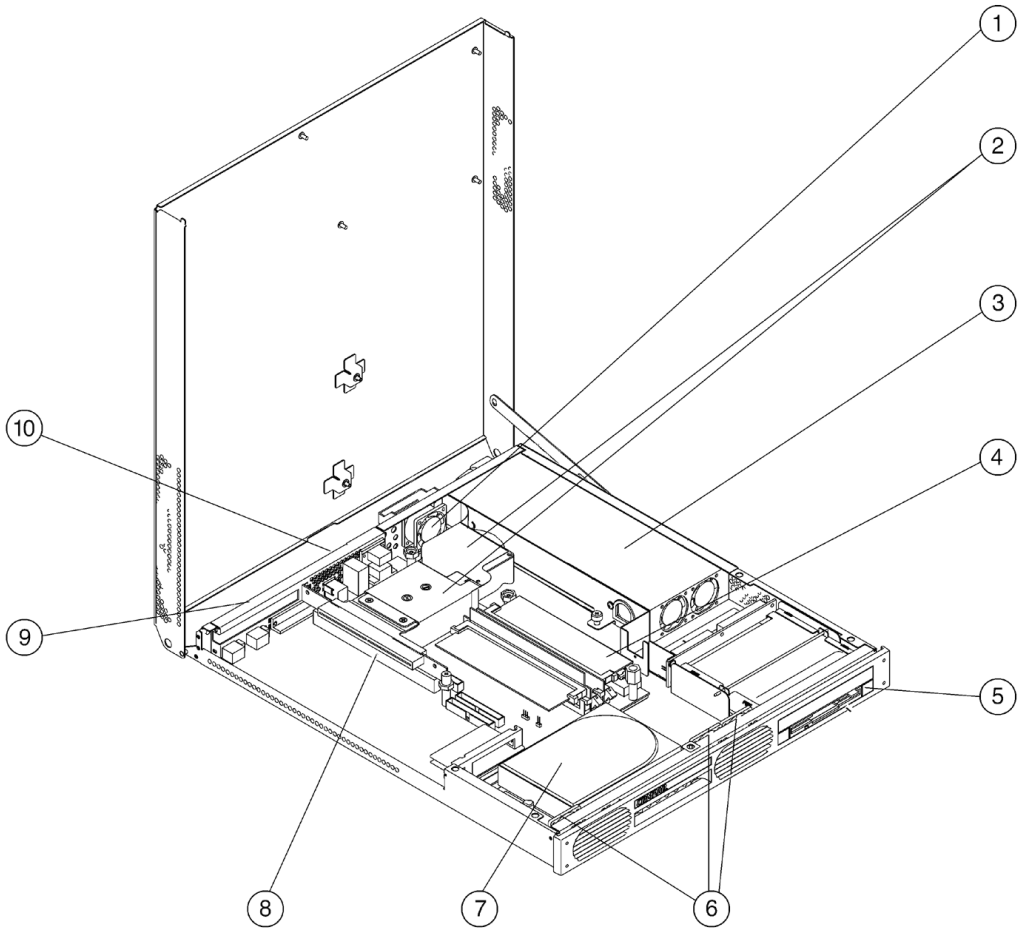
Overview



1. Fan
2. CPU and fan
3. Power supply
4. Memory boards
5. Diskette/CD-ROM drive
6. Fans
7. Disk
8. PCI riser card
9. Two Ethernet ports
10. Keyboard and mouse ports

At A Glance

AlphaServer DS10L 1U Systems include:

- 1U Alpha processor module with 600-MHz CPU with 2-MB onboard ECC cache
- 512-MB, or 1-GB SDRAM memory - expandable to 1-GB maximum memory capacity
- Onboard dual IDE controller for internal storage
- Onboard dual 10/100 BaseT Ethernet ports
- One full-length 64-bit PCI expansion slot
- One internal 3.5-inch x 1-inch hard disk drive bay and optional bay for use as a removable media bay (combo 1.44-MB diskette drive/24X CD-ROM drive) or additional hard disk drive bay (one 3.5-inch x 1-inch hard disk drive)
- Internal storage capacity up to 80 GB (IDE) or 72 GB (SCSI)
- Integral remote system management console
- Two serial ports: COM1 port is both an RMC port with modem control and a full-duplex asynchronous communications port; COM2 port is a full-duplex asynchronous communications port
- Bi-directional enhanced parallel port
- PS/2-style keyboard port and mouse port
- 150W (88-260V, 47-63Hz) power supply with auto-ranging AC input
- U.S. English documentation
- Tru64 UNIX or OpenVMS Factory Installed Software with 90-day software product warranty; Linux-Ready systems available
- Protected by HP Services, including one-year, on-site hardware with next business day response.
  NOTE: Keyboard, power cord, and mouse must be ordered separately.

Standard Features

Processor	Alpha 21264A 600-MHz processor; 2-MB onboard cache	
Upgradability	One CPU standard; supports upgrades of memory and hard drives	
Memory	Standard	512 MB or 1 GB (one memory kit)
	Maximum	1 GB (one memory kit - kits include two industry-standard DIMMs with ECC support)
Network Controller	Two onboard 10/100 BaseT Ethernet ports	
Expansion Slots	PCI slots	One full length 64-bit slot
	Storage bays	One internal storage bay (one 3.5-inch x 1-inch hard disk drive bay) and optional bay for use as a removable media bay (combo 1.44-MB diskette drive/24X CD-ROM drive) or additional hard disk drive bay (one 3.5-inch x 1-inch hard disk drive)
Storage Controller	Onboard IDE controller for internal storage, choice of optional storage controllers	
Storage	Diskette Drive/CD-ROM	Optional
	Hard Drives	20-GB and 40-GB IDE disk drives or 18.2-GB and 36.4-GB UltraSCSI disk drives available with optional SCSI controller
Expansion Ports	Parallel	One bi-directional enhanced port
	Serial	Two serial ports: COM1 port is both an RMC port with modem control and a full-duplex asynchronous communications port; COM2 port is a full-duplex asynchronous communications port
	Pointing Device (Mouse)	One port
	Keyboard	One PS/2-style port
Form Factor	1U Rackmount or Desktop (H x W x D) 1.75 x 17.5 x 20.5 in (4.45 x 44.5 x 52.1 cm), 20 lb (9.1 kg)	
Power Supply	150W Power Supply (88-260V, 47-63Hz)	
Manageability	Insight Manager	
Supported Options	A detailed summary of options supported on the AlphaServer DS10L is available at: http://www.compaq.com/alphaserver/options/asds10l/asds10l_options.html NOTE: This Web site is available in English only.	

Standard Features

OS Support	AlphaServer DS10L Tru64 UNIX systems include pre-installed software (V5.1B), 2-user Base license, Internet Express, and Secure Web Server. AlphaServer DS10L OpenVMS systems include pre-installed software (V7.3-1), Base license with System Manager license and Enterprise Integration Server License Package for OpenVMS Revision V3.0A AlphaServer DS10L Linux-Ready systems ship without system software; RedHat 6.0 or SuSe 6.1 may be purchased separately from a Linux distributor. Minimum OS support: Tru64 UNIX V4.0F, OpenVMS V7.1-2
Service and Support	HP Services provides a wide range of service offerings including a one-year limited warranty fully supported by a worldwide network of resellers and service providers; lifetime toll-free 7 x 24 hardware technical phone support.

Step 1 – Select system

AlphaServer DS10L systems require the mandatory selection of the following items:

- System disk drive
- If SCSI disk is selected, SCSI adapter and SCSI cable kit are required
- If IDE disk is selected, IDE cable kit is required
- Power cord if used as desktop system
- Rackmount systems require rackmount kit and cable management kit
- Software media and documentation for first system onsite

NOTES: AlphaServer DS10L systems DO NOT include keyboard, mouse, power cords, rackmount kits, CD-ROM, or floppy drives – order as required. Rackmount system minimum for factory integration is four AlphaServer DS10L minimum OS support - Tru64 UNIX V4.0F, OpenVMS V7.2-1.

AlphaServer DS10L Systems							
OS	CPU	Memory	PCI Slots	IDE Controller	2 Ethernet Ports	Hard Drive	Order Number
Tru64 UNIX	600 MHz	512 MB	1	Onboard	Onboard	Mandatory	DA-71BAA-EA
Tru64 UNIX	600 MHz	1 GB	1	Onboard	Onboard	Mandatory	DA-71BAA-FA
OpenVMS	600 MHz	512 MB	1	Onboard	Onboard	Mandatory	DY-71BAA-EA
OpenVMS	600 MHz	1 GB	1	Onboard	Onboard	Mandatory	DY-71BAA-FA
Linux-Ready	600 MHz	512 MB	1	Onboard	Onboard	Mandatory	DJ-71BAA-EA
Linux-Ready	600 MHz	1 GB	1	Onboard	Onboard	Mandatory	DJ-71BAA-FA

Step 2 – Select Mandatory Options

Step 2a - System Disk Drive - Mandatory

- Maximum two internal disk drives. The second drive is installed in the media bay. Select either a CD-ROM/floppy drive or second internal disk – not both – or leave the media bay empty.
- Internal support for 3.5-inch x 1-inch drives only
- For multiple system configurations that share a system disk external to system enclosure, contact CustomSystems

IDE Disk Drive	20-GB 7,200 rpm IDE (UDMA) drive	3X-RE58A-AA
	40-GB 7,200 rpm IDE (UDMA) drive	3X-RE58A-BA
	NOTE: Requires minimum console firmware v5.9-6 or higher – Updates available at http://ftp.digital.com/pub/Digital/Alpha/firmware/interim/ds10/v5.9-6/	

System Disk Cable Configuration Rules	**For systems configured with two IDE hard disks, order the following:** **Two 3X-BN51A-IB** (One drop DS10L IDE cable kit) **For systems configured with one IDE hard disk and one SCSI hard disk, order the following:** One 3X-BN51A-SF (One drop DS10L SCSI cable kit) One 3X-BN51A-IB (One drop DS10L IDE cable kit) **For systems configured with one IDE hard disk and the optional Floppy/CD combo, order the following:** One 3X-PBXRY-AA (Floppy/CD combo that comes with one drop IDE cable and floppy cable) One 3X-BN51A-IB (One drop DS10L IDE cable kit) **For systems configured with one SCSI hard disk and the optional Floppy/CD combo, order the following:** One 3X-BN51A-SF (One drop DS10L cable kit) One 3X-PBXRY-AA (Floppy/CD combo that comes with one drop IDE cable and floppy cable) **For systems configured with two SCSI hard disks, order the following:** One 3X-BN51A-SD (Two drop DS10L SCSI cable kits)	
Internal SCSI Disk Drive	36.4-GB Ultra3 SCSI 10,000 rpm drive	DS-RZ3FD-WA

Step 2b – Internal SCSI Adapter and Cable Kit – (Internal SCSI disks require SCSI adapter and SCSI cable kit)

- Systems support one disk drive cage; disk drive cage supports six 3.5-inch hard disk drives

SCSI Adapters (for Internal Drives)

- SCSI adapter and SCSI cable kit required for internal SCSI disks and tape
- Single-channel SCSI adapters may only be used for internal or external drive connections, not both. Mixed cable types are not supported on the same SCSI bus.

