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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 266-MHz and 300-MHz versions, with 2 MB ECC cache, available in three packages, deskside wide-tower Pedestal, Rackmount, and Cabinet systems.. Customers have a choice of three popular operating systems: Digital UNIX (V3.2.D-2), OpenVMS (V6.2-1H2) and Microsoft Windows NT Server (V3.51). The AlphaServer 1000A 5/300 offers the following high-reliability features: heat sensor, fan failure and power supply sensors, dual Fast Narrow/Wide SCSI backplane and ECC memory.

Advanced server management features are provided with all AlphaServer 1000A shipments via the bundled ServerWORKS Manager kit. The kit includes Simple Network Management Protocol (SNMP) agents for Windows NT V3.51 and Digital UNIX V3.2D. The SNMP agents for OpenVMS will be available with the next release of TCP/IP Services for OpenVMS. The management console software runs on a Windows PC and the SNMP agents are installed on the AlphaServer. 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. Additionally, remote management can be handled via a simple serial link.

- **The AlphaServer 1000A Pedestal System** offers up to 10 internal storage devices including a floppy diskette drive and a CD-ROM, one 5.25-inch bay for an optional removable media drive, and seven hot swap StorageWorks wide or narrow disk drives. The system supports up to 1 GB of memory and over 30 GB of internal storage with seven 4.3 GB disks.

- **The AlphaServer 1000A Rackmount and Cabinet System** offers up to 6 internal storage devices including a floppy diskette drive and a CD-ROM, one 5.25-inch bay for an optional removable media drive, and three wide and/or narrow disk drives. The system supports up to 1 GB of memory and over 12.9 GB of internal storage with three 4.3 GB disks.

The following are integrated on the system motherboard: fast wide single-ended SCSI-2 controller, diskette controller, SVGA controller, two serial ports, one parallel port, and keyboard and mouse controller.

High reliability features, combined with simple management features, make the AlphaServer 1000A ideal for organizations with little or no MIS support. Business-critical applications can run unattended and the management features provide early indications of potential system failures.

Step 1—AlphaServer 1000A Pedestal Systems

- Windows NT Packaged and Base 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. Base systems ordered with a minimum of a 1.05 GB disk, include factory installed software.
- Uninterruptable Power Supplies 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 21064A
  - 266-MHz CPU with 2 MB ECC onboard cache, or
- Alpha microprocessor 21164
  - 300-MHz CPU with 2 MB ECC onboard cache
- Pedestal enclosure with:
  - Seven PCI slots
    Two EISA slots
  - Integral Fast Wide Single-Ended SCSI-2 controller supports wide and narrow devices
  - Integral SVGA graphics controller
  - 20 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-Watt self-sensing, self-switching (120/240V, 60/50Hz) 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 120V power cord (North America, Japan). Mandatory selection of country-specific power cord for all non-North American variants, see Step 10.
- English language documentation. Certain language selections are available; see Step 10.
- EISA Configuration Utility (ECU)
- Integrated Advanced Server Management features, including ServerWorks Manager kit
- Hardware Warranty: Three-year on-site*
- Software Warranty: 90-day SPD conformance with advisory telephone support*
- Windows NT Server plus 5-client access license, media (CD-ROM) kit **or**†
- Digital UNIX 2-user base license, Digital NAS Base Server 200 license **or**
- OpenVMS base license with System Manager license and Digital NAS Base Server 200 license

* Service upgrades are available; see Step 12, Hardware and Software Supplemental Services
† Windows NT language specific media kit is **mandatory** for non-North American variants; see Step 9.

Pedestal Packaged Systems include

- PCI-based Ethernet—uses one PCI slot
- 600 MB CD-ROM—uses one removable media slot
- One hard drive, see below
- One memory option, see below

- North American variants include a 101-key, PC style North American English keyboard. Select country-sepcific keyboard for non-North American variants, see Step 10.

4/266 Pedestal Packaged Systems

Order Number	Operating System	O/S Media	Power cord	Keyboard	Memory	Hard Drive	Monitor
PB74B-AE	Windows NT	Included*	120 V	Included	32 MB	1.05 GB	Required
PB74B-AF	Windows NT	Mandatory	Mandatory	Required	32 MB	1.05 GB	Required
PB74B-FE	Digital UNIX	FIS Included	120 V	Included	32 MB	1.05 GB	Recommended
PB74B-FF	Digital UNIX	FIS Included	Mandatory	Recommended	32 MB	1.05 GB	Recommended
PB74B-ME	OpenVMS	FIS Included	120 V	Included	32 MB	1.05 GB	Recommended
PB74B-MF	OpenVMS	FIS Included	Mandatory	Recommended	32 MB	1.05 GB	Recommended

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

Step 1—AlphaServer 1000A Pedestal Systems *(continued)*

5/300 Pedestal Packaged Systems

Order Number	Operating System	O/S Media	Power cord	Keyboard	Memory	Hard Drive	Monitor
PB77B-AA	Windows NT	Included*	120 V	Included	64 MB	2.1 GB	Required
PB77B-AB	Windows NT	Mandatory	Mandatory	Required	64 MB	2.1 GB	Required
PB77B-FA	Digital UNIX	FIS	120 V	Included	64 MB	2.1 GB	Recommended
PB77B-FB	Digital UNIX	FIS	Mandatory	Recommended	64 MB	2.1 GB	Recommended
PB77B-MA	OpenVMS	FIS	120 V	Included	64 MB	2.1 GB	Recommended
PB77B-MB	OpenVMS	FIS	Mandatory	Recommended	64 MB	2.1 GB	Recommended

