



AlphaServer 1000A Pedestal–Rackmount–Cabinet

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DIGITAL Systems and Options Catalog

Product Description

The AlphaServer 1000A is an Alpha microprocessor server, available in 333 MHz and 400 MHz versions with 2MB ECC cache, and a 500 MHz version with 8 MB ECC cache. All are available in Pedestal and Rackmount systems with a choice of three popular operating systems: DIGITAL UNIX, OpenVMS, and Microsoft Windows NT Server. The AlphaServer 1000A offers the following high-reliability features: heat sensor, fan failure and power supply sensors, and ECC memory. Integrated on system motherboard are fast wide single-ended SCSI-2 controller, diskette controller, two serial ports, one parallel port, and keyboard and mouse controller.

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 Digital UNIX, Windows NT, and OpenVMS for AlphaServers. Using ServerWORKS, the system manager can 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. These include storage and application and database management tools. For more information, see the StorageWorks Software section of this catalog.

The AlphaServer 1000A Pedestal System offers up to ten internal storage devices including a floppy diskette drive, a CD-ROM, one additional 5.25-inch removable media bay, and seven hot swap StorageWorks wide or narrow disk drives. The system supports up to 30 GB of internal storage with seven 4.3 GB disks.

The AlphaServer 1000A Rackmount System offers up to six internal storage devices including a floppy diskette drive, a CD-ROM, one additional 5.25-inch removable media bay, and three wide and/or narrow disk drives. The system supports up to 12.9 GB of internal storage with three 4.3 GB disks.

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Step 1—AlphaServer 1000A Pedestal Systems

- Windows NT Packaged systems
 - North American variants include Windows NT license, media (CD-ROM) kit North American English
 - Selection of language specific Windows NT license, media (CD-ROM) kit is mandatory for all non-North American variants, see Step 9.
- DIGITAL UNIX and OpenVMS packaged systems include factory installed (FIS) software on hard disk drive.
- Uninterruptable Power Supplies (UPS) are available; see UPS Information following System Specifications.
- Options ordered that are factory installable, will be factory installed unless specified as spares.

Pedestal Systems include

- Alpha microprocessor 21164
 - 333 MHz CPU with 2 MB ECC onboard cache, or
 - 400 MHz CPU with 2 MB ECC onboard cache, or
 - 500 MHz CPU with 8 MB ECC onboard cache
 - Pedestal enclosure with:
 - Nine expansion slots: seven PCI, and two EISA slots
 - Integral Fast Wide Single-Ended SCSI-2 controller supports wide and narrow devices
 - 16 SIMM memory slots support 4 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
 - 450 W self-sensing, self-switching (120/240 V, 60/50 Hz) power supply
 - Two serial ports, support full duplex asynchronous modem control
 - One bi-directional enhanced parallel port
 - PS/2 style keyboard port and mouse port
 - 1.44 MB diskette drive in dedicated slot
 - 3-button mouse
 - North American variants include 120 V power cord (North America, Japan). Mandatory selection of country-specific power cord for all non-North American variants, see Step 10 in this section.
 - English language documentation. Certain language selections are available; see Step 10 in this section.
 - EISA Configuration Utility (ECU)
 - Integrated Advanced Server Management features, including ServerWORKS Manager kit
 - Hardware Warranty: Three-year on-site¹
 - Software Warranty:¹
 - 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
 - Windows NT Server 4.0 plus 10-client access license, media (CD-ROM) kit or²
 - DIGITAL UNIX Unlimited User license, Server Extension license, Internet AlphaServer System Software kit, or
 - OpenVMS base license with System Manager license, Enterprise Integration Package.
1. Service upgrades are available (see Step 12 in this section).
 2. Windows NT language specific media kit is mandatory for non-North American variants; see Step 9 in this section.

Pedestal Packaged Systems include

- PCI-based Fast 100 Ethernet (Twisted Pair) —uses one PCI slot.
- 600 MB CD-ROM—uses one removable media slot.
- One wide hard disk drive, see below.
- One memory option, see below.
- North American Windows NT and DIGITAL UNIX variants include a 101-key, PC-style, U.S. English keyboard.
- North American OpenVMS variants include a 108 key, VT-style, U.S. English keyboard.
- Select country-specific keyboard for all non-U.S. variants; see Step 10 in this section.

Note: Selection of graphics option is mandatory for Windows NT Pedestal packaged systems.

5/333 Pedestal Packaged Systems								
Order Number	Operating System	O/S Media	Power cord	Keyboard	Memory	Disk	Graphics	Monitor
PB76B-AA	Windows NT	Included ¹	120 V	Included	64 MB	1.05 GB	Mandatory	Required
PB76B-AB	Windows NT	Mandatory	Mandatory	Required	64 MB	1.05 GB	Mandatory	Required
PB76B-AD	Windows NT	Included ¹	120 V	Included	256 MB	1.05 GB	Mandatory	Required
PB76B-AE	Windows NT	Mandatory	Mandatory	Required	256 MB	1.05 GB	Mandatory	Required

Step 1—AlphaServer 1000A Pedestal Systems (continued)

5/333 Pedestal Packaged Systems								
Order Number	Operating System	O/S Media	Power cord	Keyboard	Memory	Disk	Graphics	Monitor
PB76B-FE	DIGITAL UNIX	FIS	120 V	Included	64 MB	2.1 GB	Recommended	Recommended
PB76B-FF	DIGITAL UNIX	FIS	Mandatory	Recommended	64 MB	2.1 GB	Recommended	Recommended
PB76B-FG	DIGITAL UNIX	FIS	120 V	Included	256 MB	2.1 GB	Recommended	Recommended
PB76B-FH	DIGITAL UNIX	FIS	Mandatory	Recommended	256 MB	2.1 GB	Recommended	Recommended
PB76B-ME	OpenVMS	FIS	120 V	Included	64 MB	2.1 GB	Recommended	Recommended
PB76B-MF	OpenVMS	FIS	Mandatory	Recommended	64 MB	2.1 GB	Recommended	Recommended
PB76B-MG	OpenVMS	FIS	120V	Included	256 MB	2.1 GB	Recommended	Recommended
PB76B-MH	OpenVMS	FIS	Mandatory	Recommended	256 MB	2.1 GB	Recommended	Recommended

