



VAXstation 4000 Model 60 V96.1

Digital Systems and Options Catalog

Product Description

VAXstation 4000 Model 60 systems offer performance of 12.0 SPECmark89. VAXstation 4000 Model 60 systems support 2D and 3D graphics. 3D capability is available as an option. Eight-plane SPXg with 16-bit Z-Buffering and 24-plane SPXgt with 24-bit Z-Buffering provide support for full double buffering. A choice of color or grayscale graphics is offered on 17- and 21-inch color monitors. Audio input and output capabilities are included. Dual-and quad-screen color graphics systems can be ordered as optional upgrades.

System memory, internal storage, and graphics option upgrades are customer installable. The system box supports up to 104 Mbytes of memory. Internal storage permits a maximum of two 3.5-inch hard disks and one removable media device—diskette, compact disk, or tape drive. The VAXstation 4000 Model 60 system has a synchronous SCSI controller on the CPU board. External expansion boxes can be connected to the VAXstation 4000 Model 60 system, including the StorageWorks BA353 and BA350 modular storage units.

For communication and networking needs, the system is equipped with both ThinWire and thick wire Ethernet, one DEC-423 serial line, and one EIA-232D serial line with modem control. An additional synchronous communications option is available to allow DECnet Phase V, OSI, and TCP/IP layered products to use synchronous wide area network communication.

VAXstation 4000 Model 60 software licenses include OpenVMS VAX and Digital NAS Client 150 for VAXstations. Systems ordered with a factory-installed disk will have OpenVMS and DECwindows Motif factory installed. These workstations can expand distributed networks, run graphics-based applications, or improve user productivity with the multiwindow capability of DECwindows. DEC SoftPC runs MS-DOS applications on this workstation.

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Step 1—Systems

120 V systems include a U.S. keyboard and all required power cords. If a 240 V system is selected, the appropriate country kit or keyboard and power cord are required from Step 14.

- Graphics, TURBOchannel, and synchronous communication options are customer installable and will ship as SPARES.
- Other options ordered will be factory installed unless specified as SPARES.
- VAXstation 4000 Model 60 Base Systems include Base module with 8-Mbyte embedded memory
- Memory—six SIMM connectors
- Cache memory: 256 Kbytes
- ThinWire/thick wire Ethernet controller on base system module
- Synchronous SCSI controller on base system module
- 2D color/grayscale graphics board
- U.S. keyboard (120 V only)
- Three-button mouse
- One DEC-423 serial line
- One EIA-232D serial line with modem control
- 2.7-meter (9-foot) color/monochrome video cable
- 1.8-meter (6-foot) power cord (120-V systems only)
- 0.9-meter (3-foot) monitor power cord (monitor to system box)
- Universal power supply that automatically adjusts to 88–132 Vac or 176–264 Vac
- Software licenses: OpenVMS VAX and Digital NAS Client 150 for VAXstations; DECwindows Motif, DECmessageQ RT, ObjectBroker RT, DECnet End Node, DECnet/OSI End System, DEC TCP/IP Client, VMScluster Client
- English-language user documentation

Note: Base systems ordered with a factory-installed disk include factory-installed software (FIS). Base system requires monitor from Step 2.

Order Number	Memory	Monitor	Hz	Graphics
PV61A-DA/DB	8 MB	Required	72	8-plane 2D color/grayscale

Note: DA = 120/240 V Northern Hemisphere; DB = 240 V Southern Hemisphere

Step 2—Monitors (Required for Base Systems)

