



Solaris 9 (Intel Platform Edition) Hardware Compatibility List

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Preface

This document provides information about general IA hardware requirements and the peripherals and system platforms that are supported in Solaris™ 9 *Intel Platform Edition*.

Note – In this document the term “IA” refers to the Intel 32-bit processor architecture, which includes the Pentium, Pentium Pro, Pentium II, Pentium II Xeon, Celeron, Pentium III, Pentium III Xeon, and Pentium 4 processors and compatible microprocessor chips made by AMD.

Note – System platforms listed in this document are tested “as-shipped” by the hardware manufacturers, but due to the nature of this industry, there might be unexpected and unannounced changes.

Before a system can be certified, every controller (disk, network, and video) in the system must be certified. This means that each controller runs on an existing Solaris driver or on a driver that has been certified by Sun. All Sun certified controllers are listed in Chapter 3 and Chapter 4.

It is common practice for hardware vendors to release variants of a particular hardware design under a single marketing name. In some cases, not all variants will work with the current Solaris device driver.

How This Document Is Organized

This document is divided into four chapters and one appendix:

- Chapter 1 lists the Intel 32-bit processor architecture (IA) hardware requirements for installing the Solaris 9 operating environment.
- Chapter 2 lists the platforms supported in the Solaris 9 *Intel Platform Edition* product. This is *not* intended to be an exhaustive list of IA based systems that can run Solaris 9 software. All peripherals listed in Chapter 3 have *not* been tested in all combinations on all of these platforms.
- Chapter 3 lists the devices supported by drivers included on the Solaris CD. Support for these drivers is provided by Sun.
- Chapter 4 lists controllers developed by independent hardware vendors (IHVs). Contact the IHV directly to get support for these controllers, which have been certified using third-party drivers.
- Appendix A describes how to use Solaris 9 *Intel Platform Edition* Device Configuration Assistant software, manufacturers' device configuration media, and documentation to solve configuration problems.

Solaris Certification Programs

For information about the Solaris hardware certification programs, see <http://soldc.sun.com/support/certify/HCTS>.

Because certification testing is an ongoing process, updated *Solaris 9 (Intel Platform Edition) Hardware Compatibility Lists* (HCLs) are produced between releases. HCLs are available at <http://soldc.sun.com/support/drivers/hcl>.

Driver-Related Patches

For information about driver-related patches that are currently available for Solaris *Intel Platform Edition*, see <http://www.sun.com/io/released-patches.html>.

For a list of upcoming driver-related patches, see <http://www.sun.com/io/upcoming-patches.html>.

HCL Feedback

To supply technical feedback about this book, send email to x86-certify@cypress.west.sun.com.

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The *Solaris 9 (Intel Platform Edition) Hardware Compatibility List* and other versions of this book are updated frequently at the Solaris Developer Connection site. The URL is <http://soldc.sun.com/support/drivers/hcl>.

General Requirements

CPU	Memory	Bus	Disk Interface	Distribution Media	Devices for Installing Solaris
Intel Pentium	Minimum: 64 Mbytes	PCI, ISA, VLB	IDE, E-IDE, SCSI	CD-ROM and a single boot diskette	Diskette drive <i>and</i> one of the following devices:
Intel Pentium Pro					
Intel Pentium with MMX	Maximum: 32 Gbytes ¹				<ul style="list-style-type: none"> ■ Local SCSI or ATAPI/IDE CD-ROM or DVD-ROM drive
Intel Pentium II					
Intel Pentium II Xeon					<ul style="list-style-type: none"> ■ Remote SCSI or ATAPI/IDE CD-ROM or DVD-ROM drive available over the network
Intel Celeron					
Intel Pentium III					<ul style="list-style-type: none"> ■ Remote fixed disk available over the network
Intel Pentium III Xeon					
Intel Pentium 4					
AMD-K5					
AMD-K6					
AMD-K6-2					
AMD-K6-3					
AMD Athlon (formerly Athlon K7)					
AMD Duron					

1. IA based systems that use the Intel Pentium Pro and subsequently released Intel CPUs can address up to 32 Gbytes of physical memory. However, individual processes are still limited to a maximum of 3.5 Gbytes of virtual address space.

Conventions Used for Pentium Processors

Pentium system platforms and motherboards listed in this document show the CPU type and speed in parentheses after the model name.

- The term (P-*xxx*) indicates a Pentium processor. The *xxx* is replaced by the speed of the system in megahertz. For example, P-100 indicates a 100-MHz Pentium processor.
- The term (PP-*xxx*) indicates a Pentium Pro processor. The *xxx* is replaced by the speed of the system in megahertz. For example, PP-150 indicates a 150-MHz Pentium Pro processor.
- The term (PII-*xxx*) indicates a Pentium II processor. The *xxx* is replaced by the speed of the system in megahertz. For example, PII-233 indicates a 233-MHz Pentium II processor.
- The term (PIII-*xxx*) indicates a Pentium III processor. The *xxx* is replaced by the speed of the system in megahertz. For example, PIII-450 indicates a 450-MHz Pentium III processor.
- The term (P4-*xxx*) indicates a Pentium 4 processor. The *xxx* is replaced by the speed of the system in megahertz. For example, P4-933 indicates a 933-MHz Pentium 4 processor.

System Platforms

Solaris 9 *Intel Platform Edition* has been successfully installed and tested on the systems listed in this chapter configured as they are shipped by the system manufacturer.

Before a system can be certified, every controller (disk, network, and video) in the system must be certified. This means that each controller runs on an existing Solaris driver or on a driver that has been certified by Sun. All Sun certified controllers are listed in Chapter 3 and Chapter 4.

There are two levels of system certification:

- Level 1 The system has passed Sun's Level 1 certification test suite, which tests basic system functionality for Solaris compatibility.
- Level 2 The system has passed Sun's Level 2 certification test suite. The tests are rigorous enough that system manufacturers might soon be eligible to apply to license the Solaris Ready logo. System manufacturers whose products are used in everyday business environments often choose Level 2 certification.

In the following system tables, the Level 2 designation appears in boldface.

Single Processor Systems

TABLE 2-1 Single Processor Systems

System Platform	Certification Level
Advantech PCA 6180 (PIII-733)	Level 1
Compaq Deskpro EN 6400 (PII-400)	Level 1

TABLE 2-1 Single Processor Systems (Continued)

System Platform	Certification Level
Compaq Professional Workstation AP200 (PII-400)	Level 1
Compaq Professional Workstation AP200 (PII-450)	Level 1
Compaq Professional Workstation AP200 (PIII-400)	Level 1
Compaq Professional Workstation AP400 (PII-400)	Level 1
Compaq Professional Workstation AP400 (PII-450)	Level 1
Compaq Professional Workstation AP500 (PII-450)	Level 1
Compaq Professional Workstation AP550 (PIII-1GHz)	Level 1
Compaq ProLiant 800 (PII-350)	Level 1
Compaq ProLiant 800 (PIII-550)	Level 1
Compaq ProLiant 1200 (PII-233)	Level 1
Compaq ProLiant 1600 (PII-300)	Level 1
Compaq ProLiant 1600 (PII-350)	Level 1
Compaq ProLiant 1600 (PII-400)	Level 1
Compaq ProLiant DL320 (PIII-800)	Level 1
Compaq ProLiant DL320 (PIII-1GHz)	Level 2
Dell OptiPlex G1 (Celeron-433)	Level 1
Dell OptiPlex GN+ 5233 (P-233 MMX)	Level 1
Dell OptiPlex GX1-400 (PII-400)	Level 1
Dell OptiPlex GX1-500 (PIII-500)	Level 1
Dell OptiPlex GX1-550 (PIII-550)	Level 1
Dell OptiPlex GX100 (Celeron-600)	Level 1
Dell OptiPlex GX1p-400 (PII-400)	Level 1
Dell OptiPlex GX1p-450 (PII-450)	Level 1
Dell OptiPlex GX1p-500 (PIII-500)	Level 1
Dell PowerApp-100 (PIII-600)	Level 1
Dell PowerApp-110 (PIII-700)	Level 1
Dell PowerEdge 2200 (PII-266+RAID)	Level 1
Dell PowerEdge 2550 (PIII-1GHz)	Level 1

TABLE 2-1 Single Processor Systems (Continued)

System Platform	Certification Level
Dell Precision Workstation 220 (PIII-600)	Level 1
Force CPCI-730 (PII-333)	Level 1
Fujitsu FMV-6266DX (PII-266)	Level 1
Fujitsu FMV-6300DX2c (Celeron-300)	Level 1
Fujitsu FMV-6350DX (PII-350)	Level 1
Fujitsu FMV-6400TX (PII-400)	Level 1
Fujitsu FMV PRO 7400E1 2D (PII-400)	Level 1
Fujitsu FMV PRO 7400T1 2D (PII-400)	Level 1
Fujitsu FMV PRO 7550E2 2D (PIII-550)	Level 1
Fujitsu FMV PRO 7700E3 (PIII-700)	Level 1
Fujitsu FMV PRO 8550T2 2D (PIII Xeon-550)	Level 1
Fujitsu GRANPOWER5000 ES200 (PIII-600)	Level 1
Fujitsu GRANPOWER5000 Model 180 (PII-400)	Level 1
Fujitsu GRANPOWER5000 Model 180 (PIII-550)	Level 1
Fujitsu GRANPOWER5000 Model 280 (PIII-700)	Level 1
Fujitsu GRANPOWER5000 Model 580 (PII Xeon-400)	Level 1
Fujitsu GRANPOWER5000 Model 580 (PIII Xeon-550)	Level 1
Fujitsu PRIMERGY ES200 (Celeron-633)	Level 1
Fujitsu PRIMERGY ES200 (PIII-800)	Level 1
Fujitsu PRIMERGY ES210 (PIII-800)	Level 1
Fujitsu PRIMERGY ES210 (PIII-850)	Level 1
Fujitsu PRIMERGY ES280 (PIII-800)	Level 1
Fujitsu PRIMERGY MS380 (PIII-850)	Level 1
Fujitsu PRIMERGY MS610 (PIII Xeon-700)	Level 1
Fujitsu PRIMERGY TS120 (PIII-933)	Level 1
Fujitsu PRIMERGY TS220 (PIII-933)	Level 1
Gateway E-1600 SE (PIII-933)	Level 1
Gateway E-4600 SE (P4 1.3 GHz)	Level 1

TABLE 2-1 Single Processor Systems (Continued)

System Platform	Certification Level
Hitachi FLORA 370-TS3 (PII-450)	Level 1
Hitachi HA8000/30 (PIII-800+SCSI)	Level 1
Hitachi HA8000/40 (PII-400)	Level 1
Hitachi HA8000/70 (PIII-1GHz+RAID)	Level 1
Hitachi HA8000/110 (PIII-800+RAID)	Level 1
Hitachi HA8000/110 (PIII-800+SCSI)	Level 1
Hitachi HA8000/150 (PIII-500)	Level 1
Hitachi HA8000/170 (PIII-733)	Level 1
HP Kayak XA-s 6-450 PC Workstation (PII-450)	Level 1
IBM IntelliStation E Pro 6893 (PII-400)	Level 1
IBM IntelliStation M Pro 6889-08Z (PII-350)	Level 1
IBM Netfinity 3500 8644-21U (PII-266)	Level 1
IBM Netfinity 5500 8660-4RU (PII-400)	Level 1
IBM Personal Computer 300 PL Model 6562-30Z (P-200 MMX)	Level 1
IBM Personal Computer 300 PL Model 8692-40Z (PP-350)	Level 1
Intel SKA4 (PIII Xeon-500)	Level 1
Intel UPServer T440BX (PIII-500)	Level 1
Motorola CPV5000 Single-Board Computer (P-233 MMX Mobile Module)	Level 1
Motorola CPV5300 Single-Board Computer (PII-266 Mobile Module)	Level 1
Motorola CPV5350 Single-Board Computer (PII-333 Mobile Module)	Level 1
NCR 3261 (Celeron-266)	Level 1
NCR 3271 (PII-266)	Level 1
NCR 3272 (PII-450)	Level 1
NCR WorldMark 4300 (PP-200, 512 KB)	Level 1
NEC Express5800-HX4500 (PII Xeon-400)	Level 1
NEC PowerMate Enterprise 5100 (PII-300)	Level 1
NEC PowerMate Enterprise 8100E (PII-400, 512 KB)	Level 1
Siemens AG ATD SiX Station 4BX (PII-350)	Level 1

TABLE 2-1 Single Processor Systems (Continued)

System Platform	Certification Level
Siemens AG PRIMERGY 170 (D1107) (PIII-500)	Level 1
Siemens AG PRIMERGY 870 (PII Xeon-400)	Level 1
Siemens AG PRIMERGY 870 (PII Xeon-450)	Level 1
Siemens AG Scenic Pro D6 (D1085) (PII-266)	Level 1
Siemens AG Scenic Pro D7 (D1064) (PII-450)	Level 1
Toshiba Equim 7100M (PIII-600)	Level 1
Zenith Data Systems Express5800-HX4500 (PII Xeon-400)	Level 1
Zenith Data Systems Z-Station 8100E (PII-400, 512 KB)	Level 1

Multiprocessor Systems (SMP)

The number of CPUs following each entry indicates the number of processors in the multiprocessor system as tested.

