

Term	Definition
AC	See alternating current.
Agent	A part of the system that prepares information for the server or client in computer networking. A software program or script used to perform a specific task.
Alternating Current (AC)	A type of current that alternates from positive to negative at regular intervals. AC is the standard type of current used in electrical distribution systems by utility power companies due to the ease that it travels through cabling. Electrical wall sockets in nearly all structures served with utility power provide AC power.
Amp	The unit of measure for electrical current.
Apparent Power	The load power as expressed in VA or KVA. This value is usually greater than real power due to circuit reactance.
Arc	A spark resulting when current flows between two points that are not connected by an intentional conductor.
ARP	Acronym for Address Resolution Protocol. ARP is a protocol used with the IP protocol for mapping a 32-bit Internet Protocol address to a MAC address that is recognized in the local network specified in RFC 826. Once recognized, the server or networking device returns a response containing the required address.
Arrester	Nonlinear impedance connected between the power conductors to suppress transients larger than a selected voltage, usually used for lightning protection. May be used interchangeably with "suppressor" or "protector" and a variety of other terms that describe transient voltage suppression. Arrestor is more frequently used to describe data line surge suppressors for ethernet, phone, coax or other type of signal protection. See suppressor.
Attenuation	The decrease in the strength of a signal, measured in decibels.
Backbone	The main portion of a computer network that is capable of carrying the majority of traffic on a computer network. The backbone is commonly used to connect large networks or companies together. Larger backbones used for the Internet are used to carry the majority of traffic throughout the world.

Bandwidth	The total maximum capacity of a network or modem connection. The modem bandwidth is generally measured in BPS. The more bandwidth the faster you will be able to receive and/or send information. If bandwidth is being shared you will likely not be able to reach the maximum capacity of the bandwidth when other computers, users or other devices are utilizing the same line.
Battery	A group of cells connected in such a way that more current and/or voltage is delivered than from one cell. See direct current.
Blackout	An AC power failure lasting anywhere from a few cycles to several hours or even days in duration.
BNC connector	Short for Bayonet Neil Concelman connector, a BNC connector is a type of connector used with coaxial Ethernet cable. The connector is bayonet-style meaning that it is put in, turned and locked in.
BOOTP	Short for bootstrap protocol, BOOTP is a protocol that allows a diskless workstation to discover certain network information. For example, its own IP address
Breaker	Short for circuit breaker. See circuit breaker.
Broadband	Sometimes referred to as a wideband transmission, broadband refers to telecommunications that provide a variety of channels and data over a single communication medium (wire). Today there are a wide variety of broadband technologies available in most areas. Two of the more commonly used technologies are cable and DSL broadband.
Broadcast	In general, a broadcast is used to describe a message sent to all individuals in an area. In computer networking, the broadcast address is used to distribute a signal across a network, commonly used to declare to other devices on a network that a new device has connected to the network and to give other mechanisms information about the newly connected device.
Brownout	Common term for undervoltage, taken from the coloration of filament style light bulbs during undervoltage conditions. See undervoltage
Capacitor	A discreet electrical device that has two electrodes and an intervening insulator (a

dielectric).

CAT5	Category 5 is a description of network cabling that consists of four twisted pairs of copper wire terminated by a RJ-45 connector.
Cell	A combination of two metal plates suspended in an electrolyte which, when connected to an external circuit, causes a current to flow.
Charge Voltage	The voltage that must be applied to storage batteries to maintain their maximum charge.
Choke	An inductor used as part of an electrical filter that resists the flow of current at specified frequencies, usually used to block high-frequency transients from incoming a/c power. As deployed in surge suppression strips, chokes (torroidal chokes) are available only in the highest quality surge suppression systems (Isobar level products from Tripp Lite use torroidal chokes and rod-core inductors for high frequency surge and noise suppression).
Circuit Breaker	A resettable device that responds to a preset level of excess flow by opening the circuit, thereby preventing damage to circuit elements.
Clamp Voltage	The maximum voltage allowed on an electrical circuit due to the operation of protective devices (surge protection). When line voltage exceeds the clamp voltage of the suppression components, the signal is diverted to the ground. The clamping voltage of a product is an important consideration because it tells a user at what point the suppressor "kicks in" or "clamps" a surge or noise related condition. Most North American AC surge suppression products have a clamping voltage of around 140VAC (Int'l products clamp at around 300VAC). Outside phone line protectors commonly have a clamping voltage of around 260V and most 10-100BT-network protectors have a clamping voltage near 7.5V.
Coax	A cable made up of two concentric conductors separated by a tube of dielectric substance (the outer conductor is used as a shield/ground). Frequently used for cable TV, broadcast antennas, satellite receivers, cable modems and certain computer networking applications.
Collision	The term used to describe when one or more computers or networking devices attempt to send data at the same time to one computer, server, or other network device. When collisions are encountered the computer, server or network device will send back a request to try sending the data again.

