



AlphaServer 2100A Rackmount and Cabinet

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DIGITAL Systems and Options Catalog

Product Description

AlphaServer 2100A 4/275, 5/250, and 5/300 Rackmount Systems are rackmountable versions of the respective AlphaServer 2100A systems having the same features and functionality but with minimal internal storage capacity: most data is stored in StorageWorks modular shelves. The AlphaServer 2100A family is configured with eight PCI slots and three EISA slots.

The AlphaServer 2100A Rackmount system unit is designed to be installed in a 30-inch deep cabinet equipment with standard EIA or METRIC rails using only 14-inches of vertical space. It is an ideal system building block.

AlphaServer 2100A, 4/275, 5/250, and 5/300 Cabinet Systems include AlphaServer 2100A Rackmount system and two StorageWorks Shelves configured into industry standard H9A10 cabinets.

AlphaServer 2100A Rackmount and Cabinet systems are designed for those installations where floor space is at a premium, where large disk storage arrays and/or other expansion is required, or when high availability systems are required.

Advanced server management features are provided with all AlphaServer 2100A shipments via the bundled ServerWORKS Manager kit. The kit provides remote management capability through Simple Network Management Protocol agents (SNMP) for Windows NT, DIGITAL UNIX, and OpenVMS. The management console software runs on any Windows NT or Windows 95 PC. The SNMP agents required to manage the server ship with the TCP/IP services of the operating system (with the exception of Windows NT which ships with the ServerWORKS kit). The SNMP agents collect critical server information including system status, I/O information, storage and disk information and network status information. Thresholds can be set to monitor key server events and alarms are forwarded to the ServerWORKS console. ServerWORKS Manager V2.0 includes remote pager support for alarm notification. In addition to ServerWORKS, DIGITAL includes key third party software applications including DIGITAL Power Management Software for Alpha provided by EXIDE, and application / database management software through BMC software's PATROL family of products. Points to consider when selecting a Packaged Cabinet System:

- Rackmount unit installed in cabinet systems supports two removable media devices and two hard disk drives. Rackmount unit includes one quad-speed CD-ROM drive and one 7200 RPM 2 GB hard disk drive. Additional disk, controllers, and cables **must** be ordered separately.
- Power cords are included for AlphaServer Rackmount unit and other rackmountable options on same purchase order as AlphaServer Cabinet.
- Each Rackmount BA36R-AF/AR 16-bit wide SCSI StorageWorks shelf requires seven inches of vertical space; an -AF front mounted and -AR rear mounted shelf can be placed back to back in the same seven-inch space.
- Power controller as well as voltage and total current requirements.

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Step 1—Systems

- .. AlphaServer 2100A Cabinet systems ship with two each of the following power cords (power controller to cabinet).
 - 120 VAC systems: NEMA Locking, 4.57 m (15 feet), NEMA L5-30P, Socket NEMA L5-30R
 - 240V VAC systems: IEC 309, 4.5 m (15 feet), pin and sleeve plug
- .. AlphaServer 2100A Rackmount systems include 120V or 240V Cabinet system compatible power cords. Select country-specific power cord for other 240V use.
- .. All systems include keyboard. Select country-specific keyboard for 240 V use. Selected keyboard ships in lieu of U.S. variants.
- .. All systems ship with extender cables for use with mouse and keyboard.
- .. AlphaServer 2100A Rackmount unit and rackmountable options ordered on same purchase order as AlphaServer 2100A Cabinet system ship with correct power cords for that configuration.
- .. Options ordered will be factory installed unless specified as **spares**.
- .. Uninterruptable Power Supplies are available; see UPS information following Specifications, or call for specific Rackmount configuration support.

AlphaServer 2100A Cabinet Units include

- .. One H9A10-Cx cabinet enclosure
- .. One AlphaServer 2100A 4/275, 5/250 or 5/300 rackmountable unit.
- .. Two 16-bit Wide StorageWorks shelves; one BA36R-AF (front mounted) and one BA36R-AR (rear mounted). 35 inches of H9A10-Cx cabinet rack space remains available.

AlphaServer 2100A Rackmount Units include

- .. Alpha microprocessor 21064 275-Mhz CPU with 4 MB onboard cache, **or**
- .. Alpha microprocessor 21164 250-Mhz CPU with 4 MB onboard cache, **or**
- .. Alpha microprocessor 21164 291-Mhz CPU with 4 MB onboard cache
- .. BA744 Rackmountable enclosure which includes:
 - Integral 10 MB/s 8-bit narrow Fast SCSI controller
 - Two EIA-232 asynchronous serial ports, 9-pin D-subminiature connectors
 - One parallel port, 25-pin D-subminiature connectors
 - Two RZxx hard disk drives slots
 - Two 5.25-inch, half-height removable media slots
 - Eight PCI slots
 - Three EISA slots
 - 840-Watt power supply
- .. Ethernet AUI, 10BaseT (twisted pair), or ThinWire selectable (uses one PCI slot),
- .. 1.44-MB diskette drive in dedicated slot
- .. 2.0 GB 7200 rpm hard disk drive (uses one RZxx disk slot)
- .. 600 MB Quad Speed CD-ROM (uses one removable media slot)
- .. Video Graphics Adapter (uses one PCI slot)
- .. Three-button mouse
- .. Keyboard (Americas and AP orders only)
- .. Memory indicated below
- .. Customer documentation
- .. EISA configuration utility
- .. Hardware Warranty Three-year, on-site with 5 x 9, 24-hour response*
- .. Software Warranty:*
- 90-day SPD conformance with advisory telephone support for DIGITAL 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

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

Step 1—Systems (continued)**Windows NT Rackmount and Cabinet Systems include**

- .. Windows NT systems ordered in North America include Windows NT Server 4.0, plus 10-client access license, North American English media (CD-ROM) kit.
 - Selection of language specific Windows NT Server 4.0 license, media (CD-ROM) kit is **mandatory** for all non-North American orders, see Step 9.