TABLE 2-2 Multiprocessor Systems (SMP)

System Platform	Certification Level
Acer AcerAltos 1100E (2 CPUs, PIII-550)	Level 1
Acer AcerAltos 1200 (2 CPUs, PIII-866)	Level 1
Acer AcerAltos 1200LP (2 CPUs, PIII-800)	Level 1
Acer AcerAltos 12000 (2 CPUs, PIII Xeon-550)	Level 1
Acer AcerAltos 21000 (4 CPUs, PIII Xeon-500)	Level 1
Acer AOpen DX2G Plus (2 CPUs, PIII Xeon-550)	Level 1
Acer AOpen DX6G Plus (2 CPUs, PIII-500)	Level 1
Acer AOpen DX6G Plus (2 CPUs, PIII Xeon-500)	Level 1
Acer ProStation 5000 (2 CPUs, PIII-550)	Level 1
Bull Information Systems Express5800-HX4500 (4 CPUs, PII Xeon-400)	Level 1
Bull Information Systems Express5800-HX4600 (2 CPUs, PII-450)	Level 1
Bull Information Systems Express5800-MC2400 (2 CPUs, PII-450)	Level 1

TABLE 2-2 Multiprocessor Systems (SMP) (Continued)

System Platform	Certification Level
Bull Information Systems Express5800-MH4500 (2 CPUs, PII Xeon-400)	Level 1
Compaq Professional Workstation AP400 (2 CPUs, PII-400)	Level 1
Compaq Professional Workstation AP400 (2 CPUs, PII-450)	Level 1
Compaq Professional Workstation AP500 (2 CPUs, PII-450)	Level 1
Compaq ProLiant 800 (2 CPUs, PII-350)	Level 1
Compaq ProLiant 800 (2 CPUs, PIII-550)	Level 1
Compaq ProLiant 1600 (2 CPUs, PII-350)	Level 1
Compaq ProLiant 1600 (2 CPUs, PII-400)	Level 1
Compaq ProLiant 1600 (2 CPUs, PIII-550)	Level 1
Compaq ProLiant 1850R (2 CPUs, PIII-500)	Level 1
Compaq ProLiant 1850R (2 CPUs, PIII-550)	Level 1
Compaq ProLiant 3000 (2 CPUs, PII-300)	Level 1
Compaq ProLiant 3000 (2 CPUs, PII-333)	Level 1
Compaq ProLiant 3000 (2 CPUs, PIII-500)	Level 1
Compaq ProLiant 5500 (4 CPUs, PP-200)	Level 1
Compaq ProLiant 5500 (4 CPUs, PII Xeon-400)	Level 1
Compaq ProLiant 5500 (4 CPUs, PII Xeon-450)	Level 1
Compaq ProLiant 6000 (2 CPUs, PP-200)	Level 1
Compaq ProLiant 6000 (2 CPUs, PIII Xeon-500)	Level 1
Compaq ProLiant 6000 (4 CPUs, PP-200)	Level 1
Compaq ProLiant 6000 (4 CPUs, PIII Xeon-500)	Level 1
Compaq ProLiant 6400R (4 CPUs, PIII Xeon-500)	Level 1
Compaq ProLiant 6500 (4 CPUs, PP-200) ^{1, 2}	Level 1
Compaq ProLiant 6500R (4 CPUs, PII Xeon-400)	Level 1
Compaq ProLiant 6500R (4 CPUs, PII Xeon-450)	Level 1
Compaq ProLiant 6500R (4 CPUs, PIII Xeon-500)	Level 1
Compaq ProLiant 7000 (2 CPUs, PP-200) ²	Level 1
Compaq ProLiant 7000 (4 CPUs, PP-200) ²	Level 1

TABLE 2-2 Multiprocessor Systems (SMP) (Continued)

System Platform	Certification Level
Compaq ProLiant 7000 (4 CPUs, PII Xeon-450) ²	Level 1
Compaq ProLiant 7000 (4 CPUs, PIII Xeon-500) ²	Level 1
Compaq ProLiant 8000 (8 CPUs, PIII-700) ²	Level 1
Compaq ProLiant 8500 (8 CPUs, PIII-700) ²	Level 1
Compaq ProLiant 8500R (8 CPUs, PIII-700) ²	Level 1
Compaq ProLiant DL360 (2 CPUs, PIII-866)	Level 1
Compaq ProLiant DL360 (2 CPUs, PIII-933)	Level 1
Compaq ProLiant DL360 (2 CPUs, PIII-1GHz)	Level 1
Compaq ProLiant DL380 (2 CPUs, PIII-1GHz)	Level 1
Compaq ProLiant DL580 (2 CPUs, PIII-700)	Level 1
Compaq ProLiant DL580 (4 CPUs, PIII-700)	Level 1
Compaq ProLiant ML370 (2 CPUs, PIII-933)	Level 1
Compaq ProLiant ML370 (2 CPUs, PIII-1GHz)	Level 1
Compaq ProLiant ML530 (2 CPUs, PIII-933)	Level 1
Compaq ProLiant ML530 (2 CPUs, PIII-1GHz)	Level 1
Compaq ProLiant ML570 (4 CPUs, PIII-700)	Level 1
Dell PowerEdge 300 (2 CPUs, PIII-500)	Level 1
Dell PowerEdge 1400 (2 CPUs, PIII-866)	Level 1
Dell PowerEdge 1550 (2 CPUs, PIII-933)	Level 1
Dell PowerEdge 2200 (2 CPUs, PII-266)	Level 1
Dell PowerEdge 2200 (2 CPUs, PII-266+RAID)	Level 1
Dell PowerEdge 2300 (2 CPUs, PII-400)	Level 1
Dell PowerEdge 2450 (2 CPUs, PIII-667)	Level 1
Dell PowerEdge 2500 (2 CPUs, PIII-933)	Level 2
Dell PowerEdge 2550 (2 CPUs, PIII-1GHz)	Level 2
Dell PowerEdge 6300 (4 CPUs, PII-400)	Level 1
Dell PowerEdge 6350 (4 CPUs, PIII Xeon-500)	Level 2
Dell PowerEdge 6400 (4 CPUs, PIII Xeon-700)	Level 1

TABLE 2-2 Multiprocessor Systems (SMP) (Continued)

System Platform	Certification Level
Dell PowerEdge 6450 (4 CPUs, PIII Xeon-700)	Level 1
Dell PowerEdge 8450 (8 CPUs, PIII Xeon-550)	Level 1
Dell Precision WorkStation 410 (2 CPUs, PII-400)	Level 1
Dell Precision WorkStation 610 (2 CPUs, PII Xeon-450)	Level 1
Dell Precision WorkStation 610 (2 CPUs, PIII-600)	Level 1
Dell Precision WorkStation 610 (2 CPUs, PIII Xeon-550)	Level 1
Fujitsu GRANPOWER5000 Model 280 (2 CPUs, PII-400)	Level 1
Fujitsu GRANPOWER5000 Model 280 (2 CPUs, PIII-700)	Level 1
Fujitsu GRANPOWER5000 Model 580 (4 CPUs, PII Xeon-400)	Level 1
Fujitsu GRANPOWER5000 Model 580 (2 CPUs, PIII Xeon-550)	Level 1
Fujitsu GRANPOWER5000 Model 580 (4 CPUs, PIII Xeon-550)	Level 1
Fujitsu L830i 4Way (4 CPUs, PII Xeon-400)	Level 1
Fujitsu L870ie 4Way (4 CPUs, PIII Xeon-550)	Level 1
Fujitsu PRIMERGY ES210 (2 CPUs, PIII-850)	Level 1
Fujitsu PRIMERGY ES280 (2 CPUs, PIII-800)	Level 1
Fujitsu PRIMERGY ES320 (2 CPUs, PIII-933)	Level 1
Fujitsu PRIMERGY MS380 (2 CPUs, PIII-850)	Level 1
Fujitsu PRIMERGY MS610 (2 CPUs, PIII Xeon-700)	Level 1
Fujitsu PRIMERGY MS610 (4 CPUs, PIII Xeon-700)	Level 1
Fujitsu PRIMERGY TS220 (2 CPUs, PIII-933)	Level 1
Fujitsu TeamSERVER-T890i (4 CPUs, PIII Xeon-550)	Level 1
Gateway 7250R (2 CPUs, PIII-800)	Level 1
Gateway 7450R (2 CPUs, PIII-933)	Level 1
Gateway 7450R (2 CPUs, PIII-1GHz)	Level 1
Gateway 8400 (4 CPUs, PIII Xeon-500)	Level 1
Gateway 8400 (4 CPUs, PIII Xeon-700)	Level 1
Gateway 8450R (4 CPUs, PIII Xeon-700)	Level 1
Gateway E-5250 (2 CPUs, PII Xeon-400)	Level 1

TABLE 2-2 Multiprocessor Systems (SMP) (Continued)

System Platform	Certification Level
GEG Express 400 X270R (4 CPUs, PIII-700)	Level 1
GEG Express Q2100S (2 CPUs, PIII-1GHz)	Level 1
Hitachi HA8000/140 (2 CPUs, PIII-500)	Level 1
Hitachi HA8000/150 (2 CPUs, PIII-500)	Level 1
Hitachi HA8000/380 (8 CPUs, PII Xeon-400)	Level 1
Hitachi HA8000/380 UWRAID (4 CPUs, PII Xeon-450)	Level 1
Hitachi HA8000/380 UWRAID (8 CPUs, PII Xeon-450)	Level 1
Hitachi VisionBase8240 (2 CPUs, PIII-500)	Level 1
Hitachi VisionBase8880R (8 CPUs, PII Xeon-400)	Level 1
Hitachi VisionBase8880R UWRAID (4 CPUs, PII Xeon-450)	Level 1
Hitachi VisionBase8880R UWRAID (8 CPUs, PII Xeon-450)	Level 1
HP Kayak XA-s 6-450 PC Workstation (2 CPUs, PII-450)	Level 1
HP NetServer LH4 (2 CPUs, PII-400) ³	Level 1
HP NetServer LP-1000R (2 CPUs, PIII-1GHz)	Level 1
IBM Netfinity 5000 8659-22Y (2 CPUs, PII-400)	Level 1
IBM Netfinity 5500 8660-1RU (2 CPUs, PII-400)	Level 1
IBM Netfinity 5500 8660-4RU (2 CPUs, PII-400)	Level 1
IBM Netfinity 7000 8651-TMO (4 CPUs, PP-200)	Level 1
Intel DPServer C440GX+ (2 CPUs, PIII Xeon-500)	Level 1
Intel DPServer L440GX+ (2 CPUs, PIII-550)	Level 1
Intel DPServer LB440GX (2 CPUs, PIII-500)	Level 1
Intel Lancewood (2 CPUs, PII-400)	Level 1
Intel OCPRF100 (8 CPUs, PIII Xeon-550)	Level 1
Intel QPServer AC450NX (4 CPUs, PII Xeon-400) ²	Level 1
Intel QPServer AC450NX (4 CPUs, PIII Xeon-550) ²	Level 1
Intel QPServer SC450NX (4 CPUs, PII Xeon-400)	Level 1
Intel SBT2 (2 CPUs, PIII-1GHz)	Level 1
Intel SKA4 (2 CPUs, PIII Xeon-500)	Level 1

TABLE 2-2 Multiprocessor Systems (SMP) (Continued)

System Platform	Certification Level
Intel SKA4 (4 CPUs, PIII Xeon-500)	Level 1
Intel SPM8 (8 CPUs, PIII Xeon-700)	Level 1
Intel STL2 (2 CPUs, PIII-1GHz)	Level 1
Micron NetFrame 3100 (2 CPUs, PIII-500)	Level 1
Micron NetFrame 5200 (2 CPUs, PII-400)	Level 1
Mitsubishi Electric FT2400 (2 CPUs, PII-300)	Level 1
NCR S20R (2 CPUs, PIII-800)	Level 1
NCR S25 (2 CPUs, PIII-800)	Level 1
NCR S26 (2 CPUs, PP-200, 512 KB)	Level 1
NCR S26 Rack Node (2 CPUs, PII-400)	Level 1
NCR S26 Rack Node (440GX) (2 CPUs, PII-450)	Level 1
NCR S26 Refresh (2 CPUs, PII-300, 512 KB)	Level 1
NCR S26 XLPII (2 CPUs, PII-333)	Level 1
NCR S26 XLPII (2 CPUs, PII-400)	Level 1
NCR S26 XLPII (440GX) (2 CPUs, PII-450)	Level 1
NCR S27 (PIII-800)	Level 1
NCR S28 (PIII-800)	Level 1
NCR S50 (4 CPUs, PII Xeon-400)	Level 1
NCR S50 (4 CPUs, PIII Xeon-500)	Level 1
NCR WorldMark 4300 (2 CPUs, PP-200)	Level 1
NCR WorldMark 4300 (4 CPUs, PP-166)	Level 1
NCR WorldMark 4300 (4 CPUs, PP-200, 512 KB)	Level 1
NCR WorldMark 4300 (4 CPUs, PP-200, 1 MB)	Level 1
NCR WorldMark 4300 Rack 2NODE (4 CPUs, PP-200, 512 KB)	Level 1
NCR WorldMark 4380 (2 CPUs, PP-200, 512 KB) ⁴	Level 1
NCR WorldMark 4380 (4 CPUs, PP-200, 1 MB) ⁴	Level 1
NCR WorldMark 4380 (8 CPUs, PP-200, 1 MB) ⁴	Level 1
NCR WorldMark 4400 (3 CPUs, PII Xeon-400)	Level 1

TABLE 2-2 Multiprocessor Systems (SMP) (Continued)

System Platform	Certification Level
NCR WorldMark 4400 (4 CPUs, PII Xeon-400)	Level 1
NCR WorldMark 4455 (4 CPUs, PIII Xeon-500)	Level 1
NCR WorldMark 4455 (4 CPUs, PIII Xeon-700)	Level 1
NCR WorldMark 4465 (4 CPUs, PIII Xeon-500)	Level 1
NCR WorldMark 4465 (4 CPUs, PIII Xeon-700)	Level 1
NEC Express5800-HX4500 (4 CPUs, PII Xeon-400)	Level 1
NEC Express5800-HX4600 (2 CPUs, PII-450)	Level 1
NEC Express5800-MC2400 (2 CPUs, PII-450)	Level 1
NEC Express5800-MH4500 (2 CPUs, PII Xeon-400)	Level 1
NEC Express5800-TM1200 (2 CPUs, PIII-933)	Level 2
Siemens AG PRIMERGY 470 (2 CPUs, PII-450)	Level 1
Siemens AG PRIMERGY 670/20 (2 CPUs, PII-350)	Level 1
Siemens AG PRIMERGY 870 (2 CPUs, PII Xeon-400)	Level 1
Siemens AG PRIMERGY 870 (2 CPUs, PII Xeon-450)	Level 1
Siemens AG PRIMERGY 870 (4 CPUs, PII Xeon-400)	Level 1
Siemens AG PRIMERGY 870 (4 CPUs, PII Xeon-450)	Level 1
Toshiba Magnia 3000 (2 CPUs, PII-400)	Level 1
Toshiba Magnia 3010 (2 CPUs, PIII-500)	Level 1
Toshiba Magnia 5000 (2 CPUs, PII-400)	Level 1
Versiya SmartServer 3000 (2 CPUs, PII-400)	Level 1
Versiya SmartServer 5000 (2 CPUs, PIII-500)	Level 1
Zenith Data Systems Express5800-HX4500 (4 CPUs, PII Xeon-400)	Level 1
Zenith Data Systems Express5800-HX4600 (2 CPUs, PII-450)	Level 1
Zenith Data Systems Express5800-MC2400 (2 CPUs, PII-450)	Level 1
Zenith Data Systems Express5800-MH4500 (2 CPUs, PII Xeon-400)	Level 1

1. 3Com EtherLink XL 3C905B cards in a Compaq ProLiant 6500 can fail to generate interrupts. Refer to e1x1(7D) in the *Solaris Reference Manual* for additional information.
2. This system supports PCI hot-plugging.
3. This system has a built-in AMI MegaRAID 438 controller, which is *not* currently supported by the Solaris operating environment. Contact AMI to obtain information and support for this controller.
4. To use the NCR 4380 model series, you must install Solaris patch `ncr4380_set`, which can be downloaded from http://www3.ncr.com/support/solaris/alphabetical_list.shtml.

