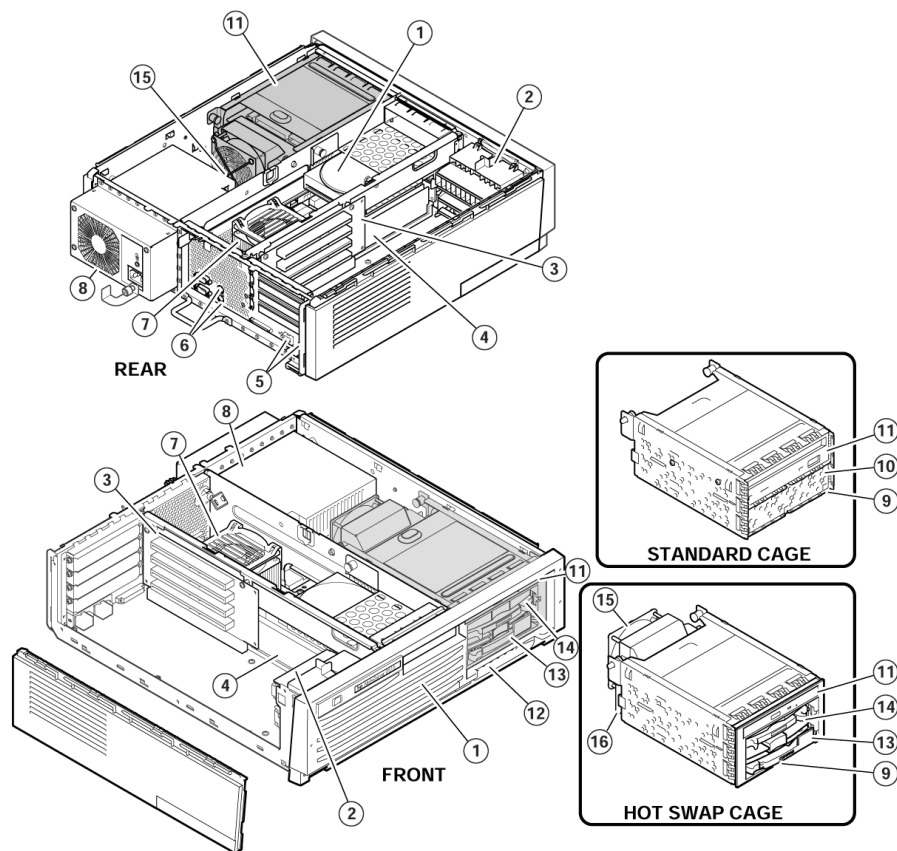


Overview



1. Concealed disk bay
2. Fan Assembly
3. PCI riser card
4. Memory
5. Dual Ethernet ports
6. Keyboard and mouse ports
7. CPU and fan
8. Power supply

9. System disk
10. Optional disk or tape bay
11. DVD/CD-RW
12. Control Panel
13. Front accessible disk
14. Optional front accessible disk
15. Disk Fan

Overview

At A Glance

AlphaServer/AlphaStation DS15 3U Systems include:

- Alpha 1-GHz CPU with 2-MB onboard ECC cache
- 512-MB, 1-GB, or 2-GB SDRAM memory - expandable to 4-GB maximum memory capacity
- Onboard dual 10/100 BaseT Ethernet ports
- Four 64-bit PCI expansion slots
- Onboard Ultra160 SCSI controller

Choice of storage cage subsystems:

- DS15 Internal Storage Cage
- DS15 Front Access Storage Cage
- Maximum Internal storage capacity: Internal Storage Cage - 218.4-GB SCSI; Front Access Storage Cage - 745.6-GB SCSI
- 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
- PS/2-style keyboard port and mouse port
- 400W (120/240V, 60/50 Hz) power supply
- U.S. English documentation
- Tru64 UNIX or OpenVMS Factory Installed Software
- 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 21264C 1-GHz processor	
Cache Memory	2-MB onboard cache	
Upgradability	Supports upgrades of memory and hard drives Standard One CPU	
Memory	Standard	512 MB (one memory kit), 1 GB (one memory kit), or 2 GB (one memory kit) - Tru64 UNIX, OpenVMS
	Maximum	4 GB (two memory kits, each kit includes two industry-standard DIMMs with ECC support)
Network Controller	Onboard dual 10/100 BaseT Ethernet ports	
Expansion	Storage bays	Internal Storage Cage Systems: Four total - DVD/CD-RW and three storage bays: Three internal 3.5-inch x 1-inch hard disk drives or two internal 3.5-inch x 1-inch hard disk drives and one 5.25-inch x 1.6-inch removable media device Front Access Storage Cage Systems: Five Total - DVD/CD-RW and four Storage bays: Two front access 3.5-inch x 1-inch hard disk drives and two internal 3.5-inch x 1-inch hard disk drives) or one 5.25-inch x 1.6-inch removable media device and two internal 3.5-inch x 1-inch hard disk drives
	PCI slots	Four full-length 64-bit/33-MHz slots or two full length 64-bit/66-MHz slots
Storage	DVD/CD-RW	Internal Storage Cage Systems: 5.25-inch 48X half height DVD/CD-RW drive Front Access Storage Cage Systems: 24X slim-line DVD/CD-RW drive
	Hard Drives	72.8-GB Wide Ultra3 available with the Internal Storage Cage, and 36.4-GB, 72.8-GB, 146-GB, or 300-GB Universal SCSI drives available with Front Access Storage Cage
Storage Adapter/Controller	Onboard Ultra160 dual port SCSI controller, one port for internal storage and one port for external storage, plus choice of optional storage adapters/controllers (see Step 9)	
Expansion Ports	SCSI	One Ultra160, 68-pin VHDCI connector
	Serial	Two ports, one serial port with full-duplex asynchronous modem control and one RMC dedicated serial port with full-duplex asynchronous modem control
	Keyboard	One PS/2-style port
	Mouse	One port
Power Supply	400W	

Standard Features

Manageability	Hewlett-Packard Insight Manager
Supported Options	A detailed summary of options supported on the AlphaServer/AlphaStation DS15 is available at http://h18002.www1.hp.com/alphaserver/options/asds15/asds15_options.html
OS Support	AlphaServer DS15 Tru64 UNIX systems include pre-installed software (V5.1B PK3/New Hardware Delivery-7 (NHD-7), Base license, Unlimited User license, Server Extension license, Internet Express and Hewlett-Packard Secure Web Server AlphaStation DS15 Tru64 UNIX systems include pre-installed software (V5.1B PK3/New Hardware Delivery-7 (NHD-7), 2-user Base license AlphaServer DS15 OpenVMS systems include pre-installed software (V7.3-2), Base license with System Manager license and Enterprise Integration Server License Package for OpenVMS AlphaStation DS15 OpenVMS systems include pre-installed software (V7.3-2), Base license, Concurrent Use 1-user license, and NAS 150 Client license Minimum OS support: Tru64 UNIX V5.1A New Hardware Delivery-7 (NHD-7) or OpenVMS V7.3 -1 plus TIMA kit
Service and Support	Protected by HP Services, including a one-year, on-site hardware warranty with next business day response. Software warranty is a 90-day telephone advisory. Training, consulting, network integration, software support, comprehensive system maintenance and guaranteed uptime services are also available for customers requiring higher levels of service and support.

Systems

Step 1 - Select System

AlphaServer/AlphaStation DS15 1-GHz systems require the **mandatory** selection of the following items:

- **Memory, one Storage Cage** (either Internal Storage Cage or Front Access Storage Cage) **and one system disk**
- Country-specific power cord
- Software media and documentation for first system on site
- Rackmount kit for rackmount systems (See Step 8 - Cabinet Enclosures)
- Minimum OS support: Tru64 UNIX V5.1A New Hardware Delivery-7 (NHD-7) or OpenVMS V7.3-1 plus TIMA kit

NOTE: Country-specific keyboard and mouse are recommended. See Step 13.

AlphaServer DS15 1-GHz Base Systems							
OS	CPU	Memory	PCI	2-10/100t Ethernet Ports	Hard Drive	Storage Cage	Order Number
Tru64 UNIX	1 GHz	Mandatory	4	Onboard	Mandatory	Mandatory	DA-75CAA-AA
OpenVMS	1 GHz	Mandatory	4	Onboard	Mandatory	Mandatory	DY-75CAA-AA

AlphaStation DS15 1-GHz Base Systems							
OS	CPU	Memory	PCI	2-10/100t Ports	Hard Drive	Storage Cage	Order Number
Tru64 UNIX	1 GHz	Mandatory	4	Onboard	Mandatory	Mandatory	DA-75CAA-AW
OpenVMS	1 GHz	Mandatory	4	Onboard	Mandatory	Mandatory	DY-75CAA-AW

Step 2 - Memory – Mandatory

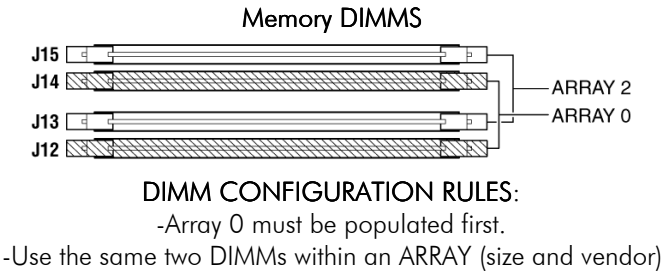
- Maximum 4-GB memory
 - Maximum two memory kits per system - each kit includes two industry-standard DIMMs with ECC support
- 512-MB memory kit, two 200-pin, 133-MHz, 256-MB DIMMs