Windows NT Rackmount Systems—Requires cabinet

| Order Number | Model | Memory | PCI/EISA slots available |
|--------------|-------|--------|--------------------------|
| DN-252Y1-B9 | 4/275 | 128 MB | 6 PCI / 3 EISA |
| DN-252Y1-C9 | 4/275 | 512 MB | 6 PCI / 3 EISA |
| DN-253Y1-B9 | 5/250 | 128 MB | 6 PCI / 3 EISA |
| DN-253Y1-C9 | 5/250 | 512 MB | 6 PCI / 3 EISA |
| DN-254Y1-B9 | 5/300 | 128 MB | 6 PCI / 3 EISA |
| DN-254Y1-C9 | 5/300 | 512 MB | 6 PCI / 3 EISA |

Windows NT Cabinet Systems—Includes cabinet

| Order Number | Model | Memory | PCI/EISA slots available | Cabinet Power Required |
|----------------|-------|--------|--------------------------|------------------------|
| DN-262F1-B2/B3 | 4/275 | 128 MB | 6 PCI / 3 EISA | 120 V / 240 V |
| DN-262F1-C2/C3 | 4/275 | 512 MB | 6 PCI / 3 EISA | 120 V / 240 V |
| DN-263F1-B2/B3 | 5/250 | 128 MB | 6 PCI / 3 EISA | 120 V / 240 V |
| DN-263F1-C2/C3 | 5/250 | 512 MB | 6 PCI / 3 EISA | 120 V / 240 V |
| DN-264F1-B2/B3 | 5/300 | 128 MB | 6 PCI / 3 EISA | 120 V / 240 V |
| DN-264F1-C2/C3 | 5/300 | 512 MB | 6 PCI / 3 EISA | 120 V / 240 V |

DIGITAL UNIX Rackmount and Cabinet Systems include

- .. DIGITAL UNIX 4.0A operating system base license
- .. NAS Base Server 200 for DIGITAL UNIX license QL-306AG-AA; includes the following layered products (order media and documentation separately):
 - PATHWORKS for DIGITAL UNIX (kit only, no license)
 - Polycenter Advanced File System utilities
 - Objectbroker for DIGITAL UNIX Runtime
 - DECmessageQ for DIGITAL UNIX Runtime
 - DCE Runtime
 - DIGITAL UNIX Server Extensions
 - PrintServer software (kit only, licensed with printer)
- .. Base operating system is factory installed

Note: Operating system media and documentation is **required** for first system on site; see Step 9.

DIGITAL UNIX Rackmount Systems—Requires cabinet

| Order Number | Model | Memory | PCI/EISA slots available |
|--------------|-------|--------|--------------------------|
| DA-252Y1-B9 | 4/275 | 128 MB | 6 PCI / 3 EISA |
| DA-252Y1-C9 | 4/275 | 512 MB | 6 PCI / 3 EISA |
| DA-253Y1-B9 | 5/250 | 128 MB | 6 PCI / 3 EISA |
| DA-253Y1-C9 | 5/250 | 512 MB | 6 PCI / 3 EISA |
| DA-254Y1-B9 | 5/300 | 128 MB | 6 PCI / 3 EISA |
| DA-254Y1-C9 | 5/300 | 512 MB | 6 PCI / 3 EISA |

DIGITAL UNIX Cabinet Systems—Includes cabinet

| Order Number | Model | Memory | PCI/EISA slots available | Cabinet Power Required |
|----------------|-------|--------|--------------------------|------------------------|
| DA-262F1-B2/B3 | 4/275 | 128 MB | 6 PCI / 3 EISA | 120 V / 240 V |
| DA-262F1-C2/C3 | 4/275 | 512 MB | 6 PCI / 3 EISA | 120 V / 240 V |
| DA-263F1-B2/B3 | 5/250 | 128 MB | 6 PCI / 3 EISA | 120 V / 240 V |
| DA-263F1-C2/C3 | 5/250 | 512 MB | 6 PCI / 3 EISA | 120 V / 240 V |
| DA-264F1-B2/B3 | 5/300 | 128 MB | 6 PCI / 3 EISA | 120 V / 240 V |
| DA-264F1-C2/C3 | 5/300 | 512 MB | 6 PCI / 3 EISA | 120 V / 240 V |

Step 1—Systems (continued)**OpenVMS Rackmount and Cabinet Systems include**

- .. OpenVMS V7.1 operating system base license
- .. NAS Base Server 200 for OpenVMS license (QL-23EAG-AA), includes the following layered products (order media and documentation separately):
 - DECnet for OpenVMS End System
 - DECnet/OSI for OpenVMS End Node
 - PATHWORKS for OpenVMS (LAN Manager); kit only, no license
 - DEC TCP/IP services for OpenVMS
 - Polycenter Software Distribution (Client)
- DECwindows Motif for OpenVMS
- Objectbroker for OpenVMS (ACA Services)
- DECmessageQ for OpenVMS Runtime
- DECprint Supervisor for OpenVMS , Base
- DECprint Supervisor for OpenVMS , Plus
- DECprint Supervisor for OpenVMS , Open
- PrintServer software (kit only, licensed with printer)
- .. OpenVMS operating system is factory installed.

OpenVMS Rackmount Systems—Requires cabinet

| Order Number | Model | Memory | PCI/EISA slots available |
|--------------|-------|--------|--------------------------|
| DY-252Y1-B9 | 4/275 | 128 MB | 6 PCI / 3 EISA |
| DY-252Y1-C9 | 4/275 | 512 MB | 6 PCI / 3 EISA |
| DY-253Y1-B9 | 5/250 | 128 MB | 6 PCI / 3 EISA |
| DY-253Y1-C9 | 5/250 | 512 MB | 6 PCI / 3 EISA |
| DY-254Y1-B9 | 5/300 | 128 MB | 6 PCI / 3 EISA |
| DY-254Y1-C9 | 5/300 | 512 MB | 6 PCI / 3 EISA |

OpenVMS Cabinet Systems—Includes cabinet

| Order Number | Model | Memory | PCI/EISA slots available | Cabinet Power Required |
|----------------|-------|--------|--------------------------|------------------------|
| DY-262F1-B2/B3 | 4/275 | 128 MB | 6 PCI / 3 EISA | 120 V / 240 V |
| DY-262F1-C2/C3 | 4/275 | 512 MB | 6 PCI / 3 EISA | 120 V / 240 V |
| DY-263F1-B2/B3 | 5/250 | 128 MB | 6 PCI / 3 EISA | 120 V / 240 V |
| DY-263F1-C2/C3 | 5/250 | 512 MB | 6 PCI / 3 EISA | 120 V / 240 V |
| DY-264F1-B2/B3 | 5/300 | 128 MB | 6 PCI / 3 EISA | 120 V / 240 V |
| DY-264F1-C2/C3 | 5/300 | 512 MB | 6 PCI / 3 EISA | 120 V / 240 V |

System Bus and PCI Bus Configuration Rules

- .. Use System Bus Slot Table for slot configuration rules when adding additional CPUs and memory.
- .. See PCI Option Slot Table for options supported in specific PCI slots.