Common Mode Voltage	The voltage present when measuring between neutral to ground.
Converter	A device that changes DC to AC, or a device that changes AC to DC.
CPU	An acronym that stands for Central Processing Unit. CPU is the master control ("intelligence") circuitry of a computer system, which performs all of the logic functions, arithmetic functions, program execution and certain input/output control functions. "Computer" typically refers to an entire computer system (monitor and peripherals included); "CPU" is frequently used when referring to the processor portion of the system alone.
Crossover cable	Type of networking cable that connects two computers or network devices directly to one another. When purchasing this type of cable, the packaging must indicate that it is a crossover cable for the required network interface.
CSMA/CD	The acronym for Carrier Sense Multiple Access/Collision Detection. CSMA/CD are rules defining how network devices respond when two devices attempt to use a data channel simultaneously and encounter a data collision. The CSMA/CD rules define how long the device should wait if a collision occurs one or more times.
Current	The flow of electricity in a circuit as expressed in amperes.
Cycles per second	This term describes the frequency of alternating current. Frequency is measured in "hertz" which is synonymous with cycles per second.
DC	See direct current.
Decibel (dB)	The standard unit of expressing the loss or gain of electrical power in a circuit.
DHCP	Acronym for Dynamic Host Configuration Protocol. DHCP is a protocol used to assign an IP address to a device connected to a network.
Dip	A short duration brownout condition, usually in response to inductive loads starting and stopping. See brownout.

Direct Current (DC)	A type of electricity where current flows in one direction, without reversal such as from a battery.
Disk duplexing	The method of how information is written to the hard disk drive. With disk duplexing, when information is to be written to a hard disk drive, it is copied to multiple drives – generally on different disk controllers.
Distortion	Any deviation from the normal sine wave for an AC quantity. Alternating waveforms with a square or rectangular waveshape can be said to carry some amount of distortion. Typically, a good AC supply waveform will carry 5% THD (total harmonic distortion) content or less. See harmonics, total harmonic distortion.
DNS	Acronym for Domain Name System. DNS is an Internet or other type of network server that helps to identify domain names. If a domain name is not found within the local database, the server may query other domain servers.
Domain	When referring to a computer network running a Microsoft operating system, a domain is a group of network resources assigned to a group of users. Domains are commonly used to divide global areas of a corporation and/or a corporation's departments. A domain may need to be specified when mapping a network computer or drive. When referring to the Internet, a domain is a two or three letter geographical or descriptive scheme to help associate and organize a network web page. For example, the main Tripp Lite web site is on a commercial domain, so our official domain is 'tripplite.com'.
Domain name	Identifying title given to a system of computers. For example a name given to an Internet IP address to help allow a web pages quickly be found such as tripplite.com.
Double Conversion UPS	See online double conversion UPS.
Dropout Voltage	The voltage at which a device fails to operate properly and/or safely. Most computer systems will reboot, reset, or place save data at risk when line voltage falls below approximately 95-100VAC.
Efficiency	Ratio of output energy to input energy for a device. Often refers to the amount of energy lost in the form of heat during DC to AC inverter operation.
Electrical Interference	Acronyms for four types of electrical interference: Electromagnetic Interference,

[EMI, RFI]	Radio Frequency Interference, Electromagnetic Pulse, and Electrostatic Discharge. All of which are unwanted signals common in noisy electrical environments.
EMI	Electromagnetic Interference. See electrical interference.
Energy Absorption	The amount of electrical energy absorbed by a device measured in joules.
Ethernet	Ethernet is a widely used local-area network (LAN) protocol originally created by Xerox in 1976. Being the first network to provide Carrier Sense Multiple Access / Collision Detection (CSMA/CD) Ethernet is a fast and reliable network solution.
Ethernet Adapter	A term used to describe an Ethernet network card that connects a desktop computer to a network.
Ethernet II	A revised version of Ethernet rewritten by with Digital Equipment Corp, Intel and Xerox. Ethernet II also known as DIX (Digital, Intel, and Xerox) and 802.3.
Ethernet SNAP	Short for Ethernet SubNetwork Access Protocol. A type of Ethernet protocol that enabled old and new protocols to be encapsulated in a Type 1 LLC.
External LAN adapter	Expansion card used to connect a computer to a network.
Fast Ethernet	Fast Ethernet is a communications protocol that enables computers on a local-area network to share information with one another at rates of 100 million bits per second instead of the standard 10 million BPS. Fast Ethernet works over Category 5 twisted-pair wiring. There are two available types of 100Base-T standards. The first standard known as 100Base-T utilizes CSMA/CD. The second standard known as 100VG-AnyLAN or 802.12 is similar to the other standard however utilizes a different type of Ethernet frame to send its data. 100Base-T is available in three different types of cable technologies:1. 100Base-T4 = Utilizes four pairs of telephone-grade twisted-pair wire and is used for networks that need a low-quality twisted-pair on a 100-Mbps Ethernet. 2. 100Base-TX = Developed by ANSI 100Base-TX is also known as 100Base-X, 100Base-TX uses two wire data grade twisted-pair wire 3. 100Base-FX = Developed by ANSI, 100Base-FX utilizes 2 stands of fiber cable.
Feedback	Energy that is fed from the output of a circuit back to its input.

