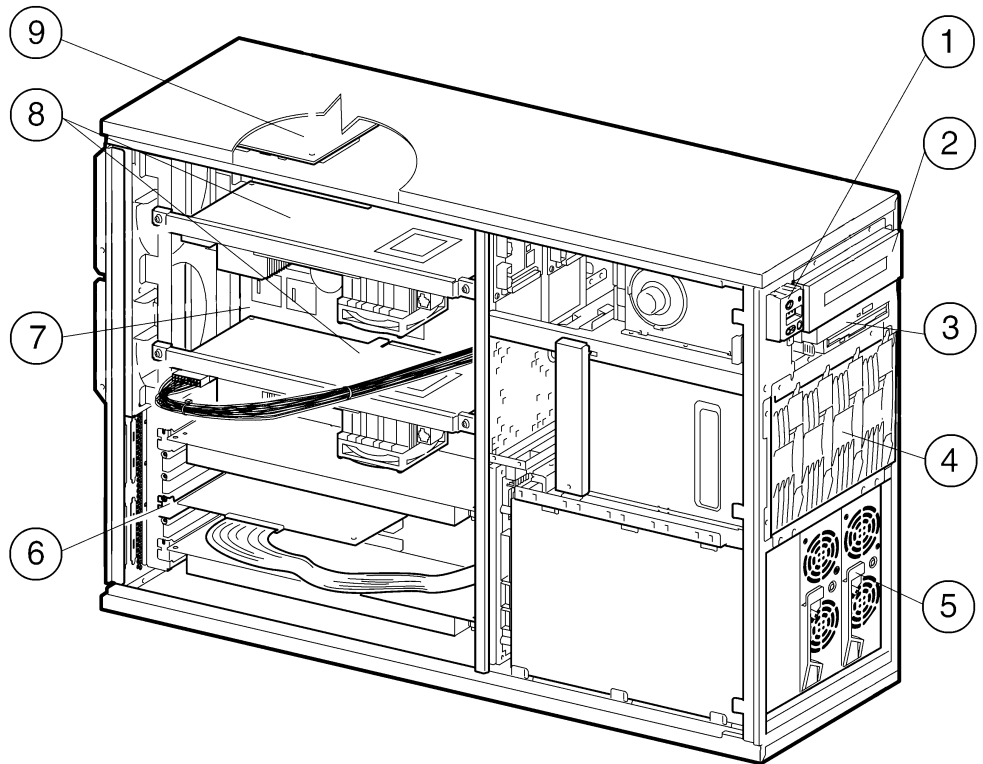


Overview

AT A GLANCE

AlphaStation DS20E systems include:

- Alpha 21264 processor 500 MHz (dual processor capability)
- 4-MB level 2 writeback cache per processor
- ECC-protected memory bus and cache
- 256-MB, 512-MB, or 1-GB SDRAM memory expandable to 4 GB
- Five PCI and one shared PCI/ISA slot (six total slots)
- Four hot swap hard disk drive bays
- Internal mass storage capacity up to 72.8 GB
- Integrated environmental server management module
- Two 375-Watt hot pluggable power supplies with optional third for N+1 redundancy
- Combo 24X CD-ROM drive and 1.44-MB floppy disk drive
- Protected by Compaq Services, including a three-year on-site limited warranty



- | | |
|------------------------------------|-----------------------------|
| 1. Operator Control Panel | 6. Ultra2 SCSI adapter |
| 2. Removable media bay | 7. System motherboard |
| 3. Combination CD-ROM/floppy drive | 8. CPU modules |
| 4. Hard disk drives | 9. Server Management Module |
| 5. Power supplies | |

Standard Features

Processor

Alpha 21264 processor 500 MHz

Cache Memory

4-MB level 2 writeback cache per processor

Upgradability

System upgradable to dual processing; support for future Alpha EV67 processing

Memory

Standard	256-MB, 512-MB, or 1-GB ECC SDRAM memory standard
Maximum	4 GB

Network Controller

Choice of Ethernet controllers

Expansion Slots

I/O (total)	6
PCI	5
Shared PCI/ISA	1

Storage Controller

Choice of storage controllers

Storage

Diskette Drive	1.44 MB
CD-ROM	24X Max IDE CD-ROM Drive
Internal Hard Drives	Choice of 9.1 GB or 18.2 GB
Maximum Internal Storage	72 GB

Expansion Ports

Parallel	1
Serial	2
Pointing Device (Mouse)	1
Graphics	1
Keyboard	1
SCSI knockouts	6
USB	2 (future support)

Form Factor

Rackmount or Tower

Manageability

Compaq ServerWORKS Manager
Hot plug redundant power supply support; hot plug fan support

Power Supply

Two 375-Watt Hot Plug Power Supplies, standard; optional third N+1 for redundancy

OS Support

Tru64 UNIX systems include pre-installed software, Tru64 Unix base 2-user license and Compaq Open3D license.
OpenVMS systems include pre-installed software, OpenVMS base license, concurrent use 1-user license and Compaq Open3D license
Minimum OS support –Tru64 UNIX V4.0F, OpenVMS V7.1-2 or V7.2-1

Service and Support

Compaq Services provides a wide range of service offerings including a three-year limited warranty² fully supported by a worldwide network of resellers and service providers; lifetime toll-free 7 x 24 hardware technical phone support.