System Bus Slot Table

| Recommended Slots | Slot 1 | Slot 2 | Slot 3 | Slot 4 | Slot 5 | Slot 6 | Slot 7 |
|-------------------|--------|--------|--------|----------|----------|---------------|----------|
| 1 CPU system | — | CPU 0 | — | Memory 0 | Memory 1 | Memory 2 | Memory 3 |
| 2 CPUs system | — | CPU 0 | CPU 1 | Memory 0 | Memory 1 | Memory 2 | Memory 3 |
| 3 CPUs system | CPU 2 | CPU 0 | CPU 1 | Memory 0 | Memory 1 | Memory 2 | Memory 3 |
| 4 CPUs system | CPU 3 | CPU 0 | CPU 1 | Memory 0 | CPU 2 | Not available | Memory 1 |

PCI Option Slot Table

- .. Some PCI options are **not** supported behind a PCI-PCI bridge on specific operating systems. Use the following table for options restricted to slots **4, 5, 6 and 7 only**. All other options supported on the AlphaServer 2100A not listed here are supported in any PCI slot (0, 1, 2, 3, 4, 5, 6, 7).

| Order Number | Description | Max # | Supported in PCI slots only | Operating System |
|-----------------------|---|-------|-----------------------------|------------------|
| KZPSA-BB | One-port Fast Wide Differential SCSI controller | 3 | 4, 5, 6, 7 | Windows NT |
| PB2GA-JB ¹ | S3-Trio64 Graphics option 1 MB | 1 | 4, 5, 6, 7 | Windows NT |
| CCMAA-AA | PCI to MEMORY CHANNEL controller | 2 | 4, 5, 6, 7 | DIGITAL UNIX |

¹ Graphics option standard in all systems.

Step 2—CPU Symmetrical Multiprocessing (SMP) Upgrade

CPU Upgrades

- .. Order up to three additional CPUs, for a maximum of four; see System Bus Slot Table.
- .. Additional CPUs must match the speed of CPU in system.
- .. Four-CPU systems are restricted to two memory slots.

| | |
|-----------------|---|
| 460NR-AA | Windows NT SMP upgrade includes one 4/275 MHz CPU processor; SMP license is not required. |
| 470NR-UD | Windows NT SMP upgrade includes one 5/250 MHz CPU processor; SMP license is not required. |
| 480NR-UD | Windows NT SMP upgrade includes one 5/300 MHz CPU processor; SMP license is not required. |
| 460AR-AA | DIGITAL UNIX SMP upgrade includes one 4/275 MHz CPU processor and DIGITAL UNIX SMP license. |
| 470AR-UD | DIGITAL UNIX SMP upgrade includes one 5/250 MHz CPU processor and DIGITAL UNIX SMP license. |
| 480AR-UD | DIGITAL UNIX SMP upgrade includes one 5/300 MHz CPU processor and DIGITAL UNIX SMP license. |
| 460YR-AA | OpenVMS SMP upgrade includes one 4/275 MHz CPU processor and OpenVMS SMP license. |
| 470YR-UD | OpenVMS SMP upgrade includes one 5/250 MHz CPU processor and OpenVMS SMP license. |
| 480YR-UD | OpenVMS SMP upgrade includes one 5/300 MHz CPU processor and OpenVMS SMP license. |

Step 3—Memory

See System Bus Slot Table for slot configuration rules.

- .. One- to three- CPU systems support a total of four memory boards in any combination.
- .. Four CPU systems support total of two memory boards in any combination.
- .. Windows NT Server 4.0, DIGITAL UNIX V3.2, and OpenVMS V6.2 supports up to 2 GB memory

| | |
|-----------------|---|
| MS450-BA | 64 MB memory module (supported on 4/275 systems only) |
| MS451-DA | 128 MB memory module |
| MS451-FA | 512 MB memory module |

Step 3a—Prestoserve Nonvolatile Random Access Memory (NVRAM)

- .. Supported on DIGITAL UNIX systems only
- .. Maximum one Prestoserve option per system

| | |
|--------------------|-----------------------------|
| DJ-ML200-AA | 2 MB PCI Prestoserve option |
| DJ-ML200-BA | 4 MB PCI Prestoserve option |
| DJ-ML200-CA | 8 MB PCI Prestoserve option |

Step 4—Monitors

Graphics monitors other than those listed below can be used if compatible with graphics adapter included with system.

Windows NT systems

- .. Windows NT systems require a graphics monitor to run **all** system functions.
- .. Video adapter included in system supports 1024 x 768 resolution, 72-Hz monitors.

Step 4—Monitors (*continued*)

DIGITAL UNIX and OpenVMS systems

- .. All console functions, including the EISA Configuration Utility (ECU) and the RAID Configuration Utility (RCU) can be performed using a standard video terminal (VT2xx, VT3xx, VT4xx, VT5xx) connected to one of the system's serial ports (See Step 8).
- .. For graphics console functionality, order a graphics monitor.
- .. Video adapter included in system supports 1024 x 768 resolution, 72-Hz monitors.

| | |
|---------------------------------------|---|
| SN-VRCX5-WA/W3/W4 | 15" (13.9" 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 92, MPRII, Energy Star, attached video cable. -WA = Northern Hemisphere with 120 V power cord, -W3 = Northern Hemisphere without power cord. Select country specific power cords for -W3 Northern Hemisphere, and -W4 Southern Hemisphere variants. |
| SN-VRTX7-WA/W3 SN-VRT17-W4 | 17" (16.0" viewable image size) Professional Series auto-scan color monitor, Trinitron CRT, 0.25 mm aperture grill pitch, VGA to 1280 x 1024 @ 75Hz, TCO 92, MPRII, Energy Star, HD15 male to male video cable. -WA = Northern Hemisphere with 120 V power cord, -W3 = Northern Hemisphere without power cord, SN-VRT17-W4 = Southern Hemisphere. Select country specific power cord for W3 and W4 variant. |
| SN-VRCX1-WA/ W3/W4 | 21" (19.7" viewable image size) professional series auto-scan color monitor, Diamondtron CRT, 0.28 mm aperture grill pitch, VGA to 1600 x 1200 @ 75 Hz, TCO 92, MPRII, Energy Star, HD15 male to male video cable. -WA = Northern Hemisphere with 120 V power cord. -W3 = Northern Hemisphere without power cord. W4 = Southern Hemisphere without power cord. Select country specific power cord for W3 and W4 variants. |

Step 5—Storage

- .. Integral Fast SCSI-2 controller supports maximum of seven devices (CD-ROM, one additional 5.25-inch half-height removable media device and two hard disk drives inside base chassis), All disk drives connected to this controller operate in **Narrow** (8-bit) mode.
- .. Select **Wide** (16-bit) mode controllers, disks and StorageWorks shelves from Step 5b for external expansion.

Note: **Wide** disk drives configured on a **Narrow** bus operate in **narrow** mode. **Narrow** disk drives configured on a **wide** bus operate in **narrow** mode. **Wide** and **narrow** devices can be mixed on a single bus.

Step 5a—Internal Storage

Systems include one internal RZ28 disk drive, and one CD-ROM drive.

