COMPAQ

AlphaServer 800 Pedestal–Rackmount
V3.6—October 17, 1999
Systems and Options Catalog

Product Description

The AlphaServer 800 is an Alpha server based on the Alpha 21164 microprocessor 500 MHz CPU with 2 MB ECC cache. Servers are available in Pedestal and Rackmount configurations with a choice of Tru64 UNIX, OpenVMS, and Windows NT operating systems. The AlphaServer 800 offers the following high reliability features: hot swap drives, Remote Management Console, and ECC memory. Integrated on system motherboard is an UltraSCSI adapter, SVGA controller (TRIO-S3 with 1MB RAM), Remote Management Console, diskette controller, two serial ports, one parallel port, and keyboard and mouse interfaces.

The AlphaServer 800 systems support eight internal storage devices, including a floppy diskette, a CD-ROM, two additional 5.25-inch removable media device bays, and four hot swap SCA-2 Ultra disk drives. System supports up 2 GB of memory and 144 GB of internal storage with four 36 GB disks installed.

System Ordering Rules

- AlphaServer 800 Packaged Systems do not include a system disk or an Ethernet (10/100 Mbit) adapter. Selection of a system disk and a network adapter is mandatory. Users can select a 9.1 GB, 18.2 GB, or 36.4 GB disk as the system disk.

- To order a complete system, select (1) a System, (2) a System Disk, and (3) a Network Adapter.

M-series Cabinet Enclosures

- Cabinet enclosures are available in three sizes: 43-inch, 67-inch, and 79-inch; see Cabinet Configuration Chart for maximum systems and StorageWorks shelves supported in M-series Cabinet Enclosures.

The AlphaServer 800 integrated Remote Management Console (RMC) features significantly enhances the ability to remotely manage and diagnose system conditions. The RMC allows a remote operator to monitor server voltages, temperatures, and fan, as well as manipulate the server (Power On/Off, reset, halt). An auxiliary regulator powers the RMC in the main power system that allows systems to be remotely interrogated even if systems are turned off or shut down. In the event of an alert condition, the RMC can be set up to automatically dial a user definable pager phone or another system to make a remote operator aware of the alert condition.

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 and OpenVMS systems. Using ServerWORKS, the system manager may 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.

Step 1—AlphaServer 800 Pedestal and Rackmount Package Systems

Configuration menus require the mandatory selection of:

- Tru64 UNIX Packaged System from Step 1a, or
- OpenVMS Packaged System from Step 1b, and
- Minimum of one Ethernet Adapter and one UltraSCSI disk from Step 1c

Note: See Step 3d for M-series Cabinet Enclosure configuration rules

Pedestal and Rackmount Systems include

- Alpha microprocessor 21164 500 MHz CPU with 2 MB onboard ECC cache
- Pedestal enclosure with
  - Six expansion slots: three PCI and one PCI/EISA combo and two EISA
  - Onboard UltraSCSI adapter supports internal removable media (CD-ROMs and tapes) and internal storage shelf only
  - Onboard S3 SVGA Graphic
  - 8 DIMM memory slots support 2 memory kits
  - Eight storage slots
    One diskette drive slot with 1.44 MB floppy drive
    One CD-ROM drive slot with 600 MB CD-ROM
    Two additional half height (or one full height) removable media slots
    Four SCA-2 UltraSCSI hard drive slots
  - Two serial ports: One serial port with full duplex asynchronous modem control; one RMC dedicated serial port with full duplex asynchronous modem control.
  - One bi-directional enhanced parallel port

- PS/2 style keyboard port and mouse port
- 350 W switchable (120/240 V, 60/50 Hz) power supply
- 3-button mouse.
- 120 V power cord. Select country-specific power cord for all non North American orders.
- US English documentation.
- Integrated Advanced Server Management features, including ServerWORKS Manager kit.
- Tru64 UNIX Unlimited User license, Server Extension license, Internet AlphaServer System software kit, or
- OpenVMS base license with System Manager license, Enterprise Integrated Package
- Windows NT ordered in North America include a 104/105 key, PC-style US English keyboard. Non-North American orders must order the appropriate keyboard. See Step 8.
- Hardware warranty: three-year onsite[1]
- Software Warranty[1]
  - 90-day SPD conformance with advisory telephone support for Tru64 UNIX and Open VMS.

1. Service upgrades are available. See Step 9.

Note: Rackmount packaged systems must be installed in a cabinet. System can be installed in an existing cabinet or select a cabinet from Step 3d.

Step 1a—Tru64 UNIX Packaged Systems

- All Tru64 UNIX Pedestal and Rackmount packaged systems include pre-installed Tru64 UNIX, Base license, Unlimited User license, Server Extension license, and Internet Access Server Software (IASS) media and license.
- Tru64 UNIX packaged systems include factory installed software (FIS) Tru64 UNIX V4.0D on hard disk drive.

- Tru64 UNIX variants ordered in North America include a 104/105-key PC style US English keyboard
- Selection of a keyboard and power cord is mandatory for all non North American orders.
- A minimum of 64 MB memory is recommended for Tru64 UNIX
- Order Tru64 UNIX media and documentation separately. See Step 8.

Note: Rackmount packaged systems must be installed in a cabinet. System can be installed in an existing cabinet or select a cabinet from Step 3d.

Tru64 UNIX Pedestal Packaged Systems

Order Number	Operating System	CPU	Memory	Disk	Ethernet	Graphics	Monitor
PB82C-FB	Tru64 UNIX	500	64 MB	Mandatory	Mandatory	Onboard	Recommended
PB82C-FC	Tru64 UNIX	500	128 MB	Mandatory	Mandatory	Onboard	Recommended
PB82C-FD	Tru64 UNIX	500	256 MB	Mandatory	Mandatory	Onboard	Recommended
PB82C-FE	Tru64 UNIX	500	512 MB	Mandatory	Mandatory	Onboard	Recommended
PB82C-FF	Tru64 UNIX	500	1 GB	Mandatory	Mandatory	Onboard	Recommended

Step 1a—Tru64 UNIX Packaged Systems *(continued)*

Tru64 UNIX Rackmount Packaged Systems

Order Number	Operating System	CPU	Memory	Disk	Ethernet	Graphics	Monitor
PB82S-FB	Tru64 UNIX	500	64 MB	Mandatory	Mandatory	Onboard	Recommended
PB82S-FC	Tru64 UNIX	500	128 MB	Mandatory	Mandatory	Onboard	Recommended
PB82S-FD	Tru64 UNIX	500	256 MB	Mandatory	Mandatory	Onboard	Recommended
PB82S-FE	Tru64 UNIX	500	512 MB	Mandatory	Mandatory	Onboard	Recommended
PB82S-FF	Tru64 UNIX	500	1 GB	Mandatory	Mandatory	Onboard	Recommended

Key: Mandatory items must be on purchase order at initial order acceptance.
Recommended items enhance system functionality.

Step 1b—OpenVMS Packaged Systems

- All packaged systems include pre-installed OpenVMS, Base license, and Enterprise Integration Package. See Step 8 for contents.
- OpenVMS packaged systems include Factory Installed Software (FIS) OpenVMS V7.1-1H2 on the hard disk.

- OpenVMS variants ordered in North America include a 108-key, VT style US English keyboard.
- Selection of a keyboard and power cord is mandatory for all non North American orders.
- Order Open VMS media and documentation separately. See Step 8.

Note: Rackmount packaged systems must be installed in a cabinet. System can be installed in an existing cabinet or select a cabinet from Step 3d.

