkhead assembly kit. Graphics option is not mandatory for Tru64 UNIX and OpenVMS systems, these systems have four available PCI slots, and support three KZPAC three port controllers.



| Order Number | Description | Maximum # Supported | | |
|-----------------|--|---------------------|----------------|------------------|
| | | Tru64 UNIX | Windows NT 4.0 | OpenVMS V7.1-1H1 |
| CIPCA-BA | PCI-based CI adapter (OpenVMS systems only. Requires two PCI slots and CI cable for each adapter) | | — | 2 |
| BNCIA-xx | CI cable | | | |

Step 4d—External Storage Controllers

CI Controllers

- Supported on OpenVMS systems only.
- Requires CIPCA-BA Storage controller and cables.
- QB-5C4AA-SA software kit required per external cache (i.e., 1 per HSJ50, 2 per HSJ52)

| | |
|--------------------|---|
| HSJ50-AF | StorageWorks 6 channel CI Array controller 32 MB write-back cache and external cache battery |
| HSJ50-AH | StorageWorks 6 channel CI Array controller 64 MB cache and external cache battery |
| HSJ50-AJ | StorageWorks 6 channel CI Array controller 128MB cache and external cache battery |
| HSJ52-AF | StorageWorks Dual 6 channel CI Array controller 64 MB cache and dual external cache battery |
| HSJ52-AH | StorageWorks Dual 6 channel CI Array controller 128 MB cache and dual external cache battery |
| HSJ52-AJ | StorageWorks Dual 6 channel CI Array controller 256MB cache and dual external cache battery |
| HSJ54-AJ | StorageWorks Quad 6 channel CI Array controller 512MB cache and two dual external cache batteries |
| SC008-AC/AD | Star Coupler Passive Hub device, supports eight CI ports |

Step 4e—M-series Cabinet Enclosure

For additional information on M-series Cabinet Enclosures visit www.digital.com/alphaserver/products/m-series.html

M-series Top Gun Blue Cabinet Enclosures are available in two sizes:

- 67” high Cabinet Enclosure (H9A10-xx) 31U or 54.2” of usable vertical space.
- 79” high Cabinet Enclosure (H9A15-xx) 38U or 66.5” of usable vertical space.

Cabinet Configuration Chart for AlphaServer 1200 (11U) with StorageWorks shelves (4U)

Note: Order a Mounting Kit for each system installed in a Cabinet Enclosure.

| Cabinet Enclosure | Mounting Kit | Cabinet Height and Space | | Drawers | Shelves | Ballast Kit |
|-------------------|--------------|--------------------------|-----|---------|---------|-------------|
| H9A10-MC/MD | 2T-R1200-AB | 54.2 inches | 31U | 1 | 6 | 1 |
| | | | | 2 | 2 | 1 |
| H9A15-MC/MD | 2T-R1200-AB | 66.5 inches | 38U | 1 | 6 | 2 |
| | | | | 2 | 6 | 1 |
| | | | | 3 | 2 | |

Cabinet Configuration Chart for AlphaServer 1200 (11U) with StorageWorks RA3000 and disk shelves (12U)

- 12U of vertical cabinet space are reserved for one RA3000 controller shelf and up to five disk shelves mounted in top of cabinet, front to back. An additional 2U of vertical space is required for RA3000 controller shelf UPS.
- Disk shelves can be a combination of RA3000 DS-SWXRA-GN disk shelves and StorageWorks BA36R-RC/RD disk shelves.
 - RA3000 controller shelf supports up to a maximum of four DS-SWXRA-GN disk shelves.
 - The third and fourth DS-SWXRA-GN disk shelf ordered will be installed in rear of an M-series cabinet. Rear mounted shelves requires a 2 meter SCSI cable; order BN37A-02 SCSI cable separately for installation of third and fourth disk shelves in rear of cabinet.
- Systems are supported in remaining vertical space.

Note: Order a Mounting Kit for each system installed in a Cabinet Enclosure.

| Cabinet Enclosure | Mounting Kit | Cabinet Height and Space | | Drawers | RA3000 + Shelves | Ballast Kit |
|-------------------|--------------|--------------------------|-----|---------|------------------|-------------|
| H9A10-MC/MD | 2T-R1200-AB | 54.2 inches | 31U | 1 | 1 + 5 | 1 |
| | | | | 2 | 1 + 5 | 1 |
| H9A15-MC/MD | 2T-R1200-AB | 66.5 inches | 38U | 1 | 1 + 5 | 2 |
| | | | | 2 | 1 + 5 | 1 |

M-series Cabinet Enclosure Options

M-series Cabinet Enclosures require the **mandatory** selection of:

- H9A10 or H9A15 Cabinet, 120V or 240V variant.
- AlphaServer 1200 Rackmount Kit per system ordered.
- Two 4.5 meter power cords per system ordered.
- Cabinet front door based on cabinet height.
- Factory Integration.
- Ballast kits as required.

Cabinet Enclosures

| | |
|-----------------|--|
| H9A10-MC | 120 V dual 24 A controller, each with 10 NEMA 5-15R outlets, input power plug NEMA L5-30P, Americas, Asia Pacific Includes rear door, top fan tray, and 2 H7600-AA power distribution units |
| H9A10-MD | 240 V dual 16 A controller, each with 12 IEC C13 outlets, input power plug IEC 309, 16A, Europe Includes rear door, top fan tray, and 2 H7600-DB power distribution units |
| H9A15-MC | 120 V dual 24 A controller, each with 10 NEMA 5-15R outlets, input power plug NEMA L5-30P, Americas, Asia Pacific Includes rear door, top fan tray, and 2 H7600-AA power distribution units |
| H9A15-MD | 240 V dual 16 A controller, each with 12 IEC C13 outlets, input power plug IEC 309, 16A, Europe Includes rear door, top fan tray, and 2 H7600-DB power distribution units |

For custom integration of systems, options, and additional Compaq and third party devices, or for other cabinets, doors, and trim kits of a different color, contact Compaq CustomSystems at 1-800-AT-COMPAQ (1-800-282-6672), or contact your local authorized Compaq Certified Integration Partner.

Step 4e—M-series Cabinet Enclosure (continued)**Rackmount Kit**

2T-R1200-AB Rackmount Kit includes mounting shelf, slide rails, front dress bezel, interlock mechanism, and cable management bracket. System slides out front of cabinet for full service access. Each System installed in a cabinet requires two power cords:
Two 4.5 meter power cords—2T-00083-51 for U.S. use, or
Two 4.5 meter power cords—2T-04522-02 for non-US use

Cabinet Front Door

H9C10-TF Top Gun Blue front door for H9A10-MC/MD Cabinet Enclosure

H9C15-TF Top Gun Blue front door for H9A15-MC/MD Cabinet Enclosure

Factory Integration

YS-ASCAA-AA Factory Integration of systems and storage devices assembled and configured in cabinet enclosure in pre-defined locations

Ballast Kit

Ballast is dead weight that is added to a cabinet at specific locations for specific configurations to meet safety regulations for installation, operation, and service. Refer to Cabinet Configuration Chart for ballast kit requirements.

