



AlphaStation 600 Rackmount

V96-2.1—4 Nov 1996

Digital Systems and Options Catalog

Product Description

The AlphaStation 600 Rackmount Workstation is housed in a rackmountable tower enclosure ready for integration into a 19" ANSI/EIA standard cabinet enclosure. It offers the same functionality and footprint as the desktop system. Configuration flexibility and storage expansion is easily obtainable through many rackmounted options.

The AlphaStation 600 uses the DECchip 21164 processor.

- **AlphaStation 600 5/266 MHz** CPU performance measures 288 SPECint92 and 428 SPECfp92 with 2 MB third level cache.
- **AlphaStation 600 5/333 MHz** CPU performance measures 412 SPECint92 and 535 SPECfp92 with 4 MB third level cache.

The AlphaStation 600 workstation has capacity for up to 1 GB of ECC memory, six internal storage cavities and eight total option slots. High performance options are supported on the 64-bit PCI I/O bus. Lower performance options are supported on the EISA bus.

The AlphaStation 600 workstation is sold with specific warranty response times, hours of coverage, warranty duration, and a specific manner by which the warranty service will be delivered. digital also makes available extended coverage offerings to uplift or extend the service coverage and/or response time. See Supplemental Services in AlphaStation Option Section.

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Step 1—System Building Blocks

- AlphaStation 600 rackmount systems are available as System Building Blocks.
- Options ordered will be factory installed unless specified as spares.
- Digital UNIX and OpenVMS system include factory-installed software (FIS).
- **For full functionality systems require:**
 - Minimum of one 64 MB memory option for Digital UNIX and OpenVMS systems
 - Minimum of one 32 MB memory option for Windows NT systems
 - 2 or 4 MB cache
 - One hard disk drive
 - Graphics option
 - Keyboard and 120V or 240V power cord, see AlphaStation Options Section for country specific options

Note:For a comprehensive list of qualified options, see AlphaStation Options Section

Note:Minimum required options **must** be on purchase order at initial order acceptance.

Rackmount AlphaStation 600 5/266 and 5/333 systems include

- Rackmountable AlphaStation 600 enclosure with rackmount shelf and slide assembly which includes
 - Alpha microprocessor 21164 with 266-MHz CPU **or**
 - Alpha microprocessor 21164 with 333-MHz CPU
 - Eight option slots
 - Three 64-bit PCI*
 - One 32-bit PCI
 - One 32-bit PCI/EISA combination
 - Three EISA slots
 - Four memory options (32 SIMM memory slots)
 - Six internal storage slots
 - One dedicated diskette drive slot
 - Two removable media slots
 - Three 3.5-inch hard disk drive slots for 1" and 1.6" 16-bit wide drives
 - 400 Watt power supply
 - Two serial ports, supports full modem control
 - One parallel port
 - Keyboard port and mouse port
- PCI based Fast Wide Single Ended SCSI-2 controller with two external SCSI-2 connectors, and high performance Thickwire, Twisted Pair†, ThinWire Ethernet (uses one 32-bit PCI slot)
- 1.44 MB diskette drive (in dedicated slot)
- 600 MB CD-ROM (uses one 5.25" removable media slot)
- Audio, headset, and microphone (uses one EISA slot)
- 3-button mouse
- Video/Keyboard/Mouse extension cables
- Rackmount Installation Guide
- Hardware documentation
- Hardware Warranty: Three year
- Software Warranty: 90 day SPD conformance with advisory telephone support
- Digital UNIX V3.2C two-user base license, Digital Open3D license, Multimedia Services license, Digital NAS Client 150 license, Communique! starter license and CD-ROM **or**
- OpenVMS V6.2 base license plus 1-user license, Digital Open3D license, Multimedia Services license, Digital NAS Client 150 license, **or**
- Windows NT Workstation 3.51 media kit, Communique! starter license and CD-ROM, Digital Light and Sound license and CD-ROM

* 32-bit PCI option can be installed in 64-bit PCI slot. Option will run at 32-bit speed of 133 MB/seconds instead of 64-bit speed of 267 MBs/seconds.