* 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

Pedestal Base Systems

4/266 Pedestal Base Systems

Order Number	Operating System	O/S Media	Power cord	Keyboard	Memory	Hard Drive	CD-ROM	Monitor
PB74C-AA	Windows NT	Included[1]	120 V	Included[2]	Required	Required	Required	Required
PB74C-AB	Windows NT	Mandatory	Mandatory	Required	Required	Required	Required	Required
PB74C-FA	Digital UNIX	FIS[3]	120 V	Recommended	Required	Required	Recommended	Recommended
PB74C-FB	Digital UNIX	FIS[3]	Mandatory	Recommended	Required	Required	Recommended	Recommended
PB74C-MA	Open VMS	FIS[3]	120 V	Recommended	Required	Required	Recommended	Recommended
PB74C-MB	Open VMS	FIS[3]	Mandatory	Recommended	Required	Required	Recommended	Recommended

5/300 Pedestal Base Systems

Order Number	Operating System	O/S Media	Power cord	Keyboard	Memory	Hard Drive	CD-ROM	Monitor
PB77C-AA	Windows NT	Included[1]	120 V	Included[2]	Required	Required	Required	Required
PB77C-AB	Windows NT	Mandatory	Mandatory	Required	Required	Required	Required	Required
PB77C-FA	Digital UNIX	FIS[3]	120 V	Recommended	Required	Required	Recommended	Recommended
PB77C-FB	Digital UNIX	FIS[3]	Mandatory	Recommended	Required	Required	Recommended	Recommended
PB77C-MA	Open VMS	FIS[3]	120 V	Recommended	Required	Required	Recommended	Recommended
PB77C-MB	Open VMS	FIS[3]	Mandatory	Recommended	Required	Required	Recommended	Recommended

1. Windows NT Server license, media (CD-ROM) kit North American English.
2. 101-key, PC style, North American English, keyboard.
3. Base systems ordered with a minimum of a 1.05 GB disk, include factory installed software (FIS).

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

PCI Option Slot Table

- Use table for options restricted to slots **0, 1 and 2 only**.

Order Number	Description	Max #	Restriction applies to
KZPSC-AA	One-port PCI-based RAID Controller	3	Digital UNIX, OpenVMS, Windows NT
KZPSC-BA	Three port PCI-based RAID Controller	3	Windows NT only
DJ-ML200-BA	4 MB PCI Prestoserve option	1	Digital UNIX, OpenVMS, Windows NT
DE500-XA	PCI-based Fast Ethernet network interface card	2	Digital UNIX, OpenVMS, Windows NT
PBXGA-JB	PCI based S3 TRIO Graphics Adapter	1	OpenVMS only

Step 1a—AlphaServer 1000A Rackmount Systems

- 4/266 Windows NT Packaged and Base systems:
  - North American variants include Windows NT license, media (CD-ROM) kit, North American English
  - Non-North American variants include Windows NT license, media (CD-ROM) kit, International English
- 5/300 Windows NT Packaged and Base 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 non-North American variants, see Step 9.
- Digital UNIX and OpenVMS Packaged systems include factory installed software (FIS) on hard disk drive. Base systems ordered with a minimum of a 1.05 GB disk include factory installed software.
- Uninterruptable Power Supplies 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 300-MHz CPU with 2 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
  - Integral SVGA graphics controller
  - 20 SIMM memory slots support 4 memory options
  - 6 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-Watt self-sensing, self-switching (120/240V, 60/50Hz) 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
- Three-button mouse
- 15-foot power cord (120V/240V 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-site*
- Software Warranty: 90-day SPD conformance with advisory telephone support*
- Windows NT Server plus 5-client access license, media (CD-ROM) kit **or**†
- Digital UNIX 2-user base license, Digital NAS Base Server 200 license **or**
- OpenVMS base license with System Manager license and Digital NAS Base Server 200 license.

* Service upgrades are available; see Step 12, Hardware and Software Supplemental Services
† Windows NT language specific media kit is **mandatory** for 5/300 non-North American variants; see Step 9.

Rackmount Packaged Systems include

- PCI-based Ethernet—uses one PCI slot
- One hard disk drive, see below
- Memory, see below
- 600 MB CD-ROM—uses one removable media slot
- North American variants include a 101-key, PC style, North American English, keyboard. Select country-sepcific keyboard for non-North American variants, see Step 10.
- Cabinet enclosure available separately, see Step 11.