5/400 Pedestal Packaged Systems								
Order Number	Operating System	O/S Media	Power cord	Keyboard	Memory	Disk	Graphics	Monitor
PB78B-AA	Windows NT	Included ¹	120 V	Included	128 MB	2.1 GB	Mandatory	Required
PB78B-AB	Windows NT	Mandatory	Mandatory	Required	128 MB	2.1 GB	Mandatory	Required
PB78B-AC	Windows NT	Included ¹	120 V	Included	256 MB	2.1 GB	Mandatory	Required
PB78B-AD	Windows NT	Mandatory	Mandatory	Required	256 MB	2.1 GB	Mandatory	Required
PB78B-FE	DIGITAL UNIX	FIS	120 V	Included	128 MB	2.1 GB	Recommended	Recommended
PB78B-FF	DIGITAL UNIX	FIS	Mandatory	Recommended	128 MB	2.1 GB	Recommended	Recommended
PB78B-FG	DIGITAL UNIX	FIS	120 V	Included	256 MB	2.1 GB	Recommended	Recommended
PB78B-FH	DIGITAL UNIX	FIS	Mandatory	Recommended	256 MB	2.1 GB	Recommended	Recommended
PB78B-ME	OpenVMS	FIS	120 V	Included	128 MB	2.1 GB	Recommended	Recommended
PB78B-MF	OpenVMS	FIS	Mandatory	Recommended	128 MB	2.1 GB	Recommended	Recommended
PB78B-MG	OpenVMS	FIS	120 V	Included	256 MB	2.1 GB	Recommended	Recommended
PB78B-MH	OpenVMS	FIS	Mandatory	Recommended	256 MB	2.1 GB	Recommended	Recommended

5/500 Pedestal Packaged Systems								
Order Number	Operating System	O/S Media	Power cord	Keyboard	Memory	Disk	Graphics	Monitor
PB79B-AA	Windows NT	Included ¹	120 V	Included	128 MB	4.3 GB	Mandatory	Required
PB79B-AB	Windows NT	Mandatory	Mandatory	Required	128 MB	4.3 GB	Mandatory	Required
PB79B-AC	Windows NT	Included ¹	120 V	Included	256 MB	4.3 GB	Mandatory	Required
PB79B-AD	Windows NT	Mandatory	Mandatory	Required	256 MB	4.3 GB	Mandatory	Required
PB79B-FA	DIGITAL UNIX	FIS	120 V	Included	128 MB	4.3 GB	Recommended	Recommended
PB79B-FB	DIGITAL UNIX	FIS	Mandatory	Recommended	128 MB	4.3 GB	Recommended	Recommended
PB79B-FC	DIGITAL UNIX	FIS	120 V	Included	256 MB	4.3 GB	Recommended	Recommended
PB79B-FD	DIGITAL UNIX	FIS	Mandatory	Recommended	256 MB	4.3 GB	Recommended	Recommended
PB79B-MA	OpenVMS	FIS	120 V	Included	128 MB	4.3 GB	Recommended	Recommended
PB79B-MB	OpenVMS	FIS	Mandatory	Recommended	128 MB	4.3 GB	Recommended	Recommended
PB79B-MC	OpenVMS	FIS	120 V	Included	256 MB	4.3 GB	Recommended	Recommended
PB79B-MD	OpenVMS	FIS	Mandatory	Recommended	256 MB	4.3 GB	Recommended	Recommended

1. Windows NT Server license, media (CD-ROM) kit North American English.

Key: Mandatory items must be on purchase order at initial order acceptance.
 Required items are essential for full system operation.
 Recommended items enhance system functionality.
 FIS=Factory Installed Software

Step 1a—AlphaServer 1000A Rackmount Systems

- .. Windows NT Packaged systems
 - North American variants include Windows NT license, media (CD-ROM) kit North American English.
 - Selection of language specific Windows NT license, media (CD-ROM) kit is mandatory for all non-North American variants; see Step 9 in this section.
- .. DIGITAL UNIX and OpenVMS Packaged systems include Factory Installed Software (FIS) on hard disk drive.
- .. Uninterruptable Power Supplies (UPS) are available; see UPS Information following System Specifications.
- .. Options ordered that are factory installable, will be factory installed unless specified as spares.

Note: AlphaServer 1000A rackmount systems do not support dual power supply configurations.

Rackmount Systems include

- .. Alpha microprocessor 21164
 - 333 MHz CPU with 2 MB ECC onboard cache, or
 - 400 MHz CPU with 2 MB ECC onboard cache, or
 - 500 MHz CPU with 8 MB ECC onboard cache
- .. Rackmount enclosure with:
 - Seven PCI slots
Two EISA slots
 - Integral Fast Wide Single-Ended SCSI-2 controller supports wide and narrow devices
 - 20 SIMM memory slots support 4 memory options
 - Six storage slots:
 - One diskette drive slot
 - One CD-ROM drive slot
 - One additional removable media slot
 - Three fixed wide and/or narrow hard disk drive slots
 - 450 W self-sensing, self-switching (120/240 V, 60/50 Hz) power supply
 - Two serial ports, support full duplex asynchronous modem control
 - One bi-directional enhanced parallel port
 - PS/2-style keyboard port and mouse port
- .. 1.44 MB diskette drive in dedicated slot
- .. 3-button mouse
- .. 15-foot power cord (120 V/240 V as appropriate)
- .. Rackmount hardware (shelf and rails)
- .. English language documentation kit
- .. EISA Configuration Utility (ECU)
- .. Integrated advanced server management features, including ServerWORKS Manager kit
- .. Hardware warranty: three-year on-site¹
- .. Software warranty:¹
 - 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
- .. Windows NT Server 4.0 plus 10-client access license, media (CD-ROM) kit or²
- .. DIGITAL UNIX Unlimited User license, Server Extension license, or
- .. OpenVMS base license with System Manager license, Enterprise Integration Package

1. Service upgrades are available; see Step 12 in this section.

2. Windows NT language specific media kit is mandatory for non-North American variants; see Step 9 in this section.

Rackmount Packaged Systems include

- .. PCI-based Fast 100 Ethernet (Twisted Pair)—uses one PCI slot
- .. One wide hard disk drive, see below
- .. One memory option, see below
- .. 600 MB CD-ROM—uses one removable media slot
- .. North American Windows NT and DIGITAL UNIX variants include a 101-key, PC-style, U.S. English keyboard.
- .. North American OpenVMS variants include a 108-key, VT-style, U.S. English keyboard.
- .. Select country-specific keyboard for non-North American variants; see Step 10 in this section.
- .. Systems include a 120V or 240V power cord depending on variant chosen.
- .. Cabinet enclosure available separately, see Step 11 in this section.

