AlphaServer 1000A Systems V2.0

Digital Systems and Options Catalog

AlphaServer 1000A Systems

Product Description

The AlphaServer 1000A is an Alpha microprocessor server, available in both 233-MHz and 266-MHz versions, with 2-Mbyte ECC cache packaged in a Deskside wide-tower enclosure. Customers have a choice of three popular operating systems: Digital UNIX (V3.2D), OpenVMS (V6.2-1H2) and Microsoft Windows NT Server (V3.51). The AlphaServer 1000A 4/266 offers the same high-reliability features as the AlphaServer 1000—heat sensor, fan failure and power supply sensors, fully redundant power supplies, internal RAID, hot swap disk, dual Fast Narrow/Wide SCSI backplane and ECC memory.

Advanced server management features are provided with all AlphaServer 1000A shipments beginning March 1, 1996 via the bundled Server WORKS 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 OpenVMS. The management console software, which includes ManageWORKS Workgroup Administrator and the ServerWORKS application, 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 ManageWORKS console. Additionally, remote management can be handled via a simple serial link.

The AlphaServer 1000A 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 and narrow disk drives. The system supports up to 1 Gbyte of memory and over 30 Gbytes of internal storage with seven 4.3-Gbyte 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, 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—Systems

- Windows NT systems include Windows NT Server plus 5-client access, V3.51 media (CD-ROM) and license in shrink-wrapped package.
- Digital UNIX and OpenVMS Packaged systems and Base systems ordered with a minimum of a 1.05 Gbyte 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 they are specified as **spares.**

AlphaServer 1000A 4/266 Systems include

- Alpha microprocessor 21064A 233-MHz CPU or 266-MHz CPU with 2 Mbyte ECC onboard cache
- Pedestal enclosure with:
  - Seven PCI slots
  - Two EISA slots
  - Integrated PCI-based Fast Wide Single-Ended SCSI-2 controller that supports both wide and narrow devices
  - Integrated SVGA graphics controller
  - 20 SIMM memory slots
  - 10 storage slots:
    One diskette drive slot
    One CD-ROM drive slot
    One additional removable media slot
    Seven StorageWorks hard disk drive slots (wide and/or narrow)
  - 450-Watt 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-Mbyte diskette drive in dedicated slot
- 3-button mouse
- 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, V3.51 media kit **or**
- Digital UNIX 2-user base license, Digital NAS 200 license **or**
- OpenVMS base license with System Manager license and Digital NAS 200 license

Packaged Systems

- Packaged systems ordered in the Americas and Asia Pacific Area include 120V power cord. Select country specific power cord and hardware documentation for all Packaged systems ordered in Europe. All packaged systems include English hardware documentation. Select country specific documentation if required.
- Packaged systems include high-performance PCI-based Ethernet—uses one PCI slot
- Packaged systems include 600 Mbyte CD-ROM—uses one removable media slot
- Select country specific keyboard for all Packaged Systems.

Note: Digital UNIX and OpenVMS systems do not include keyboard.

***** Service upgrades are available; see Step 11, Hardware and Software Supplemental Services.

Order Number	Operating System	Memory	Storage	Monitor	Ethernet
AlphaServer 1000A 4/233 MHz					
PB73B-FA/FB	Digital UNIX	32 Mbytes	1 x 1.05 GB	Recommended	Included
PB73B-MA/MB	OpenVMS	32 Mbytes	1 x 1.05 GB	Recommended	Included
AlphaServer 1000A 4/266 MHz					
PB74B-FA/FB	Digital UNIX	64 Mbytes	1 x 2.1 GB	Recommended	Included
PB74B-MA/MB	OpenVMS	64 Mbytes	1 x 2.1 GB	Recommended	Included

Note: xA/C = 120V and xB/D = 240V

Step 1—Systems *(continued)*

Base Systems

- **Digital UNIX and OpenVMS Base Systems require:**
  - Minimum of 32 Mbytes memory
  - One 1.05 Gbyte hard disk drive
- Graphics option, monitor, and keyboard for Digital UNIX and OpenVMS base systems are available as options if required.
- **Windows NT Base Systems require:**
  - Minimum of 32 Mbytes memory
  - One 1.05 Gbyte hard disk drive
  - CD-ROM disk drive
  - Graphics monitor
- Windows NT Base systems ordered in Americas and APA include U.S. keyboard. Select country specific keyboard for all Base systems ordered in Europe.