Removable Media Devices (select one additional device)

| | |
|-----------------|--|
| RRD46-AA | 600 MB 5.25-inch 12X speed half-height CD-ROM |
| TZK11-LG | 2.0 GB 5.25-inch half-height SCSI QIC tape drive |
| TLZ09-LG | 8.0 GB 5.25-inch half-height SCSI 4 mm DAT drive |

Hard Disk Drives (select one additional hard disk drive)

| | |
|-----------------|--|
| RZ26N-EJ | 1.05 GB 3.5-inch 5400 RPM half-height disk drive |
| RZ28D-EJ | 2.0 GB 3.5-inch 7200 RPM half-height disk drive |
| RZ29B-EJ | 4.3 GB 3.5-inch 7200 RPM half-height disk drive |

Step 5b—External Storage for 16-bit (Wide) Mode

- .. Additional storage is supported outside AlphaServer 2100A Rackmount system unit. BA36R-AF/-AR rackmountable 16-bit StorageWorks shelves are recommended.
- .. AlphaServer 2100A Cabinet systems include one BA36R-AF (front mounted) and one BA36R-AR (rear mounted) 16-bit wide StorageWorks shelves. A controller is required to support installed StorageWorks shelves in Cabinet systems.

Configuration Rules

- .. 16-bit Wide devices require Wide StorageWorks Shelves (BA36R) to operate in wide mode.
- .. PCI-based one- and three-port (KZPSC-AA/BA) RAID controllers, and one-port Fast Wide Differential (KZPSA-BB) controller allow wide devices to operate in 16-bit mode.
- .. Maximum of four PCI-based one- and three-port (KZPSC-xx) RAID controllers supported per system.
 - One- and three-port StorageWorks RAID 230 controllers (KZPSC-xx) support hard disk drives **only**; tape drives are not supported.
 - Three-port StorageWorks RAID 230 (KZPSC-BA) supports up to 21 disk drives in up to eight logical groups. RAID slots must be created to support more than eight physical disk drives.
- .. Maximum of four PCI or EISA RAID controllers supported per system.
- .. PCI-based Fast Wide Differential (FWD) SCSI controller (KZPSA-BB) supports externally connected wide disks in BA36R using DWZZB wide differential to wide single-ended converter, or narrow disks using DWZZA wide differential to narrow single-ended converter in BA35R.
- .. KZPSA-BB controller on Windows NT systems supports up to 15 disks. DIGITAL UNIX and OpenVMS systems support 7 disks.
- .. SCSI cables are **not** included and must be ordered separately.
- .. KZPSA-BB Cables
 - BN21K-xx from KZPSA to DWZZA, DWZZB, and HSZ40 (straight to right angle)
 - BN21W-0B Y SCSI-2 cable 68-pin for KZPSA in mid-bus or DECSafe configurations.
- .. KZPSC-xx Cables
 - BN31L-1E from KZPSC-xx to BA35R
 - BN31S-1E from KZPSC-xx to BA36R
- .. If all three ports on KZPSC-BA are used, use 2T-KZPSC-KT cable kit for third port connection. Does **not** block EISA slot.
- .. KZPSM-AA Cables
 - BC25V-1H from KZPSM to external 68-pin bulkhead
 - BN21K-02 from bulkhead to external BA36R wide storage.
- .. KZPDA-AA Cables
 - BN21K-02 from KZPDA to BA36R wide storage

Storage Controllers for Wide Mode

| | |
|-----------------|---|
| KZPSC-AA | One-port PCI-based controller; includes StorageWorks RAID Array 230 Subsystem family software and documentation kit for OpenVMS, DIGITAL UNIX, and Windows NT |
| KZPSC-BA | Three-port PCI-based controller; includes StorageWorks RAID Array 230 Subsystem family software and documentation kit for OpenVMS, DIGITAL UNIX, and Windows NT |
| MS100-AA | 16 MB Cache memory option for KZPSC-AA/BA, maximum one per controller |
| MS100-AB | 32 MB Cache memory option for KZPSC-AA/BA, maximum one per controller |
| KZPSC-UB | Battery back-up for Cache memory option |
| KZPSA-BB | PCI-based Fast Wide Differential (FWD) SCSI controller |
| KZPSM-AA | PCI-based combination Ethernet and Fast Wide SCSI controller |
| KZPDA-AA | PCI based Fast Wide Single Ended (FWSE) SCSI-2 controller |

Step 5b—External Storage for 16-bit (Wide) Mode
Hard Disk Drives for Wide Mode

| | |
|-----------------|---|
| RZ26N-VW | 1.05 GB 3.5-inch half-height disk drive |
| RZ28D-VW | 2.1 GB 3.5-inch half-height disk drive |
| RZ29B-VW | 4.3 GB 3.5-inch half-height disk drive |

Step 5b—External Storage for 16-bit (Wide) Mode (continued)**Rackmountable StorageWorks Shelves for Wide Mode**

- .. BA36R StorageWorks shelves are supported on all Fast Wide SCSI-2 controllers listed in Step 5b.
- .. External BA36R is not supported on integral Fast SCSI-2 controller due to insufficient remaining external bus length.
- .. SCSI cable BN21K-xx for KZPSA, and BN31S-1E for KZPSC, is required to connect BA36R to controller.
- .. See Step 10 for additional power cords.

BA36R-AF Front mount BA356 Rackmount StorageWorks Shelf, BA35R-MH 16-bit I/O module, BA35X-HF power supply

BA36R-AR Rear mount BA356 Rackmount StorageWorks Shelf, BA35R-MH 16-bit I/O module, BA35X-HF power supply

Step 5c—DSSI Storage (OpenVMS systems only)

- .. System supports up to two KFESA or two KFESB EISA/DSSI adapters. KFESA and KFESB adapters can be mixed on same system.
- .. Each BA35R StorageWorks shelf in single/split-bus mode supports one/two HSD10 DSSI/SCSI converters.
- .. Wide disks installed "behind" HSD10 will run in **narrow** mode.
- .. Cabling information for DSSI controllers:
 - DSSI devices supported on OpenVMS only
 - DSSI cables must be ordered separately
 - KFESB uses "Micro-Ribbon" connection
 - KFESB to any external "Pin-Socket" DSSI connection requires BC22Q-xx
 - KFESB to any external "Micro-Ribbon" DSSI straight connection (all other DSSI systems and storage devices requiring straight connection) requires BC21Q-xx
 - KFESB to any external "Micro-Ribbon" DSSI right-angle connection (all other DSSI systems and storage devices requiring right-angle connection) requires BC29S-xx DSSI cable
 - Order BC29S-09 DSSI cable for HSD10 in BA36R-Ax shelves (see 'A' on DSSI-based Storage Diagram)
 - Order BC29U-02 DSSI cable for HSD10 in adjacent BA36R-Ax shelves (see 'B' DSSI-based on Storage Diagram)
 - Order BC29V-06 DSSI cable for HSD10 in non-adjacent BA36R-Ax shelves (see 'C' DSSI-based on Storage Diagram)

DSSI Adapters

KFESA-AA PCI-to-DSSI controller (OpenVMS systems **only**); maximum four per system.