Note: Selection of graphics option is mandatory for Windows NT Rackmount Packaged Systems

5/333 Rackmount Packaged Systems								
Order Number	Operating System	O/S Media	Power cord	Keyboard	Memory	Disk	Graphics	Monitor
PB76P-AA	Windows NT	Included ¹	120 V	Included	64 MB	1.05 GB	Mandatory	Required
PB76P-AB	Windows NT	Mandatory	240 V	Required	64 MB	1.05 GB	Mandatory	Required
PB76P-AC	Windows NT	Included	120 V	Included	256 MB	1.05 GB	Mandatory	Required
PB76P-AD	Windows NT	Mandatory	240 V	Required	256 MB	1.05 GB	Mandatory	Required

Step 1a—AlphaServer 1000A Rackmount Systems (continued)

5/333 Rackmount Packaged Systems								
Order Number	Operating System	O/S Media	Power cord	Keyboard	Memory	Disk	Graphics	Monitor
PB76P-FE	DIGITAL UNIX	FIS	120 V	Included	64 MB	2.1 GB	Recommended	Recommended
PB76P-FF	DIGITAL UNIX	FIS	240 V	Recommended	64 MB	2.1 GB	Recommended	Recommended
PB76P-FG	DIGITAL UNIX	FIS	120 V	Included	256 MB	2.1 GB	Recommended	Recommended
PB76P-FH	DIGITAL UNIX	FIS	240 V	Recommended	256 MB	2.1 GB	Recommended	Recommended
PB76P-ME	OpenVMS	FIS	120 V	Included	64 MB	2.1 GB	Recommended	Recommended
PB76P-MF	OpenVMS	FIS	240 V	Recommended	64 MB	2.1 GB	Recommended	Recommended
PB76P-MG	OpenVMS	FIS	120 V	Included	256 MB	2.1 GB	Recommended	Recommended
PB76P-MH	OpenVMS	FIS	240 V	Recommended	256 MB	2.1 GB	Recommended	Recommended

5/400 Rackmount Packaged systems								
Order Number	Operating System	O/S Media	Power cord	Keyboard	Memory	Disk	Graphics	Monitor
PB78P-AA	Windows NT	Included ¹	120 V	Included	128 MB	2.1 GB	Mandatory	Required
PB78P-AB	Windows NT	Mandatory	240 V	Required	128 MB	2.1 GB	Mandatory	Required
PB78P-AC	Windows NT	Included ¹	120 V	Included	256 MB	2.1 GB	Mandatory	Required
PB78P-AD	Windows NT	Mandatory	240 V	Required	256 MB	2.1 GB	Mandatory	Required
PB78P-FE	DIGITAL UNIX	FIS	120 V	Included	128 MB	2.1 GB	Recommended	Recommended
PB78P-FF	DIGITAL UNIX	FIS	240 V	Recommended	128 MB	2.1 GB	Recommended	Recommended
PB78P-FG	DIGITAL UNIX	FIS	120 V	Included	256 MB	2.1 GB	Recommended	Recommended
PB78P-FH	DIGITAL UNIX	FIS	240 V	Recommended	256 MB	2.1 GB	Recommended	Recommended
PB78P-ME	OpenVMS	FIS	120 V	Included	128 MB	2.1 GB	Recommended	Recommended
PB78P-MF	OpenVMS	FIS	240 V	Recommended	128 MB	2.1 GB	Recommended	Recommended
PB78P-MG	OpenVMS	FIS	120 V	Included	256 MB	2.1 GB	Recommended	Recommended
PB78P-MH	OpenVMS	FIS	240 V	Recommended	256 MB	2.1 GB	Recommended	Recommended

5/500 Rackmount Packaged systems								
Order Number	Operating System	O/S Media	Power cord	Keyboard	Memory	Disk	Graphics	Monitor
PB79P-AA	Windows NT	Included ¹	120 V	Included	128 MB	4.3 GB	Mandatory	Required
PB79P-AB	Windows NT	Mandatory	240 V	Required	128 MB	4.3 GB	Mandatory	Required
PB79P-AC	Windows NT	Included ¹	120 V	Included	256 MB	4.3 GB	Mandatory	Required
PB79P-AD	Windows NT	Mandatory	240 V	Required	256 MB	4.3 GB	Mandatory	Required
PB79P-FA	DIGITAL UNIX	FIS	120 V	Included	128 MB	4.3 GB	Recommended	Recommended
PB79P-FB	DIGITAL UNIX	FIS	240 V	Recommended	128 MB	4.3 GB	Recommended	Recommended
PB79P-FC	DIGITAL UNIX	FIS	120 V	Included	256 MB	4.3 GB	Recommended	Recommended
PB79P-FD	DIGITAL UNIX	FIS	240 V	Recommended	256 MB	4.3 GB	Recommended	Recommended
PB79P-MA	OpenVMS	FIS	120 V	Included	128 MB	4.3 GB	Recommended	Recommended
PB79P-MB	OpenVMS	FIS	240 V	Recommended	128 MB	4.3 GB	Recommended	Recommended
PB79P-MC	OpenVMS	FIS	120 V	Included	256 MB	4.3 GB	Recommended	Recommended
PB79P-MD	OpenVMS	FIS	240 V	Recommended	256 MB	4.3 GB	Recommended	Recommended

1. Windows NT Server license, media (CD-ROM) kit North American English.

Key: Mandatory items must be on purchase order at initial order acceptance
 Required items are essential for full system operation
 Recommended items enhance system functionality
 FIS = Factory Installed Software

Step 2—Memory

- .. Packaged Systems include one 64 MB, 128 MB, or 256 MB memory kit.
- .. System supports up to four memory kits (each kit includes industry-standard SIMMs and ECC support).
- .. System supports maximum of 1 GB memory

PB7MA-CB	32 MB 70ns (8 MB SIMMs) memory kit
PB7MA-CC	64 MB 70ns (16 MB SIMMs) memory kit
PB7MA-CD	128 MB 70ns (32 MB SIMMs) memory kit
PB7MA-CE	256 MB 70ns (64 MB SIMMs) memory kit

Step 2a—Prestoserve Non-Volatile Random Access Memory (NVRAM)

Supported on DIGITAL UNIX systems only, maximum one Prestoserve option per system.

DJ-ML200-BA	PCI-based 4 MB PrestoServe I/O performance enhancement option
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Step 3—Monitors

- .. Windows NT systems require a graphics monitor to run all functions.
- .. EISA Configuration Utility (ECU) is accessible via the console port for DIGITAL UNIX and OpenVMS systems. Optional graphics capability is available. Select graphics adapter, monitor, and country specific keyboard for DIGITAL UNIX and OpenVMS systems if required.
- .. Graphics monitors other than those listed below can be used if compatible with graphics adapter included with system.

Note: Higher resolution available with optional EISA or PCI graphics adapters (see Step 5).

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 variant.
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 variants.
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 4—Storage

Configuration rules for Pedestal Internal Storage

- .. Integral Fast Wide Single Ended (FWSE) SCSI-2 controller supports maximum of seven wide and/or narrow devices in any combination of:
 - Two internal narrow 5.25-inch removable media devices
 - Six narrow or wide 3.5-inch hard disk drives in internal storage assembly
 - One external narrow storage device. Maximum external SCSI cable length cannot exceed .5 meters
- .. Pedestal enclosure supports ten storage devices: one dedicated diskette drive slot, two removable media slots, seven 3.5-inch internal hard disk drives.
- .. Pedestal system internal storage assembly is configured in single-bus mode and can be reconfigured in split bus mode.
- .. An additional SCSI-2 controller is required to support internal storage assembly if set for split-bus mode.

Configuration rules for Rackmount Internal Storage

- .. Integral Fast Wide Single Ended (FWSE) SCSI-2 controller supports maximum of five wide and/or narrow devices:
 - Two internal narrow 5.25-inch removable media devices.
 - Three narrow or wide 3.5-inch internal hard disk drives (each narrow drive ordered requires a wide to narrow SCSI adapter (PBXKP-BA).
- .. Rackmount enclosure supports six storage devices: one dedicated diskette drive slot, two removable media slots, three 3.5-inch internal hard disk drives.