4/266 Rackmount Packaged systems

Order Number	Operating System	O/S Media	Power cord	Keyboard	Memory	Hard Drive	Monitor
PB74P-AA	Windows NT	Included*	120 V	Included	32 MB	1.05 GB	Required
PB74P-AB	Windows NT	Included†	240 V	Required	32 MB	1.05 GB	Required
PB74P-FA	Digital UNIX	FIS	120 V	Included	64 MB	2.1 GB	Recommended
PB74P-FB	Digital UNIX	FIS	240 V	Recommended	64 MB	2.1 GB	Recommended
PB74P-MA	OpenVMS	FIS	120 V	Included	64 MB	2.1 GB	Recommended
PB74P-MB	OpenVMS	FIS	240 V	Recommended	64 MB	2.1 GB	Recommended

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

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

5/300 Rackmount Packaged systems

Order Number	Operating System	O/S Media	Power cord	Keyboard	Memory	Hard Drive	Monitor
PB77P-AA	Windows NT	Included*	120 V	Included	64 MB	2.1 GB	Required
PB77P-AB	Windows NT	Mandatory	240 V	Required	64 MB	2.1 GB	Required
PB77P-FA	Digital UNIX	FIS	120 V	Included	64 MB	2.1 GB	Recommended
PB77P-FB	Digital UNIX	FIS	240 V	Recommended	64 MB	2.1 GB	Recommended
PB77P-MA	OpenVMS	FIS	120 V	Included	64 MB	2.1 GB	Recommended
PB77P-MB	OpenVMS	FIS	240 V	Recommended	64 MB	2.1 GB	Recommended

* 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

Rackmount Base System

- Base systems include 120V or 240V power cord depending on variant chosen.
- Cabinet enclosure available separately, see Step 11.

4/266 Rackmount Base Systems

Order Number	Operating System	O/S Media	Power cord	Keyboard	Memory	Hard Drive	CD-ROM	Monitor
PB74S-AA	Windows NT	Included[1]	120 V	Included[3]	Required	Required	Required	Required
PB74S-AB	Windows NT	Included[2]	240 V	Required	Required	Required	Required	Required
PB74S-FA	Digital UNIX	FIS[4]	120 V	Recommended	Required	Required	Recommended	Recommended
PB74S-FB	Digital UNIX	FIS[4]	240 V	Recommended	Required	Required	Recommended	Recommended
PB74S-MA	OpenVMS	FIS[4]	120 V	Recommended	Required	Required	Recommended	Recommended
PB74S-MB	OpenVMS	FIS[4]	240 V	Recommended	Required	Required	Recommended	Recommended

5/300 Rackmount Base Systems

Order Number	Operating System	O/S Media	Power cord	Keyboard	Memory	Hard Drive	CD-ROM	Monitor
PB77S-AA	Windows NT	Included[1]	120 V	Included[3]	Required	Required	Required	Required
PB77S-AB	Windows NT	Mandatory	240 V	Required	Required	Required	Required	Required
PB77S-FA	Digital UNIX	FIS[4]	120 V	Recommended	Required	Required	Recommended	Recommended
PB77S-FB	Digital UNIX	FIS[4]	240 V	Recommended	Required	Required	Recommended	Recommended
PB77S-MA	OpenVMS	FIS[4]	120 V	Recommended	Required	Required	Recommended	Recommended
PB77S-MB	OpenVMS	FIS[4]	240 V	Recommended	Required	Required	Recommended	Recommended

1. Windows NT Server license, media (CD-ROM) kit North American English
2. Windows NT Server license, media (CD-ROM) kit International English
3. 101-key, PC style, North American English, keyboard.
4. Base systems ordered with a minimum of a 1.05 GB disk, include factory installed software (FIS).

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 *(continued)*

PCI Option Slot Table

- Use table for options restricted to slots **0, 1 and 2 only**.

Order Number	Description	Max #	Restriction applies to
KZPSC-AA	One-port PCI-based RAID Controller	3	Digital UNIX, OpenVMS, Windows NT
KZPSC-BA	Three port PCI-based RAID Controller	3	Windows NT only
DJ-ML200-BA	4 MB PCI Prestoserve option	1	Digital UNIX, OpenVMS, Windows NT
DE500-XA	PCI-based Fast Ethernet network interface card	2	Digital UNIX, OpenVMS, Windows NT
PBXGA-JB	PCI based S3 TRIO Graphics Adapter	1	OpenVMS only

Step 1b—AlphaServer 1000A Cabinet Systems

Cabinet Packaged Systems include

- AlphaServer 1000A Cabinet Systems ship with dual (2) H7600-xx cabinet power distribution units and the following power cords.
  - 120 V systems (H7600-AA) = 2 x 24A terminated with NEMA L5-30P (plugs) and require NEMA L6-20R (receptacles)
  - 240 V systems (H7600-AB) = 2 x 16A terminated with NEMA L6-20P (plugs) and require NEMA L6-20R (receptacles)
- H9A10-CE/-CF Cabinet Dimensions
  - Outside: 66.9-inches high, 23.62-inches wide, 33.8-inches deep
  - Usable internal rackmount: 56-inches high, 19-inches wide, 32.2-inches deep.

4/266 Cabinet Packaged Systems include

- Cabinet enclosure (H9A10-CE/-CF, 120 V or 240 V) with AlphaServer 1000A 4/266 Rackmount Packaged System, **plus**
  - PCI-based Fast Narrow Single Ended SCSI-2 (KZPAA-AA) controller
  - BA35R-SF front-mounted StorageWorks shelf with one RZ28-VA 2.1 GB 3.5-inch disk drive installed
  - BN21H-02 external cable connection to BA35R.

