



VAX 4000 Model 108
V2.3—21 December 1998
DIGITAL Systems and Options Catalog

Product Description

VAX 4000 systems provide commercial systems performance, high availability, and a compact footprint. Systems support a wide range of applications and options, including FDDI networks and Q-bus peripherals. VAX 4000 system enclosure supports internal storage and Q-bus expansion through a B400X expansion cabinet and is available in two packages: Desktop/Deskside Model 108 and Rackmount Model 108 with two DSSI bus controllers.

DSSI and Ethernet adapter chips—each driven by a 10-MIP on-chip RISC processor—are tightly integrated on the CPU module with direct access to memory. Digital's DSSI to SCSI HSD10 storage solutions replace DSSI RF36 disk technology in all VAX 4000 systems. Digital's HSD10 DSSI-to-SCSI controller mounted internally in system cabinet, supports standard RZxx SCSI storage on VAX 4000 systems while still supporting DSSI clustering. External StorageWorks HSD10 controllers are supported.

VAX 4000 Model 108 offers identical performance, is compatible with Model 106A (38 VUP or 215 tps), and is housed in a Desktop/Deskside mini-tower enclosure. The new enclosure provides more flexibility for desktop and rackmount use. In addition, these systems offer enhancements in the memory and storage capacity, supporting up to 512 MB of standard SIMM memory and six storage devices in the system enclosure.

A DSSI OpenVMS cluster system provides high data and system availability by joining Q-bus VAX 4000, VAX 6000, and VAX 7000 systems via DSSI. Each system can access and share all disks attached to the DSSI buses; this provides multiple paths to the data. Should one system in a DSSI OpenVMS cluster configuration fail, data is available to serve systems via the other paths, and all I/O operations can resume immediately. No application rewrite is required across high-availability options, and systems can be expanded without disruption to existing operations.

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VAX 4000 Comparison Chart

Note: The following chart is for comparison use only. The Model 108 is the remaining marketable VAX 4000 system. The Models 106A, 505A, and 705A are no longer orderable.

	Model 106A (BA42B)	Model 108 (Mini Tower)	Model 505A (BA440)	Model 705A (BA440)
Minimum version of OpenVMS	5.5-2H4	5.5-2H4	5.5-2H4	5.5-2H4
Performance (TPS) / VUP	215e / 38	215e / 38	200e / 32	280e / 48
Maximum memory	128 MB	512 MB	512 MB	512 MB
Maximum Internal Storage	8.4 GB	54 GB	25.2 GB	25.2 GB
Maximum External Storage	327.6 GB	648 GB	680.5 GB	680.5 GB
Maximum disk I/O throughput per embedded DSSI bus	1200 I/Os per second 2 standard	1200 I/Os per second 2 standard	1200 I/Os per second 2 standard 2 optional	1200 I/Os per second 2 standard 2 optional
Q-bus slots available	In separate cabinet/enclosure (B400X-B9)	In separate cabinet/enclosure (B400X-B9)	5 HSD10-Jx controller takes up slots 6 & 7- (power only)	5 HSD10-Jx controller takes up slots 6 & 7- (power only)
Maximum possible Q-bus slots (with B400X expansion cabinet)	11	11	15	15
Maximum Tape Configurations	Internal/External	Internal/External	Internal/External	Internal/External
TLZ10	1 / 2 ¹	2 / 2 ¹	1 / 2 ¹	1 / 2 ¹
TZK11	1 / 2 ¹	2 / 2 ¹	1 / 2 ¹	1 / 2 ¹
TZK20	1 / 2 ¹	2 / 2 ¹	0 / 2 ¹	0 / 2 ¹
TZ88N-TA	0 / 2 ¹	0 / 2 ¹	0 / 2 ¹	0 / 2 ¹

1. Tabletop maximum of two tapes per SCSI bus.

Tape and CD-ROM drives that can be used as boot² and load³ devices

Device	Model 106A	Model 108	Model 505A	Model 705A
RRD47	Boot/load	Boot/load	Boot/load	Boot/load
TLZ10	Boot	Boot	Boot	Boot
TZK11	Boot	Boot	N/A	N/A
TZK20	Boot	Boot	Boot	Boot
TZ89N	Boot	Boot	Boot	Boot

2. A “boot” device is defined as a device that is supported by both the hardware system's VMB bootstrap facility (console level “BOOT” command) and the OpenVMS operating system STABACKIT utility.
3. A “load” device is defined as a device that supports the media on which DIGITAL distributes software.
4. Attaches directly to the network for simultaneous shared access. OpenVMS V5.5-2H4 supports Initial System Software Load (ISL) for MicroVAX 3xxx, VAX 4000, and VAX 6000 systems.