† 10BaseT connection requires shielded twisted pair cable BN26M-xx, see Step 7 for additional cabling information.

Note: Available remaining resources: Three 64-bit PCI slots, One PCI/EISA slot, 2 EISA slots

AlphaStation 600 5/266 Rackmount Workstations

| Order Number | Operating System | Memory | Cache | Hard Drive | Monitor | Graphics |
|--------------|------------------|-------------|-------------|-------------|----------|----------|
| CT-PB62A-AA | Digital UNIX | Recommended | Recommended | Recommended | Optional | Optional |
| CT-PB62A-BA | OpenVMS | Recommended | Recommended | Recommended | Optional | Optional |
| CT-PB62A-CA | Windows NT | Recommended | Recommended | Recommended | Optional | Optional |

AlphaStation 600 5/333 Rackmount Workstations

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|----------|--------------|-------------|-------------|-------------|----------|----------|
| PB64S-AA | Digital UNIX | Recommended | Recommended | Recommended | Optional | Optional |
| PB64S-BA | OpenVMS | Recommended | Recommended | Recommended | Optional | Optional |
| PB64S-CA | Windows NT | Recommended | Recommended | Recommended | Optional | Optional |

Step 2—Memory

- Minimum of one 64 MB (MSP01-CB) memory for Digital UNIX and OpenVMS systems
- Minimum of one 32 MB (MSP01-CA) memory for Windows NT systems
- System supports four memory options (8 SIMMS per option). Memory options can be mixed.
- System maximum of 1 GB can only be obtained by selecting four (MSP01-CD) 264 MB memory options.

| | |
|----------|------------------------------------|
| MSP01-CA | 32-MB (8 x 4 MB 70 ns SIMMs) ECC |
| MSP01-CB | 64-MB (8 x 8 MB 70 ns SIMMs) ECC |
| MSP01-CC | 128-MB (8 x 16 MB 60 ns SIMMs) ECC |
| MSP01-CD | 264-MB (8 x 32 MB 60 ns SIMMs) ECC |

Step 3—Cache Memory

- One cache option **must** be on initial order.
- One cache memory option supported per system.

| | |
|----------|--|
| MSP01-EA | 2-MB cache for AlphaStation 5/266 systems only |
| MSP01-EB | 4-MB cache for AlphaStation 5/266 systems only |
| MSP01-EC | 4-MB fast cache for AlphaStation 5/333 systems only |

Step 4—Storage

- One hard disk drive **must** be on initial order.
- First Fast Wide Single Ended (FWSE) SCSI-2 controller supports five internal **wide** or **narrow** devices. If external storage is required, select KZPAA-AA Fast SCSI-2 controller.
- Internal SCSI cable is 68-pin Wide SCSI connector. To add 8-bit **narrow** SCSI drives, order PBXKP-BA (Wide to Narrow SCSI adapter). One adapter required for each narrow drive installed in system chassis.
- Three 3.5" x 1" or 1.6" 16-bit Wide SCSI hard disk drives are supported in system chassis. One 5.25" removable media slot supports one 3.5" x 1" hard disk drive, brackets are included. **Note:** Brackets support 3.5 x 1" disk drive **only**

16-bit Wide SCSI Drives

| | |
|----------|--|
| PBXRW-EB | 1.05 GB 3.5" x 1" 5400 RPM Wide SCSI disk drive |
| PRXRW-JB | 2.1 GB 3.5" x 1" 7200 RPM Wide SCSI disk drive |
| PBXRW-NA | 4.3 GB 3.5" x 1.6" 7200 RPM Wide SCSI disk drive |

External Storage

- 1st FWSE SCSI-2 controller supports five internal **wide** or **narrow** devices. Total external bus length is limited to 1.2 meters and is not recommended for external storage.
- 2nd FWSE SCSI-2 controller supports seven external **wide** or **narrow** devices. Total external bus length is limited to 2.2 meters. 2nd FWSE SCSI-2 controller should be limited to external **narrow** SCSI-2 devices.
- If additional external storage is required, select KZPAA-AA 8-bit Fast Narrow Single Ended (FNSE) SCSI-2 controller. Maximum two per system.