PCI 1-channel Ultra2 SCSI adapter (LVD)	3X-KZPCA-AA
PCI combo card - PCI 2-channel UltraSCSI single-ended adapter and 10/100 Mbit Ethernet (Tru64 UNIX and OpenVMS only)	KZPCM-DA
PCI combo card - 1-channel Ultra2 SCSI (LVD), 2D Graphics, 10/100 Ethernet (Tru64 UNIX and OpenVMS only)	3X-DEPVZ-AA
PCI 1-channel UltraSCSI RAID controller (Tru64 UNIX and OpenVMS only) NOTE: Floppy/CD-ROM (3X-PBXRY-AA) must also be ordered. Internal disk drives connected to a KZPAC-AA controller are not capable of implementing the fault management features of this controller, such as "hot spare" and "automatic rebuilds."	KZPAC-AA
PCI 2-channel LVD multimode Ultra3 SCSI adapter, VHDCI (Tru64 UNIX V5.1 or higher and OpenVMS V7.2-2 or higher) NOTES: Patch kit required, kit available at: http://ftp1.support.compaq.com/public/Digital_UNIX/v5.1/ No shared SCSI or shared SDLT tape/library support.	3X-KZPEA-DB

SCSI Cable Kit (required for SCSI disks)	(Refer to "System Disk Cable Configuration Rules")	

Step 2c - Power Cords (Mandatory for desktop systems)

Desktop Power Cords	North America 120V, 75-inch	BN26J-1K
	Australia, New Zealand, 2.5-meter (103541-011)	BN19H-2E
	Central Europe, 2.5-meter	BN19C-2E
	Denmark, 2.5-meter (103541-481)	BN19K-2E
	Egypt, India, South Africa, 2.5-meter (103541-AR1)	BN19S-2E
	Israel, 2.5-meter	BN18L-2E
	Italy, 2.5-meter (103541-461)	BN19M-2E
	Japan, 2.5-meter (straight connector)	3X-BN46F-02
	Switzerland, 2.5-meter (103541-511)	BN19E-2E
	UK, Ireland, 2.5-meter	BN19A-2E

Step 3 - Memory - Optional

- Maximum 1-GB memory
- Systems include one memory kit; maximum one memory kit per system - Each kit includes two industry-standard DIMMs with ECC support
- To increase memory, order new memory and replace resident memory with the new DIMMS

512-MB memory kit, two 200-pin, 100-MHz, 256-MB DIMMs	3X-MS310-DA
1-GB memory kit, two 200-pin, 100-MHz, 512-MB DIMMs	3X-MS310-EA

Step 4 - Internal Storage - Optional

- System includes one bay in system enclosure; optional bay may be used as a media bay or drive bay:
- One 1-inch hard disk drive bay (refer to Step 2a) or
- One 3.5-inch x 1-inch hard disk drive supported in removable media bay
- SCSI adapter and SCSI cable kit required for SCSI disks or tapes

1.44-MB diskette drive/600-MB 24X CD-ROM combo	3X-PBXRY-AA

Step 4a- External Storage (Removable Media) - Optional

NOTE: Refer to "System Disk Cable Configuration Rules" in Step 2.

Step 5 - M-series Cabinets - Optional

M-series cabinet enclosures support up to 40 AlphaServer DS10L systems (H9A15) and/or up to three StorageWorks shelves.
M-series enclosures require selection of the following items:

- H9A10 or H9A15 Cabinet, 120V or 240V
- Minimum four AlphaServer DS10L systems for rack configuration; minimum five systems for H9A15 cabinet
- Rack kit for each system (or quad rack for every four systems)
- PDU/Fan/Cable management kit according to the configuration chart
- Cabinet front door based on cabinet height
- Factory integration
- Ballast kit according to the configuration chart

Cabinet Configuration Chart for AlphaServer DS10L Rackmount Systems

- Minimum number of systems orderable in a rack is four for H9A10 cabinet; five for H9A15 cabinet
- Power cords are included in the fan and PDU cable kits described below.
- The first 16 systems in an H9A10 or H9A15 cabinet require a fan/cable management kit.
- For every 1-8 additional systems, a PDU/fan/cable management kit is required.

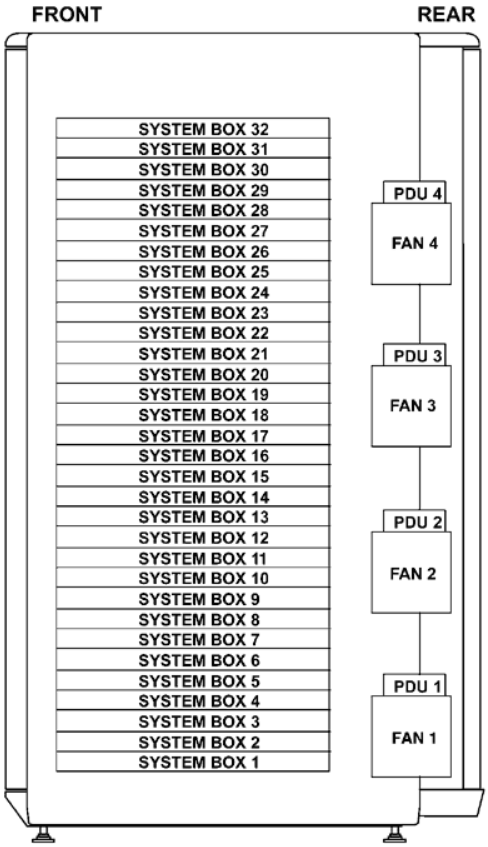
NOTE: For more information on M-series Cabinet Enclosures, see http://www.compaq.com/alphaserver/products/m-series/index.html
NOTE: This Web site is available in English only.

Options

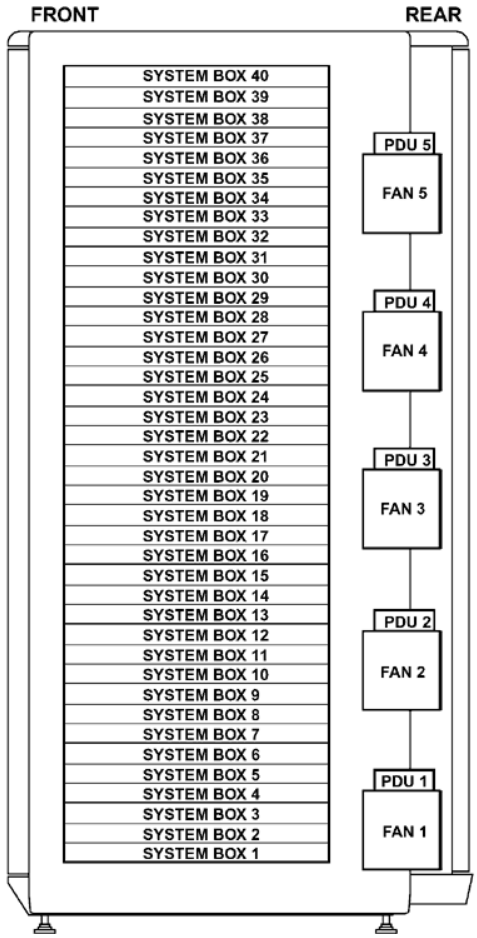
Cabinet	Rack Kits 3X-PBX01-BD quad	Rack kit 3X-PBX01-BE single	Systems 1U	Ballast H9C10-MC	Fan Cable Mgmt. Kit 3X-H7210-BA/BB/BC	PDU Kit 3X-H7210-AA/AB/AC	Ballast H9C10-MC
H9A10, H9A15	1 for each set of 4 systems	1 for each additional system	Per rack	Per rack	Used with existing PDU	Used when PDU is required	
H9A10-MD/MC	1 or 2	0 to 3	4-8	6	1	0	2*
	2 or 3	0 to 3	9-12	5	2	0	0
	3 or 4	0 to 3	13-16	4	2	0	0
	4 or 5	0 to 3	17-20	3	2	1	0
	5 or 6	0 to 3	21-24	2	2	1	0
	6 or 7	0 to 3	24-28	1	2	2	0
	7 or 8	0 to 3	29-32	0	2	2	0
H9A15-MC/MD	1 to 2	0 to 3	5-8	6	1	0	2
	2 or 3	0 to 3	9-12	5	2	0	1
	3 or 4	0 to 3	13-16	4	2	0	0
	4 or 5	0 to 3	17-20	3	2	1	0
	5 or 6	0 to 3	21-24	3	2	1	0
	6 or 7	0 to 3	25-28	3	2	2	0
	7 or 8	0 to 3	29-32	2	2	2	0
	8 or 9	0 to 3	33-36	1	2	3	0
	9 or 10	0 to 3	37-40	0	2	3	0

NOTE: * = With 4, 5, and 6 systems, 2 ballast kits required, with 7 and 8 systems, 1 ballast kit is required.