Motherboards

These motherboards have been tested by the hardware vendor. See the Certification Reports for information about the BIOS version and the Solaris version on which the motherboard was certified.

TABLE 2-3 Motherboards

Motherboard	Certification Level
ASUS A7A266 (1 CPU, K6-3 1.2 GHz)	Level 1
ASUS A7V (1 CPU, Athlon-700)	Level 1
ASUS A7V266 (1 CPU, Athlon 1.1 GHz)	Level 1
ASUS CUA266 (1 CPU, PIII-1GHz)	Level 1
ASUS CUSL2 (1 CPU, PIII-866)	Level 1
ASUS CUSL2-M (1 CPU, PIII-866)	Level 1
ASUS CUV26 (1 CPU, PIII-1GHz)	Level 1
ASUS CUV4X-E (1 CPU, PIII-933)	Level 1
ASUS CUV4X-ME (1 CPU, PIII-667)	Level 1
ASUS CUV4X-V (1 CPU, PIII-933)	Level 1
ASUS K7M (1 CPU, Athlon-650)	Level 1
ASUS MEB-VM (1 CPU, Celeron-400)	Level 1
ASUS MEL-B (1 CPU, Celeron-433)	Level 1
ASUS MES (1 CPU, Celeron-466)	Level 1
ASUS MES-B (1 CPU, Celeron-466)	Level 1
ASUS MES-VM (1 CPU, Celeron-400)	Level 1
ASUS MEV (1 CPU, Celeron-466)	Level 1
ASUS MEW (1 CPU, Celeron-466)	Level 1
ASUS MEW-B (1 CPU, Celeron-466)	Level 1
ASUS MEW-RM (1 CPU, Celeron-466)	Level 1
ASUS P2V-B (1 CPU, PIII-450)	Level 1
ASUS P3B-F (1 CPU, PIII-550)	Level 1
ASUS P3W-E (1 CPU, PIII-600)	Level 1
ASUS P5S-B (1 CPU, K6-2 450)	Level 1
ASUS TUSL2 (1 CPU, PIII-1GHz)	Level 1
ASUS TUSL2-M (1 CPU, Celeron-950)	Level 2
EPoX EP-MVP3G (1 CPU, K6-2 400)	Level 1

TABLE 2-3 Motherboards *(Continued)*

Motherboard	Certification Level
Intel CC820 (1 CPU, PIII-600)	Level 1
Intel FJ440ZX (1 CPU, Celeron-366)	Level 1
Intel KU440EX (1 CPU, Celeron-266)	Level 1
Intel JN440BX (1 CPU, PII-400)	Level 1
Intel JN440BX (1 CPU, PII-450)	Level 1
Intel JN440BX (1 CPU, PIII-500)	Level 1
Intel MP440BX (1 CPU, PII-400)	Level 1
Intel MS440GX (2 CPUs, PII Xeon-400)	Level 1
Intel NX440LX (1 CPU, PII-266)	Level 1
Intel SE440BX (1 CPU, PII-350)	Level 1
Intel SE440BX (1 CPU, PII-400)	Level 1
Intel VC820 (1 CPU, PIII-600)	Level 1
Intel WS440BX (1 CPU, PII-400)	Level 1

Supported Devices

Devices listed in this chapter have been successfully tested with Solaris 9 *Intel Platform Edition* in a varied but limited number of hardware configurations. While a complete system composed of the devices listed in this chapter should enable you to install and run the Solaris software, some combinations of devices might not be usable or might require additional configuration.

Devices in this section are supported by drivers included with Solaris 9 *Intel Platform Edition*. For a list of devices supported by certified third-party drivers, see Chapter 4.

AT-ISDN Adapters

TABLE 3-1 AT-ISDN Adapters

Vendor	Name/Model
Digi International	Digi Datafire-U ¹
	Digi Datafire S/T ¹

1. Driver software and support for these devices are available directly from the vendor.

Audio Devices

Refer to `sbpro(7D)` in the *Solaris Reference Manual* for configuration information.

Additional audio devices are listed in “USB Audio Devices” on page 54.

TABLE 3-2 Audio Devices

Vendor	Model
Analog Devices	AD1848 & compatibles
Compaq	Business Audio
Creative Labs	Sound Blaster 16 Sound Blaster AWE32 Sound Blaster Pro Sound Blaster Pro-2 Sound Blaster Vibra 16
Various Other Boards and Devices	Drivers and support for a large number of additional sound boards and devices are available using a software driver package from 4Front Technologies. To obtain the driver package, contact the vendor: Tel: (310) 202-8530 USA Fax: (310) 202-0496 USA Email: info@4front-tech.com Web: http://www.4front-tech.com

Multiport Serial Controllers

Additional serial controllers are listed in "Supported Asynchronous Serial I/O Controllers" on page 75.

TABLE 3-3 Multiport Serial Controllers

Vendor	Model
Aurora ¹	401A (ISA 4 Port) Aries 8000P (PCI 8 Port) Aries 1600P (PCI 16 Port) Aurora Saturn 2520P (PCI 2 Port) Aurora Saturn 4520P (PCI 4 Port)
CHASE ¹	IOPRO (ISA 8 Port)

TABLE 3-3 Multiport Serial Controllers (Continued)

Vendor	Model
Digi International (DigiBoard) ¹	AccelePort (ISA)
	C/X Intelligent Clusters (ISA)
	EPC/X Intelligent Clusters (ISA)
	PC/8e (ISA)
	PC/8eVe
	PC/16em (16 db25 port)
	PC/Xe Intelligent Serial Adapters
	PC/Xem (ISA)
	PC/Xi Intelligent Serial Adapters
	PCI/8r (PCI)
	PCI/16em (16 db25 port)
	PCI/Xem
	Xem Intelligent Asynchronous Adapters
	Xr Intelligent Asynchronous Adapters

1. Solaris drivers for this vendor's controllers are available directly from the vendor.

Network Controllers

Ethernet Controllers

Refer to the specified driver man pages in Section 7D of the *Solaris Reference Manual* for configuration information.

Additional network controllers are listed in "Supported Network Controllers" on page 71.

TABLE 3-4 Ethernet Controllers

Vendor	Name/Model	Driver
3Com	EtherLink 10/1000 (3C905B-FX)	e1x1

TABLE 3-4 Ethernet Controllers (Continued)

Vendor	Name/Model	Driver
	EtherLink III PCI Bus Master (3C590, 3C595-TX)	elxl
	EtherLink III PCMCIA (3C589, 3C589B, 3C589C, 3C589D)	pcelx
	EtherLink XL (3C900, 3C900-COMBO, 3C900B-COMBO, 3C900B-TPC, 3C900B-TPO)	elxl
Adaptec	ANA-6901 (PCI)	dnet
	ANA-6901/C (PCI)	dnet
	ANA-6904 (PCI)	dnet
	ANA-6911A/C (PCI)	dnet
	ANA-6911A/TX (PCI)	dnet
	ANA-6911/TX (PCI)	dnet
	ANA-6944A 10/100 TX 4-port (PCI)	dnet
Allied Telesyn	AT-2450 10 T (PCI)	iprb
	AT-2560 10/100 TX (PCI)	iprb
AMD	PCnet-PCI controller chip	pcn
	PCnet-PCI II controller chip	pcn
Asante	AsanteFAST 10/100 (PCI) ¹	dnet
CNet	CN970EBT (PCI)	dnet
	PowerNIC CN935E (PCI) ¹	dnet
Cogent	EM110 T4 (PCI) ¹	dnet
	EM110TX (PCI) ¹	dnet
	EM960C (PCI) ^{1, 2}	dnet
	EM960TP (PCI) ¹	dnet
	EM964 QUAD (PCI) ¹	dnet
Compex	ENET32-PCI	dnet
	ReadyLINK ENET32 ¹	dnet
DEC	EtherWORKS 10/100 ¹	dnet
	EtherWORKS PCI 10/100 ¹	dnet
Diversified Technologies (DTI)	LBC5025 ^{1, 2}	dnet

TABLE 3-4 Ethernet Controllers (Continued)

Vendor	Name/Model	Driver
D-Link	DE-530CT (PCI) ¹	dnet
	DE-530CT+ (PCI) ¹	dnet
	DFE-500TX (Revision B1) (PCI)	dnet
Intel	EtherExpress PRO/10+ (PILA8400/8420) (PCI)	iprb
	EtherExpress PRO/100 (82556) (PCI)	ieef
	EtherExpress PRO/100B (82557) (PCI) ^{3,4}	iprb
	EtherExpress PRO/100+ (82558/82559) (PCI) ⁴	iprb
Kingston	KNE40BT ¹	dnet
	KNE100TX (PCI) ¹	dnet
Linksys	LNE100TX (PCI) ¹	dnet
	LNEPCI (PCI)	dnet
Mitron	LX2100p (PCI)	pcn
Osicom, Inc. (Rockwell)	RNS2300 ¹	dnet
	RNS2340 QUAD ^{1, 2}	dnet
Samsung	SEB-3000C (PCI)	pcn
SMC	EtherPower 10/100 (SMC9332BDT) (PCI) ¹	dnet
	EtherPower 10/100 (SMC9332DST) (PCI) ^{1, 2}	dnet
	EtherPower II 10/100 (SMC9432BTX) (PCI)	dnet
	EtherPower II 10/100 (SMC9432TX) (PCI)	dnet
	EtherPower II 10/100 (SMC9432TX/MP) (PCI)	dnet
	EtherPower SMC8432BT (PCI) ¹	dnet
	EtherPower SMC8432BTA (PCI) ¹	dnet
	EtherPower SMC8432T (PCI) ¹	dnet
SVEC	ETHER-100TX (PN 100TX 10/100TX) (PCI)	pcn
	FD0455 EtherBoard-PCI	pcn
Znyx	NetBlaster ZX314 QUAD ¹	dnet
	NetBlaster ZX315 DUAL ¹	dnet
	NetBlaster ZX345 ¹	dnet

TABLE 3-4 Ethernet Controllers (Continued)

Vendor	Name/Model	Driver
	NetBlaster ZX346 QUAD ^{1, 2}	dnet
	NetBlaster ZX348 DUAL ¹	dnet
	ZX311 ¹	dnet
	ZX312 (PCI) ^{1, 2}	dnet
	ZX342 10/100 (PCI) ^{1, 2}	dnet
	ZX344 QUAD ¹	dnet

1. Because certain board revisions have been found not to work, refer to the `dnet(7D)` man page for additional information.
2. Special configuration required; refer to the `dnet(7D)` man page for additional information.
3. This controller supports PXE network boot. See *System Administration Guide: Basic Administration*.
4. This controller supports PCI hot-plugging.

Fast Ethernet Controllers

Refer to the specified driver man pages in Section 7D of the *Solaris Reference Manual* for configuration information.

Additional network controllers are listed in “Supported Network Controllers” on page 71.

TABLE 3-5 Fast Ethernet Controllers

Vendor	Name/Model	Driver
3Com	EtherLink 10/100 (3C905B-FX, 3C905C, 3C905C-TX)	e1x1
	EtherLink 10/100 PCI NIC for Complete PC Management (3C905C-TX-M) ¹	e1x1
	EtherLink III PCI Bus Master (3C595-TX)	e1x1
	EtherLink Server 10/100 (3C980, 3C980C)	e1x1
	EtherLink XL (3C905-TX, 3C905-T4, 3C905B-TX, 3C905B-T4) ²	e1x1
Adaptec	ANA-6901 (PCI)	dnet
	ANA-6901/C (PCI)	dnet
	ANA-6904 (PCI)	dnet
	ANA-6910/TX (PCI)	dnet
	ANA-6911A/C (PCI)	dnet

TABLE 3-5 Fast Ethernet Controllers (Continued)

Vendor	Name/Model	Driver
	ANA-6911A/TX (PCI)	dnet
	ANA-6911/TX (PCI)	dnet
	ANA-6922A (PCI)	dnet
	ANA-6940/TX (PCI)	dnet
	ANA-6944A 10/100 TX 4-port (PCI)	dnet
Allied Telesyn	AT-2560 10/100 TX (PCI)	iprb
AMD	PCnet-Fast	pcn
Asante	AsanteFAST 10/100 (PCI) ³	dnet
Cogent	EM110 T4 (PCI) ³	dnet
	EM110TX (PCI) ³	dnet
DEC	EtherWORKS 10/100 ³	dnet
	EtherWORKS PCI 10/100 ³	dnet
Diversified Technologies (DTI)	LBC5025 ^{3, 4}	dnet
D-Link	DFE-570TX	dnet
Intel	EtherExpress PRO/100 (82556) (PCI)	iprb
	EtherExpress PRO/100B (82557) (PCI) ^{1,5}	iprb
	EtherExpress PRO/100+ (82558/82559) (PCI) ⁵	iprb
	EtherExpress PRO/100+ Dual-Port (82558/82559) (PCI) ^{5,6}	iprb
	InBusiness Ethernet	iprb
	PRO/100+ Management Adapter (82559) (PCI) ¹	iprb
Kingston	KNE100TX (PCI) ³	dnet
Linksys	LNE100TX (PCI) ³	dnet
Osicom, Inc. (Rockwell)	RNS2300 ³	dnet
	RNS2340 QUAD ^{3, 4}	dnet
SMC	EtherPower 10/100 (SMC9332BDT) (PCI) ³	dnet
	EtherPower 10/100 (SMC9332DST) (PCI) ^{3, 4}	dnet
	EtherPower II 10/100 (SMC9432BTX) (PCI)	dnet

TABLE 3-5 Fast Ethernet Controllers (Continued)

Vendor	Name/Model	Driver
	EtherPower II 10/100 (SMC9432TX) (PCI)	dnet
	EtherPower II 10/100 (SMC9432TX/MP) (PCI)	dnet
SVEC	ETHER-100TX (PN 100TX 10/100TX) (PCI)	pcn
Znyx	NetBlaster ZX345 ³	dnet
	NetBlaster ZX346 QUAD ^{3,4}	dnet
	NetBlaster ZX348 DUAL ³	dnet
	ZX342 10/100 (PCI) ^{3,4}	dnet
	ZX344 QUAD ³	dnet

1. This controller supports PXE network boot. See *System Administration Guide: Basic Administration*.
2. 3Com EtherLink XL 3C905B cards in a Compaq ProLiant 6500 can fail to generate interrupts. Refer to `e1x1(7D)` in the *Solaris Reference Manual* for configuration information.
3. Because certain board revisions have been found not to work, refer to the `dnet(7D)` man page for additional information.
4. Special configuration is required. Refer to the `dnet(7D)` man page for additional information.
5. This controller supports PCI hot-plugging.
6. This controller supports two 10/100-Mbps interfaces on a single board.