OpenVMS Pedestal Packaged Systems

Order Number	Operating System	CPU	Memory	Disk	Ethernet	Graphics	Monitor
PB82C-MB	OpenVMS	500	64 MB	Mandatory	Mandatory	Onboard	Recommended
PB82C-MC	OpenVMS	500	128 MB	Mandatory	Mandatory	Onboard	Recommended
PB82C-MD	OpenVMS	500	256 MB	Mandatory	Mandatory	Onboard	Recommended
PB82C-ME	OpenVMS	500	512 MB	Mandatory	Mandatory	Onboard	Recommended
PB82C-MF	OpenVMS	500	1 GB	Mandatory	Mandatory	Onboard	Recommended

OpenVMS Rackmount Packaged Systems

Order Number	Operating System	CPU	Memory	Disk	Ethernet	Graphics	Monitor
PB82S-MB	OpenVMS	500	64 MB	Mandatory	Mandatory	Onboard	Recommended
PB82S-MC	OpenVMS	500	128 MB	Mandatory	Mandatory	Onboard	Recommended
PB82S-MD	OpenVMS	500	256 MB	Mandatory	Mandatory	Onboard	Recommended
PB82S-ME	OpenVMS	500	512 MB	Mandatory	Mandatory	Onboard	Recommended
PB82S-MF	OpenVMS	500	1 GB	Mandatory	Mandatory	Onboard	Recommended

Key: Mandatory items must be on purchase order at initial order acceptance.
Recommended items enhance system functionality.

Step 1c—Windows NT Packaged Systems

- Digital's OEM license agreement for Windows NT mandates compliance with specific configuration rules:
- Windows NT Language Configuration
  - Selection of Windows NT Server 4.0 plus 10-client access license (CD-ROM) kit is mandatory (Step 9)

- Video monitor is required for system management; order separately if not available on site.
- Windows NT US variants include a 104/105-key, PC-style US English keyboard. Windows NT non-U.S. variants must order country-specific keyboard. See Step 8.

Note: Rackmount packaged systems must be installed in a cabinet. System can be installed in an existing cabinet or select a cabinet from Step 7.

Step 1c—Windows NT Packaged Systems *(continued)*

Windows NT Pedestal Packaged Systems

Order Number	Operating System	CPU	Memory	Disk	Ethernet	Keyboard[1]	Graphics	Monitor
PB82C-AB	Windows NT	500	64 MB	Mandatory	Mandatory	Mandatory	On-board	Required
PB82C-AC	Windows NT	500	128 MB	Mandatory	Mandatory	Mandatory	On-board	Required
PB82C-AE	Windows NT	500	512 MB	Mandatory	Mandatory	Mandatory	On-board	Required

Windows NT Rackmount Packaged Systems

Order Number	Operating System	CPU	Memory	Disk	Ethernet	Keyboard[1]	Graphics	Monitor
PB82S-AB	Windows NT	500	64 MB	Mandatory	Mandatory	Mandatory	On-board	Required
PB82S-AC	Windows NT	500	128 MB	Mandatory	Mandatory	Mandatory	On-board	Required
PB82S-AE	Windows NT	500	512 MB	Mandatory	Mandatory	Mandatory	On-board	Required

Note: North American packaged systems include US keyboard. Non-North American keyboards must be ordered.

Key: Mandatory items must be on purchase order at initial order acceptance.
Required items are essential for full system operation.

Step 1d—Mandatory Options

Selection of a System Disk drive and a Network Adapter is **mandatory**. Additional disks and network adapters are supported, select as required.

Select one System Disk Drive—Mandatory

9.1 GB disk drive is recommended as System Disk. If more than one size of disk is ordered the Operating System will be factory installed on the smallest disk.

Order Number	System Disk and Minimum O/S version supported	Tru64 UNIX	Windows NT	OpenVMS
DS-RZ2DA-SB[1]	9.1 GB 7200 RPM UltraSCSI disk drive	V4.0B	4.0 SP3	V7.1-1H1
DS-RZ1DD-SB[1]	9.1 GB 10000 RPM UltraSCSI disk drive	V4.0B	4.0 SP3	V6.2-1H3
DS-RZ2EA-SB[2]	18.2 GB 7200 RPM UltraSCSI disk drive	V4.0B	4.0 SP3	V7.1-1H1
DS-RZ1ED-SB[2]	18.2 GB 10000 RPM UltraSCSI disk drive	V4.0B	4.0 SP3	V6.2-1H3
DS-RZ2FB-SB	36.4GB 7200RPM UltraSCSI disk drive	V4.0B	4.0 SP3	V7.1-1H1

1. KZPAC RAID Array 230/Plus Controller supports 9 GB drives—for configuration information on getting around the 32 GB Logical Drive Limit of the KZPAC, see the *Systems and Option Catalog* file for Storage RAID Controllers dated 10 September 1998 and Customer Update dated 15 August 1997 at: http://webir.das.dec.com/info/CU5911/CU5911HM.HTM
2. Not supported on KZPAC-xx PCI-based RAID controllers.

Select one Network Adapter—Mandatory

Order Number	Network Adapter and Minimum O/S version supported	Tru64 UNIX	Windows NT	OpenVMS
KZPCM-DA	PCI-based two port UltraSCSI Single-ended adapter and 10/100 Mbit Ethernet combo adapter, uses 1 PCI slot	V4.0D	4.0 SP3	V7.1-1H1
DE500-BA	10/100 Ethernet adapter UTP with cluster failover	V4.0D	4.0 SP3	V7.1-1H1
DE504-BA	10/100-Mbit Quad Ethernet, High connectivity with 4 channels	V4.0D	4.0 SP3	V7.1-1H1

Step 2—Memory

- System supports two memory kits for a maximum of 2 GB of memory.
- Packaged systems include one memory kit.
- Each kit includes four industry-standard DIMMs with ECC support.

PB8MA-AC	64 MB	(4 x 16 MB DIMMs) memory kit
PB8MA-AD	128 MB	(4 x 32 MB DIMMs) memory kit
PB8MA-AE	256 MB	(4 x 64 MB DIMMs) memory kit
PB8MA-AF	512 MB	(4 x 128 MB DIMMs) memory kit
PB8MA-AG	1 GB	(4 x 256 MB DIMMs) memory kit

Step 3—Storage

Select additional storage devices as required. See Storage Devices section for more information.

Step 3a—Internal Storage

- An onboard UltraSCSI adapter is included in each system to support a maximum of seven internal devices, four SCA-2 disk drives plus three removable devices.
- Internal Storage included
  - One 600 MB 12X CD-ROM drive
  - One 1.44 MB diskette drive in dedicated slot
- Additional Internal Storage supported
  - Three hard disk drive bays
  - Two removable 5.25-inch half-height removable media bays, or
    One removable 5.25-inch full-height removable media bay

Internal Disk Drives

- Selection of one System Disk Drive is **mandatory**, see Step 1c.
- Up to three additional hard disk drives are supported internally.

DS-RZ2DA-SB	9.1 GB 7200 RPM UltraSCSI disk drive
DS-RZ1DD-SB	9.1 GB 10000 RPM UltraSCSI disk drive
DS-RZ2EA-SB[1]	18.2 GB 7200 RPM UltraSCSI disk drive
DS-RZ1ED-SB[1]	18.2 GB 10000 RPM UltraSCSI disk drive
DS-RZ2FB-SB[1]	36.4 GB 7200 RPM UltraSCSI disk drive

1. Not supported on KZPAC-xx PCI-based RAID controllers.

Internal Removable Media Devices

- All Pedestal and Rackmount packaged systems include one 600 MB CD-ROM drive.
- System supports two additional 5.25-inch half-height removable media devices, **or** one additional 5.25-inch full-height removable media device.

RRD47-AB	600 MB 5.25 inch half-height 32X CD-ROM drive
PBXTZ-AA	2.0 GB 5.25 inch half-height SCSI QIC tape drive (TZK11)
TLZ09-LK	8.0 GB 5.25 inch x 1.6-inch SCSI 4 mm DAT drive, embedded
TLZ10-LK	12/24 GB 4 mm DAT SCSI tape drive, embedded

Internal SCSI Cable Kits

PB8HA-DA	Internal 68-pin HD SCSI cables. Connects 16-bit wide SCSI adapters and controllers, KZPAC-xx, KZPCM-DA, or KZPBA-CA to internal storage assembly. Maximum one per system.
BC25V-1H	Internal UltraSCSI cable breakout assembly kit. Connects the third port of the KZPAC-CA/CB to one of the two expansion breakout slots on back of AlphaServer 800.