Step 1—Model 108 Systems

- VAX 4000 Model 108 systems require OpenVMS V5.5-2H4, or higher. To operate systems in an existing cluster environment, the cluster system disk must be updated.
 - Systems include factory-installed software⁵ (OpenVMS V7.1). Media and documentation is recommended for the first system on site. Media and documentation for OpenVMS V 5.5-2H4 is included with each system for customers who need to load and run OpenVMS V5.5-2H4.
 - Systems include two KFDDA-BB DSSI controllers, HSD10-EB DSSI-SCSI adapter, one 2.1 GB (RZ28) disk, and RRDxx CD-ROM drive.
 - Systems include 120 V power cord (220 V/240 V) devices require a country-specific power cord; see Step 8)
 - Select OpenVMS user licenses if required from Step 7.
5. FIS is not a substitute for software media and documentation; see Step 7.

Step 1—Systems

VAX 4000 Model 108 Dual DSSI ADVANTAGE SERVERS include:

- Mini Tower enclosure with CPU/FPU.
- DSSI-SCSI controller (HSD10-EB).
- Two KFDDA-BB DSSI bus controllers for external DSSI buses.
- Synchronous SCSI interface for connecting internal and external SCSI devices; external connection via 50-pin high density external SCSI connector.
- Six Storage bays.
- Two Memory slots.
- Q-bus port.
- 802.3 Ethernet Interface (ThinWire/Thick wire) with terminators.
- Ethernet kit includes ThinWire T-connector with BNC terminators and 15-pin Thick wire.
- Universal power supply that automatically adjusts to 88–132 Vac or 176–264 Vac.
- Three DEC-423 asynchronous serial lines (MMJ data leads only) EIA-232 asynchronous serial line with modem control (25-pin D-subminiature connector).
- H8575-A 25-pin-to-MMJ DEC-423-to-EIA-232 adapter.
- 7.6-meter (25-foot) console terminal cable.
- 120 V power cord (country specific power cord required for 240 V use).
- 64 MB or 128 MB SIMM memory.
- One 2.1 GB disk (uses one 3.5-inch SCSI bay).
- One 600 MB CD-ROM drive (uses one 5.25-inch removable media bay).
- OpenVMS base license.
- DIGITAL NAS Base Server 200 software license.
- Hardware Documentation EK-VX108-UI.
- Three-year hardware product warranty.
- 90-day software warranty.

VAX 4000 Model 108 Dual DSSI Advantage Servers

Order Number	Memory	Controllers	DIGITAL NAS	Disk Drive	CD-ROM
DV-418CD-E9	64 MB	Two DSSI-SCSI Controllers	Base Server 200	2.1 GB FIS ¹	600 MB
DV-418CD-F9	128 MB	Two DSSI-SCSI Controllers	Base Server 200	2.1 GB FIS ¹	600 MB

Rackmount VAX 4000 Model 108 Dual DSSI Advantage Servers

Rackmount Advantage Servers include 19-inch Rackmount Slide Kit.

Order Number	Memory	Controllers	DIGITAL NAS	Disk Drive	CD-ROM
DV-41RCD-E9	64 MB	Two DSSI-SCSI Controllers	Base Server 200	2.1 GB FIS ¹	600 MB
DV-41RCD-F9	128 MB	Two DSSI-SCSI Controllers	Base Server 200	2.1 GB FIS ¹	600 MB

1. Disk drive includes Factory Installed Software (FIS).

Step 2—Memory

- Systems with 64 MB memory include one PB7MA-CC memory option, select one additional memory option, 64 MB or 128 MB, for system total of 128 or 192 MB.
- Systems with 128 MB memory include one PB7MA-CD memory option, select one additional memory option, 64 MB or 128 MB, for system total of 192 or 256 MB.
- To expand beyond 256 MB see Memory Configuration Chart below.