- VRT17-PA/P4** 17" (16.0" viewable image size) high-resolution color monitor with Light Gray enclosure. Trinitron aperture grille CRT with 0.26mm stripe pitch and anti-reflection, anti-glare, anti static coating. Auto-scanning from VGA to 1280 x 1024 at 75Hz NI refresh rates. MPR-II, Energy Star, DPMS and NUTEK compliant. 120/240V universal power supply. Includes 3.0 meter HD15 male to BNC video cable. Select -PA for Northern Hemisphere or -P4 for Southern Hemisphere operation. If purchased in North American, -PA includes 120V power cord, otherwise power cords for -PA and -P4 not included, order separately.
- VRC21-LA/L4** 21" (19.6" viewable image size) ultra high-resolution color monitor with Light Gray enclosure. Diamondtron aperture grille CRT with 0.30 mm stripe pitch and anti-reflection, anti-glare, anti static coating. Auto-scanning from VGA to 1600 x 1200 at 75Hz NI refresh rates. On Screen display (OSD). Stereo viewing compatible. MPR-II, Energy Star, DPMS and NUTEK compliant. 120/240V universal power supply. Includes 3.0 meter HD15 male to BNC video cable. Select -LA for Northern Hemisphere, or -L4 for Southern Hemisphere operation. If purchased in North America, -LA includes 120V power cord, otherwise power cords for -LA and -L4 not included, order separately.

Note: HA = 120/240 V Northern Hemisphere; H4 = 240V Southern Hemisphere

Step 3—Storage

Select storage devices if required. Factory-installed variants (-EM) include factory-installed software (FIS) which includes OpenVMS and DECwindows Motif.

- System disk must be ordered if the system is not being booted over the network by a server.
- Maximum of seven SCSI devices, not to exceed two internal hard drives, one removable media device, and four external devices; or up to six external SCSI devices (with only one internal drive).

Note: FIS is not a substitute for a software load device; media and documentation are required for first system on site.

Step 3a—Internal Storage (Factory/Field Installed)

Systems have three internal storage cavities.

Slot 1—Removable media (RX26, RRD45, TLZ07, TZK11)

Slot 2—3.5-inch disk RZ26N or RZ28M

Slot 3—3.5-inch disk RZ26N or RZ28M

Select up to one half-height removable media device.

RX26-ES/UL	2.8 Mbyte 3.5-inch internal diskette drive
RRD45-JM/JL	600 Mbyte internal dual speed compact disk drive
TLZ07-GF/GG	8.0 Gbyte 4-mm Digital Audio Tape (DAT)

Select up to two 3.5-inch half-height disk drives. Factory-installed variants (-EM) include factory-installed software (FIS).

RZ26N-EM/EL	1.05 Gbyte internal disk drive
RZ28M-EM/EL	2.1 Gbyte internal disk drive

Step 3b—External Storage (Expansion Box)

TZ87-TA	20-Gbyte SCSI tabletop tape drive
TSZ07-CA	1600/6250-bit/inch 9-track tape drive; requires country kit TSZK7-xx. See <i>Storage Devices</i> , for more information.
TZK11-DA	2.0 Gbyte quarter-inch cartridge (QIC) tape

For StorageWorks BA353 and BA350 modular storage units expansion information, see *Storage Devices*.

Step 3c—Workstands

BA46X-AA	Vertical floor stand for one VAXstation 4000 system.
H9855-AA	Horizontal workstand for one VAXstation 4000 system.

Step 4—Memory

Systems include 8-Mbyte memory embedded on base system module. Additional memory may be added in 4-Mbyte or 32-Mbyte increments. Six SIMM memory slots total; 8-Mbyte and 32-Mbyte modules may be combined.

MS44L-AA	4 Mbytes parity (1 x 4-Mbyte, 100-ns SIMMs)
MS44-DA	32 Mbytes parity (2 x 16-Mbyte, 100-ns SIMMs)

Step 5—Turbochannel Adapter (Customer Installable)

- TURBOchannel adapter provides one single-width bus slot for Digital or third-party options.
- Adapter requires OpenVMS VAX V5.5-2HW or higher.
- Required for TURBOchannel options (Step 5a).

DWCTX-BX	TURBOchannel adapter module
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Note: Quad-monitor systems do not support TURBOchannel adapter or synchronous communication options.

Step 5a—Turbochannel Options (Customer Installable)

- Requires a TURBOchannel adapter.
- Each option requires one TURBOchannel slot.
- The following TURBOchannel options have OpenVMS VAX/driver support.

PMAD-AB	Thick wire Ethernet TURBOchannel option card
PMAZ-AB	Additional SCSI TURBOchannel option card

Step 6—Synchronous Communication Options

Select synchronous communication option if TURBOchannel adapter was not selected from Step 5.

