SPARCstation Voyager

Just the Facts

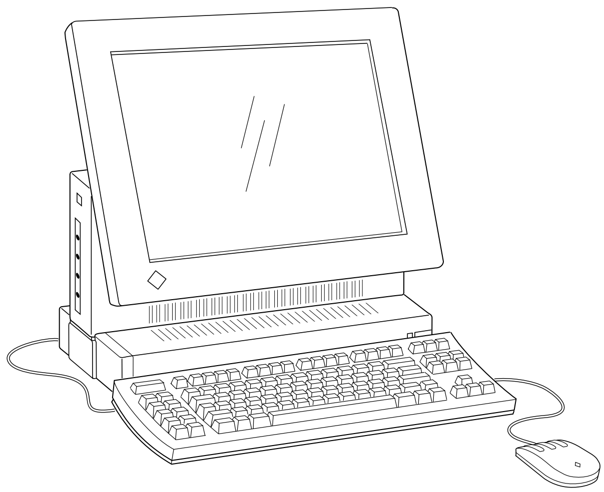
The product information contained in Just the Facts will be announced to the general public March 15, 1994. Until that time, this information is considered Sun confidential. It may be used with customers who have signed nondisclosure agreements.

Sun

SPARCstation™ Voyager System: Compact, Ergonomic Workstation

Positioning

The Industry's Most Compact, Ergonomic Fully Featured Workstation



The SPARCstation™ Voyager system, a new concept of the ultra-compact, high-performance workstation, addresses customers' expanding requirements for the enterprise network desktop. Beyond meeting customer expectations for the performance and compatibility of a true SPARCstation system, the SPARCstation Voyager system is remarkably small, quiet, and energy efficient. Users with limited office space or those who need to work at locations outside the traditional office are just two examples of customers who will benefit from the SPARCstation Voyager's unique capabilities.

Product Fit

The SPARCstation Voyager system extends client-server, enterprise computing solutions beyond Sun's current desktop and server product offerings. It represents a dramatic extension of the SPARCstation product line into

- New ergonomic and environmental desktops where reduced system size, operating noise, and power consumption is required and improved ease of use is highly desired
- Nomadic workstations where full-featured SPARCstation performance is required for remote client-server operation outside the traditional office environment

Key Messages

The SPARCstation Voyager system delivers all the capabilities of a full-featured SPARC®/Solaris® workstation

- Delivers the high performance Sun customers expect from a SPARCstation system
- Preserves compatibility with the SPARC/Solaris operating environment
- Provides a high degree of configurability and expandability
- Unveils industry-leading, high-resolution flat panel displays as an ergonomic alternative to cathode ray tubes (CRTs)

SPARCstation Voyager System: Compact, Ergonomic Workstation *(cont.)*

Positioning

Key Messages *(cont.)*

- The SPARCstation Voyager system improves the ergonomics of the desktop workstation
  - Reduces deskspace requirements to just 30% of the SPARCstation 10 system
  - Eliminates cooling fan noise with advanced convection cooled system design
  - Reduces energy consumption and provides Energy Star certification
  - Eliminates CRT screen flicker and emissions with active-matrix liquid crystal displays
- The SPARCstation Voyager system introduces breakthrough nomadic capabilities
  - Presents a lightweight, easily transported system with an available protective carrying case
  - Includes new interfaces to support personal digital assistant connectivity and use of PCMCIA expansion cards
  - Delivers a sophisticated power system — worldwide-ready AC and rechargeable battery operation
  - Features quick power on/off as an alternative to the time-consuming reboot/halt process
  - Supports remotely networked client-server operation through modem and telephone line connection

Target Markets

The SPARCstation Voyager system is targeted to a wide range of current Sun customers who need compact, ergonomic desktops or nomadic workstations.

- Sell the SPARCstation Voyager system as a compact desktop where deskspace utilization and workplace ergonomics are highly valued
  - Financial services customers
  - Medical applications
  - Government customers
  - International markets
  - Users who value compact, quiet, and energy-efficient workstations
- Sell the SPARCstation Voyager system as a nomadic workstation to customers who require an easily transportable, full-featured workstation at a remote worksite
  - Technical customers such as software developers and technical writers
  - Field workers such as sales representatives, analysts, trainers, and consultants
  - Military personnel for field use, deployable workstation
  - System administrators for remote diagnostics and system administration
  - Users who value the convenience of a transportable fully featured SPARCstation workstation

Availability

The SPARCstation Voyager system can be ordered now and will ship starting April 1994.

SPARCstation™ Voyager Architecture

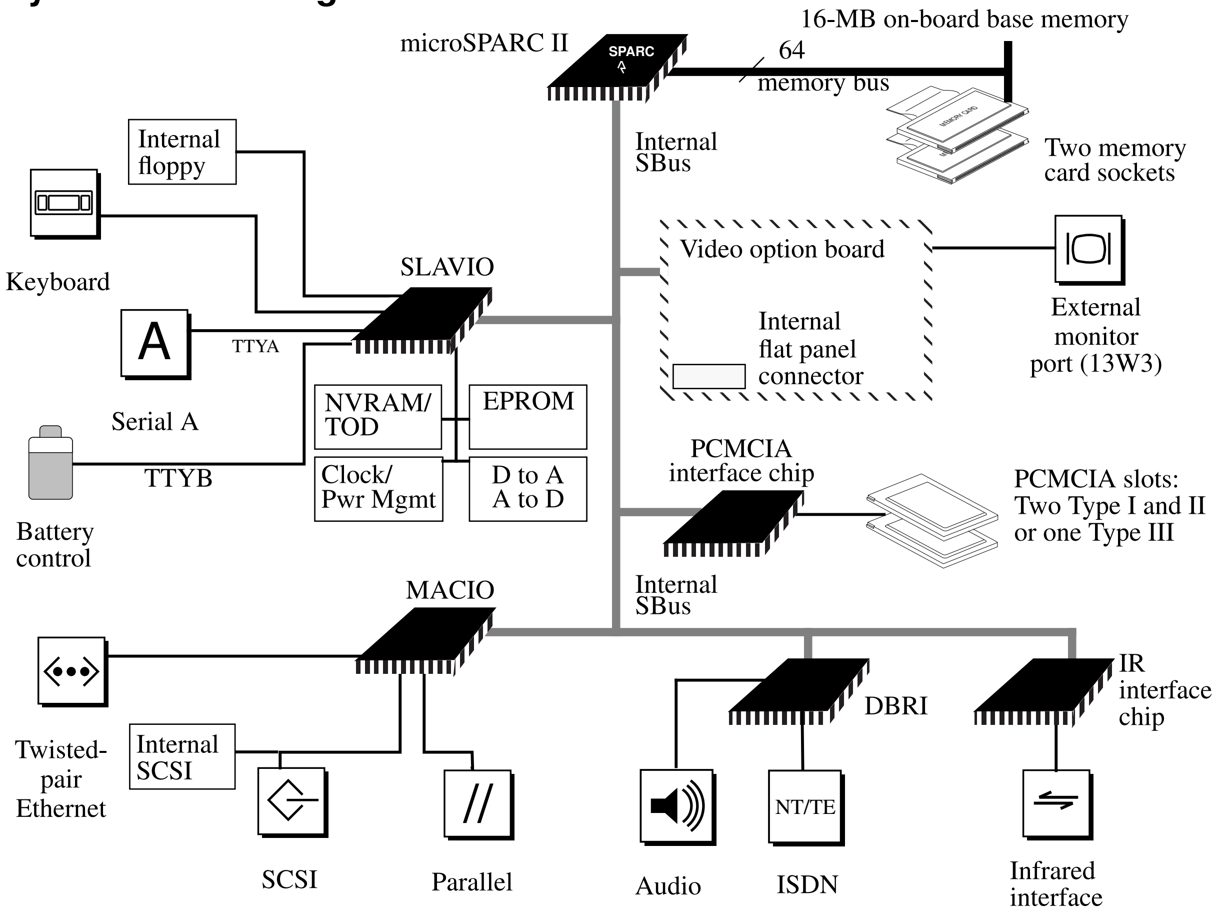
Maintains the Capabilities of a Fully Featured SPARCstation System