Step 3b—Storage Adapters/Controllers

- All systems include an onboard UltraSCSI adapter to support a maximum of seven internal devices; four SCA-2 hard disk drives and three removable media devices.
- If the internal drives are connected to a PCI-based RAID controller (KZPAC-xx) instead of the onboard UltraSCSI adapter, Fault Management must be disabled when the RCU (Raid Configuration Utility) is executed.
  - PB8HA-DA cable is required to connect optional PCI-based RAID controller to internal disk drives.
- Maximum number of KZPAC PCI-based RAID controllers supported is four.

- Charts indicate minimum level of operating system supported.
  Note: Minimum operating system level support for Tru64 UNIX with MEMORY CHANNEL is V4.0B.
- Refer to the Supported Options List for O/S support http://www.digital.com/alphaserver/tech_docs/alphasrv800/docs/supported_options.html
- The following adapters and controllers are supported.
- SCSI cables are not included and must be ordered separately.
- External DSSI cables are not included and must be ordered separately.
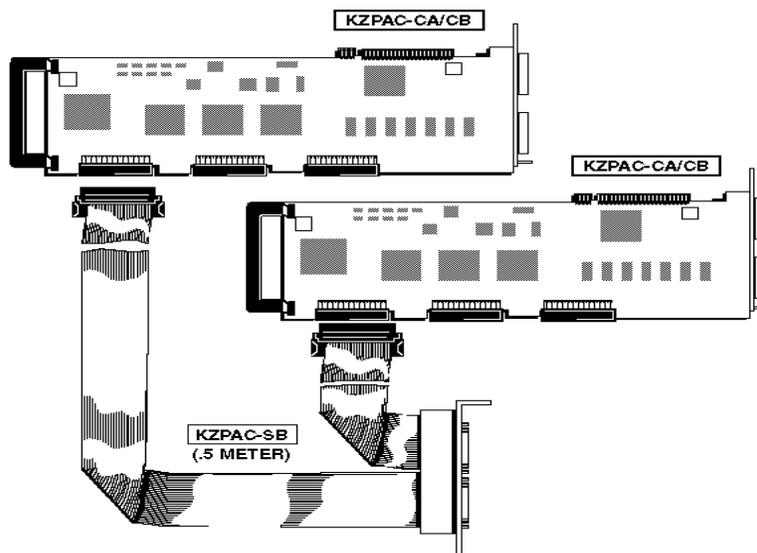
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AlphaServer 800 Pedestal–Rackmount

Step 3b—Storage Adapters/Controllers *(continued)*

Maximum # Supported

Order Number	Description	Tru64 UNIX	Windows NT	Tru64 UNIX
KZPCM-DA	**PCI-based two port UltraSCSI Single-ended adapter** and 10/100Mbit Ethernet Combo adapter, uses 1 PCI slot. Internal 68-pin and 50-pin HD connectors and two external 68-pin VHDCI connectors.	2	2	2
BN37A-02	2 meter VHDCI male to VHDCI male UltraSCSI cable for external connections. Required for each UltraSCSI StorageWorks shelf attached to KZPCM.			
PB8HA-DA	Internal 68-pin HD SCSI cables. Connects 16-bit wide SCSI controller KZPCM to internal storage assembly, maximum one per system.			
KZPBA-CA	**PCI-based one port UltraSCSI Single-ended adapter**, internal 68-pin and 50-pin HD connectors and external 68-pin HD connector.	2	2	2
BN38C-02	2 meter 68-pin HD male to VHDCI male UltraSCSI cable. Required for each external UltraSCSI shelf attached to KZPBA.			
PB8HA-DA	Internal 68-pin HD SCSI cables. Connects 16-bit wide SCSI controller KZPBA to internal storage assembly, maximum one per system.			
KZPBA-CB[1]	**PCI-based one port UltraSCSI Differential adapter**, 68-pin HD connector	2	2	2
BN38C-02	2 meter 68-pin HD male to VHDCI male UltraSCSI cable. Required for each external UltraSCSI shelf attached to KZPBA.			

Order Number	Description	Tru64 UNIX	Windows NT	OpenVMS
KZPSA-BB	**PCI-based one port Fast Wide Differential (FWD) SCSI adapter** with 68-pin HD external connector. Supports Single-Ended storage devices via the DWZZA or DWZZB signal converters. Internal hard disk drives are not supported on KZPSA adapter.	4	4	4
BN21K-02	2 meter SCSI cable 68-pin HD straight male connector with thumb latches and one 68-pin HD right angle male connector with screw fasteners.			
BN31G-xx	SCSI Cable 68-pin HD straight connector at each end; -xx denotes length of cable			
BN21W-0B	SCSI Cable 68-pin HD SCSI "Y" Cable			
DWZZB-xx	SCSI bus signal converter. 16-bit differential to 16-bit Single-Ended			

Step 3b—Storage Adapters/Controllers *(continued)*

Order Number	Description	Tru64 UNIX	Windows NT	OpenVMS
KZPAC-AA[2,3]	**PCI-based one port UltraSCSI RAID controller with 4 MB cache memory**, includes RAID Array 230/Plus Subsystem software and documentation kit for Tru64 UNIX and OpenVMS. 68-pin HD connector for internal connection and 68-pin VHDCI bulkhead connector for external connection. Tape drives are not supported. KZPAC-xx requires PB8HA-DA SCSI cable kit for connection to internal storage assembly. If the internal drives are connected to the KZPAC Fault Management must be disabled when RCU is executed.	4	4	4
KZPSC-UB[4]	Cache battery backup for KZPAC controller			
PB8HA-DA	Internal 68-pin HD SCSI cables. Connects 16-bit wide SCSI controller KZPAC to internal storage assembly, maximum one per system.			
BN37A-02	2 meter VHDCI male to VHDCI male UltraSCSI cable for external connections. Required for each UltraSCSI StorageWorks shelf attached to KZPAC.			
KZPAC-CA[1,2]	**PCI-based three port UltraSCSI RAID controller with 4 MB cache memory**, includes RAID Array 230/Plus Subsystem Software and documentation kit for Tru64 UNIX and OpenVMS. Tape drives are not supported. SCSI cable is required for each active port. BN31K-0E or KZPAC-SB or BC25V-1H must be ordered for connection of third port to bulkhead breakout. KZPAC-xx requires PB8HA-DA SCSI cable kit for connection to internal storage assembly. If the internal drives are connected to the KZPAC Fault Management must be disabled when RCU is executed.	2	2	2
KZPAC-CB[1,2]	**Same as KZPAC-CA with 8 MB cache memory**	2	2	2
KZPSC-UB[3]	Cache battery backup for KZPAC controller			
MS100-BB	8 MB EDRAM cache memory replacement, upgrades KZPAC-CA to KZPAC-CB			
PB8HA-DA	Internal 68-pin HD SCSI cables. Connects 16-bit wide SCSI controller KZPAC to internal storage assembly, maximum one per system.			
BN37A-xx	VHDCI male to VHDCI male UltraSCSI cable for external connections. Required for each UltraSCSI StorageWorks shelf attached to KZPAC.			
BN31S-1E	1.5 meter VHDCI to 68-pin HD SCSI cable for external connections. Required for each Fast10 StorageWorks shelf attached to KZPAC.			
BC25V-1H	UltraSCSI cable breakout assembly kit. Connects internal third port of KZPAC-CA/CB to one of the two external bulkhead breakout slots.			
BN31K-0E	SCSI cable/bulkhead assembly kit with one port for KZPAC-CA/CB, allows connection of one third port output using one PCI bulkhead slot.			
KZPAC-SB	SCSI cable/bulkhead assembly kit with two ports for KZPAC-CA/CB, allows connection of two third port outputs using one PCI bulkhead slot.			