Systems/Options

Step 1 – Select system

AlphaStation DS20E systems require the mandatory selection of the following items:

- Pedestal/tower or rackmount bezel kit
- Disk drive cage
- Ultra2 SCSI adapter
- System disk drive
- Ethernet adapter
- Power cord
- Software media and documentation for first system onsite

Notes: DS20E minimum OS support –Tru64 UNIX V4.0F, OpenVMS V7.1-2 or V7.2-1
Keyboard not included

For system integration of options with 6-3 part numbers, contact *CustomSystems*

OS	CPU	Memory / Cache	Order No.
Tru64 UNIX	500 MHz	256 MB / 4 MB	DA-56NRA-DW
Tru64 UNIX	500 MHz	512 MB / 4 MB	DA-56NRA-EW
Tru64 UNIX	500 MHz	1 GB / 4 MB	DA-56NRA-FW
OpenVMS	500 MHz	256 MB / 4 MB	DY-56NRA-DW
OpenVMS	500 MHz	512 MB / 4 MB	DY-56NRA-EW
OpenVMS	500 MHz	1 GB / 4 MB	DY-56NRA-FW

Step 2 – Select mandatory options

Step 2a – Bezel kits – Mandatory

- Pedestal/Tower kit or Rackmount kit is mandatory for each system

Pedestal/Tower bezel kit

3X-BA56P-PA

Rackmount bezel kit (M-Series Cabinets)

3X-BA56R-RA

Step 2b – Disk Drive Cage – Mandatory

- Systems support one disk drive cage; disk drive cage supports four 3.5" hard disk drives

4-bay disk drive cage, includes universal drive height converter for four disks

3X-BA611-4D

Step 2c – Ultra2 SCSI Adapter – Mandatory

- Selection of Ultra2 SCSI adapter to connect to internal disk drive cage is mandatory; SCSI cable included with system

Single channel LVD adapter

3X-KZPCA-AA

Step 2d – System Disk Drive (Supported in Disk Drive Cage) – Mandatory

- Selection of one disk drive is mandatory

9.1-GB 10000 RPM 1.0" Universal Ultra2 SCSI disk drive

3R-A0526-AA

18.2-GB 10000 RPM 1.0" Universal Ultra2 SCSI disk drive

3R-A0561-AA

Ultra Universal drive height converter (4-pack); required for installed base customers (without installed drive height converter) when ordering 1.0" universal drives

3R-A0528-AA

Step 2e – Ethernet Adapters – Mandatory

- Selection of one Ethernet adapter is mandatory (Ethernet adapter is not required if KZPCM adapter is selected)

- See Step 10 for additional networking options

PCI 1-port 10/100 Mbit Fast Ethernet adapter, UTP, maximum four per system

3X-DE600-AA

PCI 2-port 10/100 Mbit, Fast Ethernet adapter, UTP, maximum two per system

3X-DE602-AA

PCI 10/100 Mbit 4-port Ethernet adapter, UTP, maximum one per system

DE504-BA

Cable for 10BaseT twisted pair connection

BN25G-xx

Options

Step 2 – Select mandatory options (continued)

Step 2f– Power Cords – Mandatory

- Selection of power cord is mandatory for all systems

Pedestal Power Cords

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

Rackmount Power Cords

US/Canada	BN20Z-4E
Non-US	BN35S-4E
Japan, 2.5m	3X-BN46D-4E

Step 3 – Additional CPU Modules – Optional

- One 6/500-MHz CPU included, one additional CPU supported
- | | |
|---|----------|
| SMP upgrade includes one 6/500-CPU with 4-MB cache and Tru64 UNIX SMP license | KN310-BB |
| SMP upgrade includes one 6/500-CPU with 4-MB cache and OpenVMS SMP license | KN310-BC |

Step 4 – Memory – Optional

- System includes one memory option; up to three additional memory options can be added
- | | |
|---|----------|
| 256-MB memory option (4 x 64 MB DIMMs) | MS340-CA |
| 512-MB memory option (4 x 128 MB DIMMs) | MS340-DA |
| 1-GB memory option (4 x 256 MB DIMMs) | MS340-EA |