Note: Mandatory items **must** be on purchase order at initial order acceptance.

Order Number	Operating System	Memory	Graphics/Monitor	Hard Disk Drive	600 MB CD-ROM	Ethernet
AlphaServer 1000A 4/233 MHz						
PB73C-AA/AB	Windows NT Server	Mandatory	Required	Mandatory	Mandatory	Recommended
PB73C-FA/FB	Digital UNIX	Mandatory	Recommended	Mandatory	Recommended	Recommended
PB73C-MA/MB	OpenVMS	Mandatory	Recommended	Mandatory	Recommended	Recommended
AlphaServer 1000A 4/266 MHz						
PB74C-AA/AB	Windows NT Server	Mandatory	Required	Mandatory	Mandatory	Recommended
PB74C-FA/FB	Digital UNIX	Mandatory	Recommended	Mandatory	Recommended	Recommended
PB74C-MA/MB	OpenVMS	Mandatory	Recommended	Mandatory	Recommended	Recommended

PCI Option Slot Table

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

Order Number	Description	Max #	Supported in PCI slots
SCSI and SCSI/Ethernet Controllers			
KZPSC-AA	One-port PCI-based RAID Controller	3	**0, 1, 2**
KZPSA-BA	Three port PCI-based RAID Controller	3	**0, 1, 2**
Prestoserve Options			
DJ-ML200-BA	4-Mbyte PCI Prestoserver option	1	**0, 1, 2**
Networks Communications			
DE500-XA	PCI-based Fast Ethernet network interface card	2	**0, 1, 2**

Step 2—Memory

- Packaged Systems include either 32-Mbyte (PB7MA-AB) or 64-Mbyte (PB7MA-AC) memory kit.
- System supports four memory kits (each kit includes four industry-standard SIMMs and an ECC SIMM for ECC support).
- System maximum of 1 Gbyte can be obtained by selecting a Base System and four PB7MA-AE 256-Mbyte memory kits.

PB7MA-AA	16-Mbyte 70ns (5 x 4 Mbyte SIMMs) memory kit
PB7MA-AB	32-Mbyte 70ns (5 x 8 Mbyte SIMMs) memory kit
PB7MA-AC	64-Mbyte 70ns (5 x 16 Mbyte SIMMs) memory kit
PB7MA-AD	128-Mbyte 70ns (5 x 32 Mbyte SIMMs) memory kit
PB7MA-AE	256-Mbyte 70ns (5 x 64 Mbyte SIMMs) memory kit
DJ-ML200-BA	PCI-based 4-Mbyte PrestoServe I/O Performance Enhancement Option; 1 per system **only**.

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 @ 60Hz, 800 x 600 x 256 @ 60Hz
  - Digital UNIX supports 640 x 480 x 256 @ 60Hz, 800 x 600 x 256 @ 60Hz
  - Windows NT supports 640 x 480 x 256 @ 60Hz, 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-PA/P4	15” (13.9” viewable image size) high-resolution color monitor. Flat-square CRT with 0.28mm 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 video cable and local power cord. Select -KA for Northern Hemisphere or -K4 for Southern Hemisphere operation.
VRT17-PA/P4	17” (16.0” viewable image size) high-resolution color monitor. 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 video cable and local power cord. Select -PA for Northern Hemisphere or -P4 for Southern Hemisphere operation..
VRC21-PA/P4	21” (19.6” viewable image size) high-resolution color monitor. Diamondtron aperture grille CRT with 0.30mm 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 video cable and local power cord. Select -PA for Northern Hemisphere or -P4 for Southern Hemisphere operation.

Step 4—Storage

- System enclosure supports ten storage devices: one dedicated diskette drive slot, two removable media slots, and seven 3.5-inch disk drives in internal storage assembly.
- Integral Fast Wide Single-Ended SCSI-2 controller supports wide and narrow devices. Maximum of seven devices:
  - Two internal narrow 5.25-inch removable media devices
  - Four narrow or wide 3.5-inch disk drives in internal storage assembly
  - One external narrow storage device
- Internal SCSI bus length cannot exceed 3 meters
  - 50-pin narrow connector included supports CD-ROM and second optional 5.25-inch removable device; from 50 pin connector to controllers.
  - 68-pin wide connector included supports both wide and narrow hard drives residing in the internal storage assembly.