Token Ring Controllers

Refer to `mtok(7D)` in the *Solaris Reference Manual* for configuration information.

Additional network controllers are listed in “Supported Network Controllers” on page 71.

TABLE 3-6 Token Ring Controllers

Vendor	Name/Model
Madge	PCI Presto
	Smart 16/4 PCI BM Mk1
	Smart 16/4 PCI Ringnode Mk2

PC Card (PCMCIA) Devices

The PCMCIA devices that are listed in this section were tested on previous versions of Solaris *Intel Platform Edition*. Sun does not guarantee that these devices are compatible with current notebook (laptop) computer models.

Although notebook systems are not certified, many notebook systems run well with the Solaris software. The sources, which Sun does not endorse, identify systems and devices that work with Solaris *Intel Platform Edition*.

- The solarisonintel mailing list (<http://www.egroups.com/group/solarisonintel>) is a discussion forum for issues that are related to Solaris *Intel Platform Edition*.
- XI Graphics (<http://www.xig.com>) supports a range of video drivers for notebook devices and offers a patch to allow certain notebooks to use the PCMCIA drivers available from Solaris *Intel Platform Edition*.
- The Solaris Laptop List (x86), compiled by Phil Brown, (<http://www.bolthole.com/solaris/x86-laptops.html>) lists notebook system configurations that work with Solaris *Intel Platform Edition*.

Add-On Boards

Refer to `pcic(7D)` in the *Solaris Reference Manual* for configuration information.

TABLE 3-7 Add-On Boards

Vendor	Name/Model
ATI Technologies	14400 ETC-EXPRESS AX/Data Modem
Hytec	HCD 22
SanDisk	Flash PC Card
SCM Microsystems	SwapBox Classic SwapBox Premium
Viper	8260pA

Modems

Refer to `pcser(7D)` in the *Solaris Reference Manual* for configuration information.

TABLE 3-8 Modems

Vendor	Name/Model
ActionTec	MD28801 (V.34 Fax/Modem)
APEXData	PCA-1414 (Data/Fax)
AT&T Paradyne	371-B1-001 (14.4 Data/Fax)
Boca-Modem	m144pa (14.4bps V32bis Data/Fax)
Centennial Tech.	PM50003 (CT 14.4 Fax/Modem)
Compaq	SpeedPaq 192
DataRace	RediCard Version 1 (V.32bis/V.42/V.42bis Fax/Data) RediCard Version 2 (V.32bis/V.42/V.42bis Fax/Data)
Hayes	5361US (Accura 336 T2 + Fax) (33.6Kbps V.34) Optima 144
IBM	24TTMOD-W14 (14.4 Data/Fax) 87G9800 (V.32bis/V.42/V.42bis Fax/Data)
Intel	110-US (2400 Data)
Kingston	DataRex 87G9851 (V.32bis/V.42/V.42bis Fax/Data)
Megahertz	CC3144 (V.32bis/V.42/V.42bis Fax/Data) XJ114 (V.32bis/V.42/V.42bis Fax/Data) XJ124FM (V.32bis/V.42/V.42bis Fax/Data) XJ214 (V.32bis/V.42/V.42bis Fax/Data) XJ2288 (V.32bis/V.42/V.42bis Fax/Data)
Motorola	Montana 33.6 (V.34 Fax/Modem)
SMART Modular Tech.	SmartExchange 9624 Fax/Modem
Supra	COMcard 144 (V.32bis/V.42/V.42bis Fax/Data)
US Robotics	Sun/USR WorldPort (V.32bis/V.42/V.42bis Fax/Data/Voice)

Serial Cards

Refer to `pcser(7D)` in the *Solaris Reference Manual* for configuration information.

TABLE 3-9 Serial Cards

Vendor	Name/Model
IBM	IBM RS-332 Serial Card
Socket Communication	SL0700 (RS-332)

SRAM Memory Cards

Refer to `pcram(7D)` in the *Solaris Reference Manual* for configuration information.

TABLE 3-10 SRAM Memory Cards

Vendor	Name/Model
Centennial Technologies	SRAM Card (256 KB)
	SRAM Card (512 KB)
	SRAM Card (1 MB)
	SRAM Card (2 MB)
	SR04M-15-11192-01 52795 (4 MB Recharge)
Epson	NB70-004268
	NB70-004269
	NB70-004270
IBM	0.5 MB SRAM Card
	1 MB SRAM Card
	0933155 (2 MB SRAM)
Magic Ram	SR1MBP100
	SR2MBP100
Mitsubishi	MF3513-LCDAT
	MF31M1-LCDAT
	MF32M1-LCDAT
SMART Modular Technologies	SM9SRD512KP3
	SM9SRD1MP3
	SM9SRD2MP3
	SM9SRDA1MP3
	SM9SRDA2MP3

Pointing Devices

TABLE 3-11 Pointing Devices

Vendor	Model
Appoint	Thumbelina ¹
	MousePen Pro ¹
CH Products	RollerMouse
Dyna Point	DynaTrak ¹
IBM	PS/2 2-button
	Easy Options Mouse ¹
Interlink	PortaPoint ¹
Kraft Systems	MicroTrack ¹
Logitech	C7 serial and bus mouse devices
	C9 serial and bus mouse devices
	2-Button ¹
	MouseMan serial and bus mouse devices
	MouseMan cordless
	TrackMan serial and bus mouse devices
Microsoft	Serial, bus, and PS/2 mouse devices
MicroSpeed	MicroTRAC trackball
Mouse Systems	Mouse!
	New Mouse
	PC Mouse II

1. Select "Microsoft 2-button mouse" when installing the Solaris software.

Storage Controllers and Peripherals

SCSI Host Bus Adapters

Refer to the specified driver man pages in Section 7D of the *Solaris Reference Manual* for configuration information.

Additional storage controllers are listed in “Supported Storage Controllers” on page 73.

TABLE 3-12 SCSI Host Bus Adapters

Vendor	Model	Driver
Acculogic	PCIport Model 20	ncrs
Adaptec	AHA-2940/2940W	adp
	AHA-2940AU	adp
	AHA-2940U	adp
	AHA-2940U2W ¹	cadp
	AHA-2940UW	adp
	AHA-2940U2 (OEM) ¹	cadp
	AHA-2940U2B ¹	cadp
	AHA-2940U Dual/2940UW Dual	adp
	AHA-2944UW	adp
	AHA-2944W	adp
	AHA-2950U2B ¹	cadp
	AHA-3940/3940W	adp
	AHA-3940U/3940UW	adp
	AHA-3940AU/3940AUW	adp
	AHA-3940AUWD	adp
	AHA-3950U2B ¹	cadp
AIC-7850	adp	

TABLE 3-12 SCSI Host Bus Adapters (Continued)

Vendor	Model	Driver
	AIC-7860	adp
	AIC-7870	adp
	AIC-7880, AIC-7880 Rev. B	adp
	AIC-7890	cadp
	AIC-7890A	cadp
	AIC-7890AB	cadp
	AIC-7891B	cadp
	AIC-7895	adp
	AIC-7896	cadp
	AIC-7897	cadp
AMD	PCscsi	pcscsi
	PCscsi II	pcscsi
	PCnet-SCSI	pcscsi
DPT	PM2024 (PCI) ²	dpt
	PM2044UW (PCI) ²	dpt
	PM2044W (PCI) ²	dpt
	PM2124 (PCI) ²	dpt
	PM2124W (PCI) ²	dpt
	PM2144UW (PCI) ²	dpt
	PM2144W (PCI) ²	dpt
DTC	DTC-3130 (PCI) ³	ncrs
	DTC-3130B (PCI)	ncrs
Hitachi	PC-CS7210 (PCI)	adp
Intel	PCISCSI (NCR 53C825) ⁴	ncrs
	PCISCSINR (NCR 53C810)	ncrs
LSI Logic (formerly Symbios Logic or NCR)	NCR 53C810	ncrs
	NCR 53C810A	ncrs
	NCR 53C815	ncrs

TABLE 3–12 SCSI Host Bus Adapters (Continued)

Vendor	Model	Driver
	NCR 53C820 ⁴	ncrs
	NCR 53C825 ⁴	ncrs
	NCR 53C825A ⁴	ncrs
	NCR 53C860	ncrs
	NCR 53C875	ncrs
	NCR 53C875J	ncrs
	NCR 53C876	ncrs
	NCR 53C895 ¹	ncrs
	SYM21002 ^{1,5}	symhis1
	SYM22910 ^{1,5}	symhis1
	SYM53C896 ⁵	symhis1
QLogic	QLA510	pcscsi

1. This adapter supports PCI hot-plugging.
2. This adapter can be made RAID-capable with the addition of a Hardware Disk Array module.
3. This adapter does not have the SDMS BIOS on board. It should be used only on a system that contains the SCSI BIOS as part of its main system BIOS.
4. Wide SCSI not yet supported in Solaris driver.
5. To perform a Solaris installation using Solaris Web Start 3.0, you must use version 4.07.01 of the `symhis1` driver. To obtain this driver, go to the LSI web site.

SCSI RAID Controllers

Refer to the specified driver man pages in Section 7D of the *Solaris Reference Manual* for configuration information.

Additional storage controllers are listed in “Supported Storage Controllers” on page 73.

TABLE 3–13 SCSI RAID Controllers

Vendor	Model	Driver
DPT	PM3224 (PCI)	dpt
	PM3224W (PCI)	dpt
	PM3334UW (PCI)	dpt
	PM3334W (PCI)	dpt

TABLE 3-13 SCSI RAID Controllers *(Continued)*

Vendor	Model	Driver
IBM	PC ServeRAID Adapter (Copperhead) (PCI)	chs
	ServeRAID II Ultra SCSI Adapter (PCI)	chs
	ServeRAID-3 Ultra2 SCSI Adapter (PCI)	chs
	SCSI-2 Fast/Wide RAID Adapter (PCI)	chs
Mylex Corporation	AcceleRAID 150	m1x
	AcceleRAID 250	m1x
	DAC960P/DAC960PD (PCI)	m1x
	DAC960PD-Ultra (PCI)	m1x
	DAC960PG (PCI)	m1x
	DAC960PJ (PCI)	m1x
	DAC960PL (PCI)	m1x

CD-ROM/DVD-ROM Drives

Additional CD-ROM and DVD-ROM devices are listed in “USB Storage Devices” on page 57.

TABLE 3-14 CD-ROM/DVD-ROM Drives

Vendor	Model	Type
Acer	CD-920E (20x)	ATAPI/IDE
	CD-924E (24x)	ATAPI/IDE
	CD-936E (36x)	ATAPI/IDE
	OIP-CD4800A (48x)	ATAPI/IDE
AOpen	CD-932E (32x)	ATAPI/IDE
	CD-940E (40x)	ATAPI/IDE
	CD-948E (48x)	ATAPI/IDE
Asus	CD-S400 (40x)	ATAPI/IDE
	CD-S500 (50x)	ATAPI/IDE

TABLE 3-14 CD-ROM/DVD-ROM Drives (Continued)

Vendor	Model	Type
Chinon	CDS435	SCSI
	CDS525	SCSI
	CDS535 ¹	SCSI
Creative Labs	2240E DVD-ROM	ATAPI/IDE
GoldStar	8241B	ATAPI/IDE
	CRD-8160B (16x)	ATAPI/IDE
	CRD-8161B (16x)	ATAPI/IDE
	CRD-8240B	ATAPI/IDE
	CRD-8400B (40x)	ATAPI/IDE
	GCD-R320B	SCSI
	GCD-R520B	ATAPI/IDE
	GCD-R580B (8x)	ATAPI/IDE
Hitachi	CDR-1900S	SCSI
	CDR-3750	SCSI
	CDR-6750	SCSI
	CDR-7730	ATAPI/IDE
	CDR-7930 (8x)	ATAPI/IDE
	CDR-8130 (16x)	ATAPI/IDE
	CDR-8235 (24x)	ATAPI/IDE
	CDR-8330 (24x)	ATAPI/IDE
	CDR-8335 (24x)	ATAPI/IDE
	CDR-8430 (32x)	SCSI
LG Electronics	CRD-8160B	ATAPI/IDE
	CRD-8240B	ATAPI/IDE
	CRD-8241B	ATAPI/IDE
	CRD-8320B (32x)	ATAPI/IDE
	CRD-8480C (48x)	ATAPI/IDE
	GCD-R580B	ATAPI/IDE
Lion Optics	XC200SI	SCSI
LiteOn	LTN382 (40x)	ATAPI/IDE

TABLE 3-14 CD-ROM/DVD-ROM Drives *(Continued)*

Vendor	Model	Type
LMSI	CM214	SCSI
	CM215	SCSI
Mitsumi	CRMC-FX001DE	ATAPI/IDE
	CRMC-FX400	ATAPI/IDE
	FX-140 (14x)	ATAPI/IDE
	FX-1600 (16x)	ATAPI/IDE

TABLE 3-14 CD-ROM/DVD-ROM Drives (Continued)

