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time interval. Used, for instance, to avoid unwanted input when inadvertently pressing the same key more than once. This contrasts, for instance, with **SlowKeys (1)**, which only accept a keystroke when a key is pressed longer than a given interval.

bound charge In a conductor, a **charge** which is held by the inductive effect of neighboring charges.

boundary 1. The border where things meet, or where one thing ends and the other begins. For instance, the border where p and n type semiconductor materials meet. 2. A line or set of values which depict the limits which a parameter may reach, such as the modulation envelope of a signal. 3. The limit that a parameter may reach, such as the highest frequency of a band.

boundary router A device that routes data packets between LANs and ATM networks. Also called **edge router**.

bow-tie antenna Same as **bowtie antenna**.

bowtie antenna Also spelled **bow-tie antenna**. An antenna consisting of two wire triangles, or two triangular plates, arranged similarly to a bow-tie, which is fed at the gap between the triangles. It is a wideband antenna used mostly in the very-high frequency and ultra-high frequency ranges.

box An enclosure, typically consisting of a base, multiple sides, and a lid, which serves to house, enclose, insulate, or otherwise protect components, circuits, devices, or equipment. Examples include cable boxes, jack boxes, and fuse boxes. Also, a virtual box, such as that appearing on a computer screen.

boxcar Within a stream of long-duration pulses separated by short intervals, a single pulse.

Boyer-Moore algorithm An algorithm utilized for text searches.

Bpi Abbreviation of **bytes per inch**.

bpi 1. Abbreviation of **bits per inch**. 2. Abbreviation of **bytes per inch**.

BPI Same as **bpi**.

bpp Abbreviation of **bits per pixel**.

bps Abbreviation of **bits per second**.

Bps Abbreviation of **bytes per second**.

BPSK Abbreviation of **binary phase-shift keying**.

Bq Symbol for becquerel.

Br Chemical symbol for bromine.

Bragg angle In the scattering of incident X-rays or neutrons by the atoms in a crystal lattice, a characteristic angle at which a maximum intensity of reflections occur.

Bragg cell A device which is utilized to modulate, deflect, and focus light waves through their interactions with acoustic waves. Used, for example, in laser equipment for control of the intensity and position of laser beam radiation. Also called **acousto-optical cell**, or **optoacoustic cell**.

Bragg diffraction Same as **Bragg scattering**.

Bragg grating An optical-fiber section in which the refraction index of the core provides for the reflection of specific wavelengths. Used, for instance, for filtering, or in wavelength division multiplexing. Also called **fiber Bragg grating**.

Bragg-Pierce law A law pertaining to the relationship between the atomic absorption coefficient of an element and its atomic number.

Bragg reflection Same as **Bragg scattering**.

Bragg scattering The scattering of incident X-rays or neutrons by the atoms in a crystal lattice, with maximums of intensity of reflections occurring at characteristic angles known as **Bragg angles**. Also known as **Bragg reflection**, or **Bragg diffraction**.

Bragg spectrometer An instrument used to analyze crystal structure by using X-rays. In it, a beam of collimated X-rays strikes the crystal, and a detector measures the angles and intensities of the reflected beam. Applying Bragg's law to these measurements yields details about the crystal structure. Used, for instance, for X-ray diffraction studies that determine the structure of crystalline DNA. DNA is the abbreviation of deoxyribonucleic acid, and in its strands are contained the chemical basis of heredity. Also known as **crystal spectrometer**, **ionization spectrometer**, or **crystal-diffraction spectrometer**.

Bragg's equation Same as **Bragg's law**.

Bragg's law A mathematical correlation of the relationship between the angles and intensities of reflection by the atoms in a crystal lattice, when irradiated with X-rays or neutrons, and the structure of said lattice. Also known as **Bragg's equation**.

braid A flexible sheath of helically interwoven metal or fiber filaments that serve to cover wires. It provides structural support, and may be used as a conductor or for grounding.

braided wire Wire incorporating a **braid**.

brain-computer interface A computer interface in which a user communicates information via brain waves. The term may also apply to interfaces which utilize voluntary muscle movements such as those involved in grimacing or brow furrowing. Its abbreviation is **BCI**.

brain waves Fluctuations of voltage in the brain, produced by its electrochemical activity. Some of these waves, for instance, can be detected and recorded by an electroencephalogram.