The SPARCstation™ Voyager system is a fully featured, high-performance workstation that supports a high-level of compute, graphics, and expansion capabilities.

High-Performance System Design

• Features	• Benefits
– 60-MHz microSPARC™ II processor	– Twice the performance of first microSPARC chip – Fast performance in low-cost, low-power consuming design – Single-chip integer and floating-point processor
– Highly integrated CPU board design	– Reduced chip count increases system reliability
– Modular display framebuffer boards (low-cost monochrome and TurboGX™ color)	– Graphics on a daughtercard provides flexibility for upgrades, repair, and configuration choices
– SCD 2.0 compliant	– Full application compatibility under the Solaris® 2.3 operating environment
– One-year warranty	– Maintenance of Sun's commitment to quality

System Block Diagram

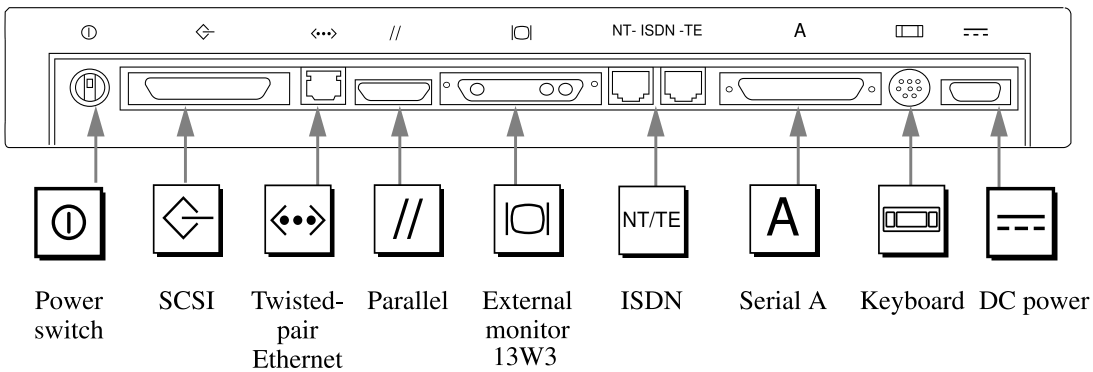


SPARCstation Voyager Architecture *(cont.)*

Sun Standard I/O Interfaces

- **Features**
  - 16-bit stereo audio with all speaker box features on side of system
  - Built-in twisted-pair Ethernet
  - Peripheral compatibility with SCSI devices
  - One serial and one parallel port
  - Support for Sun cathode ray tube displays
  - ISDN standard on motherboard
- **Benefits**
  - Provides easy access to stereo microphone, speaker, and line-in/line-out ports
  - Offers standard, on-board high-speed networking
  - Supports desktop packs for CD-ROM, disk, and tape
  - Supplies interface for printers and external modems
  - Supports any Sun monitor by external monitor port
  - Supports WAN and digital telephony

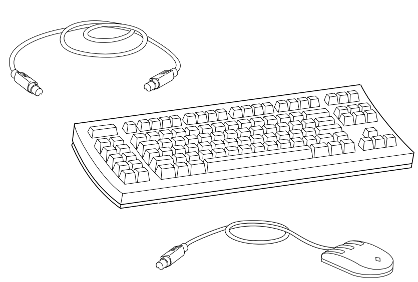
System Back Panel I/O Connectors

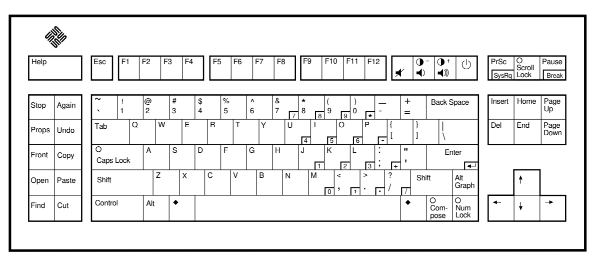


New Industrial Design

- **Features**
  - New compact design
  - Flat panel display support
  - Security lock
  - Power-on light-emitting diode (LED)
  - Two keyboard/mouse options
- **Benefits**
  - Bold new SPARCstation design
  - First fully featured workstation to support flat panels
  - Secure system to table or desk with lock box
  - “Power on” indication on front of system
  - Support for both Compact 1 and Type 5 country kits

Compact 1 Keyboard and Mechanical Mouse





Compact 1 keyboard layout showing embedded keypad

SPARCstation Voyager Architecture *(cont.)*

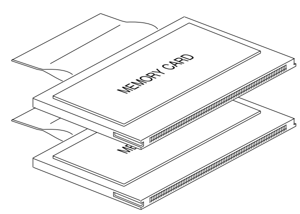
Internal Storage and Expansion

- **Features**
  - Internal 340-MB 2.5-inch hard disk standard
  - Internal 3.5-inch floppy drive standard
  - 16-MB standard, expandable to 80 MB
  - Support for 16-MB or 32-MB memory cards
  - Credit-card size internal PCMCIA expansion cards

- **Benefits**
  - Diskfull solution without requiring a cooling fan
  - Sun compatible, super slim, auto-eject floppy disk
  - Expandable to meet the memory needs of applications
  - Efficient, cost-effective memory increments
  - Memory cards, not SIMMs, deliver high capacity
  - Easy installation requires no system disassembly
  - Support for two Type I or II cards or one Type III card
  - Industry-standard, widely available option cards

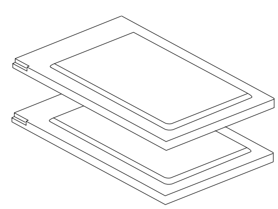
Memory Expansion Cards

- Supports up to two memory expansion cards, of either 16-MB or 32-MB capacity
- 16-MB base memory, expandable to 80 MB

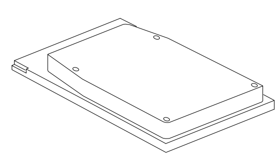


PCMCIA Expansion Cards

- Supports two Type I or II cards



- Or one Type III card



SPARCstation Voyager Architecture *(cont.)*

Improves the Ergonomics of the Desktop Workstation

The SPARCstation Voyager system presents a new SPARCstation form factor that addresses users' concerns regarding deskspace requirements, screen and noise emissions, and energy consumption of workstations.