Step 4a—Internal Storage

- .. Pedestal and Rackmount Packaged systems include:
 - 1.44 MB diskette drive in dedicated slot.
 - One CD-ROM drive
 - One 1.05 GB, 2.1 GB, or 4.3GB wide hard drive (see Step 1)

Removable Media Devices

PBXRD-DA	600 MB 5.25-inch half-height 12 X CD-ROM drive (RRD46)
PBXTZ-AA	2.0 GB 5.25-inch half-height SCSI QIC tape drive (TZK11)
PBXTL-DA	8.0 GB 5.25-inch x 1.6-inch SCSI 4 mm DAT drive (TLZ09)
TLZ10-LG	12/24 GB 5.25-inch 4 mm DAT SCSI tape drive Frost White

Pedestal System Hard Disk Drives

DS-RZ28L-VZ	2.1 GB Wide 5400 RPM SCSI Disk Drive SBB
DS-RZ28L-VA	2.1 GB Narrow SCSI Disk Drive, SBB
DS-RZ29L-VA	4.3 GB Narrow SCSI Disk Drive, SBB
DS-RZ40 -VA	9 GB Narrow SCSI Disk Drive, SBB
DS-RZ1BB-VW	2.1 GB Wide SCSI Disk Drive, SBB
DS-RZ1CB-VW	4.3 GB Wide SCSI Disk Drive, SBB
DS-RZ1DB-VW	9 GB Wide SCSI Disk Drive, SBB

Pedestal system internal SCSI Cable Kits

PB7HA-AA	Includes 50 conductor cable from 8-bit narrow SCSI controller to internal storage assembly, cable from internal storage assembly to external bulkhead, and external terminator.
PB7HA-BA	Includes 68 conductor cable from 16-bit wide SCSI controller to internal storage assembly, cable from internal storage assembly to wide SCSI external bulkhead, jumper cable to put internal storage assembly into single bus mode, and external single-ended wide SCSI terminator.
BC25V-1H	Includes one 68 conductor cable from 16-bit wide SCSI controller to wide SCSI external bulkhead.

Step 4a—Internal Storage (continued)**Rackmount Hard Disk Drives—factory or field installed**

PBXRZ-JC	2.1 GB 7200 RPM Narrow SCSI Disk Drive (RZ28L)
PBXRZ-NB	4.3 GB 7200 RPM Narrow SCSI Disk Drive (RZ29L)
PBXRZ-SA	9.1 GB 7200 RPM Narrow SCSI Disk Drive (RZ40)
PBXRW-HB	2.1 GB Wide Disk Drive (RZ28M-W)
PBXRW-JC	2.1 GB 7200 RPM Wide UltraSCSI Disk Drive (RZ1BB)
PBXRW-NB	4.3 GB 7200 RPM Wide UltraSCSI Disk Drive (RZ1CB)
PBXRW-SA	9.1 GB 7200 RPM Wide UltraSCSI Disk Drive (RZ1DB)

Step 4b—Storage Controller

- .. Maximum two EISA-based KZESC-xx SCSI controllers supported per system. Maximum number of EISA-based controllers of all types is limited by the total number of available EISA slots and available IRQs.
- .. KZPSC-xx StorageWorks RAID Array 230 includes PCI backplane RAID controller and StorageWorks RAID Array 230 Subsystem family software and documentation kit for OpenVMS, DIGITAL UNIX and Windows NT.
 - KZPSC-AA one-port controller installed in Pedestal system requires a PB7HA-BA SCSI cable kit for connection to internal StorageWorks shelf, two kits required for split bus mode.
 - KZPSC-BA three-port controller installed in Pedestal system requires one PB7HA-BA SCSI cable kit for connection to internal StorageWorks shelf, split-bus mode requires two SCSI cable kits. **Note:** If all three ports on KZPSC-BA controller are used, third external port blocks an additional PCI bulkhead slot.
- .. KZESC-xx StorageWorks RAID Array 210 includes EISA backplane RAID controller and StorageWorks RAID Array 210 Subsystem family software and documentation kit for OpenVMS, DIGITAL UNIX and Windows NT.
 - KZESC-AA one-port controller installed in Pedestal system requires one PB7HA-AA SCSI cable kit for connection to internal StorageWorks shelf, split-bus mode requires two SCSI cable kits.
 - KZESC-BA three-port controller installed in Pedestal system requires one PB7HA-AA SCSI cable kit for connection to internal StorageWorks shelf, split-bus mode requires two SCSI cable kits. **Note:** If all three ports on KZESC-BA controller are used for external storage, third external port blocks an additional PCI bulkhead slot.
- .. KZPSA-BB PCI-based one-port Fast Wide Differential SCSI controller supports externally connected wide disks in BA356/BA36R with DWZZB signal converter, or narrow disks in BA35R with DWZZA signal converter. Internal hard disk drives are not supported on FWD controller.
- .. SCSI cables are not included and must be ordered separately.
- .. External DSSI cables are not included and must be ordered separately.

SCSI Controllers

KZPAA-AA	PCI-based one-port high-performance Fast Narrow Single Ended (FNSE) SCSI-2 controller
BN21H-xx	Connects from KZPAA-AA to narrow StorageWorks enclosures and narrow StorageWorks rackmount shelves. Pedestal system requires PB7HA-AA SCSI cable kit for connection to internal StorageWorks shelf
KZPSA-BB	PCI-based one-port high-performance Fast Wide Differential (FWD) SCSI controller. Supports external disks only.
BN21K-02	Connects from KZPSA to DWZZA-VA in narrow StorageWorks enclosures and narrow StorageWorks rackmount shelves, or DWZZB-VW in wide StorageWorks enclosures and wide StorageWorks rackmount shelves
KZPDA-AA	PCI-based one-port Fast Wide Single Ended (FWSE) SCSI controller
BN21K-02	Connects from KZPDA to wide StorageWorks enclosures and wide StorageWorks rackmount shelves.