brake horsepower A measure of the effective power output of an engine. It may be measured in various ways, one of which is to quantify the resistance the engine provides to a brake attached to its output shaft. Its abbreviation is **bhp**.

branch 1. A subdivision of a unit or system. 2. A path within a circuit or electric network. Also called **leg**, or **arm** (3). 3. A connection between nodes, such as those in a communications network. 4. A computer instruction that switches the CPU to another location in memory. Also called **jump**, or **branch instruction**.

branch circuit In a wiring system, the portion between the final overcurrent protection device, such as a circuit breaker, and the served outlets.

branch current The current across a **branch** (2).

branch instruction Same as **branch** (4).

branch point The point at which a **branch** originates. Also spelled **branchpoint**. Also known as **junction point** (1), or **node** (2).

branch prediction A CPU technique utilized to try to guess which branch will be followed in a program. When the prediction rate is high, as it usually is, system performance is enhanced.

branch voltage The voltage across a **branch** (2).

branching 1. The dividing into **branches**. 2. A point from which **branches** emerge.

branchpoint Same as **branch point**.

brass An alloy of copper and zinc in varying proportions, sometimes incorporating low percentages of other elements such as manganese or silicon. These alloys are corrosion-resistant, very ductile, and have good strength. Applications in electronics include its use in terminals, as connectors, in solder, and to house components.

braz To join metals at a high temperature using a nonferrous filler metal or alloy.

brazing Same as **brazing**.

brazing The use of a nonferrous metal or alloy to fill the spaces between two metals which are to be joined at a high temperature. The filler metal must have a lower melting

circle A curve, all of whose contained points are equidistant from a fixed point located at the center of said points. Also, that which is in this shape.

circle diagram 1. A diagram showing graphical solutions of equations for a transmission line. 2. A diagram showing certain properties, such as impedance, of AC machines.

circuit Its abbreviation is **ckt**. 1. One or more conducting paths which serve to interconnect electrical elements, in order to perform a desired function such as amplification or filtering. Also known as **electric circuit** (1). 2. One or more complete paths through which electrons may circulate. Also known as **electric circuit** (2). 3. A medium through which information is conveyed between two or more locations. Such a circuit may be linked physically or wirelessly. Also called **channel** (2), **communications circuit**, **communications channel**, or **communications line**.

circuit analyzer An instrument which measures and indicates one or more quantities in an electric circuit, such as resistance or voltage. For instance, an oscilloscope or an ohmmeter. When the instrument measures two or more quantities it is also called **multimeter**, or **multifunction meter**.

circuit board A flat, rigid, and insulated panel upon which electrical components are mounted and connected via conductive paths. Used extensively in computers, where the main board is called the motherboard, and secondary boards are called expansion boards. Also called **circuit card**, **card** (2), or **board** (1).

circuit breaker A device which automatically opens a circuit under specified conditions, such as a current exceeding a set amount. If it resets itself after another condition is met, such as the passing of a given time period, then it is an **automatic circuit breaker**. Its abbreviation is **CB**.

circuit-breaker panel A panel or box which houses a set of **circuit breakers**.

circuit capacity 1. The maximum quantity, such as that of current, that can be handled by an electric circuit. 2. The maximum quantity of communication channels that a communications circuit can handle simultaneously.

circuit card Same as **circuit board**.

circuit component Any of the electrical elements that are a part of a circuit. These may include resistors, capacitors, transistors, generators, electron tubes, and so on. Each component has terminals which allow it to be connected to the conducting path. Also called **circuit element**, **component** (2), **element** (2), **electrical element**, **electrical component**, or **part** (3).

circuit continuity The condition in which a circuit has a continuous and complete path for the flow of current. Also called **continuity** (2).

circuit design The specifying of the electrical elements, and the manner in which they interconnect with each other, in the formation of a circuit which performs a desired function. Also called **design** (2).

circuit diagram A graphical representation of the electrical elements in a circuit, and the way each is interconnected with each other. Each circuit element is represented by a symbol, while lines represent the wiring. Also called **circuit schematic**, **schematic diagram**, **wiring diagram**, **schematic circuit diagram**, **wiring schematic**, or **diagram** (3).

circuit efficiency The ratio of the useful output power of a circuit, to the input power.

circuit element Same as **circuit component**.