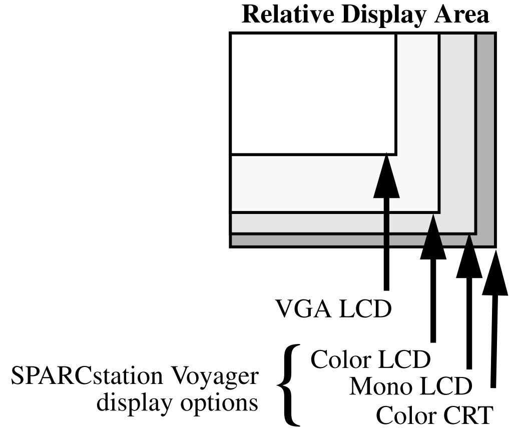
New Support for Flat-Panel Displays

• Features	• Benefits
– Active-matrix liquid crystal display (LCD)	– Flicker-free, emission-free displays of cathode ray tube (CRT) quality – Fast response time and wide viewing angle – Extremely sharp, with high contrast and excellent color saturation – Highly reliable and energy efficient
– Large, high-resolution flat panels	– Industry-leading display size and resolution – 106 dpi approximates CRT pixel size – Provides 2.5 to 3.4 times the size and resolution of VGA resolution flat panels popular on PCs

LCD Flat Panel Technology Comparison

Application	Display type	Resolution	Screen diagonal	Display area
Notebooks and laptops	**VGA LCD**	**640 x 480**	**9 in.**	**7.5-in. x 5-in.**
SPARCstation Voyager	**Color LCD**	**1024 x 768**	**12 in.**	**9.5-in. x 7.25-in.**
SPARCstation Voyager	**Mono LCD**	**1152 x 900**	**14 in.**	**11-in. x 8.5-in.**
SPARCstation Voyager	**Color CRT**	**1152 x 900**	**15 in.**	**12-in. x 9-in.**

Relative Display Area



SPARCstation Voyager Architecture *(cont.)*

Low Power Consumption Design

• **Features**	• **Benefits**
– Convection cooled	– Natural cooling to eliminate fan noise and vibration – No moving parts for less energy consumption
– Energy Star certified	– Compliance with U.S. EPA energy savings guidelines – Accommodation of contracts requiring Energy Star certification
– Active power management	– Only 15% the energy use of a SPARCstation LX system – Lower energy use reduces cost of operation – Power sources include idle ports, display, disk, and microSPARC II

Environmentally Friendly

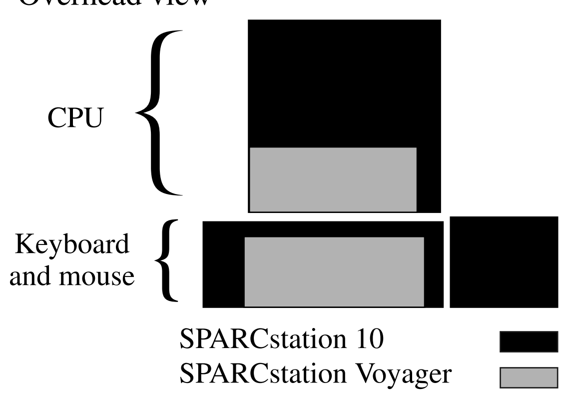
• **Features**	• **Benefits**
– Recyclable components	– Conserves natural resources
– Class III environmental compliant	– Complies with most rigid testing

Compact System Enclosure

• **Features**	• **Benefits**
– Compact 14 x 5.5-inch CPU module	– Requires 36% of the deskspace of a SPARCstation 10 – Allows CPU to be placed virtually anywhere – Serves as stand and interface for flat panel display
– Minimal system depth	– Requires just 1 foot of depth with keyboard; with keyboard on tray CPU needs only 6 inches
– Compact 1 keyboard and mechanical mouse	– Requires only 40% of the deskspace of Type 5 – Needs just 15 x 6 inches of deskspace for keyboard – Eliminates silver optical mouse pad – Features full-sized QWERTY keys in sculpted layout

System Footprint Comparison

Overhead view



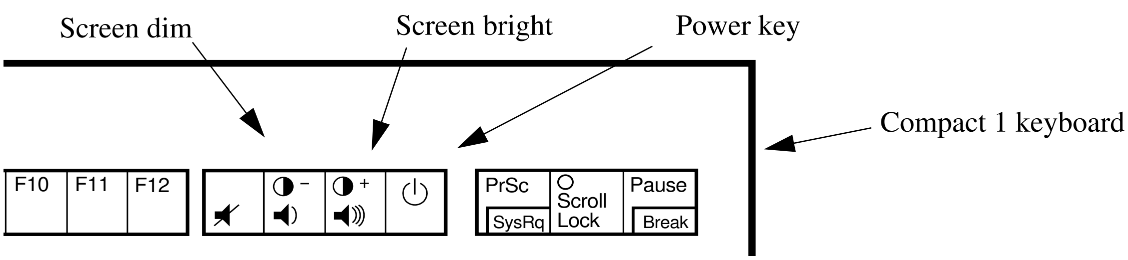
Desktop footprint	SPARCstation 10	SPARCstation Voyager
CPU	256 sq. in.	77 sq. in.
Keyboard	140 sq. in.	90 sq. in.
Mouse pad	68 sq. in.	Not req.
Total	464 sq. in.	167 sq. in.
% of SPARCstation 10	100%	36%

SPARCstation Voyager Architecture *(cont.)*

Ease of Use

• **Features**	• **Benefits**
– Fully adjustable system	– Screen tilt and system swivel available – Detached keyboard and mouse
– Easy access to I/O connectors	– Audio, floppy, and PCMCIA slots on side – Access over display to I/O connectors on back panel
– User access via #1 Phillips screwdriver	– Straightforward disassembly for memory upgrade
– PCMCIA expansion card insertion	– No system cover removal needed: plug and play
– Keyboard power and brightness control	– Hands never leave the keyboard – Power key provides primary power on/off – Brightness keys control flat panel backlights

Keyboard Controls for System Power and Screen Brightness



SPARCstation Voyager Architecture *(cont.)*

Introduces Breakthrough New Nomadic Capabilities

The SPARCstation Voyager system redefines the use of SPARCstation systems by introducing new capabilities that allow use of a fully featured workstation outside the traditional office environment.