Step 4b—Storage Controller (continued)**SCSI Controllers (continued)**

KZPSC-AA¹	One-port PCI backplane RAID Fast Wide Single Ended (FWSE) controller; includes StorageWorks RAID Array 230 Subsystem family software and documentation kit. Pedestal system requires PB7HA-BA SCSI cable kit for connection to internal StorageWorks shelf.
BN31S-1E	Connects from KZPSC-AA to wide StorageWorks enclosures and wide StorageWorks rackmount shelves
BN31L-1E	Connects from KZPSC-AA to narrow StorageWorks enclosures and narrow StorageWorks rackmount shelves
KZPSC-BA¹	Three-port PCI backplane RAID (FWSE) controller; includes StorageWorks RAID Array 230 Subsystem family software and documentation kit. Pedestal system requires PB7HA-BA SCSI cable kit for connection to internal StorageWorks shelf.
BN31K-0E	SCSI cable/bulkhead assembly kit for KZPSC-BA; required for connection to third port; uses one PCI bulkhead slot.
BN31S-1E	Connects from KZPSC-BA to wide StorageWorks enclosures and wide StorageWorks rackmount shelves
BN31L-1E	Connects from KZPSC-BA to narrow StorageWorks enclosures and narrow StorageWorks rackmount shelves
KZESC-AA¹	One-port EISA backplane RAID (FNSE) controller; includes StorageWorks RAID Array 210 Subsystem family software and documentation kit. Pedestal system requires PB7HA-AA SCSI cable kit for connection to internal StorageWorks shelf
BN21H-02	Connects from KZPAA-AA to narrow StorageWorks enclosures and narrow StorageWorks rackmount shelves
BN21N-02	Connects from KZESC-BA to wide StorageWorks enclosures and wide StorageWorks rackmount shelves
KZESC-BA¹	Three-port EISA backplane RAID controller; includes StorageWorks RAID Array 210 Subsystem family software and documentation kit. Pedestal system requires PB7HA-AA SCSI cable kit for connection to internal StorageWorks shelf.
CK-SWXCR-AA	SCSI cable/bulkhead assembly kit for KZESC-BA, required for connecting second and third ports to bulkhead slot
BN21H-02	Connects from KZESC-BA to narrow StorageWorks enclosures and wide StorageWorks rackmount shelves
BN21N-02	Connects from KZESC-BA to wide StorageWorks enclosures and wide StorageWorks rackmount shelves
KZPSM-AA	PCI-based SCSI Ethernet combination controller. (FWSE) SCSI controller, 10 Mbit Ethernet.
BC25V-1A	SCSI cable/bulkhead assembly kit for KZPSM-AA; connects from KZPSM-AA to bulkhead for external storage; requires BN21K-xx SCSI cable
BN21K-xx	Connects from KZPSM-AA bulkhead assembly kit wide StorageWorks enclosures and wide StorageWorks rackmount shelves

1. See the *Storage Devices* section for additional information on StorageWorks RAID Array 2x0 Subsystems.

DSSI Controllers

KFPSA-AA	PCI-based single-DSSI controller (OpenVMS systems only). See Step 4f in this section.
KFESB-AA	EISA-based single-DSSI controller (OpenVMS systems only). Uses one EISA slot if system is end node in OpenVMS cluster, or two slots if system is middle node in OpenVMS cluster. Maximum two (if end node in cluster) or maximum of one (if middle node in cluster). See Step 4f in this section.

Step 4c—External Tape Expansion

- .. Integral Fast Wide Single Ended SCSI-2 controller installed in Pedestal systems can be extended outside the system enclosure for narrow devices only.
 - 0.5 meters when internal narrow device is connected and StorageWorks assembly is configured in single-bus mode in Pedestal enclosure only.
 - 1.0 meters when internal narrow device is connected and StorageWorks assembly is configured in split-bus mode in Pedestal enclosure only.
- .. External tape drives are also supported on optional PCI-based SCSI controllers.
 - KZPAA-AA—maximum bus length including cable and tape device cannot exceed 3.0 meters.
 - KZPSA-BB—maximum bus length including cable and tape device cannot exceed 25.0 meters.
- .. External tape drives supported on one- and three-port (KZPSC-xx) SCSI controllers on Windows NT systems only.
- .. External tape drives are not supported on one- and three-port (KZESC-xx) Fast-SCSI-2 controllers.
- .. Each tabletop tape device requires high density 50-pin to low density 50-pin SCSI cable (BN23G-0E). External Tapes supported on Windows NT Servers

TZK11-VA	2.0 GB QIC SCSI tape drive in 5.25-inch carrier
TZK11-DA	2.0 GB QIC SCSI tabletop tape drive
TLZ09-VA	8 GB 4 mm DAT 93 MB/min (compressed) 5.25-inch narrow SCSI tape drive in StorageWorks carrier
TLZ09-DB	8 GB 4 mm DAT 93 MB/min (compressed) 5.25-inch narrow tabletop tape drive
DS-TLZ10-VA	12/24 GB 4 mm DAT narrow SCSI tape drive in StorageWorks carrier
DS-TLZ10-DB	12/24 GB 4 mm DAT Tabletop narrow single-ended SCSI drive
TZ88N-VA	20/40 GB DLT 3 MB/s SCSI cartridge tape drive in 5.25-inch StorageWorks carrier
TZ88N-TA	20/40 GB DLT 3 MB/s SCSI cartridge tabletop tape drive
DS-TZ89N-VW	35/70 GB 5.25 inch single-ended SCSI DLT in StorageWorks carrier
DS-TZ89N-TA	35/70 GB DLT Tabletop narrow single-ended SCSI drive
TKZ9E-VA¹	2/5/7/10/14 GB 8 mm Helical Scan 5.25-inch SCSI tape drive in StorageWorks carrier

1. Supported on DIGITAL UNIX and OpenVMS systems only.

Step 4d—External Disk Expansion for Pedestal Systems

- .. BA353 expansion units are supported on wide and narrow SCSI controllers. Devices operate in narrow mode when BA353 is connected to a Fast Wide SCSI controller.
- .. BA362, BA364, BA356 and BA346 expansion units are supported on Fast Wide SCSI controllers.

StorageWorks Modular Storage Options¹

BA353-AA	StorageWorks 8-bit narrow desktop expansion unit includes enclosure and 120V power cord. Supports up to three 3.5"-inch narrow hard disk drives. Not supported with RAID controllers.
BA356-KC	StorageWorks 16-bit wide Pedestal expansion unit includes BA356 basic shelf, BA35X-HA universal ac power supply, pedestal mounting kit, and 120V power cord. Supports up to seven 3.5-inch wide or narrow drives; narrow drives operate in narrow mode.
BA346-KB	StorageWorks 16-bit wide Pedestal expansion unit includes BA356 basic shelf, BA35X-HA universal ac power supply, pedestal mounting kit, and 120V power cord. Supports up to nine devices, two 5.25-inch narrow and seven 3.5-inch wide or narrow drives; narrow drives operate in narrow mode.
BA362-AA/AB	StorageWorks desktop expansion unit, supports up to two 3.5-inch narrow/wide SCSI devices.
BA364-AA/AB	StorageWorks desktop expansion unit, supports up to four 3.5-inch narrow/wide SCSI devices and one fixed CD-ROM.
DWZZA-VA	Bi-directional SCSI signal converter and bus extender kit. A 16 bit Fast Wide Differential SCSI-2 on one end and an 8-bit Fast Narrow Single-Ended SCSI-2 on the other end.
DWZZB-VW	Bi-directional SCSI signal converter and bus extender kit. A 16 bit Fast Wide Differential SCSI-2 on one end and an 8- or 16-bit Fast Wide or Fast Narrow Single-Ended SCSI-2 on other end.

1. See the chapter *Storage Device* for additional ordering information for StorageWorks modular storage expansion and supported devices.