4/266 Cabinet Packaged Systems

PB74R-FA/FB	Digital UNIX Packaged Cabinet rackmount system (PB74P-xx)
PB74R-MA/MB	OpenVMS Packaged Cabinet rackmount system (PB74P-MA/MB)

5/300 Cabinet Packaged Systems include

- Cabinet enclosure (H9A10-CE/-CF, 120 V or 240 V) with AlphaServer 1000A 5/300 Rackmount Packaged System, **plus**
  - One BA36R-AF front-mounted StorageWorks shelf. **Note:** BA36R-AF StorageWorks wide shelf requires a Fast wide SCSI controller and SCSI cable, see Step 4b. Select SCSI devices for installation in BA36R-AF StorageWorks shelf from Step 4e.

5/300 Cabinet Packaged Systems

PB77R-AA*	Windows NT Rackmount Packaged system (PB77P-xx)
PB77R-AB	Windows NT Rackmount Packaged system (PB77P-xx)
PB77R-FA/FB	Digital UNIX Rackmount Packaged system (PB77P-xx)
PB77R-MA/MB	OpenVMS Rackmount Packaged system (PB77P-xx)

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

Step 2—Memory

- Packaged Systems include one 32 MB or 64 MB memory kit.
- System supports up to four memory kits (each kit includes industry-standard SIMMs and ECC support).
- System maximum of 1 GB can be obtained by selecting Base System and four PB7MA-AE/CE 256 MB memory kits.

Memory kits for 4/233 and 4/266 systems	Memory kits for 5/300 systems	Description
PB7MA-AA	N/A	16 MB 70ns (4 MB SIMMs) memory kit
PB7MA-AB	PB7MA-CB	32 MB 70ns (8 MB SIMMs) memory kit
PB7MA-AC	PB7MA-CC	64 MB 70ns (16 MB SIMMs) memory kit
PB7MA-AD	PB7MA-CD	128 MB 70ns (32 MB SIMMs) memory kit
PB7MA-AE	PB7MA-CE	256 MB 70ns (64 MB SIMMs) memory kit
DJ-ML200-BA	DJ-ML200-BA	PCI-based 4 MB PrestoServe I/O Performance Enhancement Option; maximum one per system.

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.
  - OpenVMS supports 640 x 480 x 256 @ 72Hz, 800 x 600 x 256 @ 72Hz
  - Digital UNIX supports 640 x 480 x 256 @ 72Hz, 800 x 600 x 256 @ 72Hz
  - Windows NT supports 640 x 480 x 256 @ 72Hz, 640 x 480 x 256 @ 72 Hz, 800 x 600 x 256 @ 56 Hz, 800 x 600 x 256 @ 60 Hz, 800 x 600 x 256 @ 72 Hz.

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

VRC15-KA/K4   15" (13.9" viewable image size) high-resolution color monitor with Light Gray enclosure. Flat-square CRT with 0.28 mm dot pitch and anti-reflection, anti-glare, anti static coating. Auto-scanning from VGA to 1024 x 768 at 75Hz NI refresh rates. MPR-II, Energy Star, DPMS and NUTEK compliant. 120/240V universal power supply. Includes 1.4 meter HD15 male to male video cable. Select -KA for Northern Hemisphere or -K4 for Southern Hemisphere operation. If purchased in North America, -KA includes 120V power cord, otherwise power cords for -KA and -K4 must be ordered separately, see Step 10.

VRT17-PA/P4   17" (16.0" viewable image size) high-resolution color monitor with Light Gray enclosure. Trinitron aperture grille CRT with 0.26mm stripe pitch and anti-reflection, anti-glare, anti static coating. Auto-scanning from VGA to 1280 x 1024 at 75Hz NI refresh rates. MPR-II, Energy Star, DPMS and NUTEK compliant. 120/240V universal power supply. Includes 3.0 meter HD15 male to BNC video cable. Select -PA for Northern Hemisphere or -P4 for Southern Hemisphere operation. If purchased in North American, -PA includes 120V power cord, otherwise power cords for -PA and -P4 must be ordered separately, see Step 10.

VRC21-LA/L4   21" (19.6" viewable image size) ultra high-resolution color monitor with Light Gray enclosure. Diamondtron aperture grille CRT with 0.30 mm stripe pitch and anti-reflection, anti-glare, anti static coating. Auto-scanning from VGA to 1600 x 1200 at 75Hz NI refresh rates. On Screen display (OSD). Stereo viewing compatible. MPR-II, Energy Star, DPMS and NUTEK compliant. 120/240V universal power supply. Includes 3.0 meter HD15 male to BNC video cable. Select -LA for Northern Hemisphere, or -L4 for Southern Hemisphere operation. If purchased in North America, -LA includes 120V power cord, otherwise power cords for -LA and -L4 must be ordered separately, see Step 10.

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:
  - 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

  To add a narrow drive, order PBXKP-BA (wide to narrow SCSI adapter); one adapter required for each additional drive
- 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

All Pedestal and Rackmount systems include 1.44 MB diskette drive in dedicated slot.

