Sun Blade 100 and Sun Blade 150 Workstations

Differences

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Sun Blade 100 and Sun Blade 150 Workstations: Differences

This document describes the differences between the Sun Blade 100 workstation and the Sun Blade 150 workstation and highlights any significant changes from a service or service-training perspective. Any features not discussed here are identical in both workstations.

Note – Where relevant, features of the Sun Blade 100 “refresh program” of September 2001 are also discussed.

This document compares the Sun Blade 100 and the Sun Blade 150 workstations by discussing the following topics:

- “Features” on page 2
- “Specifications” on page 3
- “CPUs” on page 4
- “Power Supplies” on page 4
- “Motherboard” on page 5
- “Chassis” on page 5
- “Standard Configurations” on page 6
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- “OBP” on page 9
- “Smart Card Reader” on page 9
- “Documentation Sets” on page 10

Features

Table 1 compares the primary features of the Sun Blade 100 workstation and the Sun Blade 150 workstation.

TABLE 1 Comparison of Features[1]

Feature	Sun Blade 100	Sun Blade 150
CPU	**500 MHz UltraSPARC IIe (Hummingbird) with 256 Kbyte internal cache and heatsink**	**550 MHz or 650 MHz UltraSPARC IIi (Phantom) with 512 Kbyte internal cache, heatsink, and fan**
Power supply	**200 watt**	**250 watt**
Hard drive	**15 Gbyte 7,200 RPM with ATA66 interface at product introduction, updated to 20 Gbyte in the "refresh program"; additional drive as option**	**40 Gbyte 7,200 RPM with ATA66 interface; additional drive as option**
Riser board	**3 PCI connector and 1 power connector**	**3 PCI connectors, 2 power connectors, and EMI shielding**
Diskette drive	1.44 Mbyte manual-eject	1.44 Mbyte manual-eject
Smart card reader	**Smart card reader I (SCR403), supported by Solaris 8 2/02 operating environment and patches**	**Smart card reader II (SCR 443), supported by Solaris 8 2/02 operating environment and patches; reads cards inserted either side up**
PCI card expansion	Three long 33-MHz, 32-bit connectors for both long and short PCI cards; total maximum power of 50w	Three long 33-MHz, 32-bit connectors for both long and short PCI cards; total maximum power of 50w
Serial port	One	One
Parallel port	One	One
Ethernet	**10 megabit/100 megabit per second**	**10 megabit/100 megabit per second; 100Mb link-status LED visible inside the case for debugging**
Supported DIMMs	128-Mbyte, 256 Mbyte, 512 Mbyte	128-Mbyte, 256 Mbyte, 512 Mbyte
Total addressable DIMM memory	**2 Gbyte**	**4 Gbyte**

1. Boldface indicates items that differ between the Sun Blade 100 workstation and the Sun Blade 150 workstation.

Specifications

Table 2 compares the Sun Blade 100 and Sun Blade 150 specifications.

TABLE 2 Comparison of Specifications[1]

Specification	Sun Blade 100	Sun Blade 150
Dimensions		
Height	4.6 inches (11.68 cm)	4.6 inches (11.68 cm)
Width	18 inches (45.70 cm)	18 inches (45.70 cm)
Depth	17.6 inches (44.60 cm)	17.6 inches (44.60 cm)
Weight (approximate	**34.2 lb. (15.5 kg)**	**26.9 lb. (12.2 kg)**
Environment While Operating		
Temperature	41° to 95° F (5° to 35° C)	41° to 95° F (5° to 35° C)
Humidity	**40% to 80% noncondensing at 95 degrees F (35 degrees C)**	**10% to 90% RH (noncondensing, 27° C maximum wet bulb)**
Altitude	10,000 ft. (3 km)	10,000 ft. (3 km)
Environment While Not Operating		
Temperature	-40° to 150° F (-40° to 65° C)	-40° to 150° F (-40° to 65° C)
Humidity	**30% to 90% noncondensing at 140° F (60° C) maximum**	**93% RH (noncondensing, 38° C maximum wet bulb)**
Altitude	40,000 ft. (12 km)	40,000 ft. (12 km)
Acoustic Range		
Operating	**<50 dba**	**<55 dba**
Idle	**<45 dba**	**<48 dba**
Operating Vibration		
IEC 60068-2-64 Specification	0.001G^2/Hz random, 5 to 500 Hz (0.70Grms), 60 min. dwell per axis, 3 axes	0.001G^2/Hz random, 5 to 500 Hz (0.70Grms), 60 min. dwell per axis, 3 axes
IEC 60068-2-6 Specification	**0.5G/1.5mm flat spectrum swept-sine, 5 to 500 Hz, 5 sweep cycles per axis, 3 axes**	**0.25G/1.5mm flat spectrum swept-sine, 5 to 500 Hz, 5 sweep cycles per axis, 3 axes**