Step 5 – Additional Power Supplies – Optional

- Two 375 watt power supplies included with system; optional third power supply provides N+1 redundancy
- | | |
|------------------------------|-------------|
| DS20E redundant power supply | FR-H7910-AA |
|------------------------------|-------------|

Step 6 – Internal Storage – Optional

- System supports three internal removable media devices:
One combo 24X CD-ROM drive and 1.44-MB diskette drive
One additional 5.25" half-height removable media slot provides support for one 5.25" half-height device;
Tru64 UNIX and OpenVMS systems require KZPBA-CA, KZPCM-DA, or SN-KZPCA-AA

Internal Removable Media

600-MB 32X CD-ROM drive (RRD47) 5.25" half-height, top gun blue	RRD47-VD
12/24-GB 4 mm DAT SCSI tape drive (TLZ10) 5.25" half-height, top gun blue	TLZ10-LB
20/40-GB DAT tape drive, top gun blue	3X-SD20X-LB
35/70-GB AIT tape drive, top gun blue	3X-SZ35X-LB
SCSI cable with one connector and active terminator to connect optional PCI adapter to 5.25 device	3X-BC56C-2F

Options

Step 7 – M-series Cabinets –Optional

M-series enclosures require selection of the following items:

- H9A10 or H9A15 cabinet, 120V or 240V
- Rack kit for each system
- H9A10 or H9A15 rear cabinet extender
- Cabinet front door based on cabinet height
- Factory integration
- Ballast kit if one or two systems are ordered for the H9A15 cabinet
- Power Cord

Note: For more information on M-Series Cabinet Enclosures, see www.digital.com/alphaserver/products/m-series/index.html

Cabinet Configuration Chart for AlphaStation DS20E (5U) with StorageWorks Shelves (4U)

Cabinet	Rack Kit	Cabinet Height/Space	Systems	Shelves	Ballast Kit
H9A10-MC/MD	3X-BA56R-RA	56" / 32U	1	6	
			2	6	
			3	6	
			4	4	
			5	0	
H9A15-MC/MD	3X-BA56R-RA	66.5" / 39U	1	6	1
			1	6	1
			3	6	
			4	6	
			5	4	
			6	0	

Note: 1.75" or 1U space is required between each system unit.

M-series Cabinets

- 67" cabinet with 56" or 32U of usable vertical space, 120V dual-24A controller, each with 10 NEMA 5-15R outlets, input power plug NEMA L5-30P, Americas, Asia Pacific; includes rear door and top fan tray H9A10-MC
- 67" cabinet with 56" or 32U of usable vertical space, 240V dual-16A controller, each with 12 IEC C13 outlets, input power plug IEC 309, 16A, Europe; includes rear door and top fan tray H9A10-MD
- 79" cabinet with 66.5" or 39U of usable vertical space, 120V dual-24A controller, each with 10 NEMA 5-15R outlets, input power plug NEMA L5-30P, Americas, Asia Pacific; includes rear door and top fan tray H9A15-MC
- 79" cabinet with 66.5" or 39U of usable vertical space, 240V dual-16A controller, each with 12 IEC C13 outlets, input power plug IEC 309, 16A, Europe; includes rear door and top fan tray H9A15-MD

Options

Step 7 – M-series Cabinets –Optional (continued)

Rear Cabinet Extender – Required selection of one cabinet extender for each H9A10 or H9A15 cabinet

Rear cabinet extender, top gun blue, for H9A10-MC/MD cabinets	H9C10-TE
Rear cabinet extender, top gun blue, for H9A15-MC/MD cabinets	H9C15-TE

Cabinet Front Door – Required selection of door based on cabinet height

Front door, top gun blue, for H9A10-MC/MD cabinet enclosure	H9C10-TF
Front door, top gun blue, for H9A15-MC/MD cabinet enclosure	H9C15-TF

Factory Integration – Required

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

Ballast Kit – Required only if one system is ordered for the H9A15 cabinet

- Ballast is added to a cabinet at particular locations for specific configurations to meet safety regulations for installation, operation, and service; see Cabinet Configuration Chart

Two 35-40 lb. Steel plates	H9C10-MC
----------------------------	----------

Rackmount Power Cord – Required for each system

US/Canada	BN20Z-4E
Non-US	BN35S-4E
Japan, 2.5m	3X-BN46D-4E

Shelves Supported in M-series Cabinets – Optional

UltraSCSI single-ended RETMA rack, single-bus personality module, 180W power supply	BA36R-RC
UltraSCSI single-ended RETMA rack, split-bus personality module, 180W power supply	BA36R-RD
180W power supply, includes 120V North American and 240V IEC power cord	CK-BA35X-HH

Compaq CustomSystems Support

- Cabinets containing systems and storage must be assembled by qualified assemblers: Compaq Manufacturing, Compaq CustomSystems, or an authorized Compaq Certified Integration Partner.
- For custom integration of systems, options, cabinet expansion offerings, and additional Compaq and third party devices, or for other cabinets, doors, and trim kits of a different color, contact Compaq CustomSystems at 1-800-AT COMPAQ, or your local authorized Compaq Certified Integration Partner.