KFESB-AA EISA-based single-DSSI controller (OpenVMS systems only); maximum two per system.

HSD10-AA StorageWorks Array controller; supports seven SCSI-2 disks, tape, and optical devices. (See Storage section for supported devices.)

DSSI Option Pack

- .. OpenVMS DSSI starter option pack includes:
 - Two KFESB-AA EISA-based DSSI adapters
 - Two HSD10-AA DSSI/SCSI converters
 - Three RZ28 2 GB disk drives
 - Two BC29S-06 DSSI cables (KFESB to HSD10)*
 - VMSccluster license (QL-MUZAG-AA)

SD002-AA OpenVMS DSSI Starter Option Pack

Step 5d—StorageWorks Controller Shelf

- .. Requires seven inches of vertical space, although a front and rear shelf can be mounted back-to-back in the same seven inch space.
- .. See Step 10 for additional power cords.

BA35R-MF Rackmountable BA350-MA controller shelf; front access

BA35R-MR Rackmountable BA350-MA controller shelf; rear access

Step 5e—PCI to CI Storage Host Adapter (OpenVMS Systems only)

- .. Systems support mixing CIPCA-AA and CIPCA-BA for maximum of three per system
- .. Minimum Operating System Version: OpenVMS 6.2-1H2
- .. Minimum Console Revision: V4.4
- .. Select one CI cable per adapter

| | |
|-----------------|---|
| CIPCA-AA | PCI-to-CI adapter, requires one PCI slot and one EISA slot. Maximum three per system |
| CIPCA-BA | PCI-to-CI adapter, requires two PCI slots. Maximum three per system |
| BNCIA-10 | 10-meter CI cable |
| BNCIA-20 | 20-meter CI cable |
| BNCIA-45 | 45-meter CI cable |

Step 6—Networks and Communications

- .. See PCI Option Slot Chart for slot configuration rules.
- .. Systems include Ethernet controller (AUI, 10BaseT, or ThinWire selectable)
- .. Select networking cable
 - BNE4C-xx for AUI
 - BN25G-xx for 10BaseT
 - BC16M-xx for ThinWire, and H8225-00 Terminator
- .. Maximum of 4 PCI-based network controllers supported.

| Order Number | Description | Maximum # supported | | |
|--------------------|---|---------------------|---------|------------|
| | | DIGITAL UNIX | OpenVMS | Windows NT |
| DE450-CA | PCI 10-Mbit Ethernet controller; AUI, 10BaseT, or 10Base2 | 4 | 4 | 4 |
| DE500-AA | PCI-based Fast Ethernet controller | 2 | 2 | 2 |
| DEFPA-AB* | PCI to FDDI Adapter, SAS, MMF, SC | 4 | 6 | 4 |
| DEFPA-DB* | PCI to FDDI Adapter, DAS, MMF, SC | 4 | 6 | 4 |
| DEFPA-UB* | PCI to FDDI Adapter, SAS, TP-PMD | 4 | 6 | 4 |
| DEFPA-MB | PCI to FDDI Adapter, DAS, TP-PMD | 4 | 6 | 4 |
| PBXNP-AA | PCI Token Ring Adapter | 1 | 1 | 0 |
| DGLPB-AB | PCI based ATMworks 350 Interface Card | 2 | 0 | 0 |
| DEFEA-AA | EISA-based DEC FDDIcontroller Single Attachment | 2 | 2 | 2 |
| DEFEA-DA | EISA-based DEC FDDIcontroller Dual Attachment (requires 2 EISA slots) | 1 | 1 | 1 |
| DEFEA-UA | EISA-based DEC FDDIcontroller UTP Attachment | 2 | 2 | 2 |
| DNSES-AA | EISA-based synchronous communications controller | 3 | 3 | 0 |
| CXI01-AA/AD | ISA-based asynchronous multiplexer | 2 | 2 | 2 |
| DI1AA-AA | Digiboard ISA datafire-U ISDN Controller (Available as a SPARE Only) | 0 | 0 | 1 |
| DI1AA-AB | Digiboard ISA datafire-ST ISDN Controller (Available as a SPARE Only) | 0 | 0 | 1 |

* Cables: Fiber, Duplex, "SC" to "MIC" (concentrator): BN34D-xx; Fiber, Duplex, "SC" to "SC": BN34B-xx; Fiber, Duplex, "SC" to "ST": BN34A-xx; Copper STP, 8 cond, wired pin-pin: BN26M-xx; Copper STP, 8 cond, wired cross-over: BN26S-03.

Step 6a—MEMORY CHANNEL Interconnect

DIGITAL UNIX Systems

- .. Requires DIGITAL UNIX V3.2E (DIGITAL UNIX V3.2D plus TruCluster software or MEMORY CHANNEL Driver software).
- .. Each system node in a MEMORY CHANNEL cluster requires a software license.
- .. Servers in a compute-server array require a DIGITAL UNIX Driver for MEMORY CHANNEL License.
- .. Servers in a TruCluster high-availability environment require a license for TruCluster for DIGITAL UNIX.

OpenVMS Systems

- .. Require OpenVMS V7.1 and OpenVMS Cluster license

Configuring information:

- .. For two-system nodes, order one CCMAA-BA per system and one BC12N-10 cable to connect them.
- .. For three or more system nodes, order CCMHA-AA (MEMORY CHANNEL Hub) 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.
- .. CCMRA-AA Rackmount Kit for Hub; takes 8.75-in rail space.

Note: CCMAA-BA (PCI to MEMORY CHANNEL controller) must be installed in PCI slots 4-7.

| | |
|--------------------|---|
| CCMAA-BA | PCI to MEMORY CHANNEL controller—Maximum two supported . |
| CCMHA-AA | MEMORY CHANNEL Hub with 4 Line Cards |
| CCMRA-AA | MEMORY CHANNEL Hub Rackmount Kit (8.75-in) |
| CCMLA-AA | MEMORY CHANNEL Line Card for use with MEMORY CHANNEL Hub (CCMHA-AA) |
| BC12N-10 | MEMORY CHANNEL Cable |
| QB-3RLAG-AA | TruCluster Software for DIGITAL UNIX, includes DIGITAL UNIX driver |
| QB-4ZCAG-AA | DIGITAL UNIX Driver for MEMORY CHANNEL license |
| QL-MUZAG-AA | OpenVMS Cluster license for Alpha systems |

Step 7—Additional Power Supply

- .. Dual power distribution is provided to internal, mounted equipment. There are no power supplies in H9A10 Cabinet.
- .. Standard 840-Watt power supply in AlphaServer 2100A Rackmount system is sufficient for a fully configured system.
- .. An additional power supply for n+1 redundancy may be ordered

| | |
|-----------------|---|
| H7804-AA | Additional power supply with 120 VAC cord |
| H7804-AB | Additional power supply with 240 VAC cord |
| H7804-AC | Additional power supply with 240 VAC IEC cord |

Note: The H7893-AA power supply for AlphaServer 2100A pedestal is **not** compatible with, and will not mount in the Rackmount system.

