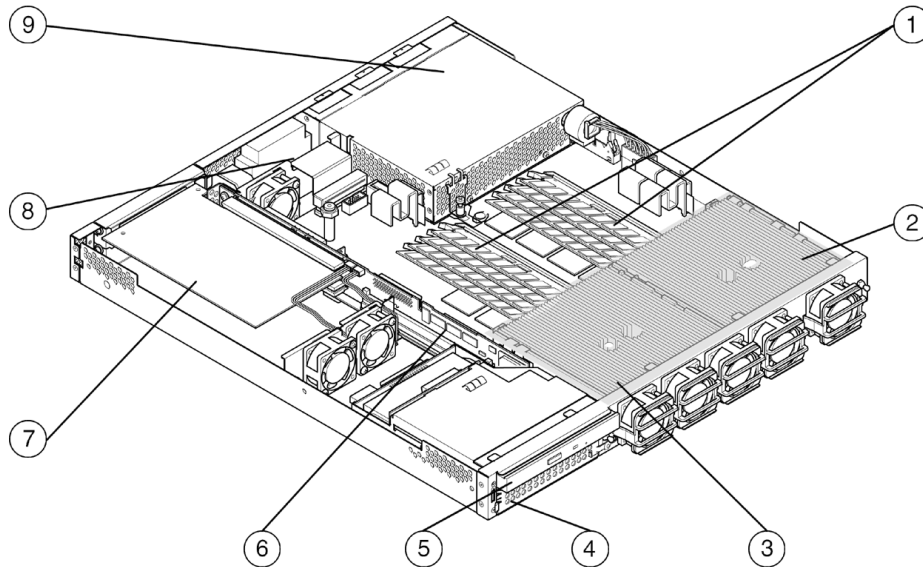


Overview



1. Memory DIMMs
2. CPU 0
3. CPU 1
4. Hard Drive
5. CD-ROM (optional)

6. PCI Riser Card
7. PCI Options
8. I/O Daughter Card
9. Power Supply

At A Glance

AlphaServer DS20L 1U Systems include:

- 1U dual Alpha processor module with 833-MHz CPUs with 4-MB onboard cache per processor
- 512-MB, 1-GB or 2-GB SDRAM memory - 2-GB maximum memory capacity
- Onboard IDE controller for optional internal CD-ROM drive
- Onboard U160 SCSI adapter for optional internal disk drive
- Onboard dual 10/100 BaseT Ethernet ports
- Two 2/3-length 64-bit PCI expansion slots
- One 3.5-inch x 1-inch hard disk drive bay and optional CD-ROM drive
- Internal storage capacity up to 72.8 GB (SCSI)
- Integral remote system management console
- Two serial ports
- Bi-directional enhanced parallel port
- 425W (200-240V) power supply with auto-ranging AC input
- Tru64 UNIX 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.

Standard Features

Processor	Two Alpha 21264A 833-MHz processor; 4-MB onboard cache per processor	
Memory (Two Banks, Four DIMM Slots per Bank)	Standard	512 MB, 1 GB or 2 GB
	Maximum	2 GB (Two 1-GB memory kits - each kit includes four industry-standard DIMMs with ECC support)
Network Controller	Two onboard 10/100 BaseT Ethernet ports, each port connection is limited to a 25-meter cable length	
Expansion Slots	PCI slots	Two 2/3 length 64-bit slots, 33 MHz – accepts PCI cards up to 8.375-inches in length
	Storage bays	Two storage bays - one 3.5-inch x 1-inch hard disk drive bay and optional CD-ROM drive
Storage Controller	Onboard IDE controller for internal optional CD-ROM drive Onboard Ultra3 SCSI controller for internal storage, choice of optional storage controller	
Storage	CD-ROM	Optional
	Hard Drives	18.2-GB, 36.4-GB, and 72.8-GB Ultra160 disk drives
Expansion Ports	Parallel	One bi-directional enhanced port
	Serial	Two serial ports: COM1 port and COM 2 port are both full-duplex asynchronous communications ports
Form Factor	1U Rackmount (H x W x D) 1.75 x 17 x 20 in/4.44 x 43 x 50 cm, 21 lb/9.4 kg	
Power Supply	425W Power Supply	
Supported Options	A detailed summary of options supported on the AlphaServer DS20L is available at: http://h18002.www1.hp.com/alphaserver/options/asDS20L/asDS20L_options.html NOTE: This website is available in English only.	
OS Support	AlphaServer DS20L Tru64 UNIX systems include pre-installed software (V5.1B IPK), 2-user Base license AlphaServer DS20L Linux-Ready systems ship without system software; RedHat 7.2 may be purchased separately from a Linux distributor. Minimum OS support Tru64 UNIX V5.1A, New Hardware Delivery-5 (NHD-5) for Tru64 UNIX Version 5.1A, and the most recent Tru64 UNIX V5.1A Patch Kit. Refer to the following URL for recent updates: http://h30097.www3.hp.com/products.html NOTE: This website is available in English only.	
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.	

