

Glossary

- ADC** Analog-to-digital converter. A device that translates analog signals to digital signals.
- address** A number used by the system software to identify a storage location.
- address bus** A hardware pathway, typically consisting of from 20 to 32 separate lines, that carries the signals specifying locations in a computer's memory. The address bus enables the microprocessor to select a specific location in memory for transfer of data through the data bus.
- ALU** Arithmetic logic unit. A part of a computer that performs arithmetic, logical, and related operations.
- ANSI** American National Standards Institute. An organization that reviews and approves product standards in the United States.
- ASCII** American standard code for information interchange. The standard binary encoding of alphabetical characters, numbers, and other keyboard symbols.
- ASIC** Application-specific integrated circuit. A gate array or other non-standard chip design for proprietary use.
- asynchronous** Without regular time relationship; unexpected and unpredictable with respect to the execution of a program's instructions.
- Audio port** A circuit to which the computer sends signals to be output as audible tones. The circuit is a DAC.
- AUI** Attachment unit interface. A special port built into some SPARCstation system units that attaches the system unit to a Sun SpeakerBox or to a thick Ethernet network.
- bandwidth** A measure of the volume of information that can be transmitted over a communications link.

- baud rate** The rate at which information is transmitted between devices; for example, between a terminal and the computer. Often incorrectly assumed to indicate the number of bits per second (bps) transmitted, baud rate actually measures the number of events, or signal changes, that occur in 1 second. Because one event can actually encode more than one bit in high-speed digital communications, baud rate and bits per second are not always synonymous, and the latter is the more accurate term to apply to modems. For example, a so-called 9600-baud modem that encodes four bits per event actually operates at 2400 baud but transmits 9600 bits per second (2400 events times 4 bits per event) and thus should be called a 9600-bps modem.
- BMX** Buffered memory crossbar. Provides a three-port crossbar connecting a 144-bit UPA data bus, a 288-bit-wide DRAM memory bus, and a 72-bit UPA data bus.
- boot** Sometimes referred to as “bootstrap”. To load the system software into memory and start it running.
- boot PROM** Contains the PROM monitor program, a command interpreter used for booting, resetting, low-level configuration, and simple test procedures.
- bus** (1) A circuit over which data or power is transmitted, one that often acts as a common connection among a number of locations. (2) A set of parallel communication lines that connect the major components of a computer system, including CPU, memory, and device controllers.
- CBT** Memory data multiplexer and de-multiplexer. A two-port switch electrically connected between a 576-bit memory bus (DSIMM side) and a 288-bit memory bus (BMX side).
- CD-ROM** Compact disc, read-only memory. A form of storage characterized by high capacity (roughly 600 megabytes) and the use of laser optics rather than magnetic means for reading data.
- chip** (1) A small chunk of silicon bearing the equivalent of a large number of electrical components. (2) An integrated circuit (IC).
- CMOS** Complementary metal-oxide semiconductor. A semiconductor device that uses both NMOS (negative polarity) and PMOS (positive polarity) circuits. Since only one of the circuit types is on at any given time, CMOS chips require less power than chips using just one type of transistor. This makes them particularly attractive for use in battery-powered devices, such as portable computers. Personal computers also contain a small amount of battery-powered CMOS memory to hold the date, time, and system setup parameters.
- codec** An encoder-decoder.
- console** A terminal, or a dedicated window on the screen, where system messages are displayed.

CRC	Cyclic redundancy check. An error check in which the check key is generated by a cyclic algorithm.(2) A system of error checking performed at both the send and receiving station after a block-check character (BCC) has been accumulated.
DAC	Digital-to-analog converter. A mechanical or electronic device used to convert discrete digital numbers to continuous analog signals.
data bus	A set of hardware lines (wires) used for data transfer among the components of a computer system.
DBZ	Double-buffer plus Z.
DCE	Data communication equipment. A type of hardware, such as a modem, that is responsible for encoding a digital signal for delivery to a compatible DCE connected by a data link.
default	An alternative value, attribute, or option assumed when none has been specified.
diagnostics	The diagnostic firmware contained in the boot PROM. These diagnostics include the Power-On Self Test (POST) and on-board diagnostics.
DMA	Direct memory access. The transfer of data directly into memory without supervision of the processor. The data is passed on the bus directly between the memory and another device.
dpi	Dots per inch.
DPS	Data path scheduler. Controls all data flow coordinating the activity of the BMX chips.
DRAM	Dynamic random-access memory. A read/write dynamic memory in which the data can be read or written in approximately the same amount of time for any memory location.
DSIMM	DRAM single in-line memory module. A small printed circuit card that contains dynamic random access memory (DRAM) chips.
DTAG	Dual tag or data tag.
DTE	Data terminal equipment. That part of a data station that serves as a data source, data sink, or both, and provides for the data communication control function according to protocols.
ECC	Error checking and correction. The detection, in the processing unit, and correction of all single-bit errors, plus the detection of double-bit and some multiple-bit errors.
EEPROM	Electrically erasable PROM. A non-volatile PROM that may be written to as well as read from. An EEPROM is used to hold information about the current system configuration, alternate boot paths, and so on.