- Pedestal and Rackmount Packaged systems include:
  - One CD-ROM drive
  - One 1.05 GB or 2.1 GB wide hard drive (see Step 1)

Removable Media Devices

PBXRD-CA	600 MB 5.25 inch half-height dual-speed CD-ROM drive (RRD45)
PBXTZ-AA	2.0 GB 5.25-inch half-height SCSI QIC tape drive (TZK11)
PBXTL-CA	8.0 GB 3.5-inch half-height SCSI 4 mm DAT drive (TLZ07)

Pedestal System Hard Drives

RZ26N-VA	1.05 GB 8-bit narrow 5400 RPM 3.5 x 1" SCSI hard disk drive
RZ28D-VA	2.1 GB 8-bit narrow 7200 RPM 3.5 x 1" SCSI hard disk drive
RZ28M-VA	2.1 GB 8-bit narrow 5400 RPM 3.5 x 1" SCSI hard disk drive
RZ29B-VA	4.3 GB 8-bit narrow 7200 RPM 3.5 x 1.6" SCSI hard disk drive
RZ26N-VW	1.05 GB 16-bit wide 5400 RPM 3.5 x 1" SCSI hard disk drive
RZ28D-VW	2.1 GB 16-bit wide 7200 RPM 3.5 x 1" SCSI hard disk drive
RZ28M-VW	2.1 GB 16-bit wide 5400 RPM 3.5 x 1" SCSI hard disk drive
RZ29B-VW	4.3 GB 16-bit wide 7200 RPM 3.5 x 1.6" SCSI hard disk drive

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 System Hard Disk Drives (internal only)

- Order -EJ variants when configuring initial order
- Order PBXR*-xx variants when ordering as **spares** and/or for field installation
- Order -VA and -VW variants when adding external storage to narrow BA35R or wide BA36R Rackmount StorageWorks shelves

Rackmount Hard Disk Drives (Internal only)

RZ26N-EJ	1.05 GB 8-bit narrow 5400 RPM 3.5-inch half-height disk drive (PBXRZ-EB for field installation)
RZ28M-EJ	2.1 GB 8-bit narrow 5400 RPM 3.5-inch half-height disk drive (PBXRZ-HB for field installation)
RZ28D-EJ	2.1 GB 8-bit narrow 7200 RPM 3.5-inch half-height disk drive (PBXRZ-JB for field installation)
RZ29B-EJ	4.3 GB 8-bit narrow 7200 RPM 3.5-inch half-height disk drive (PBXRZ-NA for field installation)
PBXRW-EB	1.05 GB 16-bit wide 5400 RPM 3.5-inch, half-height disk drive
PBXRW-HB	2.1 GB 16-bit wide 5400 RPM 3.5-inch, half-height disk drive
PBXRW-JB	2.1 GB 16-bit wide 7200 RPM 3.5-inch, half-height disk drive
PBXRW-NA	4.3 GB 16-bit wide 7200 RPM 3.5-inch half-height disk drive

Step 4b—Storage Controllers

- Maximum three PCI-based KZPSC-xx SCSI controllers supported per system. KZPSC-xx controllers are supported in PCI slots 0, 1 and 2 only.
- 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 BA350/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-01	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

Step 4b—Storage Controllers *(continued)*

SCSI Controllers

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.
KZPSC-AA*	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-BA*	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-AA*	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-BA*	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 builkhead 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

* See *Storage Devices* for additional information on StorageWorks RAID Array 2x0 Subsystems

DSSI Controllers

KFPSA-AA	PCI-based single-DSSI controller (OpenVMS systems only). See Step 4f DSSI cables.
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 DSSI cables.

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

TLZ07	8.0 GB 4 mm DAT tape drive
TLZ7L[1,2]	32.0 GB 4 mm DAT autoloader
TZK11-DA	2.0 GB 5.25-inch tabletop QIC tape drive
TZ87[2]	20 GB, DLT tape drive
TZ875[2]	100 GB, DLT tape autoloader
TZ877[2]	140 GB, DLT tape autoloader
BN23G-0E	3 Foot Molded SCSI Cable, required for each tabletop tape device

External Tapes supported on Digital UNIX and OpenVMS servers

TLZ07[3]	8.0 GB 4 mm DAT tape drive
TLZ7L[1,2,3]	32.0 GB 4 mm DAT autoloader
TZK11-DA[3]	2.0 GB 5.25-inch tabletop QIC tape drive
TKZ60-FA/FC	400 MB IBM 3480/3490 compatible tabletop tape drive
TKZ60-EA[3]	400 MB IBM 3480/3490 compatible tabletop tape drive
TKZ61	400 MB IBM compatible tape autoloader
TKZ61-AC[3]	400 MB IBM compatible tape autoloader
TKZ62	2.4 GB IBM compatible tape autoloader
TKZ62-AC[3]	2.4 GB IBM compatible tape autoloader
TKZ15-TA	10 GB, 8 mm, tabletop tape drive
TKZ15-VA[3,5]	10 GB, 8 mm, tabletop tape drive
TSZ07-CA	40/140 MB, reel/reel, tabletop tape drive
TSZ07-AA[3]	40/140 MB, reel/reel, tabletop tape drive
TZ87[2]	20 GB, DLT tape drive
TZ87-VA[3]	20 GB, DLT tape drive
TZ875[2]	100 GB, DLT tape autoloader
TZ877[2]	140 GB, DLT tape autoloader
TZ88[2]	20/40 GB, DLT tape drive
TKZ9E-TA[4]	2/5/7/10/14 GB 8 mm helical scan tape drive, tabletop
TKZ9E-VA[3]	2/5/7/10/14 GB 8 mm helical scan tape drive in StorageWorks SBB carrier
BN23G-0E	3 Foot Molded SCSI Cable, required for each tabletop tape device.