H9C10-MC Two 35-40 lbs. steel plates

Shelves supported in M-series Cabinets

BA36R-RC UltraSCSI single-ended RETMA rack, single-bus personality module, 180W power supply

BA36R-RD UltraSCSI single-ended RETMA rack, split-bus personality module, 180W power supply

BA35R-MR Rackmount StorageWorks controller shelf with RETMA mounting kit, and NEMA power for H9A10-MC/ H9A15-MC Cabinet, Americas, Asia Pacific. Order BN30B-02 for mounting in H9A10-MD/ H9A15-MD cabinet (Europe)

CK-BA35X-HH 180W power supply

Cabinet Expansion Joiner Kit

H9C10-JD Joiner Kit with brackets and trim (top gun blue) for H9A10-MC/MD cabinet

H9C15-JD Joiner Kit with brackets and trim (top gun blue) for H9A15-MC/MD cabinet

RAID Array 3000 Rackmount Controller Shelf

- RA3000 is currently supported on Tru64 UNIX running minimum of V4.0D operating system software, snf Windows NT running a minimum of V4.0.
- Supported SCSI adapter: KZPBA-CB PCI-based one port UltraSCSI Differential adapter.
- Supported SCSI adapter: FR-PCTAZ-FB PCI-based one port UltraSCSI Differential adapter (WNT).
- Selection of an RA3000 Solutions Software Kit (QB-5TWAB-SA) is required.

DS-SWXRA-GH RA3000 Rackmount controller shelf with one controller, 110 V (Blue).
Includes: Ultra SCSI BA356 controller shelf, one HSZ22 two channel controller with 16 MB cache, integrated Environmental Monitoring Unit (EMU), two 180 Watt power supplies, two dual port host differential UltraSCSI I/O SBBs, Dual channel UltraSCSI single-ended personality modules, one 120V 1000VA rackmount UPS, 5 meter host SCSI cable (BN37A-05), BN38E-0B adapter, UPS serial cable, PC connection serial cable (DB-9), two 68 HD tri-link adapters (H8861-AA), North American power cords, and RETMA mounting bracket. Disk shelves and disks are not included.

Requires: Solutions Software Kit for platform, host adapter, RA3000 disk shelf, and disks

Options: Second HSZ22 controller, up to 3 additional RA3000 disk shelves, cache memory upgrade

Step 4e—M-series Cabinet Enclosure (continued)

- DS-SWXRA-GK** RA3000 Rackmount controller shelf with one controller, 230 V (Blue).
Includes: UltraSCSI BA356 controller shelf, one HSZ22 two channel controller with 16 MB cache, integrated Environmental Monitoring Unit (EMU), two 180 Watt power supplies, two dual port host differential UltraSCSI I/O SBBs, Dual channel UltraSCSI single-ended personality modules, one 230V 1000VA rackmount UPS, 5 meter host SCSI cable (BN37A-05), BN38E-0B adapter, UPS serial cable, PC connection serial cable (DB-9), two 68 HD tri-link adapters (H8861-AA), RETMA mounting bracket. Disk shelves and disks are not included.
Requires: Solutions Software Kit for platform, two country-specific power cords, host adapter, RA3000 disk shelf, and disks
Options: Second HSZ22 controller, up to 3 additional RA3000 disk shelves, cache memory upgrade

RAID Array 3000 Rackmount Disk Shelf

- Select one to four disk shelves.
- Third and fourth DS-SWXRA-GN disk shelf ordered will be installed in rear of an M-series cabinet. Rear mounted shelves require a 2 meter SCSI cable (BN37A-02)—order SCSI cable separately for installation of third and fourth disk shelves.

- DS-SWXRA-GN** RA3000 Rackmount disk shelf (Blue)
Includes: UltraSCSI BA356 disk shelf, two 180 W power supplies, single-ended UltraSCSI personality card, one half meter SCSI cable (BN37A-0E), two North American power cords, and RETMA mounting bracket. Disks are not included. Order two country-specific power cords for non North American use.

HSZ22 Controller

Note: Second HSZ22 controller ordered is field installable **only**, it will not be factory installed. Requires BN37A-0E SCSI jumper cable, order separately.

- DS-HSZ22-AA** Second HSZ22 controller with 16 MB of cache and two 16 MB SIMMs for mirror cache, one BN37A 05 5 meter UltraSCSI cable, one BN38E-0B cable adapter—field installable only.
Note: Second HSZ22 controller does not require an additional Solution Software Kit.
- DS-HSZ22-AB** Second HSZ22 controller with 32 MB of cache and two 32 MB SIMMs for mirror cache, one BN37A 05 5 meter UltraSCSI cable, one BN38E-0B cable adapter—field installable only.
Note: Second HSZ22 controller does not require an additional Solution Software Kit.

RA3000 Solutions Software Kits include:

- StorageWorks Command Console (SWCC) software
- Platform specific software
- Installation scripts, and installation documentation.

Select Adapter and RA3000 Solutions Software Kit for appropriate platform

| Supported Adapters | RA3000 Solutions Software Kit | Host Platform |
|--------------------|-------------------------------|---------------|
| KZPBA-CB | QB-5TWAB-SA | Tru64 UNIX |
| FR-PCTAZ-FB | QB-5TWAD-SA | Windows NT |

Compaq CustomSystems Support

Cabinets containing systems and storage must be assembled by qualified assemblers: Compaq Manufacturing, Compaq's CustomSystems Group, or an authorized Compaq Certified Integration Partner.

For custom integration of systems, options, cabinet expansion offerings, and additional Compaq and third party devices, or for other cabinets, doors, and trim kits of a different color, contact Compaq CustomSystems at 1-800-AT-COMPAQ (1-800-282-6672), or contact your local authorized Compaq Certified Integration Partner.

Step 4f—UltraSCSI RAID Array Controllers and UltraSCSI RAID Packaged Solutions

ESA 10000 Storage Arrays and RAID Array 7000 (RA7000) Options

- ESA 10000 Storage Arrays and RAID Array 7000 (HSZ70 Product Set) are supported on AlphaServer 1200 systems.
- Currently the HSZ70 is supported on KZPSA-BB Fast Wide Differential adapter (Tru64 UNIX V4.0B; OpenVMS V6.2-1H3) and the KZPBA-CB UltraSCSI Differential controller (OpenVMS V6.2-1H3).

ESA 10000 Enterprise Storage Arrays

See StorageWorks Packaged Solutions in StorageWorks Chapter of Compaq *Systems and Options Catalog*, or on the WEB at <http://www.digital.com/info/SOHOME/> for additional configuration information on HSZ70 controllers in ESA 10000 and RA7000.

DS-SWXES-AA/AB ESA 10000 high capacity/general business base unit

Includes: Data Center 600 mm enclosure
 2 BA370-AA Rackmounted shelves with 5 shelf power supplies each, expandable to 8
 2 HSZ70 six port controllers 64 MB mirrored write back cache each, expandable to 128 MB each
 6 Ultra SCSI expansion cables
 1 10 meter host to controller cable (BN37A-10)
 Serial line assembly with adapters (9 pin and 25 pin)
 Power cord and documentation
 Supports up to 48 drives

Requires: HSZ70 Solutions Software kit for platform, host adapter, and disks to be ordered separately
Options: 64 MB cache upgrade and fully redundant power

DS-SWXES-BA/BB ESA 10000 high bandwidth base unit

Includes: Data Center 600 mm enclosure
 2 BA370-AA Rackmounted shelves with 5 shelf power supplies each, expandable to 8
 4 HSZ70 six port controllers 64 MB mirrored write back cache each, expandable to 128 MB each
 2 10 meter host to controller cables (BN37A-10)
 Serial line assembly with adapters (9 pin and 25 pin)
 Power cord and documentation
 Supports up to 48 drives

Requires: HSZ70 Solutions Software kit for platform, host adapter, and disks to be ordered separately
Options: 64 MB cache upgrade and fully redundant power

DS-SWXES-CA/CB ESA 10000 dual expansion base unit

Includes: Data Center 600 mm enclosure
 2 BA370-AA Rackmounted shelves with 5 shelf power supplies each, expandable to 8
 12 Ultra SCSI expansion cables
 SW600 cabinet joiner kit
 Power cord and documentation
 Supports up to 48 drives

Requires: HSZ70 Solutions Software kit for platform, host adapter, and disks to be ordered separately
Options: Fully redundant power

DS-SWXES-DA/DB ESA 10000 single expansion w/ dual controllers base unit

Includes: Data Center 600 mm enclosure
 1 BA370-AA Rackmounted shelf with 5 shelf power supplies, expandable to 8
 2 HSZ70 six port controllers 64 MB mirrored write back cache each, expandable to 128 MB each
 1 10 meter host to controller cable (BN37A-10)
 Serial line assembly with adapters (9 pin and 25 pin)
 Power cord and documentation
 Supports 24 drives, expandable to 48 with BA370 rackmount upgrade.