Vendor	Model	Type
NEC	CDR-210 ²	SCSI
	CDR-211	SCSI
	CDR-250	ATAPI/IDE
	CDR-260	ATAPI/IDE
	CDR-260R	ATAPI/IDE
	CDR-271	ATAPI/IDE
	CDR-272 (4x)	ATAPI/IDE
	CDR-272 Rev. 4.15	ATAPI/IDE
	CDR-273 (6x)	ATAPI/IDE
	CDR-280	ATAPI/IDE
	CDR-510	SCSI
	CDR-1400 (8x)	ATAPI/IDE
	CDR-1400A (8x)	SCSI-2
	CDR-1410A (8x)	SCSI-2
	CDR-1600A (12/16x)	ATAPI/IDE
	CDR-1610A (12/16x)	SCSI
	CDR-1610A (12/16x)	ATAPI/IDE
	CDR-1901A (32x)	ATAPI/IDE
	CDR-3000A (40x)	ATAPI/IDE
	CDR-3001B (40x)	ATAPI/IDE
	Intersect CDR-74	SCSI
	Intersect CDR-84	SCSI
	MultiSpin 2Vi	ATAPI/IDE
	MultiSpin 3Xe ²	SCSI
	MultiSpin 3Xi ²	SCSI
	MultiSpin 3Xp Plus	SCSI
	MultiSpin 4Xe ^{1, 2}	SCSI
	MultiSpin 4Xi ^{1, 2}	SCSI
	MultiSpin 6Xi	SCSI
	Optics Storage	8422IDE

TABLE 3-14 CD-ROM/DVD-ROM Drives (Continued)

Vendor	Model	Type
Panasonic	LK-MC509S	SCSI
	LK-MC579B	ATAPI/IDE
	LK-MC608B (8x)	SCSI
	LK-MC688B (8x)	ATAPI/IDE
Panasonic/Matsushita	CR-504B (4x)	SCSI
	CR-508 (24x)	SCSI
	CR-572B	ATAPI/IDE
	CR-583 (8x)	ATAPI/IDE
	CR-587 (24x)	ATAPI/IDE
	CR-588 (32x)	ATAPI/IDE
	CR-589 (32x)	ATAPI/IDE
	CR-594 (48x)	ATAPI/IDE
Philips	CM207	ATAPI/IDE
	CM215	SCSI
	CM425A	SCSI
	PCA532 DVD-ROM	ATAPI/IDE
Pioneer	DR-U06S (32x)	SCSI
	DR-U12X (12x)	SCSI
	DRM-604X ^{1, 3}	SCSI
	DRM-624X ^{1, 3}	SCSI
	DVD103S DVD-ROM	ATAPI/IDE

TABLE 3-14 CD-ROM/DVD-ROM Drives (Continued)

Vendor	Model	Type
Plextor	DM3028	SCSI
	PX-4XCEi	SCSI
	PX-8XCSi	SCSI
	PX-12CSi	SCSI
	PX-12TSi	SCSI
	PX-20TSi	SCSI
	PX-40TSi (40x)	SCSI
	PX-43CE (4.5 Plex)	SCSI
	PX-43CH (4 Plex)	SCSI
	PX-43CS	SCSI
	PX-45CH	SCSI
	PX-45CS	SCSI
	PX-63CS (6 Plex)	SCSI
	PX-65CS (6 Plex)	SCSI
	PX-83CS (8 Plex)	SCSI
	UltraPlex PX-32CSi (32 Plex)	SCSI
UltraPlex PX-32TSi (32 Plex)	SCSI	
Reveal	4X Internal	ATAPI/IDE
Samsung	SN-124 (24x)	ATAPI/IDE
Sanyo	CDR-400I	SCSI
	CDR-H93RMV	SCSI
	CRD-254P	ATAPI/IDE
	CRD-1332P (32x)	ATAPI/IDE
Sanyo-TORiSAN	CDR-S1G	ATAPI/IDE
	CDR-S18	ATAPI/IDE

TABLE 3-14 CD-ROM/DVD-ROM Drives (Continued)

Vendor	Model	Type
Sony	CDU-55E	ATAPI/IDE
	CDU-55S ⁴	SCSI
	CDU-561	SCSI
	CDU-571 (16x)	ATAPI/IDE
	CDU-611 (20x)	ATAPI/IDE
	CDU-701 (32x) ⁵	ATAPI/IDE
	CDU-76E	ATAPI/IDE
	CDU-76S	SCSI
	CDU-77E	ATAPI/IDE
	CDU-6211	SCSI
	CDU-6811	SCSI
	CDU-7211	SCSI
	CDU-7811	SCSI
	CDU-8012	SCSI
	DDU100E DVD-ROM	ATAPI/IDE
	DDU220E DVD-ROM	ATAPI/IDE
Sun Microsystems	SunCD	SCSI
Tae I1 Media Co.	TechMedia CDD-6100 10X	ATAPI/IDE
TEAC	CD-56E	ATAPI/IDE
	CD-224E (24x)	ATAPI/IDE
	CD-516S (16x)	SCSI
	CD-532E (32x)	ATAPI/IDE
	CD-540E (40x)	ATAPI/IDE
Texel	DM3024	SCSI
	DM3028	SCSI
	DM5021	SCSI
	DM5024	SCSI
	DM5028	SCSI

TABLE 3-14 CD-ROM/DVD-ROM Drives (Continued)

Vendor	Model	Type
Toshiba	4101-TA	SCSI
	5201B	SCSI
	SD-M1201 DVD-ROM	SCSI
	TXM-3201	SCSI
	TXM-3301	SCSI
	TXM-3401	SCSI
	TXM-3701-D1	SCSI
	XM-3501B	SCSI
	XM-3601B	SCSI
	XM-3801B	SCSI
	XM-5302B	ATAPI/IDE
	XM-5522B	ATAPI/IDE
	XM-5602B (8x)	ATAPI/IDE
	XM-5701B	SCSI
	XM-5701TA (12x)	SCSI
	XM-5702B (12x)	ATAPI/IDE
	XM-6002B	ATAPI/IDE
	XM-6201B (32x)	SCSI
	XM-6202B (32x)	ATAPI/IDE
	XM-6402B (36x)	ATAPI/IDE
XM-7002B (24x)	ATAPI/IDE	
Wearnes	CDD-120 ⁶	ATAPI/IDE

1. Various CD-ROM players might not be fully SCSI-compliant in their handling of the `CDROMREADHEADER` command. This might cause failures from `vol0` not mounting an eligible CD-ROM. The workaround is to mount the CD-ROM manually.
2. Early versions of NEC firmware were not fully SCSI-compliant. These drives might only work if synchronous negotiation and disconnect are disabled on the SCSI adapter used with the CD-ROM drive, or if the drive is jumpered to use `scsi - 1` commands, as appropriate.
3. Only the first CD-ROM in the Pioneer DRM-604X CD-ROM changer is supported by default.
4. This drive does not work with the Adaptec AHA-2940 SCSI HBA.
5. Firmware must be at least version 1.0r to boot from the CD.
6. This CD-ROM drive must have at least BIOS 1.0.

Jaz/Zip Drives

Additional Jaz and Zip drive devices are listed in “USB Storage Devices” on page 57.

TABLE 3–15 Jaz/Zip Drives

Vendor	Model	Type
Iomega	2250S Zip 250 MB	SCSI
	V2008i Jaz 2GB	SCSI
	Z100A Zip 100 MB	ATAPI/IDE

SCSI Tape Drives

The tape drives in the following table have been tested with the `st` tape driver software. The tape drives were tested using the Legato Tape Exerciser program to verify basic functionality and general compatibility with Solaris *Intel Platform Edition*.

TABLE 3–16 SCSI Tape Drives

Vendor	Model
ANDATACO	Rapid Tape Array
Archive	2150S 150 MB
	2525 QIC-525
	4320 4mm
	4324 4mm
	Python 28454 4mm
	Python 28388 4mm
	Viper
Compaq	DLT 4000
	DLT 7000
Conner	CTD 2004 4mm
	CTD 4004 4mm
	CTD 8004H 4mm
DEC	DLT 2000

TABLE 3-16 SCSI Tape Drives (Continued)

Vendor	Model
Exabyte	Eliant 820 7/14 GB 8mm
	EXB-4200 4mm
	EXB-8200 8mm
	EXB-8500 8mm
	EXB-8505 8mm
	EXB-8505XL 7/14 GB 8mm
	EXB-8900 Mammoth 20/40 GB 8mm

TABLE 3-16 SCSI Tape Drives (Continued)

Vendor	Model
HP	1557A DDS3 autoloader ^{1,2}
	Colorado Memory Systems PowerTape 1100 QIC
	Colorado Memory Systems PowerTape 2400 QIC
	Colorado Memory Systems PowerTape 4000 QIC
	Colorado Memory Systems PowerDAT 6000 4mm ²
	35470A DDS 4mm
	35480A DDS/Data Compression 4mm
	C1528E 4mm
	C1533-00100 DDS2/Data Compression 4mm
	C1534A DDS Tape Drive 4mm
	C1536A DDS/Data Compression 4mm
	C1537 DDS3 4mm
	C1520F SureStore Tape 2000e 4mm
	C1525F SureStore Tape 2000i 4mm
	C1521F SureStore Tape 5000e 4mm
	C1526F SureStore Tape 5000i 4mm
	C1551A SureStore Tape 5000eU 4mm
	C1529F SureStore Tape 6000e 4mm
	C1528F SureStore Tape 6000i 4mm
	C1552A SureStore Tape 6000eU 4mm
	C1520E JetStore 2000e 4mm
	C1520E JetStore 2000i 4mm
	C1526E JetStore 5000i 4mm
	C1529A JetStore 5000i 4mm
	C5683A DDS4
	JetStore 5000e 4mm
	SureStore DAT8 ²
	SureStore DAT24 ²
	SureStore DAT24x6e ^{1, 2}
	SureStore T4

TABLE 3-16 SCSI Tape Drives (Continued)

Vendor	Model
Quantum	DLT 4000
	DLT 7000
Seagate	Hornet NS20 Travan
	Scorpion 24 DAT
Sony	SDT 5000 4mm
	SDT 5200 4mm
	SDT 7000 DDS2
	SDT 9000 DDS3
Sun Microsystems	DLT drives, all shipping models up to DLT 7000
	x660A 150 MB QIC
	x814A 5.0 GB 8mm
	x822A 4mm
	x6101A 2.5 GB QIC SCSI
	x6102A 2.5 GB QIC SCSI
	x6103A 2.5 GB QIC SCSI
Tecmar	3800 DDS2 4/8 GB 4mm
	3900 DDS3 12/24 GB 4mm
	Travan NS8 4/8 GB
	Travan NS20 10/20 GB
	WangDAT 3400DX
	Wangtek 52000
	Wangtek TS420C
Tandberg	Panther 525S
	SLR5
	SLR50
	TDC 3820
	TDC 4120
	TDC 4220
	TDC 4222
TDC 6122	

TABLE 3-16 SCSI Tape Drives (Continued)

Vendor	Model
WangDAT	3400DX DDS-2 4mm
	3800 DDS-2 4mm
Wangtek	51000 QIC
	52000 QIC
	5525ES QIC
	9500DC QIC

1. This tape drive requires third-party software.
2. Testing has shown that these switch settings are best: Set switches 1 through 8 to 11001100.

USB Devices

The Universal Serial Bus (USB) peripherals in the following tables have been tested on machines running the Solaris operating environment. Though not specifically tested, other devices of these classes should work.

Only the Universal Host Controller Interface (UHCI) is supported in Solaris 9 *Intel Platform Edition*.

USB Audio Devices

TABLE 3-17 USB Audio Devices

Vendor	Name/Model
Phillips Electronics	DSS330 Digital Speaker System
Telex	Super-Directional USB Digital Desktop Microphone (M-560)

USB Hubs

TABLE 3-18 USB Hubs

Vendor	Name/Model
Asante Technologies	Friendly NET-Home USB Hub-7
Belkin Components	ExpressBus 4-Port USB Hub
	ExpressBus 7-Port USB Hub
Inside Out	Hubport/4 (4 port)
	Hubport/7 (7 port)
SIIG	USB Hub 4000 (4 port)

USB Keyboards

TABLE 3-19 USB Keyboards

Vendor	Name/Model
Belkin Components	USB Classic Keyboard
Sun Microsystems	Type 6 Keyboard

USB Pointing Devices

TABLE 3-20 USB Pointing Devices

Vendor	Name/Model
Belkin Components	USB Classic Mouse
Logitech	TrackMan Marble Wheel USB Mouse
Lynx	96-USB Mouse
Microsoft Corporation	IntelliMouse 1.1
Sun Microsystems	3 Button Crossbow Mouse

USB Printers

TABLE 3-21 USB Printers

Vendor	Name/Model
Lexmark	Optra Color 45
	Optra E310
	Optra M410
	Optra T616
	Optra W810
Xerox	DocuPrint N2125

Note – Use the USB parallel printer adapters with the USB parallel printers (see the following two tables).

TABLE 3-22 USB Parallel Printer Adapters

Vendor	Name/Model
Belkin Components	USB Parallel Printer Adapter F5U002
Entrega	UP-6

TABLE 3-23 Parallel Printers

Vendor	Name/Model
Hewlett Packard	LaserJet 6MP
Lexmark	Optra Color 45
	Optra SC 1275
Sun Microsystems	SparcE
Xerox	DocuPrint N17

USB Storage Devices

TABLE 3-24 USB Storage Devices

Vendor	Name/Model
Addonics	USB CD-RW
	USB DVD-ROM (CD-R, DVD-ROM media)
	USB Hard Disk
Castlewood Systems	ORB 2.2 GB External USB drive (ORB2UE00/ORB2UE01)
Hagiwara Sys-Com	FlashGate (SmartMedia) read/write drive (2, 4 MB (5V); 2, 4, 8, 16, 32, 64 MB (3.3V) media)
	FlashGate CF (CompactFlash) read/write drive (8, 16, 32, 48, 64, 96, 128 MB (3.3V and 5V) media)
	FlashGate CompactFlash Reader/Writer HBC UC10
	FlashGate Dual SM/CF Reader/Writer HBC UD2000
	FlashGate II SmartMedia Reader/Writer HBC US20
	FlashGate III SmartMedia Reader/Writer HBC US80
	FlashGate Mini SmartMedia Reader/Writer HBC US1
Iomega Corporation	Jaz 1GB drive with Jaz USB adapter (1GB Jaz disks)
	Jaz 2GB drive with Jaz USB adapter (2GB Jaz disks)
	USB Klik! PC Card Dock (40 MB Klik! disks)
	Zip 100 USB drive (100 MB Zip disks)
	Zip 250 USB drive (250 MB Zip disks)
	ZipCD CD-RW (CD-R, CD-RW media)
Minds At Work	Digital Wallet
Mitsumi	USB CD-RW 4802TU
	USB CD-RW 4804TU
SCM Microsystems	SCSI to USB converter cable

Video Display Devices

Video support is limited to a single analog video output, typically from the 15-pin mini D-sub connector on the video device. Other output formats, such as TV or digital output, that are available from some devices are not supported at this time. Multiple analog monitor output is also not supported at this time.