Transportable System Design

- **Features**
  - Compact, lightweight system
  - Optional carrying case
- **Benefits**
  - Easy to move, with just 16% of the weight of a traditional workstation
  - Entire system fits within a 15 x 15 x 5.5-in. box
  - Safe transport of entire system
  - Protection of flat display and all components plus options

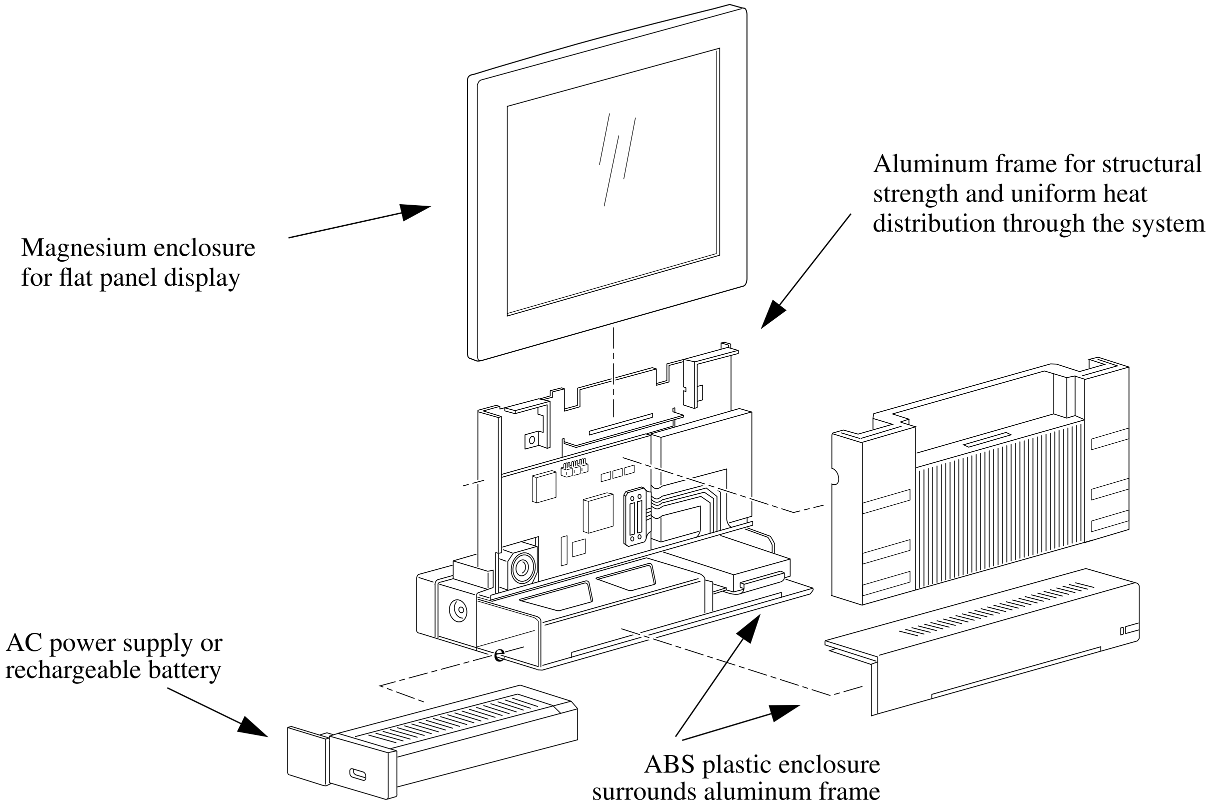
Remote Networking Support

- **Features**
  - Remote networking through ISDN or modem
  - Optional high-performance PCMCIA modem
- **Benefits**
  - Delivers true client-server capability by phone line connection back to enterprise
  - 14.4 Kbps with error control and V.42bis compression
  - Localized for compliance in major countries
  - Made by US Robotics for Sun

Advanced New Materials

- **Features**
  - PC/ABS solid resin system enclosure
  - Magnesium metal display enclosure
  - Aluminum skeletal frame
- **Benefits**
  - Shock-resistant plastics for ruggedness
  - Strong and lightweight, yet rigid to resist flexing
  - System frame for strength and thermal management

New Advanced Materials Provide Strength and Aid Natural Cooling



Flexible Power System

- **Features**
  - Internal universal AC power supply
  - New two-wire AC power cord
- **Benefits**
  - Ease of use with automatic voltage selection
  - Worldwide operation (100-250 VAC, 50-60 Hz)
  - AC supply resides inside system base
  - Lightweight, flexible cord requires no ground wire
  - Fewer cords for worldwide use

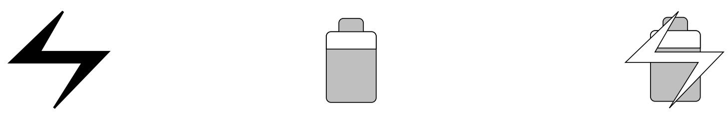
SPARCstation Voyager Architecture *(cont.)*

Optional Rechargeable Battery

- **Features**
  - High performance
  - Intelligent monitoring
  - Internal operation
  - Lithium-ion technology
- **Benefits**
  - 1.5 to 2 hours of typical battery operation
  - Trickle charge in 8 hours during use
  - Fast charge in 2 hours when system powered off
  - Protection circuits prevent overcharging
  - Internal diagnostics report failure to CPU
  - AC power supply is also battery recharger
  - Use as uninterruptable power supply (UPS) for failover to battery on AC power loss
  - Replacement for AC supply inside base of system
  - AC operates outside system when battery installed
  - High energy density: 40 watt-hour in 1.5 lb.
  - No transportation of storage restrictions
  - Environmentally safe: no lead, mercury, or cadmium

Feature	Benefits
High performance	1.5 to 2 hours of typical battery operation; Trickle charge in 8 hours during use; Fast charge in 2 hours when system powered off
Intelligent monitoring	Protection circuits prevent overcharging; Internal diagnostics report failure to CPU; AC power supply is also battery recharger; Use as uninterruptable power supply (UPS) for failover to battery on AC power loss
Internal operation	Replacement for AC supply inside base of system; AC operates outside system when battery installed
Lithium-ion technology	High energy density: 40 watt-hour in 1.5 lb.; No transportation of storage restrictions; Environmentally safe: no lead, mercury, or cadmium