Options



H9A10 Cabinet



H9A15 Cabinet

M-series Cabinets	67-inch cabinet enclosure with 59.5-inch or 34U of usable vertical space; 120V dual-24A controller, each with 10 NEMA 5-15R outlets, input power plug NEMA L5-30P, Americas, Asia Pacific; includes rear door, top fan tray, and two H7600-AA power distribution units	H9A10-MC
	67-inch cabinet enclosure with 59.5-inch or 34U of usable vertical space; 240V dual-16 A controller, each with 12 IEC C13 outlets, input power plug IEC 309, 16A, Europe; includes rear door, top fan tray, and two H7600-DB power distribution units	H9A10-MD
	79-inch cabinet enclosure with 71.7-inch or 41U of usable vertical space; 120V dual-24A controller, each with 10 NEMA 5-15R outlets, input power plug NEMA L5-30P, Americas, Asia Pacific; includes rear door, top fan tray, and two H7600-AA power distribution units	H9A15-MC
	79-inch cabinet enclosure with 71.7-inch or 41U of usable vertical space; 240V dual-16A controller, each with 12 IEC C13 outlets, input power plug IEC 309, 16A, Europe; includes rear door, top fan tray, and two H7600-DB power distribution units	H9A15-MD

M-series Cabinet Rackmount Kits for AlphaServer DS10L	Single rack kit for AlphaServer DS10L	3X-PBX01-BE
	Quad rack kit for AlphaServer DS10L	3X-PBX01-BD
	NOTE: Refer to the Cabinet Configuration Charts above for configuration rules.	
	NOTE: Factory integration of a DS10L system drawer in a 9000 Series Rackmount Cabinet using rack kit, 3X-PBX01-BA, is not supported. Contact Custom Systems.	

Options

M-series Cabinet PDU/Fan/Cable Management Kits	• Kits include PDU, fans, shelf, and cables to serve eight AlphaServer DS10L systems	
	Power Distribution Unit/Fan/Cable Management Kit, North America	3X-H7210-AA
	Power Distribution Unit/Fan/Cable Management Kit, Europe	3X-H7210-AB
	Power Distribution Unit/Fan/Cable Management Kit, Japan	3X-H7210-AC
M-series Cabinet Fan/Cable Management Kits	• Kits include fans, shelf, and cables to serve eight AlphaServer DS10L systems; for use with PDU that ships with cabinet	
	Fan/Cable Management Kit, North America	3X-H7210-BA
	Fan/Cable Management Kit, Europe	3X-H7210-BB
	Fan/Cable Management Kit, Japan	3X-H7210-BC
M-series Cabinet Front Doors	• Requires selection of door based on cabinet height	
	Front door, top gun blue, for H9A10-MC/MD cabinet enclosure	H9C10-TF
	Front door, top gun blue, for H9A15-MC/MD cabinet enclosure	H9C15-TF
M-series Cabinet Factory Integration	• Factory integration required	
	Factory integration of systems and storage devices assembled and configured in cabinet enclosure in H9A10 or H9A15 cabinet enclosures	YS-ASCAA-AA
M-series Cabinet Ballast Kits	• Ballast is added to a cabinet at particular locations for specific configurations to meet safety regulations for installation, operation, and service; see Cabinet Configuration Charts.	
	Two 35 to 40 lb/16 to 18 kg steel plates	H9C10-MC
CustomSystems Support	• Cabinets that contain systems and storage must be assembled by qualified assemblers: HP Manufacturing, CustomSystems, or an authorized HP Certified Integration Partner. • For custom integration of systems, options, cabinet expansion offerings, and additional HP and third party devices, or for other cabinets, doors, and trim kits of a different color, contact CustomSystems at 1-800-AT COMPAQ, or your local authorized HP Certified Integration Partner.	

Step 6 - External Storage - Optional

Tape Devices	• Tape drives require LVD or single-ended UltraSCSI adapter and country-specific power cord	
AIT Tabletop Tape Drives	AIT 35/70-GB 8-mm LVD tabletop tape drive, North America, carbon black; requires LVD adapter	216885-001
	Same as above, International	216885-B31
	Same as above, Japan	216885-291
	AIT 50/100-GB 8-mm SCSI tabletop tape drive with 120V North America power cord, carbon black; requires Ultra2 (LVD) adapter (Tru64 UNIX and OpenVMS only)	157767-002
	Same as above, International	157767-B32
	Same as above, Japan	157767-292
AIT Hot-plug Tape Drives	AIT hot-plug tape drives require two Universal slots	
	AIT 35/70-GB hot-plug LVD Universal tape drive, uses two slots in BA610-6D or 43xxx shelves	3R-A2396-AA
	AIT 50/100-GB hot-plug LVD Universal tape drive, uses two slots in BA610-6D or 43xxx shelves	3R-A2779-AA
AIT Autoloaders	AIT 35-GB tabletop autoloader, 8 cartridge, U.S.	292355-001
	Same as above, International	292355-B31
	AIT 35-GB rackmount autoloader, 8 cartridge, U.S.	280349-001
	Same as above, International	280349-B31
	Same as above, International	284930-001
AIT Tape Libraries	SSL2020 AIT tabletop library with one AIT 50-GB drive and 20 slots, LVD	175195-B21
	SSL2020 AIT tabletop library with two AIT 50-GB drives and 20 slots, LVD	175195-B22
	SSL2020 AIT rackmount library with one AIT 50-GB drive and 20 slots, LVD	175196-B21
	SSL2020 AIT rackmount library with two AIT 50-GB drives and 20 slots, LVD	175196-B22
DAT Tabletop Tape Drives	DAT 20/40-GB 4-mm Wide Ultra2 (LVD) tabletop SCSI tape drive with 120V North America power cord, carbon black; requires Ultra2 (LVD) adapter	157770-002
	Same as above, International	157770-B32
	Same as above, Japan	157770-292
	DAT 36/72-GB LVD tabletop SSI tape drive with 120V North America power cord, carbon black (Q1527A)	3R-A4545-AA
	Same as above, International (Q1528A)	3R-A4546-AA
	DAT 40-GB LVD tabletop tape drive with North America power cord (Q1554A)	3R-A4753-AA
	Same as above, International (Q1555A)	3R-A4754-AA
DAT Hot-plug Tape Drive	DAT 20/40-GB DDS4 hot-plug LVD Universal tape drive, uses two slots in 43xxx shelves	3R-A2780-AA
	DAT 40-GB hot-plug LVD tape drive (Q1546A), supported in DS-SL13R-xx drive shelves	3R-A4745-AA
DAT Autoloaders	DAT 20/40-GB auto loader external; requires BN31W-xx SCSI cable and 3X-KZPCA-AA, or 3X-DEPVZ-AA adapter, North America	166505-001
	Same as above, International	166505-B31
	Same as above, Japan	166505-291

Options

DLT/SDLT Tabletop Tape Drives	DLT8000 tabletop 40/80-GB DLT external tape drive, carbon black - requires 3X-KZPCA-AA LVD adapter - U.S.	146197-B23
	Same as above – Japan	146197-293
	SDLT tabletop 110/220-GB external tape drive, carbon black- requires 3X-KZPCA-AA or 3X-KZPEA-DB LVD adapter - U.S.	192103-002
	Same as above – International	192103-B32
	Same as above – Japan	192103-292
	SDLT tabletop 160/320-GB external tape drive, carbon black - requires 3X-KZPCA-AA or 3X-KZPEA-DB LVD adapter - U.S.	257319-001
	Same as above - International	257319-B31
	Same as above - Japan	257319-291
DLT/SDLT Tape Libraries	Rackmount kit for H9Axx M-Series cabinets – required for mounting MSL5000 series in M-Series cabinets	254795-001
	MSL5026DLX, DLT tabletop library with 1 40/80-GB DLT tape drive, LVD	231821-B21
	MSL5026DLX, DLT tabletop library with 2 40/80-GB DLT tape drives, LVD	231821-B22
	MSL5026DLX or MSL5026SL, DLT/SDLT rackmount library, 0 drives – requires rackmount kit (254795-001)	231979-B21
	MSL5026DLX, DLT rackmount library with 1 40/80-GB DLT tape drive, LVD – requires rackmount kit (254795-001)	231891-B21
	MSL5026DLX, DLT rackmount library with 2 40/80-GB DLT tape drives, LVD – requires rackmount kit (254795-001)	231891-B22
	MSL5052, 0 drives, LVD, rackmount	255102-B21
	MSL5052SL SDLT tabletop library with 2 110/220-GB drives, LVD	249490-B21
	MSL5052SL SDLT rackmount library with 2 110/220-GB drives, LVD – requires rackmount kit (254795-001)	249491-B21
	MSL5052SL SDLT 110/220-GB drive field upgrade, LVD	231823-B22
	MSL5026S2, SDLT2 tabletop library with one 160/320-GB SDLT tape drive, LVD	293473-B21
	MSL5026S2, SDLT2 tabletop library with two 160/320-GB SDLT tape drives, LVD	293473-B22
	MSL5026S2 SDLT rackmount library, 0 drives, LVD – requires rackmount kit (254795-001)	293472-B21
	MSL5026S2, SDLT2 rackmount library with one 160/320-GB SDLT tape drive, LVD	293472-B22
	MSL5026S2, SDLT2 rackmount library with two 160/320-GB SDLT tape drive, LVD	293472-B23
	MSL5026S2, SDLT2 rackmount library with one 160/320-GB SDLT tape drive with Fibre Channel, LVD	293472-B24
	MSL5026S2, SDLT2 rackmount library with two 160/320-GB SDLT tape drive with Fibre Channel, LVD	293472-B25
	MSL5026SL, SDLT tabletop library with one 110/220-GB SDLT tape drive, LVD	302511-B21
	MSL5026SL, SDLT tabletop library with two 110/220-GB SDLT tape drives, LVD	302511-B22
	MSL5026SL, SDLT rackmount library with one 110/220-GB SDLT tape drive, LVD	302512-B21
	MSL5026SL, SDLT rackmount library with two 110/220-GB SDLT tape drives, LVD	302512-B22
	MSL5052, 0 drives, LVD, rackmount	255102-B21
	MSL5052SL SDLT tabletop library with 2 110/220-GB drives, LVD	249490-B21
	MSL5052SL SDLT rackmount library with 2 110/220-GB drives, LVD – requires rackmount kit (254795-001)	249491-B21
	MSL5052SL SDLT 110/220-GB drive field upgrade, LVD	231823-B22
	MSL5052S2, SDLT2 tabletop library with two 160/320-GB SDLT tape drives, LVD, graphite	293476-B21
	MSL5052S2, SDLT2 rackmount library with two 160/320-GB SDLT tape drive, LVD	293474-B21
	MSL5052S2, SDLT2 rackmount library with two 160/320-GB SDLT tape drive with Fibre Channel, LVD	293474-B24

