



Sun Ultra™ 20 Workstation Family Breakthrough price/performance



Highlights

- One AMD Opteron™ 100 or 1200 series processor (up to 3.0 GHz)
- Developer-ready with Sun's award-winning developer tools—Sun Java™ Studio Creator, Sun Java™ Studio Enterprise, and Sun™ Studio Software—included standard
- Preloaded with the Solaris™ 10 OS and certified to run the Solaris™ OS, Linux®, and Windows
- Up to two SATA, 7,200 rpm hard drives, one TB maximum: 80, 250, 500 GB
- Up to eight GB of ECC unbuffered memory
- Choice of NVIDIA professional graphics solutions
- Maximize your desktop performance with a Sun Ultra™ 20 Workstation—risk-free for 60 days. Sign up for a free trial at sun.com/tryandbuy



The Sun Ultra 20 workstation family achieves breakthrough price/performance: The flexibility to run the Solaris Operating System, Linux, and Windows, with binary compatibility for 32-bit and 64-bit applications, and they are also developer-ready—with Sun's award-winning, enterprise-class development tools—all at an attractive starting price.

Performance, power, and expandability

The Sun Ultra 20 workstation family, which consists of the Sun Ultra 20 Workstation and the Sun Ultra 20 M2 Workstation, are the industry's only x64 workstations with the Solaris 10 OS preinstalled to deliver the highest performance available on a single-socket system and the ability to write and deploy Solaris OS-based and Java™-based applications. Created for electronic design automation (EDA), event-driven architecture, mechanical computer-aided design (MCAD), software development, and academic research, Sun Ultra 20 workstations deliver more power and expandability for the demanding user. They offer the flexibility needed to run a wide range of applications within the same architecture, minimizing support and training costs.

The combination of competitive pricing and support delivered by our world-class services organization, from basic warranty to same

business day service, places Sun Ultra 20 workstations among the best for low total cost of ownership. Developed by Sun, the inventor of the workstation, Sun Ultra 20 workstations deliver high quality, reliability, and stability.

Sun Ultra 20 workstations use the latest industry-standard DDR and DDR2 unbuffered ECC dual in-line memory modules (DIMMS) for ultra-fast performance and increased cost savings. Using Serial ATA 3G hard disk drives, Sun Ultra 20 workstations provide a vast amount of internal data storage. And by offering RAID 0 and 1, increased performance and data protection can be easily achieved.

These features, along with the choice of NVIDIA professional graphics solutions, make these workstations ideal for software development, MCAD, education, EDA, or any task that requires high performance and low cost from a workstation.

Sun Ultra 20 Workstation

Processor	One AMD Opteron 100 Series processor
Processor cores	100 series, available in dual-core or single-core
Processor frequency	Dual-core up to 2.6 GHz; single-core up to 3.0 GHz
Memory	Four ECC or non-ECC unbuffered DDR-400 DIMM slots, up to four GB (ECC-one GB, 512 MB; non-ECC-256 MB) <ul style="list-style-type: none"> Up to two SATA hard drives One optical drive: DVD-ROM or DVD-Dual (16x DVD +/- RW drive; supports read/write in dual +/- formats)
Mass storage and media	
Standard interfaces	
Network	One Gigabit Ethernet port
USB	Six USB 2.0 ports, two in front and four in back
FireWire™	Two IEEE 1394a FireWire ports in front
Audio	Five AC '97 ports, two in front and three in back
Expansion slots	<ul style="list-style-type: none"> One PCI Express x16 slot Two PCI Express x1 slots Four conventional PCI slots (5 V, 32-bit, 33 MHz)
Software	
Operating systems	<ul style="list-style-type: none"> Solaris 10 OS (preinstalled) Red Hat Enterprise Linux WS 3 (64-bit and 32-bit) Red Hat Enterprise Linux WS 4 (64-bit and 32-bit) SUSE LINUX Enterprise Server 9 (64-bit and 32-bit) Windows XP Professional x64 Edition
Preloaded developer tools	<ul style="list-style-type: none"> Sun Java Studio Creator 2 Sun Java Studio Enterprise Sun Studio 11 NetBeans™ 5 IDE
Graphics	Onboard ATI Rage XL <ul style="list-style-type: none"> NVIDIA Quadro FX 3450 PCI Express NVIDIA Quadro FX 1400 PCI Express NVIDIA Quadro FX 540 PCI Express NVIDIA Quadro NVS 285 PCI Express (64 MB DDR)
Environment	
Power supply	400 watts
Operating temp./humidity	5° C to 35° C (41° F to 95° F); 20 to 93 percent relative humidity, noncondensing
Nonoperating temp./humidity	-40° C to 65° C (-40° F to 158° F); 93 percent relative humidity, noncondensing
Operating acoustic noise	4.7 bels
Idling acoustic noise	4.3 bels
Regulations	Meets or exceeds the following requirements
Safety	UL/CSA-60950, EN 60950, IEC 60950 CB
Ergonomics	EK1-1TB-2000
RFI/EMC	EN 55022/CISPR22 Class B, FCC CFR47 Part 15 Class B; EN 6100-3-2, EN 61000-3-3
Immunity	EN 55024
Regulatory markings	UL/cUL, TUV-GS, CE FCC, ICES-003, C-Tiek, VCCI, GOST-R, BSMI CCC, S-Mark
ROHS	Restriction of Hazardous Substances—RoHS-compliant
Dimensions and weights	
Height	433.6mm (17.07 in.)
Width	199.6mm (7.86 in.)
Depth	467.45mm (18.40 in.)
Weight	15.4 kg (34 lbs.)
Security features	
Chassis security features	Kensington lock support
BIOS security features	Write protect for EEPROM, boot protection for USB flash drive, system and setup password
Warranty	For warranty information, please visit: sun.com/service/warranty/desktopworkstations.html