- EMI** Electromagnetic interference. An electromagnetic phenomena which, either directly or indirectly, can contribute to a degradation in performance of an electronic system.
- ESD** Electrostatic discharge.
- Ethernet** A type of network hardware that permits communications between systems connected directly together by transceiver taps, transceiver cables, and coaxial or twisted-pair cables.
- FBC** Frame buffer controller. Provides the interface between the UPA and the frame buffer RAM (FBRAM). Also controls graphic draw acceleration.
- FBRAM** Frame buffer RAM. A special type of dynamic RAM (DRAM) used in high-speed frame buffers. Similar to video RAM, FBRAM is specifically designed for use in high-speed frame buffers and graphics accelerators.
- FEPS** Fast Ethernet parallel interface. Provides data throughput for I/O devices connected to Ethernet, SCSI, and parallel port interfaces.
- FFB** Fast frame buffer. Circuit card consisting of the FBC, FBRAM, RAMDAC, and associated circuitry.
- Gbyte** Gigabyte. One billion bytes.
- GUI** Graphical user interface. The graphical user interface, or GUI, provides the user with a method of interacting with the computer and its special applications, usually via a mouse or other selection device. The GUI usually includes such things as windows, an intuitive method of manipulating directories and files, and icons.
- I/O** Input/output. Refers to equipment used to communicate with a computer, the data involved in that communication, the media carrying the data, and the process of communicating that information.
- ISO** International Organization for Standardization. An international agency that reviews and approves independently designed products for use within specific industries. ISO is also responsible for developing standards for information exchange.
- Kbyte** Kilobyte. A unit of measure equal to 1024 bytes.
- LED** Light-emitting diode. A semiconductor diode that radiates light when the junction is forward biased and there is sufficient current through the diode.
- Mbps** Megabits-per-second.
- Mbyte** Megabyte. One million bytes.
- MHz** Megahertz. One million cycles per second.

MII	Media independent interface. A 40-pin miniature-D connector that provides the electrical interface between some Sun systems and 10BASE-T or 100BASE-T Ethernet network transceivers.
MMU	Memory management unit. The hardware that supports the mapping of virtual memory addresses to physical addresses.
Modem	Modulator/demodulator. A device that enables a machine or terminal to establish a connection and transfer data through telephone lines. Because a computer is digital and a telephone line is analog, modems are needed to convert digital into analog and vice versa. When transmitting, modems impose (modulate) a computer's digital signals onto a continuous carrier frequency on the telephone line. When receiving, modems sift out (demodulate) the information from the carrier and transfer it in digital form to the computer.
Monitor:	The video display that is part of a workstation. The term monitor usually refers to a video display and its housing. The monitor is attached to the workstation by a cable.
motherboard	(1) The main circuit board containing the primary components of a computer system to which other boards may be attached. (2) In SBus terminology, a circuit board containing the central processor, SBus controller, and any SBus expansion connectors.
NVRAM	Nonvolatile random access memory. A type of RAM that retains information when power is removed from the system.
OBP	Open boot PROM. A program or routine used to locate and diagnose trouble in computer hardware or software.
PID	Process ID. A unique, system-wide, identification number assigned to a process.
POST	Power-on self-test. A set of routines stored in a computer's read-only memory (ROM). POST tests various system components such as RAM, disk drives, and keyboard to see if they are properly connected and operating.
RAMDAC	Random-access memory digital-to-analog converter. A digital-to-analog converter that additionally contains tables for translating input digital color values.
RISC	Reset, interrupt, scan, and clock. An ASIC responsible for reset, interrupt, scan, and clock functions.
RJ-45 connector	A modular cable connector standard, used with consumer telecommunications equipment.
RMS	Root mean square. A measure of a signal's average power.
RS-232-C standard	An industry standard for serial communications connections. Adopted by the Electronic Industries Association (EIA), this standard defines the characteristics for serial communications between devices.