Options

3U Rackmount Tape Drive Enclosure	3U LVD Rackmount Tape Drive Enclosure for use in H9Axx M-Series Cabinets, 0 drives, carbon black,	274338-B21
	Rackmount Kit for H9Axx Series Cabinets, carbon black – required for mounting 3U Rackmount Tape Drive Enclosure in M-Series cabinet	3R-A3804-AA
	NOTE: The 3U Tape Drive Enclosure supports up to four internal half-height removable devices, or up to two full height devices. Select up to four AIT or DAT devices, or two DLT/SDLT devices with 3U Rackmount Tape Drive Enclosure (274338-B21), or select preconfigured configurations listed below.	
	AIT 35/70-GB 3U tape drive, requires 3X-KZPCA-AA LVD adapter, carbon black	216884-B21
	AIT 50/100-GB 3U tape drive, requires 3X-KZPCA-AA LVD adapter, carbon black (157766-B22)	3R-A3753-AA
	DAT 20/40-GB 3U tape drive, requires 3X-KZPCA-AA LVD adapter, carbon black (157769-B22)	3R-A3752-AA
	DLT8000 40/80-GB tape drive, requires 3X-KZPCA-AA LVD adapter	146196-B22
	SDLT 110/220-GB tape drive, requires 3X-KZPCA-AA or 3X-KZPEA-DB LVD adapter	192106-B25
	SDLT 160/320-GB tape drive, requires 3X-KZPCA-AA or 3X-KZPEA-DB LVD adapter, carbon black	257319-B21
	Ultrium 460 tape drive, requires 3X-KZPEA-xx, KZPCA-xx, or DEPVZ SCSI adapter, carbon black; Tru64 UNIX V5.1A requires Patch Kit 4: T64V51AB21AS0004-20030206.tar Tru64 UNIX V.1B requires Patch Kit 1: T64v51bb03as0001-20021229.tar OpenVMS support: minimum V7.2-2	Q1518A
	Preconfigured Configurations	
	AIT 50-GB 3U rackmount kit, carbon black	274333-B21
	DLT 40/80-GB, 3U rackmount kit, carbon black	274332-B21
	DLT 40/80-GB, dual-drive, 3U rackmount kit, carbon black	274335-B21
	SDLT 110/220-GB, 3U rackmount kit, carbon black	274331-B21
	SDLT 110/220-GB, dual-drive, 3U rackmount kit, carbon black	274334-B21
5U Rackmount Tape Drive Enclosure	5U LVD Rackmount Tape Drive Enclosure, carbon black, for use in H9Axx M-Series Cabinets, 0 drives	274339-B21
	Rackmount Kit for H9Axx Series Cabinets, carbon black - required for mounting 5U Rackmount Tape Drive Enclosure in M-Series cabinet	254795-001
	NOTE: The 5U Rackmount Tape Drive Enclosure supports four full-height devices; select up to four DLT or SDLT devices with 274339-B21, or select preconfigured configurations listed below	
	DLT8000 40/80-GB tape drive, requires 3X-KZPCA-AA LVD adapter, carbon black	146196-B22
	SDLT 110/220-GB tape drive, requires 3X-KZPCA-AA or 3X-KZPEA-DB LVD adapter, carbon black	192106-B25
	SDLT 160/320-GB tape drive, requires 3X-KZPCA-AA or 3X-KZPEA-DB LVD adapter, carbon black	257319-B21
	Preconfigured configurations	
	SDLT 110/220-GB Tape Array III, 5U rackmount kit, carbon black	274336-B21
	DLT 40/80-GB Tape Array III, 5U rackmount kit, carbon black	274337-B21
	DLT Tape Array III Model 0 enclosure, U.S.	168047-001
	Same as above, International	168047-B31
	Same as above, Japan	168047-291
Enterprise Virtual Array 3000	The Enterprise Virtual Array 3000 (EVA3000) is the mid-range member of the HP StorageWorks virtual disk array enabled by VersaStor technology. The EVA3000 is designed for the data center where there is a critical need for ever-increasing capacity/replication requirements, performance demands and business continuance needs. Support is provided for HP StorageWorks Continuous Access, HP StorageWorks Business Copy, and HP OpenView Storage Operations Management Software. The EVA3000 is a full 2-Gb end-to-end Fibre Channel Array, which operates in 1-Gb, 2-Gb or mixed 1-Gb/2-Gb SAN fabrics. The EVA3000 is available in one of four integrated "independent bundle" configurations, which includes one pair of HSV100 controllers, two FC drive enclosures and 8 to 16 FC hard drives (bundle dependent). For ordering information and configuration rules, refer to the EVA3000 QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11619_div/11619_div.HTML	

Options

SAN Storage Array	MSA1000 Storage Works modular SAN array, supported with DS-KGPSA-CA and DS-KGPSA-DA adapters; requires connection via a switch - no direct connect; no support for FC arbitrated loop. (201723-B22) Tru64 UNIX V5.1A requires Patch Kit 4: T64V51AB21AS0004-20030206.tar Tru64 UNIX V5.1B requires Patch Kit 1: T64V51BB03AS0001-20021229.tar OpenVMS V7.3-1 requires TIMA Kit: VMS731_MSA1000-V0100 OpenVMS V7.3 requires TIMA Kit: VMS73_FIBRE_SCSI-V0500 OpenVMS V7.2-2 requires TIMA Kit: VMS722_FIBRE_SCSI-V0400	3R-A4328-AA
Fibre Channel Switches	NOTE: For more information on the following switches, refer to http://www.compaq.com/products/quickspecs/10457_na/10457_na.HTML	
	Fibre Channel SAN switch, 8 ports, 2 Gb, EL with Fabric Operating Software (322120-B21)	DS-DSGGD-BC
	Fibre Channel SAN switch, 8 ports, 2 Gb, Power Pack with Fabric Operating Software (322121-B21)	DS-DSGGD-CC
	Fibre Channel SAN Switch, 16 ports, 2 Gb, Base with Fabric Operating Software (322118-B21)	DS-DSGGD-CA
	Fibre Channel SAN switch, 16 ports, 2 Gb, Power Pack, with Fabric Operating Software (322119-B21)	DS-DSGGD-CB
	Fibre Channel SAN Switch, 32 ports, 2 Gb, Base with Fabric Operating Software (240603-B21)	DS-DSGGD-AB
	Fibre Channel SAN Switch, 32 ports, 2 Gb, Power Pack with Fabric Operating Software (333764-B21)	DS-DSGGD-DB
	Fibre Channel SAN Switch, 64 ports, 2 Gb, Base with Fabric Operating Software (332177-B21)	DS-DSGGE-BA
	Fibre Channel SAN Switch, 64 ports, 2 Gb, Power Pack with Fabric Operating Software (332178-B21)	DS-DSGGE-CA
	Short wave optical GBIC 380561-B21	DS-DXGGA-SA
	NOTE: Connection for, or between, 1-Gb and/or 2-Gb SAN switches requires different cables. Refer to the Switches, Hubs, and Interconnects QuickSpecs at: http://www.compaq.com/products/quickspecs/North_America/10490.html	
McData 64-port Fibre Channel SAN Director Class Switch	SAN Director 2 Gb, 64 ports	DS-DMGGD-BA
	SAN Edge Switch 2 Gb, 16-ports	DS-DMGGE-BB
	SAN Edge Switch 2 Gb, 32 ports	DS-DMGGE-BC

	Maximum # Supported			
	Tru64 UNIX	OpenVMS	Linux-Ready	
PCI-to-Fibre Channel host bus adapter (168794-B21)	1	1	-	DS-KGPSA-CA
PCI-to-Fibre Channel 64-bit/33-MHz, 2-GB, single-channel host bus adapter (261329-B21)	1	1	-	DS-KGPSA-DA
PCI-X to 2-Gb Fibre Channel adapter, 64-bit/66-MHz, single-channel (302784-B21) OpenVMS V7.3-1 requires TIMA Kit: VMS73_1_SCSI_FIBRE_V0300 OpenVMS V7.3-1 clusters requires TIMA Kit: VMS73_1_CLUSTER_V0100 Tru64 UNIX V5.1A requires NHD 6 and T64V51AB21AS0004-20030206.tar Tru64 UNIX V5.1B requires Patch Kit 1: T64V51BB03AS0001-20021229.tar DS-KGPSA-EA does not support MSA 1000	1	1	-	DS-KGPSA-EA
Fibre Channel cable BNGBX-xx = 02, 05, 15, 30, 50 meters (234457-B2x) 234457-B2x = B21 (2-meter), B22 (5-meter), B23 (15-meter), B24 (30-meter), B25 (50-meter)				BNGBX-xx
PCI 2-port UltraSCSI single-ended adapter and 10/100-Mb Ethernet combo adapter; includes internal 68-pin and 50-pin HD connectors and two external 68-pin VHDCI SCSI connectors, requires BN37A-xx cable to connect to single-ended UltraSCSI shelf	1	1	-	KZPCM-DA
VHDCI male-to-VHDCI male UltraSCSI cable, xx = 02, 2E [2.5], 03, 05, 10, 20-meters				BN37A-xx
PCI 1-port Ultra2 SCSI (LVD) single-ended adapter, 68-pin HD connector, requires BN38C cable (2 to 20-meters) to connect to single-ended UltraSCSI shelf	1	1	-	3X-KZPCA-AA
68-pin HD male-to-VHDCI male UltraSCSI cable; xx = 02, 03, 05, 10, 20-meters				BN38C-xx
PCI 2-channel LVD multimode Ultra3 SCSI adapter, VHDCI (Tru64 UNIX V5.1 and OpenVMS V7.2-2) only supported in dual-bus shelves. Requires Ultra160 Cables NOTES: Patch kit required, kit available at: http://ftp1.support.compaq.com/public/Digital_UNIX/v5.1/ No shared SCSI or shared SDLT tape/library support.	1 V5.1 or higher	1 V7.2-2 or higher	-	3X-KZPEA-DB
Ultra160 SCSI cables, xx=02 for 6 feet, 03 for 12 feet, 04 for 24 feet				3X-BC56J-xx

HVD to LVD Converters

HVD (High Voltage Differential) adapters and LVD (Low Voltage Differential) devices are normally incompatible due to their different signaling voltage levels. This incompatibility does not allow direct communication between the different technologies. The HVD to LVD converter allows connectivity between legacy HVD Host Bust Adapters and today's LVD devices. The converter provides:

- Connectivity in direct attach or shared configurations of all currently available LVD devices, including disks, tapes, libraries and shelves (4314 or 4354) when used with the KZPBA-CB and 3X-KZPBA-CC HVD adapters. With the retirement of StorageWorks 1 disks and HVD shelves (BA36R), converters are desirable where upgrades to LVD HBAs, or upgrades to current operating system versions are not possible.