1-GB memory kit, two 200-pin, 133-MHz, 512-MB DIMMs

2-GB memory kit, two 200-pin, 133-MHz, 1-GB DIMMs
- 3X-MS315-EA

3X-MS315-FA

3X-MS315-GA



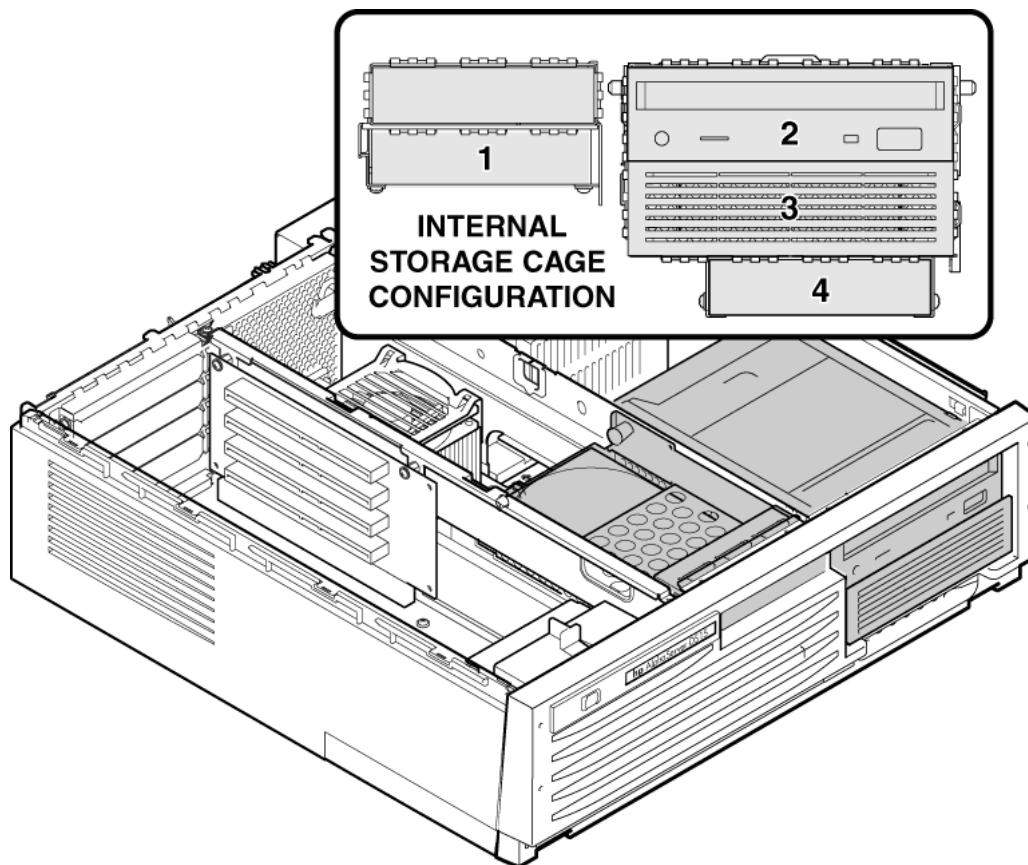
Step 3 - Select Storage Cage – Mandatory

- DS15 Systems support **one** Storage Cage
- Selection of one Storage Cage is **mandatory (no exceptions)**

Systems

- DS15 Internal Storage Cage: DS15 System with Internal Cage supports three storage devices: 3X-BA15A-AA
 - Either three internal hard disk drives or one 5.25-inch half height backup tape and two internal hard disk drives
- DS15 Front Access Storage Cage: DS15 System with Front Access Cage supports up to four storage devices: 3X-BA15B-AA
 - Two HP Universal disk drives plus two internal disk drives, or
 - One Front Access Universal Tape Drive (DAT) and two internal disk drives

Step 3a - Internal Storage Cage

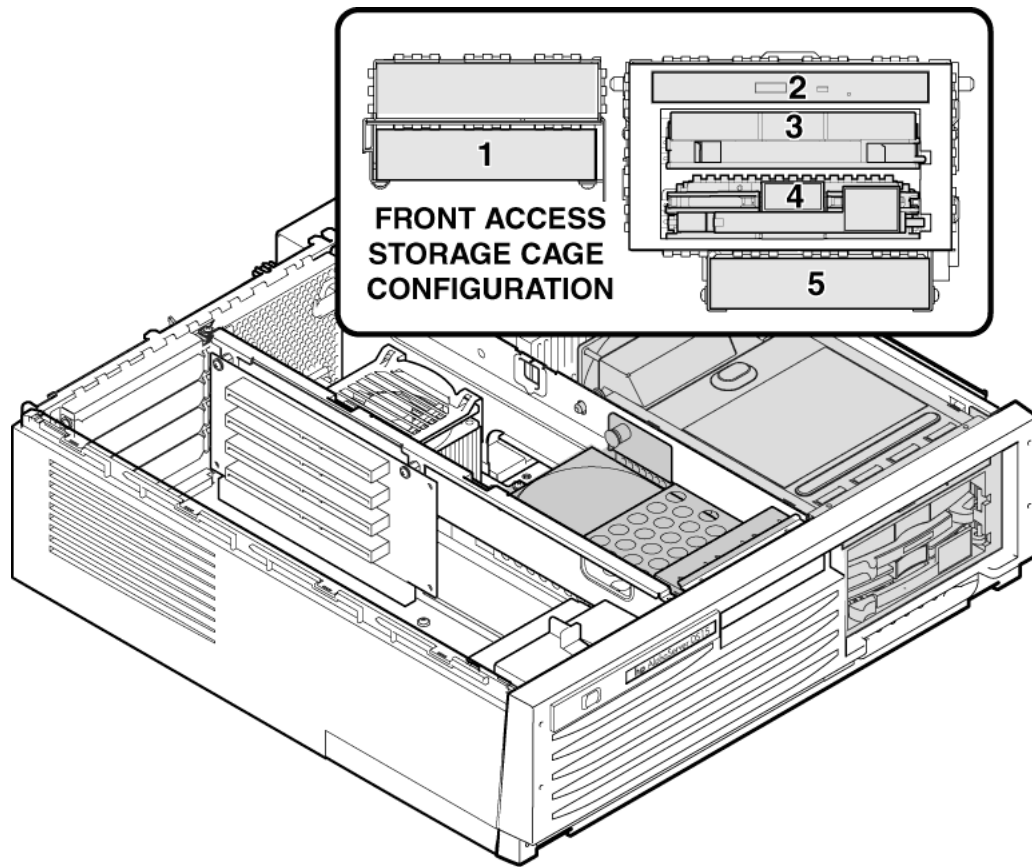


1. Internal drive bay
2. DVD/CD-RW
3. Internal drive bay
4. Internal drive bay

DS15 Storage Configuration Rules with Selection of Internal Storage Cage:

- DS15 Systems configured with the Internal Storage Cage include a half height DVD/CD-RW in dedicated drive slot
- DS15 Systems configured with the Internal Storage Cage have three available storage bays (one in the Storage cage plus two in the system box) that can be configured as follows:
 - Maximum of three internal disk drives (3.5-inch x 1-inch drives) or two internal disk drives (3.5-inch x 1-inch) and one 5.25-inch half height removable media device

Step 3b - Front Access Storage Cage



1. Internal drive bay
2. DVD/CD-RW
3. Front access drive bay
4. Front access drive bay
5. Internal drive bay

DS15 Storage Configuration Rules with Selection of Front Access Storage Cage:

- DS15 Systems configured with Front Access Storage Cage include a DVD/CD-RW slim-line in dedicated drive slot
- DS15 Systems configured with the Front Access Storage Cage include four storage bays (two HP Universal SCSI disk drives and two internal SCSI drives) which can be configured as follows:
 - Maximum of two internal disk drives (3.5-inch x 1-inch drives) and two HP Universal disk drives (3.5-inch x 1-inch) or one Front Access Universal tape drive (DAT) and two internal disk drives
 - SCSI cable with connections to the four disk drives is included with the Front Access Storage Cage

Systems

Step 4 - Mandatory Selection of Disk Drive

Internal SCSI Disk Drives (For Drives Internal to System Enclosure)	72.8-GB 10,000 rpm Ultra3 SCSI drive	DS-RZ3GA-WA
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Internal SCSI Disk Drives (For Internal Storage Cage)	72.8-GB 10,000 rpm Ultra3 SCSI drive	DS-RZ3GA-WA
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Universal Disk Drives (For Front Access Storage Cage)	36.4-GB Ultra320 SCSI 15,000 rpm 1-inch Universal disk drive	3R-A3849-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
	300-GB Ultra320 SCSI 10,000 rpm 1-inch Universal disk drive	3R-A4952-AA