PB7MA-CC	64 MB SIMM memory
PB7MA-CD	128 MB SIMM memory
MS45 –DA	128 MB SIMM memory expansion option, supports 64 MB or 128 MB (PB7MA-CC/CD) SIMM memory options. Includes 128 MB memory with empty sockets for additional 64 Mb or 128MB.

Step 2—Memory (*continued*)

Memory Configuration Chart

Required Memory	1st Memory Board (standard)		2nd Memory Expansion Board (optional)	
	64 MB	128MB	64 MB	128MB
64 MB	1	0	N/A	N/A
128 MB	2 or	1	N/A	N/A
192 MB	1	1	N/A	N/A
256 MB	0	2	N/A	N/A
320 MB	1	1	0	1
384 MB	0	2	0	1
448 MB	0	2	1	1
512 MB	0	2	0	2

Step 3—Storage

- Single systems support:
 - Seven DSSI device IDs per DSSI node (controller), with the embedded HSD10 controller uses one device ID on the first DSSI bus.
 - Two-system DSSI VMScluster configurations that support six DSSI nodes (controllers), where each node uses one of the eight available nodes, and can be connected between any pair of DSSI adapters (one controller in each system).
 - Dual DSSI KFDDA-BB bus systems provide a second DSSI bus capability to connect additional DSSI devices to the system.
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Step 3a—Storage Controller

- Systems include two KFDDA-BB DSSI controllers, no further expansion is available.
- Four Q-bus storage adapters (two KZQSA and two KFQSA) are supported per system in B400X Q-bus enclosure.
- Four Q-bus KFQSA storage adapters.
- One HSD10-JA/JF supported per B400X Q-bus enclosure.

KZQSA-SF Q-bus-to-SCSI adapter. Uses one Q-bus slot in BA400x enclosure. Supports two SCSI devices (tape and CD-ROM) in tabletop enclosure. No longer manufactured – Note: Reference sell through DUSERS and third party resellers.

KFQSA-SG Q-bus-to-DSSI adapter. Uses one Q-bus slot in BA400x enclosure, includes 25-foot BC21M-25 cable. No longer manufactured – Note: Reference sell through DUSERS and third party resellers.

Step 3b—Internal Storage

- System supports maximum of six internal devices in any of the following combinations:
 - Six SCSI half-height disk drives, or
 - Five RZ28 disk drives and one removable media device
 - Three SCSI half-height disk drives and three removable media devices
- Advantage Servers include Factory Installed Software (FIS).
- Order a load device, if necessary.
- OpenVMS Cluster satellite members or systems being loaded over the network do not require a load device.
- HSD10-EB is configured on KFDDA-BB DSSI bus 0 and supports up to 6 RZ2x internal disks and up to seven RZ2x disks when external HSD10 SCSI port is used. SCSI bus is terminated on the HSD10 controller side and requires a terminator on the far end of the SCSI bus. One HSD10 supported per system enclosure.
- Internal removable media devices are configured on the internal on-board SCSI bus.

Step 3b—Internal Storage (continued)**Internal Removable Media Devices**

RRD47-AB	32X SCSI CDROM embedded 5.25-inch, frost white
TLZ10-LK	8.0 GB 4 mm DAT drive
TZK11-LG	2.1 GB cartridge QIC tape drive
TZK20-LK	2.3 GB 300 Kbs SCSI QIC tape drive

Internal SCSI Disk Drives

RZ29L-EB	4.3 GB 3.5" x 1.6" SCSI disk drive 7200 RPM Narrow, 50-Pin
RZ40-EB	9.1 GB UltraSCSI 7200 RPM Disk Drive, Narrow, 50-Pin
RZ1EF-EB	18.2 GB UltraSCSI 7200 RPM Disk Drive, Narrow, 50-Pin

Step 3c—External Storage

Use following table to calculate external SCSI bus length.