Step 4a—Internal Storage

- Packaged Systems include:
  - One 1.44 Mbyte diskette drive
  - One CD-ROM
  - One 1.05 or 2.1Gbyte narrow hard disk drive
- Base Systems include
  - One 1.44 Mbyte diskette drive
- Internal storage assembly is configured in single-bus mode and can be reconfigured in split-bus mode.
- Internal storage assembly hard disk drives are **not** supported on Fast Wide Differential Controller

Removable Media Devices

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

Step 4a—Internal Storage *(continued)*

8-bit Hard Disk Drives

RZ26N-VA	1.05-Gbyte 8-bit narrow 5400 RPM 3.5-inch half-height disk drive
RZ28M-VA	2.1-Gbyte 8-bit narrow 5400 RPM 3.5-inch half-height disk drive
RZ29B-VA	4.3-Gbyte 8-bit narrow 7200 RPM 3.5-inch half-height disk drive

16-bit Hard Disk Drives

RZ26N-VW	1.05-Gbyte 16-bit wide 5400 RPM 3.5-inch, half-height disk drive.
RZ28M-VW	2.1-Gbyte 16-bit wide 7200 RPM 3.5-inch, half-height wide disk drive
RZ29B-VW	4.3-Gbyte 16-bit wide 7200 RPM 3.5-inch half-height wide disk drive

Step 4b—Storage Controllers

- StorageWorks RAID Array 230 (KZPSC-xx) 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 includes one PB7HA-BA SCSI cable kit for connection to internal StorageWorks shelf. Split bus mode requires two SCSI cable kits.
  - KZPSC-BA three-port controller includes one PB7HA-BA SCSI cable kit, each used port requires one SCSI cable kit. Split bus mode requires two SCSI cable kits.
  - KZPSC-xx controllers are supported in PCI slots 0, 1 and 2 **only**. Maximum three PCI-based SCSI controllers per system..
- StorageWorks RAID Array 210 (KZESC-xx) 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 includes 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 includes one PB7HA-AA SCSI cable kit
  - One PB7HA-AA included with each KZESC-xx RAID controller.
- Maximum number of EISA-based storage controllers supported per system:
  - Two KZESC-xx (One- and three-port controllers) or
  - One KFESB DSSI controller (requires two EISA slots)
- Each controller requires one bus slot, except KFESB which requires two. Limit of one KFESB per system.
- SCSI cables other than PB7HA-AA are not included and must be ordered separately (see Step 4d).
- External DSSI cables are not included and must be ordered separately (see Step 4d).

Storage Controllers

- KZESC-xx and KZPSC-xx RAID controllers on initial system order include one PB7HA-xx SCSI cable kit. PB7HA-xx SCSI cable kit is **not** included when controllers are ordered as **spares**.

KZESC-AA*	One-port EISA backplane RAID controller; includes StorageWorks RAID Array 210 Subsystem family software and documentation kit.
KZESC-BA*	Three-port EISA backplane RAID controller; includes StorageWorks RAID Array 210 Subsystem family software and documentation kit.
KZPSC-AA*	One-port PCI-based backplane RAID controller; includes StorageWorks RAID Array 230 Subsystem family software and documentation kit.
KZPSC-BA*	Three-port PCI backplane RAID controller; includes StorageWorks RAID Array 230 Subsystem family software and documentation kit.
KZPSA-BB	PCI-based one-port high-performance Fast Wide Differential SCSI controller, for external devices **only.**
KZPAA-AA	PCI-based one-port high-performance Fast Narrow SCSI-2 controller.
KFESB-AA	EISA-based single-DSSI controller (OpenVMS systems only). Requires two EISA slots, maximum one per system.
PB7HA-AA	Narrow SCSI Option Cables and Terminator (8-bit fast narrow 50 pin)
PB7HA-BA	Wide SCSI Option Cables and Terminator (16-bit fast wide 68 pin)