Requires: HSZ70 Solutions Software kit for platform, host adapter, and disks to be ordered separately
Options: 64 MB cache upgrade, fully redundant power, and BA370 rackmount upgrade.

Step 4f—UltraSCSI RAID Array Controllers and UltraSCSI RAID Packaged Solutions (continued)
RAID Array 7000 (RA7000)

| | |
|--------------------|---|
| DS-SWXRA-HA | <p>RAID Array 7000 with Dual controllers</p> <p>Includes: 24 SBB Departmental Cabinet 2 HSZ70 6 port controllers with 64 MB mirrored writeback cache each, expandable to 128 MB each I/O expansion module Dual cache battery in SBB with cable Five 180 watt power supplies, expandable to eight Fully redundant cooling Environmental Monitor Unit (EMU) 5 meter host to controller cable BN37A-05 with BN38E-0B VHDCI to 68 HD conversion cable, Serial line kit, controller to controller jumper cable for redundant controllers, and U.S. power cord.</p> <p>Requires: HSZ70 Solutions Software Kit for platform, host adapter, and disks to be ordered separately</p> <p>Options: 64 MB cache upgrade, Up to two RA7000 Expansion cabinets. Optional power supplies.</p> |
| DS-SWXRA-HB | RAID 24 UltraSCSI SBB Pedestal Expansion cabinet |
| DS-SWXRA-HC | <p>RAID Array 7000 with Single controller</p> <p>Includes: 24 SBB Storage Cabinet 1 HSZ70 6 port controller with 64 MB mirrored writeback cache, expandable to 128MB I/O expansion module Single cache battery in SBB with cable Five 180 watt power supplies expandable to eight Fully redundant cooling Environmental Monitor Unit (EMU) 5 meter host to controller cable BN37A-05 with BN38E-0B VHDCI to 68 HD conversion cable, Serial line kit, controller to controller jumper cable for redundant controllers, and U.S. power cord.</p> <p>Requires: HSZ70 Solutions Software Kit for platform, host adapter, and disks to be ordered separately</p> <p>Options: Second HSZ70 controller and cache battery; 64 MB cache upgrade; Up to two RA7000 Expansion cabinets. Optional power supplies.</p> |

UltraSCSI RAID Array Controller

| | |
|--------------------|--|
| DS-HSZ70-AH | StorageWorks UltraSCSI RAID Array controller includes 64 MB cache, 6 UltraSCSI single-ended channels, CLI cable kit, controller to controller jumper cable, and two ECB cables. Requires HSZ70 Solutions Software Kit and external cache battery (QB-5SBAB-SA/SB for Tru64 UNIX, QB-5SBAC-SA/SB for OpenVMS, QB-5SBAD-SA/SB for Windows NT). |
|--------------------|--|

Cache Upgrade

Select cache upgrade for HSZ70 controllers. Redundant controllers require equal amounts of cache

| | |
|--------------------|-------------------------------|
| DS-HSSIM-AB | 64 MB Cache Upgrade for HSZ70 |
|--------------------|-------------------------------|

Adapters and Platform Specific Solutions Software

- Each KZPSA and/or KZPBA adapter ordered to support HSZ70(s) requires an HSZ70 Solutions Software Kit
- HSZ70 Solutions Software Kits must be ordered for each new HSZ70 controller in a configuration.
- HSZ70 Solutions Software Kits with -SA variants included documentation
HSZ70 Solutions Software Kits with -SB variants do not include documentation, select for each additional adapter ordered if documentation is available on-site.

Step 4f—UltraSCSI RAID Array Controllers and UltraSCSI RAID Packaged Solutions (continued)**HSZ70 Solutions Software Kits include:**

- PCMCIA card containing software for storage controller
- StorageWorks Command Console (SWCC) software, and software licenses
- HSZ70 and SWCC supporting documentation

Select Adapter and HSZ70 Solutions Software Kit for appropriate platform

| Supported Adapters | HSZ70 Solutions Software Kit | Host Platform |
|--------------------|------------------------------|------------------|
| KZPSA-CB | QB-5SBAB-SA/SB | Tru64 UNIX V4.0D |
| KZPBA-CB | QB-5SBAC-SA/SB | OpenVMS V7.1-1H1 |
| FR-PCTAZ-FB | QB-5SBAD-SA/SB | Windows NT 4.0 |

Disk Expansion Cabinet

Note: Order Expansion Cable Kit for each Disk Expansion Cabinet selected.

- DS-SWXRA-HB** Disk Expansion Cabinet, includes 24 disk slots, 5 power supplies, redundant cooling, EMU and PVA, power cable
- DS-BNK37-1E** Expansion Cable Kit, required for each Disk Expansion Cabinet DS-SWXRA-HB
- DS-BA35X-HH** 180 Watt Power Supply. Fully redundant power requires three additional power supplies, one additional DS-BA35X-HE power control unit, and one additional DS-SW6XP-AA/AB power distribution unit.
- DS-BA35X-HE** AC Power Control Unit, required when more than five 180 Watt power supplies are installed
- DS-SW6XP-AA/AB** SW600 Power Distribution Unit, quantity of 1 required for each SW600 for full power redundancy.

Additional Options

- DS-HS35X-BC** Single replacement external cache battery, one battery in a single Blue SBB
- DS-HS35X-BD** Dual replacement external cache battery, two batteries in a single Blue SBB, supports cache of dual redundant controllers. Requires ordering 1 Power Verification and Addressing (PVA) DS-BA35X-EC
- DS-BA35X-BA** Battery shelf for SW600 cabinet
- DS-BA35X-MK** Dual speed fan kit
- DS-BA35X-MN** Single-Ended I/O module
- DS-BA35X-EB** Environmental Monitor Unit (EMU)
- DS-BA35X-EC** Power Verification and Addressing (PVA)
- BN37A-xx** Host to controller cable
- BN38E-0B** 68-pin HD to VHDCI UltraSCSI conversion cable
- H9C10-JC** H9A10 Cabinet Joiner Kit for SW600
- H8865-AA** UltraSCSI Single-Ended external terminator
- H8863-AA** UltraSCSI Differential external terminator
- DS-BA370-AA** Rackmountable BA370 shelf includes five 180 W power supplies, eight high power blowers, RETMA and Metric mounting kit, not supported in M-series Cabinet Enclosure.
- DS-SW600-AA/AB** 50 Hz/60 Hz 600 mm Storage Cabinet includes single phase power distribution unit DS-SW6XP-AA

Step 5—Monitors

- EISA Configuration Utility (ECU) is accessible via the console port for Tru64 UNIX and OpenVMS systems. Select graphics adapter, monitor, and country specific keyboard for Tru64 UNIX and OpenVMS systems if required.
- Graphics monitors other than those listed below can be used if compatible with SVGA graphics ordered with a system.
- Higher resolutions are available with optional PCI graphics adapters. See Step 6.