Maximum SCSI Bus Length	Model 108
On-board internal	1.2 m (47.2 inches)
On-board external	4.8 m (189.0 inches)
HSD10 SCSI internal	1.2 m (47.2 inches)
HSD10 SCSI external	4.8 m (189.0 inches)

DSSI External Expansion

- StorageWorks Deskside Expansion Units (BA356) support HSD10-Bx for DSSI expansion.
- One Q-bus expansion cabinet (B400X) supported per system.
- One TKxx tape drive supported in B400X expansion cabinet.
- Two TZxx/TLZxx tape drives supported per DSSI bus.
- One HSD10-Jx DSSI-SCSI controller per BA400X expansion cabinet.
- Order BC29S-xx DSSI cable to connect to external HSD10-xx controller. **Note:** Cable used with Model 106 (BC29R-xx) is **not** compatible.

StorageWorks HSD10 Array Controller

- StorageWorks BA356 supports HSD10 DSSI-SCSI array controller and up to seven SCSI devices.

Note: When External HSD10 SCSI port is used the SCSI transfer rate must be modified from 10 MB to 5 MB/second

HSD10-BF StorageWorks HSD10 DSSI-SCSI Array controller with 32 MB cache buffer, supports seven SCSI-2 devices; includes DSSI terminator and tralink adapter; requires BC29S-xx DSSI cable for VAX 4000 to HSD10 connection.

Expansion Cabinets

- B400X Expansion Cabinet includes Q-bus extender modules and two 9-foot (2.7 m) cables.
- 9-foot (2.7 m) BC21M-09 DSSI cable.
- 6-foot (1.8 m) BC06P-06 KZQSA cable.
- 10-foot (3.0 m) BC09F-10 power control cable, Universal power supply, and 120 V power cord

B400X-B9 Q-bus Expansion Cabinet provides eleven additional Q-bus slots and supports:
 One TKxx, TLZxx, or TZxx tape drive
 One HSD10-Jx controller and four RZ28x-AA/RZ29B-AA disk drives
 One HSD10-Jx controller, three RZ282-AA/RZ292-AA disk drives and one RZ28M-xx/RZ29B-AA disk drive in any combination of RZ28M-AA and RZ282-AA, not to exceed 7 drives per HSD10-JA.
 Note: Reference sell through DUSERS and third party resellers.

B401X-A9 Rackmount Q-bus Expansion Cabinet. Requires 35.5 CM (14 inches) of vertical rack space.
 Contact Computer Special Systems (CSS) for configuration rules
 Note: Reference sell through DUSERS and third party resellers.

Step 3c—External Storage (continued)
SCSI Storage Devices for B400X

RRDxx-EB 600 MB CD-ROM drive, requires KZQSA Q-bus-to-SCSI controller or HSD10-JA DSSI-SCSI controller

SCSI External Storage

- System supports seven SCSI devices per system on HSD10 DSSI-SCSI controller, up to 6 internal, and up to 7 on external HSD10 SCSI port.
- System supports seven SCSI devices per system on the on-board SCSI controller, up to 5 internal, and up to 7 on external SCSI port.
- Maximum SCSI bus length, internal and external, is 236-inches (6 meters), see SCSI cable chart.

StorageWorks Expansion Units

- StorageWorks BA356 supports HSD10 DSSI-SCSI array controller and up to seven SCSI devices.

BA356-KD¹ StorageWorks 16-bit shelf includes dual speed blowers. Supports maximum of seven 3.5" devices 8- or 16-bit), requires BA35X-MG 8-bit I/O module, and BN21H-xx SCSI cable

1. One BA356 expansion unit is supported per single ended SCSI bus; no other external device can be connected to system with BA356 unit.