circuit grade 1. A designation which indicates the information-carrying capability of a communications circuit. For instance, voice grade, or broadband. 2. A designation which indicates the information-carrying capability of a communications circuit in terms of transmission speed. For instance, data transmissions at speeds up to 100 Mbps.

circuit layout Same as **circuitry** (2).

circuit loading 1. The power being drawn from a circuit by a measuring instrument. This must be accounted for in order to have an accurate indicated value. 2. The power being drawn from a circuit.

circuit noise Noise generated in circuits, in addition to that present in the applied signal. Circuit noise is produced, for instance, by the movement of particles, especially electrons.

circuit-noise level At any point within a communications circuit, the ratio of the circuit noise to a chosen reference level. Usually expressed in decibels, or adjusted decibels.

circuit-noise meter An instrument which measures **circuit-noise levels**.

circuit parameter A specific value for a circuit component, such as the resistance of a resistor, or the capacitance of a capacitor, in a given circuit configuration. Also called **parameter** (2).

circuit protection Protective measures, such as fuses, which safeguard a circuit from overloading, excessive heat, corrosion, and so on.

circuit reliability The proportion of time that a circuit is available for use while meeting the standards established for it. Usually expressed as a percentage.

circuit response 1. A change in the behavior, operation, or function of a circuit as a consequence of a change in its external or internal environment. For example, a change in its output resulting from a change in its input. 2. A quantified **circuit response** (1), such as a frequency response.

circuit schematic Same as **circuit diagram**.

circuit simplification The designing of circuits so that the desired function is performed utilizing the least electrical elements, and the simplest wiring possible.

circuit simulation The use of computers to simulate the behavior of circuits before even a prototype is prepared. Computer-aided design may be used for this.

circuit-switched data An ISDN option which enables a bearer channel to transmit digital data over a dedicated connection. Its abbreviation is **CSD**.

circuit-switched voice An ISDN option which enables a bearer channel to provide a digital transmission of a voice communication over a dedicated connection. Its abbreviation is **CSV**.

circuit switching Also known as **line switching**. 1. The temporary linking of two communications terminals in order to establish a communications channel. This circuit must be established before communication can occur, and remains in exclusive use by these terminals until the connection is terminated. Used, for instance, by telephone companies to enable dial-up voice conversations. Such a connection is made at a switching center. 2. The temporary linking of two data terminals, in a manner that the connection remains in exclusive use by these terminals until the connection is terminated.

circuit test A test performed to ascertain the performance of a circuit. For instance, a test of continuity.

circuit tester An instrument which tests the performance of a circuit. For instance, a continuity tester.

circuit testing 1. A series of tests intended to ascertain the performance of a circuit. 2. The performing of a test to ascertain the performance of a circuit.

circuit theory The mathematic analysis of electric circuits, and the relationships between the components such circuits contain. Also called **electric circuit theory**.

circuitron A collection of active and passive electronic components mounted inside the same enclosure, and functioning as one or more complete operating stages.

circuitry

circuitry 1. The complete circuits which compose an electrical device or system. 2. The physical arrangement of the electrical elements that are part of a given circuit. Also called **circuit layout**.

circular 1. Moving in a manner which resembles a circle or helix. 2. In the form of a circle.

circular accelerator A particle accelerator, such as a cyclotron, in which particles follow a circular or spiraling path. This contrasts with a **linear accelerator**, in which they follow a straight line.

circular antenna An antenna consisting of a folded dipole antenna bent into a circle. When mounted horizontally it has a uniform radiation pattern in all directions.

circular current An electric current traveling in a circular path.

circular electric wave A transverse electric wave whose lines of electric force form concentric circles.

circular frequency The frequency of a periodic quantity expressed in radians per second. It is obtained by multiplying the frequency by 2π . Also called **radian frequency**, **angular frequency**, or **angular velocity**.

circular horn A waveguide section which in the shape of a horn. Used, for instance, as a feed for a microwave reflector.

circular magnetic wave A transversal magnetic wave whose lines of magnetic force form concentric circles.

circular mil A unit of area equal to the area of a circle whose diameter is 0.001 inch. Used mainly to specify cross-sectional areas of wires. Its abbreviation is **cmil**, or **cir mil**.

circular polarization Polarization of an electromagnetic wave in which the electric field vector is of a constant magnitude, and rotates in a plane so as to form a circle.