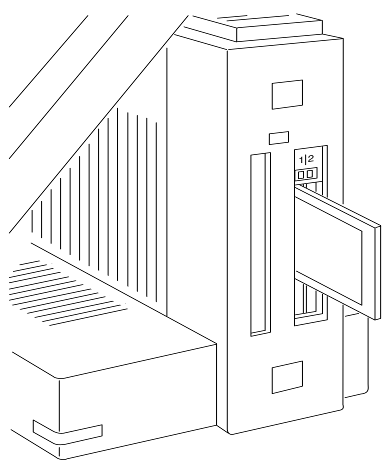
AC or Battery Operation



AC only　　Battery only　　Battery and AC

New Interfaces

- **Features**
  - PCMCIA support
  - Infrared interface
- **Benefits**
  - On-board credit-card size expansion slots
  - Support for modems, disk, flash memory, network
  - Interchangeable with PCs and laptops
  - Interface for PDA, personal organizer connectivity



SPARCstation™ Voyager Software

Supplemental Software Provides Incremental Features

The SPARCstation™ Voyager system features supplemental software that enhances its capability as a nomadic, remotely operated SPARCstation system. These features also make the SPARCstation Voyager system an even easier to use and more powerful desktop workstation.

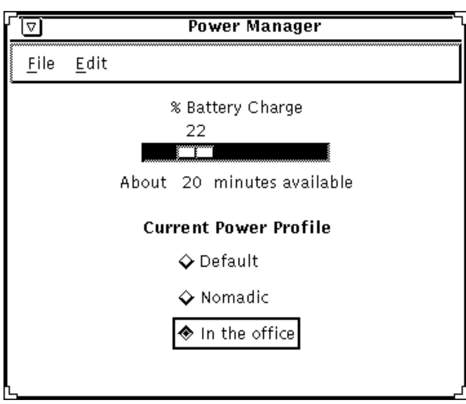
Suspend/Resume

• Features	• Benefits
– Fast boot	– Avoids lengthy halt and reboot process – Suspends in 20 to 45 seconds, resumes in 45 to 60 seconds
– Robust design	– Saves system state to nonvolatile hard disk partition
– One key sequence	– Improves ease of use: Users just press power key to resume to system state exactly as it was when suspended

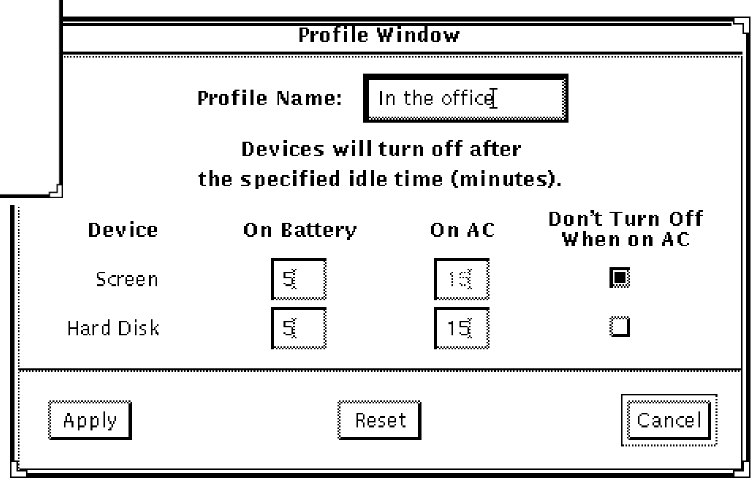
Power Management

• Features	• Benefits
– Built-in transparent operation	– Saves power and extends system life automatically
– Power management tool	– Lets user adjust disk and display power-off times – Shows battery charge state and remaining time through graphical user interface
– Auto-suspend	– Automatically suspends system on low battery before battery is exhausted

Power Management Screen



Main screen shows remaining battery charge and calculated time remaining.



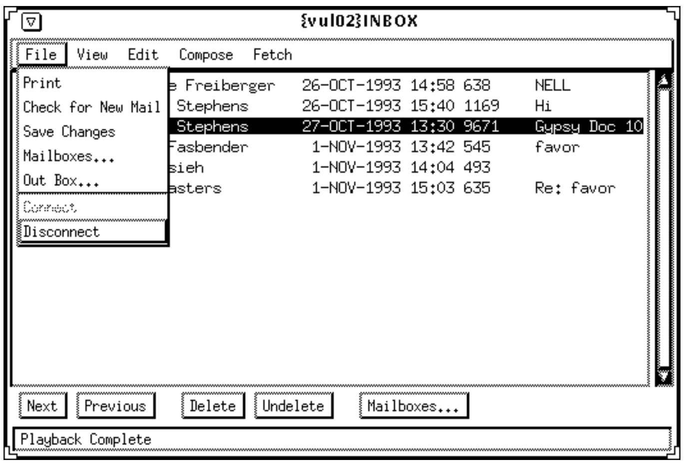
User can conserve power by editing profiles to specify power down of screen backlight and hard disk.

SPARCstation Voyager Software *(cont.)*

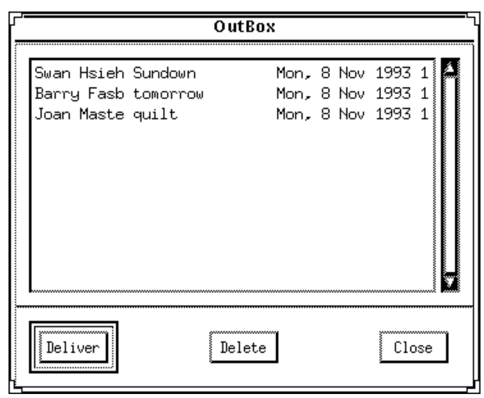
ROAM™ Mailtool

- **Features**
  - Client-server mail
  - Support for low-bandwidth connection
  - Mail caching and queuing
- **Benefits**
  - Server-based mail account allows client to be removed from the network without mail "bouncing"
  - Clients can connect to mail account from office or remote location to access their mail
  - High performance available through modem connection
  - Mail is stored on local disk to be read when disconnected
  - Queues outgoing mail when off line, plays back queued transactions when reconnected

ROAM Mailtool Screen



ROAM mailtool is a client-server mailtool that supports disconnected and remotely networked operation.



When disconnected from the network, ROAM mailtool allows outgoing e-mail to be spooled in a user's outbox. Outbox is delivered when user reconnects to the network through Ethernet or modem.