***** See *Storage Devices* for additional information on StorageWorks RAID Array Controllers.

Step 4c—External Expansion

- Integral Fast Narrow SCSI-2 controller can be extended outside the system enclosure for narrow devices only. Note the following cable length guidelines from back of system cabinet to SCSI device:
  - 0.5 meters when internal narrow device is connected and StorageWorks assembly is configured in single-bus mode.
  - 1.0 meters when internal narrow device is connected and StorageWorks assembly is configured in split-bus mode.
- External tape drives are also supported on optional PCI-based SCSI controllers.
  - KZPAA-AA—maximum external bus length including cable and tape device cannot exceed 3.0 meters.
  - KZPSA-BB—maximum external bus length including cable and tape device cannot exceed 25.0 meters.
- External tape drives are not supported on one- and three-port (KZESC-xx) Fast-SCSI-2 controllers.
- External tape drives supported on one- and three-port (KZPSC-xx) SCSI controllers on Windows NT **only**.
- Each tabletop tape device **requires** a three-foot SCSI cable (BN21H-0E).

External Tapes supported on Windows NT servers

TLZ07	8.0 Gbyte 4mm DAT tape drive
TLZ7L*†	32.0 Gbyte 4-mm DAT autoloader
TZK11-DA	2.0 Gbyte 5.25-inch tabletop QIC tape drive
TZ87†	20 Gbyte, DLT tape drive
TZ875†	100 Gbyte, DLT tape autoloader
TZ877†	140 Gbyte, DLT tape autoloader
BN21R-03	3 Foot Molded SCSI Cable, required for each tabletop tape device

External Tapes supported on Digital UNIX and OpenVMS servers

TLZ07	8.0 Gbyte 4mm DAT tape drive
TLZ7L*†	32.0 Gbyte 4-mm DAT autoloader
TZK11-DA	2.0 Gbyte 5.25-inch tabletop QIC tape drive
TSZ07-CA	40/140 Mbyte, reel/reel, tabletop tape drive
TZ87†	20 Gbyte, DLT tape drive
TZ875†	100 Gbyte, DLT tape autoloader
TZ877†	140 Gbyte, DLT tape autoloader
TZ88†	20/40 Gbyte, DLT tape drive
BN21R-03	3 Foot Molded SCSI Cable, required for each tabletop tape device.

* Includes four cartridge loader. Larger magazines are supported.

† Base operating systems support sequential back-up mode only; additional software is required for random access backup. See *Storage Devices* for details.

External Disk Expansion

- External BA350/353 StorageWorks modular storage shelves are supported on all 8-bit Narrow and 16-bit Wide SCSI controllers. **Note**: Wide devices in shelf will be addressed in narrow mode.
- External BA356/346 StorageWorks modular storage shelves are supported on 16-bit Wide SCSI controllers.
- Order BN21H-02 cable to connect a single BA350 modular storage pedestal to controllers.
- Order BN21K-** (limit 25 meters) cable to connect single BA356 module storage pedestal to controllers

StorageWorks Modular Storage Options

BA356-KC	Wide modular storage pedestal includes BA350 basic shelf, BA35X-HA universal ac power supply, pedestal mounting kit, 120 V power cord; requires SCSI cable (BN21K-xx). Supports both wide **and** narrow drives. **Note**: Narrow drives will be addressed in narrow mode. Holds up to seven 3.5” devices.
BA346-KB	Wide modular storage pedestal includes BA350 basic shelf, BA35X-HA universal ac power supply, pedestal mounting kit, 120 V power cord; requires SCSI cable (BN21K-xx). Supports both wide **and** narrow drives. **Note**: Narrow drives will be addressed in narrow mode. Holds up to 9 devices; two 5.25” and seven 3.5”.

Step 4c—External Expansion *(continued)*

StorageWorks Modular Storage Options

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.