1 Includes four cartridge loader. Larger magazines are supported.
2 Base operating systems support sequential back-up mode only; additional software is required for random access backup. See *Storage Devices* for details.
3. Variants for use in Rackmount systems
4. 8 mm drive requires OpenVMS MK-driver patch when connected to KZPSA controller in OpenVMS system.
5. Windows NT require layered driver software QB-4STAA-SA

Step 4d—External Disk Expansion for Pedestal Systems

- BA350 and BA353 expansion units are supported on wide and narrow SCSI controllers. Devices operate in narrow mode when BA350 and BA353 is connected to a Fast Wide SCSI controller.
- BA356 and BA346 expansion units are supported on Fast Wide SCSI controllers.

StorageWorks Modular Storage Options

BA350-KB	StorageWorks 8-bit **Narrow** Deskside expansion unit includes: BA350-SB basic shelf, BA35X-HA universal ac power supply, pedestal mounting kit, and 120V power cord. Supports up to seven narrow hard disk drives.
BA353-AA	StorageWorks 8-bit **Narrow** Desktop expansion unit includes enclosure and 120 V power cord. Supports up to three 3.5" 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 120 V power cord. Supports up to seven 3.5" 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 120 V power cord. Supports up to nine devices, two 5.25" narrow and seven 3.5" wide or narrow drives; narrow drives operate in narrow mode.
DWZZA-VA	Bi-directional SCSI signal converter and bus extender kit. 16 bit Fast Wide Differential SCSI-2 on one end and 8 bit Fast Narrow Single-Ended SCSI-2 on other end.
DWZZB-VW	Bi-directional SCSI signal converter and bus extender kit. 16 bit Fast Wide Differential SCSI-2 on one end and 8 or 16 bit Fast Wide or Fast Narrow Single-Ended SCSI-2 on other end.

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

Step 4e—External Disk Expansion for Rackmount and 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.

Rackmount StorageWorks Shelves

BA36R-AF	Rackmounted BA356 front mounted StorageWorks shelf for **Wide** SCSI disks
BA36R-AR	Rackmounted BA356 rear mounted StorageWorks shelf for **Wide** SCSI disks
BA35R-SF	Rackmounted BA350 front mounted StorageWorks shelf for **Narrow** SCSI disks
BA35R-SR	Rackmounted BA350 rear mounted StorageWorks shelf for **Narrow** SCSI disks
DWZZA-VA	Bi-directional SCSI signal converter and bus extender kit. 16 bit Fast Wide Differential SCSI-2 on one end and 8 bit Fast Narrow Single-Ended SCSI-2 on other end. **Requires** BN21K-** cable.
DWZZB-VW	Bi-directional SCSI signal converter and bus extender kit. 16 bit Fast Wide Differential SCSI-2 on one end and 8 or 16 bit Fast Wide Single-Ended SCSI-2 on other end. **Requires** BN21K-** cable.

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

Hard Disk Drives for Rackmount StorageWorks Shelves (External only)

- 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

RZ26N-VA	1.05 GB 8-bit narrow 5400 RPM 3.5 x 1" SCSI hard disk drive
RZ28M-VA	2.1 GB 8-bit narrow 5400 RPM 3.5 x 1" SCSI hard disk drive
RZ28D-VA	2.1 GB 8-bit narrow 7200 RPM 3.5 x 1" SCSI hard disk drive
RZ29B-VA	4.3 GB 8-bit narrow 7200 RPM 3.5 x 1.6" SCSI hard disk drive
RZ26N-VW	1.05 GB 16-bit wide 5400 RPM 3.5 x 1" SCSI hard disk drive
RZ28M-VW	2.1 GB 16-bit wide 5400 RPM 3.5 x 1" SCSI hard disk drive
RZ28D-VW	2.1 GB 16-bit wide 7200 RPM 3.5 x 1" SCSI hard disk drive
RZ29B-VW	4.3 GB 16-bit wide 7200 RPM 3.5 x 1.6" SCSI hard disk drive

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

Step 4f—DSSI Cables

- EISA-based DSSI controller (KFESB-AA) uses "Micro-Ribbon" connection.
- 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.

Step 5—Graphics Adapters

- Integral SVGA graphics controller supports the following monitors:
  - Digital UNIX supports 640 x 480 x 256 @ 60 Hz monitors, 800 x 600 x 256 @ 60 Hz monitors
  - OpenVMS supports 640 x 480 x 256 @ 60 Hz monitors, 800 x 600 x 256 @ 60 Hz monitors
  - Windows NT supports 640 x 480 x 256 @ 60 Hz, 640 x 480 x 256 @ 72 Hz, 800 x 600 x 256 @ 56 Hz, 800 x 600 x 256 @ 60 Hz, 800 x 600 x 256 @ 72 Hz
- 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	ISA-based VGA ATI Mach 64 1024 x 768 graphics adapter (Windows NT,Digital UNIX,OpenVMS)
PBXGA-AA	PCI-based ZPXp-E1 8-plane 1024 x 768 graphics adapter (Digital UNIX)
PBXGA-AN	PCI-based ZPXp-E1 8-plane 1024 x 768 graphics adapter (Windows NT)
PBXGA-BA	PCI-based ZPXp-E2 24-plane 1024 x 768 graphics adapter (Digital UNIX)
PBXGA-BN	PCI-based ZPXp-E2 24-plane 1024 x 768 graphics adapter (Windows NT)