Options

Step 5 - Tape Drives – Optional

Internal Tape Drives (For Internal Storage Cage)	DAT 20/40-GB tape drive, LVD, carbon black (C5686B)	3R-A4752-AA
	See Supported Options List -- http://h18002.www1.hp.com/alphaserver/options/asds15/asds15_options.html -- for complete listing of supported options and configuration details. See option specific QuickSpecs for complete list of country specific SKUs.	
	DAT 36/72-GB 4-mm 5.25-inch half-height LVD SCSI tape drive, carbon black (Q1522A)	3R-A4544-AA
	DLT 40/80-GB VS 80 half-height tape drive (337699-B21), Tru64 UNIX only	3R-A5071-AA
Universal Tape Drives (For Front Access Storage Cage)	DAT 20/40-GB Universal tape drive, LVD, uses two slots. (Q1546A)	3R-A4745-AA
	See Supported Options List -- http://h18002.www1.hp.com/alphaserver/options/asds15/asds15_options.html -- for complete listing of supported options and configuration details. See option specific QuickSpecs for complete list of country specific SKUs.	
	DAT 36/72-GB LVD Universal tape drive, carbon black, uses two slots (Q1529A)	3R-A4547-AA

Step 6 - Mandatory Selection of Power Cord

Desktop Power Cords	North America, 2.5-meter	3X-BN46K-2E
	Australia, New Zealand, 2.5-meter (8121-0838)	3R-A6023-AA
	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	BN19M-2E
	Japan, 2.5-meter, Dentori approved	3X-BN46G-02
	Switzerland, 2.5-meter (103541-511)	BN19E-2E
	UK, Ireland, 2.5-meter	BN19A-2E
	United States 200V-240V, 75-inch	BN18J-1K
Rackmount Power Cords	Selection of a rackmount cord is mandatory per each DS15 mounted in rack.	
	Rackmount Power Cord C13-C14 black 4.5-meters	BN35S-4E

Options

Step 7 - DVD-ROM Drive – Optional

Optional 48X half-height DVD/CD-RW combo, carbon black for DS15 Internal Storage Cage - supported in 3X-BA15A-AA only

3X-A4412-BA

Step 8 - M-Series Cabinets or Series 10000 Rack

Step 8a - M-Series Cabinets – Optional

- M-Series cabinet enclosures support up to 13 DS15 systems (H9A15)
- M-Series enclosures require selection of the following items:
 - Cabinet front door based on cabinet height
 - Factory integration

Cabinet Configuration Chart for AlphaServer DS15 Rackmount Systems

- Each system requires a DS15 M-Series Rackmount Kit (3X-PBX01-DA)
- Each system requires a rackmount power cord.

NOTE: The number of ballast kits required is determined by the number of system boxes. Ballast kits are required according to the following chart. For more information on M-Series Cabinet Enclosures, see <http://h18002.www1.hp.com/alphaserver/products/m-series/index.html>

Cabinet Configuration Chart for AlphaServer DS15 (3U) Rackmount Systems with Disk Shelves (12U)					
M-Series Cabinet	System Rack Kit per DS15 system	M-Series Cabinet Height/Space	DS15 Systems	StorageWorks DS-SL13R/ 3R-A4075-AA/ 3R-A4076-AA* Disk Shelves	Ballast Kits Required
H9A10-ME/MF	3X-PBX01-DA	67-inch/32U	1 or 2	6	2
			3 or 4	6	1
			5	5	1
			6	4	0
			7	2	0
			8, 9, or 11	0	0
H9A15-ME/MF	3X-PBX01-DA	79-inch/39U	1 or 2	6	2
			3 or 4	6	1
			5	5	1
			6	4	1
			7	2	0
			8 to 13	0	0

Options

* 3R-A4075-AA and 3R-A4076-AA are not supported in a shared-SCSI cluster using the 3X-KZPEA-DB.

M-Series Rackmount Kit for AlphaServer DS15	- Rackmount kit must be ordered separately - DS15 M-Series rackmount kit	3X-PBX01-DA
M-Series Cabinets	67-inch carbon black cabinet with 56-inch or 33U of usable vertical space; 200V to 240V dual-16A controller, 16 IEC C13 outlets, two input power plug NEMA, Americas, Asia Pacific; includes rear door 67-inch carbon black cabinet with 56-inch or 33U of usable vertical space; 240V dual-16A controller, 16 IEC C13 outlets, two input power plug IEC 309, 20A, Europe; includes rear door 79-inch carbon black cabinet with 68.25-inch or 40U of usable vertical space; 200V to 240V dual-16A controller, 16 IEC C13 outlets, two input power plug NEMA L620P, Americas, Asia Pacific; includes rear door 79-inch carbon black cabinet with 68.25-inch or 40U of usable vertical space; 240V dual-16A controller, 16 IEC C13 outlets, two input power plug IEC 309, 20A, Europe; includes rear	H9A10-ME H9A10-MF H9A15-ME H9A15-MF
StorageWorks Shelves Supported in M-Series Cabinets with Front Doors (H9A10/ H9A15)	StorageWorks 14-slot 4314R Rackmount Enclosure, Single bus/Power supply, Ultra160/LVD StorageWorks 14-slot 4314R Rackmount Enclosure, Single bus/Power supply, Ultra160/LVD StorageWorks 14-slot 4354R Rackmount Enclosure, Dual bus/Power supply, Ultra160/LVD StorageWorks 14-slot 4354R Rackmount Enclosure, Dual bus/Power supply, Ultra160/LVD	DS-SL13R-AA DS-SL13R-AJ DS-SL13R-BA DS-SL13R-BJ
M-Series Cabinet Rear Cabinet Extender	Rear cabinet extender, carbon black, for H9A10-ME/MF cabinets Rear cabinet extender, carbon black, for H9A15-ME/MF cabinets	H9C10-ZE H9C15-ZE
M-Series Cabinet Front Door	Requires selection of door based on cabinet height Front door, carbon black, for H9A10-ME/MF cabinet enclosure Front door, carbon black, for H9A15-ME/MF cabinet enclosure	H9C10-ZF H9C15-ZF
M-Series Cabinet Factory Integration	Mandatory selection Factory Integration of systems and storage devices assembled and configured in cabinet enclosure for H9A10 or H9A15 cabinet enclosures	YS-ASCAA-AA
M-Series Cabinet Ballast Kits	- Add ballast kits as required - 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 steel plates	H9C10-MC

Options

M-Series Cabinet	Rackmount Power Cord C13-C14, black 4.5-meters	BN35S-4E
Rackmount Power Cord		

Step 8b - Series 10000 Rack Enclosures – Optional

- 10000 Series rack enclosures support up to 13 DS15 systems (10642)
- 10000 Series rack enclosures require selection of the following items:
 - Rack sidewall kit or baying kit
 - Deployable stabilizer
 - Power Distribution Unit (PDU) (3X-H7609-xx)
 - Ballast kits (if required)
 - Factory integration

Cabinet Configuration Chart for AlphaServer DS15 Rackmount Systems

- Each system requires a DS15 M-Series Rackmount Kit (3X-PBX01-DB)
- Each system requires a rackmount power cord.

NOTE: The number of ballast kits required is determined by the number of system boxes. Ballast kits are required according to the following chart:

Cabinet Configuration Chart for AlphaServer DS15 (3U) Rackmount Systems with Disk Shelves (12U)					
10000 Series Rack	System Rack Kit per DS15 system	Series 10000 Height/Space	DS15 Systems	StorageWorks DS-SL13R/ 3R-A4075-AA/ 3R-A4076-AA* Disk Shelves	Ballast Kits Required
3R-A3894-AA	3X-PBX01-DB	79-inch/42U	1 or 2	6	2
			3 or 4	6	1
			5	5	1
			6	4	0
			7	2	0
			8 to 13	0	0

* The 3R-A4075-AA and 3R-A4076-AA enclosures are not supported in a shared-SCSI cluster using the 3X-KZPEA-DB adapter.

Options

10000 Series Rackmount Kit for AlphaServer DS15	Rackmount kit must be ordered separately DS15 M-Series rackmount kit	3X-PBX01-DB
10000 Series Rack	79-inch cabinet enclosure with 73.5-inch or 42U of usable vertical space; includes front and rear doors, no side panels, shock pallet	3R-A3894-AA
Side Panel Kit	42U graphite metallic	3R-A3895-AA
Baying Kit	Carbon - Used to join two or more 10000 Series racks	3R-A4125-AA
Deployable Stabilizer Kit	Mandatory selection	2T-H9C30-MK
10000 Series Rack Factory Integration	Mandatory Selection Factory Integration of systems and storage devices assembled and configured in cabinet enclosure for H9A10 or H9A15 cabinet enclosures	YS-ASCAA-AA
10000 Series Rack Ballast Kits	- Add ballast kits as required - 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 steel plates	2T-H9C30-MA
Power Distribution Units	Single Phase, Double Power Controller, 16 outlet, North America/Japan 240V Single Phase, Double Power Controller, 16 outlet, Europe 240V	3X-H7609-EB 3X-H7609-DB

Step 8c - KVM (Keyboard, Video, Mouse) Switch – Optional

KVM (Keyboard, Video, Mouse) Switch - Optional	The HP Server Console Switch 1 x 8 (8-port) is supported on Alpha Systems using PS/2 mouse and keyboard with VGA video - this includes support for the PS/2 interface adapter, part number 262588-B21, required for operation. The switch is supported on systems running Tru64 UNIX operating system - minimum version V5.1B and the OpenVMS operating system - minimum version 7.3-2. The KVM is 1U high and can be installed in the M-Series cabinet or Series 10000 rack. Supports up to eight servers.	
	HP Server 1 x 8-port KVM Console Switch	336044-B21
CAT5e Cables	3 foot (1m) - 4 pack	263474-B21
	6 foot (2m) - 8 pack	263474-B22
	12 foot (4m) - 8 pack	263474-B23
	20 foot (6m) - 4 pack	263474-B24
	40 foot (12m) - 1 pack	263474-B25
Interface Adapters	PS/2 Interface Adapter - 1 pack	262588-B21
	PS/2 Interface Adapter - 8 pack	262587-B21