Step 8 – 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)

UltraSCSI StorageWorks Pedestals

- UltraSCSI top gun blue pedestals provide support for UltraSCSI disk drives; pedestal is available in single-bus or split-bus configurations and includes a personality module and 180W power supply
- UltraSCSI shelf supports: seven 3.5" hard disk drives, or one 5.25" device and four 3.5" hard disk drives, or two 5.25" devices and one 3.5" hard disk drive
- Installation of redundant power supply reduces number of 3.5" drive slots by one

UltraSCSI single-ended pedestal, single-bus personality module, 180W power supply	DS-BA356-KF
UltraSCSI single-ended pedestal, split-bus personality module, 180W power supply	DS-BA356-KG
UltraSCSI pedestal, single-channel differential personality module, 180W power supply	DS-BA356-KH
180W power supply, includes 120V North American and 240V IEC power cord	CK-BA35X-HH

Options

Step 8 – External Storage –Optional (continued)

Tabletop Tape Drives

- Tape drives require 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
- 35/70-GB DLT single-ended tabletop tape drive, requires BN21K-xx SCSI cable DS-TZ89N-TA

Storage Controllers for External StorageWorks Shelves

- Storage controllers require Tru64 UNIX V4.0F or OpenVMS V7.1-2

Note: The following controllers are only supported with StorageWorks shelves (not supported with the 3X-BA611-4D disk drive cage)

	Maximum # Supported		
	Tru64 UNIX	OpenVMS	
PCI 2-port UltraSCSI single-ended adapter and 10/100 Mb Ethernet combo adapter (uses one PCI slot); 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	4	4	KZPCM-DA
VHDCI male-to-VHDCI male UltraSCSI cable, xx = 02, 2E [2.5], 03, 05, 10, 20 m			BN37A-xx
PCI 1-port UltraSCSI single-ended adapter (uses one PCI slot); includes internal 68-pin and 50-pin HD connectors and external 68-pin HD connector, requires BN38C-xx cable (2 to 20 m) to connect to single-ended UltraSCSI shelf	4	4	KZPBA-CA
PCI 1-port UltraSCSI differential adapter (uses one PCI slot); includes external 68-pin HD connector, requires BN38C-xx cable (2 to 25 m) to connect adapter to differential UltraSCSI shelf or RAID controller	4	4	KZPBA-CB
68-pin HD male-to-VHDCI male UltraSCSI cable; xx = 02, 03, 05, 10, 20, 25 m			BN38C-xx
PCI 1-port UltraSCSI RAID controller with 4-MB cache memory (uses one PCI slot), includes RAID Array 230/Plus Subsystem software and documentation kit; includes VHDCI female connector; tape drives not supported; 18.2-GB disk drives not supported, requires BN37A-xx cable (.3 to 20 m) to connect to single-ended UltraSCSI shelf	4	4	KZPAC-AA
PCI 3-port UltraSCSI RAID controller with 4-MB cache memory (uses one PCI slot), includes RAID Array 230/Plus Subsystem Software and documentation kit; tape drives not supported; 18.2-GB disk drives not supported; SCSI cable required for each active port; requires BN37X-xx cable (.3 to 20 m) to connect to single-ended UltraSCSI shelf, and BN31K-0E for external third port connection	2	2	KZPAC-CA
Same as KZPAC-CA with 8-MB cache memory	2	2	KZPAC-CB
Cache battery backup for KZPAC controller			KZPSC-UB
Factory configured RAID of KZPAC with StorageWorks shelves Note: Factory configured RAID sets for disks in single-bus StorageWorks shelves connected to KZPAC require completion of questionnaire located at http://www.digital.com/alphaserver/fcr			YS-ASDRD-BA
VHDCI male-to-VHDCI male UltraSCSI cable; xx = 02, 2E [2.5], 03, 05, 10, 20, 25 m Note: Manufacturing may substitute BN37A-02 cable for specific cabinet configurations.			BN37A-xx
SCSI cable/bulkhead assembly kit, supports one third-port connection from KZPAC-CA/CB, allows external connection of one third port			BN31K-0E
SCSI cable/bulkhead assembly kit, supports two third-port connections from KZPAC-CA/CB, allows external connection of two third ports			KZPAC-SB

Options

Step 8 – External Storage – Optional (continued)