Shared and direct attach configurations are interconnected much the same as those previously configured with homogeneous HVD solutions, except that the HVD output is now passed through the converter before proceeding to the LVD device.

HVD to LVD one-port rackmount converter (see QuickSpecs for configuration details) 3X-DWZCV-BA

HVD to LVD two-port rackmount converter (see QuickSpecs for configuration details) 3X-DWZCV-CA

- Storage controllers require Tru64 UNIX V4.0F or OpenVMS V7.1-2
- PCI controllers/adapters use one PCI slot

Options

	Maximum # Supported			
	Tru64 UNIX	OpenVMS	Linux-Ready	
PCI 1-port UltraSCSI wide differential 32-bit/33-MHz adapter (uses one PCI slot); includes external 68-pin HD connector, requires BN38C-xx cable (2 to 25 meters) to connect adapter to differential UltraSCSI shelf or RAID controller	1	1	1	3X-KZPBA-CC
68-pin HD male-to-VHDCI male UltraSCSI cable; xx = 02, 03, 05, 10, 20, 25 meters				BN38C-xx
PCI 1-port UltraSCSI RAID controller with 4-MB cache memory, includes RAID Array 230/Plus Subsystem software and documentation kit; includes VHDCI female connector; tape drives not supported; 18.2-GB disk drives not supported, requires BN37A-xx cable (0.3 to 20 meters) to connect to single-ended UltraSCSI shelf. Internal disk drives connected to a KZPAC-AA controller are not capable of implementing the fault management features of this controller, such as "hot spare" and "automatic rebuilds." NOTE: Floppy/CD-ROM (3X-PBXRY-AA) must also be ordered.	1 V4.0F or higher	1 V7.1-2 or higher	-	KZPAC-AA
PCI 3-port UltraSCSI RAID controller with 4-MB cache memory, includes RAID Array 230/Plus Subsystem software and documentation kit; includes VHDCI female connector; tape drives not supported; 18.2-GB disk drives not supported, requires BN37A-xx cable (0.3 to 20 m) to connect to single-ended UltraSCSI shelf. Internal disk drives connected to a KZPAC-AA controller are not capable of implementing the fault management features of this controller, such as "hot spare" and "automatic rebuilds."	1 V4.0F	1	-	KZPAC-CA
Same as KZPAC-CA with 8-MB cache memory. Internal disk drives connected to a KZPAC-AA controller are not capable of implementing the fault management features of this controller, such as "hot spare" and "automatic rebuilds."	1 V4.0F	1	-	KZPAC-CB
Cache battery backup for KZPAC controller				KZPSC-UB
VHDCI male-to-VHDCI male UltraSCSI cable; xx = 02, 2E [2.5], 03, 05, 10, 20, 25-meters NOTE: Manufacturing may substitute BN37A-02 cable for specific cabinet configurations.				BN37A-xx
SCSI cable/bulkhead assembly kit, supports one third-port connection from KZPAC-CB, allows external connection of one third port				BN31K-0E
SCSI cable/bulkhead assembly kit, supports two third-port connections from KZPAC-CB, allows external connection of two third ports				KZPAC-SB

Removable Media Devices for External StorageWorks Shelves	AIT 35/70-GB tape drive in StorageWorks carrier (Tru64 UNIX and OpenVMS only)	DS-AIT35-VW
	DLT 20/40-GB tape drive in StorageWorks carrier (Tru64 UNIX and OpenVMS only)	TZ88N-VA
	AIT 35/70-GB LVD Universal tape drive, for 43xxx shelves	3R-A2396-AA
	AIT 50/100-GB LVD Universal tape drive, for 43xxx shelves	3R-A2779-AA
StorageWorks Universal Drive Shelves – Model 4314R (Ultra3)	StorageWorks Model 4314R Ultra3 rackmount single bus, U.S./Worldwide except Japan (190209-001)	DS-SL13R-AA
	Same as above, Japan (190209-291)	DS-SL13R-AJ
StorageWorks Universal Drive Shelves – Model 4354R (Ultra3)	StorageWorks Model 4354R Ultra3 rackmount dual bus, U.S./Worldwide except Japan (190211-001)	DS-SL13R-BA
	Same as above, Japan (190211-291)	DS-SL13R-BJ
StorageWorks Universal Drive Shelves – Model 4300	StorageWorks Model 4300 Ultra 160 single-port LVD I/O module (190212-B21)	DS-SE3ZJ-DA
	StorageWorks Model 4300 Ultra 160 dual-port LVD I/O module (190213-B21)	DS-SE3ZJ-SA
StorageWorks Universal Drive Shelves Single Bus – Model 4314T Tower (Ultra3)	StorageWorks Model 4314T Tower, Ultra3 Universal drive shelves, single bus, U.S. (190210-001)	DS-SL13T-AA
	StorageWorks Model 4314T Tower, Ultra3 Universal drive shelves, single bus, International (190210-001)	DS-SL13T-AB
	StorageWorks Model 4314T Tower, Ultra3 Universal drive shelves, single bus, Japan (190210-291)	DS-SL13T-AJ

Options

Universal Disk Drives Supported in Model 4314R, 4314T or 4354R Universal Drive Shelves	18.2-GB Ultra320 SCSI 15,000 rpm 1-inch Universal disk drive	3R-A3848-AA
	36.4-GB Ultra320 SCSI 15,000 rpm 1-inch Universal disk drive	3R-A3849-AA
	36.4-GB Ultra320 SCSI 10,000 rpm 1-inch Universal disk drive	3R-A3838-AA
	72.8-GB Ultra320 SCSI 10,000 rpm 1-inch Universal disk drive	3R-A3839-AA
	72.8-GB Ultra320 SCSI 15,000 rpm 1-inch Universal disk drive	3R-A3851-AA
	146-GB Ultra320 SCSI 10,000 rpm 1-inch Universal disk drive	3R-A3841-AA

StorageWorks Disk Array Family

NOTE: The HP StorageWorks Disk Array Family, specifically the XP128 and XP1024, are now supported on AlphaServer DS10L systems. For product and ordering information, refer to the following Web pages:
http://www.hp.com/products1/storage/products/disk_arrays/highend/xp1024/index.html
http://www.hp.com/products1/storage/products/disk_arrays/highend/xp128/index.html
The following part numbers have been assigned for reference purposes only:

3R-A4417-AA	A7876A	XP128 Disk Array Control Frame
3R-A4418-AA	A7906A	XP1024 Disk Array Control Frame

Step 7 - Networks and Communications - Optional

- Systems include dual embedded 10/100 BaseT Ethernet ports (BN25G-xx cable must be ordered separately)
- Additional Ethernet ports can be added using available PCI slots

Options

		Maximum # Supported			
		Tru64 UNIX	Open VMS	Linux-Ready	
Ethernet 10/100	Single-port 100 Mbps (MMF/duplex-SC) add-on daughter card for use with the 3X-DE602-BB. The combined 3X-DE602-BB and 3X-DE602-FA provides two 10/100 (UTP/RJ45s) and one 100Mbps (MMF/SC) ports in a single PCI slot option. Maximum six 10/100 Ethernet ports per system. NOTE: 3X-DE602-FA cannot be used standalone. Two 10/100 Ethernet ports included with DS10L system. Use BN34A or BN34B cables.	1	1	-	3X-DE602-FA
	PCI (32/64-bit, 33-MHz to 66-MHz) dual-port 10/100 Ethernet (UTP/RJ45s) NIC and Base Module. (One 3X-DE602-TA or 3X-DE602-FA optional add-on daughter card can be combined with this module.) Maximum one per system, maximum six 10/100 Ethernet ports per system. NOTE: Two 10/100 Ethernet ports included with DS10L system. Use BN25G, BN26M, BN24Q, or BN28Q twisted pair RJ45 cables.	1	1	-	3X-DE602-BB
	Dual-port 10/100 Ethernet (UTP/RJ45) add-on daughter card for use with the 3X-DE602-BB only. The combined 3X-DE602-BB and 3X-DE602-TA modules provide four 10/100 (UTP/RJ45s) ports in a single PCI slot option; allows for a maximum of 16 ports per system. Maximum one per system, maximum six 10/100 Ethernet ports per system. NOTES: • Two 10/100 Ethernet ports included with DS10L system. • 3X-DE602-TA **cannot** be used standalone. • OpenVMS V7.3 requires Tima Kit: DEC-AXPVMS-VMS73_LAN-V0100-4.PCSI Use BN25G, BN26M, BN24Q, or BN28Q twisted pair RJ45 cables.	1	1	-	3X-DE602-TA
	PCI (32-/64-bit, 33-/66-MHz) single-port 1000 Mbps (MMF/SC) NIC; no on-board boot-ROM support. Use BN34A or BN34B cables.	1	1	-	DEGPA-SA
	SC-to-SC dual fiber optic cable				BN34B-xx
	PCI (32-/64-bit, 33-/66-MHz) single-port 10/100/1000 (UTP/RJ45) Gigabit NIC, copper; no on-board boot-ROM support. NOTES: • Requires minimum version of Tru64 UNIX V5.0A with Patch kit 2: - T64V50AAS0002-20001004.tar • Requires minimum version of OpenVMS V7.2-2 • OpenVMS V7.3 requires Patch kit: DEC-AXPVMS-VMS73_LAN-V0100-4.PCSI Use BN25G, BN26M, BN24Q, or BN28Q twisted pair RJ45 cables	1	1	-	DEGPA-TA