Fiber-optic	Cables that carry data by pulses of light.
File server	Computer on a network that is used to provide users on a network with access to files.
Filter	An electronic device that blocks the passage of certain frequencies while allowing other frequencies to pass.
Firewall	Software and/or hardware that limits outside network access to a computer or network. Firewalls are one method helping to prevent unauthorized access to a company or home network.
Formulas	Common formulas necessary to properly size UPS products. [Amps = Volt Amps / Nominal Voltage] [Volt Amps = Nominal Volts x Amps] [Watts = VA x Power Factor]
Frequency	The number of cycles (oscillation positive and negative) completed in one second. In North America, utility power completes 60 cycles per second or 60Hz.
FTP	Acronym for File Transfer Protocol. A standard way to transfer files between computers. The method has built-in error checking. FTP often refers to a standard way of transferring many types of files over the Internet.
Fuse	A device that automatically self-destructs when the current passing through exceeds the rated value of the fuse.
Gateway	When referring to a network, a gateway is an address used as entry point into another network. For example, 166.70.10.1 could be used as a gateway. It is common for .1 and .2 to be setup as a network gateway. The gateway is commonly the address of a network device such as a network router.
Generator	Combination of a motor driving an electrical generator. Gas generator systems are frequently used in conjunction with electronic UPS systems for very long-term operation during extended power outages. Frequently employed in healthcare, emergency and other highly critical applications. Generators typically require 1-3 minutes to startup before being able to provide reliable output. Certain types of less sophisticated generators may have a problem with frequency regulation.

Also known as 1000Base-T or 802.3z / 802.3ab is a later Ethernet technology

Gigabit Ethernet	capable of transferring 1000 milli bits per second.
Ground	A conducting connection, whether intentional or accidental, between an electrical circuit and the earth, or to some conducting body that serves in place of earth. See ground rod.
Ground Loop	The condition of having two or more ground references in a common system. When two or more grounds have a potential difference between them, current can flow. This flow of current is a new circuit or loop which can interfere with the normal operation of the system.
Ground Rod	A long metal rod driven 6-10 feet into the ground as dictated by local electrical codes near the electrical service entrance of a structure.
Hardwire Protectors	Products requiring installation by a qualified electrician in which individual wires need to be connected to NEC (National Electrical Code) Standards. Tripp Lite offers some hardwire power strips and large UPS systems requiring hardwire input and output connections.
Harmonic	A frequency that is a multiple of the fundamental frequency. For example, 120 Hz is the second harmonic of 60 Hz, 180 Hz is the third harmonic, etc.
Harmonic Distortion	Excessive harmonic content that distorts the normal sinusoidal wave form is harmonic distortion.
Hertz (Hz)	Refers to the frequency of alternating cycles in an AC waveform per second. In North America, utility power is provided at 60Hz. In Europe and most of the rest of the world, utility power is provided at 50Hz. See frequency deviation.
Hops	The amount of connections in between the source and destination. The traceroute command can be used with most operating systems to see how many hops it takes to reach a destination.
Host Computer	Network computer that has other computers connected to it. A host computer may be setup to handle the majority of a workload, utilize or run the same program or allow other computers to see each other. Each computer connected to the host computer is known as a client.
Hot Swappable	Refers to the feature that allows the battery of a UPS to be changed (due to age or