Step 4e—External Disk Expansion for Cabinet Systems

- .. External BA35R Rackmount StorageWorks shelves are supported on all Fast SCSI-2 controllers.
- .. External BA36R Rackmount StorageWorks shelves are supported on Fast Wide SCSI controller.
- .. AlphaServer 1000 Rackmount systems provide four SCSI expansion ports on rear panel of system.
- .. Order BN21H-02 cable to connect a single BA35R StorageWorks shelf to controllers.
- .. Order BN31*-xx cable to connect a single BA36R StorageWorks shelf to controllers.

StorageWorks BA35R/BA36R 8-bit and 16-bit Rackmount Shelves

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
BA35R-SF	Front Mount BA356 Rackmount StorageWorks Shelf, BA35X-MG 8-bit I/O module, BA35X-HF power supply
BA35R-SR	Rear Mount BA356 Rackmount StorageWorks Shelf, BA35X-MG 8-bit I/O module, BA35X-HF power supply
DWZZA-VA	Bi-directional SCSI signal converter and bus extender kit. A 16-bit Fast Wide Differential SCSI-2 on one end and an 8-bit Fast Narrow Single-Ended SCSI-2 on the other end. Requires BN21K-** cable.
DWZZB-VW	Bi-directional SCSI signal converter and bus extender kit. A 16-bit Fast Wide Differential SCSI-2 on one end and an 8-bit or 16-bit Fast Wide Single-Ended SCSI-2 on the other end. Requires BN21K-** cable.

1. See *Storage Devices* for additional ordering information for StorageWorks modular storage expansion and supported devices.

Hard Disk Drives for Rackmount StorageWorks Shelves (External Only)¹

- .. Wide drives require wide controller to operate in 16-bit wide mode.
- .. Wide drives are supported in BA36R Rackmount StorageWorks shelves
- .. Narrow drives are supported in BA35R Rackmount StorageWorks shelves

DS-RZ29L-VA	4.3 GB Narrow SCSI Disk Drive, SBB
DS-RZ40 -VA	9.1 GB Narrow SCSI Disk Drive, SBB
DS-RZ28L-VA	2.1 GB 5400 RPM Narrow SCSI Disk Drive, SBB
DS-RZ1BB-VW	2.1 GB 7200 RPM Wide SCSI Disk Drive, SBB
DS-RZ1CB-VW	4.3 GB 7200 RPM Wide SCSI Disk Drive, SBB
DS-RZ1DB-VW	9 GB 7200 RPM Wide SCSI Disk Drive, SBB

1. Wide drives operate in 8-bit narrow mode when connected to integral Fast Narrow Single Ended SCSI-2 controller

Step 4f—DSSI Cables

- .. KFESB-AA EISA based DSSI controller cables:
 - KFESB to any external Pin-Socket DSSI connection (VAX 4000s, R400X) requires BC22Q-xx DSSI cable.
 - KFESB to any external Micro-Ribbon DSSI straight connection (all other DSSI systems and storage devices requiring straight connection) requires BC21Q-xx DSSI cable.
 - 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.
- .. KFPSA PCI based DSSI controller cables:
 - KFPSA to any external Pin-Socket DSSI connection requires BC22Q-xx.
 - KFPSA to any external Micro-Ribbon DSSI straight connection (all other DSSI systems and storage devices requiring straight connection) requires BC21Q-xx.
 - KFPSA 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.
 - Order BC29U-02 DSSI cable for HSD10 in adjacent BA36R-Ax shelves.
 - Order BC29V-06 DSSI cable for HSD10 in non-adjacent BA36R-Ax shelves.

Step 5—Graphics Adapters

Note: Selection of graphics option is mandatory for Windows NT Pedestal Packaged Systems.

- .. EISA Configuration Utility (ECU) is accessible via the console port for DIGITAL UNIX and OpenVMS systems
- .. Optional graphics capability is available. Select graphics adapter, monitor, and country specific keyboard for DIGITAL UNIX and OpenVMS systems if required

PB2GA-JB	PCI-based 1MB DRAM graphics adapter 1024 x 768
PB2GA-AB	PCI-based 2MB DRAM graphics adapter 1024 x 768
PBXGB-AA	PCI-based 8-plane 1280 x 1024 graphics adapter
PBXGB-CA	PCI-based 24-plane 1280 x 1024 graphics adapter

Step 6—Networks and Communications

- .. Packaged systems include PCI-based Fast 100 Ethernet (Twisted Pair) controller (DE500-AA), uses one PCI slot.
- .. All options use one slot except DEFEA-DA which uses two slots.
- .. Select networking cable for Ethernet controller.
 - BN26K-xx for 10BaseT (twisted pair)

DE500-AA	PCI-based Fast Ethernet network interface card (see PCI Option Slot Table)
DE450-CA	PCI-based DIGITAL Etherworks 32-bit network interface card (twisted pair, Thick wire, ThinWire)
DEFPA-AB¹	PCI-based DEC FDDI controller, Single Attachment; maximum seven on OpenVMS and Windows NT, four on DIGITAL UNIX.
DEFPA-DB	PCI-based DEC FDDI controller, Dual Attachment, maximum seven on OpenVMS and Windows NT, four on DIGITAL UNIX.
DEFPA-UB	PCI-based DEC FDDI (UTP) controller; maximum seven on OpenVMS and Windows NT, four on DIGITAL UNIX.
DEFEA-AA²	EISA-based DEC FDDI controller, single attachment
DEFEA-DA²	EISA-based DEC FDDI controller, dual attachment (requires two slots)
DEFEA-UA²	EISA-based DEC FDDI (UTP) controller
CXI01-AA	ISA Async MUX Adapter, 16 lines—expandable to 64 lines; Windows NT and DIGITAL UNIX only
CXI01-AD	ISA Async MUX Adapter, 16 lines—expandable to 224 lines; Windows NT and DIGITAL UNIX only
DI1AA-AA	ISA-based ISDN terminal adapter (U.S.); Windows NT only
DI1AA-AB	ISA-based ISDN terminal adapter (non-U.S.); Windows NT only

1. Supported as data device only
2. Support maximum two per system only.

Step 7—Additional Power Supply—Pedestal Systems Only¹

Note: AlphaServer 1000A Rackmount and Cabinet systems do not support dual power supply configurations

- .. Additional power supply may be added to AlphaServer 1000A Pedestal system for n+1 redundancy.
- .. Country specific power cord must be ordered separately, see Step 10 of this section.

H7290-AA	450 W Redundant Power Supply Option
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1. See UPS information following System Specifications.

Step 8—Printers and Remote Console

KCRCM is an EISA form-factor card that allows a remote user to gain access to system's console terminal port to reset, halt, and power cycle the system. It functions independently of operating system.

KCRCM-AA	Remote System access for 110V North American
KCRCM-BA	Remote System access for 220V Europe
KCRCM-CA	Remote System access for 220V UK
KCRCM-DA	Remote System access for 240V Australia/New Zealand

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—Software

- .. North American variants of Windows NT Packaged systems include Windows NT license, media (CD-ROM) kits (see Step 1). **Note:** Selection of language specific Windows NT media kit is mandatory for non North American variants.
- .. Order documentation kit if required.

