



## AlphaServer 1000A Rackmount Systems

V3.1—30 June 1999

Systems and Options Catalog

### Product Description

The AlphaServer 1000A is an Alpha server based on the Alpha microprocessor 21164 500 MHz CPU with 8 MB ECC cache. Servers are available in standard 19-inch rackmount enclosure with a choice of three popular operating systems: Tru64 UNIX, OpenVMS, and Microsoft Windows NT Server. The AlphaServer 1000A offers the following high reliability features: heat sensor, fan failure and power supply sensors, and ECC memory. Integrated on system motherboard are fast wide single-ended SCSI-2 controller, diskette controller, two serial ports, one parallel port, and keyboard and mouse controller.

The AlphaServer 1000A Rackmount System provides six internal storage bays including a floppy diskette drive, a CD-ROM, one additional 5.25-inch removable media bay, and three wide and/or narrow disk drives. The system supports up to 54.6 GB of internal storage with three 18.2 GB disks.

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

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## Step 1—AlphaServer 1000A Rackmount Systems

- Windows NT Packaged systems
  - North American variants include Windows NT license, media (CD-ROM) kit North American English.
  - Selection of language specific Windows NT license, media (CD-ROM) kit is mandatory for all non-North American variants, see Step 8.
- Tru64 UNIX and OpenVMS Packaged systems include Factory Installed Software (FIS) on hard disk drive.
- Uninterruptable Power Supplies (UPS) are available; see UPS Information following System Specifications.
- Options ordered will be factory installed unless specified as spares.

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

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### Rackmount Systems include

- Alpha microprocessor 21164 500 MHz CPU with 8 MB ECC onboard cache
- Rackmount enclosure with:
  - Seven PCI slots
  - Two EISA slots
  - Onboard Fast Wide Single-Ended SCSI-2 controller supports wide and narrow devices
  - 16 SIMM memory slots support 4 memory options
  - Six storage slots:
    - One diskette drive slot
    - One CD-ROM drive slot
    - One additional removable media slot
    - Three fixed wide and/or narrow hard disk drive slots
  - Two serial ports, support full duplex asynchronous modem control
  - One bi-directional enhanced parallel port
  - PS/2 style keyboard port and mouse port
  - 450 W self-switching (120/240 V, 60/50 Hz) power supply
- 1.44 MB diskette drive in dedicated slot
- 600 MB CD-ROM—uses one removable media slot
- One 4.3 GB wide hard disk drive
- One 128 MB or 256 MB memory option
- PCI-based Fast 100 Ethernet (Twisted Pair)—uses one PCI slot
- 3-button mouse
- 15 foot power cord (120 V/240 V as appropriate)
- Rackmount hardware (shelf and rails)
- English language documentation kit
- EISA Configuration Utility (ECU)
- Integrated advanced server management features, including ServerWORKS Manager kit
- Hardware warranty: three-year onsite<sup>1</sup>
- Software warranty:<sup>1</sup>
  - 90-day SPD conformance with advisory telephone support for Tru64 UNIX and OpenVMS
  - Warranty on Microsoft's Windows NT Server 4.0 is conformance to the written material accompanying the software for a period of ninety days
- Windows NT Server 4.0 plus 10-client access license, media (CD-ROM) kit or<sup>2</sup>
- Tru64 UNIX Unlimited User license, Server Extension license, or
- OpenVMS base license with System Manager license, Enterprise Integration Package

1. Service upgrades are available, see Step 12.

2. Windows NT language specific media kit is mandatory for non-North American variants.

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### Rackmount Packaged Systems include

- North American Windows NT and Tru64 UNIX variants include a 101-key, PC style, U.S. English keyboard.
- North American OpenVMS variants include a 108-key, VT style, U.S. English keyboard.
- Select country-specific keyboard for non-North American variants.
- Systems include a 120V or 240V power cord depending on variant chosen.
- Cabinet enclosure available separately.