Battery	defect), without taking the unit (and its attached load) out of service.
Hub	Basic networking device that connects multiple computers together.
Hz	Abbreviation for Hertz. See hertz
IIS	Acronym for Internet Information Server. IIS is a Microsoft Web Server that runs on Windows NT / Windows 2000 platforms.
Impedance	Measured in ohms, impedance is the total opposition to current flow in a circuit where alternating current is flowing.
Inductive Load	Electrical load whose current wave form lags the voltage waveform thus having a lagging power factor. Some inductive loads such as electric motors have a large startup current requirement. See Inrush Current.
Inductor	An electrical device consisting of a conductor that is coiled. Inductors can be used to block high-frequency transients. As deployed in surge suppression strips, chokes (torroidal chokes) are available only in the highest quality surge suppression systems (Isobar level products from Tripp Lite use torroidal chokes and rod-core inductors for high frequency surge and noise suppression). See torroidal chokes, rod-core inductors and active filtering.
Inrush Current	The initial surge of a current into a load before it attains normal operating condition. Certain types of loads, such as motors, compressors, air conditioners, power tools and other large loads require 2-5 times the energy on startup than they do continuously. Incandescent, filament style light bulbs tend to dim briefly when a motorized load, like a window air conditioner, pulls a high degree of inrush current on startup.
Inverter	The subassembly of a UPS that converts DC power to AC power.
IP	Acronym for Internet Protocol. IP is an address of a computer or other network device on a network using IP or TCP/IP. For example, the number "166.70.10.23" is an example of such an address. These addresses are similar to an address used on a house and help data reach its appropriate location on a network.
IPX/SPX	Acronym for Internet Packet eXchange\Sequential Packet exchange. IPX/SPX is a local-area network communications protocol developed by Novell that exchanges

information between network clients, applications, and network peripherals. This protocol cannot be used over the Internet.

- Isolated Filter Bank** A unique feature of the Isobar surge protector that prevents noise created by equipment plugged into one bank of an Isobar from affecting a device plugged into a separate bank on the same Isobar.
- Isolation Transformer** A transformer used to reduce or eliminate noise and create the equivalent of a dedicated or isolated ground circuit. These transformers are included in many larger UPS systems of 3kVA or larger. Standalone isolation transformers serve the function of removing common mode noise. See common mode voltage.
- Joule** Measure of electrical energy, also refers to a surge suppressor's ability to absorb energy.
- KVA** An acronym that stands for kilovolt amperes. This is a unit of measure of apparent power. (1 kVA = 1000VA) See VA.
- kW** An acronym that stands for kilowatt (a unit of measure of real power). 1 kW = 1000 watts. See watt.
- LAN** Acronym for Local-Area Network. A LAN is a network that has networking equipment and/or computers in close proximity to each other capable of communicating, sharing resources and information.
- Line Conditioner** Any device with a primary function to condition the quality of commercial power received by a load. This term is not applied uniformly among power protection manufacturers. A Tripp Lite line conditioner employs the use of a tap-switching voltage regulator. Other companies refer to surge suppression products with active filtering as line conditioners, while still others refer to their isolation transformer products as line conditioners. Others could theoretically refer to UPS systems as line conditioners as well. When fielding a request for a "line conditioner," it's critical to learn what that customer is specifically looking to accomplish (surge protection alone, voltage regulation, line isolation or battery backup).
- Line Interactive UPS** A UPS design based on a standby system with enhancements. Line interactive systems still switch to battery power when a blackout occurs, but instead of also switching to battery power when brownouts or overvoltages occur, a tap switching voltage regulation circuit activates to maintain usable power at the output continuously, without consuming battery power. The main benefit is that connected equipment can run straight through extended brownouts or overvoltages without draining the battery. Line Interactive systems are widely considered mid-level

products between basic standby UPS systems and higher end online UPS systems. Tripp Lite OmniPro, OmniSmart, SmartPro, and DataCenter series UPS systems offer line interactive UPS protection. See Standby UPS, On Line UPS and Tap Switching.