RS-423	The Electronics Industry Association standard defining interface voltage and current levels and other signal characteristics for connecting digital equipment to a transmission line.
SCSI	Small computer system interface. An industry standard bus used to connect disk and tape devices to a workstation.
Slavio	Slave I/O. Provides most of the Sunness I/O requirements. Contains serial ports, floppy control, and extended bus (EBus) control.
SC_MP	Multiprocessing system controller.
S/N	Signal-to-noise.
SunVTS	Sun validation and test suite applications. A diagnostic tool designed to test Sun hardware.
sync	(1) The process of synchronizing the scanning of receiving, processing, or display equipment with a video source. (2) A signal comprising the horizontal and vertical elements necessary to accomplish synchronization. (3) The component of a video signal that conveys synchronizing information.
synchronous	Under control of a clock or timing mechanism.
SYSIO	System I/O controller. Provides an electrical bridge between the UPA and the SBUS.
System unit	The part of a workstation that contains the central processing unit (CPU), the disk, and other devices essential to operate the system.
TCP/IP	Transport control protocol/interface program. The protocol suite originally developed for the Internet. It is also called the Internet protocol suite.
Thinnet	Also known as 10BASE2, an Ethernet technology that evolved as a more cost effective method of computer interconnection than 10BASE5. A 10BASE2 network has a data transfer rate of 10 megabits per second and uses a thinner cable, but supports individual network segments of only 185 meters (607 yards).
TOD	Time-of-day clock chip. A clock chip that contains the system date and time (year-month-day-hour-minutes).
TPE	Twisted-pair Ethernet. Provides 10-Mbps or 100-Mbps networking.
TTL	Transistor-transistor logic. A digital system semiconductor logic gate circuit design comprised of multiple emitter input transistors, a unique dual-mode coupling transistor, and a transistor totem pole output.
UPA	Ultra port architecture.
UART	Universal asynchronous receiver-transmitter. A device that contains both the receiver and transmitter circuits required for asynchronous serial communications.

- VIS** Visual instruction set.
- VOM** Volt-ohm-milliammeter. A multifunction, multirange instrument for troubleshooting and maintaining electrical and electronic equipment. It measures voltage, current, and resistance. Also called a multimeter.
- VTSK** VTS Kernel. Part of SunVTS. Controls all testing. Used to probe the hardware configuration of the system and wait for instructions from the user interface.
- VTSUI** VTS Open Look User Interface. Part of SunVTS. Allows various user options, tests, read-log files, and start or stop testing sessions to be selected through the numerous buttons and windows of OpenWindows.
- VTSTALK** VTS Script Interface. Part of SunVTS. Allows individual commands to be transmitted and status messages to be received from *vtstk* without initiating a user interface.
- VTS_CMD** VTS Command. Part of SunVTS. Identical to VTSTALK.
- Z-buffer** The depth buffer in 3-D graphics. The Z-buffer memory locations, like those in the frame buffer, correspond to the pixels on the screen. The Z-buffer, however, contains information relating only to the z-axis (or depth axis). The Z-buffer is used in hidden surface removal algorithms, so that for each pixel written, the depth of that pixel is stored in the Z-buffer. When subsequent objects attempt to draw to that pixel, that object's z value is compared with the number in the Z-buffer, and the write is omitted if the object is farther away from the eye.
- 10BASE-T** An evolution of Ethernet technology that succeeded 10BASE5 and 10BASE2 as the most popular method of physical network implementation. A 10BASE-T network has a data transfer rate of 10 megabits per second and uses unshielded twisted-pair wiring with RJ-45 modular telephone plugs and sockets.
- 100BASE-T** Also known as Fast Ethernet, an Ethernet technology that supports a data transfer rate of 100 megabits per second over special grades of twisted-pair wiring. 100BASE-T uses the same protocol as 10BASE-T. There are three subsets of the 100BASE-T technology: 100BASE-TX defines digital transmission over two pairs of shielded twisted-pair wire. 100BASE-T4 defines digital transmission over four pairs of unshielded twisted-pair wire. 100BASE-TX defines digital transmission over fiber optic cable.