Systems

Step 1 – Select system

AlphaServer DS20L systems require the mandatory selection of the following items:

- To enable initial operating system boot, at least one AlphaServer DS20L per purchase order must include a slim CD-ROM drive (3X-PBXRZ-AA) or a management station. The remainder of the systems in the configuration can be remotely booted via the CD-ROM drive or the management station.
- A minimum of one AlphaServer DS20L Users Guide (EK-DS20L-UG) must be ordered per purchase order.
- AlphaServer DS20L is a rackmount-only system. If a rack is unavailable onsite, one must be selected from Step 6.
- For integration of more than 32 systems in a cabinet, contact CustomSystems (1-800-AT-COMPAQ).
- Rackmount systems require PDU, PDU mounting kit, and power cords.

NOTES: Rackmount system minimum for factory integration is four.

AlphaServer DS20L minimum OS support - Tru64 UNIX V5.1A, New Hardware Delivery-5 (NHD-5) for Tru64 UNIX Version 5.1A, and the most recent Tru64 UNIX V5.1A Patch Kit.

For system integration of options with 6-3 part numbers, contact CustomSystems (1-800-AT-COMPAQ).

AlphaServer DS20L Systems							
OS	CPU	Memory	PCI Slots	Ultra3 SCSI Controller	2 Ethernet Ports	Hard Drive	Order No.
Tru64 UNIX	2 x 833 MHz	512 MB	2	Onboard	Onboard	Optional	DA-81BAA-EA
Tru64 UNIX	2 x 833 MHz	1 GB	2	Onboard	Onboard	Optional	DA-81BAA-FA
Tru64 UNIX	2 x 833 MHz	2 GB	2	Onboard	Onboard	Optional	DA-81BAA-GA
Linux-Ready	2 x 833 MHz	512 MB	2	Onboard	Onboard	Optional	DJ-81BAA-EA
Linux-Ready	2 x 833 MHz	1 GB	2	Onboard	Onboard	Optional	DJ-81BAA-FA
Linux-Ready	2 x 833 MHz	2 GB	2	Onboard	Onboard	Optional	DJ-81BAA-GA

NOTE: 512-MB and 1-GB systems include one memory option (memory bank 0 populated) — 2-GB systems have both memory banks 0 and 1 populated, each with a 1-GB option.

Options

Step 2 - Select Options

Step 2a - System Disk Drive

- Maximum one internal disk drive.
- 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 (1-800-AT-COMPAQ)

System Disk Cable Configuration Rules For systems configured with a SCSI hard disk, order the following:
One CK-DS20L-AA (one drop DS20L SCSI cable kit)

Internal SCSI Disk Drives	18.2-GB 10,000 rpm Ultra3 SCSI 80-pin SCA2 HDD DS20L drive	3X-RZ3ES-SA
	36.4-GB 10,000 rpm Ultra3 SCSI 80-pin SCA2 HDD DS20L drive	3X-RZ3FS-SA
	72.8-GB 10,000 rpm Ultra3 SCSI 80-pin SCA2 HDD DS20L drive	3X-RZ3GS-SA

Step 2b - Internal SCSI Adapter and Cable Kit - (Internal SCSI disks require a SCSI cable kit)

SCSI Adapters (for Internal Drives)	<ul style="list-style-type: none"> ● On-board PCI 1-channel Ultra3 SCSI adapter. Supports internal storage devices only. ● 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 LVD SCSI adapter, HD 68-pin	3X-KZPCA-AA
	PCI 2-channel multimode Ultra3 LVD SCSI adapter, VHDCI (Tru64 UNIX only)	3X-KZPEA-DB
	PCI combo card – PCI 2-channel UltraSCSI single-ended adapter and 10/100 Mbit Ethernet (Tru64 UNIX only)	KZPCM-DA

SCSI Cable Kit (required for SCSI disks)	One drop DS20L SCSI cable kit	CK-DS20L-AA
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Step 3 - Memory - Optional