Options

NOTE: Supported graphics card - ATI RADEON 7500 (3X-PBXGG-AA)

For more information, refer to the Release Notes at:

http://h18002.www1.hp.com/alphaserver/download/console_switch_rn.pdf

http://h18002.www1.hp.com/alphaserver/download/html/console_switch_rn.html

Step 9 - External Storage – Optional

- Tape drives require country-specific power cord.
- Use these cables to connect the following devices to the DS15 SCSI port:
3X-BC56J-xx to StorageWorks Shelves, BN38C-xx to external tape drives
- The 3X-KZPEA-DB and the DS15 SCSI port is supported in a 2 node shared bus configuration. The following components are required for Shared SCSI Bus configurations (per shared bus) connected to the 3X-KZPEA-DB:
 - 3X-H8411-AA - Shared SCSI adapter kit
 - 3X-BN56A-03 or 3X-BN56A-04 - 3M or 4M terminator SCSI cable
- Shared bus configurations connected to the DS15 SCSI port require the following components:
 - 3X-H8411-BA - Shared SCSI adapter kit for DS15 external SCSI port
 - 3X-BN56A-03 or 3X-BN56A-04 - 3M or 4M terminator SCSI cable
- Refer to KZPEA release notes for latest information on shared SCSI requirements and setup:
<http://h18002.www1.hp.com/alphaserver/products/storage/kzpea/index.html>

Tape Devices

DAT Tabletop Tape Drives	DAT 20/40-GB 4-mm Wide Ultra2 (LVD) tabletop SCSI tape drive with 120V North American power cord, carbon black; requires Ultra2 (LVD) adapter	157770-002
	Same as above, International	157770-B32
	Same as above, Japan	157770-292
	DAT 20/40-GB LVD tabletop tape drive with 120V North America power cord, carbon black (Q1554A)	3R-A4753-AA
	Same as above, International (Q1555A)	3R-A4754-AA
	DAT 36/72-GB LVD tabletop SSI tape drive with 120V North America power cord, carbon black; Tru64 UNIX only	Q1523A
	See Supported Options List - http://h18002.www1.hp.com/alphaserver/options/asds15/asds15_options.html -- for complete listing of supported options and configuration details. See option specific QuickSpecs for complete list of country specific SKUs.	
	DAT 40-GB LVD tabletop tape drive, carbon black	C5687C
	See Supported Options List - http://h18002.www1.hp.com/alphaserver/options/asds15/asds15_options.html -- for complete listing of supported options and configuration details. See option specific QuickSpecs for complete list of country specific SKUs.	
DAT Hot-plug Tape Drive	DAT 20/40-GB hot-plug LVD Universal tape drive; carbon black; uses two slots in 43xxx storage shelves (Q1546A)	3R-A4745-AA
	DAT 36/72-GB DDS5 hot-plug LVD Universal tape drive; carbon black; uses two slots in 43xxx storage shelves (Q1529A) Tru64 UNIX only	3R-A4547-AA

Options

DAT Autoloaders	DAT 20/40-GB auto loader external; requires BN31W-xx SCSI cable and 3X-KZPCA-AA, North America	166505-001
	Same as above, International	166505-B31
	Same as above, Japan	166505-291
	SureStore DAT 40x6e external auto loader	C5717C
	See Supported Options List - http://h18002.www1.hp.com/alphaserver/options/asds15/asds15_options.html -- for complete listing of supported options and configuration details. See option specific QuickSpecs for complete list of country specific SKUs.	
	DAT 72x6e external auto loader	Q1567A
DLT/SDLT Tabletop Tape Drives	See Supported Options List - http://h18002.www1.hp.com/alphaserver/options/asds15/asds15_options.html -- for complete listing of supported options and configuration details. See option specific QuickSpecs for complete list of country specific SKUs.	
	DLT8000 tabletop 40/80-GB DLT external tape drive, carbon black – U.S.	146197-B23
	Same as above – Japan	146197-293
	SDLT tabletop 110/220-GB external tape drive, carbon black – 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 – U.S.	257319-001
	Same as above – International	257319-B31
	Same as above – Japan	257319-291
	SDLT 320 Universal Drive – U.S.	257319-002
	Same as above – International	257319-B32
	Same as above – Japan	257319-292
	DLT 40/80-GB VS 80 half-height external tape drive (337699-B22)	3R-A4982-AA
	DLT 40/80-GB VS 80 half-height external tape drive, International (337699-B31)	3R-A4984-AA
	DLT 40/80-GB VS 80 half-height external tape drive, Japan (337699-291)	3R-A4983-AA
Ultrium Tabletop Tape Drives	Ultrium 460 tabletop tape drive, two per system, two per SCSI bus, U.S.	Q1519A
	Supported with 3X-KZPEA-xx, KZPCA-xx, and DEPVZ SCSI adapters only.	
	Ultrium 460 tape drives are cluster-friendly devices, but cannot be shared by cluster members.	
	Tru64 UNIX V5.1A requires Patch Kit 4 and NHD7	
	Tru64 UNIX V5.1B requires NHD7	
	Minimum version of OpenVMS V7.3-1 plus TIMA kit	
	Please see Supported Options List for more details.	
	Ultrium 460 tabletop tape drive, same as above, International	Q1520A
DLT/SDLT Tape Libraries	Rackmount kit for H9Axx M-Series cabinets - required for mounting MSL5000 series in M-Series cabinets	254795-001
	MSL5026DLX or MSL5026SL, DLT/SDLT rackmount library, 0 drives - requires rackmount kit (254795-001)	231979-B21
	MSL5026S2, SDLT2 tabletop library with one 160/320-GB SDLT tape drive, LVD	293473-B21

Options

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
MSL6026, SDLT rackmount library with one 160/320-GB SDLT tape drive	330825-B21
MSL6026, SDLT rackmount library with two 160/320-GB SDLT tape drives	330825-B22
MSL6052, SDLT 160/320-GB Achel 2 to 4 drive 26/52 Cartridge	330694-B21
MSL6052, SDLT 160/320-GB Achel 2 to 4 drive 26/52 Cartridge	330694-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 drives, LVD	293474-B21
MSL5052S2, SDLT2 rackmount library with two 160/320-GB SDLT tape drives with Fibre Channel, LVD	293474-B24
MSL6030 LTO Ultrium 460, 30 cartridge 5U, with 0 drives, rackmount LVD	330731-B21
MSL6030 LTO Ultrium 460, 30 cartridge 5U, with one drives, rackmount LVD	330731-B22
MSL6030 LTO Ultrium 460, 30 cartridge 5U, with one drive, tabletop LVD	330788-B21
MSL6030 LTO Ultrium 460, 30 cartridge 5U, with two drives, tabletop LVD	330788-B22
MSL6060 LTO Ultrium 460, 60 cartridge 10U, with two drives, tabletop LVD	331195-B21
MSL6060 LTO Ultrium 460, 60 cartridge 10U, with two drives, rackmount LVD	331196-B21
MSL6060 LTO Ultrium 460, 60 cartridge 10U, with two drives, rackmount Fibre	331196-B22

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 DAT devices, or two DLT/SDLT devices with 3U Rackmount Tape Drive Enclosure (274338-B21), or select preconfigured configurations listed below	
DAT 20/40-GB 3U tape drive, carbon black (157769-B22)	3R-A3752-AA
DLT8000 40/80-GB tape drive	146196-B22
SDLT 110/220-GB tape drive	192106-B25
SDLT 160/320-GB tape drive, carbon black	257319-B21

Options

SureStore DAT 40x6i internal auto loader (supported in 274338-B21). See Supported Options List - http://h18002.www1.hp.com/alphaserver/options/asds15/asds15_options.html -- for complete listing of supported options and configuration details. See option specific QuickSpecs for complete list of country specific SKUs.	C5716A
DAT 72x6i internal auto loader (supported in 274338-B21). See Supported Options List - http://h18002.www1.hp.com/alphaserver/options/asds15/asds15_options.html -- for complete listing of supported options and configuration details. See option specific QuickSpecs for complete list of country specific SKUs.	Q1566A
Ultrium 460 tape drive, requires 3X-KZPEA-xx, KZPCA-xx, or DEPVZ SCSI adapter, carbon black; Tru64 UNIX V5.1A requires Patch Kit 4 and NHD7, Tru64 UNIX V5.1B requires NHD 7; OpenVMS support: minimum V7.3-1 plus TIMA kit. Supported in a cluster environment, but cannot be used for a Cluster Interconnect. See supported options listing for more details.	
Preconfigured Configurations	Q1518A
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, carbon black	146196-B22
SDLT 110/220-GB tape drive, carbon black	192106-B25
SDLT 160/320-GB tape drive, 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

Modular Data Routers/ Network Storage Routers

The following Modular Data Routers are supported with MSL5000 or ESL9000 tape libraries:	
Two Fibre Channel x 4 LVD Data Router (262653-B21) NSR M2402	3R-A3740-AA
Two Fibre Channel x 4 HVD Data Router (262654-B21) NSR M2402	3R-A3741-AA
One Fibre Channel x 2 LVD Data Router (280823-B21) NSR N1200	3R-A3747-AA
Two Fibre Channel x 4 LVD Data Router (330839-B21) NSR E2400-160	3R-A4743-AA
One Fibre Channel x 2 LVD Data Router NSR E1200-160	330728-B21
One Fibre Channel x 2 LVD Data Router NSR E1200-160	330728-B22

