



AlphaStation 600 5/333
V96-2.6—3 Apr 1997
DIGITAL Systems and Options Catalog

Product Description

The AlphaStation 600 high performance deskside Workstation series delivers premium performance and excellent expandability, providing access to tens of thousands of applications running on DIGITAL UNIX, OpenVMS, and Windows NT Workstation systems.

The AlphaStation 600 uses the Alpha microprocessor 21164:

- **AlphaStation 600 5/333 MHz** CPU performance measures 9.8 SPECint95, and 13.3 SPECfp95 with 4 Mbyte third level cache.

The system is housed in a deskside enclosure with capacity for up to 1 Gbyte of ECC memory, 256-bit wide memory bus, six storage slots, and eight option slots. The high performance 64-bit PCI I/O bus, running at 267 Mbytes/second peak, provides expansion for options such as high performance graphics, networking, and SCSI adapters. Lower performance options are supported on the EISA bus. The system supports a wide variety of industry-standard peripherals and PCI and EISA options. Other standard features include Thick wire, Twisted Pair, ThinWire Ethernet, stereo-quality audio, an array of external ports for serial/parallel communications, and external SCSI connectors. This combination of standard features allows multiple in-box configurations without the need for additional tabletop options or expansion boxes.

AlphaStation systems come with the best hardware warranty in the industry—a three-year warranty; 1 year on-site, 2 years return to factory. DIGITAL's Trade-In '97 program provides a cost-effective upgrade path for users of older workstations.

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Systems

- .. DIGITAL UNIX and OpenVMS systems include factory-installed software (FIS).
 - .. Options ordered will be factory installed unless specified as **spares**.
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AlphaStation 600 5/333 systems include

- .. Alpha microprocessor 21164 with 333-MHz CPU
- .. Deskside enclosure which includes:
 - Eight expansion slots
 - Three 64-bit PCI*
 - One 32-bit PCI
 - One 32-bit PCI/EISA combination
 - Three EISA
 - Four memory options (thirty-two SIMM memory slots)
 - Six storage slots:
 - One dedicated diskette drive slot
 - Two removable media slots (CD-ROM included in one slot)
 - Three 3.5-inch hard disk drive slots for 1- and 1.6-inch (16-bit) wide ready drives
 - 400-Watt power supply
 - Two serial ports, support full modem control
 - One parallel port
 - Keyboard port and mouse port
- .. PCI-based option card with Fast Wide single ended SCSI-2 controller with two external SCSI-2 connectors, and high performance Thick wire, Twisted Pair†, ThinWire Ethernet—uses one 32-bit PCI slot
- .. Memory (Advantage Configurations only)
 - .. Cache (Advantage Configurations only)
 - .. Hard Disk (Advantage Configurations only)
 - .. Graphics (Advantage Configurations only)
 - .. 1.44 Mbyte diskette drive
 - .. 600 Mbyte CD-ROM drive
 - .. Audio, headset, and microphone
 - .. 3-button mouse
 - .. Hardware documentation
 - .. Hardware Warranty: 1 year on-site, 2 year return to factory
 - .. Software Warranty: 90-day SPD conformance with advisory telephone support*
 - .. DIGITAL UNIX V 3.2C 2-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 concurrent use license
DIGITAL Open3D license
Multimedia Services license
DIGITAL NAS Client 150 license **or**
 - .. Windows NT Workstation 4.0 media kit,
Communique! starter license and CD-ROM,
DIGITAL Light & 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 Mbyte/seconds instead of 64-bit speed of 267 Mbytes/seconds.

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

Ordering menus that follows include

- .. AlphaStation 600 5/333 Advantage Configurations and Base Configurations.

Menus are streamlined for ease of ordering. Select Advantage Configurations to meet application and performance needs. To configure a customized system, use Base Configuration menus.

- .. 2D CAD
- .. 3D Solids CAD

System options are in a separate section.

Warranty Statement

AlphaStations are 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 Options section.