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/alphasrv800/docs/supported_options.html
2. 18.2 GB disk drives are not supported on KZPAC-xx PCI-based RAID controllers.
3. KZPAC RAID Array 230/Plus Controller supports 9 GB drives—for configuration information on getting around the 32 GB Logical drive Limit of the KZPAC, see the *Systems and Option Catalog* file for Storage RAID Controllers dated 10 September 1998 and Customer Update dated 15 August 1997 at:
   http://webir.das.dec.com/info/CU5911/CU5911HM.HTM
4. KZPSC-UB is recommended for KZPAC RAID controllers.

Step 3b—Storage Adapters/Controllers *(continued)*

DSSI Controllers

		Maximum # Supported	
Order Number	**Description**	**Tru64 UNIX V4.0B**	**OpenVMS V7.1-1H1**
KFPSA-AA	**PCI-based one port DSSI adapter** (OpenVMS systems only)	—	4
BC29S-xx	For KFPSA PCI based DSSI controller. 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.		
BC29S-09	For KFPSA PCI based DSSI controller. Order BC29S-09 DSSI cable for HSD10 in BA36R-Ax shelves		

Step 3c—External Tape Expansion

- External tape drives are also supported on optional PCI-based SCSI adapters.
    - 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 are not supported on KZPAC-xx UltraSCSI RAID controllers on systems running Tru64 UNIX or OpenVMS.

External Tapes

Minimum level of operating system required: Tru64 UNIX V4.0B, OpenVMS V7.1-1H1.

TLZ09-DB	4.0/8.0 GB 4 mm DAT tabletop tape drive with 50-pin LD SCSI port. Includes BN23G-01 with one male 50-pin LD connector and one male 50-pin HD connector.
TLZ9L-DB[1,2]	32/64 GB 4 mm DAT tabletop autoloader with 50-pin LD SCSI port. Includes BN23G-01 cable with one male 50-pin LD connector and one male 50-pin HD connector.
DS-TLZ10-DB	12/24 4mm DAT SCSI tabletop tape drive. Requires SCSI cable BN23G-01 (for 50-pin HD host) or BN31W-01 (for 68-pin HD host)

1. Includes four cartridge loader. Larger magazines are supported.
2. Base operating systems support sequential backup mode only; additional software is required for random access backup. See Storage Devices section for details.

Step 3c—External Tape Expansion *(continued)*

TSZ07-CA/FA	40/140 MB1600 b/in tabletop tape drive (SE/DIFF). Requires country kit which includes cables (TSZK7-xx; see StorageWorks tape device section.
TSZ07-AA/DA	40/140 MB 1600 b/in rackmountable tape drive. Requires country kit which includes cables (TSZK7-xx; see StorageWorks tape device section.
TSZ07-BA/EB	40/140 MB 1600 b/in tape drive in (H9642/H9A10) cabinet. Includes SCSI cable (see StorageWorks tape device section).
DS-TZ89N-TA	35/70 single-ended DLT tabletop tape drive with 68-pin HD female connector. Requires BN21K-xx SCSI cable.
TZK11-DA	2.0 GB QIC tabletop tape drive. Includes SCSI terminator, and 3 foot SCSI cable.
DS-TZS20-DB	25/50GB AIT (8 mm) tabletop tape drive—Blue. SCSI cable not included. Requires BN21N-01 for 50- pin HD host, or BN31G-01 for 68-pin HD host SCSI cable.

SCSI Cables for External Tapes

BN23G-01	3 foot molded SCSI cable. 50-pin Single-Ended SCSI cable (one 50-pin HD straight male connector with thumb latches and one 50-pin LD straight male connector with bale locks.)
BN23G-0E	1.5 foot molded SCSI cable. 50-pin Single-Ended SCSI cable (one 50-pin HD straight male connector with thumb latches and one 50-pin LD straight male connector with bale locks.)
BN21K-xx	Single-Ended SCSI cable 68-pin HD straight male connector with thumb latches and one 68-pin HD right angle male connector with screw fasteners.

Step 3d—M-series Cabinet Enclosure

- Rackmount Packaged Systems must be installed in a cabinet.
- System can be installed in an existing cabinet or select an M-series Cabinet Enclosure.
- Select Cabinet Enclosure based on number of Systems and StorageWorks Shelves supported.

M-series Top Gun Blue Cabinet Enclosures are available in three sizes:

- 43" high Cabinet Enclosure (H9A11-xx) 20U or 35.0" of usable vertical space.
- 67" high Cabinet Enclosure (H9A10-xx) 31U or 54.2" of usable vertical space.
- 79" high Cabinet Enclosure (H9A15-xx) 38U or 66.5" of usable vertical space.

Cabinet Configuration Chart for AlphaServer 800 (6U) with StorageWorks shelves (4U)

Cabinet Enclosure	Mounting Kit	Cabinet Height and Space		System	Shelves	Ballast Kit
H9A11-MC/MD	Included in Rackmount System	35.0 inches	20U	1 2 3	4 4 0	1
H9A10-MC/MD	Included in Rackmount System	54.2 inches	31U	1 2 3 4 5	6 6 6 2 0	2 1
H9A15-MC/MD	Included in Rackmount System	66.5 inches	38U	2[1] 3 4 5	6 6 6 4	2

1. H9A15 Cabinet supports a minimum of **two** AlphaServer 800 systems, installation of one system is **not** supported.

Step 3d—M-series Cabinet Enclosure *(continued)*

Cabinet Configuration Chart for AlphaServer 800 (6U) with StorageWorks RA3000 and disk shelves (12U)

- 12U of vertical cabinet space are reserved for one RA3000 controller shelf and up to five disk shelves mounted in top of cabinet, front to back. An additional 2U of vertical space is required for RA3000 controller shelf UPS.
- Disk shelves can be a combination of RA3000 DS-SWXRA-GN disk shelves and StorageWorks BA36R-RC/RD disk shelves.
  - RA3000 controller shelf supports up to a maximum of four DS-SWXRA-GN disk shelves.
  - The third and fourth DS-SWXRA-GN disk shelf ordered will be installed in rear of an M-series cabinet. Rear mounted shelves requires a 2 meter SCSI cable; order BN37A-02 SCSI cable separately for installation of third and fourth disk shelves in rear of cabinet.
- Systems are supported in remaining vertical space.

Cabinet Enclosure	Mounting Kit	Cabinet Height and Space		System	RA3000 + Shelves	Ballast Kit
H9A11-MC/MD	Included in Rackmount System	35.0 inches	20U	1	1 + 3[1]	1
H9A10-MC/MD	Included in Rackmount System	54.2 inches	31U	1 2	1 + 5 1 + 5	2 1
H9A15-MC/MD	Included in Rackmount System	66.5 inches	38U	2 3 4	1 + 5 1 + 5 1 + 5	2

1. H9A11 cabinet supports a maximum of one RA3000 controller shelf and up to a maximum of three disk shelves.

M-series Cabinet Enclosure Options

M-series Cabinet Enclosures require the **mandatory** selection of:

- H9A11, H9A10, or H9A15 Cabinet 120V or 240V variant.
- Cabinet front door based on cabinet height (optional on H9A11 cabinet).
- Factory Integration.
- Ballast kits as required.

Cabinet Enclosures

H9A11-MC	120 V one 24 A controller with 10 NEMA 5-15R outlets, input power plug NEMA L5-30P, Americas, Asia Pacific. Includes rear door, 1 H7600-AA power distribution unit, trim kit, and front filler bezel kit
H9A11-MD	240 V one 16 A controller with 12 IEC C13 outlets, input power plug IEC 309, 16A, Europe Includes rear door, 1 H7600-DB power distribution unit, trim kit, and front filler bezel kit
H9A10-MC	120 V dual 24 A controller, each with 10 NEMA 5-15R outlets, input power plug NEMA L5-30P, Americas, Asia Pacific Includes rear door, top fan tray, and 2 H7600-AA power distribution units
H9A10-MD	240 V dual 16 A controller, each with 12 IEC C13 outlets, input power plug IEC 309, 16A, Europe Includes rear door, top fan tray, and 2 H7600-DB power distribution units
H9A15-MC	120 V dual 24 A controller, each with 10 NEMA 5-15R outlets, input power plug NEMA L5-30P, Americas, Asia Pacific Includes rear door, top fan tray, and 2 H7600-AA power distribution units
H9A15-MD	240 V dual 16 A controller, each with 12 IEC C13 outlets, input power plug IEC 309, 16A, Europe Includes rear door, top fan tray, and 2 H7600-DB power distribution units

For custom integration of systems, options, and additional Compaq and third party devices, or for other cabinets, doors, and trim kits of a different color, contact Compaq CustomSystems at 1-800-AT-COMPAQ (1-800-282-6672), or contact your local authorized Compaq Certified Integration Partner.