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

### 5/500 Rackmount Packaged systems

Order Number	Operating System	O/S Media	Power cord	Keyboard	Memory	Disk	Graphics	Monitor
PB79P-AA	Windows NT	Included <sup>1</sup>	120 V	Included	128 MB	4.3 GB	Mandatory	Required
PB79P-AB	Windows NT	Mandatory	240 V	Required	128 MB	4.3 GB	Mandatory	Required
PB79P-AC	Windows NT	Included <sup>1</sup>	120 V	Included	256 MB	4.3 GB	Mandatory	Required
PB79P-AD	Windows NT	Mandatory	240 V	Required	256 MB	4.3 GB	Mandatory	Required

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

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**Step 1—AlphaServer 1000A Rackmount Systems (continued)**
**5/500 Rackmount Packaged systems**

<b>PB79P-FA</b>	Tru64 UNIX	FIS	120 V	Included	128 MB	4.3 GB	Recommended	Recommended
<b>PB79P-FB</b>	Tru64 UNIX	FIS	240 V	Recommended	128 MB	4.3 GB	Recommended	Recommended
<b>PB79P-FC</b>	Tru64 UNIX	FIS	120 V	Included	256 MB	4.3 GB	Recommended	Recommended
<b>PB79P-FD</b>	Tru64 UNIX	FIS	240 V	Recommended	256 MB	4.3 GB	Recommended	Recommended
<b>PB79P-MA</b>	OpenVMS	FIS	120 V	Included	128 MB	4.3 GB	Recommended	Recommended
<b>PB79P-MB</b>	OpenVMS	FIS	240 V	Recommended	128 MB	4.3 GB	Recommended	Recommended
<b>PB79P-MC</b>	OpenVMS	FIS	120 V	Included	256 MB	4.3 GB	Recommended	Recommended
<b>PB79P-MD</b>	OpenVMS	FIS	240 V	Recommended	256 MB	4.3 GB	Recommended	Recommended

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

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

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**Step 2—Memory**

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

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

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**Step 3—Storage**

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

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**Step 3a—Internal Storage**

- Rackmount Packaged systems include:
  - 1.44 MB diskette drive in dedicated slot.
  - One CD-ROM drive
  - One 4.3 GB wide disk drive

**Removable Media Devices**

<b>RRD47-VC</b>	600 MB 5.25-inch half-height 32X CD-ROM drive
<b>PBXTZ-AA</b>	2.0 GB 5.25-inch half-height SCSI QIC tape drive (TZK11)
<b>PBXTL-DA</b>	8.0 GB 5.25-inch x 1.6-inch SCSI 4 mm DAT drive (TLZ09)
<b>TLZ10-LG</b>	12/24 GB 5.25-inch 4 mm DAT SCSI tape drive Frost White

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**Step 3a—Internal Storage (continued)****Rackmount Hard Disk Drives—factory or field installed**

<b>RZ1CF-WA</b>	4.3 GB 7200 RPM Wide UltraSCSI disk drive
<b>DS-RZ1DD-WA</b>	9.1 GB 10000 RPM Wide UltraSCSI disk drive
<b>DS-RZ1ED-WA</b>	18.2 GB 10000 RPM Wide UltraSCSI disk drive

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**Step 3b—Storage Controller**

- KZPSA-BB PCI-based one port Fast Wide Differential SCSI controller supports externally connected wide disks in BA356/BA36R with DWZZB signal converter.
- SCSI cables are not included and must be ordered separately.
- External DSSI cables are not included and must be ordered separately.