AlphaStation 600 5/333 ADVANTAGE CONFIGURATIONS

Y=in base configuration; M=mandatory option; O=option

AlphaStation 600 5/333	Resources Used		DIGITAL UNIX 2D	OpenVMS 2D	DIGITAL UNIX 3D Solids	Windows NT 3D Solids
Application Profile			EDA	EDA	CAD	MCAD
120 V / 240 V			PB641-AG	PB641-BC	PB641-AH	PB641-CF
CPU Alpha microprocessor	21164 333-MHz	Y	Y	Y	Y	Y
Floppy Disk Drive 1.44 MB	Dedicated bay	Y	Y	Y	Y	Y
CD-ROM 600 MB	5.25" SCSI bay	Y	Y	Y	Y	Y
Headset, microphone, mouse	1 EISA slot	Y	Y	Y	Y	Y
Ethernet	1 32-bit PCI slot	Y	Y	Y	Y	Y
Operating System		Y	Y	Y	Y	Y
Memory (a)	1 option	Y	128 MB	128 MB	128 MB	128 MB
Fast Cache		Y	4 MB	4 MB	4 MB	4 MB
Internal storage	1" SCSI bay	Y	2 GB Ultra Wide	2 GB Wide	2 GB Ultra Wide	2 GB Wide
Graphics (b)	1 PCI slot 2 PCI slots	Y	3D30	3D30	4D40T	4D50T
User documentation-English		Y	Y	Y	Y	Y

Remaining available resources						
I/O slots	PCI 64-bit wide		2	2	1	1
	PCI 32-bit wide		0	0	0	0
	EISA		2	2	2	2
	PCI/EISA Combo		1	1	1	1
Memory options			3	3	3	3
Cache	Occupied		0	0	0	0
SCSI bays Internal 5.25"			1	1	1	1
Internal 3.5"			2	2	2	2
SCSI External (c)						
Note: 3.5-inch hard disk drive supported in 5.25-inch CD-ROM bay, brackets are included. Brackets support 3.5 x 1-inch disk drive only						
1. Country Options	Select		1	1	1	1
PS/2 style keyboard (d)		M	LK471-xx	LK471-xx	LK471-xx	LK471-xx
VMS / VT style keyboard			LK461-xx	LK461-xx	LK461-xx	LK461-xx
Power Cord (e)		M	BNxxx-xx	BNxxx-xx	BNxxx-xx	BNxxx-xx
Note: LK471-AA and LK461-AA, English keyboards, include U.S. power cord, power cord does not need to be ordered separately.						
2. Monitors	Select		1	1	1	
17" Color monitor NH/SH (f)		M	VRT17-PA/P4	VRT17-PA/P4	VRT17-PA/P4	VRT17-PA/P4
21" Color monitor NH/SH (f)		M	VRCX1-WA/W3/W4	VRCX1-WA/W3/W4	VRCX1-WA/W3/W4	VRCX1-WA/W3/W4

(a) Thirty-two SIMM slots support four memory options (8 SIMMs per option). Memory options can be mixed.

(b) Up to 3 PowerStorm 3D30 and/or 4D20 graphics options and 3 monitors are supported on DIGITAL UNIX, OpenVMS and Windows NT systems. Graphics options require DIGITAL Open3D media, included in factory installed software (FIS). Windows NT graphics options include Graphics Support Services Software license, media and documentation. Windows NT graphics options must be homogeneous, (three PowerStorm 3D30 options or three PowerStorm 4D20 options). 3D multi screen not hardware accelerated for Windows NT.

Graphics options are supported in the following combinations on DIGITAL UNIX, OpenVMS and Windows NT systems:

- .. Three PowerStorm 3D30 options, or
- .. Three PowerStorm 4D20 options, or
 - Any combination of PowerStorm 3D30 and PowerStorm 4D20 options are supported on DIGITAL UNIX and OpenVMS systems.
 - Support for Windows NT must be homogeneous.