Step 3d—M-series Cabinet Enclosure *(continued)*

Cabinet Front Door

H9C10-TF	Top Gun Blue front door for H9A10-MC/MD Cabinet Enclosure
H9C15-TF	Top Gun Blue front door for H9A15-MC/MD Cabinet Enclosure
H9C11-EB[1]	Top Gun Blue front door for H9A11-MC/MD Cabinet Enclosure

1. Selection of front door for H9A11 cabinet is optional, cabinet includes front trim kit and filler bezel kit.

Shelves supported in M-series Cabinets with front doors (H9A10/M9A15)

BA36R-RC	StorageWorks UltraSCSI single bus, single-ended shelf with 180 W power supply and RETMA mounting kit
BA36R-RD	StorageWorks UltraSCSI split bus, single-ended shelf with 180 W power supply and RETMA mounting kit
BA35R-MR	StorageWorks controller shelf with RETMA mounting kit and NEMA power for H9A10-MC, H9A15-MC cabinets (Americas, Asia Pacific) Order BN30B-02 power cord for H9A10-MD, H9A15-MD cabinets (Europe)
CK-BA35X-HH	180 W power supply

Shelves supported in M-series Cabinets with trim kit (H9A11)

BA35C-AA	StorageWorks UltraSCSI single bus, single-ended shelf with 180 W power supply and RETMA mounting kit—blue bezel
BA35C-BA	StorageWorks UltraSCSI split bus, single-ended shelf with 180 W power supply and RETMA mounting kit—blue bezel

Factory Integration

YS-ASCAA-AA	Factory Integration of systems and storage devices assembled and configured in cabinet enclosure in pre-defined locations

Ballast Kit

Ballast is dead weight that is added to a cabinet at specific locations for specific configurations to meet safety regulations for installation, operation, and service. See Cabinet Configuration Chart for ballast kit requirements.

H9C10-MC	Two 35-40 lbs. steel plates

For additional information on M-series Cabinet Enclosures visit www.digital.com/alphaserver/products/m-series.html

Compaq CustomSystems Support

Cabinets containing systems and storage must be assembled by qualified assemblers: Compaq Manufacturing, Compaq's Customs Systems Group, or an authorized Compaq Certified Integration Partner.

For custom integration of systems, options, and additional Compaq and third party devices, or for other cabinets, doors, and trim kits of a different color, contact Compaq CustomSystems at 1-800-AT-COMPAQ (1-800-282-6672), or contact your local authorized Compaq Certified Integration Partner.

Step 3e—StorageWorks RAID Array 3000

RAID Array 3000 Rackmount Controller Shelf

- RA3000 is currently supported on Tru64 UNIX running minimum of V4.0D operating system software.
- Supported SCSI adapter: KZPBA-CB PCI-based one port UltraSCSI Differential adapter.
- Selection of an RA3000 Solutions Software Kit (QB-5TWAB-SA) is required.

DS-SWXRA-GH RA3000 Rackmount controller shelf with one controller, 110 V (Blue).

      Includes: Ultra SCSI BA356 controller shelf, one HSZ22 two channel controller with 16 MB cache, integrated Environmental Monitoring Unit (EMU), two 180 Watt power supplies, two dual port host differential UltraSCSI I/O SBBs, Dual channel UltraSCSI single-ended personality modules, one 120V 1000VA rackmount UPS, 5 meter host SCSI cable (BN37A-05), BN38E-0B adapter, UPS serial cable, PC connection serial cable (DB-9), two 68 HD tri-link adapters (H8861-AA), North American power cords, and RETMA mounting bracket. Disk shelves and disks are not included.

      Requires: Solutions Software Kit for platform, host adapter, RA3000 disk shelf, and disks
      Options: Second HSZ22 controller, up to 3 additional RA3000 disk shelves, cache memory upgrade

DS-SWXRA-GK RA3000 Rackmount controller shelf with one controller, 230 V (Blue).

      Includes: UltraSCSI BA356 controller shelf, one HSZ22 two channel controller with 16 MB cache, integrated Environmental Monitoring Unit (EMU), two 180 Watt power supplies, two dual port host differential UltraSCSI I/O SBBs, Dual channel UltraSCSI single-ended personality modules, one 230V 1000VA rackmount UPS, 5 meter host SCSI cable (BN37A-05), BN38E-0B adapter, UPS serial cable, PC connection serial cable (DB-9), two 68 HD tri-link adapters (H8861-AA), RETMA mounting bracket. Disk shelves and disks are not included.

      Requires: Solutions Software Kit for platform, two country-specific power cords, host adapter, RA3000 disk shelf, and disks
      Options: Second HSZ22 controller, up to 3 additional RA3000 disk shelves, cache memory upgrade

RAID Array 3000 Rackmount Disk Shelf

- Select one to four disk shelves.
- Third and fourth DS-SWXRA-GN disk shelf ordered will be installed in rear of an M-series cabinet. Rear mounted shelves require a 2 meter SCSI cable (BN37A-02)—order SCSI cable separately for installation of third and fourth disk shelves.

DS-SWXRA-GN RA3000 Rackmount disk shelf (Blue)
      Includes: UltraSCSI BA356 disk shelf, two 180 W power supplies, single-ended UltraSCSI personality card, one half meter SCSI cable (BN37A-0E), two North American power cords, and RETMA mounting bracket. Disks are not included. Order two country-specific power cords for non North American use.

HSZ22 Controller

Note: Second HSZ22 controller ordered is field installable **only**, it will not be factory installed. Requires BN37A-0E SCSI jumper cable, order separately.

DS-HSZ22-AA Second HSZ22 controller with 16 MB of cache and two 16 MB SIMMs for mirror cache, one BN37A-05 5 meter UltraSCSI cable, one BN38E-0B cable adapter—field installable only.
      Note: Second HSZ22 controller does not require an additional Solution Software Kit.

DS-HSZ22-AB Second HSZ22 controller with 32 MB of cache and two 32 MB SIMMs for mirror cache, one BN37A-05 5 meter UltraSCSI cable, one BN38E-0B cable adapter—field installable only.
      Note: Second HSZ22 controller does not require an additional Solution Software Kit.

RA3000 Solutions Software Kit for Tru64 UNIX

- StorageWorks Command Console (SWCC) software
- Platform specific software
- Installation scripts, and installation documentation.

QB-5TWAB-SA RA3000 Solutions Software Kit for Tru64 UNIX

Step 4—Monitors

- Graphics monitors other than those listed below can be used if compatible with SVGA graphics ordered with a 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.

3R-VRQV5-24/11 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

SN-VRQP7-24/23 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..

SN-VRQP1-24/23 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 cord for all variants.
–24 = Northern Hemisphere without power cord.
–23 = Southern Hemisphere without power cord.

Step 4a—Video Extension Cable

BN39C-02 1.8 meter video extension cable—mandatory for each monitor ordered

Step 4b—Monitor Power Cords

BN26J-1K	North America
BN19H-2E	Australia, New Zealand, 2.5 meters long
BN19C-2E	Central Europe, 2.5 meters long
BN19A-2E	UK, Ireland, 2.5 meters long
BN19E-2E	Switzerland, 2.5 meters long
BN19K-2E	Denmark, 2.5 meters long
BN19M-2E	Italy, 2.5 meters long
BN19S-2E	Egypt, India, South Africa, 2.5 meters long
BN18L-2E	Israel, 2.5 meters long

Step 5—Graphics Adapters

- Select only if additional graphics card is required.