“—” in the Bus column indicates that the video device uses either a PCI connector or an AGP connector, or is mounted directly on a motherboard.

The information in the Video Chip column does not guarantee that video cards made by another manufacturer using the same video device will work. Only the specific models listed by Vendor, Model, Bus, and Video Chip have been tested.

TABLE 3–25 Video Display Devices

Vendor	Model	Bus	Video Chip	Resolution and Color Depth											
				800x600		1024x768		1152x900		1280x1024		1600x1200			
				8	24	8	24	8	24	8	24	8	24		
3Dlabs	Permedia 2	PCI AGP	3Dlabs Permedia 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
AST	Manhattan 5090P ¹	—	Cirrus Logic GD5424	✓											
ATI	3D Pro Turbo PC2TV	PCI	ATI 3D RAGE II+	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	3D RAGE ²	—	ATI 3D RAGE	✓	✓	✓		✓		✓					
	3D RAGE II ²	—	ATI 3D RAGE II	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	3D RAGE II+ ²	—	ATI 3D RAGE II+	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	3D Xpression	PCI	ATI 3D RAGE	✓	✓	✓		✓		✓					
	3D Xpression+ PC2TV	PCI	ATI 3D RAGE II	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	All-in-Wonder	PCI	ATI 3D RAGE II+	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	Graphics Pro Turbo ³	PCI	ATI Mach64	✓	✓	✓	✓	✓		✓					
	Graphics Pro Turbo ³	VLB	ATI Mach64	✓	✓	✓	✓	✓		✓					

TABLE 3–25 Video Display Devices (Continued)

Vendor	Model	Bus	Video Chip	Resolution and Color Depth										
				800x600		1024x768		1152x900		1280x1024		1600x1200		
				8	24	8	24	8	24	8	24	8	24	
	Graphics Pro Turbo 1600	PCI	ATI Mach64	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	Graphics Xpression ³	PCI	ATI Mach64	✓	✓	✓		✓		✓				
	Graphics Xpression ³	VLB	ATI Mach64	✓	✓	✓		✓		✓				
	Mach64 ²	—	ATI Mach64	✓		✓								
	Mach64CT ²	—	ATI Mach64CT	✓	✓	✓		✓		✓				
	Mach64CT Rev. 2 ²	—	ATI Mach64CT	✓	✓	✓		✓		✓				
	Mach64VT ²	PCI	ATI Mach64VT	✓	✓	✓		✓		✓				
	Radeon ²	—	ATI Radeon	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	RAGE 128 ²	—	ATI RAGE 128	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	RAGE IIC ²	PCI AGP	ATI RAGE IIC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	RAGE LT PRO ²	—	ATI RAGE LT PRO	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	RAGE PRO TURBO ²	—	ATI RAGE PRO TURBO ⁴	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	RAGE XL ²	—	ATI RAGE XL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Video Expression	PCI	ATI Mach64VT	✓	✓	✓		✓		✓				
	Winturbo ⁵	PCI	ATI Mach64	✓	✓	✓		✓		✓				
	XPERT@Play	PCI AGP	ATI RAGE PRO TURBO ⁴	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	XPERT@Work	PCI AGP	ATI RAGE PRO TURBO ⁴	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Boca	Voyager 64	PCI	S3 Trio64	✓	✓	✓		✓		✓				
Chips & Technology	65540 ²	—	F65540	✓		✓								
	65545 ²	—	F65545	✓		✓		✓						
	65548 ²	—	F65548	✓		✓		✓						
	65550 ²	—	F65550	✓		✓		✓		✓				

TABLE 3–25 Video Display Devices (Continued)

Vendor	Model	Bus	Video Chip	Resolution and Color Depth																
				800x600		1024x768		1152x900		1280x1024		1600x1200								
				8	24	8	24	8	24	8	24	8	24							
Cirrus Logic	5420 w/512 KB DRAM ²	—	Cirrus Logic GD5420	✓																
	5428 ²	—	Cirrus Logic GD5428	✓		✓		✓		✓										
	5428 w/512 KB VRAM ²	—	Cirrus Logic GD5428	✓																
	5429 ²	—	Cirrus Logic GD5429	✓		✓		✓		✓										
	5430 ²	—	Cirrus Logic GD5430	✓		✓		✓		✓										
	5434 ²	—	Cirrus Logic GD5434	✓	✓	✓	✓	✓		✓										
	5436 ²	—	Cirrus Logic GD5436	✓	✓	✓		✓		✓										
	54M40 ²	—	Cirrus Logic GD54M40	✓	✓	✓		✓		✓										
	5446 ²	—	Cirrus Logic GD5446	✓	✓	✓		✓		✓										
	5465 ²	PCI AGP	Cirrus Logic GD5465	✓	✓	✓	✓	✓		✓										✓
	5480 ²	—	Cirrus Logic GD5480	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
	7543 ²	—	Cirrus Logic GD7543	✓		✓														
Compaq	Professional Workstation 5000	PCI	MGA-2064W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	ProLiant	—	Cirrus Logic GD5420	✓																
	ProLiant 800	—	Cirrus Logic GD5440	✓																
	ProLiant 1000	—	Cirrus Logic GD5420	✓																

TABLE 3–25 Video Display Devices (Continued)

Vendor	Model	Bus	Video Chip	Resolution and Color Depth											
				800x600		1024x768		1152x900		1280x1024		1600x1200			
				8	24	8	24	8	24	8	24	8	24		
	ProLiant 1500	—	Cirrus Logic GD5420	✓											
	ProLiant 2000	—	Cirrus Logic GD54M30	✓											
	ProLiant 2500	—	Cirrus Logic GD5420	✓											
	ProLiant 4000	—	Cirrus Logic GD5420	✓											
	ProLiant 4500	—	Cirrus Logic GD5424	✓											
	ProLiant 5000	—	Cirrus Logic GD5424	✓											
	ProSignia ⁶	—	Cirrus Logic GD5420	✓											
	ProSignia 300	—	Cirrus Logic GD5424	✓											
	ProSignia 300/500	—	Cirrus Logic GD5420	✓											
	ProSignia 300/500	—	Cirrus Logic GD5424	✓											
	QVision 2000	PCI	Matrox MGA-2	✓	✓	✓		✓		✓					
	QVision 2000 (Rev. G)	PCI	Matrox MGA-3	✓	✓	✓		✓		✓					
Creative Labs	3D Blaster RIVA TNT2 ⁷	AGP	NVIDIA RIVA TNT2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Graphics Blaster ⁷	AGP	NVIDIA RIVA TNT	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DEC	DECpc XL 590	—	Cirrus Logic GD5428	✓											
Dell	OptiPlex DGX 590	—	ATI Mach64	✓	✓	✓		✓		✓					
	OptiPlex XMT 590	—	S3 Vision 864	✓	✓	✓		✓		✓					

TABLE 3–25 Video Display Devices (Continued)

Vendor	Model	Bus	Video Chip	Resolution and Color Depth										
				800x600		1024x768		1152x900		1280x1024		1600x1200		
				8	24	8	24	8	24	8	24	8	24	
Diamond	Fire GL 1000 Pro	AGP	3Dlabs Permedia 2	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	SpeedStar 64/ SpeedStar 64 Graphics 2000XL Series	ISA PCI	Cirrus Logic GD5434	✓	✓	✓		✓		✓				
	Stealth 3D 2000	PCI	S3 ViRGE (86C325)	✓	✓	✓		✓		✓				
	Stealth 3D 2000/Pro	PCI	S3 ViRGE/DX (86C375)	✓	✓	✓	✓	✓		✓				
	Stealth 3D 3000	PCI	S3 ViRGE/VX (86C988)	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	Stealth 64 DRAM/ Stealth 64 Graphics 2000 Series	PCI VLB	S3 Vision 864	✓	✓	✓		✓		✓				
	Stealth 64 DRAM	PCI	S3 Trio64	✓	✓	✓		✓		✓				
	Stealth 64 VRAM	PCI VLB	S3 Vision 964	✓	✓	✓	✓	✓	✓	✓				
	Stealth 64 Video 2001	PCI	S3 Vision 765	✓	✓	✓		✓		✓				
	Stealth Video DRAM/ Stealth 64 Video 2000 Series	PCI VLB	S3 Vision 868	✓	✓	✓		✓		✓		✓		
	Stealth Video VRAM/ Stealth 64 Video 3000 ⁸ Series	PCI	S3 Vision 968	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	Viper V770	AGP	NVIDIA RIVA TNT2 ⁷	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ELSA	Victory 3D	PCI	S3 ViRGE (86C325)	✓	✓	✓	✓	✓		✓				
	Winner 1000 AVI	PCI	S3 Vision 868	✓	✓	✓		✓		✓				
	Winner 1000Pro-VL ⁹	VLB	S3 Vision 864	✓	✓	✓		✓		✓				
	Winner 2000Pro-PCI	PCI	S3 Vision 964	✓	✓	✓	✓	✓	✓	✓		✓		
	Winner 2000Pro-VL	VLB	S3 Vision 964	✓	✓	✓	✓	✓	✓	✓		✓		

TABLE 3–25 Video Display Devices (Continued)

Vendor	Model	Bus	Video Chip	Resolution and Color Depth										
				800x600		1024x768		1152x900		1280x1024		1600x1200		
				8	24	8	24	8	24	8	24	8	24	
	Winner 2000Pro-X	PCI	S3 Vision 968	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	Winner 3000-S	PCI	S3 ViRGE (86C325)	✓	✓	✓		✓		✓				
Everex	FIC 864P	PCI	S3 Vision 864	✓	✓	✓		✓		✓				
	VGA Trio 64P	PCI	S3 Trio64	✓	✓	✓		✓		✓				
	ViewPoint 64P	PCI	S3 Vision 864	✓	✓	✓		✓		✓				
Hercules	Dynamite 128/Video	PCI	Tseng ET6000	✓	✓	✓	✓	✓		✓				
Hewlett-Packard	HP Vectra VL2		Cirrus Logic GD5428	✓		✓								
	HP Vectra XM2i		S3 Vision 864	✓		✓		✓						
	HP Vectra XU ¹⁰	—	S3 Vision 864	✓	✓	✓		✓		✓				
IBM	Easy Options (VC550) ¹¹	ISA	Cirrus Logic GD5428			✓								
	PC 330—Model 6575	—	S3 Vision 864	✓	✓	✓		✓		✓				
	PC 330—Model 6576	—	S3 Trio64	✓		✓		✓						
	PC 350—Model 6581	—	Cirrus Logic GD5430	✓		✓		✓		✓				
	PC 360—Model 6598	—	MGA Storm	✓	✓	✓	✓	✓	✓	✓		✓		
	PC 750—Model 6885-35H	—	S3 Vision 864	✓	✓	✓		✓		✓				
	PC 750—Model 6885-J0M	—	S3 Vision 864	✓	✓	✓		✓		✓				
	PC Series 300-486	—	Cirrus Logic GD5430	✓		✓								
	PC Series 300	—	S3 Vision 864	✓	✓	✓		✓		✓				
	PC Series 700	—	S3 Vision 864	✓	✓	✓		✓		✓				
	PC Server 310—Model 8639-0DT	—	S3 Vision 868	✓		✓		✓		✓				

TABLE 3–25 Video Display Devices (Continued)

Vendor	Model	Bus	Video Chip	Resolution and Color Depth												
				800x600		1024x768		1152x900		1280x1024		1600x1200				
				8	24	8	24	8	24	8	24	8	24			
	PC Server 310—Model 8639-0EO	—	S3 Trio64V+	✓		✓		✓								
	PC Server 310—Model 8639-0XT	—	S3 Vision 864	✓		✓		✓								
	PC Server 320—Model 8640-0DV	—	Cirrus Logic GD5428	✓		✓										
	PC Server 320—Model 8640-0NJ	—	Cirrus Logic GD5428	✓		✓										
	PC Server 320—Model 8640-0XT	—	Cirrus Logic GD5428	✓		✓										
	PC Server 320—Model 8640-0YT	—	Cirrus Logic GD5428	✓		✓										
	PC Server 320—Model 8640-MXT	—	Cirrus Logic GD5430	✓		✓										
	PC Server 325—Model 8639-ESO	—	Cirrus Logic GD5436	✓		✓		✓								
	PC Server 325—Model 8639-ESV	—	Cirrus Logic GD5436	✓		✓		✓								
	PC Server 500—Model 8641-0YR	—	Cirrus Logic GD5428	✓		✓										
	PC Server 500—Model 8641-0YT	—	Cirrus Logic GD5428	✓		✓										
	PC Server 520—Model 8641-ED2	—	Cirrus Logic GD5428	✓		✓										

TABLE 3–25 Video Display Devices (Continued)

Vendor	Model	Bus	Video Chip	Resolution and Color Depth													
				800x600		1024x768		1152x900		1280x1024		1600x1200					
				8	24	8	24	8	24	8	24	8	24				
	PC Server 520—Model 8641-EDG	—	Cirrus Logic GD5428	✓		✓											
	PC Server 520—Model 8641-EZS	—	Cirrus Logic GD5428	✓		✓											
	PC Server 520—Model 8641-EZV	—	Cirrus Logic GD5428	✓		✓											
	PC Server 720—Model 8642-0ZO	—	Cirrus Logic GD5428	✓		✓											
	PS/ValuePoint Performance Series	—	S3 Vision 864	✓	✓	✓		✓		✓							
	VGA ¹²	ISA	IBM VGA	✓													
Intel	I810	—	Intel I810	✓	✓	✓	✓	✓	✓	✓					✓		
	I815	—	Intel I815	✓	✓	✓	✓	✓	✓	✓					✓		
Intergraph	G95 ¹³	PCI	MGA Storm	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	ISMP (SMP 224) ¹⁴		Cirrus Logic GD5434	✓	✓	✓	✓	✓		✓							
Matrox	Millennium	PCI	MGA Storm-R1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Millennium 220	PCI	MGA Storm-R2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Millennium 220	PCI	MGA-2064-R2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Millennium 220	PCI	MGA-2064W-R3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Millennium II	PCI AGP	MGA-2164W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Millennium G200	AGP	MGA-G200	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Millennium G400	AGP	MGA-G400	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Millennium G450	—	MGA-G450	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Mystique	PCI	MGA-1064SG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		