SCSI devices supported in StorageWorks Expansion Units

DS-RZ29L-VA	4.3 GB 8-bit narrow SCSI disk drive, 7200 RPM
DS-RZ1CB-VW	4.3 GB 16-bit wide SCSI disk drive, 7200 RPM
DS-RZ1CF-VA	4.3 GB UltraSCSI 7200 RPM Disk Drive, Narrow, SBB
DS-RZ1CF-VW	4.3 GB UltraSCSI 7200 RPM Disk Drive, Wide, SBB
DS-RZ1DF-VA	9.1 GB UltraSCSI 7200 RPM Disk Drive, Narrow, SBB
DS-RZ1DF-VW	9.1 GB UltraSCSI 7200 RPM Disk Drive, Wide, SBB
DS-RZ1EF-VA	18.2 GB UltraSCSI 7200 RPM Disk Drive, Narrow, SBB
DS-RZ1EF-VW	18.2 GB UltraSCSI 7200 RPM Disk Drive, Wide, SBB
DS-TLZ10-VA	8.0 GB, 3.5-inch, half-height 4-mm DAT drive
TLZ9L-VA	32/64 GB DAT tape loader in StorageWorks carrier
TZ89N-AV	35/70 GB 5.25-inch single-ended DLT tape drive
TZK11-VA	2.0 GB 5.25-inch QIC tape in StorageWorks carrier

Tabletop Expansion

DS-TLZ10-DB	4/8 GB 4-mm DAT tabletop tape drive
TZK20-DB	2.3 GB QIC tabletop tape drive
DS-TZ89N-TA	35/70 GB 5.25-inch single-ended DLT tabletop tape drive
TLZ9L-DB	32/64 GB tabletop DAT tape loader
BC09D-03	TZ8x cable, 3 foot (0.9 m)
BC09D-06	TZ8x cable, 6 ft (1.8 m)
BC09D-12	TZ8x cable, 12 ft (3.6 m)

Step 4—Networks and Communications

Systems support one asynchronous and one synchronous communication option. Select host-based communications controllers for standalone systems (without LAN connectivity), or for other requirements.

Asynchronous Multiplexer Options

Select **one** asynchronous multiplexer for communications expansion.

DHW42-CB	Provides eight EIA-232 lines for a system total of 12 asynchronous lines (three data only and nine with modem control). Includes internal logic module with cable, EIA-232 I/O assembly, and two external 50-pin to 4-way 25-pin BC29J-06 1.8-m (6-ft) cables; factory or field installed.
DHW42-BB	Provides 16 DEC-423 lines for a system total of 20 asynchronous lines (19 data only and one with modem control). Includes internal logic module with cable, DEC-423 I/O assembly, two external 36-pin BC16C-10 3-m (10-ft) cables, and two H3104-00 eight-line distribution harmonica; factory or field installed.

Note: Addition of DHW42 CB/BB options increases number of users; an OpenVMS license upgrade may be required.

Synchronous Communications Options

- Select **one** synchronous option.
- EIA-232/V.24 cable (BC19D-02) is included—select alternate cables for EIA-423/V.10 and EIA-422/V.11 connection.
- VAX WAN Device Driver included in OpenVMS layered products CD-ROM media. VAX WAN Device Drive V1.2 or higher is required.

DSW43-AA	EIA-232 synchronous controller provides two lines. Includes synchronous logic module, I/O assembly, and external EIA-232 0.6-m (2-foot) adapter cable
BC19B-02	EIA-422/V.11 0.6-m (2-foot) adapter cable
BC19E-02	EIA-423/V.10 0.6-m (2-foot) adapter cable

VAX 4000 Model 108 systems require a B400X Q-bus expansion cabinet before adding any of the following options

FDDI Communications Controller

DEFQA-SF	DEC FDDI controller/Q-bus SAS (single attachment station) FDDI Controller. Uses one Q-bus slot. Model 106A systems running OpenVMS V5.5-2H4 require DEC LAN Device driver kit for OpenVMS VAX V.1.0. DEC LAN device driver included in OpenVMS V7.1. Note: Reference sell through DUSERS and third party resellers.
DEFQA-DF	DEC FDDI controller/Q-bus DAS (dual attachment station) FDDI Controller. Uses one Q-bus slot. Model 106A systems running OpenVMS V5.5-2H4 require DEC LAN device driver kit for OpenVMS VAX V1.0. DEC LAN device driver included in OpenVMS V7.1. Note: Reference sell through DUSERS and third party resellers.

Both DEC LAN options use the ANSI standard MIC (media interface connector) and support multimode fiber (MMF) up to distances of 2 kilometers between stations. Options require one Q-bus slot (maximum two per system) and a DEC LAN device driver kit.

