

# SUN ULTRA™ 10 WORKSTATION

THE POWERFUL, EXPANDABLE ULTRA SYSTEM THAT'S EASY TO AFFORD.



For demanding technical and commercial applications like 3-D modeling, workstations are the best solution. And the Sun Ultra™ 10 system sets new standards for performance and value in a desktop workstation. With up to 440 MHz and a large 2-MB external cache—you get the scalable performance you need. Sun's Ultra Port Architecture 3-D graphics accelerators—Creator3D, Sun Elite3D™ m3, and Sun Elite3D m6, provide the throughput and processing power for high-performance 3-D graphics computing. Additionally, with the available SunPCI™ coprocessor card you can now run your PC productivity applications at native speeds alongside your UNIX® technical applications for unmatched versatility and productivity. And with the preinstalled 64-bit Solaris™ 7 Operating Environment software and new graphical desktop tools for simple setup and management, all that power is easy to use. A better solution, and a better value—the Ultra 10 workstation.

## HIGHLIGHTS

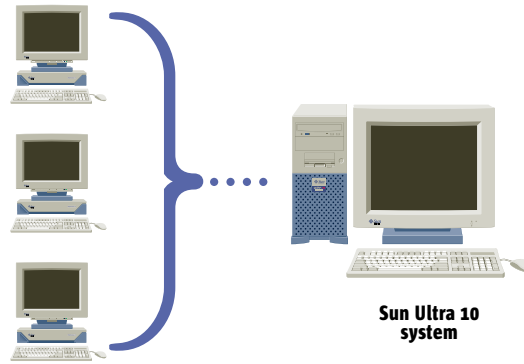
- Up to 440-MHz UltraSPARC™ III processor with large 2-MB cache for industry-leading performance.
- Up to 1-GB DRAM, up to two 9-GB hard disks, and four PCI slots for maximum flexibility and expandability.
- Great for 2-D and 3-D digital content creation, software and Java™ application development, financial analysis, EDA, MCAD, MCAE, and GIS applications.
- Creator3D, Sun Elite3D m3, and Sun Elite3D m6 graphics options for the most demanding graphics applications.
- Web-enhanced Common Desktop Environment (CDE) is easy to use, customize, and manage.
- Robust, scalable Solaris Operating Environment software provides 100% binary compatibility across the entire product line—protecting your investment.
- SunClient™ support offers flexible, low-cost service and support options.

# WORKSTATIONS

SPARCstation™ LX, SPARCstation 1/1+,  
SPARCstation 5z, SPARCstation 1PX,  
SPARCstation IPC, SPARCstation 4,  
SPARCstation 5 systems

Sun Ultra 1, SPARCstation 10,  
SPARCstation 20 systems

Non-Sun systems



Typical upgrades from existing systems to a Sun Ultra 10 workstation

## SUN ULTRA 10 WORKSTATION SERIES SPECIFICATIONS

### PROCESSOR

440-MHz UltraSPARC-IIi with 2-MB external cache  
333-MHz UltraSPARC-IIi with 2-MB external cache

### MEMORY

1 GB maximum, ECC error-correction  
Four DIMM slots, 50ns 168-pin JEDEC DIMMs  
Note: Install DIMMs in pairs

### STANDARD INTERFACES

Expansion bus	Four 32-bit PCI slots, full-size, 33 MHz, 5 volt
Graphics slot	One UPA graphics slot, supports Creator, Creator3D, and Elite3D high-performance graphics options
Network	Ethernet/Fast Ethernet, twisted pair standard (10-BaseT and 100-BaseT), self-sensing
Serial	One D-Sub 25-pin connector, synchronous/asynchronous
Parallel	One D-Sub 9-pin connector, asynchronous One D-Sub 25-pin connector, IEEE 1284 (bidirectional)
Audio I/O	One line-in/line-out One microphone-in/speaker-out

### MASS STORAGE AND MEDIA

Internal disk	9.1 GB, 7200 rpm, 3.5-in. Enhanced IDE HDD
Internal CD	32X-speed CD-ROM
Internal floppy disk	One 3.5-in. 1.44-MB floppy
PCMCIA	One front-access bay for third-party options
Expansion	One empty full-height storage device bay

### GRAPHICS AND IMAGING

#### Standard

Onboard 8- or 24-bit user configurable frame buffer with accelerated text, windowing, 2-D and 3-D wireframe, 1152 x 680 in 24-bit mode or 1280 x 1024 in 8-bit mode at 76 Hz, high-resolution support.