Linear Load	An electrical load device, which, in steady state operation, presents an essentially constant load impedance to the power source throughout the cycle of applied voltage. Examples: space heaters and incandescent light bulbs. Linear loads include electronic devices that do not require heavy inrush currents. See inductive load, non-linear load.
Lmhost	File used by Microsoft Wins Clients such as Microsoft Windows 98 or Windows NT to provide mappings of IP addresses to NT computer names (NetBIOS) names. The file generally located in the Windows or Winnt directory.
Load	The electrical device that uses power supplied by the source.
MAC	Acronym for Medium Access Control. MAC is a unique address number formatted in hexadecimal format and given to each computer and/or network device on a computer network. Example of a MAC address: A1: B2: C3: D4: E5: F6 Because a MAC address is a unique address, a computer network will not have the same MAC address assigned to more than one computer or network device.
Mail server	Remote or central computer that holds electronic mail messages for clients on a network. When the user requests his or her e-mail they contact the mail server that delivers all mail being stored to the client computer. In the real world a mail server is similar to the post office.
MIB	Acronym for Management Information Base. A MIB is a database of objects that can be monitored by a network management system.
MOV	Acronym that stands for Metal Oxide Varistor. MOVs utilize the nonlinear resistance property of zinc oxide to form a variable resistor, whose resistance to current drops as voltage increases. Virtually all AC surge suppression strips employ MOV's as their main surge suppression component. See shunt.
MTBF	Acronym that stands for Mean Time Between Failure. The probable length of time that a component taken from a particular batch will survive if operated under the same conditions as a sample from that particular batch. This measure of product reliability has been rendered largely meaningless. MTBF figures do not require certification of any kind and are frequently generated by marketing departments

rather than engineering groups.

NAT	Acronym for Network Address Translation. NAT, as specified in RFC 1631, is an Internet standard that enables a local-area network (LAN) to use one or more IP addresses for internal traffic and a second for external. A network NAT is commonly used by home users to allow multiple computers to easily connect to a broadband connection. NAT is also used to hide Internet network addresses by using the single NAT address. Today there are two different variants of NAT used. NAPT which is short for Network Address Port Translation, and PAT which is short for Port Address Translation.
NetBEUI	Short for NETBios Enhanced User Interface. NetBEUI was originally developed by IBM in 1985 and is an enhanced version of the NetBIOS protocol used by network operating systems allowing the computer to communicate with other computers utilizing the same protocol.
NetBIOS	Short for Network Basic Input/Output System, NetBIOS was developed by IBM, Microsoft and Sytek and is what allows software applications commonly used on IBM compatible computers communicate with network hardware, allowing data to be transmitted properly over a network. NetBIOS commonly communicates on ports 137, 138 and 139. If your network or computer has a firewall setup that blocks any of these ports it is likely warning messages will be received when your computer communicates with another computer that utilizes NetBIOS (for example Microsoft Windows). To prevent these errors or warnings you must provide access on these ports.
Netmask	A netmask is a 32-bit mask used to divide an IP address into subnets and specify the networks available hosts. In a netmask two bits are always automatically assigned. For example in 255.255.225.0, "0" is the assigned network address and in 255.255.255.255, "255" is the assigned broadcast address.
Network	Through a combination of hardware and software, networks permit information and peripherals to be shared efficiently and economically. Networks allow geographically distant computing devices to communicate with each other, allow effortless user- to-user communication locally and remotely, and allow multiple users to share one or more devices.
Neutral	One of the conductors of a three phase wye system. The Neutral wire carries the entire current of a single-phase 120 volt circuit and the resultant current in a three-phase system that is unbalanced.
NIC	Acronym for Network Interface Card. A NIC also referred to as a network adapter is a printed circuit board containing the necessary hardware used to connect a

computer to a network.

Noise Unwanted electrical signals, which produce undesirable effects in the circuits of the control systems in which they occur. See electrical interference.

Nominal Voltage A nominal value assigned to a circuit or system for the purpose of conveniently designating its voltage classes (120VAC, 208/240VAC, 12VDC, 24VDC, and 48VDC). For example, a 120V wall socket will rarely measure exactly 120 volts. The nominal (or named) voltage of 120V actually refers to a range of usable voltages centered around 120 volts. See CBEMA curve.

Nonlinear Load Electrical load which draws current discontinuously or whose impedance varies throughout the cycle of the input ac voltage waveform. Electronic devices that pull a great deal of startup current. Typically involves motors, heating elements or compressors. Examples: air conditioners, power tools, compressors, etc. See inductive load & non-linear load.

Normal Mode Voltage A voltage that appears between or among active circuit conductors. A 120VAC-wall receptacle should yield full nominal voltage between hot and neutral line connections. See common mode.

Off Line UPS Another term for Standby UPS. See Standby UPS.

Online Double Conversion UPS A high end UPS design where output power is completely regenerated and passed to connected equipment with zero transfer time between line and battery power. Incoming AC power is converted to DC and then re-converted back to AC by a continuous duty inverter system. The dual conversion process completely regenerates the power flowing through an on line UPS, completely removing all surges, spikes, noise and other irregularities, providing pure, frequency regulated sine wave output at all times. Online, double conversion UPS systems are widely considered the best possible type of UPS available. Tripp Lite Smart Online series UPS systems offer online UPS protection. See standby & line interactive UPS.