QA-0PAAA-HM	DEC LAN device driver kit for DEFQA on 9-track 1600-bit/inch magtape
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802.3/Ethernet Communications Controller

802.3/Ethernet interface (ThinWire/thick wire selectable) included with system. Connection of system to Ethernet requires a ThinWire BNC connection (e.g.; BC16M cable) or a thick wire 15-pin AUI transceiver cable (e.g.; BNE3x). Select one additional controller (maximum two per system).

DESQA-SF	802.3/Ethernet/Q-bus controller, ThinWire / thick wire Uses one Q-bus slot; field installed.
DELQA-M	802.3/Ethernet to Q-bus controller

Step 4—Networks and Communications (*continued*)

Q-bus Options

Note: Reference sell through DUSERS and third party resellers.

CXA16-AF	EIA 423-A 16 Line Asynchronous Q-bus controller, includes two 25 foot cables
CXY08-AF	EIA 423-A 8 Line Asynchronous Q-bus controller, includes two 12 foot cables
KFQSA-SA	Q-bus to DSSI adapter, connects to external DSSI devices

Local and Wide Area Communications Servers

Each communications server requires an 802.3/Ethernet connection. Depending on the server selected, either a ThinWire BNC connection (e.g., BC16M cable) or a thick wire 15-pin AUI transceiver cable is required (e.g., BNE3x). Software media and documentation and cables are also required. See *Network Products Guide*.

Step 5—Console Terminal

A console device is necessary for a system to function. Console cable included with system. Order video terminals (e.g., VT520) for each system unless otherwise available. Note: One console terminal required per configuration. VT330, VT340, VT420 with split screen capability can be used as a shared console terminal.

Step 6—Terminals and Printers

Select terminals and serial printers as required. Serial printers connect to an asynchronous line. A cable (e.g., BC16E-25) must be ordered with each unless otherwise provided.

Step 7—Software

Software Processor Code = B

Licenses required to support additional users beyond those included in base systems. Operating System support requires VMS VAX V5.5-2H4, V6.2 or higher

Software Processor Code = S

Clusterwide License Rating = 100 (E)

OpenVMS VAX Interactive User Licenses

OpenVMS VAX Interactive User licenses are for customers running **OpenVMS VAX V5.5 or greater**. OpenVMS VAX Interactive User licenses **are** specific to a single system and **cannot** be shared across an OpenVMS Cluster.

QL-XULA9-BB	OpenVMS VAX Interactive 1-user license
QL-XULA9-BC	OpenVMS VAX Interactive 2-user license
QL-XULA9-BD	OpenVMS VAX Interactive 4-user license
QL-XULA9-BE	OpenVMS VAX Interactive 8-user license
QL-XULA9-BF	OpenVMS VAX Interactive 16-user license
QL-XULA9-BG	OpenVMS VAX Interactive 32-user license

Step 7—Software (continued)
OpenVMS VAX Distributed Interactive User Licenses

OpenVMS VAX Distributed Interactive User licenses are for customers running **OpenVMS VAX Version 6.0 or greater**. OpenVMS VAX Distributed Interactive User licenses are **not** specific to a single system and can be moved between systems at user discretion. OpenVMS VAX Distributed Interactive User licenses can also be shared across an entire OpenVMS Cluster running OpenVMS VAX V6.0 or greater.

Note: OpenVMS VAX Distributed Interactive User licenses are architecture specific and **cannot** be shared across a **mixed** OpenVMS Cluster (OpenVMS VAX and OpenVMS Alpha systems)

QL-09SA9-BB	OpenVMS VAX Distributed Interactive 1-user license
QL-09SA9-BC	OpenVMS VAX Distributed Interactive 2-user license

OpenVMS Consolidated Software Media (CD-ROM) and Documentation—requires CD-ROM reader

Systems include OpenVMS V7.1 base license; order media and documentation separately for OpenVMS V7.1. Systems also include OpenVMS V5.5-2H4 media and documentation

QA-VWJ8A-A8	OpenVMS layered product binaries on CD-ROM without hardcopy documentation.
QA-VYR8A-G8	OpenVMS extended online documentation and layered product online documentation on CD-ROM; requires DECwindows Bookreader.
QA-A93AA-Hx¹	PATHWORKS for OpenVMS media and documentation
QA-GXXAB-Hx¹	POSIX media and documentation (without IEEE documentation)

1. x denotes media type: 8 = CD-ROM, M = magtape.