TABLE 3–25 Video Display Devices (Continued)

Vendor	Model	Bus	Video Chip	Resolution and Color Depth										
				800x600		1024x768		1152x900		1280x1024		1600x1200		
				8	24	8	24	8	24	8	24	8	24	
	Mystique 220	PCI	MGA-1064SG (-G or -H) (or MGA-1164SG)	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	Mystique G200	AGP	MGA-G200	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Mystique G400	AGP	MGA-G400	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Productiva G100	PCI AGP	MGA-G100	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Micronics	Mpower 4 plus ³	—	ATI Mach64	✓		✓								
Miro	miroCRYSTAL 20SD	PCI	S3 Vision 864	✓	✓	✓		✓		✓				
	miroCRYSTAL 40SV	PCI	S3 Vision 964	✓	✓	✓	✓	✓	✓	✓				
Number Nine	#9GXE64	PCI	S3 Vision 864	✓	✓	✓		✓		✓			✓	
	#9GXE64 Pro	PCI	S3 Vision 964	✓	✓	✓	✓	✓	✓	✓			✓	
	9FX Motion 331	PCI	S3 Trio64V+	✓	✓	✓		✓		✓				
	9FX Motion 531	PCI	S3 Vision 868	✓	✓			✓		✓				
	9FX Motion 771	PCI	S3 Vision 968	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	9FX Reality 332	PCI	S3 ViRGE (86C325)	✓	✓	✓		✓		✓				
	9FX Reality 334	PCI	S3 ViRGE/GX2 (86C357)	✓	✓	✓	✓	✓		✓			✓	
	Imagine 128	PCI	Imagine 128	✓	✓	✓	✓	✓	✓	✓			✓	
	Imagine 128 Pro	PCI	Imagine 128	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Imagine 128 Series 2	PCI	Imagine 128 V2	✓	✓	✓	✓	✓	✓	✓			✓	
	Imagine 128 Series 2e ¹⁵	PCI	Imagine 128 V2	✓	✓	✓	✓	✓		✓			✓	
	Vision330 ¹⁶	PCI	S3 Trio64	✓	✓	✓		✓		✓				
NVIDIA	RIVA TNT ⁷	—	NVIDIA RIVA TNT	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	TNT2 ⁷	—	NVIDIA TNT2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

TABLE 3–25 Video Display Devices (Continued)

Vendor	Model	Bus	Video Chip	Resolution and Color Depth										
				800x600		1024x768		1152x900		1280x1024		1600x1200		
				8	24	8	24	8	24	8	24	8	24	
	TNT2 M64 ⁷	—	NVIDIA TNT2 M64	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Oak Technology	OTI107	PCI	OTI107	✓	✓	✓		✓		✓				
	OTI111	PCI	OTI111	✓	✓	✓		✓		✓				
Orchid	Kelvin 64	PCI	Cirrus Logic GD5434	✓	✓	✓		✓		✓				
	Kelvin 64 ¹⁷	VLB	Cirrus Logic GD5434	✓	✓	✓		✓		✓				
S3	Trio3D ²	PCI AGP	S3 Trio3D (86E366)	✓	✓	✓	✓	✓		✓			✓	
	Trio64 ²	—	S3 Trio64	✓	✓	✓		✓		✓				
	Trio64V+ ²	—	S3 Trio64V+	✓	✓	✓		✓		✓				
	Trio64V2/DX ²	—	S3 Trio64V2/DX (86C755)	✓	✓	✓		✓		✓				
	ViRGE ²	—	S3 ViRGE (86C325)	✓	✓	✓	✓	✓		✓				
	ViRGE/DX ²	PCI	S3 ViRGE/DX (86C375)	✓	✓	✓	✓	✓		✓				
	ViRGE/GX ²	PCI	S3 ViRGE/GX (86C385)	✓	✓	✓	✓	✓		✓			✓	
	ViRGE/GX2 ²	PCI	S3 ViRGE/GX2 (86C357)	✓	✓	✓	✓	✓		✓			✓	
	ViRGE/VX ²	—	S3 ViRGE/VX (86C988)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Vision 864 ²		S3 Vision 864	✓	✓	✓		✓		✓				
	Vision 868 ²	—	S3 Vision 868	✓		✓		✓		✓				
SPEA	V7-Mirage P-64	PCI	S3 Vision 868	✓	✓	✓		✓		✓				
STB	Lightspeed 128	PCI	Tseng ET6000	✓	✓	✓		✓		✓				

TABLE 3-25 Video Display Devices (Continued)

Vendor	Model	Bus	Video Chip	Resolution and Color Depth									
				800x600		1024x768		1152x900		1280x1024		1600x1200	
				8	24	8	24	8	24	8	24	8	24
	Nitro 3D	PCI	S3 ViRGE/GX (86C385)	✓	✓	✓	✓	✓		✓		✓	
	Nitro 64 Video	PCI	Cirrus Logic GD5446	✓	✓	✓		✓		✓			
	Nitro PCI	PCI	Cirrus Logic GD5434	✓	✓	✓	✓	✓		✓			
	PowerGraph 64	PCI	S3 Trio64	✓	✓	✓		✓		✓			
	PowerGraph 64 3D	PCI	S3 ViRGE (86C325)	✓	✓	✓		✓		✓		✓	
	PowerGraph 64 Video	PCI	S3 Trio64V+	✓	✓	✓		✓		✓			
	PowerGraph PRO PCI	PCI	S3 Vision 864	✓	✓	✓		✓		✓			
	Velocity 3D	PCI	S3 ViRGE/VX (86C988)	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Velocity 64V	PCI	S3 Vision 968	✓	✓	✓	✓	✓	✓	✓		✓	
Trident	9440 ¹⁸	PCI	TGUI9440	✓		✓							
	9680	PCI	TGUI9680	✓		✓		✓		✓			
	9685	PCI	TGUI9685	✓		✓		✓		✓			
Tseng	Tseng ET6000	—	Tseng ET6000	✓	✓	✓		✓		✓			

1. Video adapters based on the Cirrus Logic GD5424 chipset with 512-Kbyte DRAM might not perform well in 800x600x256 mode, particularly if the selected monitor refresh rate is 60 Hz or higher.
2. Every video device with this chip might not work, but it is possible that your model can be used successfully.
3. Support is provided for ATI cards with ATI Mach64 chips and these RAMDACs: ATT68860, ATT20C408, ATT20C491, ATT20C498, STG1702, and STG1703.
4. The ATI RAGE PRO TURBO is the same video chip as the ATI RAGE PRO. The ATI RAGE PRO TURBO support covers ATI video chips intended for non-LCD desktop monitors.
5. The ATI Winturbo model is equivalent to the Gateway ATI GX Mach64 PCI video card.
6. The ProSignia 300 systems and some models of the ProSignia Server systems with the Cirrus Logic 5424 graphics chip are supported. Choose one of the "Cirrus Logic 5424 (512k)" entries when configuring the window system using `kdmconfig`.
7. Video adapters based on the NVIDIA RIVA TNT, TNT2, and TNT2 M64 chips might not work well in 640x480 mode on some displays.
8. For cards using the IBM or TI RAMDACs only.
9. The ELSA Winner 1000Pro with the ATT20C498 RAMDAC is supported.
10. Both the STG1702 and the ATT21C498 RAMDACs are supported.
11. Select "Cirrus Logic 542x" when configuring the display adapter during Solaris installation.
12. 640x480, 16 colors. Any 256-Kbyte or better VGA adapter supporting standard IBM mode 0x12 graphics. For VGA with 800x600 virtual screen, select "16 color, 640x480 VGA panning @800x600 (for experts only, see docs)" when configuring the display adapter during

Solaris installation. Warning: This selection enables panning mode on a standard VGA. This video mode supports a virtual resolution of 800x600, but is only capable of physically displaying 640x480 pixels at a time. This might be a preferred mode to use on small screens, but the use of panning might require some training.

13. To support the Intergraph G95, select the graphics card "Matrox MGA Millennium" when configuring the Solaris windowing system.
14. To support the Intergraph ISMP, select the graphics card "Cirrus Logic GD5434" when configuring the Solaris windowing system.
15. The 8-Mbyte version of the Number Nine Imagine 128 Series 2e is not supported.
16. Select "#9GXE 64 (Trio64)" when configuring the display adapter during Solaris installation.
17. Older versions of the Orchid Kelvin 64 VLB card have memory addressing limitations that might cause problems on systems containing 32 Mbytes or more of RAM. If you experience a problem, contact Orchid Technology for assistance.
18. This card does not work at the 1024x768 resolution with a 56-kHz refresh rate.

Certified Controllers Supported by Third-Party Drivers

The following controllers have been certified using third-party drivers. Contact the IHV for these drivers and for support for these controllers. You can also download these drivers from the IHV Drivers for Solaris (Intel Platform Edition) page.

Each controller listed has been certified through testing at one of these levels:

- | | |
|------------------|---|
| Level 1 | The controller has passed Sun's Level 1 certification test suite, which tests basic driver functionality for Solaris compatibility. |
| Level 2 | The controller has passed Sun's Level 2 certification test suite. The tests are rigorous enough to qualify vendors to apply to license the Solaris Ready logo. Vendors whose products are used in everyday business environments often choose Level 2 certification. |
| Level 3/Included | <p>The controller has passed Sun's Level 3 certification test suite. Vendors whose products are used in enterprise and server environments often choose Level 3 certification.</p> <ul style="list-style-type: none">■ When listed as Included, the product is already included in a Solaris release.■ When listed as Level 3, the product might be included in a forthcoming Solaris release. |

Sun disclaims any and all liability resulting from the use of these controllers.

Supported Network Controllers

Additional network controllers are listed in "Network Controllers" on page 29.

Supported FDDI Controllers

TABLE 4-1 Supported FDDI Controllers

Vendor	Controller	Certification Level	Driver Name	Driver Version
SysKonnnect	SK-5521	Included	skfp	2.00
	SK-5522	Included		
	SK-5541	Included		
	SK-5543	Included		
	SK-5544	Included		
	SK-5821	Included		
	SK-5822	Included		
	SK-5841	Included		
	SK-5843	Included		
	SK-5844	Included		

Supported Gigabit Ethernet Controllers

TABLE 4-2 Supported Gigabit Ethernet Controllers

Vendor	Controller	Certification Level	Driver Name	Driver Version
Broadcom Corporation	BCM5700 Rev. B	Level 2	bcme	1.0.3
Compaq	NC6132 1000SX Gigabit Ethernet Module for NC3131 and NC3134	Level 2	e1000g	2.5.17
	NC6134 1000SX Gigabit Ethernet NIC	Level 2		
Intel	PRO/1000 F Server Adapter	Level 3	e1000g	2.5.17
	PRO/1000 T Server Adapter	Level 3		
SysKonnnect	SK-9821	Included	sk98sol	3.07
	SK-9822	Included		
	SK-9841	Level 2		
	SK-9842	Level 2		

TABLE 4-2 Supported Gigabit Ethernet Controllers (Continued)

Vendor	Controller	Certification Level	Driver Name	Driver Version
	SK-9843	Included		
	SK-9844	Included		
	SK-9861	Level 2		
	SK-9862	Level 2		

Supported Token Ring Controllers

TABLE 4-3 Supported Token Ring Controllers

Vendor	Controller	Certification Level	Driver Name	Driver Version
Madge	Smart 16/4 PCI Ringnode Mk2	Level 3	mtok	5.08
	Smart 16/4 PCI Ringnode Mk3	Level 3		
	Smart MK4 100/16/4 PCI Ringnode	Level 3		
Olicom	RF-3140	Level 2	otr	3.3h
	RF-3540	Level 2		

Supported Storage Controllers

Additional storage controllers are listed in “Storage Controllers and Peripherals” on page 39.

Supported SCSI Host Bus Adapters

TABLE 4-4 Supported SCSI Host Bus Adapters

Vendor	Adapter	Certification Level	Driver Name	Driver Version
Adaptec	29160	Included	cadp160	d1.21
	29160LP	Included		

TABLE 4-4 Supported SCSI Host Bus Adapters (Continued)

Vendor	Adapter	Certification Level	Driver Name	Driver Version
	29160N	Included		
	39160	Included		
	AIC-7892	Included		
	AIC-7899A/B0	Included		
Compaq	64-Bit/66-MHz Single Channel Wide Ultra3 SCSI Controller	Level 2	cadp160	d1.21
	64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Controller	Level 2		
Compaq	Dual Channel Ultra-2 SCSI Controller (896)	Level 2	cpqncr	3.60
	Integrated Dual Channel Wide Ultra-2 SCSI Controller	Level 2		
	Integrated Single Channel Ultra-2 SCSI Controller	Level 2		
	Integrated Single Channel Wide Ultra 2 SCSI Controller (895A)	Level 2		
LSI	53C895A	Level 3	symhis1	4.07.01
	53C896	Level 3		
	53C1010-33	Level 3		
	53C1010-66	Level 3		

Supported RAID Controllers

TABLE 4-5 Supported RAID Controllers

Vendor	Controller	Certification Level	Driver Name	Driver Version
AMI	Elite 1500 (467, 2 channel)	Level 2	mega	2i17-8
	Elite 1600 (493)	Level 2		
	Enterprise 1500 (467, 4 channel)	Level 2		
	Express 200 (466)	Level 2		
AMI	Express 500 (475)	Level 2	mega	2i17-12

TABLE 4-5 Supported RAID Controllers (Continued)

Vendor	Controller	Certification Level	Driver Name	Driver Version
AMI	Express 500 (475)	Level 2	mega	2i18
Compaq	Integrated Smart Array Controller	Level 2	cpqary2	1.30
	LC2 RAID Controller	Level 2		
	Smart Array 431 Controller	Level 2		
	Smart Array 4200 Controller	Level 2		
	Smart Array 4250ES Controller	Level 2		
Compaq	Integrated Smart Array Controller	Level 2	cpqary2	1.40
Compaq	Smart Array 221 Controller	Level 2	smartii	2.20
	Smart Array 3100ES Controller	Level 2		
	Smart Array 3200 Controller	Level 2		

Supported Fibre Channel Adapters

TABLE 4-6 Supported Fibre Channel Adapters

Vendor	Adapter	Certification Level	Driver Name	Driver Version
Agilent	HHBA-5100B	Included	hpfc	1.06
	HHBA-5101B	Included		
	HHBA-5121A	Included		

Supported Asynchronous Serial I/O Controllers

Additional serial controllers are listed in “Multiport Serial Controllers” on page 28.