Multi-function Ethernet	PCI combo adapter, Permedia P2 graphics, 10/100 NIC, 1-port SCSI	1	1	-	3X-DEPVZ-AA

Ethernet 10/100/1000	PCI single-port 1000 Mbps (MMF with duplex-SC) Gigabit Ethernet NOTES: • OpenVMS: Mandatory driver update. Please refer to Customer Advisory VO030630_CW01 http://wwss1pro.compaq.com/support/reference_library/viewdocument.asp?source=VO030630_CW01.xm1&dt=3> for more information. • OpenVMS V7.3-1 supported as cluster-interconnect and standalone network interconnect. Patch Kits required: http://search.support.compaq.com/ • First download and install DEC-AXPVMS-VMS731_PCSI_V0100-4.PCSI ECO kit. Second download and install DEC-AXPVMS-VMS731_LAN_V0600-4.PCSI ECO kit. • Tru64 UNIX V5.1A requires Patch Kit 004 - T64V51AB21AS0004-20030206.tar and Early Release Patch Kit - T64V51AB21-C0127901-19213-E-20030710.tar • Tru64 UNIX V5.1B requires Patch Kit 2 - T64V51BB22AS0002-20030415.tar and Early Release Patch Kit to update driver to v1.0.21 - Early Release Patch Kit - T64V51BB22-C0019200-1912-E-20030710.tar Use BN34A, BN34B, or equivalent cables with SC connectors.	1	1	-	3X-DEGXA-SA
	PCI single-port 10/100/1000Mbps (Twisted-Pair Copper with RJ45) Gigabit Ethernet NOTES: • OpenVMS: Mandatory driver update. Please refer to Customer Advisory VO030630_CW01 http://wwss1pro.compaq.com/support/reference_library/viewdocument.asp?source=VO030630_CW01.xm1&dt=3> for more information. • OpenVMS V7.3-1 supported as cluster-interconnect and standalone network interconnect. Patch Kits required: http://search.support.compaq.com/ • First download and install DEC-AXPVMS-VMS731_PCSI_V0100-4.PCSI ECO kit. Second download and install DEC-AXPVMS-VMS731_LAN_V0600-4.PCSI ECO kit. • Tru64 UNIX V5.1A requires Patch Kit 004 - T64V51AB21AS0004-20030206.tar and Early Release Patch Kit - T64V51AB21-C0127901-19213-E-20030710.tar • Tru64 UNIX V5.1B requires Patch Kit 2 - T64V51BB22AS0002-20030415.tar and Early Release Patch Kit to update driver to v1.0.21 - Early Release Patch Kit - T64V51BB22-C0019200-1912-E-20030710.tar Use BN25G, BN26M, BN24Q, BN28Q twisted pair RJ45 cables.	1	1	-	3X-DEGXA-TA

Ethernet, FDDI, ATM Multi-use Cables	Multimode fiber optic (MMF) 62.5/125um duplex cable, with SC-to-ST connectors. -xx = available lengths: (2E, 4E, 01, 03, 10, 20, 30) for 2.4, 4.5, 1, 3, 10, 20, 30 meters				BN34A-xx
	Multimode fiber optic (MMF) 62.5/125um duplex cable, with SC-to-SC connectors. -xx = available lengths: (2E, 4E, 01, 03, 10, 20, 30) for 2.4, 4.5, 1, 3, 10, 20, 30 meters				BN34B-xx
	Category 5e (4-Unshielded Twisted Pairs / UTP) straight-through cable with RJ45-to-RJ45 connectors for system to switch, repeater, or hub connectivity. -xx = available lengths: (0B, 0E, 01, 03, 04, 07) for 0.2, 0.5, 1, 3, 4, 7 meters				BN25G-xx
	Category 5e (4-Twisted Pairs, Screened/ ScTP) straight-through cable with RJ45-to-RJ45 connectors for system to switch, repeater, or hub connectivity. -xx = available lengths: (0E, 01, 03, 04, 07) for 0.5, 1, 3, 4, 7 meters				BN26M-xx
	Category 5e (4-Unshielded Twisted Pairs / UTP) Xover cable with RJ45-to-RJ45 connectors for system to switch, repeater, or hub connectivity. -xx = available lengths: (0E, 01, 03, 04, 07) for 0.5, 1, 3, 4, 7 meters				BN24Q-xx
	Category 5e (4-Twisted Pairs, Screened / ScTP) Xover cable with RJ45-to-RJ45 connectors for system to switch, repeater, or hub connectivity. -xx = available lengths: (0E, 01, 03, 04, 07) for 0.5, 1, 3, 4, 7 meters				BN28Q-xx

FDDI	PCI (32-bit, 33-MHz) to FDDI SAS (MMF/duplex-SC) NIC. Use BN34A, BN34B, or BN34D cables.	1	1	-	3X-DEFPA-AC
	PCI (32-bit, 33-MHz) to FDDI DAS (MMF/duplex-SC) NIC. Use BN34A, BN34B, or BN34D cables.	1	1	-	3X-DEFPA-DC
	FDDI-specific cable - Multimode fiber optic (MMF) 62.5/125um duplex cable with SC-to-MIC connectors. -xx = available lengths: (01, 03, 10) for 1, 3, 10 meters				BN34D-xx
	SC-to-SC dual fiber optic cable mm, pp xx = length in meters				BN34B-xx
	PCI (32-bit, 33-MHz) to FDDI SAS (UTP/RJ45) NIC. Use BN25G, BN26M, BN24Q, or BN28Q twisted pair RJ45 cables.	1	1	-	3X-DEFPA-UC
	PCI (32-bit, 33-MHz) to FDDI DAS (UTP/RJ45s) NIC. Use BN25G, BN26M, BN24Q, or BN28Q twisted pair RJ45 cables.	1	1	-	3X-DEFPA-MC

ATM	PCI (32-bit, 33-MHz) to 155 Mbps ATM, copper NIC with RJ45 connector. Use BN25G-xx, or BN26M-xx cables.	1 V4.0F	1 V7.2-1	-	3X-DAPBA-UA
	PCI (32-bit, 33-MHz) to 155 Mbps ATM fiber NIC with SC connector. Use BN34B-xx cable.	1 V4.0F	1 V7.2-1	-	3X-DAPBA-FA

ASYNC	PCI (32-bit, 33-MHz) to quad-port Async Communications NIC with DB-25 octopus cable	1 V4.0G	1	-	PBXDA-BA
	PCI (32-bit, 33-MHz) to 8-port Async Communications NIC with DB-25 octopus cables	1 V4.0G	1	-	PBXDA-BB
	PCI 16-port asynchronous controller, cable included; maximum two PBXDA-xx controllers per system	1 V4.0F	1	-	PBXDA-AC

SYNC	PCI-to-dual port synchronous controller	1	1	-	3X-PBXDD-AA
	PCI-to-quad port synchronous controller	1	1	-	3X-PBXDD-AB

Step 8 - Graphics Adapters - Optional

- RAID Configuration Utility is accessible via console port for Tru64 UNIX and OpenVMS systems; optional graphics capability available
- Select graphics adapter, monitor, and country-specific keyboard if required

	Maximum # Supported			
	Tru64 UNIX	OpenVMS	Linux-Ready	
ATI RADEON 7500 64-MB PC I 2D/3D Graphics Accelerator Tru64 UNIX requires V5.1B with Patch Kit 1: Tru64V51BB03AS0001-20021229.tar OpenVMS requires V7.3-1 with TIMA Kit: DEC-AXPVMS-VMS731_GRAPHICS-V0200--4.PCSI	1 2D/3D 1 - Dual head (cloned video using DVI port - 2D only) V5.1B	1 2D/3D 0 - Dual head V7.3-1	-	3X-PBXGG-AA
Tru64 UNIX Open 3D license for RADEON 7500 (required for 3D functionality)				QL-6ZRA9-AA
OpenVMS Open3D license for RADEON 7500 (required for 3D functionality)				QL-0ADA9-AA
Additional Tru64 UNIX media kit for RADEON 7500 (initial kit ships with RADEON 7500 card)				QA-6ZRAA-H8
Additional OpenVMS media kit for RADEON 7500 (initial kit ships with RADEON 7500 card)				QA-6ZPAA-H8
PCI combo adapter, Permedia P2 graphics, 10/100 NIC, 1-port UltraSCSI	1	1	-	3X-DEPVZ-AA

Step 9 - Monitors - Optional

- Graphics monitors other than those listed can be used if compatible with SVGA graphics ordered with system
- At least one video cable, 1.8-meter length, is included with all variants of monitors
- Video extension cable required if monitor is located more than 1.5-meter from system
- Monitors will ship with, but not be integrated with the system
- AlphaServer DS10L has been designed for desktop use and will support a 21-inch monitor