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-23C5A-SB	Windows NT Server license, media kit Thai
QB-23CMA-SB	Windows NT Server license, media kit Swedish
QB-23CTA-SB	Windows NT Server license, media kit Hebrew
QB-23CQA-SB	Windows NT Server license, media kit Arabic
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

QA-23CAA-GZ	Windows NT Server documentation kit
QA-23C8A-GZ	Windows NT International English Server documentation kit
QB-4G45A-AA	Purveyor Web Server Software V1.1 for Process Software Corp.

Step 9—Software (continued)**DIGITAL UNIX****Software Processor Code = E**

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

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

DIGITAL UNIX Layered Products CD-ROM

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

DECnet for DIGITAL UNIX

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

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.

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 on-line documentation CD-ROM
 QA-001AA-GZ OpenVMS hardcopy documentation

OpenVMS Layered Products CD-ROM

- QA-03XAA-H8¹ Layered products media and documentation for OpenVMS on CD-ROM

1. Includes DIGITAL Enterprise Integration Server for OpenVMS media and documentation

DIGITAL Enterprise Integration Package

- QA-5LVAA-H8 DIGITAL Enterprise Integration Server for OpenVMS media and documentation

Step 9—Software (*continued*)

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
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Step 10—Power Cords, Keyboards, and Documentation

Keyboards

- .. Some variants include a keyboard (see Step 1 of this section). For these variants, if an additional keyboard is ordered, both keyboards ship with system.

Windows NT/DIGITAL UNIX keyboard	OpenVMS keyboard	Frost White
LK47W-A2		U.S.
	LK46W-A2	U.S./United Kingdom
LK47W-AB	LK46W-AB	Belgian
	LK46W-AC	Canadian/French
LK47W-AD	LK46W-AD	Danish
LK47W-AE		United Kingdom
	LK46W-AF	Finnish
LK47W-AG	LK46W-AG	German
	LK46W-AH	Dutch
LK47W-AI	LK46W-AI	Italian
LK47W-AK	LK46W-AK	Swiss/Generic
	LK46W-AL	Swiss/German
	LK46W-AM	Swedish
LK47W-AN	LK46W-AN	Norwegian
LK47W-AP	LK46W-AP	French
	LK46W-AQ	Canadian/English
LK47W-AS	LK46W-AS	Spanish
LK47W-AV	LK46W-AV	Portuguese

Pedestal and Monitor Power Cords

Systems ordered in the Americas and AP include a BN26J-1K 120 V (North American, Japan) power cords. Order a country specific power cords for all systems ordered in Europe.

- 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
 BN19Z-2E Italy, 2.5 m long
 BN19S-2E Egypt, India, South Africa, 2.5 m long
 BN18L-2E Israel, 2.5 m long

Step 10—Power Cords, Keyboards, and Documentation

Rackmount Power Cords

- .. 120V and 240V 15 foot power cords are included with all systems, variant designates power cord voltage (see Step 1 of this section).

Note: AlphaServer 1000A Pedestal system power cords are less than 15 feet in length and are not supported in cabinet enclosures.

Mouse and Extension Cable Kit

PBXWS-AA	3-button mouse (included with all systems, order as spare or replacement)
2T-450KM-AA	Extension cable kit for VGA, PC style keyboard, and mouse, for use with Rackmount systems.

Step 11—Cabinet Enclosure

Select cabinet enclosure for AlphaServer 1000A Rackmount systems, if required.

- .. H9A10 19-inch EIA Cabinet Enclosure
 - Outside: 66.9-inches high
 - Internal usable rackmountable space: 59.5-inches high, 19-inches wide, 30.8-inches deep
- .. H9A15 19-inch EIA Cabinet Enclosure
 - Outside: 78.7-inches high
 - Internal usable rackmountable space: 71.75-inches high, 19-inches wide, 29.75-inches or 37.12-inches deep
- .. H9A11 19-inch EIA Cabinet Enclosure
 - Outside: 43.3-inches high
 - Internal usable rackmountable space: 36.75-inches high, 19-inches wide, 29.75-inches or 37.15-inches deep

H9A10-CE	120V EIA Cabinet assembly, dual power controllers, RETMA rails
H9A10-CJ	240V EIA Cabinet assembly, dual power controllers, EIA standard rails
H9A10-CG	120V EIA Cabinet assembly, dual power controllers, swing front door, RETMA rails
H9A10-CK	240V EIA Cabinet assembly, dual power controllers, swing front door, EIA standard rails
H9A10-AB	EIA Cabinet assembly, no power controller, swing rear door
H9A10-AD	EIA Cabinet assembly, no power controller, swing front and rear doors
H9A15-BA/BB	120 V/240 V EIA Cabinet assembly, 29.75 inches deep, dual power controllers, swing rear door
H9A15-BC/BD	120 V/240 V EIA Cabinet assembly, 29.75 inches deep, dual power controllers, swing front and rear doors
H9A15-CA/CB	120 V/240 V EIA Cabinet assembly, 37.12 inches deep, dual power controllers, swing rear door
H9A15-BE	EIA Cabinet assembly, 29.75 inches deep, no power controller, swing rear door
H9A11-BA/BB	120V/240 V EIA Cabinet assembly 30.8 inches deep, one power controller, lift-off rear door
H9A11-BE	EIA Cabinet assembly, 30.8 inches deep, no power controller, lift-off rear door

Power Distribution Units for Cabinets with No Power Controller

H7600-AA	Power Distribution Unit 100V-120V, 50-60 Hz, 24A 5 duplex 5-15R outlets, L5-30 power plug, 2 pole 15A circuit breaker, for use in 19-inch cabinets with RETMA rails. Requires two ac outlets, 120V 60 Hz, NEMA L5-30R.
H7600-AB	Power Distribution Unit 200V-240V, 50-60 Hz, 16A 5 duplex 6-15R outlets, L6-30 power plug, 2 pole 20A circuit breaker, for use in 19-inch cabinets with RETMA rails. Requires two ac outlets, 240V 50/60 Hz, NEMA L6-20R.
H7600-DB	Power Distribution Unit, 200V-240V, 50-60 Hz, 16A 12 IEC 320 C13 outlets, IEC 309 power plug, 2 pole 16A circuit breaker, for use in 19-inch cabinets with EIA/ANSI (RETMA) rails.

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

FM-MK4HR-36	5 x 9, 4-hour response time
FM-MK512-36	5 x 12, 4-hour response time
FM-MK616-36	6 x 16, 4-hour response time
FM-MK724-36	7 x 24, 4-hour response time
FM-MKXHW-60	Years 1-5, next day, onsite
FM-MK4HR-60	Years 1-5, 5.x.9, 4-hour response time
FM-MK512-60	Years 1-5, 5 x 12, 4-hour response time
FM-MK616-60	Years 1-5, 6 x 16, 4-hour response time
FM-MK724-60	Years 1-5, 7 x 24, 4-hour response time

Software—Americas and Asia Pacific only

- .. DIGITAL 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 Windows NT include advisory and remedial software support for the time period indicated.
- .. Software service upgrades for DIGITAL UNIX include 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.