**SCSI Controllers**

<b>KZPAA-AA</b>	PCI-based one port high performance Fast Narrow Single-Ended (FNSE) SCSI-2 controller
<b>BN21H-xx</b>	Connects from KZPAA-AA to narrow StorageWorks enclosures and narrow StorageWorks rackmount shelves.
<b>BN21H-02</b>	Connects from KZPAA-AA to narrow StorageWorks enclosures and narrow StorageWorks rackmount shelves
<b>KZPSA-BB</b>	PCI-based one port Fast Wide Differential (FWD) SCSI controller, supports external disks only
<b>BN21K-02</b>	Connects from KZPSA to DWZZB-VW in wide StorageWorks enclosures and wide StorageWorks rackmount shelves
<b>KZPBA-CA</b>	PCI-based one port UltraSCSI Single-Ended adapter, internal 68-pin and 50-pin HD connectors and external 68-pin HD SCSI connector
<b>KZPBA-CB<sup>1</sup></b>	PCI-based one port UltraSCSI Differential adapter, 68-pin HD connector
<b>BN38C-02</b>	2 m VHDCI male to HD 68-pin male SCSI cable, required for each StorageWorks shelf attached to KZPBA adapter.
<b>KZPAC-AA</b>	PCI-based one port UltraSCSI single-ended RAID controller with 4 MB cache memory
<b>KZPAC-CA</b>	PCI-based three port UltraSCSI single-ended RAID controller with 4 MB cache memory
<b>KZPAC-CB</b>	PCI-based three port UltraSCSI single-ended RAID controller with 8 MB cache memory
<b>KZPAC-SB</b>	Dual Bulkhead Assembly for Connecting Two Third Channels from the KZPAC and/or KZPSC to One PCI Bulkhead Slot.
<b>BN37A-xx</b>	UltraSCSI cable for connecting the KZPAC to BA356 storage shelves, where xx designates required length.

1. Tru64 UNIX and OpenVMS operating systems currently support the KZPBA-CB adapter via direct attachment in existing environments. Multi-host shared SCSI bus configurations using the KZPBA-CB adapter are supported on OpenVMS systems. Multi-host configurations are not currently supported on Tru64 UNIX systems. For a complete list of restrictions, refer to Supported Options List at:

[http://www.digital.com/alphaserver/tech\\_docs/alphasrv1000a/docs/supported\\_options.html](http://www.digital.com/alphaserver/tech_docs/alphasrv1000a/docs/supported_options.html)

**DSSI Controllers**

<b>KFPSA-AA</b>	PCI-based single DSSI controller (OpenVMS systems only). See Step 4f.
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**Step 3c—External Tape Expansion**

- External tape drives are 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.
- 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.

<b>TZK11-VA</b>	2.0 GB QIC SCSI tape drive in 5.25-inch carrier
<b>TZK11-DA</b>	2.0 GB QIC SCSI tabletop tape drive
<b>TLZ09-VA</b>	8 GB 4 mm DAT 93 MB/min (compressed) narrow SCSI tape drive in 5.25-inch StorageWorks carrier
<b>TLZ09-DB</b>	8 GB 4 mm DAT 93 MB/min (compressed) narrow SCSI tabletop tape drive
<b>DS-TLZ10-VA</b>	12/24 GB 4 mm DAT narrow SCSI tape drive in StorageWorks carrier
<b>DS-TLZ10-DB</b>	12/24 GB 4 mm DAT narrow SCSI tabletop tape drive
<b>TZ88N-VA</b>	20/40 GB DLT 3 MB/s SCSI cartridge tape drive in 5.25-inch StorageWorks carrier
<b>TZ88N-TA</b>	20/40 GB DLT 3 MB/s SCSI cartridge tabletop tape drive
<b>DS-TZ89N-VW</b>	35/70 GB narrow single-ended SCSI DLT in 5.25 inch StorageWorks carrier
<b>DS-TZ89N-TA</b>	35/70 GB narrow single-ended SCSI DLT tabletop tape drive
<b>TKZ9E-VA<sup>1</sup></b>	2/5/7/10/14 GB 8 mm Helical Scan SCSI tape drive in 5.25-inch StorageWorks carrier

- Supported on Tru64 UNIX and OpenVMS systems only.