- .. One PowerStorm 4D40T, 4D50T, or 4D60T, or
 - PowerStorm 4D40T, 4D50T, and 4D60T require minimum of DIGITAL UNIX V4.0 or Windows NT 3.51, and DIGITAL Open3D V4.0A)
 - PowerStorm 4D40T, 4D50T, and 4D60T options **cannot** be mixed with any other graphics option and are supported on DIGITAL UNIX and Windows NT systems only.
 - **Note: PowerStorm 4Dx0T graphics options change system to FCC Class A**

- .. One ZLXp-L1, or
- .. One ZLXp-L2 (uses two PCI slots)

- (c) See External Expansion for additional external storage options.
- (d) Select country-specific keyboard from AlphaStation Options section.
- (e) Select country-specific power cord from AlphaStation Options section.
- (f) Monitors include video cable and 120V power cord, order country specific power cord for 240 V use from AlphaStation Options section.

AlphaStation 600 5/333 ADVANTAGE CONFIGURATIONS (continued)

AlphaStation 600 5/333	Resources Used		DIGITAL UNIX 2D	OpenVMS 2D	DIGITAL UNIX 3D Solids	Windows NT 3D Solids
120 V / 240 V			PB641-AC / PB641-AG	PB641-BC	PB641-AE / PB641-AH	PB641-CF
3. Additional Memory	Select		0, 1, 2, or 3	0, 1, 2, or 3	0, 1, 2, or 3	0, 1, 2, or 3
32 MB	1 option	O	MSP01-CA	MSP01-CA	MSP01-CA	MSP01-CA
64 MB	1 option	O	MSP01-CB	MSP01-CB	MSP01-CB	MSP01-CB
128 MB	1 option	O	MSP01-CC	MSP01-CC	MSP01-CC	MSP01-CC
256 MB	1 option	O	MSP01-CD	MSP01-CD	MSP01-CD	MSP01-CD
4. Wide hard drives	Select		0, 1 or 2	0, 1 or 2	0, 1 or 2	0, 1 or 2
1.05 GB drive 5400 Wide(g)	1" bay 1 SCSI	O	PBXRW-EB	PBXRW-EB	PBXRW-EB	PBXRW-EB
2.1 GB drive 7200 Wide (g)	1" bay 1 SCSI	O	PBXRW-JB	PBXRW-JB	PBXRW-JB	PBXRW-JB
2.1 GB drive 7200 UWide(g)	1" bay 1 SCSI	O	PBXRW-JC		PBXRW-JC	
4.3 GB drive 7200 Wide (g)	1.6" bay 1 SCSI	O	PBXRW-NA	PBXRW-NA	PBXRW-NA	PBXRW-NA
5. Removable media	Select		0 or 1	0 or 1	0 or 1	0 or 1
8 GB 4 mm DAT TLZ09	5.25" bay 1 SCSI	O	PBXTL-DA	PBXTL-DA	PBXTL-DA	PBXTL-DA
2.0 GB QIC TZK11	5.25" bay 1 SCSI	O	PBXTZ-AA	PBXTZ-AA	PBXTZ-AA	PBXTZ-AA
6. Software Media and Documentation kits						
DIGITAL UNIX		O	QA-MT4AA-H8		QA-MT4AA-H8	
OpenVMS		O		QA-MT1AA-H8		
7. Additional Options: See AlphaStation Options for a comprehensive list of qualified options (h)						

(g) Internal SCSI uses a wide 68-pin connector. To add a narrow drive, order PBXKP-BA (wide to narrow adapter). Order one adapter for each additional drive.

(h) Check availability of slots (initially 4 PCI, 1 PCI/EISA combination, 3 EISA).

AlphaStation 600 5/333 BASE CONFIGURATIONS

Y=in base configuration; M=mandatory option; O=option

AlphaStation 600 5/333	Resources Used		DIGITAL UNIX	Open VMS	Windows NT
120V/240V			PB64A-AA	PB64A-BA	PB64A-CA
CPU Alpha microprocessor	21164 333-MHz	Y	Y	Y	Y
Floppy Disk Drive 1.44 MB	Dedicated bay	Y	Y	Y	Y
CD-ROM 600 MB	5.25" SCSI bay	Y	Y	Y	Y
Headset, microphone, mouse	1 EISA slot	Y	Y	Y	Y
Ethernet	1 32-bit PCI slot	Y	Y	Y	Y
Integration Service		Y	Y	Y	Y
Operating system		Y	Y	Y	Y
User documentation—English		Y	Y	Y	Y