Fax Application

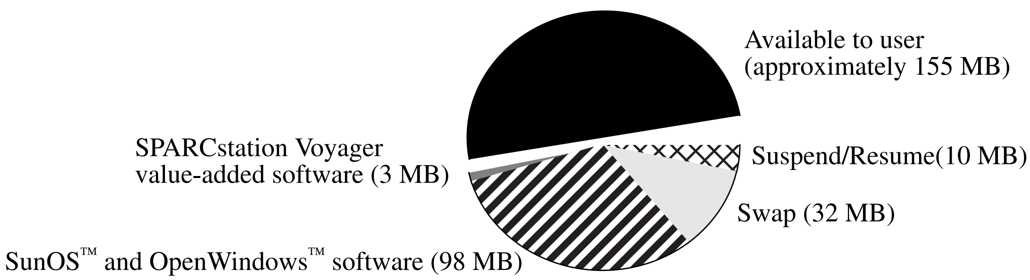
- **Features**
  - Bundled application with optional modem
  - Class 1.0 and 2.0, Group III protocol
  - 14.4 Kbps send or receive fax
  - Print to fax
  - On-line documentation
- **Benefits**
  - Delivery of fax capability as part of Sun's modem
  - Compatibility with industry's fax command set
  - High-performance fax communications
  - Easy, natural interface to send fax documents
  - Simple to learn and use

SPARCstation Voyager Software *(cont.)*

Small Disk Solaris® 2.3 System Software

- **Features**
  - 98-MB operating system (OS) footprint (European and domestic)
  - Japanese version
  - BCP support
  - Auto-install default
- **Benefits**
  - Provides 155 MB of user storage after operating system, window system, swap, point-to-point protocol (PPP), and value-add software needs
  - Includes Japanese fonts
  - Provides binary compatibility package
  - Installs easily using JumpStart™ installation software
  - Uses swmtool to customize operating system needs

Allocation of 340-MB* Hard Disk (European and Domestic OS)

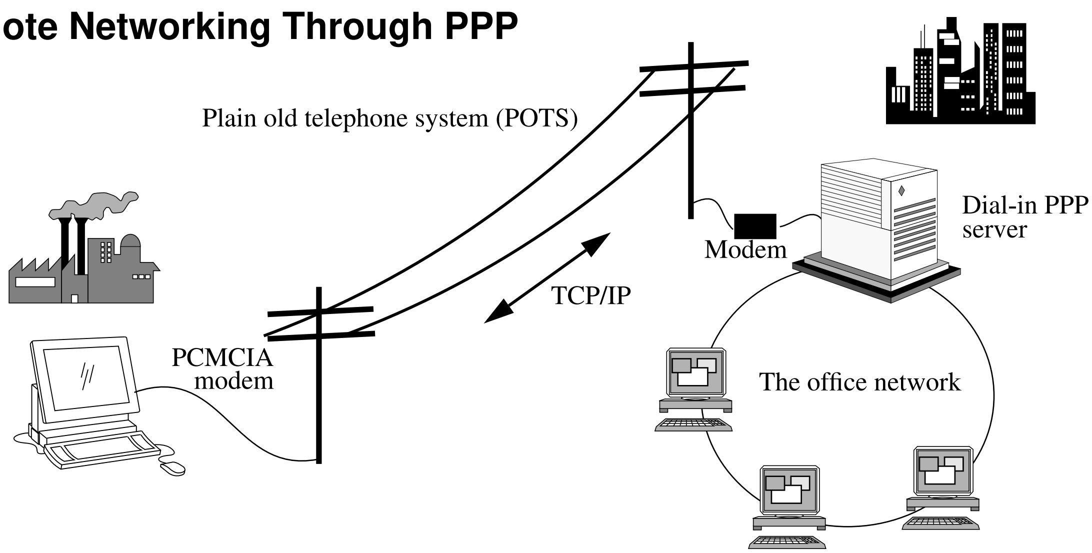


*Usable capacity is 318 MB. Segments do not total because of file system overhead.

Point-to-Point Protocol (PPP)

- **Features**
  - TCP/IP runs over a telephone line
  - Automatic PPP connection and termination
- **Benefits**
  - Remote use of services such as NFS® distributed computing file system and rlogin
  - Ease of use and lower cost of telephone connections

Remote Networking Through PPP

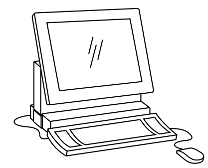


SPARCstation™ Voyager System Configuration

System Configurations

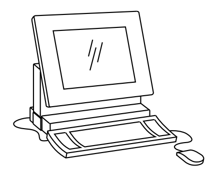
The SPARCstation™ Voyager system comes in three system configurations: two flat panel configurations and one traditional cathode ray tube (CRT) configuration.

Configuration	Part number
• Active-matrix liquid crystal flat panel display configurations	
– Monochrome flat panel, 16-MB RAM, 340-MB hard disk, internal floppy disk, PCMCIA slots	S240ML-16-P18



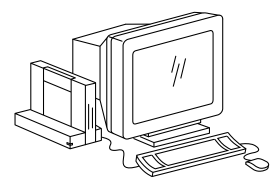
The monochrome flat panel has a 14-inch (displayable) diagonal screen area with 1152 x 900 resolution. This display is comparable in displayable screen area to a 16-inch CRT.

– Color flat panel with TurboGX™ accelerator, 16-MB RAM, 340-MB hard disk, internal floppy disk, PCMCIA slots	S240CLTX1-16-P18



The color flat panel has a 12-inch (displayable) diagonal screen area with 1024 x 768 resolution. This display is comparable in displayable screen area to a 14-inch CRT.

• Traditional CRT configuration	
– 17-inch color Trinitron monitor with TurboGX engine, 16-MB RAM, 340-MB hard disk, internal floppy disk, PCMCIA slots	S240FTX1-16-P18



The 17-inch color monitor has a 15-inch (displayable) diagonal screen area with 1152 x 900 resolution.