Step 8—Terminals and Printers

System includes two EIA-232 asynchronous serial ports with 9-pin D-subminiature connectors.

DIGITAL UNIX and OpenVMS systems

Console terminals can either be graphics monitor connected to the included video graphics adapter (See Step 4), or a serial video terminal. If a serial video terminal is used as the console terminal, it must be VT220, VT320, VT420, or VT520 compatible. These terminals have the graphics capability required for the EISA Configuration Utility.

Select terminals and serial printers as required. A 9-pin to MMJ adapter (H8571-J) is required (one included with system) for each connection. A cable must be ordered unless otherwise provided.

Step 9—Software

Windows NT Servers

- .. Windows NT systems ordered in North America include Windows NT Server 4.0, plus 10-client access license, North American English media (CD-ROM) kit
 - Selection of language specific Windows NT Server 4.0 license, media (CD-ROM) kit is **mandatory** for all non-North American orders.

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

| | |
|-------------|---|
| QB-23CAA-SB | Windows NT Server license, media kit North American English |
| QB-23C8A-SB | Windows NT Server license, media kit International English |
| QB-23CPA-SB | Windows NT Server license, media kit French |
| QB-23CGA-SB | Windows NT Server license, media kit German |
| QB-23CSA-SB | Windows NT Server license, media kit Spanish |
| QB-23CUA-SB | Windows NT Server license, media kit Italian |
| QB-23CJA-SB | Windows NT Server license, media kit Japanese |
| QB-23CTA-SB | Windows NT Server license, media kit Hebrew |
| QB-23CMA-SB | Windows NT Server license, media kit Swedish |
| QB-23CQA-SB | Windows NT Server license, media kit Arabic |
| QB-23C5A-SB | Windows NT Server license, media kit Thai |
| QB-23CHA-SB | Windows NT Server license, media kit Dutch |
| QB-23CVA-SB | Windows NT Server license, media kit Brazilian/Portuguese |
| QB-23C4A-SB | Windows NT Server license, media kit Korean |
| QB-23C3A-SB | Windows NT Server license, media kit Taiwanese |
| QB-23C2A-SB | Windows NT Server license, media kit PRC Chinese |

Windows NT Server Optional software and documentation

| | |
|-------------|-------------------------------|
| QB-53V9A-SA | Windows NT Server Cluster Kit |
|-------------|-------------------------------|

DIGITAL UNIX Systems

Select user licenses and additional software as required. Media and documentation is **required** for first system on site.

Software Processor Code = G for all software, 1-4 processors

DIGITAL UNIX Concurrent Use Licenses

- .. DIGITAL UNIX Concurrent Use license provides the right to interactively use the operating system by the specified number of concurrent users on a designed DIGITAL UNIX system.
- .. DIGITAL UNIX Concurrent Use licenses are **not** specific to a single system and can be moved from one system to another at user discretion

| | |
|-------------|---|
| QL-MT7AM-3B | DIGITAL UNIX Concurrent Use 1-user license |
| QL-MT7AM-3C | DIGITAL UNIX Concurrent Use 2-user license |
| QL-MT7AM-3D | DIGITAL UNIX Concurrent Use 4-user license |
| QL-MT7AM-3E | DIGITAL UNIX Concurrent Use 8-user license |
| QL-MT7AM-3F | DIGITAL UNIX Concurrent Use 16-user license |
| QL-MT7AG-AA | DIGITAL UNIX Traditional unlimited user license |
| QL-MT5AG-AA | DIGITAL UNIX developer's extension license |

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

| | |
|-------------|--|
| QA-MT4AA-H8 | DIGITAL UNIX media and on-line documentation on CD-ROM |
| QA-MT4AA-GZ | DIGITAL UNIX full hardcopy documentation |

Step 9—Software (continued)**DIGITAL UNIX Layered Products CD-ROM**

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

DECnet Licenses

QL-MTJAG-AA DECnet/OSI end-system license for DIGITAL UNIX

QL-MTKAG-AA DECnet/OSI extended function license for DIGITAL UNIX

OpenVMS SystemsSelect user licenses and additional software as required. Media and documentation is **required** for first system on site.**Software Processor Code = G for all software, 1-4 processors****OpenVMS Concurrent Use Licenses**

- .. OpenVMS Concurrent Use license provide the right to interactively use the operating system by the specified number of concurrent users on a designated OpenVMS system.
- .. OpenVMS Concurrent Use licenses can be moved from one system to another at user discretion and can be shared in a mixed OpenVMS VAX and OpenVMS Alpha cluster.

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

OpenVMS Concurrent Use Licenses

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-MT2AG-AA OpenVMS Traditional unlimited user license

OpenVMS Media and Documentation—required for first system on site

QA-MT1AA-H8 OpenVMS media and documentation on CD-ROM

QA-MT1AH-GZ OpenVMS hardcopy documentation

OpenVMS Layered Products CD-ROM

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

DECnet Licenses

QL-MTGAG-AA DECnet extended function license for OpenVMS

QL-MTHAG-AA DECnet end-system to extended function upgrade license for OpenVMS

DSSI Information (OpenVMS systems only)

EK-410AB-MG DSSI VMScluster Installation Guide

EK-D4AXP-TS DSSI VMScluster Troubleshooting Guide

Step 10—Power Cords and Keyboards

Cabinet System Power Cords

- .. Power connection to H9A10-xx Cabinet is site specific.
- .. AlphaServer 2100A Cabinet systems ship with two each of the following power cords for power to the cabinet
 - 120 VAC systems: NEMA locking, 4.57 m (15 feet), NEMA L5-30P, Socket NEMA L5-30R
 - 240 VAC systems: IEC 309, 4.5m (15 feet), pin and sleeve 316P6 plug

Rackmount System Power Cords

- .. Systems ordered include U.S. power cord or 240V cabinet system compatible power cord. Select other 240V country-specific power cord.
- .. Select power cord for each power supply installed in AlphaServer Rackmount system.

| | |
|------------------|----------------------------|
| Included* | U.S., Canada, Japan, 120 V |
| BN19J-2E | Australia, New Zealand |
| BN19D-2E | Central Europe |
| BN19B-2E | U.K., Ireland |
| BN04B-2E | Switzerland |
| BN19L-2E | Denmark |
| BN19N-2E | Italy |
| BN19T-2E | Egypt, India, South Africa |
| BN19Y-2E | Israel |