Removable Media Devices for External StorageWorks Shelves

- For maximum performance, tape libraries must be configured with Fast Wide Differential (FWD) controllers for tape backup

12/24-GB 4 mm DAT narrow SCSI tape drive in StorageWorks carrier	DS-TLZ10-VA
35/70-GB DLT single-ended tape drive in StorageWorks carrier	DS-TZ89N-VW
35/70-GB AIT tape drive in StorageWorks carrier	DS-AIT35-VW
600-MB 32X CD-ROM drive in StorageWorks carrier	DS-RRD47-VA

StorageWorks Shelf – Requires selection of UltraSCSI adapter and SCSI cable

StorageWorks UltraSCSI single-bus shelf kit	BA36R-RC
StorageWorks UltraSCSI split-bus shelf kit	BA36R-RD

System Disk Drive (Supported in StorageWorks Shelf)

9.1-GB 7200 RPM UltraSCSI drive	DS-RZ1DA-VW
18.2-GB 7200 RPM UltraSCSI drive	DS-RZ1EA-VW
36.4-GB 7200 RPM UltraSCSI drive	DS-RZ1FB-VW
9.1-GB 10000 RPM UltraSCSI drive	DS-RZ1DD-VW
18.2-GB 10000 RPM UltraSCSI drive	DS-RZ1ED-VW

Step 9 – 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 for Tru64 UNIX and OpenVMS systems if required

	Maximum # Supported		
	Tru64 UNIX	OpenVMS	
ELSA Gloria synergy graphics with 8-MB SGRAM 1600 x 1200, 2D/3D graphics accelerator	3	1	SN-PBXGK-BB
PowerStorm 4D51T advanced 3D graphics accelerator	4	-	SN-PBXGI-AD
PowerStorm 300 3D multi-head graphics accelerator with 15-MB frame buffer memory and 16-MB texture memory	3	-	SN-PBXGD-AD
PowerStorm 350 3D multi-head graphics accelerator with 30-MB frame buffer memory and 32-MB texture memory	3	-	SN-PBXGD-AE

Step 10 – Monitors – Optional

- RAID Configuration Utility is accessible via the console port for Tru64 UNIX and OpenVMS systems; optional graphics capability is available
- Graphics monitors other than those listed can be used if compatible with SVGA graphics ordered with system
- Selection of a video extension cable and country-specific power cord is mandatory for all monitors

15" Corporate Series auto-scan color monitor, VGA to 1024 x 768 @ 85 Hz; Northern Hemisphere without power cord	3R-VRQV5-24
Same as above except Southern Hemisphere without power cord	3R-VRQV5-11
17" (16.0" viewable image size) professional series auto-scanning color monitor, Trinitron CRT, 0.25 mm aperture grill pitch, VGA to 1280 x 1024 @75 Hz, TCO 99, MPR-II, Energy Star, attached 1.8-m video cable; Northern Hemisphere without power cord	3R-VRQP7-24
Same as above except Southern Hemisphere without power cord	3R-VRQP7-23

Options

Step 10 – Monitors – Optional (continued)

21" (19.6" viewable image size) auto-scanning color monitor, Trinitron CRT, 0.28 mm aperture grill pitch, VGA to 1600 x 1200 @85 Hz NI, TCO 95, Energy Star, includes 1.8-m video cable; Northern Hemisphere without power cord	3R-VRQP1-24
Same as above except Southern Hemisphere without power cord	3R-VRQP1-23

Video Extension Cable

1.8-m video extension cable—mandatory for each monitor ordered	BN39C-02
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Monitor Power Cords

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

Step 11 – Networks and Communications –Optional

- Controllers/adapters require Tru64 UNIX V4.0F or OpenVMS V7.1-2
- PCI controllers/adapters use one PCI slot
- See Step 2 for mandatory supported Ethernet adapters

	Maximum # Supported		
	Tru64 UNIX	OpenVMS	
PCI Gigabit Ethernet adapter, SC connectors, MMF, no boot support	2	1	DEGPA-SA
SC-to-SC dual fiber optic cable			BN34B-xx
PCI FDDI adapter, single attachment station (SAS), multi-mode fiber (MMF), SC connector	2	2	DEFPA-AC
PCI FDDI adapter, DAS, MMF, SC connector	2	2	DEFPA-DC
MIC-SC dual fiber optic cable			BN34D-xx
SC-to-SC dual fiber optic cable			BN34B-xx
PCI FDDI adapter, SAS, TP-PMD, requires BN25H-03 cable	2	2	DEFPA-UC
PCI FDDI dual adapter, DAS, TP-PMD, requires BN25H-03 cable	2	2	DEFPA-MC
3m (9.8") FDDI cross-over cable			BN25H-03
PCI 4-port asynchronous controller; Note: maximum two PBXDA-xx adapters per system	2	2	PBXDA-AA
PCI 8-port asynchronous controller, cable included; Note: maximum two PBXDA-xx adapters per system	2	2	PBXDA-AB
PCI 16-port asynchronous controller, cable included; Note: maximum two PBXDA-xx adapters per system	2	2	PBXDA-AC
PCI-to-ATM 155 Mb adapter - Fiber	4	-	3X-DAPBA-FA