- Maximum 2-GB memory
 - Systems include two memory banks, four DIMM slots per bank, four DIMMs per memory kit
- | | |
|---|-------------|
| 512-MB memory kit, four 168-pin, PC100, 100-MHz, 128-MB DIMMs | 3X-MS810-DA |
| 1-GB memory kit, four 168-pin, PC100, 100-MHz, 256-MB DIMMs | 3X-MS810-EA |

Step 4 - Internal Storage - Optional

600-MB 24X slim CD-ROM drive and installation kit	3X-PBXRZ-AA
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Options

Step 5 - Documentation - Optional

AlphaServer DS20L Users Guide

EK-DS20L-UG

Step 6 - M-series Cabinets - Optional

M-series cabinet enclosures support up to 32 AlphaServer DS20L systems (H9A15) and/or up to three StorageWorks shelves. For orders where more than 32 systems in a cabinet are required, contact CustomSystems (1-800-AT-COMPAQ). M-series enclosures require selection of the following items:

- H9A10 or H9A15 Cabinet, 240V
- Minimum four AlphaServer DS20L systems for rack configuration
- Rack kit for each system (or quad rack for every four systems)
- PDU, PDU mounting bracket, and power cords as needed according to configuration chart
- Cabinet front door based on cabinet height
- Factory integration
- Ballast kit according to the configuration chart

Up to six DS-SL13R shelves are supported; shelves cannot be mounted behind AlphaServer DS20L systems.

Cabinet Configuration Chart for AlphaServer DS20L Rackmount Systems with BA356 (4U) or DS-SL13R (3U)

- Disk shelves cannot be mixed in same cabinet
- Minimum number of systems orderable in a rack is four
- For every 12 systems, one PDU is required (H7602-DB/EB); H9A1x-ME/MF cabinets include one H7602-EB/D PDU – order additional PDUs if required
- For each system, one power cord is required (BN35S-4E)

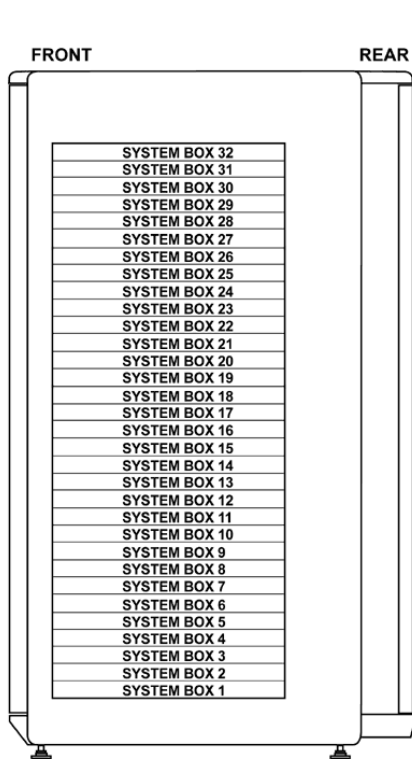
NOTE: For additional configurations beyond those listed in the following charts, contact CustomSystems.

Cabinet	Rack Kits 3X-PBX01-BD quad	Rack kit 3X-PBX01-BE single	Systems 1U	DS-SL13R Shelves @ 3U
H9A10, H9A15	1 for each set of 4 systems	1 for each additional system	Per rack	Per rack
H9A10-ME/MF	1 or 2	0 to 3	4-8	6
	2 or 3	0 to 3	9-12	5
	3 or 4	0 to 3	13-16	4
	4 or 5	0 to 3	17-20	3
	5 or 6	0 to 3	21-24	2
	6 or 7	0 to 3	24-28	1
	7 or 8	0 to 3	29-32	0
H9A15-ME/MF	1 or 2	0 to 3	5-8	6
	2 or 3	0 to 3	9-12	5
	3 or 4	0 to 3	13-16	4
	4 or 5	0 to 3	17-20	3
	5 or 6	0 to 3	21-24	3
	6 or 7	0 to 3	25-28	3
	7 or 8	0 to 3	29-32	2