OpenVMS VAX Distributed Interactive User Licenses

QL-09SA9-BD	OpenVMS VAX Distributed Interactive 4-user license
QL-09SA9-BE	OpenVMS VAX Distributed Interactive 8-user license
QL-09SA9-BF	OpenVMS VAX Distributed Interactive 16-user license
QL-09SA9-BG	OpenVMS VAX Distributed Interactive 32-user license
QL-09SA9-BH	OpenVMS VAX Distributed Interactive 64-user license

OpenVMS Consolidated Software Media (CD-ROM) and Documentation—requires CD-ROM reader

Systems include OpenVMS V7.1 base license; order media and documentation separately for OpenVMS V7.1. Systems also include OpenVMS V5.5-2H4 media and documentation

QA-VWJ8A-A8	OpenVMS layered product binaries on CD-ROM without hardcopy documentation.
QA-VYR8A-G8	OpenVMS extended online documentation and layered product online documentation on CD-ROM; requires DECwindows Bookreader.
QA-A93AA-Hx¹	PATHWORKS for OpenVMS media and documentation
QA-GXXAB-Hx¹	POSIX media and documentation (without IEEE documentation)

1. x denotes media type: 8=CD-ROM, M=magtape.

DIGITAL NAS Base Server 200

Advantage Servers include DIGITAL NAS Base Server 200 license, order media and documentation separately.

QA-MC1AA-Hx¹	DIGITAL NAS Base Server 200 media and documentation kit
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1. x denotes media type: 8 = CD-ROM, M = magtape

Step 8—Power Cords

- Select power cord for 220/240 V use.
- BN19P-1K power cord is included with North American systems. Select country specific power cord for 240 V use.

Power Cords for VAX 4000 Model 108 systems

Order Number	Country/Voltage	Amps	Plug	Meters (Feet)
BN19P-1K	U.S./Canada/Japan 125 V	10	NEMA 5-15	3.1 (10)
BN19H-2E	Australia/New Zealand 125 V	10	AS 3112-1981	2.5 (8.2)
BN19C-2E	Central Europe, 250 V	10	CEE 7/7 (Schuko)	2.5 (8.2)
BN19A-2E	U.K./Ireland, 250 V	10	BS 1363	2.5 (8.2)
BN19E-2E	Switzerland, 250 V	10	SEV 1011	2.5 (8.2)
BN19K-2E	Denmark, 250 V	10	Afsnit 107	2.5 (8.2)
BN24X-2E	Italy, 250 V	10	CEI 23-16 / VII	2.5 (8.2)
BN18L-2E	Israel, 250 V	10	SI 32	2.5 (8.2)

Power Cords for B400X and R400X Expansion Pedestals

BN22C-2E	Australia, New Zealand
BN22D-2E	Austria, Belgium, France, Germany, Finland, Holland, Norway, Sweden, Portugal, Spain
BN22E-2E	UK, Ireland
BN22F-2E	Switzerland
BN22J-2E	Italy
BN22K-2E	India
BN22L-2E	Israel

Step 9—Diagnostics and Documentation

Select optional diagnostics and documentation.

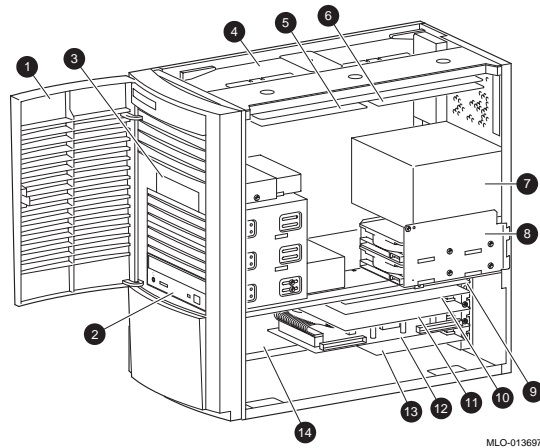
QZ-K32AA-U8 On CD-ROM media

Extended Diagnostics and Documentation

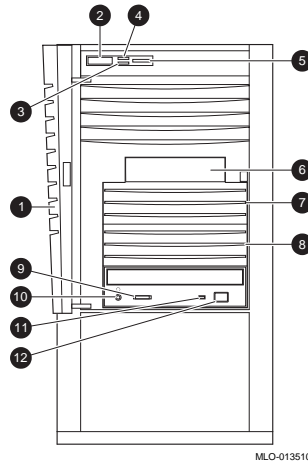
QX-K32AA-AA	Single-use CD-ROM license
QZ-K32AA-H8	Media on CD-ROM
QZ-K19AA-GZ	Hardcopy extended maintenance documentation