Remaining available resources					
I/O slots	PCI-64-bit wide		3	3	3
	PCI 32-bit wide		0	0	0
	EISA		2	2	2
	PCI / EISA Combo.		1	1	1
Memory options	(a)		4	4	4
Cache			1	1	1
SCSI bays	Internal 5.25"		1	1	1
	Internal 3.50"		3	3	3
Note: 3.5-inch hard disk drive supported in 5.25-inch CD-ROM bay, brackets are included. Brackets support 3.5 x 1-inch disk drive only					
1. Country Options	Select		1	1	1
PS/2 style keyboard	(b)	M	LK471-xx	LK471-xx	LK471-xx
VMS / VT style keyboard			LK461-xx	LK461-xx	LK461-xx
Power Cord	(c)	M	BNxxx-xx	BNxxx-xx	BNxxx-xx
Note: LK471-AA and LK461-AA, include English keyboards and U.S. power cord. Power cord does not need to be ordered separately					
2. Monitors	Select		1	1	1
17" Color monitor NH/SH	(d)	M	VRT17-PA/P4	VRT17-PA/P4	VRT17-PA/P4
21" Color monitor NH/NH/SH	(d)	M	VRCX1-WA/W3/W4	VRCX1-WA/W3/W4	VRCX1-WA/W3/W4
3. Memory			Minimum Required	Minimum Required	Minimum Required
Memory Required	1		64 MB	64 MB	32 MB
Optional Available	2, 3, or 4	Select	1, 2, 3 or 4	1, 2, 3, or 4	1, 2,3 or 4
32 MB	1 option	M	MSP01-CA	MSP01-CA	MSP01-CA
64 MB	1 option	M	MSP01-CB	MSP01-CB	MSP01-CB
128 MB	1 option	M	MSP01-CC	MSP01-CC	MSP01-CC
256 MB	1 option	M	MSP01-CD	MSP01-CD	MSP01-CD
Note: To reach 1 GB maximum memory order MSP01-CD options					
4. Wide hard drive	Select		1 or 2	1 or 2	1 or 2
1.05 GB drive 5400 RPM	(e) 1" bay 1 SCSI	M	PBXRW-EB	PBXRW-EB	PBXRW-EB
2.1 GB drive 7200 RPM	(e) 1" bay 1 SCSI	M	PBXRW-JB	PBXRW-JB	PBXRW-JB
4.3 GB drive 7200 RPM	(e) 1.6" bay 1 SCSI	M	PBXRW-NA	PBXRW-NA	PBXRW-NA
5. Cache	Select		1	1	1
4 MB fast cache for 5/333 only		M	MSP01-EC	MSP01-EC	MSP01-EC

- (a) Thirty-two SIMM slots support four memory options (8 SIMMs per option). Memory options can be mixed.
- (b) Select country-specific keyboard from AlphaStation Options section.
- (c) Select country-specific power cord from AlphaStation Options section.

- (d) Monitors include video cable and 120V power cord, order country specific power cord for 240V use from AlphaStation Options section.
- (e) Selection of one hard disk drive is mandatory for Base systems. Internal SCSI uses a wide 68-pin connector. To add a narrow drive, order PBXKP-BA (wide to narrow adapter). Order one adapter for each additional drive.

AlphaStation 600 5/333 BASE CONFIGURATIONS (continued)