Step 6—Networks and Communications

- Packaged systems include PCI-based Ethernet controller (DE435-AA), uses one PCI slot.
  - BNE4G-02 for AUI, BN26K-xx for 10BaseT (twisted pair), BC16M-xx for ThinWire
- All options use one slot except DEFEA-DA which uses two slots
- Select networking cable for Ethernet controller
- Maximum number of **each** EISA-based network controllers supported per system:
  - Two DE425-AA, Two DEFEA-xA, Two DW300-AA, Two DNSES

DE435-AA	PCI-based Digital Etherworks 32-bit high-performance network interface card
DE500-XA	PCI-based Fast Ethernet network interface card (see PCI Option Slot Table)
DE425-AA	EISA-based Ethernet; OpenVMS and Digital UNIX only
DEFPA-AA*	PCI-based DEC FDDIcontroller, Single Attachment; maximum seven on OpenVMS and Windows NT, four on Digital UNIX.
DEFPA-DA*	PCI-based DEC FDDIcontroller, Dual Attachment, maximum seven on OpenVMS and Windows NT, four on Digital UNIX.
DEFPA-UA*	PCI-based DEC FDDI (UTP) controller; maximum seven on OpenVMS and Windows NT, four on Digital UNIX.
DGLPB-AB	PCI-based ATMworks 350 adapter
PBXNP-AA	PCI-based Token Ring adapter, no boot support. Digital UNIX and OpenVMS systems require driver floppy.

* Supported as data device only.

DEFEA-AA	EISA-based DEC FDDIcontroller, Single Attachment
DEFEA-DA	EISA-based DEC FDDIcontroller, Dual Attachment (requires two slots)
DEFEA-UA	EISA-based DEC FDDI (UTP) controller
DW300-AA	EISA-based Token-Ring adapter includes NetWare V2.15 driver, LAN Manager Driver, and documentation (Not supported by DECnet/OSI for OpenVMS)
DNSES-AA	EISA-based synchronous communications controller; Digital UNIX and OpenVMS systems **only**

Step 6—Networks and Communications *(continued)*

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**
PBXDI-AA	ISA-based Two Port Synchronous Communications controller with interface support for EIA-232/V.24/V.28; Windows NT **only**
PBXDI-AB	ISA-based Two Port Synchronous Communications controller with interface support for V.35; Windows NT **only**
PBXDI-AC	ISA-based Two Port Synchronous Communications controller with interface support for X.21 and EIA-530; Windows NT **only**
DIIAA-AA	ISA-based ISDN terminal adapter (U.S.); Windows NT **only**
DIIAA-AB	ISA-based ISDN terminal adapter (non-U.S.); Windows NT **only**

Step 7—Additional Power Supply—Pedestal Systems Only

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.

H7290-AA	450-Watt Redundant Power Supply Option

See UPS information following System Specifications.

Step 8—Printers and Remote Console

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

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

Windows NT Server plus 5-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-23CDA-SB	Windows NT Server license, media kit Danish

Step 9—Software *(continued)*

Windows NT Server plus 5-client access license, media (CD-ROM) kits

QB-23CMA-SB	Windows NT Server license, media kit Swedish
QB-23CNA-SB	Windows NT Server license, media kit Norwegian
QB-23CFA-SB	Windows NT Server license, media kit Finnish
QB-23CHA-SB	Windows NT Server license, media kit Dutch
QB-23CVA-SB	Windows NT Server license, media kit 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.

Digital UNIX Concurrent Use Licenses

Software Processor Code = E

• Digital UNIX Packaged and Base systems **require** operating system media and documentation for **first** system on site.

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-MT7AE-AA	Digital UNIX Traditional unlimited user license
QL-MT5AE-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

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

Step 9—Software *(continued)*

OpenVMS Concurrent Use Licenses

Software Processor Code = E

- OpenVMS Packaged and Base systems **require** operating system media and documentation for **first** system on site.

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.

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—required for first system on site

QA-MT1AA-H8	OpenVMS media and on-line documentation CD-ROM
QA-001AA-GZ	OpenVMS hardcopy documentation

OpenVMS Layered Products CD-ROM

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

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

Step 10—Power Cords, Keyboards, and Documentation

Pedestal and Monitor Power Cords

- North American variants include BN26J-1K 120 V (North American, Japan) power cord. If an other power cord is selected, both power cords ship with system.

BN26J-1K	North American, Japan, 120 V, 75-inches long
BN19H-2E	Australia, New Zealand, 2.5 meters long
BN19C-2E	Central Europe, 2.5 meters long
BN19A-2E	U.K., Ireland, 2.5 meters long
BN19E-2E	Switzerland, 2.5 meters long
BN19K-2E	Denmark, 2.5 meters long
BN19N-2E	Italy, 2.5 meters long
BN19S-2E	Egypt, India, South Africa, 2.5 meters long
BN18L-2E	Israel, 2.5 meters long

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

Rackmount Power Cords

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

Note: AlphaServer 1000A Pedestal system power cords are less then 15-feet long and are **not** supported in cabinet enclosures.