Rackmountable StorageWorks Shelves

- Each rackmounted StorageWorks shelf requires seven inches of vertical rackmount space. Two shelves can occupy the same space by using front and rear mounted shelves.

| | |
|----------|--|
| BA35R-SF | Rackmountable BA350 front mounted StorageWorks shelf for narrow 8-bit disks |
| BA35R-SR | Rackmountable BA350 rear mounted StorageWorks shelf for narrow 8-bit disks |
| BA35R-AF | Rackmountable BA356 front mounted StorageWorks shelf for wide 16-bit disks |
| BA35R-AR | Rackmountable BA356 rear mounted StorageWorks shelf for wide 16-bit disks |

Step 4—Storage

SCSI cables

| | |
|--------------------|---|
| BN21M-02/03 | 68-pin high density to 50-pin low density (wide to narrow) for tape applications. |
| BN21N-02 | 68-pin high density to 50-pin high density for BA35R connection with tape and CD-ROM. Shelf must be located directly above or below rackmount system chassis. |
| BN21K-02 | 68-pin high density to BA36R wide StorageWorks shelf. Shelf must be located directly above or below rackmount system chassis. |

Step 5—Monitors

- Monitors include 3.0 meter HD15 male to BNC video cable. If purchased in North America, -PA and -LA variants include 120V power cord, otherwise power cords are not included, order separately from AlphaStation Options Section.
- Rackmount system include video, keyboard, and mouse extension cables.

Note: If additional monitor cable length is required, order 2T-45KM-AA (video, keyboard, mouse extension cable kit).

| | |
|--------------------|--|
| VRT17-PA/P4 | 17" (16.0" viewable image size) high-resolution color monitor with Light Gray enclosure. Trinitron aperture grille CRT with 0.26 mm 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 from AlphaStation Options Section. |
| 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 from AlphaStation Options Section. |

Step 6—Graphics Adapters

- Up to three ZLXp-Ex graphics options and three monitors are supported on Digital UNIX, Open VMS and Windows NT systems.
 - **Digital UNIX and OpenVMS** support any combination of ZLXp -E1, -E2 and -E3 graphics. Options require Digital Open3D media included in factory installed software (FIS) on Digital UNIX and OpenVMS systems.
 - **Windows NT** graphics must be homogeneous (three ZLXp-E1, or three -E2, or three -E3 graphics) Options include Graphics Support Services Software license, media and documentation. 3D multi screen not hardware accelerated for Windows NT.
- Up to three PowerStorm graphics options are supported on Digital UNIX, OpenVMS and Windows NT systems.
 - **Digital UNIX and OpenVMS** support any combination of PowerStorm 3D30 and 4D20 graphics. Options require Digital Open3D media included in factory installed software (FIS) on Digital UNIX and OpenVMS systems.
 - **Windows NT** graphics must be homogeneous (three PowerStorm 3D30 or three PowerStorm 4D20 graphics). Options include Graphics Support Services Software license, media and documentation. 3D multi screen not hardware accelerated for Windows NT.
- ZLXp-Ex and PowerStorm 3D30 and 4D20 graphics options **cannot** be mixed in same system.
- One ZLXp-Lx graphics option supported per system; -Lx graphics **cannot** be mixed with any other graphics option.
- E&S Freedom Series graphics are packaged in a deskside pedestal and connect to PCI interface card in AlphaStation system box by a 10-foot interface cable. Graphics options include graphics subsystem, PCI interface card, interface cable, and video cable for a VRC21-PA/P4 monitor. Country specific power cord is required. Texture memory module upgrades are available for E&S Freedom Series graphics.
- To upgrade E&S Freedom Series graphics memory, select one texture memory module for each performance module.