Options

Storage Controllers/Host Bus Adapters for StorageWorks Pedestals and Shelves

- Each storage controller/adaptor uses one PCI slot

	Maximum # Supported		
	Tru64 UNIX	OpenVMS	
PCI-X 64-bit 144-MHz 2-GB StorageWorks Fibre Channel Host Bus Adapter - FCA2684 - single channel NOTE: For configuration details refer to the Supported Options List at http://h18002.www1.hp.com/alphaserver/options/asds15/asds15_options.html The following pointer also provides additional information regarding this FCA: http://h18006.www1.hp.com/products/storageworks/fca2684/index.html	2	2	DS-A5132-AA
PCI-X 64-bit 144-MHz 2-GB StorageWorks Fibre Channel Host Bus Adapter - FCA2684 - dual channel NOTE: For configuration details refer to the Supported Options List at http://h18002.www1.hp.com/alphaserver/options/asds15/asds15_options.html The following pointer also provides additional information regarding this FCA: http://h18006.www1.hp.com/products/storageworks/fca2684/index.html	2	2	DS-A5134-AA
Fibre Channel cable			BNGBX-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 68-pin HD male-to-VHDCI male UltraSCSI cable; required for each external UltraSCSI shelf attached to KZPCA-AA adapter	2	2	3X-KZPCA-AA BN38C-xx
PCI 2-channel LVD multi-mode Ultra3 SCSI adapter, VHDCI; requires use of Ultra160 SCSI cables. Ultra160 SCSI cables xx=02 for 6 feet, 03 for 12 feet, 04 for 24 feet	2	2	3X-KZPEA-DB 3X-BC56J-xx
PCI 1-port UltraSCSI differential adapter; includes external 68-pin HD connector; requires BN38C-xx cable (2-25 meters) to connect adapter to Differential UltraSCSI shelf or RAID controller. NOTE: Internal connection is not supported. 68-pin HD male-to-VHDCI male UltraSCSI cable; required for each external UltraSCSI shelf attached to KZPBA-CA/CB adapter	2	2	3X-KZPBA-CC BN38C-xx
PCI 2-port PCI to Ultra3, 64-bit, 66-MHz, LVD backplane RAID controller with 128-MB cache (uses one PCI slot); requires connection to DS-SL13R-xx or 3R-A4075-AA/3R-A4076-AA shelves. Requires use of Ultra160 SCSI cables. NOTE: Shared bus not supported under OpenVMS. OpenVMS host-based volume shadowing is supported with restrictions. See OpenVMS release notes. Connection to internal drives not supported; connection of RAID controllers directly to DS15 Internal Storage Cage or Front Access Storage Cage is not supported.	4	4	3X-KZPDC-BE

Options

PCI 4-port PCI to Ultra3, 64-bit, 66-MHz, LVD backplane RAID controller with 256-MB cache (uses one PCI slot); requires connection to DS-SL13R-xx or 3R-A4075-AA/3R-A4076-AA shelves. Requires use of Ultra160 SCSI cables. NOTE: Shared bus not supported under OpenVMS. OpenVMS host-based volume shadowing is supported with restrictions. See OpenVMS release notes. Connection to internal drives not supported; connection of RAID controllers directly to DS15 Internal Storage Cage or Front Access Storage Cage is not supported.	4	4	3X-KZPDC-DF
Ultra160 SCSI cables xx=02 for 6 feet, 03 for 12 feet, 04 for 24 feet			3X-BC56J-xx
PCI-to-10/100 MBPS Ethernet, graphics, LVD SCSI combination adapter NOTE: Attaching UltraSCSI disks to a bus segment that contains devices both internal and external to the system unit is not supported.	1	1	3X-DEPVZ-AA

NOTE: The DS-KZPCC-CE and DS-KZPCC-AC LVD RAID Controllers are NOT supported on the AlphaServer/AlphaStation DS15.

HP StorageWorks Enterprise Virtual Array 3000

The HP StorageWorks Enterprise Virtual Array 3000 (EVA3000) is the mid-range member of the HP StorageWorks virtual disk array enabled by VersaStor technology and serves the middle segment of the storage market.

EVA complements and extends the current Modular Array (MA8000) and Enterprise Modular Array (EMA12000 and EMA16000) HP StorageWorks solutions and can co-exist in the same 1-Gb Open Fibre Channel SAN networks, while providing 2-Gb end-to-end Fibre Channel technology in 2-Gb Open Fibre Channel SAN networks.

The EVA3000 is a full 2-Gb end-to-end Fibre Channel array that operates in 1-Gb, 2-Gb, or mixed (1-Gb and 2-Gb) Storage Area Network (SAN) fabrics and complements the current EVA5000 solutions. The EVA3000 is available in one of four integrated "Independent Bundle" configurations (each bundle includes one pair of HSV100 controllers, two FC drive enclosures, and 8 to 16 integrated FC hard drives -varied by bundle).

For further EVA3000 product information see:

<http://h18006.www1.hp.com/products/storageworks/eva3000/index.html>

See HP StorageWorks Enterprise Virtual Array 3000 QuickSpecs for configuration details:

http://h18000.www1.hp.com/products/quickspecs/11619_div/11619_div.HTML

HP StorageWorks Enterprise Virtual Array 5000

Options

The HP StorageWorks Enterprise Virtual Array 5000 (EVA5000) is the high-end member of the HP StorageWorks virtual disk array enabled by VersaStor technology and serves the upper-end of the enterprise marketplace. EVA complements and extends the current Modular Array (MA8000) and Enterprise Modular Array (EMA12000 and EMA16000) HP StorageWorks solutions and can co-exist in the same 1 Gb Open Fibre Channel SAN networks, while providing 2-Gb end-to-end Fibre Channel technology in 2-Gb Open Fibre Channel SAN networks.

The general-purpose EVA5000 product is available with two pre-defined configurations with controllers and two expansion configurations without controllers in 42U graphite cabinets for commercial environments. The pre-defined 8C8D configuration is available in a 42U cabinet for high performance technical computing environments.

For further EVA 5000 product information see

<http://h18006.www1.hp.com/products/storageworks/enterprise/index.html>

See HP StorageWorks Enterprise Virtual Array 5000 QuickSpecs for configuration details:

http://h18000.www1.hp.com/products/quickspecs/11006_div/11006_div.HTML

MSA1000 Modular SAN Array

MSA1000 StorageWorks Modular SAN Array. For configuration details see

<http://h18002.www1.hp.com/alphaserver/products/storage/index.html>.

NOTE: Requires M-Series Rack Kit.

M-series Rack Kit

201723-B22

313877-B21

3R-A5281-AA

StorageWorks Fibre Channel Switches

HP supports three product lines of Fibre Channel switch products that may be used to build SAN fabrics. Each product line provides certain advantages that apply to specific applications. For more information on specific switch models and selection, please refer to Chapter 2 in the SAN Design Guidelines:

<http://www.hp.com/go/SANDesignGuide>

The B-Series product line includes a wide range of Fibre Channel switches, described as "SAN switches" and "Core switches." Products in this family include switches from the HP StorageWorks SAN Switch 2/16 to the HP StorageWorks Core Switch 2/64. This product line includes switches with 8, 16, 32, and 64 ports, including both full-function and entry-level models. The HP StorageWorks Core Switch 2/64 includes a pair of independent 64-port switches in a single chassis with a high level internal redundancy.

The C-Series product line includes the Cisco MDS 9506 and 9509 Multilayer Directors and the Cisco MDS 9216, 9120, and 9140 Multilayer Fabric Switches. The MDS 9506 is supported with 224 ports, over seven modular chassis consisting of both 16-port and 32-port modules. The MDS 9506 is supported with 128 ports, over four modular chassis consisting of both 16 port and 32 port modules. The MDS 9216 has a basic configuration with 16 ports. It has an expansion slot that supports either a 16- or a 32-port card, for 32 or 48 ports in total.

The M-Series Fabric product line includes a wide range of Fibre Channel switches described as "Directors" and "Edge switches." A partial list of products in this family includes the HP StorageWorks Director 2/140 and the HP StorageWorks Edge Switch 2/32. This product line includes switches with 16, 24, 32, 64, and 140 ports internal microcode. The HP StorageWorks Director 2/64 and 2/140 switches have a high level of internal redundancy.

Options

For part number and configuration information, see the SAN infrastructure switch information at <http://www.hp.com/go/san>
Also, See Supported Options List at --
http://www.compaq.com/alphaserver/options/asds10/asds10_options.html -- for complete listing of supported options and configuration details.