- All systems include onboard SVGA with 1 MB video RAM. Onboard SVGA must be disabled before adding a graphics option.

SN-PBXGK-BB ELSA GLORIA Synergy 8MB GFX (PCI Graphics Adapter)

Step 6—Networks and Communications

Refer to the Supported Options List for O/S support, restrictions, and maximum number of options supported per system at
http://www.digital.com/alphaserver/tech_docs/alphasrv800/docs/supported_options.html

DE500-FA	PCI-based 10/100 Mbit Ethernet adapter MMF
DE504-BA	PCI-based 10/100 Mbit quad channel Ethernet adapter Cat 5 UTP
DE450-CA	PCI-based 10 Mbit Ethernet adapter (Twisted Pair, Thick wire, ThinWire)
DEFPA-AB	PCI-based FDDI adapter, single attachment station (SAS), multi-mode fiber (MMF); maximum supported is four, Tru64 UNIX and OpenVMS
DEFPA-DB	PCI-based FDDI adapter, dual attachment station (DAS), multi-mode fiber (MMF); maximum supported is four, Tru64 UNIX and OpenVMS
DEFPA-UB	PCI-based FDDI adapter, SAS, TP-PMD, requires BN25H-xx; maximum supported is four, Tru64 UNIX and OpenVMS
DGLPA-FA	PCI-based ATMworks 351 adapter, MMF SC connector
DGLPA-UA	PCI-based ATMworks 351 adapter, UTP CAT 5 with RJ45 connector
PBXDA-AA	PCI-based 4 port asynchronous communications controller—not supported in PCI/EISA combo slot
PBXDA-AB	PCI-based 8 port asynchronous communications controller—not supported in PCI/EISA combo slot
PBXDP-AA	PCI-based 2 port synchronous communications controller, maximum two
PBXDP-AB	PCI-based 4 port synchronous communications controller, maximum two
PBXDP-AC	PCI-based 8 port synchronous communications controller, maximum two
SN-PBXNP-AC	PCI-based Token Ring Adapter, maximum four, Tru64 UNIX and OpenVMS

Step 7—Keyboards and Power Cords

Systems ordered in North America include U.S. English keyboard. Selection of country specific keyboard is mandatory for all non-North American orders. All keyboards are opal grey.

Tru64 UNIX Keyboard	WNT Keyboard	OpenVMS Keyboard	Country
SN-LKQ47-AA	**SN-LKQ97-AA**	**LK461-A2**	US/English
SN-LKQ47-AB	**SN-LKQ97-AB**	**LK461-AB**	Belgian
SN-LKQ47-AC	**SN-LKQ97-AC**	**LK461-AC**	Canadian/French
SN-LKQ47-AD	**SN-LKQ97-AD**	**LK461-AD**	Danish
SN-LKQ47-AE	**SN-LKQ97-AE**		UK
SN-LKQ47-AF	**SN-LKQ97-AF**	**LK461-AF**	Finnish
SN-LKQ47-AG	**SN-LKQ97-AG**	**LK461-AG**	German
SN-LKQ47-AH	**SN-LKQ97-AH**	**LK461-AH**	Dutch
SN-LKQ47-AI	**SN-LKQ97-AI**	**LK461-AI**	Italian
	SN-LKQ97-AJ		Japanese
SN-LKQ47-AK	**SN-LKQ97-AK**	**LK461-AK**	Swiss/French
		LK461-AL	Swiss/German
SN-LKQ47-AM	**SN-LKQ97-AM**	**LK461-AM**	Swedish
SN-LKQ47-AN	**SN-LKQ97-AN**	**LK461-AN**	Norwegian
SN-LKQ47-AP	**SN-LKQ97-AP**	**LK461-AP**	French
		LK461-AQ	Canadian/English
SN-LKQ47-AR	**SN-LKQ97-AR**		Latin American
SN-LKQ47-AS	**SN-LKQ97-AS**	**LK461-AS**	Spanish
SN-LKQ47-AT	**SN-LKQ97-AT**	**LK461-AT**	Hebrew
SN-LKQ47-AV	**SN-LKQ97-AV**	**LK461-AV**	Portuguese
SN-LKQ47-AX	**SN-LKQ97-AX**		Bhcsy
SN-LKQ47-BA	**SN-LKQ97-BA**		International

SN-LKQ47-BH	**SN-LKQ97-BH**	**LK461-BH**	Greek
SN-LKQ47-BI	**SN-LKQ97-BI**		Taiwanese
SN-LKQ47-BK	**SN-LKQ97-BK**		Korean
		LK461-BL	Romanian
SN-LKQ47-BP	**SN-LKQ97-BP**	**LK461-BP**	Polish
SN-LKQ47-BQ	**SN-LKQ97-BQ**	**LK461-BQ**	Hungarian
SN-LKQ47-BR	**SN-LKQ97-BR**		Arabic
SN-LKQ47-BT	**SN-LKQ97-BT**	**LK461-BT**	Cyrillic
SN-LKQ47-BU	**SN-LKQ97-BU**	**LK461-BU**	Turkish
SN-LKQ47-BV	**SN-LKQ97-BV**	**LK461-BV**	Czech
		LK461-BW	Turkish-French
		LK461-BY	Yugoslavian
SN-LKQ47-CB	**SN-LKQ97-CB**		Thai
SN-LKQ47-CV	**SN-LKQ97-CV**		S. Chinese
SN-LKQ47-CZ	**SN-LKQ97-CZ**	**LK461-CZ**	Slovak

Pedestal Power Cords

- North American variants include (North American, Japan) power cord. If another power cord is selected, both power cords ship with system.
- Selection of a power cord is mandatory for all non North American orders.

BN26J-1K	North America
BN19H-2E	Australia, New Zealand, 2.5 meters long
BN19C-2E	Central Europe, 2.5 meters long
BN19A-2E	UK, Ireland, 2.5 meters long
BN19E-2E	Switzerland, 2.5 meters long
BN19K-2E	Denmark, 2.5 meters long
BN19M-2E	Italy, 2.5 meters long
BN19S-2E	Egypt, India, South Africa, 2.5 meters long
BN18L-2E	Israel, 2.5 meters long

Rackmount Power Cords

- North American variants include BN20Z-4E 120 V (North American, Japan) power cord. If another power cord is selected, both power cords ship with system.
- Selection of a power cord is mandatory for all non North American orders.

Note: AlphaServer 800 Pedestal system power cords are less then 15 feet long and are not supported in cabinet enclosures.

BN20Z-4E	15 ft. (4.5 m) 120 V, 60 Hz power cord connects system to power distribution unit located inside cabinet
BN20Q-4E	15 ft. (4.5 m) 240 V, North American, 50 Hz power cord connects system to power distribution unit located inside cabinet
BN35S-4E	15 ft. (4.5 m) 240 V, European IEC C13, 50 Hz power cord connects system to power distribution unit located inside cabinet

Step 7—Keyboards and Power Cords *(continued)*

Pedestal to Rackmount Conversion Kit

PB8HA-BA   AlphaServer 800 Pedestal to Rackmount conversion kit. Includes bezel, slide rails and mounting hardware necessary for mounting system in any cabinet equipped with industry-standard RETMA or METRIC rails. Rackmount power cords must be ordered separately.

Mouse and Extension Cable Kit

PBXWS-WA   3-button mouse (included with all systems, order as spare or replacement)

2T-450KM-AA   Extension cable kit for VGA, PC style keyboard, and mouse, for use with Rackmount systems.

Step 8—Software

Tru64 UNIX

Software Processor Code = E

- Tru64 UNIX packaged systems include Tru64 UNIX base license, Server Extension , Internet AlphaServer Software kit and 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

StorageWorks Software Packages for Tru64 UNIX

QB-5RXAE-AA   StorageWorks Software Package (includes licenses for Logical Storage Manager and AdvFS Utilities).