Orderly Shutdown Sequential shutdown procedure used on a computer system to prevent damage to the system or unwanted actions by any of the system's units. For example, a computer typically requires an orderly shutdown to preserve data integrity.

Outage A long-term loss of voltage resulting from a localized utility failure.

When used to describe a specific type of extended variation, overvoltage refers to

Overvoltage	a voltage having a value of at least 10% above the nominal voltage for any lasting period of time. This occurrence may last a few seconds, or several hours to a continuous condition depending on the site and prevailing conditions. Overvoltage differs from a surge because it's a condition of less severe voltage levels that lasts at minimum for several cycles.
Packet	A segment of data sent from one computer to another computer over a network. Packets may contain such information as its source, destination, size, and other useful data that helps the packet get to its destination.
Peak Voltage	A measurement of an AC waveform of the highest peak-to-peak voltage present on the waveform. A properly synthesized 120V nominal AC waveform will have a peak voltage (also known as "peak to peak" voltage) of approximately 170 volts.
Phase	A term used to describe the timing between two or more events tied to the same frequency.
Ping	Short for Packet InterNet Groper, ping is a utility used to verify if a network data packet is capable of being distributed to an address without errors. The ping utility is commonly used to check for network errors.
Plug-in protectors	Refers to power protection equipment with a plug and receptacles whereby users without knowledge of electrical wiring can install and properly protect equipment. Most Tripp Lite products offer simple to install plug-in input and output connections. See hardwire protectors.
Point of Use	As applied to power protection, point of use protectors are placed near equipment, as opposed to placement at branch circuits or utility power entrances. Plug in surge suppressors, voltage regulators and UPS systems provide point of use protection since the protected equipment plugs directly into the power protection device. The use of remote panel mount whole circuit protectors does not take the place of point of use protection since it's estimated that more than 60% of surges present in a typical computer circuit are generated from equipment interaction occurring downstream of major power distribution panels.
POP3	Acronym for Post Office Protocol. POP is one of the most commonly used protocols used to receive e-mail on many e-mail clients.
Power Factor (True)	The ratio of active power (watts) to apparent power (VA). Most computer related equipment has a power factor between .6 and .8. Power factor is the spread between VA and wattage. $VA \times \text{power factor} = \text{watts}$. See formulas.

Pseudo Sine Wave	See PWM sine wave.
Pulse Width Modulation	The process of modulating a pulse train by varying the pulse width proportionately to the modulating signal. Typically refers to a Pulse Width Modulated (PWM) UPS output waveform in battery mode. Usually implies less than a true sine wave output with THD levels around 20%. See PWM sine wave.
PWM Sine Wave	Describes an alternate AC waveform to sine wave and PWM sine wave. Considered a mid-level waveform by most, desirable for all but the most sensitive of critical of computing applications. Rather than the smooth arc typically associated with a sine waveform, a PWM sine wave offers several rectangular steps to help mimic the energy supply of a sine wave. During the 1990's most manufacturers of standby and line interactive UPS systems began providing products with PWM sine wave output. See PWM sine wave and sine wave.
Redundancy	Duplicating devices to the extent that if one were to fail there would be an identical unit to replace the failed unit. Often employed in mission critical networking systems as "mirrored" or "redundant" servers where both machines are performing identical tasks. If one of these servers fails, the application will not cease functioning.
Response Time	The time it takes for a suppressor to sense a surge or spike and react to it.
RFI	Acronym for Radio Frequency Interference. See electrical interference.
Ripple	The small amount of a/c source residue that appears on the output of a d/c power supply. The smaller the ripple, the better the power supply. Applies to Tripp Lite PR series DC power supplies.
RJ-45 (Registered Jack-45)	A telephone connector that holds up to eight wires. RJ-45 plugs and sockets are used in Ethernet and Token Ring Type 3 devices.
RMS	Acronym for Root-Mean-Square, a mathematical formula used to calculate the effective values of time-variant waveforms. 120V nominal voltage levels are RMS levels. See peak voltages.
Rod-Core Inductors	A filter component present in premium level surge suppression circuits. Often referred to as a stick choke. A metal rod is wrapped with multiple wire windings to achieve high frequency noise suppression and to help lower the voltage peaks

during high intensity surges. Used in combination with torroidal chokes on Isobar series suppressors by Tripp Lite. See Torroidal Chokes.