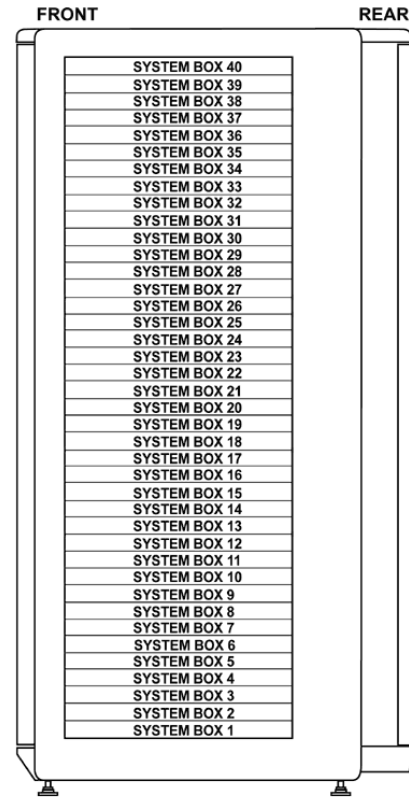
NOTE: For H9A10 cabinets: When four systems are ordered (minimum number of systems orderable), two ballast kits are required. When five or six systems are ordered, one ballast kit is required. When seven systems or above are ordered, no ballast kits are required.

For H9A15 cabinets: When four systems are ordered (minimum number of systems orderable), two ballast kits are required. When five, six, or seven systems are ordered, one ballast kit is required. When eight systems or above are ordered, no ballast kits are required.

Options



H9A10 Cabinet



H9A15 Cabinet

M-series Cabinet Descriptions

67-inch carbon black cabinet with 56-inch or 33U of usable vertical space, 200 to 240 dual-16A controller, 16 IEC C13 outlets, two input power plug NEMA L620P, Americas, Asia Pacific; includes rear door	H9A10-ME
67-inch carbon black cabinet with 56-inch or 33U of usable vertical space, 200 to 240 dual-16A controller, 16 IEC C13 outlets, two input power plug IEC 309, 20A, Europe; includes rear door	H9A10-MF
79-inch carbon black cabinet with 68.25-inch or 40U of usable vertical space, 200 to 240V dual-16A controller, 16 IEC C13 outlets, two input power plug NEMA L620P, Americas, Asia Pacific; includes rear door	H9A15-ME
79-inch carbon black cabinet with 68.25-inch or 40U of usable vertical space, 200 to 240V dual-16A controller, 16 IEC C13 outlets, two input power plug IEC 309, 20A, Europe; includes rear door	H9A15-MF

M-series Cabinet Rackmount Kits for AlphaServer DS20L

(Refer to the Cabinet Configuration Charts above for configuration rules)	
Single rack kit for AlphaServer DS20L	3X-PBX01-BE
Quad rack kit for AlphaServer DS20L	3X-PBX01-BD

M-series Cabinet PDU, PDU mounting bracket and power cord

Power Distribution Unit (North America/Japan), 200 to 240V dual-16A controller, 16 IEC C13 outlets, two input power plug NEMA L620P	H7602-EB
Power Distribution Unit (International), 200 to 240V dual-16A controller, 16 IEC C13 outlets, two input power plug IEC 309, 20A	H7602-DB

Options

StorageWorks Shelves Supported in M-series Cabinets - Optional	StorageWorks Model 4314R, 4314T and 4354R Ultra3 SCSI (LVD) single-bus and split-bus Universal drive shelves; refer to StorageWorks Enclosure 4300 Family QuickSpecs when configuring shelves. When selecting a DS-SL13R-xx split-bus shelf, two SCSI channels are required from selected storage adapters. BN38C-05 cable is required per channel.	
	StorageWorks Model 4314R Ultra3 SCSI (LVD) single-bus Universal drive rackmount shelf, U.S. – no support for Model 4314R single-bus shelves with 3X-KZPEA-DB adapter (190209-001)	DS-SL13R-AA
	StorageWorks Model 4314R Ultra3 SCSI (LVD) single-bus Universal drive rackmount shelf, includes one power supply, Japan - no support for Model 4314R single-bus shelves with 3X-KZPEA-DB adapter (190209-291)	DS-SL13R-AJ
	StorageWorks Model 4354R Ultra3 SCSI (LVD) split-bus Universal drive rackmount shelf, includes two redundant power supplies, U.S. (190211-001)	DS-SL13R-BA
	StorageWorks Model 4354R Ultra3 SCSI (LVD) split-bus Universal drive rackmount shelf, includes two redundant power supplies, Japan (190211-291)	DS-SL13R-BJ
M-series Cabinet Rear Cabinet Extender	<ul style="list-style-type: none"> Requires selection of one cabinet extender for each H9A10 or H9A15 cabinet 	
	Rear cabinet extender, carbon black, for H9A10-ME/MF cabinets	H9C10-ZE
	Rear cabinet extender, carbon black, for H9A15-ME/MF cabinets	H9C15-ZE
M-series Cabinet Front Doors	<ul style="list-style-type: none"> Requires selection of door based on cabinet height 	
	Front door, carbon black, for H9A10-ME/MF cabinet enclosure	H9C10-ZF
	Front door, carbon black, for H9A15-ME/MF cabinet enclosure	H9C15-ZF
M-series Cabinet Joiner Kit	Joiner kit, H9A10 cabinet	H9C10-JD
	Joiner kit, H9A15 cabinet	H9C15-JD
M-series Cabinet Factory Integration	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Ballast is added to a cabinet at particular locations for specific configurations to meet safety regulations for installation, operation, and service; see the Notes below the Cabinet Configuration Charts in Step 5. 	
	Two 35 to 40 lb/15.8 to 18 kg steel plates	H9C10-MC
M-series Cabinet Rackmount Power Cord	<ul style="list-style-type: none"> Used for both PDUs U.S./Canada, Non-U.S. and Japan	BN35S-4E
CustomSystems Support	<ul style="list-style-type: none"> Cabinets containing systems and storage must be assembled by qualified assemblers: Hewlett-Packard Manufacturing, CustomSystems, or an authorized Hewlett-Packard Certified Integration Partner. For custom integration of systems, options, cabinet expansion offerings, and additional 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 Hewlett-Packard Certified Integration Partner. 	