Y=in base configuration; M=mandatory option; O=option

AlphaStation 600 5/333		Resources Used		DIGITAL UNIX	Open VMS	Windows NT
120V/240V		21164 333-MHz		PB64A-AA	PB64A-BA	PB64A-CA
6. Graphics		Select		1	1	1
PowerStorm 3D30 8-plane	(f)	1 PCI slot	M	PBXGB-AA	PBXGB-AA	PBXGB-AA
PowerStorm 4D20 24-plane	(f)	1 PCI slot	M	PBXGB-CA	PBXGB-CA	PBXGB-CA
PowerStorm 4D40T	(f)	2 PCI slots	M	PBXGI-AA		PBXGI-AA
PowerStorm 4D50T	(f)	2 PCI slots	M	PBXGI-AB		PBXGI-AB
PowerStorm 4D60T	(f)	2 PCI slots	M	PBXGI-AC		PBXGI-AC
ZLXp-E1 8-plane	(f)	1 PCI slot	M	PBXGA-AA	PBXGA-AA	PBXGA-AN
ZLXp-E2 24-plane	(f)	1 PCI slot	M	PBXGA-BA	PBXGA-BA	PBXGA-BN
ZLXp-E3 24-plane Z-buffer	(f)	1 PCI slot	M	PBXGA-CA	PBXGA-CA	PBXGA-CN
ZLXp-L1 24-plane Pixelvision	(f)	1 PCI slot	M	PBXGC-AA	PBXGC-AA	PBXGC-AN
ZLXp-L2 24-plane Pixelvision	(f)	2 PCI slots	M	PBXGC-BA	PBXGC-BA	PBXGC-BN
6a. PowerStorm Texture Memory Upgrades—supported on PowerStorm 4D40T, 4D50T, and 4D60T graphics options only						
4 MB Texture memory module			O	PBXGI-GA		PBXGI-GA
16 MB Texture memory module			O	PBXGI-GB		PBXGI-GB
32 MB Texture memory module			O	PBXGI-GC		PBXGI-GC
7. Removable media		Select		0 or 1	0 or 1	0 or 1
8 GB 4 mm DAT TLZ09		5.25" SCSI bay	O	PBXTL-DA	PBXTL-DA	PBXTL-DA
2.0 GB QIC TZK11		5.25" SCSI bay	O	PBXTZ-AA	PBXTZ-AA	PBXTZ-AA
8. Communication Options						
EISA Ethernet		1 EISA slot	O	DE425-AA	DE425-AA	DE425-AA
PCI High-performance Ethernet		1 PCI slot	O	DE435-AA	DE435-AA	DE435-AA
PCI FDDI controller (fiber)		1 PCI slot	O	DEFPA-AA	DEFPA-AA	DEFPA-AA
PCI Fast SCSI-2 controller*		1 PCI slot	O	KZPAA-AA	KZPAA-AA	KZPAA-AA
* Maximum two Fast SCSI-2 controllers per system						
9. Software Media and Documentation kits						
DIGITAL UNIX			O	QA-MT4AA-H8		
OpenVMS			O		QA-MT1AA-H8	
AlphaStation 600 User Documentation			O	EK-AS800-UI*	EK-AS800-UI*	EK-AS800-UI*
AlphaStation 600 Installation Guide			O	EK-AS800-IN*	EK-AS800-IN*	EK-AS800-IN*
* English User Documentation and Installation Guide are included with Advantage and Base Configurations.						
10. 333 MHz CPU Upgrade with 4 MB Cache						
AlphaStation 5/266 to 5/333 MHz CPU upgrade			O	PB62U-BA	PB62U-BA	PB62U-BA
Note: Installation is not included with CPU upgrade, order FM-WSDSD-IN separately -						
11. Additional Options: See AlphaStation Options for a comprehensive list of qualified options (h)						

(f) Up to 3 PowerStorm 3D30 and/or 4D20 graphics options and 3 monitors are supported on DIGITAL UNIX, OpenVMS and Windows NT systems. Graphics options require DIGITAL Open3D media, included in factory installed software (FIS). Windows NT graphics options include Graphics Support Services Software license, media and documentation. Windows NT graphics options must be homogeneous, (three PowerStorm 3D30 options or three PowerStorm 4D20 options). 3D multi screen not hardware accelerated for Windows NT.

Graphics options are supported in the following combinations on DIGITAL UNIX, OpenVMS and Windows NT systems:

- .. Three PowerStorm 3D30 options, or
- .. Three PowerStorm 4D20 options, or

- .. Any combination of PowerStorm 3D30 and PowerStorm 4D20 options are supported on DIGITAL UNIX and OpenVMS systems. Support for Windows NT must be homogeneous.
- .. One PowerStorm 4D40T, 4D50T, or 4D60T, or
 - .. PowerStorm 4D40T, 4D50T, and 4D60T require minimum of DIGITAL UNIX V4.0 or Windows NT 3.51, and DIGITAL Open3D V4.0A)
 - .. PowerStorm 4D40T, 4D50T, and 4D60T options **cannot** be mixed with any other graphics option and are supported on DIGITAL UNIX and Windows NT systems only.
 - .. **Note: PowerStorm 4Dx0T graphics options change system to FCC Class A**
 - .. One ZLXp-L1, or
 - .. One ZLXp-L2 (uses two PCI slots)
- (h) For PCI or EISA cards, check the availability of slots (initially 4 PCI, 1 PCI/EISA combination, 3 EISA).