Rolling Blackouts	Rolling Brownouts – A condition where power utilities are forced to purposely create undervoltages and blackouts over their service area to free up capacity so that the entire system is not at risk for power failure. When power usage for a given area or community inch up above 95% of capacity, utilities may begin purposely creating brownouts. If the condition worsens and further brownouts will not free up enough energy, the next utility choice is to create blackouts. See blackout, undervoltage.
Sag	See undervoltage.
Shield	As normally applied to instrumentation cables, the term refers to a conductive sheath (usually metallic) applied over the insulation of a conductor or conductors. This sheath provides the means to reduce coupling between the conductors so shielded and other conductors which may be susceptible to, or which may be generating unwanted electrostatic or electromagnetic fields (noise).
Shunt	AC and dataline surge suppressors re-direct, or shunt, surges present on AC and datalines out to safe electrical grounding systems. See suppressor.
Sine Wave	Describes an ideal waveform with a smooth arcing alternating waveform. All products using AC power are designed for use with sine wave output. Many high-end line interactive and online UPS products provide sine wave output at all times. See square wave and PWM sine wave.
Single Phase Power	All Tripp Lite power protection products are single phase, meaning they protect or pass power with a single AC waveform present. Long-range utility transmission power lines carry 3-phase power. See three-phase power.
SMTP	Acronym for Simple Mail Transfer Protocol. The standard e-mail protocol on the Internet. A TCP/IP protocol that defines the message format and the message transfer agent (MTA), which stores and forwards the mail. SMTP was originally designed for only ASCII text, but MIME and other encoding methods enable program and multimedia files to be attached to e-mail messages. SMTP servers route SMTP messages throughout the Internet to a mail server, such as POP3 or IMAP4, which provides a message store for incoming mail.
SNMP	Acronym for Simple Network Management Protocol. A widely used network monitoring and control protocol. Data is passed from SNMP agents, which are hardware and/or software processes reporting activity in each network device (hub,

router, bridge, etc.) to the workstation console used to oversee the network. The agents return information contained in a MIB (Management Information Base), which is a data structure that defines what is obtainable from the device and what can be controlled (turned off, on, etc.). Originating in the UNIX community, SNMP has become widely used on all major platforms.

Spike Also called an Impulse is a disturbance of the voltage wave form that is less than about 1 millisecond. Voltages can rise to hundreds or even thousands of volts in a very short period of time.

SPS Acronym for Standby Power Supply. See standby UPS.

Square Wave Describes an alternate AC waveform to sine wave or PWM sine wave. Considered by many to be the least desirable waveform for critical computing applications. Rather than the smooth arc typically associated with a sine waveform, a square waveform is entirely rectangular and may provide a challenge the operation of certain sensitive pieces of electronics when used continuously or for long duration. Before 1990, many standby UPS systems available provided square wave output in battery mode. Certain lower end power inverters still offer square wave output. See PWM sine wave and sine wave.

Standby UPS A UPS that passes line power straight through to the output when conditions are stable, but switches to battery power when line voltage drops near 100-105 volts. A basic UPS type typically used to protect home computers and computer workstations. Tripp Lite BC Personal, BC Pro, TE Series and Internet Office UPS systems are Standby UPS systems. Less frequently known as SPS (standby power supply). See Line Interactive UPS & online UPS.

STP Acronym for Shielded Twisted Pair. STP is telephone wire that is wrapped in a metal sheath to eliminate external interference.

Subnet mask The technique used by the IP protocol to filter messages into a particular network segment (subnet). The subnet mask is a binary pattern that is stored in the client machine, server or router and is matched up with the incoming IP address to determine whether to accept or reject the packet.

Suppressor A power protection device able to recognize surge conditions and reacts by shunting excess energy away from equipment and out to the electrical grounding system.

Surge A short term voltage increase that exceeds established upper limits for several cycles or more. Often confused with Spikes or Transients which last less than 1/2

cycle.

Swell

See overvoltage.

Switch

A network device that cross connects stations or LAN segments. Also known as a "frame switch," switches are available for Ethernet, Fast Ethernet, Token Ring and FDDI. ATM switches are generally considered in a category by themselves. Network switches are increasingly replacing shared media hubs in order to increase bandwidth. For example, a 16-port 100BaseT hub shares the total 100 Mbps bandwidth with all 16 attached nodes. By replacing the hub with a switch, each sender/receiver pair has the full 100 Mbps capacity. Each port on the switch can give full bandwidth to a single server or client station or it can be connected to a hub with several stations.

Switching Power Supply

The portion of a PC, Workstation, Server or other computing device that converts incoming AC power to the various DC voltages required by the internal components within the computer. Switching power supplies were incorporated into early PC designs due to their ability to withstand short duration losses in power of up to 100-200 milliseconds without rebooting computers. This is so because switching power supplies do not pull power continuously. Instead, they pull power in "gulps" several times per second.