Options

Step 7 - External Storage - Optional

- UltraSCSI Configuration Rules**
- UltraSCSI configurations require UltraSCSI components (controllers, adapters, shelves, disks, and cables)
 - UltraSCSI adapters and RAID controllers support UltraSCSI disks at UltraSCSI speeds in UltraSCSI top gun blue shelves (DS-BA356-xx)

Tabletop Tape Drives

- Tape drives require LVD or single-ended UltraSCSI adapter and country-specific power cord

12/24-GB 4-mm DAT narrow single-ended tabletop SCSI tape, includes 120V North American power cord, requires BN31W-xx SCSI cable	DS-TLZ10-DB
20/40-GB 4-mm DAT LVD tabletop SCSI tape - North America (Tru64 UNIX only)	157770-001
20/40-GB 4-mm DAT LVD tabletop SCSI tape - International (Tru64 UNIX only)	157770-B31
20/40-GB 4-mm DAT LVD tabletop SCSI tape - Japan (Tru64 UNIX only)	157770-291
35/70-GB AIT LVD tabletop drive unit, U.S.	216885-001
35/70-GB AIT LVD tabletop drive unit, International	216885-B31
35/70-GB AIT LVD tabletop drive unit, Japan	216885-291
50/100-GB 8-mm AIT LVD tabletop SCSI tape drive – North America (Tru64 UNIX only)	157767-001
50/100-GB 8-mm AIT LVD tabletop SCSI tape drive – International (Tru64 UNIX only)	157767-B31
50/100-GB 8-mm AIT LVD tabletop SCSI tape drive – Japan (Tru64 UNIX only)	157767-291
35/70-GB SCSI (DLT 7000) tabletop tape drive (Tru64 UNIX only)	DS-TZ89N-TA
40- 80-GB SCSI LVD (DLT 8000) tabletop drive, Worldwide	146197-B21
40- 80-GB SCSI LVD (DLT 8000) tabletop drive, Japan	146197-291
110/220-GB SDLT Ultra2 LVD tabletop tape drive, U.S.	192103-001
110/220-GB SDLT Ultra2 LVD tabletop tape drive, International	192103-B31
110/220-GB SDLT Ultra2 LVD tabletop tape drive, Japan	192103-291
20/40-GB 4-mm DAT LVD hot plug tape	3R-A2780-AA
35/70-GB AIT LVD hot plug tape	3R-A2396-AA
50/100-GB AIT LVD hot plug tape	3R-A2779-AA

Storage Controllers/Adapters for External StorageWorks Shelves

- PCI controllers/adapters use one PCI slot

	Maximum # Supported		
	Tru64 UNIX	Linux	
PCI-to-Fibre Channel host bus adapter	1	-	DS-KGPSA-CA
Fibre Channel cable; xx=02, 05, 15, 30, 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	2	-	KZPCM-DA
VHDCI male-to-VHDCI male UltraSCSI cable, xx = 02, 2E [2.5], 03, 05, 10, 20 meter			BN37A-xx
PCI 1-port Ultra2 SCSI (LVD) single-ended adapter, 68-pin HD connector, requires BN38C cable (2 to 20 meter) to connect to single-ended UltraSCSI shelf	2	2	3X-KZPCA-AA
68-pin HD male-to-VHDCI male UltraSCSI cable; xx = 02, 03, 05, 10, 20 meter			BN38C-xx
PCI 2-channel LVD multimode Ultra3 SCSI adapter, VHDCI	2	-	3X-KZPEA-DB
PCI 1-port UltraSCSI differential adapter; includes external 68-pin HD connector, requires BN38C-xx cable (2 to 25 meter) to connect adapter to differential UltraSCSI shelf or RAID controller	2	2	3X-KZPBA-CC
68-pin HD male-to-VHDCI male UltraSCSI cable; xx = 02, 03, 05, 10, 20, 25 meter			BN38C-xx