Options

Step 11 – Networks and Communications –Optional (continued)

PCI-to-ATM 155 Mb adapter - UTP	4	-	3X-DAPBA- UA
PCI-to-ATM 622 Mb adapter - Fiber	2	-	3X-DAPCA- FA
Asynchronous multi-port MUX expander XEM			CXI01-AB

Step 12 – Keyboards

- Keyboards are not included with system and must be ordered separately

	Tru64 UNIX	OpenVMS
U.S./English keyboard	SN-LKQ47-AA	LK461-A2
Belgian keyboard	SN-LKQ47-AB	LK461-AB
Canadian/French keyboard	SN-LKQ47-AC	LK461-AC
Danish keyboard	SN-LKQ47-AD	LK461-AD
UK keyboard	SN-LKQ47-AE	-
Finnish keyboard	SN-LKQ47-AF	LK461-AF
German keyboard	SN-LKQ47-AG	LK461-AG
Dutch keyboard	SN-LKQ47-AH	LK461-AH
Italian keyboard	SN-LKQ47-AI	LK461-AI
Swiss/French keyboard	SN-LKQ47-AK	LK461-AK
Swiss/German keyboard	-	LK461-AL
Swedish keyboard	SN-LKQ47-AM	LK461-AM
Norwegian keyboard	SN-LKQ47-AN	LK461-AN
French keyboard	SN-LKQ47-AP	LK461-AP
Canadian/English keyboard	-	LK461-AQ
Latin-American keyboard	SN-LKQ47-AR	-
Spanish keyboard	SN-LKQ47-AS	LK461-AS
Hebrew keyboard	SN-LKQ47-AT	LK461-AT
Portuguese keyboard	SN-LKQ47-AV	LK461-AV
BHCSY keyboard	SN-LKQ47-AX	-
International keyboard	SN-LKQ47-BA	-
Greek keyboard	SN-LKQ47-BH	LK461-BH
Taiwanese keyboard	SN-LKQ47-BI	-
Korean keyboard	SN-LKQ47-BK	-
Romanian keyboard	-	LK461-BL
Polish keyboard	SN-LKQ47-BP	LK461-BP
Hungarian keyboard	SN-LKQ47-BQ	LK461-BQ
Arabic keyboard	SN-LKQ47-BR	-
Cyrillic keyboard	SN-LKQ47-BT	LK461-BT
Turkish keyboard	SN-LKQ47-BU	LK461-BU
Czech keyboard	SN-LKQ47-BV	LK461-BV
Turkish/French keyboard	-	LK461-BW
Yugoslavian keyboard	-	LK461-BY
Thai keyboard	SN-LKQ47-CB	-
S. Chinese keyboard	SN-LKQ47-CV	-
Slovak keyboard	SN-LKQ47-CZ	LK461-CZ

Options

Step 12 – Keyboards (continued)

Keyboard or Mouse Extension Cable

6 ft keyboard or mouse extension cable; to extend both keyboard and mouse order 2 cables 17-04016-01

Step 13 – Console Terminal – Optional

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

VT510 video terminal; requires H857-x cable	VT510-xx
Console cable, female connector	H857-A
Console cable, male connector	H857-D
Console cable, male connector (IBM compatible)	H897-E

Step 14 – Software – Required selection of media and documentation for first system on site

- Software Processor Code = E

Tru64 UNIX

- Tru64 UNIX systems include Tru64 UNIX base 2-user license and Compaq Open3D license

Tru64 UNIX media and online documentation on CD-ROM	QA-MT4AA-H8
Tru64 UNIX full hard copy documentation	QA-MT4AA-GZ
StorageWorks Software Package, includes licenses for Logical Storage Manager and AdvFS Utilities	QB-5RXAE-AA
TruCluster Available Server License	QL-05SAE-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

OpenVMS

- OpenVMS systems include OpenVMS base license, concurrent use 1-user license, and Compaq Open 3D license
- OpenVMS Concurrent Use Licenses are not specific to a single system and can be moved between systems at user discretion; OpenVMS Concurrent Use Licenses can also be shared in a mixed OpenVMS VAX and OpenVMS Alpha Cluster

Concurrent Use 1-user license (included with system package)	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-MT2AQ-AA
OpenVMS media and documentation on CD-ROM	QA-MT1AA-H8
OpenVMS full hard copy documentation	QA-001AA-GZ