Note: Selection of a video extension cable and a country specific power cord is **mandatory** for all monitor variants. See Step 5a for video extension cable. See Step 5b for country specific power cords.

Step 5—Monitors (*continued*)

| | |
|-----------------------|---|
| 3R-VRQV5-24/11 | 15" (13.8" viewable image size) Corporate Series auto-scan color monitor, flat square Invar CRT, 0.28 mm dot pitch, VGA to 1024 x 768 @ 85 Hz, TCO 95, MPRII, Energy Star, attached 1.8 meter video cable. Requires mandatory selection of video extension cable and country specific power cord for all variants. -24 = Northern Hemisphere without power cord -11 = Southern Hemisphere without power cord |
| SN-VRQP7-24/23 | 17" (16.0" viewable image size) professional series auto-scanning color monitor, Trinitron CRT, 0.25 mm aperture grill pitch, VGA to 1280 x 1024 at 75 Hz, TCO 95, MPR-II, Energy Star, attached 1.8 meter video cable. Requires mandatory selection of video extension cable and country specific power cord for all variants. -24 = Northern Hemisphere without power cord. -23 = Southern Hemisphere without power cord. |
| SN-VRQP1-24/23 | 21" (19.6" viewable image size) auto-scanning color monitor, Trinitron CRT, 0.25 mm aperture grill pitch, VGA to 1600 x 1200 at 75 Hz NI, TCO 95, Energy Star, includes a 1.8 meter video cable. Requires mandatory selection of video extension cable and country specific power cord for all variants. -24 = Northern Hemisphere without power cord. -23 = Southern Hemisphere without power cord. |

Step 5a—Video Extension Cable

| | |
|-----------------|--|
| BN39C-02 | 1.8 meter video extension cable—mandatory for each monitor ordered |
|-----------------|--|

Step 5b—Monitor Power Cords

| | |
|-----------------|--|
| BN26J-1K | North American, Japan, 120 V, 75-inches long |
| BN19H-2E | Australia, New Zealand, 2.5m long |
| BN19C-2E | Central Europe, 2.5 m long |
| BN19A-2E | UK, Ireland, 2.5 m long |
| BN19E-2E | Switzerland, 2.5 m long |
| BN19K-2E | Denmark, 2.5 m long |
| BN19M-2E | Italy, 2.5 m long |
| BN19S-2E | Egypt, India, South Africa, 2.5 m long |
| BN18L-2E | Israel, 2.5 m long |

Step 6—Graphics Adapters

- Raid Configuration Utility is accessible via the console port for Tru64 UNIX and OpenVMS systems. Optional graphics capability is available.
- Select graphics adapter, monitor, and country specific keyboard for Tru64 UNIX and OpenVMS systems if required.
- Selection of a graphics adapter is **mandatory** for Windows NT, select monitor and country specific keyboard if required.
- Graphics adapter must be installed in PCI slot 0, maximum one per system.

| | |
|--------------------|--|
| SN-PBXGK-BB | ELSA GLoria Synergy 8MB 2D/3D graphics accelerator 16 bits double buffered with 16-bit Z-buffer up to 1600 x 1200 @ 85Hz |
| SN-PBXGI-AD | PowerStorm 4D51T 3D graphics, 16 MB texture memory, 1280 x 1024, high performance 3D shading, texture mapping, supported on Tru64 UNIX only . |

Step 7—Networks and Communications

| Order Number | Description | Maximum # Supported | | |
|-----------------------|---|---------------------|------------|------------------|
| | | Tru64 UNIX | Windows NT | OpenVMS V7.1-1H1 |
| DE500-FA | PCI-based 10/100 Mbit Ethernet adapter MMF | 4 | 4 | 4 |
| DEGPA-SA ¹ | PCI to Gigabit Adaptor SC connectors, MMF | 2 | 2 | 2 |
| BN34B-xx | SC-SC Dual FO cable, mm, pp. Xx = length in meters | | | |
| DE500-BA | PCI-based 10/100 Mbit Fast Ethernet controller (Twisted Pair) | 4 | 4 | 4 |
| DE504-BA | PCI-based 10/100 Mbit 4 Port Fast Ethernet controller (Twisted Pair) | 1 | 1 | 1 |
| BN25G-xx | Cable for 10BaseT Twisted Pair connection | | | |
| BN24Q-xx | Unshielded Twisted Pair (UTP) 100BaseT Fast Ethernet and/ or 10BaseT Crossover Cable | | | |
| BN28Q-03 | Shielded Twisted Pair (ScTP) 100BaseT Fast Ethernet and/or 10BaseT Crossover Cable (3 meter length) | | | |
| BN26M-xx | Cable Assembly, Shielded , 3 Meters, Pin to Pin | | | |
| DE450-CA | PCI-based 10 Mbit Ethernet controller; AUI, 10BaseT, or 10Base2 | 4 | 4 | 4 |
| BNE4C-02 | 2 m cable for AUI connection, Ethernet/IEEE 802.3 devices | | | |
| BNE4C-05 | 5 m cable for AUI connection | | | |
| BN25G-xx | Cable for 10BaseT Twisted Pair connection | | | |
| BC16M-xx | Cable for 10Base2 ThinWire connection | | | |
| DEFPA-AB | PCI-based FDDI Adapter, single attachment station (SAS), multi-mode fiber (MMF), SC connector | 4 | 4 | 4 |
| DEFPA-DB | PCI-based FDDI Adapter, DAS, MMF, SC connector | 4 | 4 | 4 |
| BN34D-xx | MIC-SC dual fiber optic cable | | | |
| BN34B-xx | SC to SC dual fiber optic cable | | | |
| DEFPA-UB | PCI-based FDDI Adapter, SAS, TP-PMD, requires BN25H-03 | 4 | 4 | 4 |
| DEFPA-MB | PCI-based FDDI Dual Adapter, DAS, TP-PMD, requires BN25H-03 | 4 | 4 | 4 |
| BN25H-03 | 3 m (9.8 ft.) FDDI crossover cable | | | |
| DGLPA-FA | ATMworks 351 ATM PCI bus adapter, MMF, Tru64 UNIX | 2 | — | 1 ² |
| DGLPA-UA | ATMworks 351 ATM PCI bus adapter, UTP, Tru64 UNIX | 2 | — | 1 ² |
| PBXDA-AA | PCI-based 4 port Asynchronous controller, cable included | — | 2 | — |
| PBXDA-AB | PCI-based 8 port Asynchronous controller, cable included | — | 2 | — |
| PBXDA-AC | PCI-based 16 port Asynchronous controller, cable included | — | 2 | — |
| PBXDP-AA | PCI-based 2 Port Synchronous Communications Controller | 2 | — | 2 |
| PBXDP-AB | PCI-based 4 Port Synchronous Communications Controller | 2 | — | 2 |
| PBXDP-AC | PCI-based 8 Port Synchronous Communications Controller | 2 | — | 2 |
| SN-PBXNP-AC | PCI-based Token Ring Adapter, OpenVMS, Tru64 UNIX | 4 | 4 | 4 |

1. DEGPA-SA does not support network boot.

2. . A maximum of one DGLPA is allowed per PCI bus segment. No other devices are allowed on the bus

Step 8—Printers and Remote Console

Systems include two EIA-232 asynchronous serial ports with 9-pin D-subminiature connectors. Select serial printers as required. A 9-pin to MMJ adapter (H8571-J) is required for each connection. A cable must be ordered unless otherwise provided.