Options

StorageWorks Fibre Channel Switches	Fibre Channel SAN Switch, 8 ports with Fabric Operating Software (DS-DSGGB-AA)	158222-B21
	Fibre Channel SAN Switch, 16 ports with Fabric Operating Software (DS-DSGGB-AB)	158223-B21
	Fibre Channel SAN Switch 8-EL (DS-DSGGC-AA)	176219-B21
	Fibre Channel SAN Switch 16-EL (DS-DSGGC-AB)	212776-B21
NOTE: For above switches, refer to http://h18000.www1.hp.com/products/quickspecs/Division/10490.html for more information.		
Removable Media Devices for External StorageWorks Shelves	12/24-GB 4-mm DAT narrow SCSI tape drive in StorageWorks carrier	DS-TLZ10-VA
	40/80-GB DLT tape drive in StorageWorks carrier	DS-TZ90N-VW
StorageWorks Universal Drive Shelves – Model 4314R (Ultra3)	StorageWorks Model 4314R Ultra3 rackmount single bus, U.S. and International	DS-SL13R-AA
	Same as above, Japan	DS-SL13R-AJ
StorageWorks Universal Drive Shelves – Model 4354R (Ultra3)	StorageWorks Model 4354R Ultra3 rackmount dual bus, U.S. and International	DS-SL13R-BA
	Same as above, Japan	DS-SL13R-BJ
StorageWorks Universal Drive Shelves Single Bus – Model 4314T Tower (Ultra3)	StorageWorks Model 4314T, Ultra3, Universal Drive Shelves Single Bus, Tower, U.S.	DS-SL13T-AA
	Same as above, Tower, International	DS-SL13T-AB
	Same as above, Japan	DS-SL13T-AJ
StorageWorks Universal Drive Shelves Single Bus – Model 4300 Upgrade I/O Modules	StorageWorks Model 4300 Ultra 160 single-port LVD I/O module	DS-SE3ZJ-DA
	StorageWorks Model 4300 Ultra 160 dual-port LVD I/O module	DS-SE3ZJ-SA
Universal Disk Drives Supported in Model 42xx/43xx Universal Drive Shelves	18.2-GB Ultra320 SCSI 15,000 rpm 1-inch Universal drive	3R-A3848-AA
	36.4-GB Ultra320 SCSI 10,000 rpm 1-inch Universal drive	3R-A3838-AA
	36.4-GB Ultra320 SCSI 15,000 rpm 1-inch Universal drive	3R-A3849-AA
	72.8-GB Ultra320 SCSI 10,000 rpm 1-inch Universal 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

Step 8 - UltraSCSI RAID Array Controllers and UltraSCSI RAID Packaged Solutions - Optional

HSG80 External Controllers	Fibre Channel controller (DS-HSG80-BJ), includes 2-MB cache expandable to 128 MB; requires 128697-B21 HSG80 ACS V8.4F software kit or 128698-B21 V8.4P software kit for each HSG80 ordered	380672-B21
	Fibre Channel controller (DS-HSG80-BH), includes 64-MB cache expandable to 128 MB; requires 128697-B21 HSG80 ACS V8.4F software kit or 128698-B21 V8.4P software kit for each HSG80 ordered	380671-B21
ESA 12000, RAID Array 8000	<ul style="list-style-type: none"> Enterprise Storage Array 12000 and RAID Array 8000 (HSZ80) product set are supported on AlphaServer DS20L systems Supported SCSI adapter for HSZ80 - 3X-KZPBA-CC PCI 1-port UltraSCSI differential adapter Supported Fibre Channel adapter for HSG80 - DS-KGPSA-CA/DA PCI 1-port Fiber-Channel adapter 	

Options

Step 9 - Networks and Communications - Optional

- Systems include dual embedded 10/100 BaseT Ethernet ports, each port connection is limited to a 25-meter cable length
- Additional Ethernet ports can be added using available PCI slots