1. Boldface indicates items that differ.

CPUs

The Sun Blade 100 and Sun Blade 150 workstations use different CPUs, as summarized in Table 3.

TABLE 3 CPUs for the Sun Blade 100 and Sun Blade 150 Workstations

CPU Feature	Sun Blade 100	Sun Blade 150
Speed and Name	500 MHz UltraSPARC IIe	550 MHz *or* 650 MHz UltraSPARC IIi
Internal cache	256 Kbyte	512 Kbyte
CPU assembly	CPU and heatsink as integrated unit	Three distinct components: CPU, heatsink with fan, and CPU grounding ring
FRU strategy	One FRU consisting of the integrated unit	2 FRUs: (1) CPU with CPU grounding ring, and (2) heatsink with fan and CPU grounding ring
Upgrade path	Cannot upgrade from UltraSPARC IIe to UltraSPARC IIi	Cannot upgrade from the 550 MHz UltraSPARC IIi to the 650 MHz UltraSPARC IIi

Power Supplies

The Sun Blade 150 workstation's 250 watt power supply provides additional power for the higher performance of the UltraSPARC IIi CPU and for future higher capacity DIMMs.

Note – The additional power is not available to the PCI expansion slots, which have a maximum power of 50 watts.

The 250 watt power supply includes and additional power cable that connects to the Sun Blade 150 riser card to distribute the added current.

Motherboard

Five key features and differences distinguish the Sun Blade 150 motherboard from the Sun Blade 100 motherboard:

- The Sun Blade 150 motherboard assembly includes a cooling fan as part of the heatsink assembly.
- The Sun Blade 150 motherboard FRU includes the CPU grounding ring.
- The CPU mode detect jumper, JP3, must be set properly according to the speed of the installed CPU module, as shown in Figure 1.
- The Sun Blade 150 motherboard includes an internal 10/100 Ethernet link LED for debugging.
- The layout of the Sun Blade 150 motherboard was changed to increase the suppression of EMI emissions. This increased the board layers from four to six.

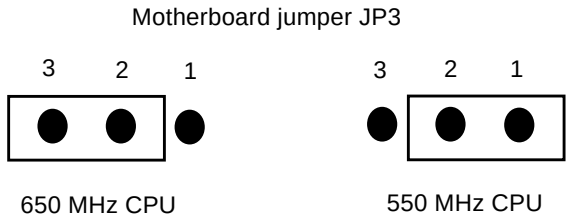

FIGURE 1 Settings for the Sun Blade 150 CPU Mode Detect Jumper

Chassis

The sun Blade 150 chassis provides additional EMI shielding, notably in two places:

- On the divider between the power supply and the peripheral assembly bay.
- At the riser card assembly.

These chassis changes may be phased into the last-produced Sun Blade 100 workstations, although the Sun Blade 150 riser card and its associated shielding will remain unique to the Sun Blade 150 workstation.