FM-WNT03-12	12-month Software Supplemental Support for Windows NT AlphaServer 1000A systems
FM-WNT03-36	36-month Software Supplemental Support for Windows NT AlphaServer 1000A systems
FM-WNT03-60	60-month Software Supplemental Support for Windows NT AlphaServer 1000A systems
FM-MKOSF-12	12-month Software Supplemental Support for DIGITAL UNIX AlphaServer 1000A systems
FM-MKOSF-36	36-month Software Supplemental Support for DIGITAL UNIX AlphaServer 1000A systems
FM-MKOSF-60	60-month Software Supplemental Support for DIGITAL UNIX AlphaServer 1000A systems
FM-MKVMS-12	12-month Software Supplemental Support for OpenVMS AlphaServer 1000A systems
FM-MKVMS-36	36-month Software Supplemental Support for OpenVMS AlphaServer 1000A systems
FM-MKVMS-60	60-month Software Supplemental Support for OpenVMS AlphaServer 1000A 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.

AlphaServer 1000A 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 ¹	10°C–40°C (50°F–104°F)	
	Nonoperating	Not tested	
	Storage (60 days)	-40°–66° C (-40°–151° F)	
	Rate of change	11° C/hr (20° F/hr)	
Relative humidity	Operating	20%–80%	
	Nonoperating	20%–80%	
	Storage (60 days)	10%–95%	
	Rate of change	20%/hr	
Maximum wet bulb temperature	Operating	28°C (82°F)	
	Storage (60 days)	39°C (115°F)	
Minimum dew point temperature	Operating	12°C (36°F)	
	Storage (60 days)	Not tested	
Maximum heat dissipation	Current		
	Single supply	2390 Btu/hr	
	Dual supply	4097 Btu/hr	
Air flow and quality	Intake location	Front	
	Exhaust location	Rear	
	Particle size	N/A	
	Concentration	N/A	
Altitude	Operating ²	2000 m (6562 ft)	
	Nonoperating	3600 m (12,000 ft)	
Mechanical shock	Operating	7.5 G 10 ms	
	Nonoperating	20 G peak 30 ms	
Vibration	Operating	10-500 Hz .1 G peak	
Acoustics		Average Declared	
	Operating	6.2 L ^{wA} , B6.5 L ^{wAd} , B	
	Idle	6.0 L ^{wA} , B6.3 L ^{wAd} , B	
Electrical—Power Supplies are universal 120/240 V ac			
Nominal ac voltage	100-120 V ac	220-240 V ac	
Operating Voltage range	90-128 V ac	180-256 V ac	
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)			
	Single power supply	8.0 Amps	4.0 Amps
	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	

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

2. 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 1000A 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 B Verified CE Class B Verified VCCI Class II ITE
Reviewed to	AS 3260 Australian Standard SS 436 14 50 Swedish Standard NZS 6661:1989 New Zealand Standard EN 60 950: 1992 European Norm IEC 950 (2 nd edition)

AlphaServer 1000A Rackmount System Specifications

Shipping Dimension	
Height	26.7 cm (10.5 in)
Width	48.2 cm (19.0 in)
Depth	63.5 cm (25.0 in) system chassis 73.7 cm (29.0 in) system chassis & rackmount hardware
Weight	29 kg (65 lb)
Clearances	
Front	124.04 cm (50.0 in)
Rear	61.0 cm (24.0 in)
Sides	None
Environmental	
Temperature	
Operating	10°C–35°C (50°F–95°F)
Nonoperating	Not tested
Storage (60 days)	-40°C–66°C (-40°F–151°F)
Relative humidity	20%–80%
Operating	20%–80%
Nonoperating	10%–95%
Storage (60 days)	20%/hr
Rate of change	
Air flow and quality	
Intake location	Front
Exhaust location	Rear
Electrical—Power Supplies are universal 120/240 V ac	
Nominal ac voltage	100-120 V ac 220-240 V ac
Operating Voltage range	90-128 V ac 180-256 V ac
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)	
Single power supply	8.0 Amps 4.0 Amps
Power cord	Type IEC 320 C13
	Length 4.57 m (15 ft)
	U.S. plug NEMA 5-15
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 EMCO-TSE (74-SEC), Summary of Nordic deviations FCC 15J Part 15 Class A verified CE Class A verified VCCI Class II ITE
Reviewed to	AD 3260 Australian Standard AS/NZS 3260:1963, Australian/New Zealand Standard EN 60 950: January 1993 European Norm IEC 950 (2 nd edition)

Uninterruptable Power Supplies

Prestige 1250EXT

UPS offerings include EIA232 port for local or network monitoring. For complete protection, UPS products should be used with data line surge protectors and UPS monitoring software.

4N-AEABF-AA	Prestige 1250EXT, 1250 VA/900W, 1 phase, 60 Hz, 120V 6-foot cord with 5-15P plug, (4) 5-15R receptacle, 9 minutes battery at full UPS load.
4N-AEABF-BF	Prestige 1250EXT, 1250 VA/900W, 1 phase, 50 Hz, 200-240V in/out selectable. Uses system power cord for detachable IEC320 input connection at UPS. Includes (3) IEC320 10A output receptacles, (2) output jumpers with IEC320 connectors to system.
4N-AEAEO-PA	Hot-swap Power-Pass Module for 60 Hz UPS with (7) 5-15R Surge Protected outlets.
4N-AEAEO-PB	Hot-swap Power-Pass Module for 50 Hz UPS with (6) IEC320, 10A surge protected outlets.
4N-AEWAR-G1	Prestige 5 year on-site exchange warranty upgrade (U.S. only).

Data Surge Protection

4N-GA249-AB¹	Surge protector, modem connection, wall plug-in
4N-GA249-CA¹	Surge protector, 10BaseT connection, wall plug-in
4N-GA510-BF	Surge Protector, ThinWire connection, device port
4N-GA245-xx	Surge Protector, multi-port connection, din rail/rackmount

1. Additional plug-in data modules (4N-GA240-xx) available.

Monitoring and Unattended Shutdown Software for above UPS systems only (Include cables, media and documentation)

4N-AEAES-AA	Single system shutdown for Windows NT
4N-AEAES-BA¹	NW management and multi system shutdown for Windows NT
4N-AEAES-AK	Single system shutdown for DIGITAL UNIX
4N-AEAES-BK¹	NW management and multi system shutdown for DIGITAL UNIX
4N-AEAES-EM	Single system shutdown for OpenVMS

1. Requires network adapters: 4N-AEAEO-DA/DC for 120V 60 Hz or 4N-AEAEO-DB/DD for 220V 50 Hz.
-DA and -DB = Twisted Pair; -DC and -DD = ThinWire