	Maximum # Supported		
	Tru64 UNIX	Linux	
PCI to dual-port 10/100 UTP Fast Ethernet adapter	2	-	3X-DE602-BB
Cable for 10BaseT Twisted Pair connection			BN25G-xx
Shielded cable for 10BaseT Twisted Pair connection			BN25M-xx
Dual-port 10/100 UTP daughter card for 3X-DE602-BB (3X-DE602-BB is a prerequisite)	2	-	3X-DE602-TA
PCI 2-port 10/100-Mb Ethernet adapter, UTP	1	1	3X-DE602-FA
PCI-X/PCI single-port 1000 Mbps (MMF with duplex-SC) Gigabit Ethernet; Tru64 UNIX V5.1B/TruCluster V5.1B supports up to eight nodes and requires: http://ftp1.support.compaq.com/public/unix/v5.1b/t64v51bb1-c0003000-16672-e-20030130.README Tru64 UNIX V5.1A/TruCluster V5.1A supports up to eight nodes and requires: T64V51AAB21AS0004-20030206.tar NOTE: Use BN34A, BN34B, or equivalent with SC connectors.	2	-	3X-DEGXA-SA
PCI-X/PCI single-port 10/100/1000 Mbps (Twisted-Pair Copper with RJ45) Gigabit Ethernet; Tru64 UNIX V5.1B/TruCluster V5.1B supports up to eight nodes and requires: http://ftp1.support.compaq.com/public/unix/v5.1b/t64v51bb1-c0003000-16672-e-20030130.README Tru64 UNIX V5.1A/TruCluster V5.1A supports up to eight nodes and requires: T64V51AAB21AS0004-20030206.tar NOTE: Use BN25G, BN26M, BN24Q, BN28Q twisted pair RJ45 cables.	2	-	3X-DEGXA-TA
PCI Gigabit Ethernet adapter, SC connectors, MMF, no boot support	2	2	DEGPA-SA
PCI Gigabit Ethernet adapter, UTP, no boot support	2	2	DEGPA-TA
SC-to-SC dual fiber optic cable			BN34B-xx
PCI FDDI adapter, single attachment station (SAS), multi-mode fiber (MMF), SC connector	2	-	3X-DEFPA-AC
PCI FDDI adapter, DAS, MMF, SC connector	2	-	3X-DEFPA-DC
MIC-SC dual fiber optic cable mm, pp xx = length in meters			BN34D-xx
SC-to-SC dual fiber optic cable mm, pp xx = length in meters			BN34B-xx
PCI FDDI adapter, SAS, TP-PMD, requires BN25H-03 cable	2	-	3X-DEFPA-UC
PCI FDDI dual adapter, DAS, TP-PMD, requires BN25H-03 cable	2	-	3X-DEFPA-MC
3 meter (9.8 ft) FDDI cross-over cable mm, pp xx = length in meters			BN25H-03
PCI 4-port asynchronous controller; maximum two PBXDA-xx controllers per system	2	-	PBXDA-BA
PCI 8-port asynchronous controller, cable included; maximum two PBXDA-xx controllers per system	2	-	PBXDA-BB
PCI 16-port asynchronous controller, cable included; maximum two PBXDA-xx controllers per system	2	-	PBXDA-AC

Options

Step 10 - Console Terminal - Optional

<ul style="list-style-type: none"> 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, either male or female	VT510-xx
Console cable, female connector	H8575-A
Console cable, male connector	H8575-D
Console cable, male connector (IBM compatible)	H8975-E

Step 11 - 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 V5.1B IPK, 2-user Base license

When using Tru64 UNIX V5.0 or later	Tru64 UNIX media and online documentation kit on CD-ROM	QA-6ADAA-H8
	Tru64 UNIX V5.1B IPK media and online documentation kit on CD-ROM	QA-MT4AX-H8
	Tru64 UNIX V5.1A Patch Kit media and online documentation kit on CD-ROM	QA-MT4AW-H8
	Tru64 UNIX full hard copy documentation	QA-6ADAA-GZ
	TruCluster Plus Software package with licenses for TruCluster Server, StorageWorks Logical Storage Manager and AdvFS Utilities	QP-6R9AC-AA
	TruCluster Server license	QL-6BRAC-AA
	AdvFS Utilities License	QL-0EGAE-AA
	Logical Storage Manger 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	

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

Step 12 - Hardware and Software Supplemental Support Services

- Systems include one-year hardware warranty, on-site, with 5 x 9, 24-hour response time
 - Select one of the optional HP Care Pack Service Packages described below that best supports the customer's operational requirements for system availability.
 - Options ordered as part of "Initial System Sale" take on warranty of the enclosure; options added after "Initial System Sale" take on warranty of enclosure until enclosure warranty ends
 - All unique AlphaServer DS20L options have a minimum of one-year Return-to-Hewlett-Packard warranty
-

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 the basic warranty with coverage for both Principal servers systems and SSPs (Subsequent System Packages) - that meet a full range of customer support requirements.