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| PBXGA-AA | ZLXp-E1 2D 8-plane PCI graphics accelerator, 2 MB memory, 1280x1024, 72 Hz, 256 colors for Digital UNIX and OpenVMS, uses 1 PCI slot |
|-----------------|--|

Step 6—Graphics Adapters (continued)

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|-----------------|---|
| PBXGA-BA | ZLXp-E2 2D/3D 24-plane PCI graphics accelerator, 8 MB memory, 1280x1024, 72 Hz, 16.7M colors for Digital UNIX and OpenVMS, uses 1 PCI slot |
| PBXGA-CA | ZLXp-E3 3D 24-plane PCI graphics accelerator, plus 24 bit Z-buffer, 16-MB memory, 1280x1024, 72 Hz, 16.7M colors for Digital UNIX and OpenVMS, uses 1 PCI slot |
| PBXGC-AA | ZLXp-L1 24-plane supported on Digital UNIX and OpenVMS, uses 1 PCI slot |
| PBXGC-BA | ZLXp-L2 24-plane supported on Digital UNIX and OpenVMS, uses 2 PCI slot |
| PBXGA-AN | ZLXp-E1 2D 8-plane PCI graphics accelerator, 2 MB memory, 1280x1024, 72 Hz, 256 colors for Windows NT |
| PBXGA-BN | ZLXp-E2 2D/3D 24-plane PCI graphics accelerator, 8 MB memory, 1280x1024, 72 Hz, 16.7M colors for Windows NT |
| PBXGA-CN | ZLXp-E3 3D 24-plane PCI graphics accelerator, plus 24 bit Z-buffer, 16-MB memory, 1280x1024, 72 Hz, 16.7M colors for Windows NT |
| PBXGC-AN | ZLXp-L1 24-plane supported on Windows NT, uses 1 PCI slot |
| PBXGB-AA | PowerStorm 3D30 2D 8-plane PCI graphics accelerator, 2 MB memory, 1280x1024, 72 Hz, 256 colors for Digital UNIX, OpenVMS, and Windows NT, uses 1 PCI slot |
| PBXGB-CA | PowerStorm 4D20 3D 24-plane double buffered PCI graphics accelerator, 24-bit Z-buffer, 16 MB memory, 1280x1024, 75 Hz (1600x1200 75 Hz 12 planes double buffered plus 24-bit Z-buffer) for Digital UNIX, OpenVMS, and Windows NT, uses 1 PCI slot |
| PBXGE-BB | E&S Freedom Series 3150, 3 Performance Modules, 1 MB texture memory |
| PBXGE-BD | E&S Freedom Series 3250, 5 Performance Modules, 1 MB texture memory |
| PBXGE-BG | E&S Freedom Series 3400, 8 Performance Modules, 4 MB texture memory |
| PBXGE-CB | 4 MB Texture memory module upgrade for E&S Freedom Series graphics |
| PBXGE-CC | 16 MB Texture memory module upgrade for E&S Freedom Series graphics |

Step 7—Networks and Communications

Rackmount systems include PCI-based Ethernet controller(DE435-AA), uses one PCI slot.

- Select networking cable for DE435-AA:
 - BNE4G-02 for AUI
 - BN26M-xx for 10BaseT (twisted pair)
 - BC16M-xx for ThinWire

| | |
|-----------------|---|
| DE425-AA | EISA Ethernet, uses 1 EISA slot |
| DE435-AA | High-performance Ethernet. Supported by Digital UNIX, OpenVMS and Windows NT, uses one PCI slot |
| DEFPA-AA | PCI-based Digital FDDI-SAS/PCI (MMF) controller, Single attachment, uses one PCI slot |