* Orderable as 17-00083-51

Monitor Power Cords

Select country-specific power cord for 240 V use.

| | |
|-----------------|----------------------------|
| BN27S-03 | U.S., Canada, Japan, 120 V |
| BN19H-2E | Australia, New Zealand |
| BN19C-2E | Central Europe |
| BN19A-2E | U.K., Ireland |
| BN19E-2E | Switzerland |
| BN19K-2E | Denmark |
| BN19M-2E | Italy |
| BN19S-2E | Egypt, India, South Africa |
| BN18L-2E | Israel |

StorageWorks Power Cords

Select additional power cords for N+1 power use.

| | |
|-----------------|----------------------|
| BN27S-03 | U.S., Canada, Japan |
| BN27Z-03 | 240V Cabinet Systems |

Keyboards

Systems ordered in the Americas and Asia Pacific include U.S. English keyboard unless alternate is specified. Select country-specific keyboard for **all** systems ordered in Europe.

| | | |
|-------------------------------------|-----------------|-----------------|
| Windows NT/ DIGITAL UNIX | OpenVMS | |
| LK471-A2 | LK461-A2 | U.S./English |
| LK471-AB | LK461-AB | Belgian |
| | LK461-AC | Canadian/French |
| LK471-AD | LK461-AD | Danish |

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

Keyboards

| Windows NT/ DIGITAL UNIX | OpenVMS | |
|-----------------------------|----------|------------------|
| LK471-AE | LK461-AE | United Kingdom |
| | LK461-AF | Finnish |
| LK471-AG | LK461-AG | German |
| | LK461-AH | Dutch |
| LK471-AI | LK461-AI | Italian |
| LK471-AK | LK461-AK | Swiss/Generic |
| | LK461-AL | Swiss/German |
| | LK461-AM | Swedish |
| LK471-AN | LK461-AN | Norwegian |
| LK471-AP | LK461-AP | French |
| | LK461-AQ | Canadian/English |
| LK471-AS | LK461-AS | Spanish |
| LK471-AV | LK461-AV | Portuguese |

Step 11—Cabinet Enclosure

Select cabinet enclosure for AlphaServer 2100A rackmount systems, if required.

- .. H9A10 19-inch EIA Cabinet Enclosure Dimensions
 - Outside 66.9-inches high, 23.62-inches wide, 33.8-inches deep
 - Internal useable rackmountable space: 56-inches high, 19-inches wide, 30.8 inches deep.
- .. H9A15 19-inch EIA Cabinet Enclosure Dimensions
 - Outside 78.7-inches high, 23.62-inches wide, 33.4-inches deep
 - Internal useable rackmountable space: 68.25-inches high, 19-inches wide, 29.8 inches deep.
- .. H9A11 19-inch EIA Cabinet Enclosure Dimensions
 - Outside 43.3-inches high, 23.62-inches wide, 33.8-inches deep
 - Internal useable rackmountable space: 35-inches high, 19-inches wide, 30.8 inches deep.

Cabinet Power Plugs

- 120 VAC systems include one or two NEMA locking, 4.5 m (15 feet), NEMA L5-30P, Socket NEMA L5-30R
- 240 VAC systems include one or two IEC 309, 4.5 meter (15 feet), with pin and sleeve 316P6 plug

| | |
|-----------------|--|
| H9A10-CE | Retma Cabinet, 56" x 30.83", No front door, Dual Power controller, 120V |
| H9A10-CJ | Retma Cabinet, 56" x 30.83", No front door, Dual Power controller, 240V |
| H9A10-CG | Retma Cabinet, 56" x 30.83", Front door, Dual Power controller, 120V |
| H9A10-CK | Retma Cabinet, 56" x 30.83", Front door, Dual Power controller, 240V |
| H9A15-BA | Retma Cabinet, 68.25" x 29.75", No front door, Dual Power controller, 120V |
| H9A15-BG | Retma Cabinet, 68.25" x 29.75", No front door, Dual Power controller, 240V |
| H9A11-BA | Retma Cabinet, 35" x 30.83", No front door, 120V |
| H9A11-BG | Retma Cabinet, 35" x 30.83", No front door, 240V |

Step 12—Hardware and Software Supplemental Support Services

Systems include three-year hardware warranty, on-site with 5 x 9, 24-hour response time.

Hardware—Americas and Asia Pacific only

- .. Select optional Hardware Supplemental Support Services if required.

AlphaServer 2100A 4/275 Systems

| | |
|--------------------|------------------------------------|
| FM-454HR-36 | 3 year 5 x 9 4-hour response time |
| FM-454HR-60 | 5 year 5 x 9 4-hour response time |
| FM-45724-36 | 3 year 7 x 24 4-hour response time |
| FM-45724-60 | 5 year 7 x 24 4-hour response time |

AlphaServer 2100A 5/250 and 5/300 Systems

| | |
|--------------------|------------------------------------|
| FM-S54HR-36 | 3 year 5 x 9 4-hour response time |
| FM-S54HR-60 | 5 year 5 x 9 4-hour response time |
| FM-S5724-36 | 3 year 7 x 24 4-hour response time |
| FM-S5724-60 | 5 year 7 x 24 4-hour response time |

Software—Americas and Asia Pacific only

- .. Software Warranty:
 - 90-day SPD conformance with advisory telephone support for DIGITAL 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
- .. Software service upgrades for DIGITAL UNIX and OpenVMS include advisory and remedial software support with new version license rights for operating system and DIGITAL NAS 200 for the time period indicated.
- .. Software Supplemental Support Service options upgrade 90-day service to time period indicated below.

AlphaServer 2100A 4/275, 5/250, and 5/300 Systems

| | |
|--------------------|---|
| FM-WNTO2-12 | 12-month Software Supplemental Support for Windows NT AlphaServer 2100A systems |
| FM-WNTO2-36 | 36-month Software Supplemental Support for Windows NT AlphaServer 2100A systems |
| FM-WNTO2-60 | 60-month Software Supplemental Support for Windows NT AlphaServer 2100A systems |
| FM-SEOSF-12 | 12-month Software Supplemental Support for DIGITAL UNIX AlphaServer 2100A systems |
| FM-SEOSF-36 | 36-month Software Supplemental Support for DIGITAL UNIX AlphaServer 2100A systems |
| FM-SEOSF-60 | 60-month Software Supplemental Support for DIGITAL UNIX AlphaServer 2100A systems |
| FM-SEVMS-12 | 12-month Software Supplemental Support for OpenVMS AlphaServer 2100A systems |
| FM-SEVMS-36 | 36-month Software Supplemental Support for OpenVMS AlphaServer 2100A systems |
| FM-SEVMS-60 | 60-month Software Supplemental Support for OpenVMS AlphaServer 2100A 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 can be quoted using the Excelerator tool; contact MCS Sales in your country for information on Hardware and Software Supplemental Support Services.