Configuration Guidelines

- One Solaris® 2.3 Edition 2 media kit per site is needed
- A no charge SPARCstation Voyager starter kit is required (provides power cord and documentation)
- Choice of keyboard and mouse is available by selection of either Type 5 or Compact 1 system accessory kit
- With the exception of the display and associated frame buffer, all configurations are identical
- Monochrome configurations support only a monochrome CRT through the external 13W3 monitor port
- Color configurations (both LCD and CRT) support TurboGX 8-bit accelerated graphics through either the attached LCD or the external CRT (up to 1152 x 900 resolution)

SPARCstation™ Voyager Options

Options

• 16-MB memory expansion	• Part number
– 16-MB memory expansion card	X117A
• 32-MB memory expansion	• Part number
– 32-MB memory expansion card	X118A
• Battery pack	• Part number
– Rechargeable, high-density battery pack	X911A
• Carrying case	• Part number
– SPARCstation™ Voyager carrying case	X1901A
• PCMCIA modem card	• Part numbers
– V.32bis/V.42bis PCMCIA Type II modem card supports data, voice, and group III fax with bundled fax software. Provides 14.4 Kbps data transmission and 4:1 compression (manufactured for Sun by US Robotics)	X440A United States X442A France X443A Germany X446A Sweden X447A United Kingdom X448A Japan X449A Australia
• External SCSI expansion	• Part numbers
– 535-MB SCSI desktop disk pack	X580A
– 1.05-GB SCSI desktop disk pack	X545A
– 2.1-GB SCSI desktop disk pack	X567A
– 2 x 2.1-GB SCSI disk pack	X569A
– 4 x 2.1-GB SCSI disk pack	X570A
– 150-MB 1/4-inch tape desktop backup pack	X660A
– 5-GB 4-mm tape desktop backup pack	X822A
– 5-GB 8-mm tape desktop storage module	X814A
– 20-GB 4-mm tape autoloader	X827A
– Photo CD desktop SunCD™ pack	X557A
– SlimCD desktop SunCD pack	X579A

SPARCstation Voyager Options *(cont.)*

Configuration Guidelines

- The SPARCstation Voyager system supports up to two memory expansion cards of either 16- or 32-MB capacity. The system's 16-MB base memory is on the motherboard and does not take up either memory slot
- The battery pack is internal and only one battery can be inserted at one time. However, a second battery can be recharged outside the system using the system's AC power supply as a recharger
- The SPARCstation Voyager system supports up to two Type I or II cards, or one Type III PCMCIA card
- Six external SCSI devices are supported with a maximum SCSI bus length of 6 meters

SPARCstation Voyager Options *(cont.)*

Part number	Option description	Maximum number supported	Comments
Memory			
X117A	16-MB memory expansion card	2	Per system
X118A	32-MB memory expansion card	2	Per system
PCMCIA modem			
X440A	PCMCIA data/voice/fax modem card - U.S.	2	Per system
X442A	PCMCIA data/voice/fax modem card - France	2	Per system
X443A	PCMCIA data/voice/fax modem card - Germany	2	Per system
X446A	PCMCIA data/voice/fax modem card - Sweden	2	Per system
X447A	PCMCIA data/voice/fax modem card - U.K.	2	Per system
X448A	PCMCIA data/voice/fax modem card - Japan	2	Per system
X449A	PCMCIA data/voice/fax modem card - Australia	2	Per system
Disk drives			
X580A	535-MB SCSI desktop disk pack	6	Per system
X545A	1.05-GB SCSI desktop disk pack	6	Per system
X567A	2.1-GB SCSI desktop disk pack	6	Per system
X569A	2 x 2.1-GB SCSI	3	Per system
X570A	4 x 2.1-GB SCSI	1	Per system
Tape drives			
X660A	150-MB 1/4-in. tape desktop backup pack	6	Per system
X822A	5-GB 4-mm tape desktop backup pack	6	Per system
X814A	5-GB 8-mm tape desktop storage module	6	Per system
X827A	20-GB 4-mm tape auto-loader	6	Per system
CD-ROM			
X557A	Photo CD desktop SunCD pack	6	Per system
X579A	SlimCD desktop SunCD pack	6	Per system
Other options			
X911A	Rechargeable battery pack	1	Per system internal
X1901A	Carrying case	1	Per system

SunSpectrum℠ Customer Service Program

SunSpectrum℠ support programs are designed to meet customers' complete system needs, from total business support to self-maintenance and any level in-between. The SunSpectrum program supports a flexible range of services, allowing customers complete systems coverage for hardware, software, network applications, and network interoperability problems. A single fee covers the support for customers' entire systems — no matter what the configuration — making ordering and support administration easy and painless. Customers should check with their local customer support representative for program/feature variance and availability in their area.

Services	SunSpectrum Platinum℠ program	SunSpectrum Gold℠ program	SunSpectrum Silver℠ program	SunSpectrum Bronze℠ program
Telephone assistance, unlimited	Seven day, 24 hour	Seven day, 24 hour	8AM-8PM, M-F	8AM-5PM, M-F
On-site response	Seven day, 24 hour	8AM-8PM, M-F	8AM-8PM, M-F	
Customer defined priority	✓	✓	✓	
Urgent (phone/on site)	Live/two hour	Live/four hour	Live/four hour	Four hour/NA
Serious (phone/on site)	Two hour/ four hour	Two hour/ next day	Two hour/ next day	Four hour/NA
Noncritical (phone/on site)	Four hour/ customer convenience	Four hour/ customer convenience	Four hour/ customer convenience	Four hour/NA
Remote dial-in analysis	✓	✓	✓	✓
Replacement hardware parts	On-site technician	On-site technician	On-site technician	Courier, two business days
Solaris® enhancement releases	✓	✓	✓	✓
Patches and maintenance releases	✓	✓	✓	✓
SunSolve™ license	✓	✓	✓	✓
EarlyNotifier™ service	✓	✓	✓	✓
Seven-day, 24-hour telephone coverage	✓	✓	Option	
Seven-day, 24-hour on-site coverage	✓	Option	Option	
Two-hour on-site response	✓	Option	Option	
Self-paced education library	✓	✓	Option	
Personal technical account support	✓	✓	Option	
On-site technical support reviews	Quarterly	Semiannual	Option	
Technical support plan	✓			
99% server uptime guarantee	✓			
Site activity log	✓	✓		
Coaching and training service	15 days per year			

SPARCstation™ Voyager Glossary

AMLCD	An abbreviation for active matrix liquid crystal display, AMLCD is an advanced flat-panel display technology offering high contrast, wide viewing angle, and fast response time. Active matrix technology is vastly superior to the passive matrix technology prevalent on PC notebooks because it solves common ghosting and washed out display problems. AMLCDs offer improvements over CRTs in several ways. They are much smaller, lighter, and consume less lower power than CRTs. There are also no electromagnetic screen emissions as there are from CRTs, and they are flicker free, which significantly reduces eye strain.
ASIC	The application-specific integrated circuit (ASIC) is a silicon chip designed to implement functions that would otherwise require several chips or parts. It provides for physically smaller and lower-cost designs.
Battery	A rechargeable, modular DC power source that can replace the AC power module. The 40 watt/hour SPARCstation Voyager™ battery resides inside the system base and provides approximately two hours of system operation on a full charge. The battery can completely recharge in as little as 90 minutes.
Compact 1 keyboard	A new Type 5 compatible keyboard introduced as a new country kit bundled with a mechanical mouse. With dimensions of 15 by 5 inches, this new keyboard is 5 inches shorter and 1 inch narrower than the current Type 5. The mechanical mouse does not require a mouse pad as does the current optical mouse.
Convection cooling	Convection is a natural cooling technique that works on the principle that heat rises. The rising heat flow through the system creates a natural inflow of cooling air at the rate of approximately 10 cubic feet per minute.
CRT	Cathode ray tubes (CRTs) are traditional computer displays that use a scanning electron beam to illuminate the screen phosphor.
DBRI	A Sun ASIC that implements the hardware side of the ISDN and the 16-bit audio interface.
DPI	Dots per inch (DPI) is a measure of pixel density.
Energy Star certification	A U.S. Environmental Protection Agency program to encourage power savings from computer systems. To comply with the EPA guidelines, systems must automatically power down to under 30 watts when inactive.
Footprint	The amount of area consumed. Desktop footprint refers to the amount of deskspace a computer (or other machinery) requires.