QB-5RYAE-AA   StorageWorks Software Package (includes licenses for Logical Storage Manager and AdvFS Utilities plus Networker Save and Restore).

TruCluster Available Server License

QL-05SAE-AA   TruCluster Available Server License

Tru64 UNIX Software Layered Products Library CD-ROM

QA-054AA-H8   Layered products media and documentation for Tru64 UNIX on CD-ROM

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

Step 8—Software *(continued)*

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 layered products

QL-MUZAE-AA	OpenVMS Cluster License
QL-2A1AE-AA	Volume Shadowing License

OpenVMS media and documentation—required for first system on site

QA-MT1AA-H8	OpenVMS media and online documentation CD-ROM (V7.1)
QA-MT1AG-H8	OpenVMS media and online documentation CD-ROM (V6.2-1H3)[1]
QA-MT1AD-H8	OpenVMS media and online documentation CD-ROM (V7.1-1H1)[2]
QA-001AA-GZ	OpenVMS hardcopy documentation

1. UltraSCSI is not currently supported on OpenVMS V6.2-1H3. OpenVMS V6.2-1H3 runs in Fast10 SCSI Mode.
2. Required to run UltraSCSI.

OpenVMS Layered Products CD-ROM

QA-03XAA-H8[1]	Layered products media and documentation for OpenVMS on CD-ROM

1. Includes Enterprise Integration Package 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

Windows NT

- Selection of language specific Windows NT Server license, media kit is **mandatory**
- Windows NT Server kits are orderable with packaged systems **only**.

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

QB-23CAA-SE	Windows NT Server license, media kit North American English
QB-23C8A-SE	Windows NT Server license, media kit International English
QB-23CPA-SE	Windows NT Server license, media kit French
QB-23CGA-SE	Windows NT Server license, media kit German

Step 8—Software *(continued)*

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

QB-23CSA-SE	Windows NT Server license, media kit Spanish
QB-23CUA-SE	Windows NT Server license, media kit Italian
QB-23CJA-SE	Windows NT Server license, media kit Japanese
QB-23C5A-SE	Windows NT Server license, media kit Thai
QB-23CMA-SE	Windows NT Server license, media kit Swedish
QB-23CTA-SE	Windows NT Server license, media kit Hebrew
QB-23CQA-SE	Windows NT Server license, media kit Arabic
QB-23CHA-SE	Windows NT Server license, media kit Dutch
QB-23CXA-SE	Windows NT Server license, media kit Brazilian/Portuguese
QB-23C4A-SE	Windows NT Server license, media kit Korean
QB-23C3A-SE	Windows NT Server license, media kit Taiwanese
QB-23C2A-SE	Windows NT Server license, media kit PRC Chinese

Step 9—Hardware and Software Supplemental Support Services

Hardware—Americas and Asia Pacific only

- Systems include three-year hardware warranty, onsite with 5 x 9, 24 hour response time.
- Select optional Hardware Supplemental Support Services if required.
- Select optional Hardware Installation.

FM-CH4HR-36	5 x 9, 4 hour response time
FM-CH512-36	5 x 12, 4 hour response time
FM-CH616-36	6 x 16, 4 hour response time
FM-CH724-36	7 x 24, 4 hour response time
FM-CHXHW-60	Years 1-5, next day, Onsite
FM-CH4HR-60	Years 1-5, 5 x 9, 4 hour response time
FM-CH512-60	Years 1-5, 5 x 12, 4 hour response time
FM-CH616-60	Years 1-5, 6 x 16, 4 hour response time
FM-CH724-60	Years 1-5, 7 x 24, 4 hour response time
FM-24INT-IN	Hardware Installation

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.

FM-80BUS-12	12-month Full Software Supplemental Support for Tru64 UNIX AlphaServer 800 systems
FM-80BUS-36	36-month Full Software Supplemental Support for Tru64 UNIX AlphaServer 800 systems
FM-80BUS-60	60-month Full Software Supplemental Support for Tru64 UNIX AlphaServer 800 systems
FM-80BUN-12	12-month Node Software Supplemental Support for Tru64 UNIX AlphaServer 800 systems
FM-80BUN-36	36-month Node Software Supplemental Support for Tru64 UNIX AlphaServer 800 systems
FM-80BUN-60	60-month Node Software Supplemental Support for Tru64 UNIX AlphaServer 800 systems

Software—Americas and Asia Pacific only

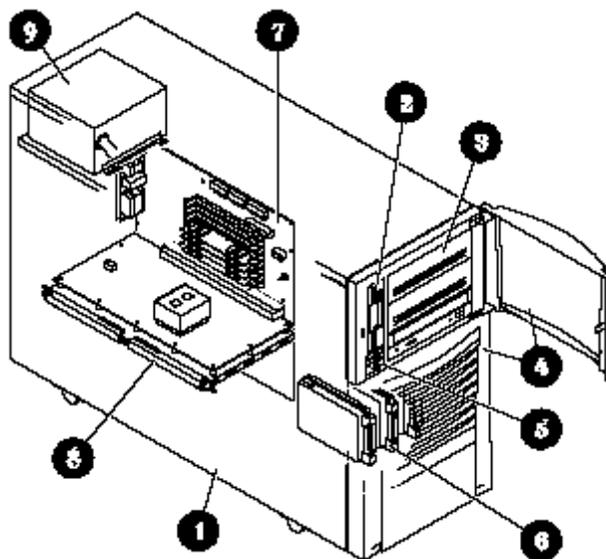|	
FM-80BVS-12	12-month Software Supplemental Support for OpenVMS AlphaServer 800 systems
FM-80BVS-36	36-month Software Supplemental Support for OpenVMS AlphaServer 800 systems
FM-80BVS-60	60-month Software Supplemental Support for OpenVMS AlphaServer 800 systems
FM-80BVN-12	12-month Node Software Supplemental Support for OpenVMS AlphaServer 800 systems
FM-80BVN-36	36-month Node Software Supplemental Support for OpenVMS AlphaServer 800 systems
FM-80BVN-60	60-month Node Software Supplemental Support for OpenVMS AlphaServer 800 systems

Step 9a—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.
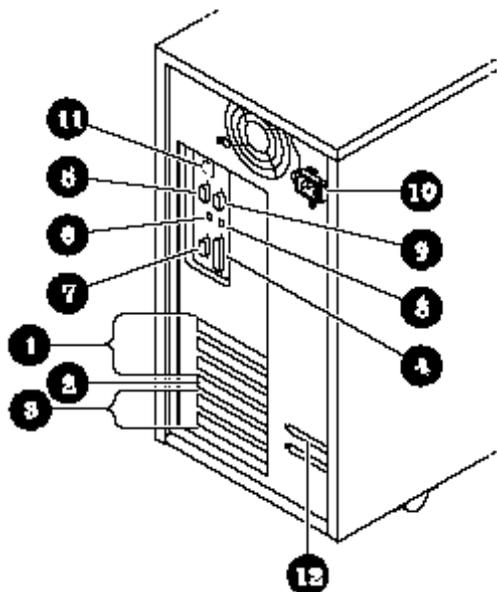
Step 10—CPU Upgrades

Order Number	From	To	Includes
PB82U-AZ	AlphaServer 800 5/333	AlphaServer 800 5/500	500 MHz CPU **Note:** Mandatory return of 333 MHz CPU
PB82U-FZ	AlphaServer 800 5/400	AlphaServer 800 5/500	500 MHz CPU **Note:** Mandatory return of 400 MHz CPU

AlphaServer 800 System Diagram–Side View

1. Removable side cover of system enclosure
2. Floppy diskette drive
3. Removable media drives
4. Lower and upper doors
5. Control panel
6. Hard disk drives
7. System board
8. CPU daughter card
9. Power supply

AlphaServer 800 System Diagram – Rear of Enclosure

1. Three 32-bit PCI slots
2. One 64-bit PCI/EISA slot
3. Two EISA slots
4. Parallel port
5. Serial port
6. Mouse port
7. VGA port
8. Keyboard port
9. Remote console modem port
10. Power inlet
11. Serial port/terminal port (MMJ with data leads only)
12. SCSI breakouts

AlphaServer 800 Pedestal Specifications

Shipping Dimension		
Height	47 cm (18.5 in.)	
Width	60 cm (23.6 in)	
Depth	77.5 cm (30.5 in)	
Weight	33 kg (73 LB) typical	
	37 kg (82 LB) maximum	

Installed Dimensions		
Height	45 cm (17.1 in.)	
Width	22.6 cm (8.9 in.)	
Depth	65.8 cm (25.9 in.)	
Weight	24.5 kg (54 LB) typical	
	28 kg (62 LB) maximum	

Clearances	Operating	Service
Front	75 cm (29.5 in.)	75 cm (29.5 in.)
Rear	15 cm (5.9 in.)	75 cm (29.5 in.)
Left side	None	75 cm (29.5 in.)
Right side	None	5 cm (2 in.)