Options

Carbon/Silver Monitors	V7550 17-inch (16-inch viewable image size) flat-faced shadow mask color monitor, two-tone (carbon/silver), 0.25mm dot pitch, VGA to 1024 x 768 @85 Hz, MPRII/TCO99/Energy Star compliant, Northern Hemisphere with North America power cord, VGA cable	3R-A4002-AA
	Same as above, with Euro power cord	3R-A4201-AA
	Same as above, APD, no power cord	3R-A4202-AA
	Same as above, Southern Hemisphere, with Australia/New Zealand power cord	3R-A4203-AA
	S7500 17-inch (16-inch viewable image size) FST multi-frequency color monitor, 2-tone (carbon/silver), 0.24-mm dot pitch, VGA to 1024 x 768 @85 Hz, MPRII/TCO 99/Energy Star Compliant, Northern Hemisphere with PRC power cord CCIB, VGA cable	3R-A4800-AA
	P930 19-inch (18-inch viewable image size) auto-scanning color monitor, Diamondtron NF, 0.24-mm aperture grille pitch, VGA to 1600 x 1200 @85 Hz, MPRII/TCO 99/Energy Star Compliant, Northern Hemisphere with North America power cord, VGA cable	3R-A4215-AA
	Same as above, with Euro power cord	3R-A4391-AA
	Same as above, Taiwan, with North America power cord	3R-A4392-AA
	Same as above, Southern Hemisphere, 0.25 to 0.27 mm aperture grille pitch, with Australia/New Zealand power cord	3R-A4393-AA
	S9500 19-inch (18-inch viewable image size) FST multi-frequency color monitor, 2-tone (carbon/silver), 0.24-mm dot pitch, VGA to 1280 x 1024 @85 Hz, MPRII/TCO 99/Energy Star Compliant, Northern Hemisphere with PRC power cord CCIB, VGA cable	3R-A4801-AA
	P1130 21-inch (19.8-inch viewable image size) FD Trinitron auto-scanning color monitor, 0.24-mm aperture grille pitch, VGA to 1792 x 1344 @85Hz, dual video input, USB Hub, MPRII/TCO 99/Energy Star Compliant, Northern Hemisphere with North America power cord, VGA cable	3R-A4216-AA
	Same as above, with Euro power cord	3R-A4396-AA
	Same as above, Taiwan, no power cord	3R-A4397-AA
	Same as above, with PRC power cord, CCIB	3R-A4400-AA
	Same as above, Southern Hemisphere, with Australia/New Zealand power cord	3R-A4398-AA
Carbon/Silver Flat Panel Monitors	TFT1825, 18-inch (18-inchviewable image size) TFT flat panel monitor, 0.28mm pixel pitch, 1600 x 1200 @60Hz, multi-mode support, MPRII/TCO99/Energy Star compliant, one VGA, one DVI-I input connector. North America power cord, VGA and DVI-I cables	3R-A4292-AA
	L1530, 15-inch (15-inch viewable image size) TFT flat panel monitor, 0.297 mm pixel pitch, 1024 x 768 @60 Hz, multi-mode support, MPRII/TCO99/Energy Star compliant, two video input connectors (one VGA and one DVI-I), North America power cord, VGA and DVI-I cables	3R-A4857-AA
	L1530, 15-inch (15-inch viewable image size) TFT flat panel monitor, 0.297 mm pixel pitch, 1024 x 768 @60 Hz, multi-mode support, MPRII/TCO99/Energy Star compliant, two video input connectors (one VGA and one DVI-I), Euro power cord, VGA and DVI-I cables	3R-A4858-AA
Video Extension Cable	6-foot/1.8-meter video extension cable	BN39C-02

Monitor Power Cords	North America, 120V, 75-inch	BN26J-1K
	Australia, New Zealand, 2.5-meter (103541-511)	BN19H-2E
	Central Europe, 2.5-meter	BN19C-2E
	Denmark, 2.5-meter (103541-481)	BN19K-2E
	Egypt, India, South Africa, 2.5-meter (103541-AR1)	BN19S-2E
	Israel, 2.5-meter	BN18L-2E
	Italy, 2.5-meter (103541-461)	BN19M-2E
	Japan, 2.5-meter	3X-BN46F-02
	Switzerland, 2.5-meter (103541-511)	BN19E-2E
	UK, Ireland, 2.5-meter	BN19A-2E

Step 10 - Keyboards, Mouse – Recommended

- Keyboards are not included with system and must be ordered separately
- Selection of country-specific keyboard is recommended
- All keyboards listed may not be available in all geographies
- Select an opal OpenVMS keyboard for use with VT5xx text terminals

NOTE: The 3X-LK463-xx is a dual-personality keyboard that can be used with a USB or PS/2 port.

Options

	Opal	Carbon	
Keyboard/Language	**OpenVMS**	**Tru64 UNIX**	**OpenVMS**
U.S. keyboard	LK461-A2	3R-A4362-AA	3X-LK463-A2
Arabic keyboard	-	3R-LKQ48-BR	-
Belgian keyboard	LK461-AB	3R-LKQ48-AB	3X-LK462-AB
BHCSY keyboard	-	3R-LKQ48-AX	-
Canadian/English keyboard	LK461-AQ	-	3X-LK462-AQ
Canadian/French keyboard	LK461-AC	3R-LKQ48-AC	3X-LK462-AC
Cyrillic keyboard (Russian)	LK461-BT	3R-LKQ48-BT	3X-LK462-BT
Czech keyboard	LK461-BV	3R-LKQ48-BV	3X-LK462-BV
Danish keyboard	LK461-AD	3R-LKQ48-AD	3X-LK462-AD
Dutch keyboard	LK461-AH	3R-LKQ48-AH	3X-LK462-AH
Finnish keyboard	LK461-AF	3R-LKQ48-AF	3X-LK462-AF
French keyboard	LK461-AP	3R-LKQ48-AP	3X-LK462-AP
German keyboard	LK461-AG	3R-LKQ48-AG	3X-LK462-AG
Greek keyboard	LK461-BH	3R-LKQ48-BH	3X-LK462-BH
Hebrew keyboard	LK461-AT	3R-LKQ48-AT	3X-LK462-AT
Hungarian keyboard	LK461-BQ	3R-LKQ48-BQ	3X-LK462-BQ
International keyboard	-	3R-A4362-AA	-
Italian keyboard	LK461-AI	3R-A4363A-AA	3X-LK462-AI
Japanese keyboard	-	3R-A4363-AA	-
Korean keyboard	-	3R-LKQ48-BK	-
Latin-American keyboard	-	3R-LKQ48-AR	-
Norwegian keyboard	LK461-AN	3R-LKQ48-AN	3X-LK462-AN
Polish keyboard	LK461-BP	3R-LKQ48-BP	3X-LK462-BP
Portuguese keyboard	LK461-AV	3R-LKQ48-AV	3X-LK462-AV
Romanian keyboard	LK461-BL	-	3X-LK462-BL
Simplified Chinese keyboard	-	3R-A4370-AA	-
Slovak keyboard	LK461-CZ	3R-LKQ48-CZ	3X-LK462-CZ
Spanish keyboard	LK461-AS	3R-A4372-AA	3X-LK462-AS
Swedish keyboard	LK461-AM	3R-LKQ48-AM	3X-LK462-AM
Swiss/French keyboard	LK461-AK	3R-A4374-AA	3X-LK462-AK
Swiss/German keyboard	LK461-AL	-	3X-LK462-AL
Traditional Chinese keyboard	-	3R-LKQ48-BI	-
Thai keyboard	-	3R-LKQ48-CB	-
Turkish Q keyboard	LK461-BU	3R-LKQ48-BU	3X-LK462-BU
Turkish F keyboard	LK461-BW	-	3X-LK462-BW
UK keyboard	-	3R-A4378-AA	-
Yugoslavian keyboard	LK461-BY	-	3X-LK462-BY

Mouse	3-button mouse – carbon	3R-A3480-AA

Step 11 - Console Terminal - Optional

- Any terminal can be used as a console device
- Third-party console devices require an EIA-232 25-pin DSUB connector

VT510 video terminal; requires H8575-x cable	VT510-xx
Console cable, female connector	H8575-A
Console cable, male connector	H8575-D
Console cable, male connector (IBM compatible)	H8975-E

Step 12 - Cosmetic Sleeve - Optional

Cosmetic sleeve for AlphaServer DS10L	3X-CC71P-AA

Step 13 - Software - Required selection of media and online documentation kit for first system on site

- Software Processor Code = E

Tru64 UNIX

Tru64 UNIX systems include Tru64 UNIX V5.1, 2-user Base license, Internet Express, and Secure Web Server.

When using Tru64 UNIX V5.0a or later	Tru64 UNIX media and online documentation on CD-ROM	QA-6ADAA-H8
	Tru64 UNIX full hard copy documentation	QA-6ADAA-GZ
	TruCluster Plus Software Package with licenses for TruCluster Server, Logical Storage Manager and AdvFS Utilities	QP-6R9AC-AA
	TruCluster Server License	QL-6BRAC-AA
	AdvFS Utilities License	QL-0EGAE-AA
	Logical Storage Manager License	QL-2GVAE-AA
	Advanced Server for Tru64 UNIX, 25 client concurrent use license	QL-5U29M-3D
	Advanced Server for Tru64 UNIX, 50 client concurrent use license	QL-5U29M-3E
	Advanced Server for Tru64 UNIX, 100 client concurrent use license	QL-5U29M-3F
	Advanced Server for Tru64 UNIX, 250 client concurrent use license	QL-5U29M-3G
	Advanced Server for Tru64 UNIX, 500 client concurrent use license	QL-5U29M-3H
	Layered products media and documentation for Tru64 UNIX on CD-ROM	QA-054AA-H8
	DECnet/OSI end-system license for Tru64 UNIX	QL-MTJAE-AA
	DECnet/OSI extended function license for Tru64 UNIX	QL-MTKAE-AA

Options

OpenVMS

- OpenVMS systems include Base license with System Manager license and Enterprise Integration Server License Package for OpenVMS Revision V3.0A.
- Enterprise Integration Package includes licenses for TCP/IP Services for OpenVMS, DECwindows Motif for OpenVMS Alpha, DECnet-Plus for OpenVMS Alpha End System

OpenVMS V7.1-2 media and online documentation kit on CD-ROM	QA-MT1AR-H8
OpenVMS V7.2-1 media and online documentation kit on CD-ROM	QA-MT1AT-H8
OpenVMS media and online documentation kit on CD-ROM	QA-MT1AA-H8
OpenVMS hard copy documentation	QA-001AA-GZ
Layered products media and documentation for OpenVMS on CD-ROM	QA-03XAA-H8

- OpenVMS Concurrent Use licenses provide the right to interactively use the operating system by the specified number of concurrent users on a designated OpenVMS system. OpenVMS Concurrent Use licenses can be moved from one system to another at user discretion and can be shared in a mixed OpenVMS VAX and OpenVMS Alpha cluster.
- OpenVMS Traditional Unlimited Use license is system specific and can only be used on one single system at a time. It cannot be shared between systems or in an OpenVMS VAX or OpenVMS Alpha Cluster.