Step 4d—SCSI and DSSI Cables

SCSI

- One-port StorageWorks RAID Array 210 controller (KZESC-AA) option uses PB7HA-AA for internal connection or BN21H-02 SCSI cable (or cable supplied with device) for external connection.
- Three-port StorageWorks RAID Array 210 controller (KZESC-BA) option uses one or two PB7HA-AA for internal connection or BN21H-02 for external connection.
- PCI-based Fast Narrow SCSI-2 controller (KZPAA-AA) option uses PB7HA-AA for internal connection (one PB7HA-AA included with KZPAA-AA) or BN21H-02 (or cable supplied with device) for external connection.
- PCI-based Fast Wide Differential SCSI controller (KZPSA-BB) option uses BN21K-** (or cable supplied with device) for connection to BA346/BA356.
- One-port StorageWorks RAID Array 230 controller (KZPSC-AA) option uses PB7HA-BA for internal connection to disks, or BN21K-** SCSI cable (or cable supplied with device) for external connection.
- Three-port StorageWorks RAID Array 230 controller (KZPSC-BA) option uses one or two PB7HA-BA for internal connection to disks, or BN21K-** for external connection.

DSSI

- 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 require 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

- Integrated 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-FB	ISA-based VGA ATI Mach 64 1024 x 768 graphics adapter (Windows NT, Digital UNIX, OpenVMS systems)
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

- Systems include PCI-based Ethernet controller (DE435-AA); uses one PCI slot, two additional PCI-based controllers supported per system.
- Select networking cable for DE435-AA:
  - BNE4G-02 for AUI
  - BN26K-xx for 10BaseT (twisted pair)
  - BC16M-xx for ThinWire
- 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
DE425-AA	EISA-based Ethernet (OpenVMS and Digital UNIX **only**)
DE500-XA	PCI-based Fast Ethernet network interface card (see PCI Option Slot Table)
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
DEFPA-AA*	PCI-based DEC FDDIcontroller, Single Attachment; maximum seven supported on OpenVMS and Windows NT, four supported on Digital UNIX.
DEFPA-DA*	PCI-based DEC FDDIcontroller, Dual Attachment (requires two slots); maximum seven supported on OpenVMS and Windows NT, four supported on Digital UNIX.
DEFPA-UA*	PCI-based DEC FDDI (UTP) controller; maximum seven supported on OpenVMS and Windows NT, four supported on Digital UNIX.
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**
CXI01-AA	ISA Async MUX Adapter, 16 lines. Expandable to 64 lines. Supported on Windows NT and Digital UNIX **only**.
CXI01-AD	ISA Async MUX Adapter, 16 lines. Expandable to 224 lines. Supported on Windows NT and Digital UNIX **only**.
DGLPB-AB	PCI-based ATMworks 350 adapter.
PBXNP-AA	PCI-based Token Ring adapter.
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**)

* Supported as data device only.

See the *Network Products Guide* for more information.

Step 7—Additional Power Supply

- Additional power supply may be added for n+1 redundancy.
- Country specific power cord **must** be ordered separately, see Step 10.

H7290-AA	450-Watt Redundant Power Option for PB73*-**/PB74*-** Systems.

See UPS information following System Specifications.

Step 8—Terminals and Printers

Systems include two EIA-232 asynchronous serial ports with 9-pin D-subminiature connectors.

Select terminals and 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

- Windows NT Packaged and Base systems include Windows NT Server plus 5-client access V3.5 media (CD-ROM) and license in shrink-wrapped package. Order documentation kit if required.

Windows NT Servers

QA-23CAA-GZ	Windows NT Server documentation kit
QA-23C8A-GZ	Windows NT International 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

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

Step 9—Software *(continued)*

OpenVMS Media and Documentation—required for first system on site

OpenVMS AlphaServer 1000A systems require media and documentation (QA-MT1AA-H8) 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

Systems ordered in the Americas and Asia Pacific Area (APA) include 120 V U.S. power cord unless alternate is specified. Select country specific power cord for **all** systems ordered in Europe.

- Digital UNIX and OpenVMS ordered in Americas, APA and Europe with graphics option and monitor require a country specific keyboard. Keyboard is not required if terminal is selected.

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

***** If alternate keyboard is selected, and a keyboard is already included in system offering, both keyboards will ship.