Step 9—MEMORY CHANNEL Controller

Tru64 UNIX Systems

- Require Tru64 UNIX V4.0B and System Console Firmware Revision 2.0.
- Each system node in a MEMORY CHANNEL cluster requires a software license.
- Servers in a compute-server array require a Tru64 UNIX Driver for MEMORY CHANNEL License.
- Servers in a TruCluster high-availability environment require a license for TruCluster for Tru64 UNIX.

OpenVMS Systems

Require OpenVMS V7.1-1H1 and OpenVMS Cluster license. 1. A patch kit is required for OpenVMS Alpha V7.1-1H1 and V7.1-1H2. It is located at http://ftp.service.digital.com/public/vms/axp/v7.1/alpmc01_071.a-dcx_axpexe. Before installing the patch kit, please read the readme file first and follow the instructions. The readme file can be found at http://ftp.service.digital.com/public/vms/axp/v7.1/alpmc01_071.README.

Configuring information

- Two PCI to MEMORY CHANNEL Controllers (CCMAA-BA) supported for redundancy/failover.
- For two-system nodes, order one CCMAA-BA per system and one BC12N-10 cable to directly connect adapters.
- For three or four system nodes order one CCMHA-AA (MEMORY CHANNEL Hub), and one CCMAA-BA and one BC12N-10 cable per system node.
- CCMHA-AA (MEMORY CHANNEL Hub) is configured with four CCMLA-AA Line Cards and supports up to four nodes. Expansion up to eight system nodes can be achieved by adding up to four additional CCMLA-AA Line Cards.
- Maximum two CCMAA-BA supported per system.
- If there are two adapters in the system, each adapter must be connected to the same physical hubs, **or**, in two-node hubless connections, redundant adapters in the two systems must be directly connected to each other.

| Nodes | MEMORY CHANNELs | MEMORY CHANNEL Hubs | Line Cards |
|-------|-----------------|---------------------|--------------|
| 2 | 2 CCMAA-BA | | |
| 3-4 | 3-4 CCMAA-BA | 1 CCMHA-AA | |
| 5-8 | 5-8 CCMAA-BA | 1 CCMHA-AA | 1-4 CCMLA-AA |

| | |
|--------------------|---|
| CCMAA-BA | PCI to MEMORY CHANNEL Controller—Single port MEMORY CHANNEL option |
| CCMHA-AA | 100 MB MEMORY CHANNEL Hub with 4 Line Cards |
| CCMLA-AA | MEMORY CHANNEL Line Card for use with MEMORY CHANNEL Hub (CCMHA-AA) |
| CCMRA-AA | Rackmount kit for mounting MEMORY CHANNEL hub |
| BC12N-10 | MEMORY CHANNEL cable |
| QB-3RLAE-AA | TruCluster Software for Tru64 UNIX |
| QB-4ZCAE-AA | Tru64 UNIX Driver for MEMORY CHANNEL license |
| QL-MUZAE-AA | OpenVMS Cluster license for Alpha systems |

Note: For stand alone configurations, CCMHA-AA MEMORY CHANNEL Hub, includes BN19P-1K power cord for Canada, Japan, and US operation.

Step 10—Keyboards and Power Cords

Systems ordered in North America include U.S. English keyboard. Selection of country specific keyboard is mandatory for all non-North American orders. All keyboards are opal grey.

| Tru64 UNIX Keyboard | WNT Keyboard | OpenVMS Keyboard | Country |
|----------------------------|---------------------|-------------------------|------------------|
| SN-LKQ47-AA | SN-LKQ97-AA | LK461-A2 | US/English |
| SN-LKQ47-AB | SN-LKQ97-AB | LK461-AB | Belgian |
| SN-LKQ47-AC | SN-LKQ97-AC | LK461-AC | Canadian/French |
| SN-LKQ47-AD | SN-LKQ97-AD | LK461-AD | Danish |
| SN-LKQ47-AE | SN-LKQ97-AE | | UK |
| SN-LKQ47-AF | SN-LKQ97-AF | LK461-AF | Finnish |
| SN-LKQ47-AG | SN-LKQ97-AG | LK461-AG | German |
| SN-LKQ47-AH | SN-LKQ97-AH | LK461-AH | Dutch |
| SN-LKQ47-AI | SN-LKQ97-AI | LK461-AI | Italian |
| | SN-LKQ97-AJ | | Japanese |
| SN-LKQ47-AK | SN-LKQ97-AK | LK461-AK | Swiss/French |
| | | LK461-AL | Swiss/German |
| SN-LKQ47-AM | SN-LKQ97-AM | LK461-AM | Swedish |
| SN-LKQ47-AN | SN-LKQ97-AN | LK461-AN | Norwegian |
| SN-LKQ47-AP | SN-LKQ97-AP | LK461-AP | French |
| | | LK461-AQ | Canadian/English |
| SN-LKQ47-AR | SN-LKQ97-AR | | Latin American |
| SN-LKQ47-AS | SN-LKQ97-AS | LK461-AS | Spanish |
| SN-LKQ47-AT | SN-LKQ97-AT | LK461-AT | Hebrew |
| SN-LKQ47-AV | SN-LKQ97-AV | LK461-AV | Portuguese |
| SN-LKQ47-AX | SN-LKQ97-AX | | Bhcsy |
| SN-LKQ47-BA | SN-LKQ97-BA | | International |
| SN-LKQ47-BH | SN-LKQ97-BH | LK461-BH | Greek |
| SN-LKQ47-BI | SN-LKQ97-BI | | Taiwanese |
| SN-LKQ47-BK | SN-LKQ97-BK | | Korean |
| | | LK461-BL | Romanian |
| SN-LKQ47-BP | SN-LKQ97-BP | LK461-BP | Polish |
| SN-LKQ47-BQ | SN-LKQ97-BQ | LK461-BQ | Hungarian |
| SN-LKQ47-BR | SN-LKQ97-BR | | Arabic |
| SN-LKQ47-BT | SN-LKQ97-BT | LK461-BT | Cyrillic |
| SN-LKQ47-BU | SN-LKQ97-BU | LK461-BU | Turkish |
| SN-LKQ47-BV | SN-LKQ97-BV | LK461-BV | Czech |
| | | LK461-BW | Turkish-French |
| | | LK461-BY | Yugoslavian |
| SN-LKQ47-CB | SN-LKQ97-CB | | Thai |
| SN-LKQ47-CV | SN-LKQ97-CV | | S. Chinese |
| SN-LKQ47-CZ | SN-LKQ97-CZ | LK461-CZ | Slovak |

Step 10—Keyboards and Power Cords (*continued*)

Pedestal Power Cords

Systems ordered in North America include **two** BN26J-1K 120 V North American power cords. Selection of **two** country specific power cords is mandatory for all non-North American orders.

| | |
|-----------------|--|
| BN26J-1K | North American, Japan, 120 V, 75 inches long |
| BN19H-2E | Australia, New Zealand, 2.5m long |
| BN19C-2E | Central Europe, 2.5 m long |
| BN19A-2E | UK, Ireland, 2.5 m long |
| BN19E-2E | Switzerland, 2.5 m long |
| BN19K-2E | Denmark, 2.5 m long |
| BN19M-2E | Italy, 2.5 m long |
| BN19S-2E | Egypt, India, South Africa, 2.5 m long |
| BN18L-2E | Israel, 2.5 m long |

Rackmount Power Cords

Each system installed in a cabinet requires a rackmount kit, and **two** power cords.

| | |
|--------------------|--|
| 2T-00083-51 | 4.5 m rackmount power cord for North America |
| 2T-04522-02 | 4.5 m rackmount power cord for non-North America |

Step 11—Software

Tru64 UNIX

Software Processor Code = E

- Tru64 UNIX Packaged systems include Traditional Unlimited User license.
- Tru64 UNIX Packaged systems **require** operating system media and documentation for **first** system on site.