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**Step 3d—External Disk Expansion**

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

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

<b>BA36R-AF</b>	Front mount BA356 Rackmount StorageWorks Shelf, BA35R-MH 16-bit I/O module, BA35X-HF power supply
<b>BA36R-AR</b>	Rear mount BA356 Rackmount StorageWorks Shelf, BA35R-MH 16-bit I/O module, BA35X-HF power supply
<b>BA35R-SF</b>	Front Mount BA356 Rackmount StorageWorks Shelf, BA35X-MG 8-bit I/O module, BA35X-HF power supply
<b>BA35R-SR</b>	Rear Mount BA356 Rackmount StorageWorks Shelf, BA35X-MG 8-bit I/O module, BA35X-HF power supply
<b>DWZZB-VW</b>	Bi-directional SCSI signal converter and bus extender kit. A 16-bit Fast Wide Differential SCSI-2 on one end and an 8-bit or 16-bit Fast Wide Single-Ended SCSI-2 on the other end. Requires BN21K-** cable.

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

**Hard Disk Drives for Rackmount StorageWorks Shelves (External Only)<sup>1</sup>**

- 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

<b>DS-RZ1CF-VW</b>	4.3 GB 7200 RPM UltraSCSI disk drive in SBB
<b>DS-RZ1DA-VW</b>	9.1 GB 7200RPM Ultra2 SCSI disk drive, SBB
<b>DS-RZ1DD-VW</b>	9.1 GB 10000 RPM UltraSCSI disk drive, SBB
<b>DS-RZ1EA-VW</b>	18.2 GB 7200RPM Ultra2 SCSI disk drive, SBB
<b>DS-RZ1ED-VW</b>	18.2 GB 10000RPM UltraSCSI disk drive, SBB
<b>DS-RZ1FB-VW</b>	36.4 GB 7200RPM Ultra2 SCSI disk drive, SBB

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### Step 3e—DSSI Cables

KFPSA PCI based DSSI controller cables:

- KFPSA to any external Pin-Socket DSSI connection requires BC22Q-xx.
- KFPSA to any external Micro-Ribbon DSSI straight connection (all other DSSI systems and storage devices requiring straight connection) requires BC21Q-xx.
- KFPSA to any external Micro-Ribbon DSSI right-angle connection (all other DSSI systems and storage devices requiring right-angle connection) requires BC29S-xx DSSI cable.
- Order BC29S-09 DSSI cable for HSD10 in BA36R-Ax shelves.
- Order BC29U-02 DSSI cable for HSD10 in adjacent BA36R-Ax shelves.
- Order BC29V-06 DSSI cable for HSD10 in non adjacent BA36R-Ax shelves.

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### Step 4—Monitors

- Windows NT systems require a graphics monitor to run all functions.
- EISA Configuration Utility (ECU) is accessible via the console port for Tru64 UNIX and OpenVMS systems. Optional graphics capability is available. Select graphics adapter, monitor, and country specific keyboard for Tru64 UNIX and OpenVMS systems if required.
- Graphics monitors other than those listed below can be used if compatible with graphics adapter included with system.
- Higher resolutions are available with optional PCI graphics adapters. See Step 5.

**Note:** Selection of a video extension cable and a country specific power cord is **mandatory** for all monitor variants.  
 See Step 4a for video extension cable.  
 See Step 4b for country specific power cords.

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

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### Step 4a—Video Extension Cable

<b>BN39C-02</b>	1.8 meter video extension cable—mandatory for each monitor ordered
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### Step 4b—Monitor Power Cords

Systems ordered in the Americas include a BN26J-1K 120 V (North American) power cord. Order a country specific power cords for all other systems ordered.