Fibre Channel Disk Drives	72-GB 10K rpm dual-port 2-Gb/sec FC-AL 1-inch (25.4mm) drive (238921-B21)	3R-A3260-AA
	36-GB 15K rpm dual-port 2-Gb/sec FC-AL 1-inch (25.4mm) drive (236205B21)	3R-A3210-AA
	72-GB 15K rpm dual-port 2-Gb/sec FC-AL 1-inch (25.4mm) drive (293568-B21)	3R-A3971-AA
	146-GB 10K rpm dual-port 2-Gb/sec FC-AL 1-inch (25.4mm) drive (293556-B21)	3R-A3975-AA

StorageWorks Universal Drive Shelves - Model 4314R (Ultra3)	StorageWorks Model 4314R Ultra3 SCSI (LVD) single bus, Universal drive rackmount shelf, North America and International, except Japan	DS-SL13R-AA
	Same as above, Japan	DS-SL13R-AJ

StorageWorks Universal Drive Shelves - Model 4354R (Ultra3)	StorageWorks Model 4354R Ultra3 SCSI (LVD), dual bus, Universal drive rackmount shelf, North America and International, except Japan	DS-SL13R-BA
	Same as above, Japan	DS-SL13R-BJ

StorageWorks Modular Smart Array 30 (MSA30) (Ultra320)	NOTE: The following enclosures require M-series Rack Kit (313877-B21)	
	StorageWorks Modular Smart Array SW4414R Single Bus Ultra320 Rackmountable SCSI Disk Drive 4-node Storage Enclosure (302969-B21). See Systems and Options Listing for configuration details.	3R-A4075-AA
	StorageWorks Modular Smart Array SW4454R Dual Bus Ultra320 Rackmountable SCSI Disk Drive 4-node Storage Enclosure (302970-B21).	3R-A4076-AA
	For configuration details before ordering, see Supported Options List http://h18002.www1.hp.com/alphaserver/options/asds15/asds15_options.html -for complete listing of supported options and configuration details. See option specific QuickSpecs for complete list of country specific SKUs.	
	M-series Rack Kit	313877-B21 3R-A5281-AA

NOTE: 3R-A4075-AA and 3R-A4076-AA are not supported in a shared-SCSI cluster using the 3X-KZPEA-DB.

StorageWorks Universal Drive Shelves - Model 4314T (Ultra3)	StorageWorks Model 4314T, Ultra3, Universal Drive Shelves Single Bus, Tower, U.S. (190210-001)	DS-SL13T-AA
	StorageWorks Model 4314T, Ultra3, Universal Drive Shelves Single Bus, Tower, International (190210-B31)	DS-SL13T-AB
	StorageWorks Model 4314T, Ultra3, Universal Drive Shelves Single Bus, Tower, Japan (190210-291)	DS-SL13T-AJ

StorageWorks Universal Drive Shelves - Model 4200 to Model 4300 Upgrade I/O Modules	StorageWorks Model 4300 Ultra160 single-port LVD I/O Module (190212-B21)	DS-SE3ZJ-DA
	StorageWorks Model 4300 Ultra160 dual-port LVD I/O Module (190213-B21)	DS-SE3ZJ-SA

Options

System Disk Drives (Supported in Model 4314R, 4314T, 4354R, or MSA30 Universal Drive Shelves)	36.4-GB Ultra320 SCSI 15,000 rpm 1-inch Universal disk drive	3R-A3849-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
	146-GB Ultra320 SCSI 15,000 rpm 1-inch Universal disk drive	3R-A4945-AA
	300-GB Ultra320 SCSI 10,000 rpm 1-inch Universal disk drive	3R-A4952-AA

Step 10 - UltraSCSI RAID Array Controllers and UltraSCSI RAID Packaged Solutions – Optional

StorageWorks Disk Array Family	NOTE: The HP StorageWorks Disk Array Family, specifically the XP128 and XP1024, are now supported on AlphaServer DS15 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 11 - Networks and Communications – Optional

- Reference individual product information for operating system support.
- 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

	Maximum # Supported		
	Tru64 UNIX	OpenVMS	
Ethernet 10/100			
Single-port 100Mbps (MMF/duplex-SC) add-on daughter card for use with 3X-DE602-BB. The combined 3X-DE602-BB 3X-DE602-FA provides two 10/100 (UTP/RJ45s) and one 100Mbps (MMF/SC) ports in a single PCI slot option. Maximum two per system, maximum ten 10/100 Ethernet ports supported per system. Use BN34A or BN34B cables. NOTE: The 3X-DE602-TA cannot be used standalone. NOTE: Two 10/100 Ethernet ports included with DS15 system.	2	2	3X-DE602-FA
PCI (32-/64-bit, 33-/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 two per system, maximum ten 10/100 Ethernet ports per system. Use BN25G, BN26M, BN24Q, or BN28Q twisted pair RJ45 cables. NOTE: Two 10/100 Ethernet ports included with DS15 system.	2	2	3X-DE602-BB

Options

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 two per system, maximum ten 10/100 Ethernet ports per system. Use BN25G, BN26M, BN24Q, or BN28Q twisted pair RJ45 cables. NOTE: The 3X-DE602-TA cannot be used standalone. NOTE: Two 10/100 Ethernet ports included with DS15 system.	2	2	3X-DE602-TA
Cable for 10BaseT twisted pair connection			BN25G-xx
PCI-to-10/100 MBPS Ethernet, graphics, LVD SCSI combination adapter	1	1	3X-DEPVZ-AA
Gigabit Ethernet			
1-port PCI-X/PCI to MMF Gbe NIC	2	2	3X-DEGXA-SB
1-port PCI-X/PCI to 10/100/1000 UTP Ethernet NIC	2	2	3X-DEGXA-TB
FDDI			
PCI (32-bit, 33-MHz) to FDDI SAS (MMF/duplex-SC) NIC. Use BN34A, BN34B, or BN34D cables.	2	2	3X-DEFPA-AC
PCI (32-bit, 33-MHz) to FDDI DAS (MMF/duplex-SC) NIC. Use BN34A, BN34B, or BN34D cables.	2	2	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	2	2	BN34D-xx
PCI (32-bit, 33-MHz) to FDDI SAS (UTP/RJ45) NIC. Use BN25G, BN26M, BN24Q, or BN28Q twisted pair RJ45 cables.	2	2	3X-DEFPA-UC
PCI (32-bit, 33-MHz) to FDDI DAS (UTP/RJ45s) NIC. Use BN25G, BN26M, BN24Q, or BN28Q twisted pair RJ45 cables.	2	2	3X-DEFPA-MC
ATM			
PCI (32-bit, 33-MHz) to 155 Mbps ATM fiber NIC with SC connector. Use BN34B-xx cable.	2	2	3X-DAPBA-FA
Asynchronous Communications (ASYNC)			
PCI (32-bit, 33-MHz) to quad-port Async Communications NIC with DB-25 octopus cable	2	2	PBXDA-BA
PCI (32-bit, 33-MHz) to 8-port Async Communications NIC with DB-25 octopus cables	2	2	PBXDA-BB
PCI 16-port asynchronous controller, cable included; maximum three PBXDA-Ax per system	2	2	PBXDA-AC
PBXDA-AC Asynchronous Connector Adapters			
RJ45 to DB-25 converter cable			CXI01-AC
RJ45 to DEC MJ11 converter cable (8 pack)			CXI01-AF
Synchronous Communications (SYNC)			

Options

PCI (32-bit, 33-MHz) to dual-port intelligent synchronous communications NIC. Requires at least one (maximum two) BN34x synchronous cable listed below.	2	2	3X-PBXDD-AA
PCI (32-bit, 33-MHz) to quad-port intelligent synchronous communications NIC. Requires at least one (maximum four) BN34x synchronous cable listed below.	2	2	3X-PBXDD-AB

Synchronous-Specific Cables		
EIA-530 single-port cable		3X-BC34G-06
V.24/EIA-232 single-port cable		3X-BC34L-06
V.11/x.21 single-port cable		3X-BC33S-06
V.35 single-port cable		3X-BC34T-06
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

Options

Step 12 - 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
- Media kit (comes with RADEON 7500 card) for Tru64 UNIX (QA-62RAA-H8) and for OpenVMS (QA-62PAA-H8)

	Maximum # Supported		
	Tru64 UNIX	OpenVMS	
ATI RADEON 7500 64-MB PCI 2D/3D Graphics Accelerator NOTE: Only RADEON 7500 PCI cards can be used in a multi-card environment. For multi-head support, refer to Read Me First document/Release Notes.	4 - (2D only) 1 - 3D Dual head on first card only (unique video using DVI port for 2D or 3D) V5.1B NHD-7	4 - 2D/3D Dual head on first card only (cloned video using DVI port for 2D or 3D) V7.3-1 with Tima Kit: DEC-AXPVMS-VMS731_GRAPHICS-V0300-4.PCSI	3X-PBXGG-AA
Tru64 UNIX Open 3D license for RADEON 7500 (required for 3D functionality)			QL-6ZRA9-AA
OpenVMS Open 3D 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-to-10/100 MBPS Ethernet, graphics, LVD SCSI combination adapter NOTE: Multi-head graphics not supported.	1	1	3X-DEPVZ-AA

Step 13 - Monitors

- Graphics monitors other than those listed can be used if compatible with SVGA graphics ordered with system
- A video cable, 6-foot/1.8-meter length, is included with all variants of monitors
- Video extension cable required if monitor is located more than 1 meter from server
- Monitors will ship with, but not be integrated with systems.