BN20Q-4E	15-feet 240 V, 50Hz power cord connects system to power distribution unit located inside cabinet
BN20Z-4E	15-feet 120 V, 60Hz power cord connects system to power distribution unit located inside cabinet

Keyboards

- Some variants include LK471-AA keyboard (see Step 1). For these variants, if an additional keyboard is ordered, both keyboards ship with system.
- LK471-xx are 101 key PC style keyboards. LK461-xx are 108 key VT style keyboards.

LK461/471-AA	North American, Japan (English)
LK461/471-AB	Belgian
LK461/471-AD	Danish
LK461/471-AE	United Kingdom (English)
LK461/471-AG	German
LK461/471-AI	Italian
LK461/471-AK	Swiss/French
LK461/471-AN	Norwegian
LK461/471-AP	French
LK461/471-AS	Spanish
LK461/471-AV	Portuguese
LK461/471-AQ	Canadian/English
LK461/471-AC	Canadian/French
LK461/471-AL	Swiss/German
LK461/471-AM	Swedish

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.

Pedestal Documentation: Custsomer and Service Kits

- All variants include (QZ-00MAA-GZ) English customer kit documentation. Select other language customer kits if required. If an other customer kit is selected, both will ship.
- Select service kits for all systems if required.

Customer Kit	Service Kit	
QZ-00MAA-GZ	**QA-00MAB-GZ**	Customer and Service kit for AlphaServer 1000A—English
QZ-00MPA-GZ	**QA-00MPB-GZ**	Customer and Service kit for AlphaServer 1000A—French
QZ-00MSA-GA	**QZ-00MSB-GZ**	Customer and Service kit for AlphaServer 1000A—Spanish
QZ-00MJA-GZ	**QZ-00MJB-GZ**	Customer and Service kit for AlphaServer 1000A—Japanese
QZ-00MUA-GZ	**QZ-00MUB-GZ**	Customer and Service kit for AlphaServer 1000A—Italian
QZ-00MGA-GZ	**QZ-00MGB-GZ**	Customer and Service kit for AlphaServer 1000A—German
	AG-Q95HA-BE	Customer and Service kit On-line documentation—English

Step 11—Cabinet Enclosure

Select cabinet enclosure for Packaged and Base AlphaServer 1000A 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 usable rackmountable space: 56-inches high, 19-inches wide, 32.2-inches deep

H9A10-CE	120V Retma Cabinet assembly with dual power controller
H9A10-CF	240V Retma Cabinet assembly with dual power controller
H9A10-CG	120V Retma Cabinet assembly with dual power controller and front door
H9A10-CH	240V Retma Cabinet assembly with dual power controller and front door
H9A10-AB	Retma Cabinet assembly with no power controller
H9A10-AD	Retma Cabinet assembly with front door, with no power controller

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, 5x9, 4-hour response time
FM-MK512-60	Years 1-5, 5x12, 4-hour response time
FM-MK616-60	Years 1-5, 6x16, 4-hour response time
FM-MK724-60	Years 1-5, 7x24, 4-hour response time

Software—Americas and Asia Pacific only

- 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 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.

FM-MKNTS-12	12-month Software Supplemental Support for **Windows NT** AlphaServer 1000A systems
FM-MKNTS-36	36-month Software Supplemental Support for **Windows NT** AlphaServer 1000A systems
FM-MKNTS-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*	10–40° C (50–104° 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	Operating	28° C (82° F)
temperature	Storage (60 days)	39° C (115°F)
Minimum dew point	Operating	12° C (36° F)
temperature	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†	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		AverageDeclared
	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 Vac		
Nominal ac voltage	100-120 Vac	220-240 Vac
Operating Voltage range	90-128 Vac	180-256 Vac
Power source phase	Single	Single
Nominal frequency	60 Hz	50 Hz
Frequency range	59-61 Hz	49-51 Hz
Maximum inrush current	50 Amps	50 Amps
RMS current at nominal voltage (steady state)		
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

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

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

AlphaServer 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 (2nd 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	**Service**	
Front	124.04 cm (50.0 in)	
Rear	61.0 cm (24.0 in)	
Sides	None	
Environmental		
Temperature		
Operating	10–35° C (50–95° F)	
Nonoperating	Not tested	
Storage (60 days)	-40–66° C (-40–151° 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 Vac		
Nominal ac voltage	100-120 Vac	220-240 Vac
Operating Voltage range	90-128 Vac	180-256 Vac
Power source phase	Single	Single
Nominal frequency	60 Hz	50 Hz
Frequency range	59-61 Hz	49-51 Hz
Maximum inrush current	50 Amps	50 Amps
RMS current at nominal voltage (steady state)		
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 (2nd edition)	

AlphaServer 1000A System Specifications *(continued)*

Prestige 1250EXT

UPS offerings include EIA232 port for local or netowrk 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-AB*	Surge potector, modem connection, wall plug-in
4N-GA249-CA*	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

*   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-BA	NW management and multi system shutdown for Windows NT*
4N-AEAES-AK	Single system shutdown for Digital UNIX
4N-AEAES-BK	NW management and multi system shutdown for Digital UNIX*
4N-AEAES-EM	Single system shutdown for OpenVMS

*   Require 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