Tap Switching

A procedure where the coil within an autotransformer is changed in order to maintain the output voltage at a level "independent" from the source level. Tripp Lite line conditioners and line interactive UPS systems utilize tap switching voltage regulation in order to maintain acceptable output voltage levels to connected equipment during brownouts and overvoltages.

TCP/IP

Acronym for Transmission Control Protocol/Internet Protocol. TCP/IP was developed by the U.S. Department of Defense. TCP/IP is a language governing communications among all computers on the Internet. TCP/IP is two separate protocols, TCP and IP, which are used together. The Internet Protocol standard dictates how packets of information are sent out over networks. IP has a packet-addressing method that lets any computer on the Internet forward a packet to another computer that is a step (or more) closer to the packet's recipient. The transmission Control Protocol ensures the reliability of data transmission across Internet connected networks. TCP checks packets for errors and submits request for re-transmissions if errors are found; it also will return the multiple packets of a message into a proper, original sequence when the message reaches its destination.

Telnet

A terminal emulation protocol commonly used on the Internet, and TCP/IP-based networks. It allows a user at a terminal or computer to log onto a remote device and run a program. Telnet was originally developed for ARPAnet and is an

inherent part of the TCP/IP communications protocol. Although most computers on the Internet that allow Telnet access require users to have an established account and password, there are some that allow the public to run programs such as search utilities.

Three-Phase Power	Electrical power supplied on three separate outputs with a phase difference of 120 degrees between any two of the outputs. Three-phase power is usually what's delivered to the service entrance of a building from the electrical utility. At the panel, the three phases are split into three single-phase legs. Large panel mount and multi-kVA UPS systems exist that function with three-phase power.
Torroidal Chokes	A filter component present in premium level surge suppression circuits. A circular ferrite core is wrapped with balanced wire windings in order to continuously filter and attenuate high frequency noise present on the incoming power. Used in combination with rod-core inductors on Isobar series suppressors and other high-end UPS systems by Tripp Lite. See Rod-Core Inductors and Choke.
Total Harmonic Distortion (THD)	The ratio of the root-mean-square of the harmonic content to the root-mean-square value of the fundamental quantity, expressed as a percent of the fundamental. Typically a supply sine wave is considered acceptable when THD levels are 5% or less. See harmonics, harmonic distortion and distortion.
Traceroute	An Internet utility that describes the path in real-time from the client machine to the remote host being contacted. It reports the IP addresses of all the routers in between. Windows comes with its own Traceroute utility (TRACERT.EXE) that is executed from the command line.
Transfer Time	The time it takes to switch from AC line power to battery power.
Transformer	A device used for changing the voltage of an AC circuit and/or isolation in a circuit from its power source.
Transient	Synonym for surge. See surge.
TVSS	Acronym for Transient Voltage Surge Suppressor. Another term for surge suppressor taken from the UL designation for this type of product. See surge.
Undervoltage	When used to describe a specific type of long duration variation, refers to a measured voltage having a value at least 10% below the nominal voltage for a period of time greater than one minute. Undervoltages frequently occur during air

conditioning season due to peak power demands and may last only minutes or several hours, days or months in duration. See Rolling Blackout.

UPS	An acronym for Uninterruptible Power Supply. Any device that provides continuous, acceptable power to its dependent loads no matter what is (or is not) coming in on the commercial utility's power lines (within limits). See standby UPS, line interactive UPS & online double conversion UPS.
User Replaceable Battery	Refers to the feature that allows the battery of a UPS to be changed easily, without the need for disassembly of the unit.
UTP Cable	Short for Unshielded Twisted Pair cable, UTP cable is a popular type of cable used in computer networking that consists of two shielded wires twisted around each other.
VA	Abbreviation for Volt Amps. The unit of measurement of apparent power. Most UPS systems are rated in volt amps. Actual wattage is typically 60-70% of this figure. See formulas, watts, amps, and power factor.
Volt	A unit of measure for voltage. Voltage is electrical pressure that forces current to flow in a conductor, such as a wire.
Voltage Regulator	A circuit that has a constant output voltage when the input voltage fluctuates.
Volt-ampere	The unit of measurement of apparent power.
WAP	Short for Wireless Application Protocol, WAP is specifications for a set of communication protocols used to allow wireless devices to access the internet and other network utilities such as e-mail, chat, etc.
Watt	A unit of measure for true power consumption. Watts = VA divided by Power Factor. See formulas.
Waveform	See square wave, PWM sine wave and sine wave.