Standard Configurations

The Sun Blade 100 workstation was released in three standard configurations:

- 500 MHz UltraSPARC IIe CPU, 128 Mbyte memory, on-board PGX64 graphics accelerator, 15 Gbyte hard drive, CD-ROM drive[1]
- 500 MHz UltraSPARC IIe CPU, 256 Mbyte memory, Expert3D-Lite graphics accelerator board, 15 Gbyte hard drive, DVD-ROM drive
- 500 MHz UltraSPARC IIe CPU, 512 Mbyte memory, Expert3D-Lite graphics accelerator board, 15 Gbyte hard drive, DVD-ROM drive

The Sun Blade 150 workstation is released in three configurations:

- 550 MHz UltraSPARC IIi CPU, 128 Mbyte memory, 40 Gbyte hard drive, on-board PGX 64 graphics accelerator, marketing part number A41-UPA19C-128M-BA[1]
- 650 MHz UltraSPARC IIi CPU, 256 Mbyte memory, 40 Gbyte hard drive, on-board PGX 64 graphics accelerator, marketing part number A41-UTA19C-256M-BA[1]
- 650 MHz UltraSPARC IIi CPU, 512 Mbyte memory, 40 Gbyte hard drive, Sun XVR-500 graphics accelerator board, marketing part number A41 UTA19A-512M-DK[1]

1. Energy Star-compliant configuration

FRUs

Table 4 lists the field-replaceable units (FRUs) for both workstations.

TABLE 4 FRUs for the Sun Blade 100 and Sun Blade 150 Workstations

Sun Blade 100 Workstation		Sun Blade 150 Workstation	
Part Number	**Description**	**Part Number**	**Description**
F375-0096	Motherboard with tray	F375-3088	Motherboard with tray and CPU grounding ring
F375-3061	Motherboard with tray		
F375-3092	Motherboard with tray		
F375-3123	Motherboard without tray		
F375-3106	Refreshed motherboard with tray		

TABLE 4 FRUs for the Sun Blade 100 and Sun Blade 150 Workstations

Sun Blade 100 Workstation		Sun Blade 150 Workstation	
Part Number	**Description**	**Part Number**	**Description**
		F370-5202	Heatsink with integral fan and CPU grounding ring
F370-5621	Lithium battery (3 v) assembly	F370-5621	Lithium battery (3 v) assembly
F375-5268	VGA / serial kit adapter	F375-5268	VGA / serial kit adapter
F 370-4152	48x CD-ROM drive	F370-4152	48x CD-ROM drive
F370-4154	15 Gbyte hard drive	F370-4440	40 Gbyte hard drive
F370-4327	20.1 Gbyte hard drive		
F370-5560	20.4 Gbyte hard drive		
F370-4439	16x DVD-ROM drive	F370-4439	16x DVD-ROM drive
F370-4149	128 Mbyte SDRAM DIMM	F370-4149	128 Mbyte SDRAM DIMM
F370-4150	256 Mbyte SDRAM DIMM	F370-4150	256 Mbyte SDRAM DIMM
F370-4151	512 Mbyte SDRAM DIMM	F370-4151	512 Mbyte SDRAM DIMM
F370-4206	200w power supply	F370-4872	250w power supply
F370-4207	Chassis fan	F370-4207	Chassis fan
F370-4208	Riser board	F370-4873	Riser board
F370-4209	Cable kit	F370-4209	Cable kit
F370-4210	Power switch	F370-4210	Power switch
F370-4211	Diskette drive	F370-4211	Diskette drive
F370-3933	Internal smart card reader	F370-4666	Internal smart card reader
F370-4293	Speaker	F370-4293	Speaker
F100-7270	500 MHz UltraSPARC IIi CPU with heat sink	F527-1037	550 MHz UltraSPARC IIe CPU with CPU grounding ring
		F527-1036	650 MHz UltraSPARC IIe CPU with CPU grounding ring

Operating Environments and Patches

Both the Sun Blade 100 and the Sun Blade 150 come with preinstalled software consisting of a Solaris 8 operating environment and additional software applications.

For a list of the additional software applications, see the Getting Started Guide for the workstation under consideration.

Table 5 shows the preinstalled operating environment for each workstation and the patches that need to be downloaded to fully restore the preinstalled operating environment. The patches are shown at their minimum required version level.