Specifications

| Installed Dimensions | | Rackmount | Cabinet |
|--|-----------|--|--------------------------------------|
| Height | | 35 cm (14 in.) | 170 cm (66.9 in) |
| Width | | 45 cm (19 in.) | 60 cm (23.6 in.) |
| Depth | | 70.5 cm (27.75 in.) | 85 cm (34 in.) |
| Weight | | 45.5kg (100 lb) | 286 kg (630 lb) |
| Clearances | | Operating | Service |
| Front | | 20.3 cm (8 in.) | 142 cm (56 in.) |
| Rear | | 20.3 cm (8 in.) | 61 cm (24 in.) |
| Sides | | None | 61 cm (24 in.) |
| Environmental | | | |
| Temperature | | | |
| Operating* | | 10°-40° C (50°-104° F) | 10°-35° C (50°-95° F) |
| Nonoperating | | | |
| Storage (60 days) | | -40°-66° C (-40°-151° F) | -40°-66° C (-40°-151° F) |
| Rate of change | | 11° C/hr (20° F/hr) | 11° C/hr (20° F/hr) |
| Relative humidity | | | |
| Operating | | 10-90% noncondensing | 10-90% noncondensing |
| Nonoperating | | 10-90% noncondensing | 10-90% noncondensing |
| Storage (60 days) | | 10-95% noncondensing | 10-95% noncondensing |
| Rate of change | | 20% / hr | 20% / hr |
| Maximum heat dissipation | | 1200 Watt AC, 4,080 BTU/hr | 3450 Watt AC, 11,730 BTU/hr |
| Air flow and quality | | | |
| Operating | | 200 CFM | 400 CFM |
| Intake location | | Front | Front |
| Exhaust location | | Rear | Top and Rear |
| Altitude | | | |
| Operating | | 2000 m (6562 ft) | 2000 m (6562 ft) |
| Nonoperating | | 3600 m (12,000 ft) | 3600 m (12,000 ft) |
| Mechanical shock | | | |
| Operating | | 10 g pk for 10 ± 3 ms | 5 g pk for 10 ± 3 ms |
| Nonoperating | | 20 g pk for 10 ± 3 ms | 20 g pk for 10 ± 3 ms |
| Vibration | | | |
| Operating | | 16-200 Hz @0.25g max 200- 500 Hz @0.1g peak | 10-500 Hz @ 0.1 g peak |
| Acoustics | | | |
| Operating LNPEc (Bels) | | 6.5 max per ISO 7779 | 6.4 max per ISO 7779 |
| Electrical | | | |
| Voltage range (AVS) | | 100-120/220-240 Vac | 100-120/ 20-240 Vac |
| Power source phase | | Single | Single |
| Nominal frequency (Hz) | | 50 - 60 Hz | 50 - 60 Hz |
| Frequency range (Hz) | | 49 - 61 Hz | 49 - 61 Hz |
| Maximum rated current | | 10 a / 5 a | 16 a / 8 a |
| Maximum power consumption (Watts) | | 1,200 W (PFC = 0.99, 10A @ 120 V) | 3,450 W |
| Power cord | Type | IEC 320 C16 | NEMA locking |
| | Length | 450 cm (178 in.) | 4.5 m (15 feet) |
| 240 V | U.S. plug | NEMA 5-15, Socket IEC 320 Sheet C-15 | NEMA L5-30P, Socket NEMA L5-30R |
| | | IEC 320 Sheet C-13, Socket IEC 320 C-15 | IEC 309 pin and sleeve 316P6 plug |
| Agency approvals | | | |
| UL Listed to UL1950 CSA Certified to CAN/C22.2 No. 950-M89 TUV EN 60950GS VDE 0805 IEC 950 FCC 15J Part 15 (Class A) CE | | | |
| Reviewed to | | | |
| AS3260 Australian Standard NZS 6661:1989 New Zealand Standard EN 60 950:1992 European Norm | | | |

* Maximum operating temperature at Sea Level. Reduced by 1°C(1.8°F) for each 600 m (2000 feet) 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 disk drives.

6kVA Prestige Modular “On Line” UPS

For complete protection, UPS products should be used with data line surge protectors.

Maximum stacked dimension: 33.6 H x 9.9 W x 15.9 D.

| | |
|--------------------|---|
| 4N-AEAAJ-CM | Prestige 6kVA (4kW), 1 phase, 60Hz, 208V-120V/208V. Includes 6-foot input power cord with L6-30P, 2 L5-30R and 8 5-15R receptacles. Modular hot-swap design with 7 minute battery at full load, plug and play batteries and receptacle provisions. 3-Year hot-swap warranty Select 4N-AEAAJ-CP for 240V-240/120V operation |
| 4N-AEAAJ-CU | Same as above with 50Hz 240V hardwired input and output |
| 4N-GA249-AB | Surge Protectors for 2 wire modem |
| 4N-GA249-CA | Surge Protectors for 10BaseT |
| 4N-GA510-BF | Surge Protectors for ThinWire |

PUPS Plus for Storage Arrays

PUPS Plus models are 200-240V selectable output, hardwired input/output with optional plug-in output receptacle modules.

| | |
|---------------------|---|
| 4N-AEAAAL-BA | PUPS Plus 10 kVA (7kW), 1 phase, 50/60 Hz, 173-276V in, 9 minutes battery at full load. |
| 4N-BEAAAN-BA | PUPS Plus 15 kVA (7kW), 3 phase, 50/60 Hz, 173-276V in, 10 minutes battery at full load. Select 4N-AEACM-BP and 4N-AEACM-BJ for plug in connection to 120 V to AlphaServer 2100A and auxiliary SW800 Cabinet. |
| 4N-AEACM-BP | PUPS Plus 15kVA Receptacle module 4 L5-30R, 1 L21-30R |
| 4N-AEACM-BJ | PUPS plus 15kVA Receptacle module 1 L21-30R, 1 5-15R |

UPS Monitoring and Unattended Shutdown Software (for above UPS systems only)

- .. Include cables, media and documentation.
- .. SNMP Network connectivity adapters (4N-AEAE0-DA/DC) Twisted Pair/ThinWire are available.

6kVA Prestige Modular UPS

| | |
|--------------------|------------------------------------|
| 4N-AEAES-AA | Windows NT for Alpha and Intel x86 |
| 4N-AEAES-AK | DIGITAL UNIX |
| 4N-AEAES-EM | OpenVMS |

PUPS Plus UPS

| | |
|--------------------|------------------------------------|
| 4N-AEAES-AA | Windows NT for Alpha and Intel x86 |
| 4N-AEAES-AK | DIGITAL UNIX |
| 4N-AEAES-FM | OpenVMS |