VAX 4000 Model 108

VAX 4000 Model 108 System Diagram

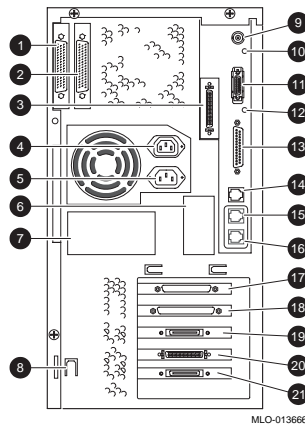


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|---------------------------------------|-----------------------------|
| 1 Front Door | 8 Rear drive bay |
| 2 CD-ROM | 9 DHW42 Asynchronous option |
| 3 System Disk Drive | 10 DSW43 Synchronous option |
| 4 System board | 11 KFDDA (Bus 1) |
| 5 1st SIMM Board (standard) | 12 HSD10 DSSI-SCSI adapter |
| 6 2nd SIMM Expansion Board (optional) | 13 KFDDA (Bus 0) |
| 7 Power Supply | 14 CDAL I/O board |



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| 1 Front door | 7 Accessible/non-accessible bay for 3.5" or 5.25" device |
| 2 Power switch | 8 Accessible/non-accessible bay for 3.5" or 5.25" device |
| 3 Disk drive LED | 9 CD-ROM volume switch |
| 4 Power LED | 10 CD-ROM headphone jack |
| 5 Halt switch; halts system and returns it from operating system to console mode | 11 CD-ROM activity light |
| 6 RZ2x SCSI disk (non-accessible) | 12 CD-ROM eject button |

VAX 4000 Model 108 System Diagram (continued)



- 1 Qbus port
- 2 Qbus port
- 3 SCSI port (terminated when not in use)
- 4 Aux 2A AC power outlet
- 5 AC power input connector
- 6 Pre-installed software label
- 7 System identification label
- 8 Lockdown hasp
- 9 ThinWire Ethernet
- 10 ThinWire Ethernet LED
- 11 Thick wire Ethernet
- 12 Thick wire Ethernet LED
- 13 Modem port (MMJ adapter provided)
- 14 MMJ port (for console only)
- 15 MMJ port
- 16 MMJ port
- 17 DHW42 Asynchronous communication (optional)
- 18 DSW43 Synchronous communication (optional)
- 19 KFDDA DSSI port (Bus 1)
- 20 HSD10 SCSI port
- 21 KFDDA port (Bus 0)

Specifications

Physical Characteristics	
Height	40.64 cm (16.0 inches)
Width	22.1 cm (8.7 inches)
Depth	47.5 cm (18.7 inches)
Weight	16.0 kg (35.0 lb)
Power Requirements	
Nominal voltage	120/240 V rms
Power source phasing	Single
Nominal frequency	50–60 Hz
Voltage range	88–132 V rms 176–264 V rms
Line frequency tolerance	47–63 Hz
Typical running current	2.3/1.3 A
Typical power consumption (Watts)	170W
Standard Communication	
Minimum MMJ lines	3 DEC-423
Modem lines	1 EIA-232
Synchronous lines	Thick wire and ThinWire supported on all models
Communications Options¹	
MMJ lines	16 DEC-423
Modem lines	8 EIA-232
Synchronous lines	2 synchronous
Operating Environment	Temperature (sea level) 10-40°C (50-90°F) Relative humidity 10%–80% noncondensing; 20% to 80% if tape drive is present. Maximum operating altitude 3.5 km (10,000 ft)

1. DEC-423, EIA-232 and synchronous lines can be ordered separately. The DEC-423 and EIA-232 options cannot be configured together in the same system.