#### Creator3D

All the imaging features of Creator plus accelerated 24-bit double-buffered 3-D graphics with 28-bit Z-buffer and 8-bit overlay plane. Gouraud shading, alpha-blending and screen-door transparency, line antialiasing, depth-cueing, 4-bit stencil support with hardware acceleration of OpenGL stencil functions, four 256-entry colormaps for dynamic colormap segment allocation and adjustable gamma correction. NTSC/PAL video timing support. 1280 x 1024 at 76 Hz resolution standard, stereo 960 x 680 at 112 Hz supported with 21-in. monitor. Option to reconfigure frame buffer to high-resolution single-buffered Creator for imaging applications supporting 24-in. high-resolution wide-screen monitors, up to 1920 x 1200 at 70 Hz.

#### Sun Elite3D m3

Three on-board graphics floating-point engines with all the imaging features of Creator plus higher performance accelerated 24-bit double-buffered 3-D graphics with 28-bit Z-buffer and 8-bit overlay plane. Gouraud shading, alpha-blending and screen-door transparency, line and dot antialiasing, per-pixel depth-cueing, per-pixel alpha interpolation, 4-bit stencil support with hardware acceleration of OpenGL stencil functions, four 256-entry colormaps for dynamic colormap segment allocation and adjustable gamma correction. NTSC/PAL video timing support. 1280 x 1024 at 76 Hz resolution standard, stereo 960 x 680 at 112 Hz supported with 21-in. monitor.

### Sun Elite3D m6

Highest performance Sun graphics with the integrated imaging features of Creator3D, plus very high performance accelerated 24-bit double-buffered 3-D graphics with 28-bit Z-buffer and 8-bit overlay plane. Gouraud shading, alpha-blending and screen-door transparency, line and dot-antialiasing, per-pixel depth-cueing, per-pixel alpha interpolation, 4-bit stencil support with hardware acceleration of OpenGL® stencil functions, four 256-entry colormaps for dynamic colormap segment allocation and adjustable gamma correction. NTSC/PAL video timing support. 1280 x 1024 at 76 MHz resolution standard, stereo 960 x 680 at 112 Hz supported with 21-in. monitor.

### SOFTWARE

Operating system	Solaris 7 3/99 preinstalled; Solaris 2.6 Hardware: 5/98; Solaris 2.5.1 Hardware: 11/97
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### MONITOR OPTIONS

17-inch entry color	Up to 1152 x 900 resolution, 76-Hz refresh rate
19-inch color	Up to 1280 x 1024 resolution, 76-Hz refresh rate
21-inch color	Up to 1280 x 1024 resolution, 76-Hz refresh rate
24-inch wide-screen color	Up to 1920 x 1200 resolution, 70-Hz refresh rate (with Creator3D graphics card only)

### ENVIRONMENT

AC power	100-120; 220-240 VAC, 47-63 Hz, 0.4 k VA
Operating	10° C to 35° C (50° F to 95° F) 40% to 80% relative humidity, noncondensing
Nonoperating	-20° C to 60° C (-4° F to 140° F) 30% to 90% relative humidity, noncondensing
Operating acoustic noise	5.2 bels
Idling acoustic noise	5.2 bels
Declared noise emissions in accordance with ISO 9296, measured at 23° C	

### REGULATIONS

Meets or exceeds the following requirements:

Safety	UL 1950, CSA C22.2 No. 950, TUV EN 60950, CB Scheme with Nordic deviations EMKO-TSE (74-SEC) 203, ZH1/618
RFI/EMI	FCC Class B, DOC Class B, VCCI Class 2, EN 55022 Class B, EN 61000-3-2
Immunity	EN 50082-1
X-ray	DHHS 21 Subchapter J; PTB German X-ray Decree
Power management	Energy Star compliant

### DIMENSIONS AND WEIGHTS

Sun Ultra 10 chassis	
Height	40.2 cm (15.8 in.)
Width	17.6 cm (6.9 in.)
Depth	43.5 cm (17.1 in.)
Shipping weight	20.0 kg (44 lb.)

### SALES OFFICES

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ARGENTINA:	+54-11-4317-5600
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