Program Features – Principal Server

HP Support Plus

- 13 x 5 HW/SW support
 - 4-hour response on-site hardware support
 - 2-hour response for Bronze software support
 - License Subscription for Hewlett-Packard 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. (Some layered products are not included on Consolidated Software Media Update Distribution and 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 Hewlett-Packard 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. (Some Layered products are not included on Consolidated Software Media Update Distribution and can be ordered separately.)
-

Program Features – Additional Services

SSPs (Subsequent System Packages)

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

Installation

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

Installation & Startup Hewlett-Packard O/S

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

Options

Model/HP Care Pack Services	Principal Server 1 Year	Principal Server 3 Years	Subsequent Systems 1 Year	Subsequent Systems 3 Years
HP Support Plus	FP-A01LA-12	FP-A01LA-36	FP-A21LA-12	FP-A21LA-36
HP Support Plus 24	FP-A02LA-12	FP-A02LA-36	FP-A22LA-12	FP-A22LA-36
Installation	FP-AINST-LA	FP-AINST-LA	FP-AINST-LA	FP-AINST-LA
Installation & Startup	FP-ASTAR-LA	FP-ASTAR-LA	FP-ASTAR-LA	FP-ASTAR-LA

NOTES:

- AlphaServer DS20L systems include one-year hardware warranty with 5x9, on-site Next Business Day response.
- New Hewlett-Packard hardware options internal to the AlphaServer enclosure receive the same warranty or service level as purchased with the server.
- 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 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, please consult your Sales Account Manager, HP Services Principal, or visit: <http://www.hp.com/hps/>

NOTE: This Web site is available in English only.

TechSpecs

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 41.5 in (170 x 60 x 105.4 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	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 1.8° F (1° C) for each 600m (2,000 ft) 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:		Single Unit = 275W = 939
		AlphaServer DS20L, 833 MHz		BTU/hr
		425W Power Supply		Rack of 32 systems with 3
		Main logic board with 2 EV6 CPUs		H7602 PDUs = ~11,560W
2-GB main memory		= 30,048 BTU/hr		
1 SCSI hard drive, 1 CD-ROM				
2 PCI option cards				
Input power = 275 Watts				
Air Flow and Quality		Intake location	Front	
		Exhaust location	Rear	
	Particle size	N/A		
	Concentration	N/A		
Altitude	Operating	10,000 ft (3,048m)		
	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)				
	NOTE: Current values for specific configurations are available from Hewlett-Packard, note that 1 B = 10 dBA.			
		LWAd3B	LnAm5dBA (bystander position)	
	Idle	6.7	51	
	Operating	6.7	51	

TechSpecs

Vibration	Operating	5-500 Hz at .1 G peak (limited by 0.02-in/ 0.5mm double amplitude)		
	Non-operating	1.03 Grms 5-300 Hz		
Shock	Operating	10 G 10ms half-sine		
	Electrical			
Electrical	Nominal Voltage (VAC)	200 to 240		
	Voltage Range (VAC) (temporary condition)	180 to 250		
	Power Source Phase	Single		
	Nominal Frequency (Hz)	50/60		
	Frequency Range (Hz)	49 to 51/59 to 61		
	RMS Current (maximum steady state)	Single power cord	2.3A	
		Apparent power VA	545	
		M-series Cabinet (configuration dependent)		
		Nominal PDU voltage (VAC)	220-240	
		Each PDU power cord	24A	
Power Cords	Load per PDU power cord	16A		
	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))	200V non-removable NEMA L6-30P or 200-240V non-removable IEC 309 @ 32A	
Regulatory	Agency Approvals	Series EA2014 UL: Listed to UL1950 (3rd edition) CUL Listed: CAN/CSA-C22.2 No. 950-M95 FCC: Part 15.B Class A IC ICES-003 Class A CE: EN55022 :1998, EN55024 :1998, EN61000-3-3 :1995 VCCI V-3/97.04 Class A BSMI: CNS13438 Class A C-Tick: AS/NZS 3548:1995 Class A		
	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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