Tru64 UNIX Media and Documentation—required for first system on site

| | |
|--------------------|---|
| QA-MT4AA-H8 | Tru64 UNIX media and online documentation on CD-ROM |
| QA-MT4AA-GZ | Tru64 UNIX full hard copy documentation |

Tru64 UNIX Layered Products CD-ROM

| | |
|--------------------|---|
| QA-054AA-H8 | Layered products media and documentation for Tru64 UNIX on CD-ROM |
|--------------------|---|

DECnet for Tru64 UNIX

| | |
|--------------------|---|
| QL-MTJAE-AA | DECnet/OSI end-system license for Tru64 UNIX |
| QL-MTKAE-AA | DECnet/OSI extended function license for Tru64 UNIX |

DECsafe ASE license

| | |
|--------------------|---|
| QB-05SAE-AA | DECsafe Available Server license and documentation for Tru64 UNIX Alpha systems—media available on layered product CD-ROM |
| QL-05SAE-AA | DECsafe Available Server license for Tru64 UNIX Alpha systems |

OpenVMS

Software Processor Code = E

OpenVMS Concurrent Use Licenses are **not** specific to a single system and can be moved between systems at user discretion. OpenVMS Concurrent Use Licenses can also be shared in a mixed OpenVMS VAX and OpenVMS Alpha Cluster.

Step 11—Software (*continued*)

OpenVMS Concurrent Use Licenses

| | |
|-------------|--|
| QL-MT3AA-3B | OpenVMS Concurrent Use 1-user license |
| QL-MT3AA-3C | OpenVMS Concurrent Use 2-user license |
| QL-MT3AA-3D | OpenVMS Concurrent Use 4-user license |
| QL-MT3AA-3E | OpenVMS Concurrent Use 8-user license |
| QL-MT3AA-3F | OpenVMS Concurrent Use 16-user license |
| QL-MT3AA-3G | OpenVMS Concurrent Use 32-user license |
| QL-MT3AA-3H | OpenVMS Concurrent Use 64-user license |
| QL-MT3AA-3J | OpenVMS Concurrent Use 128-user license |
| QL-MT3AA-3K | OpenVMS Concurrent Use 256-user license |
| QL-MT2AE-AA | OpenVMS Traditional unlimited user license |

OpenVMS Media and Documentation

| | |
|-------------|---|
| QA-MT1AA-H8 | OpenVMS media and online documentation CD-ROM |
| QA-001AA-GZ | OpenVMS hard copy documentation |

OpenVMS Layered Products CD-ROM

| | |
|--------------|--|
| QA-03XAA-H8* | Layered products media and documentation for OpenVMS on CD-ROM |
|--------------|--|

* Includes Enterprise Integration Server for OpenVMS media and documentation

DECnet for OpenVMS

| | |
|-------------|--|
| QL-MTGAE-AA | DECnet extended function license for OpenVMS |
| QL-MTHAE-AA | DECnet end-system to extended function upgrade license for OpenVMS |

DSSI Information

| | |
|-------------|---------------------------------------|
| EK-410AB-MG | DSSI VMScluster Installation Guide |
| EK-D4AXP-TS | DSSI VMScluster Troubleshooting Guide |

OpenVMS Cluster

| | |
|-------------|---|
| QL-MUZAE-AA | OpenVMS Cluster license for Alpha systems |
|-------------|---|

OpenVMS Volume Shadowing

| | |
|-------------|----------------------------------|
| QL-2A1AE-AA | OpenVMS Volume Shadowing license |
|-------------|----------------------------------|

Windows NT

- . Selection of language specific Windows NT Server license, media kit is **mandatory**
- . Windows NT Server kits are orderable with packaged systems **only**.

Windows NT Server plus 10-client access license, media (CD-ROM) kits

| | |
|-------------|---|
| QB-23CAA-SE | Windows NT Server license, media kit North American English |
| QB-23C8A-SE | Windows NT Server license, media kit International English |
| QB-23CPA-SE | Windows NT Server license, media kit French |
| QB-23CGA-SE | Windows NT Server license, media kit German |

Step 11—Software (*continued*)
Windows NT Server plus 10-client access license, media (CD-ROM) kits

| | |
|-------------|---|
| QB-23CSA-SE | Windows NT Server license, media kit Spanish |
| QB-23CUA-SE | Windows NT Server license, media kit Italian |
| QB-23CJA-SE | Windows NT Server license, media kit Japanese |
| QB-23C5A-SE | Windows NT Server license, media kit Thai |
| QB-23CMA-SE | Windows NT Server license, media kit Swedish |
| QB-23CTA-SE | Windows NT Server license, media kit Hebrew |
| QB-23CQA-SE | Windows NT Server license, media kit Arabic |
| QB-23CHA-SE | Windows NT Server license, media kit Dutch |
| QB-23CXA-SE | Windows NT Server license, media kit Brazilian/Portuguese |
| QB-23C4A-SE | Windows NT Server license, media kit Korean |
| QB-23C3A-SE | Windows NT Server license, media kit Taiwanese |
| QB-23C2A-SE | Windows NT Server license, media kit PRC Chinese |

Step 12—Hardware and Software Supplemental Support Services
Hardware—Americas and Asia Pacific only

- Systems include three-year hardware warranty, on-site with 5 x 9, 24-hour response time.
- Options ordered as part of the initial system sale take on the Warranty of the enclosure.
- Options added after the initial system sale take on the Warranty of the enclosure until the enclosure warranty ends.
- All unique AlphaServer 1200 options have a minimum of One Year Return to Compaq Warranty.
- Select optional Hardware Supplemental Support Services if required.

Supplemental Service for System with 1 GB of memory or less

| | |
|-------------|---------------------------------------|
| FM-TC4HR-36 | 5 x 9, 4-hour response time |
| FM-TC512-36 | 5 x 12, 4-hour response time |
| FM-TC616-36 | 6 x 16, 4-hour response time |
| FM-TC724-36 | 7 x 24, 4-hour response time |
| FM-TCXHW-60 | Years 1-5, next day, Onsite |
| FM-TC4HR-60 | Years 1-5, 5x9, 4-hour response time |
| FM-TC512-60 | Years 1-5, 5x12, 4-hour response time |
| FM-TC616-60 | Years 1-5, 6x16, 4-hour response time |
| FM-TC724-60 | Years 1-5, 7x24, 4-hour response time |

Step 12—Hardware and Software Supplemental Support Services, (Continued)
Supplemental Service for System with more than 1GB of memory

| | |
|--------------------|---------------------------------------|
| FM-TF4HR-36 | 5 x 9, 4-hour response time |
| FM-TF512-36 | 5 x 12, 4-hour response time |
| FM-TF616-36 | 6 x 16, 4-hour response time |
| FM-TF724-36 | 7 x 24, 4-hour response time |
| FM-TFXHW-60 | Years 1-5, next day, Onsite |
| FM-TF4HR-60 | Years 1-5, 5x9, 4-hour response time |
| FM-TF512-60 | Years 1-5, 5x12, 4-hour response time |
| FM-TF616-60 | Years 1-5, 6x16, 4-hour response time |
| FM-TF724-60 | Years 1-5, 7x24, 4-hour response time |

Installation Services

| | |
|--------------------|--|
| FM-TC12X-IN | Hardware product installation for AlphaServer 1200 |
| FM-TCMEM-IN | Add-on memory installation for AlphaServer 1200 |
| FM-TCSMP-IN | Add-on CPU installation for AlphaServer 1200 |