Note – Always install the most recent version of a patch. Patches are available at: `http://www.sunsolve.sun.com`

TABLE 5 Solaris Operating Environment and Patches

Operating Environment	Patches
Solaris 8 10/00[1] for Sun Blade 100 workstatin	109793-04 (Serial Port)
	109920-03 (PCMCIA)
	110221-01 (Sun 1394 Camera)
	109874-03 (Audio Driver)
Solaris 8 1/01 for Sun Blade 100 "refresh" program[2]	108528-06 (Kernel Update 6)
	109793-05 (Serial Port)
	109920-03 (PCMCIA)
	110221-01 (Sun 1394 Camera)
	109874-05 (Audio Driver)
	109882-03 (ERI Header Files)
	110723-01 (ERI Driver)
	108974-09 (UATA and SD)
	108606-08 (M64 Graphics)
	108576-10 (Expert3D Graphics)
Solaris 8 2/02 for Sun Blade 100 and Sun Blade 150 workstations	108528-15 (Kernel Update 6)
	110723-05 (ERI Driver)
	111874-05 (`usr/bin/mail`)
	111883-07 (Sun GigaSwift Ethernet)
	110457-05 (Smart Card Terminal)
	109887-13 (Smart Card Reader)

1. Requires *Operating Environment Installation CD 10/00, for Sun Blade 100 Systems*, 704-7610, to initiate installation of Solaris 8 10/00.

2. Requires *Operating Environment Installation CD 1/01, for Sun Blade 100 Systems*, 704-7617, to initiate installation of Solaris 8 1/01.

Note – To reinstall the operating environment on a Sun Blade 150, you do not need an Operating Environment Installation CD.

OBP

Table 6 shows the OpenBoot™ PROM history for both workstations.

TABLE 6 OpenBoot PROM History

Sun Blade 100 Workstation[1]		Sun Blade 150 Workstations	
OpenBoot PROM	**Release Date**	**OpenBoot PROM**	**Release Date**
v 4.0.31	February 2001		
v 4.0.45	June 2001 (“refresh program”)		
v 4.5.9	April 2002		
		v 4.6.10	July 2002

1. For additional information on OpenBoot PROM and the Sun Blade 100, see *Updating the Sun Blade 100 OpenBoot PROM Firmware*, 816-0737. This document can be found at: `http://www.sun.com/products-n-solutions/hardware`

Smart Card Reader

The smart card reader I (SCR403) in the Sun Blade 100 was supported by Solaris 8 2/02 plus patches. The smart card reader itself was changed to a newer model in the Sun Blade 150, and Solaris 8 2/02 offers support for the device. The Sun Blade 150 smart card reader can read cards inserted with either side up.

Note – If installing or reinstalling Solaris 8 2/02 in either workstation, also install patches 110457 and 109887. These patches are available at: `http://www.sunsolve.sun.com`.

Documentation Sets

Table 7 lists the documentation for each workstation and the formats in which each document is distributed.

TABLE 7 Documentation Shipping With Systems

	Sun Blade 100		Sun Blade 150	
Document	**Part Number**	**Formats**	**Part Number**	**Formats**
Setting Up Poster	806-3414	Print	816-1162	Print, CD, Web
Getting Started Guide	806-3415	Print, multilingual	816-1161	Print, English-only Multilingual on CD and Web[1]
Service Manual	806-3416	HTML and PDF on CD[2]	816-4379	HTML and PDF on CD[2]
Product Notes	806-3417	Print, Web	816-1163	Web
Documentation CD	704-4016	CD-ROM	705-0122	CD-ROM
CD insert	804-4016	Print	818-0122	Print
Safety, Compliance Information	N.A.	N.A.	816-4778	Print
Safety Compliance Guide	N.A.	N.A.	816-4779	Web

1. The translated versions of the *Sun Blade 150 Getting Started Guide* appear on the Documentation CD and on `www.sun.com`. These documents are: 816-4216 (French), 816-4217 (German), 816-4218 (Spanish), 816-4219 (Italian), 816-4220 (Swedish), 816-4221 (Japanese), 816-4222 (Korean), 816-4223 (Simplified Chinese), and 816-4224 (Traditional Chinese).

2. The Service Manuals in HTML include ShowMe How animated remove and replace procedures.

The documents listed in Table 7, including the translations of the *Sun Blade 150 Getting Started Guide*, can be found at:

`http://www.sun.com/products-n-solutions/hardware/docs`

Many of the documents are also located at:

`http://docs.sun.com`