Concurrent Use 1-user license	QL-MT3AA-3B
Concurrent Use 2-user license	QL-MT3AA-3C
Concurrent Use 4-user license	QL-MT3AA-3D
Concurrent Use 8-user license	QL-MT3AA-3E
Concurrent Use 16-user license	QL-MT3AA-3F
Concurrent Use 32-user license	QL-MT3AA-3G
Concurrent Use 64-user license	QL-MT3AA-3H
Concurrent Use 128-user license	QL-MT3AA-3J
Concurrent Use 256-user license	QL-MT3AA-3K
Traditional Unlimited User license	QL-MT2AE-AA
OpenVMS Cluster license for Alpha systems	QL-MUZAC-AA
OpenVMS Cluster Client license for Alpha systems	QL-3MRAC-AA
OpenVMS Cluster Client to Full OpenVMS Cluster Migration license	QL-6J7AC-AA

NOTE: Linux-Ready systems ship without system software; RedHat 6.0 or SuSe 6.1 may be purchased separately from a Linux distributor.

Linux Kit - Optional

Linux RedHat CD-ROM Kit	QA-6M1AA-H8

Step 14 - Hardware and Software Support Services

- Select one of the optional HP Care Pack Service Packages described below that best supports the customer's operational requirements for system availability.

HP Care Pack Services

- HP Care Pack Services are available for AlphaServer systems running Tru64 UNIX or OpenVMS operating systems. HP Care Pack Services are designed for customers who require support beyond that provided by the hardware product warranty for both Principal servers systems and SSPs (Subsequent System Packages) - that meet a full range of customer support requirements.

Options

Program Features – Principal Server

HP Support Plus	• 13 x 5 HW/SW support • 4-hour response on-site hardware support • 2-hour response for software support • License Subscription for HP O/S software and embedded L/P (i.e., EIS for OpenVMS, unlimited users, and server extensions for Tru64 UNIX) • Consolidated Software Media Update Distribution for OpenVMS or Tru64 UNIX and their layered products. (Layered products not included on Consolidated Media Update Distribution can be ordered separately.)
HP Support Plus 24	• 24 x 7 HW/SW support • Named HW engineer • 4-hour response on-site hardware support • 2-hour response for software support • License Subscription for HP O/S software and embedded L/P (i.e., EIS for OpenVMS, unlimited users, and server extensions for Tru64 UNIX) • Consolidated Software Media Update Distribution for OpenVMS or Tru64 UNIX and their layered products. (Layered products not included on Consolidated Media Update Distribution can be ordered separately.)

Program Features – Additional Services

SSPs (Subsequent System Packages)	• For HP Support Plus and Support Plus 24 • HW Support at same level as corresponding package for Principal server • License Subscription: HP O/S (where applicable) • Telephone support through Principal server covered by full support package
Installation	• Preinstallation review • Unpacking of equipment • Assemble and test • Basic product usage info • No software installation added
Installation & Startup HP O/S	• Preinstallation review • Unpacking of equipment • Assemble and test • Basic product usage info • Install operating systems • Product configuration • Print and network access • Orientation

Options

Model/CarePaq Priority Service	Principal Server/Station 1 year	Principal Server/Station 3 years	Subsequent Systems 1 year	Subsequent Systems 3 years
AlphaServer DS10L				
HP Support Plus	FP-A01AA-12	FP-A01AA-36	FP-A21AA-12	FP-A21AA-36
HP Support Plus 24	FP-A02AA -12	FP-A02AA-36	FP-A22AA-12	FP-A22AA-36
Installation	FP-AINST-AA	FP-AINST-AA	FP-AINST-AA	FP-AINST-AA
Installation & Startup	FP-ASTAR-AA	FP-ASTAR-AA	FP-ASTAR-AA	FP-ASTAR-AA

NOTES:

- AlphaServer DS10L systems include one-year hardware warranty with 5x9, on-site Next Business Day response.
- HP Care Pack Services include support for new HP branded hardware options internal to the AlphaServer/AlphaStation enclosure plus a monitor (17-inch or less excluding flat panel models).
- External storage devices/cabinets carry their own level of warranty and should be quoted separately for uplifted warranty services.
- In addition to the HP Care Pack Services shown above, other service packages are available for separate hardware and software support. For more information on Hardware and Software Upfront Services and other HP service options available for AlphaServers, consult your Sales Account Manager, HP Services Principal, or visit http://www.hp.com/hps/
  NOTE: This Web site is available in English only.

Physical Characteristics	**Dimensions** (H x W x D)	17.5 x 20.5 x 1.75 in (44.5 x 52 x 4.5 cm)
	Shipping Dimensions	23.6 x 21.7 x 10.1 in (60 x 55 x 26 cm)
	Weight	21 lb (9.4 kg)

Cabinets		**H9A10 M-series**	**H9A15 M-series**
	Dimensions (H x W x D)	67 x 23.6 x 36.1 in (170 x 60 x 91.6 cm)	79 x 23.6 x 36.1 in (200 x 60 x 91.6 cm)
	Shipping Dimensions	73 x 36 x 48 in (185.5 x 91.5 x 122 cm)	85 x 36 x 48 in (216 x 91.5 x 122 cm)
	Weight	Configuration dependent	1,000 lb (450 kg)
	Shipping Weight	Configuration dependent, maximum payload 1,000 lb (453.6 kg)	1,056 lb (550 kg) (normal) 1,408 lb (640 kg) (maximum)

System Unit	**Environmental**		
	Temperature	Operating (Tower, Rackmount)	50° to 95° F (10° to 35° C)
		NOTE: Maximum operating temperature at sea level; reduce by 1.0° F per 1,000 ft (1.8° C per 1,000 m) above sea level.	
		Non-operating	41° to 122° F (5° to 50° C)
		Storage (60 days)	–40° to –151° F (–40 to –66° C)
		Rate of change	20° F/hr (11° C/hr)
	Relative Humidity	Operating	10% to 90% RH
		Non-operating	10% to 95%
		Storage (60 days)	10% to 95%
	Maximum Wet Bulb Temperature	Operating	82° F (28° C)
		Non-operating	90° F (32° C)
		Storage (60 days)	115° F(46° C)
	Heat Dissipation	Typical configuration: AlphaServer DS10L, 600 MHz 250W Power Supply Main logic board with EV6 CPU 1-GB main memory 1 hard disk, 1 floppy drive, 1 CD-ROM 1 PCI network interface card Running system exerciser during power measurement Input voltage = 100VAC @ 60 Hz Input current = 1.85 Amps	Single Unit = 185W = 631 BTU/hr Rack of 40 systems with 5 PDU/Fan kits = ~7,900W = 26,980 BTU/hr
	Air Flow and Quality	Intake location	Front (desktop and rack)
		Exhaust location	Rear (desktop and rack)
		Particle size	N/A
		Concentration	N/A
	Altitude	Operating	10,000 ft (3,037m)
		Non-operating	40,000 ft (12,192m)
		NOTE: Higher altitudes are possible if maximum operating temperature is reduced (see Temperature); other restrictions may apply such as maximum permissible altitude for hard drives.	
	Acoustics (Declared values per ISO 9296 and ISO 7779)		
	Acoustics	**NOTE:** Current values for specific configurations are available from HP, note that 1 B =	

	10 dBA.			
		LWAd3B	LnAm5dBA (bystander position)	
	Idle	6.0	46	
	Operating	6.1	47	
Vibration	Operating	5-500 Hz at .1 G peak (limited by 0.02 in/ 0.5 mm double amplitude)		
	Non-operating	1.03 Grms 5-300 Hz		
Shock	Operating	10 G 10 ms half-sine		
Electrical (Power supplies are universal, PFC, auto ranging, 100/240 VAC)				
Nominal Voltage (VAC)	100	120	200 to 240	
Voltage Range (VAC) (temporary condition)	90 to 100	110 to 128	180-250	
Power Source Phase	Single	Single	Single	
Nominal Frequency (Hz)	50/60	50/60	50/60	
Frequency Range (Hz)	49 to 51/59 to 61	49 to 51/59 to 61	49 to 51/59 to 61	
RMS Current (maximum steady state)				
	Single power cord	2.3A	1.9A	1.1A
	Maximum VA	230	229	220
	M-series Cabinet (configuration dependent)			
	Nominal voltage (VAC)	100	120	220-240
	Each power cord	24A	24A	16A
Power Cords	Desktop	1 (75 in (190 cm))	IEC 320 C13 to NEMA 5-15 (N. America) or IEC 320 C13 to country-specific	
	Rackmount	1 (14 ft 10 in (452 cm))	IEC 320 C13 to NEMA 5-15 (N. America) or IEC 320 C13 to IEC 320 C14 (other countries)	
	Cabinet	2 (10 ft 10 in (330 cm))	120V non-removable NEMA L5-30P or 200-240V non-removable IEC 309	
Regulatory	Agency Approvals	UL: Listed to UL1950 (3rd edition)		
		CUL Listed: CAN/CSA-C22.2 No. 950-M95		
		TUV: EN 60950/A11: 1997 GS marked		
		FCC: Part 15 Class A		
		CE: EN55022, EN50082		
		VCCI Class II ITE		
		BMSI: CISPR22, CNS13438		
		C-Tick: CISPR22, AS/NZS 3548		
	Reviewed to	AS/NZ 3260:1993 Australian/New Zealand Standard		
		EN 60950/A11: 1997 European Norm		
		IEC950 (2nd edition, 4th amend)		

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