Note: Quad-monitor systems **do not** support TURBOchannel adapter or synchronous communication options

QL-VAWA9-AA	VAX WAN V1.2 device driver license
QA-VAWAA-H5	VAX WAN V1.2 device driver media (TK50)and documentation
QA-VAWAA-HM	VAX WAN V1.2 device driver media (magtape)and documentation
QA-VAWAA-GZ	VAX WAN V1.2 device driver documentation

Step 6a—Synchronous Communication Controller (Customer Installable)

DSW21-AA	One-line synchronous communication controller and EIA-232 V.24 synchronous modem cable
DSW21-AB	One-line synchronous communication controller and EIA-423 V.10 synchronous modem cable
DSW21-AC	One-line synchronous communication controller and EIA-422 V.36 synchronous modem cable
DSW21-AD	One-line synchronous communication controller and V.35 synchronous modem cable
DSW21-AE	One-line synchronous communication controller and EIA-530 synchronous modem cable
DSW21-AF	One-line synchronous communication controller and X.21 synchronous modem cable

Step 7—Video and Keyboard/Mouse Extender Cables

Systems include a 9-foot (2.7-meter) color/monochrome video cable; if additional video cable is required, order below.

BC29G-09	Video cable (9-foot) for color/monochrome monitors
VSXXX-KA	10-foot keyboard/mouse extender cable and power cord

Step 8—Networking Cables

BC16M-xx	ThinWire Ethernet cable (xx = 06/15/30 feet in length)
BNE3H-xx	Thick wire transceiver cable with straight connector (PVC)(xx = 05/10/20/40 meters in length)
BNE3L-xx	Thick wire transceiver cable with straight connector (Teflon)(xx = 05/10/20/40 meters in length)

Note: Right-angle Ethernet cables are not supported.

Step 9—Optional Input/Output Devices

The tablet can be used in place of the mouse. The Lighted Programmable Function Keyboard (LPFK) and Programmable Function Dials (PFD) can be ordered as a pair or separately. The LPFK and PFD packages listed below include a Peripheral Control Module (PCM) which provides multiplexing of both LPFK and PFD into a single EIA-232 port. In addition, each package includes a power supply, cables, and user documentation.

VSXXX-AB	11-inch x 11-inch tablet
VSXXX-GA	Three-button ergonomic rectangular mouse (included with system)
VSXXX-JA	Audio headset
VSX10-A3	Combination LPFK and PFD package, 120/240 V
VSX20-A3	LPFK package, 120/240 V
VSX30-A3	PFD package, 120/240 V

Step 10—Printers

Order printers as required.

Step 11—Hardware Documentation

Information kits ship with every system. Information kits include the following documents: VAXstation 4000 Model 60 or 90 Quick Installation Card, Owners and System Installation Guide, and Options Installation Guide.

Step 12—Graphics Options (Customer Installable)

- Graphics options are listed with compatible monitors.
- Upgrades include video cables.
- Dual-and quad-monitor options include video cables; require additional monitors and power cords.
- Recommended configurations for SPXg/gt are 24--32 Mbytes of memory and 1-Gbyte internal disk.

VAXstation 4000 Model 60 Graphics

Order Number	Description	Compatible Monitors	Hz
PV21X-GL	8-plane 2D color/grayscale graphics 1280 x 1024 resolution, 72 Hz	17-inch C VRT17-HA/H4 21-inch C VRC21-LA/H4	66/72 66/72
PV71G-BA ¹	8-plane 3D color graphics SPXg 16-bit Z-Buffer, 1280 x 1024 resolution, 72 Hz		
PV61G-BA ¹	8-plane 3D color graphics SPXg 16-bit Z-Buffer, 1280 x 1024 resolution, 66 Hz		
PV71G-CA ¹	24-plane 3D color graphics SPXgt 24-bit Z-Buffer, 1280 x 1024 resolution, 72 Hz		
PV61G-AA ¹	24-plane 3D color graphics SPXgt 24-bit Z-Buffer, 1280 x 1024 resolution, 66 Hz		
PV21E-GA	Quad-monitor color graphics 1280 x 1024 resolution, 60 Hz, 66 Hz, or 72 Hz Three additional video cables Supports four color monitors		
PV21X-GA	Dual-monitor color graphics 1280 x 1024 resolution, 66 Hz One additional cable Supports two color monitors		

¹ SPXg and SPXgt options include DEC PHIGS Runtime license and require DECwindows Motif V1.1 media.