Options

CRT Monitors

S7500 17-inch (16-inch viewable image size) 0.24mm FST multi-frequency color monitor, 2-tone (carbon/silver), VGA to 1024 x 768 @85 Hz, MPRII/TCO 99/Energy Star Compliant, Northern Hemisphere with NA power cord, VGA cable	3R-A5227-AA
Same as above, with Euro power cord	3R-A5228-AA
Same as above, Taiwan, NA power cord	3R-A5229-AA
Same as above, with PRC power cord, CCIB	3R-A4800-AA
V7550 17-inch (16-inch viewable image size) flat-faced shadow mask color monitor, 2-tone (carbon/silver), 0.25-mm dot pitch, VGA to 1024 x 768 @85 Hz, MPRII/TCO 99/Energy Star Compliant, Southern Hemisphere with Australia/New Zealand power cord, VGA cable	3R-A4203-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 NA power cord, VGA cable	3R-A4215-AA
Same as above, with Euro power cord	3R-A4391-AA
Same as above, Taiwan, with NA 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), 0.22-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 NA power cord, VGA cable	3R-A4216-AA
Same as above, with Euro power cord	3R-A4396-AA
Same as above, Taiwan, NA 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

Options

Flat Panel Monitors	L2035 20" (20.1" viewable image area) flat panel monitor 0.255mm pixel pitch, 1600 x 1200 @60 Hz, A + D, TCO 03, Energy Star compliant, 4 video input connectors, (VGA, DVI-I, composite video and s-video), NA power cord, VGA and DVI-I cables	3R-A5056-AA
	L2035 20" (20.1" viewable image area) flat panel monitor 0.255mm pixel pitch, 1600 x 1200 @60 Hz, A + D, TCO 03, Energy Star compliant, 4 video input connectors, (VGA, DVI-I, composite video and s-video), Euro power cord, VGA and DVI-I cables	3R-A5057-AA
	L1955, 19" (19" viewable image size) TFT flat panel monitor, 0.294mm pixel pitch, 1280 x 1024 @60Hz, multi-mode support, MPRII/TCO 03/Energy Star compliant, one VGA, one DVI-I input connector. NA power cord, VGA and DVI-D cables	3R-A5713-AA
	L1955, 19" (19" viewable image size) TFT flat panel monitor, 0.294mm pixel pitch, 1280 x 1024 @60Hz, multi-mode support, MPRII/TCO 03/Energy Star compliant, one VGA, one DVI-I input connector. Euro power cord, VGA and DVI-D cables	3R-A5714-AA
	L1530, 15." (15" 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), NA power cord, VGA and DVI-I cables	3R-A4857-AA
	L1530, 15." (15" 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
Flat Panel Monitor – Rack Mountable	TFT7210R 17" (17" viewable image area) 1U rack-mount flat panel display, 0.264mm pixel pitch, 1280 x 1024 @60/75 Hz, high and low voltage power cords, worldwide	3R-A5187-AA
Video Extension Cable	6-foot/1.8-meter video extension cable optional	BN39C-02
Monitor Power Cords	North American, 120 V, 75-inch	BN26J-1K
	Australia, New Zealand, 2.5-meter (8121-0838)	3R-A6023-AA
	Central Europe, 2.5-meter	BN19C-2E
	Denmark, 2.5-meter	BN19K-2E
	Egypt, India, South Africa, 2.5-meter	BN19S-2E
	Israel, 2.5-meter	BN18L-2E
	Italy, 2.5-meter	BN19M-2E
	Japan, 2.5-meter, Dentori approved	3X-BN46F-02
	Switzerland, 2.5-meter	BN19E-2E
	UK, Ireland, 2.5-meter	BN19A-2E

Keyboards - Optional

- Select a keyboard and mouse
- All keyboards listed may not be available in all geographies
- Select an opal OpenVMS keyboard for use with VT5xx text terminals.

Options

	Opal	Carbon	
Keyboard/Language	OpenVMS	Tru64 UNIX	OpenVMS*
U.S. keyboard	LK461-A2	3R-A4362-AA	3X-LK463-A2
Arabic keyboard	-	3R-A4348-AA	-
Belgian keyboard	LK461-AB	3R-A4349-AA	3X-LK463-AB
BHCSY keyboard	-	3R-A4350-AA	-
Canadian/English keyboard	LK461-AQ	-	3X-LK463-AQ
Canadian/French keyboard	LK461-AC	3R-A4351-AA	3X-LK463-AC
Cyrillic keyboard (Russian)	LK461-BT	3R-A4352-AA	3X-LK463-BT
Czech keyboard	LK461-BV	3R-A4353-AA	3X-LK463-BV
Danish keyboard	LK461-AD	3R-A4354-AA	3X-LK463-AD
Dutch keyboard	LK461-AH	3R-A4355-AA	3X-LK463-AH
Finnish keyboard	LK461-AF	3R-A4356-AA	3X-LK463-AF
French keyboard	LK461-AP	3R-A4357-AA	3X-LK463-AP
German keyboard	LK461-AG	3R-A4358-AA	3X-LK463-AG
Greek keyboard	LK461-BH	3R-A4359-AA	3X-LK463-BH
Hebrew keyboard	LK461-AT	3R-A4360-AA	3X-LK463-AT
Hungarian keyboard	LK461-BQ	3R-A4361-AA	3X-LK463-BQ
International keyboard	-	3R-A4362-AA	-
Italian keyboard	LK461-AI	3R-A4363-AA	3X-LK463-AI
Japanese keyboard	-	3R-A4364-AA	-
Korean keyboard	-	3R-A4365-AA	-
Latin-American keyboard	-	3R-A4366-AA	-

Norwegian keyboard	LK461-AN	3R-A4367-AA	3X-LK463-AN
Polish keyboard	LK461-BP	3R-A4368-AA	3X-LK463-BP
Portuguese keyboard	LK461-AV	3R-A4369-AA	3X-LK463-AV
Romanian keyboard	LK461-BL	-	3X-LK463-BL
Simplified Chinese keyboard	-	3R-A5358-AA	-
Slovak keyboard	LK461-CZ	3R-A4371-AA	3X-LK463-CZ
Spanish keyboard	LK461-AS	3R-A4372-AA	3X-LK463-AS
Swedish keyboard	LK461-AM	3R-A4373-AA	3X-LK463-AM
Swiss/French keyboard	LK461-AK	3R-A4374-AA	3X-LK463-AK
Swiss/German keyboard	LK461-AL	-	3X-LK463-AL
Traditional Chinese keyboard	-	3R-A4375-AA	-
Thai keyboard	-	3R-A4376-AA	-
Turkish Q keyboard	LK461-BU	3R-A4377-AA	3X-LK463-BU
Turkish/F keyboard	LK461-BW	-	3X-LK463-BW
UK keyboard	-	3R-A4378-AA	3X-LK463-A2
Yugoslavian keyboard	LK461-BY	-	3X-LK463-BY

Options

*OpenVMS keyboard (3X-LK463-xx) comes with PS/2 and USB connectors

Keyboard or Mouse Extension Cable	6-foot/1.8-meter keyboard or mouse extension cable; to extend both keyboard and mouse order two cables	3X-BC34A-06
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Mouse	3-button mouse - carbon	3R-A5676-AA
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Console Terminal

- 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 keyboard, H8575-x adapter, and BC16E-x cable	VT510-xx
Console cable, female connector (25-pin passive adapter)	H8575-A
Console cable, male connector (adapter with EOS, ESD, 25 POS D-SUB)	H8575-D

Step 14 - MEMORY CHANNEL – Optional

Tru64 UNIX Systems	Requires Tru64 UNIX V5.0A or later and either TruCluster Server license (QL-6BRAC-AA) or TruCluster Plus Software Package (QP-6R9AC-AA).
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OpenVMS Systems	Requires OpenVMS V7.1-2 or later and OpenVMS Cluster license (QL-MUZAC-AA).
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Configuring Information	- Up to two PCI-to-System Area Network adapters (CCMAB-BA) are supported in a single system. - Two-node clusters can be configured by ordering a CCMAB-BA for each node and one BN39B-04 or BN39B-10 cable; cable connects directly to CCMAB-BA in each node. - For a two-node cluster that will not need to be rebooted when adding additional members, order one CCMAB-BA adapter and one BN39B-04 or BN39B-10 cable for each node, and one CCMHB-AA hub for the cluster. - For three- or four- node clusters, order one CCMAB-BA adapter and one BN39B-04 or BN39B-10 cable for each node, and one CCMHB-AA hub for the cluster. - Up to two PCI-to-System Area Network adapters (CCMAB-BA) are supported in a single system. - Two-node clusters can be configured by ordering a CCMAB-BA for each node and one BN39B-04 or BN39B-10 cable; cable connects directly to CCMAB-BA in each node. - For a two-node cluster that will not need to be rebooted when adding additional members, order one CCMAB-BA adapter and one BN39B-04 or BN39B-10 cable for each node, and one CCMHB-AA hub for the cluster. - For three- or four- node clusters, order one CCMAB-BA adapter and one BN39B-04 or BN39B-10 cable for each node, and one CCMHB-AA hub for the
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Options

cluster.