Options

Step 14 – Software – Required selection of media and documentation for first system on site (continued)

Layered products media and documentation for OpenVMS on CD-ROM, includes Enterprise Integration Server for OpenVMS media and documentation	QA-03XAA-H8
DECnet extended function license for OpenVMS	QL-MTGAE-AA
DECnet end-system to extended function upgrade license for OpenVMS	QL-MTHAE-AA
OpenVMS Cluster license for Alpha systems	QL-MUZAE-AA
OpenVMS Volume Shadowing license	QL-2A1AE-AA

Step 15 – Hardware and Software Supplemental Support Services –Optional

- Systems include 3-year hardware warranty, on-site, with 5 x 9, 24-hour response time; select optional Hardware Supplemental Support Services if required
- 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 AlphaStation DS20E options include a minimum of 1-year Return-to-Compaq warranty

Hardware Supplemental Support –Americas and Asia Pacific only	1-GB memory or less	More than 1-GB memory
5 x 9, 4-hour response time	FM-TC4HR-36	FM-TF4HR-36
5 x 12, 4-hour response time	FM-TC512-36	FM-TF512-36
6 x 16, 4-hour response time	FM-TC616-36	FM-TF616-36
7 x 24, 4-hour response time	FM-TC724-36	FM-TF724-36
Years 1-5, next day, onsite	FM-TCXHW-60	FM-TFXHW-60
Years 1-5, 5 x 9, 4-hour response time	FM-TC4HR-60	FM-TF4HR-60
Years 1-5, 5 x 12, 4-hour response time	FM-TC512-60	FM-TF512-60
Years 1-5, 6 x 16, 4-hour response time	FM-TC616-60	FM-TF616-60
Years 1-5, 7 x 24, 4-hour response time	FM-TC724-60	FM-TF724-60

Installation Services

Hardware product installation for DS20E	FM-TC12X-IN
Add-on memory installation for DS20E	FM-TCMEM-IN
Add-on CPU installation for DS20E	FM-TCSMP-IN

Software Supplemental Support— Americas and Asia Pacific only

- Systems include 90-day Conformance to SPD and Telephone Advisory Support; select optional Software Supplemental Support Services if required
- Software service upgrades for Tru64 UNIX include advisory and remedial software support with new version license rights for operating system for time period indicated
- Software service upgrades for OpenVMS include advisory and remedial software support with new version license rights for operating system and Enterprise Integration Package for time period indicated
- Software service upgrades for SMP upgrades running Tru64 UNIX or OpenVMS include new version license rights for Tru64 UNIX or OpenVMS SMP Upgrades for time period indicated; one required for each SMP upgrade

	Tru64 UNIX	OpenVMS
5X9 12-month Software Supplemental Support	FM-D20U9-12	FM-D20V9-12
5X9 36-month Software Supplemental Support	FM-D20U9-36	FM-D20V9-36
5X9 60-month Software Supplemental Support	FM-D20U9-60	FM- D20V9-60
7X24 12-month Software Supplemental Support	FM-D20US-12	FM-D20VS-12
7X24 36-month Software Supplemental Support	FM-D20US-36	FM- D20VS-36
7X24 60-month Software Supplemental Support	FM-D20US-60	FM- D20VS-60
12-month Software Supplemental Support – DS20E SMP Upgrade	FM-D20UP-12	FM-D20VP-12
36-month Software Supplemental Support – DS20E SMP Upgrade	FM-D20UP-36	FM-D20VP-36
60-month Software Supplemental Support– DS20E SMP Upgrade	FM-D20UP-60	FM-D20VP-60

QUICK SPECS

Compaq AlphaStation DS20E

Technical Specifications

Pedestal

Dimensions (HxWxD)	18.5 x 8.85 x 27.5 in / 47.0 x 22.5 x 69.9 cm	
Shipping Dimensions	24 x 26.25 x 40 in / 61.0 x 66.0 x 101.6 cm	
Weight		
Typical Configuration	80 lbs / 36 kg	
Maximum Configuration	88 lbs / 40 kg	
Shipping Weight		
Nominal	100 lbs / 45 kg	
Maximum	110 lbs / 50 kg	
Clearances	Operating	Service
Front	15 in / 38.1 cm	15 in / 38.1 cm
Rear	6 in / 15 cm	29.5 in / 75 cm
Left Side	None	None
Right Side	None	None