IR	InfraRed (IR) is a wireless asynchronous serial connection — a serial port without the wire. SPARCstation™ Voyager IR hardware supports the leading two IR standards (HP® and Sharp/Newton) and will support communication between personal systems such as HP palmtops, Apple® Newtons, and select Sharp electronic organizers.
ISDN	Integrated services digital network (ISDN) is a technical standard that provides for fully digital transmission and reception of data across a public network.
LCD	Liquid crystal display, a flat panel display technology. See also AMLCD.
MACIO	A Sun ASIC that handles Ethernet, parallel port, and SCSI DMA. The Ethernet is interfaced to a twisted-pair (RJ-45) connector. The SCSI bus is used to connect to the internal SCSI hard disk as well as an external SCSI-2 connector.
microSPARC™ II	A single chip integer and floating-point processor, dynamic random-access memory, and SBus controller — the microprocessor.
Modem	An acronym for MOdulator-DEModulator. This hardware device converts digital data into (and back from) tonal (analog) information for transmission over phone lines. Modems can interface through an external serial port or internally through PCMCIA slots.
PCMCIA	The Personal Computer Memory Card International Association (PCMCIA) is a standards organization that has defined several different physical types of cards and a robust specification for the design and use of the cards. The SPARCstation Voyager system provides two PCMCIA slots, which will support either two Type I or II cards or a single Type III card. The optional modem is a single Type II card.
Power management	The regulation of a computer's power consumption. With the SPARCstation Voyager, a sophisticated system of hardware and software conserves power consumption by powering off various subsystems.
PPP	Point-to-point protocol (PPP) is the successor to the serial line internet protocol (SLIP) and provides router-to-router and host-to-network connections over both synchronous and asynchronous circuits. The most common use of PPP is to set up a point-to-point communications link, such as from a remote workstation to a server through a modem connection.
ROAM mailtool	A client-server mailtool developed jointly by Sun and Stanford University that supports disconnected and remote mailtool use.

SLAVIO	This Sun ASIC integrates two serial ports, a floppy controller, and all the control logic for slave devices such as the EPROM, TOD chip, power management chip, and NVRAM.
Solaris® 2.3 Edition 2	The initial software release for SPARCstation Voyager, which is a platform-specific release of Solaris 2.3 system software. This release includes kernel modifications required for suspend/resume and power management. Additional software functionality, such as the PCMCIA drivers and support for the Compact 1 keyboards is included. This release is fully compatible with Solaris 2.3, but is required by the SPARCstation Voyager system to support its additional capabilities.
Stereo audio	16-bit/48-KHz sampling stereo audio. Identical technology offered in the SPARCstation 10 speaker box, but integrated completely into the system enclosure. Provides microphone, speaker, and line-in/line-out connections.
Suspend/Resume	A quick power off/on technique. A suspend saves the state of all current running processes to disk and then automatically switches off the machine. On the resume, the system is brought back to its original state. This technique saves time compared to halting and rebooting and improves ease of use because it is a one key sequence.
TurboGX™	Sun's TurboGX 8-bit graphics accelerator.
13W3	Sun's standard monitor port for connection to standard Sun CRTs or other compatible displays, such as an overhead panel display or projection system.
V.32bis	A performance measurement for modems. V.32bis can communicate at up to 14,400 bits per second (14.4 Kbps). The modem will automatically throttle back to a slower speed if the communications line is noisy.
V.42	A data error corrections standard for modems, not to be confused with V.42bis.
V.42bis	A data compression standard for modems, V.42bis provides 4 to 1 compression, which when combined with V.32bis transmission can supply effective communications rates of up to 57 Kbps.

SPARCstation™ Voyager Materials Abstract

All materials will be available March 15, 1994, except where noted.

Collateral	Description	Purpose	Distribution	Token # or Hibbert order #
Power pack				
– *The SPARCstation™ Voyager: The Industry's First Compact Nomadic Workstation* customer presentation	SPARCstation Voyager overview; slide notes for presentation	Sales tool	SunWIN, Reseller Resource CD	31666 31668
– *Just the Facts*	Reference guide for the SPARCstation Voyager system	Training	SunWIN, Reseller Resource CD	31670
References				
– Sun Intro	Introduction e-mail	Training	SunWIN, Reseller Resource CD, e-mail	31672
– *SPARCstation Desktop Product Line Overview*	Quick reference cards	Training	SunWIN, Reseller Resource CD, mail	10826
Guides				
– *SPARCstation Voyager Product Book*	Reference guide to technical, environmental, and configuration specifications	Sales tool	Order, SunWIN, Reseller Resource CD	801-6539 31735 31737 31739 31741 31743 31745
– *Reference Guide to Administering TCP/IP and PPP*	Administration guide for TCP/IP and PPP	Training	Order	801-5296
Intro to Go training kit				
– Training video	Training video for system engineers on the SPARCstation Voyager features a technical review of its hardware and software	Training	Mail	
– Facilitator's guide	Guide to planning a training seminar	Training	Mail	

SPARCstation Voyager Materials Abstract *(cont.)*

Collateral	Description	Purpose	Distribution	Token # or Hibbert order #
Product documentation – *SPARCstation Voyager User's Guide* – *SPARCstation Voyager Technical Manual* – *Installing the SPARCstation Voyager Memory Cards*	 User's guide Technical manual Installing memory	 Training Training Training	 Order Order Order	 801-4083 801-4096 801-8335
Product literature – *SPARCstation Voyager* datasheet	 Datasheet	 Sales tool	 Mail	 DE549-0
Performance Brief – *Desktop SPARCstation Performance Overview*	 Performance brief (available end of March)	 Training	 SunWIN, Reseller Resource CD	 31674
White paper – *SPARCstation Voyager Technical White Paper*	 Technical white paper on SPARCstation Voyager	 Training	 SunWIN, Reseller Resource CD	 31676
Technical information – DC power input specification	 DC interface (available end of April)	 Sales tool	 SunWIN	 31678
Demos – Application to demonstrate IR interface	 Infrared interface (available end of April)	 Sales tool	 Newstop	