Sun Ultra 20 M2 Workstation

Processor	One Next-Generation AMD Opteron 1200 Series processor
Processor cores	1200 series, dual-core
Processor frequency	Dual-core up to 3.0 GHz
Memory	Four ECC unbuffered DDR2-667 DIMM slots, up to eight GB (one GB, two GB, 512 MB) <ul style="list-style-type: none"> Up to two SATA hard drives One optical drive: DVD-ROM or DVD-Dual (16x DVD +/- RW drive; supports read/write in dual +/- formats)
Mass storage and media	
Standard interfaces	
Network	Two Gigabit Ethernet ports
USB	Six USB 2.0 ports, two in front and four in back
FireWire™	Two IEEE 1394a FireWire ports in front
Audio	High-definition audio ports, two in front and three in back
Expansion slots	<ul style="list-style-type: none"> One PCI Express x16 One PCI Express x16, wired as x8 Three conventional PCI slots (5 V, 32-bit, 33 MHz)
Software	
Operating systems	<ul style="list-style-type: none"> Solaris 10 OS (preinstalled) Red Hat Enterprise Linux WS 3 (64-bit and 32-bit) Red Hat Enterprise Linux WS 4 (64-bit and 32-bit) SUSE LINUX Enterprise Server 9 (64-bit) Windows XP Professional (64-bit and 32-bit) Windows Vista Sun Java Studio Creator 2 Sun Java Studio Enterprise Sun Studio 11 NetBeans 5 IDE
Preloaded developer tools	<ul style="list-style-type: none"> Sun Java Studio Creator 2 Sun Java Studio Enterprise Sun Studio 11 NetBeans™ 5 IDE
Graphics	Onboard ATI ES1000 <ul style="list-style-type: none"> NVIDIA Quadro FX 3500 PCI Express NVIDIA Quadro FX 1500 PCI Express NVIDIA Quadro FX 560 PCI Express NVIDIA Quadro NVS 285 PCI Express (128 MB DDR2)
Environment	
Power supply	400 watts
Operating temp./humidity	5° C to 35° C (41° F to 95° F); 20 to 93 percent relative humidity, noncondensing
Nonoperating temp./humidity	-40° C to 65° C (-40° F to 158° F); 93 percent relative humidity, noncondensing
Operating acoustic noise	4.7 bels
Idling acoustic noise	4.3 bels
Regulations	
Safety	UL/CSA-60950, EN 60950, IEC 60950 CB
Ergonomics	EK1-1TB-2000
RFI/EMC	EN 55022/CISPR22 Class B, FCC CFR47 Part 15 Class B; EN 6100-3-2, EN 61000-3-3
Immunity	EN 55024
Regulatory markings	UL/cUL, TUV-GS, CE FCC, ICES-003, C-Tiek, VCCI, GOST-R, BSMI CCC, S-Mark
ROHS	Restriction of Hazardous Substances—RoHS-compliant
Dimensions and weights	
Height	433.6mm (17.07 in.)
Width	199.6mm (7.86 in.)
Depth	467.45mm (18.40 in.)
Weight	15.4 kg (34 lbs.)
Security features	
Chassis security features	Kensington lock support
BIOS security features	Write protect for EEPROM, boot protection for USB flash drive, system and setup password
Warranty	For warranty information, please visit: sun.com/service/warranty/desktopworkstations.html