- CCMHB-AA includes four CCMLB-AA line cards and supports up to four nodes; expansion up to eight system nodes can be achieved by adding up to four CCMLB-AA line cards.
- If two CCMAB-AAs are configured in each system, a second CCMHB-AA is required for greater than 2 node configurations.
- If nodes must be separated by a distance longer than standard copper cables allow the CCMFB option converts the output of the standard CCMAB controller or CCMLB line card to single-mode fiber optic cable. The fiber optic connection may be up to 2,000 meters long between two CCMAB controllers connected in virtual hub mode, or 3,000 meters between a CCMAB controller and a CCMHB hub. (The connection from the CCMHB hub to a second system may also be 3,000 meters.) The CCMFB option requires a second PCI slot in the system from which it draws power only. It is normally connected to the prerequisite CCMAB controller with the short BN39B-01 cable provided with the CCMFB. The CCMFB is also used in the CCMHB hub where it occupies a slot normally used by the CCMLB line card, limiting expansion to four radial fiber optic connections.
- CCMHB-BA hub does not contain any line cards and can be used to plug in up to eight CCMFB fiber optic converters. Two standard length single-mode fiber optic cables are available (BN34R-10 and BN34R-31); however, users normally provide this fiber optic connection. Fiber optic connectivity is completely transparent to the systems using it and has no performance impact.
- For integration of MEMORY CHANNEL hubs into cabinet configurations, a rackmount kit (2T-MAVRK-AA) and power cord (BN35S-02) are required.
- Please refer to Systems and Options Listing at - http://h18002.www1.hp.com/alphaserver/options/asds15/asds15_options.html or additional configuration information and restrictions.

MEMORY CHANNEL Controller

PCI System Area Network Controller, maximum two	CCMAB-BA
System Area Network Hub with four line cards; includes BN19P-2E power cord for Canada, Japan, and U.S. operations- for other regions, order appropriate power cord from list below	CCMHB-AA
Hub expansion box with no line cards	CCMHB-BA
Expansion line card for CCMHB hub	CCMLB-AA
1-meter cable for CCMAB and CCMHB	BN39B-01
4-meter cable for CCMAB and CCMHB	BN39B-04
10-meter cable for CCMAB and CCMHB	BN39B-10
Copper-to-single mode fiber optic converter - requires BN34R-xx fiber optic connection	CCMFB-BA
Rackmount kit for CCMHB hub	2T-MAVRK-AA
Power cord for rackmount CCMHB hub	BN35S-02

MEMORY CHANNEL Power Cords

Australia, New Zealand	3R-A6023-AA
Central Europe	BN19C-2E
Denmark (103541-481)	BN19K-2E
Egypt, India (103541-AR1)	BN19S-2E
Ireland, United Kingdom	BN19A-2E
Israel	BN18L-2E

Options

Italy (103541-461)

BN19M-2E

Switzerland (103541-511)

BN19E-2E

Step 15 - Floor Stand

Floor Stand

Floor Stand for AlphaServer/AlphaStation DS15

3X-BA73P-BB

Step 16 - Software – Required Selection of Media and Documentation for First System on Site

Tru64 UNIX

- Software processor code = E
- AlphaServer DS15 Tru64 UNIX systems include Base license, Unlimited User license, Server Extension license, Internet Express, and Secure Web Server
- AlphaStation DS15 Tru64 UNIX systems include 2-user Base license

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

- AlphaServer DS15 OpenVMS systems include Base license with System Manager license and Hewlett-Packard Enterprise Integration Server License Package for OpenVMS
- AlphaStation DS15 OpenVMS systems include Base license, Concurrent Use 1-user license, and NAS 150 Client license
- Hewlett-Packard Enterprise Integration Package includes licenses for TCP/IP Services for OpenVMS, DECwindows Motif for OpenVMS Alpha, DECnet-Plus for OpenVMS Alpha End System, Archive/Backup System for OpenVMS Management Tools, Archive/Backup Agent for Windows NT, Office Server for OpenVMS, PATHWORKS 32, Advanced Server/PATHWORKS for OpenVMS and Office Server Client Access License

Separately Orderable Software Offerings include:

OpenVMS media and online documentation 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

Step 17 - Hardware and Software Support Services

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.

Options

HP Care Pack Services

- HP Care Pack Services are available for AlphaServer/AlphaStation 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 warranty with coverage for both Principal servers/stations and SSPs (Subsequent System Packages) - that meet a full range of customer support requirements.

Program Features – Principal Server/Station

HP Support Plus

- HP Support Plus offers combined hardware and software services in one package, providing support during standard HP office hours.

HP Support Plus 24

- HP Support Plus 24 offers combined hardware and software services in one package to help enhance the availability and performance of your IT infrastructure 24x7.

HP Proactive 24

- HP Proactive 24 (P24) is a combined hardware and software support solution designed to help you get more from your IT investment. P24 improves the effectiveness, performance, and availability of the technologies in your IT infrastructure.

HP Critical Service

- HP Critical Service (CS) is a comprehensive hardware and software support solution, designed for organizations running business critical applications. CS provides a combination of proactive and reactive services for mission critical environments with little or no tolerance for downtime.

Program Features – Additional Services

SSPs (Subsequent System Packages)

- For HP Care Pack Support Plus and Support Plus 24
- HW Support at same level as corresponding package for Principal server/station
- License Subscription: HP O/S (where applicable)
- Telephone support through Principal server/station covered by full support package

Installation

- Pre-installation review
 - Unpacking of equipment
 - Assemble and test
 - Basic product usage info
 - No software installation added
-

Options

Installation & Startup HP O/S

- Pre-installation review
- Unpacking of equipment
- Assemble and test
- Basic product usage info
- Install operating systems
- Product configuration
- Print and network access
- Orientation

HP Care Pack Services for AlphaServer/AlphaStation DS15 Systems (sold via legacy Order Management System)				
Model/HP Care Pack Services	Principal Server/Station 1 year	Principal Server/Station 3 years	Subsequent Systems 1 year	Subsequent Systems 3 years
HP Support Plus	FP-A01CA-12	FP-A01CA-36	FP-A21CA-12	FP-A21CA-36
HP Support Plus 24	FP-A02CA -12	FP-A02CA-36	FP-A22CA-12	FP-A22CA-36
Installation	FP-AINST-CA	FP-AINST-CA	FP-AINST-CA	FP-AINST-CA
Installation & Startup	FP-ASTAR-CA	FP-ASTAR-CA	FP-ASTAR-CA	FP-ASTAR-CA
HP Care Pack Services for AlphaServer/AlphaStation DS15 Systems (sold via Fusion Order Management System)				
	1-year Package ID#	Option ID#	3-year Package ID#	Option ID#
HP Support Plus	HA109A1	6HP	HA109A3	6HP
HP Support Plus 24	HA110A1	6HP	HA110A3	6HP
HP Proactive 24	HA111A1	6HP	HA111A3	6HP
HP Critical Service	HA112A1	6HP	HA112A3	6HP

NOTES:

- AlphaServer/AlphaStation DS15 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 and AlphaStations, consult your Sales Account Manager, HP Services Principal, or visit <http://www.hp.com/hps/> NOTE: This Web site is available in English only.

Technical Specifications

Physical Characteristics	Dimensions (H x W x D)	5.1 x 17.6 x 19 in (13 x 45 x 48 cm)		
	Weight (maximum)	36 lb (16.3 kg)		

Cabinets		H9A10 M-Series	H9A15 M-Series	Series 10000 Rack (10642)
	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)	78.7 x 24 x 39.69 in (199.9 x 60.96 x 100.82 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)	86.22 x 32 x 48 in (219 x 81.28 x 121.92 cm)
	Weight	280 lb (126 kg)	313 lb (142 kg)	253 lb (114.84 kg)
	Shipping Weight	354 lb (159.3 kg)	369 lb (167.4 kg)	284 lb (129 kg)
	Loading Capacity	1,408 lb (640 kg) (maximum)	1,408 lb (640 kg) (maximum)	2,000 lb (909.1 kg)

System Unit

Environmental		
Temperature	Operating (Tower, Rackmount)	50° to 104° F (10° to 40° C)
	NOTE: Maximum operating temperature at sea level. Reduce by 1.8° F (1° C) for each 2,000 ft (660 m) above sea level.	
Humidity	Non-operating	–40° to 151° F (–40° to 66° C)
	Operating	10% to 95%
	Non-operating	20% to 80%
Heat Dissipation	Single unit = 176 Watts = 601 BTU/Hr	
	Rack of 12 systems = 2112 Watts = ~7,212 BTU/Hr	
Typical System	AlphaServer DS15 1 GHz	
	Power Supply, 400W	
	Main logic board containing Alpha CPU, 21264C, 1 GHz	
	Main memory = 1 GB	
	(3) Hard disk drive	
	(1) DVD/CD-RW drive	
	(1) PCI Graphics Card	
	Running system exerciser during the power measurement.	
	Measured Input Voltage = 116 VAC RMS @ 60Hz	
	Measured Input Current = 2.27 Amps RMS	
Measured Input Power = 176 Watts		
Altitude (unpressurized)	Operating	10,000 ft (3,048 m)
	Non-operating	40,000 ft (12,192 m)
NOTE: Higher altitudes are possible if maximum operating temperature is reduced.		
Electrical	(Power supplies are universal, PFC, auto ranging, 100/240 VAC)	

Technical Specifications

Nominal Voltage (VAC)	100 to 120 VAC/220 VAC
Operating Voltage Range (VAC) (temporary condition)	90 to 128 VAC/180 to 265 VAC
Power Source Phase	Single/Single
Nominal Frequency (Hz)	60 Hz/50 Hz
Frequency Range (Hz)	59 to 61 Hz /49 to 51 Hz
Maximum Inrush Current	11 amps/22 amps
Power Supply (single cordset)	3.5 amps/1.7 amps

Acoustics (Declared values per ISO 9296 and ISO 7779)

AlphaServer DS15 with one or two HDD		LWAdB	LpAm, dBA (Operator position)	LpAm, dBA (Bystander Position)
	Idle	5.6	49	39
	Operating	5.7	50	40
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 B 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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