Step 9—Cabinet Enclosure

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|--------------------|--|
| H9A10-CE/CF | Digital Rackmount Cabinet Enclosure Dimensions: 66.93-inches high, 23.62-inches wide, 33.84-inches deep Usable rackmount dimensions: 56-inches high, 19-inches wide 30.8-inches deep 120 V contains (2) H7600-AA power controllers @ 24 amps each 240 V contains (2) H7600-AB power controllers @ 16 amps each. Maximum load 1,000 lbs |
| H9A11-BA/BB | Digital Rackmount Cabinet Enclosure Dimension: 43.31-inches high x 23.62-inches wide x 33.86-inches deep Useable rackmount dimensions: 35-inches high, x 19-inches wide x 30.8-inches deep 120 V contains (1) H7600-AA power controller @ 24 amps each 240 V contains (1) H7600-AB power controller @ 16 amps each. Maximum load 750 lbs |
| H9A15-BA/BB | Digital Rackmount Cabinet Enclosure Dimensions: 78.74-inches high, 23.62-inches wide, 33.42-inches deep Usable rackmount dimensions: 68.25-inches high, 19-inches wide 29.75-inches deep 120 V contains (2) H7600-AA power controllers @ 24 amps each 240 V contains (2) H7600-AB power controllers @ 16 amps each. Maximum load 1,000 lbs |

Note: For cabinet enclosures without power controllers use H9A10-AB, H9A11-BE or H9A15-BE

Step 8—Power Cords and Keyboards

Power Cords

Select either 120V or 240V power cord for connection within the rackmount cabinet enclosure from system to power distribution panel or outlet.

| | |
|-----------------|---|
| BN20Z-4E | 120 V 60 HZ power cord, 15 foot terminal 3-18 SJT 125 V, 1781N NEMA connects system to 5-15R outlet 60 HZ rackmounted power distribution unit |
| BN20Q-4E | 240 V 50 HZ power cord, 15 foot terminal 3-14 SJT 250 V, 1781N NEMA connects system to 6-15R outlet 50 HZ rackmounted power distribution unit |

Keyboards

LK471-A2 and LK461-A2 are English keyboards. Select country specific keyboard from AlphaStation Options section.

Note: If additional monitor cable length is required, order 2T-45KM-AA (video, keyboard, mouse extension cable kit).

| PS/2 style keyboard | OpenVMS / VT style keyboard |
|---------------------|-----------------------------|
| LK471-xx | LK461-xx |

Specifications

Physical Characteristics

| | |
|--------|--|
| Height | 26.7 cm (10.5 in.) |
| Width | 48.2 cm (19.0 in.) |
| Depth | 73.7 cm (29.0 in.) system chassis and shelf assembly 63.5 cm (25.0 in.) system chassis only |
| Weight | 31.5 kg (70 lb) approximately |

Clearances

| | |
|-------|--------------------|
| Front | 124.04 cm (50 in.) |
| Rear | 61 cm (24 in.) |

Power Requirements

| | |
|---------------------------|------------------------------|
| Line voltage | 120 V/240 V |
| Voltage tolerance | 90-128 V/190-256 V |
| Frequency single phase | 50 Hz/ 60 Hz |
| Frequency tolerance | 47-63 Hz |
| Maximum running current | 8.0A/4.0A AC without monitor |
| Maximum power consumption | 400 Watt DC |

Operating Environment

| | |
|-----------------------|-----------------------------------|
| Operating temperature | 10° to 40° C (50° to 104° F) |
| Operating humidity | 20% to 80% relative humidity |
| Maximum wet bulb | 40° C (104° F) |
| Storage temperature | -20° C to 65° C (-4° F to 149° F) |
| Storage humidity | 10% to 90% relative humidity |
| Maximum wet bulb | 65° C (149° F) |
| Maximum altitude | |
| Operating | 2,438 m (8,000 ft) maximum |
| Nonoperating | 4,876 m (16,000 ft) maximum |
| Nonoperating shock | 30G, 25 ms halfsine |

Recommended UPS for AlphaStation 600

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|--------------------|---|
| 4N-AEABF-CA | 1.5kVA Rackmount UPS for 120V |
| 4N-AEABF-BG | 1.5kVA Rackmount UPS for 240V |
| 4N-AEAE0-RA | Rackmount kit for 240 V systems 22 through 27-inches deep |
| 4N-AEAE0-RB | Rackmount kit for 240 V systems 28 through 34-inches deep |