<b>3X-BN46F-02</b>	Japan, 120V, 75 inches long
<b>BN26J-1K</b>	North American, 120 V, 75 inches long
<b>BN19H-2E</b>	Australia, New Zealand, 2.5 m long
<b>BN19C-2E</b>	Central Europe, 2.5 m long
<b>BN19A-2E</b>	UK, Ireland, 2.5 m long
<b>BN19E-2E</b>	Switzerland, 2.5 m long
<b>BN19K-2E</b>	Denmark, 2.5 m long
<b>BN19M-2E</b>	Italy, 2.5 m long
<b>BN19S-2E</b>	Egypt, India, South Africa, 2.5 m long
<b>BN18L-2E</b>	Israel, 2.5 m long

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### Step 5—Graphics Adapters

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

- EISA Configuration Utility (ECU) is accessible via the console port for Tru64 UNIX and OpenVMS systems
- Optional graphics capability is available. Select graphics adapter, monitor, and country specific keyboard for Tru64 UNIX and OpenVMS systems if required

**SN-PBXGK-BB**      ELSA Gloria Synergy graphics with 8 MB SGRAM 1600 x 1200, 2D/3D graphic accelerator

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### Step 6—Networks and Communications

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

<b>DE500-AA</b>	PCI-based Fast Ethernet network interface card (see PCI Option Slot Table)
<b>DE450-CA</b>	PCI-based Etherworks 32-bit network interface card (twisted pair, Thick wire, ThinWire)
<b>DEFPA-AB<sup>1</sup></b>	PCI-based DEC FDDIcontroller, Single Attachment; maximum seven on OpenVMS and Windows NT, four on Tru64 UNIX.
<b>DEFPA-DB</b>	PCI-based DEC FDDIcontroller, Dual Attachment, maximum seven on OpenVMS and Windows NT, four on Tru64 UNIX.
<b>DEFPA-UB</b>	PCI-based DEC FDDI (UTP) controller; maximum seven on OpenVMS and Windows NT, four on Tru64 UNIX.
<b>DEFEA-AA<sup>2</sup></b>	EISA-based DEC FDDIcontroller, single attachment
<b>DEFEA-DA<sup>2</sup></b>	EISA-based DEC FDDIcontroller, dual attachment (requires two slots)
<b>DEFEA-UA<sup>2</sup></b>	EISA-based DEC FDDI (UTP) controller
<b>CXI01-AA</b>	ISA Async MUX Adapter, 16 lines—expandable to 64 lines; Windows NT and Tru64 UNIX only

1. Supported as data device only
2. Maximum of two supported per system.

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**Step 7—Keyboards**

North American variants include U.S. English keyboard. Select country-specific keyboard for non North American variants. If an additional keyboard is ordered with North American variants, both keyboards ship with system. All keyboards are opal gray.

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

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**Step 7a—Mouse and Extension Cable Kit**

Three button mouse is included with all systems, order as spare or replacement.

SN-PBQWS-WA	Three 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.

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**Step 8—Printers and Remote Console**

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

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

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

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

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**Step 9—Software**

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

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

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

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**Tru64 UNIX****Software Processor Code = E**

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

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

QA-MT4AA-H8	Tru64 UNIX media and online documentation on CD-ROM
QA-MT4AA-GZ	Tru64 UNIX full hardcopy documentation

**Tru64 UNIX Layered Products CD-ROM**

QA-054AA-H8	Layered products media and documentation for Tru64 UNIX on CD-ROM
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**Step 9—Software (*continued*)****DECnet for Tru64 UNIX**

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

**OpenVMS****Software Processor Code = E**

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

**OpenVMS Concurrent Use Licenses**

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

**OpenVMS Media and Documentation**

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

**OpenVMS Layered Products CD-ROM**

QA-03XAA-H8 <sup>1</sup>	Layered products media and documentation for OpenVMS on CD-ROM
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1. Includes DIGITAL Enterprise Integration Server for OpenVMS media and documentation

**DECnet for OpenVMS**

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

**DSSI Information**

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

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## Step 10—Cabinet Enclosure

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

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

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

### Power Distribution Units for Cabinets with No Power Controller

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

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## Step 11—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.