Rackmount

Dimensions (HxWxD)	8.75 x 17.5 x 26 in / 22.2 x 44.5 x 66.0 cm (5U)	
Shipping Dimensions	24 x 26.25 x 40 in / 61.0 x 66.0 x 101.6 cm	
Weight		
When lifting:		
Nominal	80 lbs / 36 kg	
Maximum	86 lbs / 39 kg	
Total added to cabinet (brackets, slides, cables):		
Nominal	84 lbs / 38 kg	
Maximum	88 lbs / 40 kg	
Shipping Weight		
Nominal	100 lbs / 45 kg	
Maximum	110 lbs / 50 kg	
Clearances	Operating	Service
	See specific cabinet requirements	Minimum 4 ft / 121.9 cm, 28 in / 71 cm withdrawal on rails

QUICK SPECS

Compaq AlphaStation DS20E

Technical Specifications

Cabinet

	H9A10 M-Series	H9A15 M-Series
Dimensions (HxWxD)	67 x 23.6 x 43.27 in/ 170 x 60 x 110 cm	79 x 23.6 x 35.4 in 200 x 60 x 90 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	1000 lbs / 450 kg
Shipping Weight	Configuration dependent, maximum payload 1,000 lbs	1056 lbs / 550 kg (normal) 1,408 lbs / 640 kg (maximum)

System Unit

Environmental

Temperature

Operating (Tower, Rackmount) ¹	50° to 95°F / 10° to 35°C
Non-operating	Not tested
Storage (60 days)	-40° to -151°F / -40 to -66°C
Rate of change	20°F/hr / 11°C/hr

Relative Humidity

Operating	20% to 80%
Non-operating	20% to 80%
Storage (60 days)	10% to 95%
Rate of change	20% hr

Maximum Wet Bulb Temperature

Operating	82°F / 28°C
Storage (60 days)	115°F / 46°C

Maximum Dew Point Temperature

Operating	36°F / 2°C
Storage (60 days)	Not tested

Heat Dissipation

	Nominal	Maximum
Tower	550W, 1,878 BTU/hr	780W, 2,664 BTU/hr
Pedestal		
H9A10/H9A15 Cabinets	Configuration dependent	

Air Flow and Quality

Intake location	Front
Exhaust location	Rear Tower, Pedestal, Rack; Rear/top H9A10/H9A15
Particle size	N/A
Concentration	N/A

Altitude

Operating ²	10,000 ft / 3,037m
Non-operating	40,000 ft / 12,192m

Acoustics (Declared values per ISO 9296 and ISO 7779)

Acoustics ³

	L _{WA} d3B	L _{nAm} 5dBA (bystander position)
Idle	5.8	44
Operating	6.3	49

Vibration

Operating	10-500 Hz .1 G peak
Non-operating	1.03 Grms 5-300 Hz

Technical Specifications

System Unit *(continued)*

Electrical (Power supplies are universal, PFC, auto ranging, 100/240 Vac)

Nominal Voltage (Vac)	100	120	200-240
Voltage Range (Vac) (temporary condition)	90-100	110-128	180-250
Power Source Phase	Single	Single	Single
Nominal Frequency (Hz)	50/60	50/60	50/60
Frequency Range (Hz)	49-51 / 59-61	49-51 / 59-61	49-51 / 59-61

RMS Current (maximum steady state)

Pedestal and Rackmount

Single power cord	6.6A	5.5A	3.0A
Maximum VA	780	765	730

M-series Cabinet (configuration dependent)

Nominal voltage (Vac)	100	120	220-240
Each power cord	24A	24A	16A

Power Cords

Pedestal	1 (75 in / 190 cm)	IEC 320 C13 to NEMA 5-15 (N. America) or IEC 320 C13 to country-specific
Rackmount	1 (14 ft 10 in / 452 cm)	IEC 320 C13 to NEMA 5-15 (N. America) or IEC 320 C13 to IEC 320 C14 (other countries)
Cabinet	2 (10 ft 10 in / 330 cm)	120V non-removable NEMA L5-30P or 200-240V non-removable IEC 309

Regulatory

Agency Approvals

UL: Listed to UL1950 (3rd edition)
 CSA: Certified to CAN/CSA-C22.2 No. 950-M95
 TUV: EN 60950/A4: 1997 VDE 0805 GS marked
 FCC: Part 15.B Class A
 CE: EN55022, EN50082
 VCCI Class II ITE
 BCIQ: CISPR22, CNS13438
 C-Tick: CISPR22, AS/NZS 3548

Reviewed to

AS/NZ 3260:1993 Australian/New Zealand Standard
 EN 60950/A4: 1997 European Norm
 IEC 950 (2nd edition, 3rd amend)

¹ Maximum operating temperature at sea level; reduce by 1.8°F (1°C) for each 2,000 ft (600m) above sea level.

² Higher altitudes are possible if maximum operating temperature is reduced (see Temperature); other restrictions may apply such as maximum permissible altitude for hard drives.

³ Current values for specific configurations are available from Compaq, note that 1 B = 10 dBA.