Software—Americas and Asia Pacific only

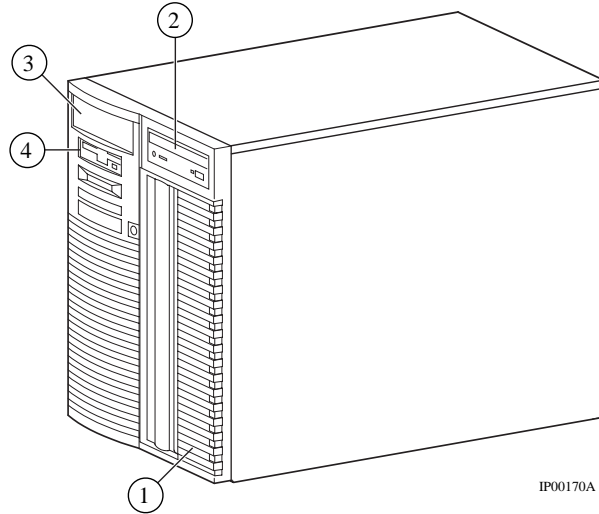
- Tru64 UNIX and OpenVMS Systems include 90-day Conformance to SPD and Telephone Advisory Support. Select optional Software Supplemental Support Services, if required.
- Software service upgrades for Tru64 UNIX includes advisory and remedial software support with new version license rights for operating system for time period indicated.
- Software service upgrades for OpenVMS include advisory and remedial software support with new version license rights for operating system and Enterprise Integration Package for time period indicated.
- Software service upgrades for SMP Upgrades running Tru64 UNIX or OpenVMS include new version license rights for Tru64 UNIX or OpenVMS SMP Upgrades for the time period indicated. (One required for **each** SMP Upgrade).
- DSoftware service upgrades for Windows NT include advisory and remedial software support for the time period indicated.

| | |
|--------------------|---|
| FM-10UNS-12 | 12-month Software Supplemental Support for Tru64 UNIX AlphaServer 1200 systems |
| FM-10UNS-36 | 36-month Software Supplemental Support for Tru64 UNIX AlphaServer 1200 systems |
| FM-10UNS-60 | 60-month Software Supplemental Support for Tru64 UNIX AlphaServer 1200 systems |
| FM-10VMS-12 | 12-month Software Supplemental Support for OpenVMS AlphaServer 1200 systems |
| FM-10VMS-36 | 36-month Software Supplemental Support for OpenVMS AlphaServer 1200 systems |
| FM-10VMS-60 | 60-month Software Supplemental Support for OpenVMS AlphaServer 1200 systems |
| FM-12SMP-12 | 12-month Software Supplemental Support for OpenVMS or Tru64 UNIX AlphaServer 1200 SMP Upgrade |
| FM-12SMP-36 | 36-month Software Supplemental Support for OpenVMS or Tru64 UNIX AlphaServer 1200 SMP Upgrade |
| FM-12SMP-60 | 60-month Software Supplemental Support for OpenVMS or Tru64 UNIX AlphaServer 1200 SMP Upgrade |
| FM-WNT03-12 | 12-month Software Supplemental Support for Windows NT AlphaServer 1200 systems |
| FM-WNT03-36 | 36-month Software Supplemental Support for Windows NT AlphaServer 1200 systems |
| FM-WNT03-60 | 60-month Software Supplemental Support for Windows NT AlphaServer 1200 systems |

Step 12a—Hardware and Software Supplemental Support Services (Europe only)

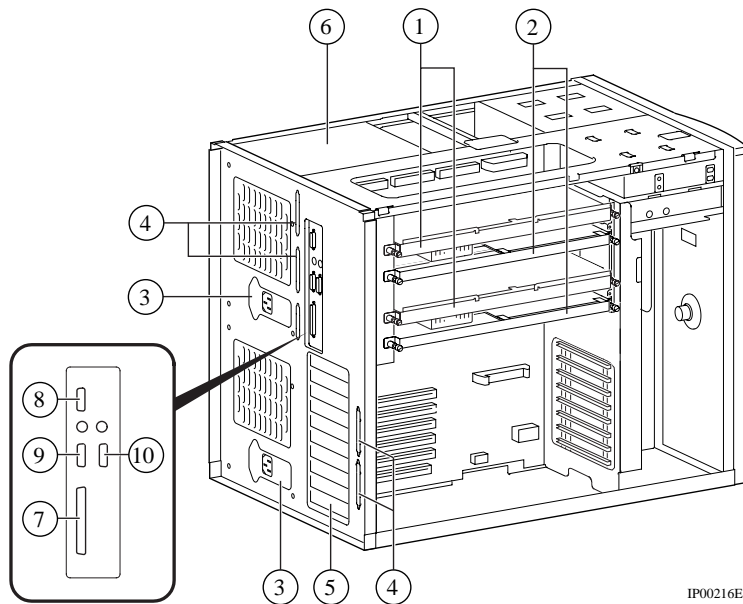
Europe does **not** have specific part numbers for Hardware and Software Supplemental Support Services. Prices are quoted based on worldwide service reference pricing, contact MCS Sales in your country for information on Hardware and Software Supplemental Support Services.

AlphaServer 1200 System Diagram Front View



- | | |
|--|-----------------------------------|
| 1. StorageWorks Shelf for hard disk drives | 3. Optional Removable media drive |
| 2. CD-ROM drive | 4. Floppy diskette drive |

AlphaServer 1200 System Diagram Side and Back View



- | | |
|----------------------------|-------------------|
| 1. CPU modules | 6. Power supply |
| 2. Memory riser modules | 7. Parallel port |
| 3. Power inlet | 8. RCM modem port |
| 4. SCSI ports | 9. COM2 port |
| 5. PCI/EISA bulkhead ports | 10. COM1 port |

AlphaServer 1200 Pedestal–Rackmount

AlphaServer 1200 Pedestal System Specifications

| Shipping Dimension | | |
|--|---|---|
| Height | 60 cm (23.8 in.) | |
| Width | 43 cm (16.9 in.) | |
| Depth | 65 cm (25.6 in.) | |
| Weight | 43 kg (95 lb) typical 71 kg (156 lb) maximum | |
| Installed Dimensions | | |
| Height | 46 cm (18.1 in.) | |
| Width | 35.8 cm (14.1 in.) | |
| Depth | 58.6 cm (23.1 in.) | |
| Weight | 39 kg (86 lb) typical 51 kg (113 lb) maximum | |
| Clearances | Operating | Service |
| Front | 75 cm (29.5 in.) | 75 cm (29.5 in.) |
| Rear | 15 cm (6 in.) | 75 cm (29.5 in.) |
| Sides | None | 75 cm (29.5 in.) |
| Environmental | | |
| Temperature | Operating* | 10–40° C (50–104° F) |
| | Rate of change | 11° C/hr (20° F/hr) |
| | Nonoperating | -40–66° C (-40–151° F) |
| | Storage (60 days) | -40–66° C (-40–151° F) |
| | Rate of change | 20° C/hr (36F/hr) |
| Relative humidity | Operating | 10–90% |
| | Nonoperating | 10–95% |
| | Storage (60 days) | 10–95% |
| | Rate of change | 20%/hr |
| Maximum wet bulb temperature | Operating | 28° C (82° F) |
| | Storage (60 days) | 46° C (115° F) |
| Minimum dew point temperature | Operating | 2° C (36° F) |
| | Storage (60 days) | Not tested |
| Maximum heat dissipation | Current | |
| Dual supply | 4097 Btu/hr | |
| Air flow and quality | Intake location | Front |
| | Exhaust location | Rear |
| | Particle size | N/A |
| | Concentration | N/A |
| Altitude | Operating† | 3048 m (10,000 ft) |
| | Nonoperating | 12192 m (40,000 ft) |
| Mechanical shock | Operating | 10 G 10 ms |
| | Nonoperating | 20 G peak 30 ms |
| Vibration | Operating | 10-500 Hz .1 G peak |
| | Nonoperating | 1.03Grms 5-300Hz |
| Acoustics | Average Declared | |
| | Operating | 5.7 L ^{WA} , B 38 L ^{PA} _m , dba |
| | Idle | 5.6 L ^{WA} , B 37 L ^{PA} _m , dba |
| Electrical—Power Supplies are universal 120/240 Vac | | |
| Nominal ac voltage | 100-120 Vac | 220-240 Vac |
| Operating Voltage range | 90-128 Vac | 180-256 Vac |
| Power source phase | Single | Single |
| Nominal frequency | 60 Hz | 50 Hz |
| Frequency range | 59-61 Hz | 49-51 Hz |
| Maximum inrush current | 50 Amps | 50 Amps |
| RMS current at nominal voltage (steady state) | | |
| Dual power supply | 4.6 Amps each supply | 2.2 Amps each supply |
| Power cord | Type | IEC 320 C13 |
| | Length | 190 cm (75 in.) |
| | U.S. plug | NEMA 5-15 |