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

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

- Tru64 UNIX and OpenVMS Systems include 90-day Conformance to SPD and Telephone Advisory Support. Select optional Software Supplemental Support Services, if required.
- Software service upgrades for Tru64 UNIX includes advisory and remedial software support with new version license rights for operating system for time period indicated.
- Software service upgrades for OpenVMS include advisory and remedial software support with new version license rights for operating system and Enterprise Integration Package for time period indicated.

<b>FM-MKOSF-12</b>	12-month Software Supplemental Support for Tru64 UNIX AlphaServer 1000A systems
<b>FM-MKOSF-36</b>	36-month Software Supplemental Support for Tru64 UNIX AlphaServer 1000A systems
<b>FM-MKOSF-60</b>	60-month Software Supplemental Support for Tru64 UNIX AlphaServer 1000A systems
<b>FM-MKVMS-12</b>	12-month Software Supplemental Support for OpenVMS AlphaServer 1000A systems
<b>FM-MKVMS-36</b>	36-month Software Supplemental Support for OpenVMS AlphaServer 1000A systems
<b>FM-MKVMS-60</b>	60-month Software Supplemental Support for OpenVMS AlphaServer 1000A systems

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**Step 11a—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 Exceleator tool; contact MCS Sales in your country for information on Hardware and Software Supplemental Support Services.

**AlphaServer 1000A Rackmount System Specifications**

<b>Shipping Dimension</b>		
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)	
<b>Clearances</b>		<b>Service</b>
Front	124.04 cm (50.0 in)	
Rear	61.0 cm (24.0 in)	
Sides	None	
<b>Environmental</b>		
Temperature		
Operating	10°C–35°C (50°F–95°F)	
Nonoperating	Not tested	
Storage (60 days)	-40°C–66°C (-40°F–151°F)	
Relative humidity		
Operating	20%–80%	
Nonoperating	20%–80%	
Storage (60 days)	10%–95%	
Rate of change	20%/hr	
Air flow and quality		
Intake location	Front	
Exhaust location	Rear	
<b>Electrical—Power Supplies are universal 120/240 V ac</b>		
Nominal ac voltage	100-120 V ac	220-240 V ac
Operating Voltage range	90-128 V ac	180-256 V ac
Power source phase	Single	Single
Nominal frequency	60 Hz	50 Hz
Frequency range	59-61 Hz	49-51 Hz
Maximum inrush current	50 Amps	50 Amps
RMS current at nominal voltage (steady state)		
Single power supply	8.0 Amps	4.0 Amps
Power cord		
Type	IEC 320 C13	
Length	4.57 m (15 ft)	
U.S. plug	NEMA 5-15	

AlphaServer 1000A Rackmount 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 EMCO-TSE (74-SEC), Summary of Nordic deviations FCC 15J Part 15 Class A verified CE Class A verified VCCI Class II ITE
Reviewed to	AD 3260 Australian Standard AS/NZS 3260:1963, Australian/New Zealand Standard EN 60 950: January 1993 European Norm IEC 950 (2 <sup>nd</sup> edition)

**Uninterruptable Power Supplies****Prestige 1250EXT**

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

<b>4N-AEABF-AA</b>	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.
<b>4N-AEABF-BF</b>	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.
<b>4N-AEAEO-PA</b>	Hot-swap Power-Pass Module for 60 Hz UPS with (7) 5-15R Surge Protected outlets.
<b>4N-AEAEO-PB</b>	Hot-swap Power-Pass Module for 50 Hz UPS with (6) IEC320, 10A surge protected outlets.
<b>4N-AEWAR-G1</b>	Prestige 5 year on-site exchange warranty upgrade (U.S. only).

**Data Surge Protection**

<b>4N-GA249-AB<sup>1</sup></b>	Surge protector, modem connection, wall plug-in
<b>4N-GA249-CA<sup>1</sup></b>	Surge protector, 10BaseT connection, wall plug-in
<b>4N-GA245-xx</b>	Surge Protector, multi-port connection, din rail/rackmount

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