TABLE 4-7 Supported Asynchronous Serial I/O Controllers

Vendor	Controller	Certification Level	Driver Name	Driver Version
Digi International	AccelePort C/X	Level 2	epca	1.8.0
	AccelePort Xem	Level 2		

Troubleshooting

This appendix describes how to use tools and documentation to configure hardware to run Solaris 9 *Intel Platform Edition*.

Using the Device Configuration Assistant Software

Use the Solaris 9 *Intel Platform Edition* Device Configuration Assistant program to identify the devices in the system and to describe the resources that each device uses. If a problem occurs, you must provide device configuration data so that the Device Configuration Assistant can pass this information to the Solaris kernel.

Physical Address Extension (PAE) Mode

With the release of Pentium Pro, Intel introduced PAE (physical address extension) mode on its advanced processors. By using PAE, Solaris *Intel Platform Edition* can address up to 32 Gbytes of physical memory. Individual processes are still limited to a maximum of 3.5 Gbytes of virtual address space.

PAE mode enables you to run multiple instances of databases and memory-intensive applications, and to support large numbers of online users on your system.

Use PCI disk controllers that support dual address cycle (DAC) in your system. These controllers can transfer data to and from any physical location. Other controllers are

limited to 4 Gbytes of physical memory. The physical memory limit might cause a slow-down in performance because the system must copy additional memory to transfer data.



Caution – Some device drivers cannot take advantage of PAE mode. PCI device drivers written by Sun have been tested on IA compatible machines with more than 4 Gbytes of memory. Sun’s OEM partners intend to test their systems with devices the partners supply on IA compatible machines with more than 4 Gbytes of memory. In some cases, however, adding a third-party device driver to your system might cause the system to become unstable. The instability can cause panics and data corruption. Disable PAE mode if your system becomes unstable and you must use that driver.

▼ To Disable PAE Mode

1. **Reboot your system.**
2. **While the system boots, press Escape, when prompted, to interrupt the autoboot process.**
The Solaris Device Configuration Assistant starts.
3. **Press F2_Continue until the Boot Solaris screen appears.**
4. **Press F4_Boot Tasks.**
The Boot Tasks screen appears.
5. **Select View/Edit Property Settings.**
The View/Edit Property Settings screen appears.
6. **Press F4_Create.**
The Create Property screen appears.
7. **Type `mmu-modlist` in the Specify Property Name field and press Enter.**
8. **Type `mmu32` in the Specify Value field and press Enter.**
The message “Updating Saved Configuration information...” appears. When the property and value are saved, the View/Edit Property Settings screen appears.
9. **Press F2_Back.**
The Boot Tasks screen appears.
10. **Press F3_Back.**
The Boot Solaris screen appears after the drivers on your system are loaded.
11. **Continue to boot your system.**

Autoboot Failure Recovery

Your system might fail to autoboot when a loopback serial cable is connected between the COM1 and COM2 serial ports. Use the `eeeprom` command to set one of the following properties:

```
eeeprom com1-noprobe=true
```

or

```
eeeprom com2-noprobe=true
```

ISA Device Identification

Your system might hang or reset during a scan for ISA devices. Perform these tasks until you can successfully complete the scan.

- Identify a problem with an existing device.
- Find and resolve resource conflicts.
- Provide information about the device manually.

▼ To Identify a Problem With an Existing Device

1. **Consult the manufacturer's documentation to ensure that the device is properly configured and does not conflict with other devices in the system.**
2. **Boot the Solaris 9 *Intel Platform Edition* Device Configuration Assistant from the boot diskette, the installation CD, or the network.**

Note – To successfully boot from the network, your system BIOS must support the Pre-boot Execution Environment (PXE) feature. Also, your system must be a netinstall client of a Solaris netboot server.

3. **Press F3_Specific Scan to identify particular devices.**
Some devices rarely hang the system, such as those found on the motherboard. These devices are identified before you reach the Specific Scan menu.
4. **Select the device that you think caused the hang, and press F2_Continue to start the scan.**
 - If the scan for that particular device does not hang, there still might be a problem. The order in which devices are scanned can cause a hang. Go to step 5.
 - If the scan hangs, the problem might be caused by a hardware conflict. Verify that the device is in your machine. Consult the manufacturer's documentation for all

installed devices to ensure that no resource conflicts exist. Proceed to “To Find and Resolve a Resource Conflict” on page 80.

5. Scan for each remaining device in the system.

Sometimes hangs are caused by “software probe conflicts.” You might be able to prevent the hang by scanning for each device in a different order from the one used to scan for all devices.

When the scan succeeds, the Identified Devices screen appears.

6. Press F2_Continue to go to the Boot Solaris menu, and select a device from which to boot.

- To boot or install from a CD-ROM, select CD.
- To boot or install using the network when your machine is registered as a netinstall client, select NET.
- To boot from the machine’s installed disk drive, select DISK.

7. Boot and install the Solaris software.

▼ To Find and Resolve a Resource Conflict

1. Boot the Solaris 9 *Intel Platform Edition* Device Configuration Assistant from the boot diskette, the installation CD, or the network.

2. Press F3_Specific Scan to identify particular devices.

The Specific Scan menu appears.

3. Select each device in the system that did not cause the initial hang, and press F2_Continue to scan.

The Identified Devices screen appears.

4. Press F4_Device Tasks.

The Device Tasks menu appears.

5. Select View/Edit Devices from the list of tasks and press F2_Continue.

The View/Edit Devices menu appears.

6. Examine the list of devices to determine if the problem device conflicts with another device.

Note – This method might not work if a hardware conflict interferes with the ability of the scan to correctly determine the configuration of a device.

- Manually configure a device that uses jumpers and switches for configuration.

Turn the system off. Manually change settings for the problem device. Turn the system on. Boot the Solaris Device Configuration Assistant software. Go to step 7.

- Use a manufacturer's configuration utility to configure a device that uses software for configuration.

Insert the manufacturer's configuration utility diskette into the diskette drive. Change the device settings so that they will not conflict with other devices in the system. Boot the Solaris Device Configuration Assistant software. Go to step 7. If no conflicts are found, go to Step 2 of "To Provide Information About the Device Manually" on page 81. You do not have to reboot.

7. Select F3_Specific Scan.

When the scan succeeds, the Identified Devices screen appears.

8. Press F2_Continue to go to the Boot Solaris menu, and select a device from which to boot.

- To boot or install from a CD-ROM, select CD.
- To boot or install using the network when your machine is registered as a netinstall client, select NET.
- To boot from the machine's installed disk drive, select DISK.

9. Boot and install the Solaris software.

▼ To Provide Information About the Device Manually

1. Boot the Solaris 9 *Intel Platform Edition* Device Configuration Assistant from the boot diskette, the installation CD, or the network.

2. Press F4_Device Tasks from the Identified Devices screen.

3. Select the View/Edit Devices task and press F2_Continue.

The View/Edit Devices menu appears.

4. Press F3_Add Device to manually add the name of the problem device.

5. Select the device to add from the list and press F2_Continue.

6. Supply resource information for the device.

7. Press F4_Add to add the device to the device list.

The program warns you if a conflict exists.

8. Press F2_Continue.

The Device Tasks menu appears.

9. Press F3_Back.

The Identified Devices screen appears.

10. Press F2_Continue.

The Boot Solaris menu appears.

11. Select a device from which to boot.

- To boot or install from a CD-ROM, select CD.
- To boot or install using the network when your machine is registered as a netinstall client, select NET.
- To boot from the machine's installed disk drive, select DISK.

Note – Contact your support provider if the device causes another hang when attempting to go to the Boot Solaris menu or if the device does not function.

Unrecognized Devices

The I/O port address chosen for the unrecognized device might conflict with the I/O port address of another device in the system. You must provide a nonconflicting address for the unrecognized device. You can do this by using the system BIOS or the configuration programs supplied by the hardware manufacturer. The Configuration Assistant uses that information to identify that device for the Solaris environment.

Using Manufacturers' Configuration Programs

Device Plug and Play Mode Activation

Set the switch on the device to Plug and Play mode. Plug the device into the system. The software will configure it automatically.

PCI Device IRQ Assignments

Use the system BIOS to determine which IRQs are enabled for PCI bus use. After checking the IRQs used by ISA devices, assign as many available IRQs to PCI devices so the PCI bus can resolve device conflicts.

Use the System BIOS to Change Device Settings

Refer to the manufacturer's documentation for the method of accessing the BIOS setup for your system and the features it provides.

Set Up a Cachable Region in System Memory for American Megatrends, Inc. (AMI) BIOS

For the best performance, make the cachable region equal to the total memory installed in the system.

▼ To Identify ISA Devices—Sample Procedure

To set the configuration parameters for an ISA adapter, run the manufacturer's configuration utility. Run this utility every time an ISA device is added, removed, or moved to a different slot in the machine. Although the function of such utilities is standardized, implementations vary among manufacturers.

1. Boot DOS.

Note – Back up the device manufacturer's configuration diskette before using it to configure your hardware.

2. For each ISA add-in device to be configured, copy the `.cfg` and `.ovl` configuration files from the device manufacturer's configuration diskette to the system configuration diskette.

3. Run the configuration utility.

The program is called usually `CF.EXE` or `CFG.EXE`.

4. Set the appropriate configuration parameters and any special operating modes for each device.

Configuring Video Display Devices, Monitors, Keyboards, and Pointing Devices

Desktop programs, such as CDE, make use of the X Window System. The X Window System server requires that the following hardware devices be present in the system:

- Video display controller
- Display monitor
- Keyboard
- Pointing device, such as a mouse

The `kdmconfig(1M)` utility attempts to identify these devices in the system. Once the devices are identified, `kdmconfig` creates the configuration file that is used by the X server.

If `kdmconfig` cannot correctly identify a required device, you can manually select the device from a list. You can also specify the resolution, color depth, and refresh rate for the display.

`kdmconfig` runs automatically during Solaris installation and system startup. If `kdmconfig` detects changes to the previous hardware configuration, or if no configuration file exists, you can change or test the currently identified configuration.

To test a configuration, `kdmconfig` displays a simple test screen. If the screen displays correctly, click YES to accept the current configuration. If the screen displays incorrectly, click NO, or press any key, to change the configuration.

After Solaris system startup, you can run `kdmconfig` from the command line.

Three-Button Mouse Emulation Feature

The `kdmconfig(1M)` utility now configures a two-button mouse (or other pointing device) as a three-button mouse by default. Users will notice this change when they are using an application that assumes a three-button mouse.

To emulate the middle button on a two-button mouse, push both buttons simultaneously. The right button now generates a Button-3 event, when previously it generated a Button-2 event.

To disable emulation, choose a two-button entry without three-button emulation from the list of pointing devices displayed by the `kdmconfig` utility.

Configuring Ethernet Devices

Duplex Settings

An Ethernet controller and its link partner (such as a hub, switch, or another network controller connected by a crossover cable) must operate at the same duplex settings.

- If the controller and link partner support NWay media autonegotiation, both devices should automatically select the optimal speed and duplex mode.
- If NWay autonegotiation is not supported or configured on either the controller or its link partner, both devices must be explicitly set to run at the same duplex mode. A device usually defaults to half-duplex operation if it cannot determine the link partner's duplex capabilities.
 - Hubs or switches that support full-duplex operation usually have a mechanism to set duplex mode on a per-device or per-port basis. Setting speed, duplex mode, or both in this manner usually disables NWay autonegotiation for the device or port.
 - A network controller supported by the `dnet` device driver must have its duplex mode set in the driver's `.conf` file. See the `dnet(7D)` man page for details.

Operating speed can sometimes be set in the driver's `.conf` file. However, when using the `.conf` file to set the speed, NWay autonegotiation might be disabled.

A device can usually detect the speed (but not the duplex mode) of its link partner, even without NWay autonegotiation.

Connector Types

Driver man pages specify the supported connector type where appropriate. All network controllers work at 10 Mbps only, unless otherwise specified in the driver man pages. Following are network connectors and the media they support.

Connector	Supported Media	Comments	Speed
RJ-45	10BASE-T	Category-3 Twisted Pair cable	10 Mbps
RJ-45	100BASE-TX	Category-5 Twisted Pair cable	100 Mbps
BNC	10BASE2	Coax cable ("Thin" Ethernet cable)	10 Mbps

Connector	Supported Media	Comments	Speed
AUI	10BASE5	Shielded Twisted Pair (“Thick” Ethernet cable)	10 Mbps

100-Mbps Ethernet Performance

Some PCI motherboards contain DMA chipsets that do not support 100-Mbps Fast Ethernet. The Solaris environment does not support 100-Mbps PCI network operation on systems containing these slow chipsets. This problem affects PCI devices only.

These chipsets are known to exhibit this problem:

- 82430LX (Mercury)
- 82450GX (Orion) (A and B steppings only)

These chipsets do *not* exhibit this problem:

- 82430NX (Neptune)
- 82430FX (Triton)
- 82430HX (Triton II)
- 82440FX (Natoma)
- 82450GX (Orion) (C0 stepping and later)

In particular, PCI controllers supported by the `dnet(7D)` and `iprb(7D)` drivers do not perform well on machines with the problem chipsets. You must decide whether the performance on a particular machine is adequate for the intended purpose.

Network Controller Replacement

You can replace your network controller with one that uses a different network driver.

▼ To Replace a Network Controller

1. **Rename the `/etc/hostname.olddriver0` file to use the name of the new driver.**

```
# mv /etc/hostname.olddriver0 /etc/hostname.newdriver0
```

Note – Run the Configuration Assistant utility any time you add, remove, or replace hardware.

2. Perform a reconfiguration boot to make these changes take effect.

```
# touch /reconfigure  
# reboot
```