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

Power Cords

BN26J-1K*	North American, Japan, 120 V
BN19H-2E	Australia, New Zealand
BN19C-2E	Central Europe
BN19A-2E	U.K., Ireland
BN19E-2E	Switzerland
BN19K-2E	Denmark
BN24X-2E	Italy
BN19S-2E	Egypt, India, South Africa
BN18L-2E	Israel

***** If alternate power cord is selected, and a power cord is included in system offering, both power cords will ship.

Mouse

PBXWS-AA	3-button Mouse (included in Digital UNIX and OpenVMS Systems)

Documentation: Customer and Service Kit

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

Documentation: Customer Kit and Service Kit

AG-Q95HA-BE	On-line documentation

Step 11—Hardware and Software Supplemental Support Services

Step 11a—Hardware and Software Supplemental Support Services **(Americas and Asia Pacific Area only)**

Hardware

- 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, N.D., 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

Step 11—Hardware and Software Supplemental Support Services *(continued)*

Software

- 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 11b—Hardware and Software Supplemental Support Services **(Europe only)**

Europe does **not** have specific part numbers for Hardware and Software Supplemental Support Services. Prices can be quoted using the Excelerator tool; contact MCS Sales in your country for information on Hardware and Software Supplemental Support Services.

Specifications

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	44.2 cm (18.1 in.)	
Width	35.8 cm (14.1 in.)	
Depth	53.3 cm (23 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 (20.5 in.)
Environmental		
Temperature	Operating** Nonoperating Storage (60 days) Rate of change	10–40° C (50–104° F) Not tested -40–66° C (-40–151° F) 11° C/hr (20° F/hr)
Relative humidity	Operating Nonoperating Storage (60 days) Rate of change	20–80% 20–80% 10–95% 20%/hr
Maximum wet bulb temperature	Operating Storage (60 days)	28° C (82° F) 39° C (115°F)
Minimum dew point temperature	Operating Storage (60 days)	12° C (36° F) Not tested
Maximum heat dissipation Single supply Dual supply	Current 2390 Btu/hr 4097 Btu/hr	
Air flow and quality	Intake location Exhaust location Particle size Concentration	Front Rear N/A N/A
Altitude	Operating† Nonoperating	2000 m (6562 ft) 3600 m (12,000 ft)
Mechanical shock	Operating Nonoperating	7.5 G 10 ms 20 G peak 30 ms
Vibration	Operating	10-500 Hz .1 G peak
Acoustics Operating Idle		Average Declared 6.2 L^{wA}, B 6.5 L^{wAd}, B 6.0 L**wA**, B 6.3 L^{wAd}, B
Electrical—Power Supplies are universal 120/240 Vac		
Nominal ac voltage	100-120 Vac	220-240 Vac
Operating Voltage range	90-132 Vac	180-264 Vac
Power source phase	Single	Single
Nominal frequency	60 Hz	50 Hz
Frequency range	57-63 Hz	47-53 Hz
Maximum inrush current	50 Amps	50 Amps
RMS current at nominal voltage (steady state) Single power supply Dual power supply	 8.0 Amps 4.6 Amps each supply	 4.0 Amps 2.2 Amps each supply
Power cord	Type Length U.S. plug	IEC 320 C13 190 cm (75 in.) NEMA 5-15

* Dimensions of shipping pallet; fork-lift access is on the width dimension.

** 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 disk drives.

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)

Prestige Model 800 "On-line" UPS

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

4N-AEABD-AF	For 120 Vac, 50 or 60 Hz systems Includes detachable 6-foot input power cord with 5-15P plug and four NEMA 5-15R output receptacles.
4N-AEABD-BF	For 240 Vac, 50 or 60 Hz systems Selectable 220, 230 or 240V ac output. Uses system power cord for detachable IEC 320 input connection at UPS. Unit has 3 IEC 320 receptacles and includes two output jumpers with IEC 320 connectors to connect to system.
4N-GA249-AB	Surge Protectors for 2 wire modem
4N-GA249-CA	Surge Protectors for 10BaseT
4N-GA510-BF	Surge Protectors for ThinWire
4N-AEAEO-PA/PB	Optional hot-swap power pass with built in surge protected outlets including one extra off-line for laser printer. -PA for 120 V, -PB for 220 V models.
4N-AEWAR-G1	5 year vendor on-site exchange warranty upgrade (available in Intercontinental U.S. only at time of purchase).

Monitoring and Unattended Shutdown Software for above UPS systems only

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

4N-AEAES-AA/AB	Windows NT for Alpha and Intel x86, includes cables, media and documentation
4N-AEAES-AK	Digital UNIX, includes cables, media and documentation
4N-AEAES-EM	OpenVMS, includes cables, media and documentation