Environmental		
Temperature	Operating[1]	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 temperature	Operating	28° C (82° F)
	Storage (60 days)	46° C (115°F)
Minimum dew point temperature	Operating	2° C (36° F)
	Storage (60 days)	Not tested

Environmental		
Maximum heat dissipation	380 Watt	
	1297 Btu/hr	
Air flow and quality	Intake location	Front
	Exhaust location	Rear
	Particle size	N/A
	Concentration	N/A
Altitude	Operating[2]	3097 m (10,000 ft)
	Nonoperating	12190 m (40,000 ft)
Mechanical shock	Operating	7.5 G 10 ms
	Nonoperating	20 G peak 30 ms
Vibration	Operating	10-500 Hz .1 G peak
Acoustics	Operating	LNPEc (BELs)
		6.0 MAX per ISO 7779

Electrical—Power Supplies are universal 120/240 Vac		
Nominal ac voltage	100-120 V ac	220-240 Vac
Operating Voltage range	90-128 V ac	180-256 Vac
Power source phase	Single	Single
Nominal frequency	50/60 Hz	50/60 Hz
Frequency range	49/51/59-61 Hz	49-51/59-61 Hz
RMS current at nominal voltage (steady state)		
Maximum Power Consumption (Watts)	7.0 Amps 380 Watts	3.0 Amps
Power cord	Type	IEC 320 C13
	Length	190 cm (75 in.)
	US plug	NEMA 5-15

1. Maximum operating temperature at Sea Level. Reduce by 1 C (1.8 F) for each 600 m (2000 ft) above Sea Level.
2. Higher altitudes are possible if maximum operating temperature is reduced (see Temperature, above); other restrictions may apply, such as maximum permissible altitude for hard drives.

AlphaServer 800 Pedestal Specifications *(continued)*

Regulatory	
Agency approvals	UL Listed to UL1950 (3rd edition)
	CSA Certified to CAN/CSA-C22.2 No. 950-M95
	TUV EN 60950 GS marked
	CB Certification pending
	FCC (Class B) Part 15, Subpart B (CFR 54,1995)
	EMC Directive 89/336/EEC
	EN 55022:1994 Class B
	EN 50082-1 1992 Light Industrial
	CE Class B
	VCCI Class II ITE
	AS/NZS 3548:1992 (Class B)
Reviewed to	AS 3260:1993 Australian/New Zealand Standard
	EN 60 950: 1995 European Norm
	IEC 950

AlphaServer 800 Rackmount Specifications

Shipping Dimension	Same as Pedestal
Installed Dimensions	
Height	22 cm (8.6 in.) fits 8.75 in. [5U] standard EIA 310D
Width	standard EIA 310D (RETMA)
Depth	63.8 cm (25.1 in.)
Weight	24.5 kg (54 LB) typical
	28 kg (62LB) maximum
Clearances	**Service**
Front	See requirements of specific cabinet
Rear	Slides forward 68.6 cm (27 in.)
Sides	then accessible from the top
Environmental	
Temperature	
Operating	10–35° C (50–95° F)
Nonoperating	Not tested
Storage (60 days)	-40–66° C (-40–151° F) 11 c/hr (20 F/HR)
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
Electrical—**Power Supplies are universal 120/240 V ac**	
Same as Pedestal	
Regulatory	
Same as Pedestal	

Uninterruptable Power Supplies

Prestige 1250EXT

UPS offerings include EIA232 port for local or network monitoring and plug-in battery extension provisions to increase run time up to two hours. For complete protection, UPS products should be used with data line surge protectors and UPS monitoring software.

Solutions for Pedestal Systems

4N-AEABF-AA	Prestige 1250EXT, 1250 VA/900W, 1 phase, 50/60 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, 50/60 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-AEABF-BB	Extension pack for 120V 60 Hz models, up to four packs at 30 minutes per pack supported
4N-AEABF-BD	Extension pack for 240V 50 Hz models, up to four packs at 30 minutes per pack supported
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 (US only).

Rackmount UPS

UPS Model		Application	Type	Receptacle module
4N-AEAAH-FA	**60Hz**	Rackmount UPS, supports up to 5 systems	3kVA Custom RM[1]	Included[2]
4N-AEAAH-FB	**50Hz**	Rackmount UPS, supports up to 5 systems	3kVA Custom RM[1]	Included
4N-AEAAJ-CL[3]	**60Hz**	Out of Cabinet UPS	6kVA Prestige[4]	Included
4N-AEAAJ-CU	**50Hz**	Out of Cabinet UPS	6kVA Prestige[4]	Hardwired

1. Factory installation must be specified at time of order. Up to two UPS systems, one UPS for up to 5 fully configured systems. Recommended UPS distribution option combines multiple UPS input plugs into a single L6-30P plug-in connection to simplify future UPS add-on. Order 4NAEAAH-FF 60 Hz; 4N-AEAAH-FG 50 Hz).
2. Includes six IEC receptacle strips for connection to IEC plugs in cabinet.
3. 208-120/208V shown; order 4N-AEAAJ-CT for 240-120/240V models
4. Optional mobile stacker with seismic mounting provision for 6kVA Prestige (4N-AEACH-HD)

4N-AEAAJ-CL	Prestige 6 kVA (4 kW), single phase, 60Hz, 208-120/208V, 6 ft. cord with L6-30P and (2) L6-30R, (8) 5-15R receptacle. Modular hot-swap design with 7 minute battery at full UPS load, extendible plug and play batteries and receptacle provisions. Substitute -CT for 240V 240/120V operation.
4N-AEAAJ-CU	Prestige 6 kVA (4 kW) 50Hz package, single phase, 50Hz, 200-240V in/out selectable, hardwired input/output.
4N-AEWAR-G3/G4	Prestige 5 year on-site exchange warranty upgrade for 4N-AEAAH-CM/CT. G4 provides on-site remedial and start-up service.

UPS Monitoring and Unattended Shutdown Software (for above UPS systems only) is included in ServerWORKS Kits shipping with all AlphaServers. Order Cable Kit separately.

4N-ONLIN-NT	Cable Kit for Tru64 UNIX
4N-ONLIS-FE	Cable Kit for OpenVMS

Network Management or multi system shutdown (via SNMP or ServerWORKS Manager) for Tru64 UNIX and OpenVMS requires Network Adapter option.

60 Hz Applications	50 Hz Application	Network Adapter Option
4N-AEAEO-DB/DD	**4N-AEAEO-DB/DD**	Prestige 3 kVA RM, DB=Twisted pair; DD=ThinWire
4N-AEAEO-DA/DC	**4N-AEAEO-DB/DD**	Prestige 6 kVA and PUPS Plus UPS, DA/DB=Twisted pair; DC=ThinWire

Note: Multiple system shutdown via OpenVMS requires multi-port hardware option (RN-JMIU4-AB). Ports can be daisy chained.