Step 13—Software Media and Documentation

Requires OpenVMS VAX V5.5 or higher; a media and documentation kit is recommended for the first system on site.

VAXstation 4000 Model 60 systems include the following license PAKs: OpenVMS VAX operating system and Digital NAS Client 150 for VAXstations (DECwindows Motif, DECmessageQ RT, ObjectBroker RT, DECnet End Node, DECnet/OSI End System, DEC TCP/IP Client, VMScluster Client).

OpenVMS VAX and DECwindows Media and Documentation

QA-09SAA-H5	OpenVMS VAX and DECwindows media (TK50) and documentation)
QA-09SAA-H8	OpenVMS VAX and DECwindows media (CD-ROM) and documentation
QA-09SAA-GZ	OpenVMS VAX and DECwindows documentation

Digital NAS Client 150 Software

QA-36PAA-H5	Digital NAS Client 150 for VAXstations media (TK50) and documentation (CD-ROM)
QA-36PAA-H8	Digital NAS Client 150 for VAXstations media and documentation on CD-ROM

Step 13—Software Media and Documentation *(continued)*
DEC PHIGS Runtime License

Included with SPXg and SPXgt options. Order media and documentation separately.

QA-VK1AA-H5 DEC PHIGS Runtime for OpenVMS VAX media (TK50) and documentation
QA-VK1AA-HM DEC PHIGS Runtime for OpenVMS VAX media (magtape) and documentation

DEC SoftPC License, Media, and Documentation

DEC SoftPC, an optional layered product, allows a VAXstation 4000 system to run MS-DOS programs with no added hardware. Order license, media, and documentation.

QL-YNWAA-3B DEC SoftPC for OpenVMS VAX single-user license
QA-YNWAA-H5 DEC SoftPC for OpenVMS VAX media (TK50)
QA-YNWAA-HM DEC SoftPC for OpenVMS VAX media (magtape)
QA-YNWAA-GZ DEC SoftPC for OpenVMS VAX documentation

Step 14—Country Kits, Power Cords, Keyboards (Not Required for 120 V Systems)

Country Kit	Power Cord	Keyboard	Country	Language
FCP01-AG	BN19C-2E	LK401-AG	Austria	German/Austrian
FCP01-AB	BN19C-2E	LK401-AB	Belgium	Flemish
FCP01-AD	BN19K-2E	LK401-AD	Denmark	Danish
FCP01-AF	BN19C-2E	LK401-AF	Finland	Suomi
FCP01-AP	BN19C-2E	LK401-AP	France	French
FCP01-AG	BN19C-2E	LK401-AG	Germany	German
FCP01-AH	BN19C-2E	LK401-AH	Holland	Dutch
FCP01-AT	BN18L-2E	LK401-AT	Israel	Hebrew
FCP01-AI	BN19Z-2E	LK401-AI	Italy	Italian
FCP01-AN	BN19C-2E	LK401-AN	Norway	Norwegian
FCP01-AV	BN19C-2E	LK401-AV	Portugal	Portuguese
FCP01-AS	BN19C-2E	LK401-AS	Spain	Spanish
FCP01-AM	BN19C-2E	LK401-AM	Sweden	Swedish
FCP01-AK	BN19E-2E	LK401-AK	Switzerland	French
FCP01-AL	BN19E-2E	LK401-AL	Switzerland	German
FCP01-AE	BN19A-2E	LK401-AA	U.K./Ireland	English
	BN19H-2E	LK401-AA	Australia/N.Z.	English
	BN19P-1K	LK401-AA	U.S./Canada	English
	BN19P-1K	LK401-AC	Canada	French
	BN19S-2E	LK401-AA	India	English
	BN19P-1K	LK401-CA	China	Chinese
		LK401-AJ	Japan	Katakana
		LK402-AA	WPS keyboard	English
		LK402-AQ	WPS keyboard	French
		LK402-AS	WPS keyboard	Spanish