* Maximum operating temperature at Sea Level. Reduce by 1 C (1.8 F) for each 600 m (2000 ft) above Sea Level.

† Higher altitudes are possible if maximum operating temperature is reduced (see Temperature, above); other restrictions may apply, such as maximum permissible altitude for hard drives.

AlphaServer 1200 Pedestal System Specifications (*continued*)

| Regulatory | |
|-------------------|---|
| Agency approvals | UL: Listed to UL1950 (2nd edition) CSA: Certified to CAN/CSA-C22.2 No. 950-M89 TUV: EN 60950 VDE 0805 GS marked ZH1/618 FCC: 15J Part 15 Class A CE: EN55022, EN50082 VCCI Class II ITE BCIQ: CISPR22, CNS13438 C-Tick: CISPR22, AS/NZS 3548 |
| Reviewed to | AS/NZ 3260:1993 Australian/ New Zealand Standard EN 60950/A2: 1993 European Norm IEC 950 (2 nd edition) |

Uninterruptable Power Supplies

Exide online UPS Systems include exclusive 3 year warranty. For complete protection, UPS systems should be used with monitoring software data line surge protectors. Surge protectors carry a full 5 year warranty.

Data Line Surge Protection

| 2 Wire Modem | 10BaseT | Rackmount Din Rail ¹ | Din rail Modules |
|--------------------------|--------------------------|---------------------------------|------------------|
| 4N-GA249-AB ² | 4N-GA249-CA ² | 4N-GA245-xx | 4N-GA245-xx |

1. Mounting strip-32 modules
2. Wall plug in type. Additional plug-in modules available (4N-GA240-xx)

Recommended UPS Models For Pedestal Systems

| Order Number | Voltage | Model | VA/Watts Output | Run Time | Receptacle | Battery Extension |
|--------------|------------|------------------------|-----------------|----------|------------|-------------------|
| 4N-AEABF-AA | 120V | Exide Prestige 1250EXT | 1250/900 | 9 min | (4) 5-15 | Yes |
| 4N-AEABF-BF | 240V 50 Hz | Exide Prestige 1250EXT | 1250/900 | 9 min | (3) IEC | Yes |

Recommended UPS Models For Multiple Systems (up to three)

| | | | | | | |
|-------------|-------------------|---------------|-----------|-------|----------------------------|-----|
| 4N-AEAAH-AM | 208-120V 60 Hz | Prestige 3000 | 3000/2100 | 7 min | (1) L5-30 (4) 5-15 | Yes |
| 4N-AEAAH-AS | 240V 50 Hz | Prestige 3000 | 3000/2100 | 7 min | (1) IEC320 10A; (1) 16A | Yes |

Recommended UPS Models For Cabinet Systems

| Order Number | Out of Cabinet | Model | Output | Volts In/out | Input Plug | Run Time | Receptacle | Battery Extension |
|--------------|----------------|---------------|--------------|-------------------|------------|----------|-----------------------|-------------------|
| 4N-AEAAJ-CM | 60 Hz | Prestige 6000 | 6kVA/ 4kW | 208 in 120 out | L6-30 | 7 min | (2) L5-30 (8) 5-15 | Yes |
| 4N-AEAAJ-CU | 50 Hz | Prestige 6000 | 6kVA/ 4kW | 200 in 240 out | Hardwire | 7 min | Hardwire | Yes |

Notes: Runtimes shown are at full rated output. Factory installed cabinet mounted UPS options are available from Compaq CustomSystems. Larger UPS systems available to support multiple cabinets.

Warranty Upgrade options (US only)

| | |
|----------------|---|
| 4N-AEWAR-G1 | Exide Prestige 1250EXT 5 year onsite exchange |
| 4N-AEWAR-G3/G4 | Exide Prestige 6000, 5 year onsite exchange; G4 provides onsite remedial and start up service |

Uninterruptable Power Supplies (*continued*)

Extended Run Battery Pack options—Prestige 3000 and 6000 systems include one and two batteries respectively

| 120V Application | 240V Application | UPS Model | Approx time per pack (full output) | Maximum additional packs |
|------------------|------------------|------------------|------------------------------------|--------------------------|
| 4N-AEABF-BB | 4N-AEABF-BD | Prestige 1250EXT | 30 min | 4 |
| 4N-AEAAH-AB | 4N-AEAAH-AB | Prestige 3000 | 6 min | 2 |
| 4N-AEAAJ-CC | 4N-AEAAJ-CC | Prestige 6000 | 6 min | 4 |

UPS Software and Network Options for Exide

- Software for Prestige is included in ServerWORKS kits shipping with AlphaServers.
- Order Cable kit or Network adapter part shown (1 per UPS)
- Multiple systems shutdown on OpenVMS requires 4N-JMIU4-AB (4 port expander)

| Operating System | UPS Software and Network Options | Network Adapter 10BaseT ¹ | Network Adapter ThinWire ¹ |
|------------------|----------------------------------|--------------------------------------|---------------------------------------|
| Tru64 UNIX | 4N-ONLIN-PG | 4N-AEAE0-DA (60Hz) | 4N-AEAE0-DC (60Hz) |
| Windows NT | 4N-ONLIN-PG | 4N-AEAE0-DB (50Hz) | 4N-AEAE0-DD (50Hz) |
| OpenVMS | 4N-ONLIS-PG | | |

1. Although SNMP agents are built into the software, the above Network adapters can be used for a direct connection between UPS and network.

Additional UPS Hardware Options

| | UPS Hot Swap-Out | Mobile Stacker ¹ | 6U Rack Kit |
|------------------|--|-----------------------------|--------------------------|
| Prestige 1250EXT | 4N-AEAE0-PA (120V) 4N-AEAE0-PB (240V) | N/A | 4N-AEAE0-RC ² |
| Prestige 3000 | Included | 4N-AEACH-HA | 4N-AEAE0-RC |
| Prestige 6000 | Included | 4N-AEACH-HD | N/A |

1. Mobile stacker is for a standard unit, an additional battery requires an additional stacker unit.
2. Supports one Prestige 1250EXT UPS module and up to two extender battery cabs

For additional information on power protection applications and configurations see Environmental Products section of the online Systems and Options Catalog or the Environmental Products Home Page.