AlphaStation 600 External Storage Options

External Expansion	Resources Used			
BA353 Narrow expansion box (3)	Ext.SCSI Bus 1 (1)	BA353-AA	BA353-AA	BA353-AA
BA356 Wide expansion box	Ext.SCSI Bus 2 (2)	BA356-KC	BA356-KC	BA356-KC
Fast Narrow Single Ended SCSI-2 Controller (4)	32- or 64-bit PCI slot	KZPAA-AA	KZPAA-AA	KZPAA-AA

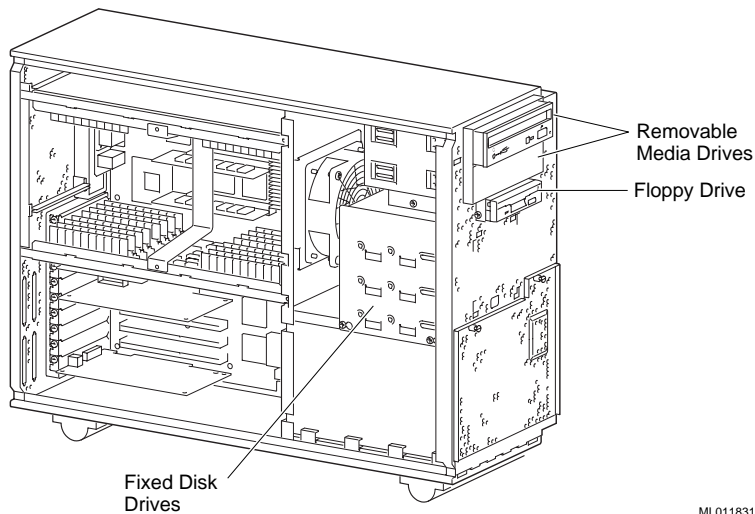
* Maximum two Fast SCSI-2 controllers per system

AlphaStation 600 systems include 2 external SCSI buses

- (1) First FWSE SCSI-2 controller supports five internal **wide** or **narrow** devices and two external **narrow** SCSI devices. Total external bus length for first FWSE SCSI-2 controller is 1.2 meters, bus connector on rear bulkhead is a high density 50 pin narrow connector.
- (2) Second FWSE SCSI-2 controller supports seven external **wide** or **narrow** SCSI devices. Total external bus length for second external FWSE SCSI-2 controller is 2.2 meters, requires BN21K-01 for right angle connection to BA356-KC.
- (3) To run narrow devices/enclosures off the Wide external SCSI bus, order a BN36A-0B, a 68-pin HD to 50-pin HD hi-byte terminator adapter, and 50-pin HD to 50-pin HD BN21H-01 SCSI cable.
- (4) If additional external narrow storage is required, select KZPAA-AA Fast SCSI-2 controller (maximum two supported per system).

See AlphaStation Options for a comprehensive list of additional qualified options.

System Diagram



ML011831

AlphaStation 600

Specifications

PCI -64 bit	264 MB/second
PCI -32 bit	132 MB/second
Fast Wide SCSI-2 bus	20 MB/s transfer rate
Ethernet	10 MBit/s Twisted Pair/Thin Wire standard
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 A.C. without monitor
Maximum power consumption	400 W D.C.
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
Physical Characteristics	
Height	469.9 mm (18.5 inches)
Width	241.3 mm (9.5 inches)
Depth	660.4 mm (26.0 inches)
Weight	31.8 kg (70 lb)
Regulatory	
Agency Approval	AlphaStation 600 5/333 is FCC Class A (system and upgrade)