circular scan Same as **circular scanning**.

circular scanning In radars, scanning in which a complete scan consists of a horizontal rotation of the radar beam through 360°. Also called **circular scan**.

circular waveguide A waveguide whose cross section is in the form of a circle.

circularly-polarized light A light wave with **circular polarization**.

circularly-polarized wave A wave with **circular polarization**.

circulating memory A form of computer storage in which a delay line is used to store information. Also called **circulating storage**, or **delay-line memory**.

circulating register A computer register which utilizes a delay line. Also called **delay-line register**.

circulating storage Same as **circulating memory**.

circulator A multiport waveguide junction in which microwave energy entering one of its ports is transmitted to an adjacent port, and on to the next, in a predetermined rotation. Also called **microwave circulator**.

CIS Abbreviation of **Contact Image Sensor**.

CISC 1. Acronym for **complex instruction set computer**. 2. Acronym for **complex instruction set computing**.

citizens' band A radio-frequency band designated for unlicensed two-way communications. Such transceivers are limited to transmission power 4 watts. Its abbreviation is **CB**. Also called **citizens' waveband**.

citizens' radio service A radio communications service for **citizens' band** communications.

citizens' waveband Same as **citizens' band**.

city code A code used for dialing a city other than that within which a telephone call is originated. Such a code may be preceded by a country code, and is followed by the specific

telephone number. Some regions require dialing the city code even when the call is originated in the same city.

ckt Abbreviation of **circuit**.

Cl Chemical symbol for **chlorine**.

cladding 1. A layer that surrounds the core of an optical fiber. 2. The bonding of two or more materials. For instance, plating a metal.

clamp 1. A mechanical device which serves to bind, press, or otherwise firmly hold two or more parts together. A clamp may also provide mechanical support, strain relief, and vibration absorption. 2. To restore the DC component to a wave or signal. 3. To add a DC component to a wave or signal which lacks such a component. 4. To establish a reference DC level in a signal or device.

clammer Also called **clamping circuit**, **DC restorer**, or **reinsertor**. 1. A circuit or device which restores the DC component of a wave or signal. 2. A circuit or device which adds a DC component to a wave or signal which lacks such a component. 3. A circuit or device which establishes a reference DC level in a signal or device.

clamping Also called **DC reinsertion**, or **DC restoration**. 1. The restoration of the DC component to a wave or signal. 2. The adding of a DC component to a wave or signal which lacks such a component. 3. The establishing of a reference DC level in a signal or device.

clamping circuit Same as **clammer**.

clamping voltage The peak voltage a surge suppressor allows to pass.

Clapp oscillator A Colpitts oscillator with a tuning capacitor in series with the resonant tank circuit, which provides greater stability. Also called **series-tuned Colpitts oscillator**.

clapper 1. An armature that is hinged or pivoted. 2. A mechanical device with a striking action, such as the tongue of a bell.

clarity The quality and/or state of being **clear**.

Clark cell A standard cell used as a reference voltage source, in which the positive electrode is mercury, the negative electrode is an amalgam of zinc and mercury, and the electrolyte is a solution of zinc sulfate. It has a voltage of approximately 1.433 at 15 °C. Also called **zinc standard cell**.

class 1. A group or set sharing common characteristics. 2. In object-oriented programming, a set of objects which share common characteristics. For instance, a class may be titled geometric shapes, and contain objects which are triangles, squares, pentagons, hexagons, and so on. 3. Classifications of amplifiers based on the relationship between the input signal and the output current. For classification purposes, a simplified output stage consisting of two complementary tubes or transistors is assumed for most classes. Each class has its own linearity and efficiency characteristics. Examples include class A amplifiers, class AB amplifiers, class C amplifiers, and so on. Also called **amplifier class**.

class A A Federal Communications Commission certification which indicates that the tested device complies with the established limits of electromagnetic radiation for a business digital device. **Class B** pertains to residential digital devices.

class A amplifier A linear amplifier in which there is a current output at all times, regardless of the stage of the input signal. Since it always operates at full power, it is the most inefficient of all power amplifier designs. On the other hand, it features the least distortion. Used, for instance, in audio high-fidelity systems.

class A IP address Abbreviation of **class A Internet-Protocol address**. An IP address that can range from 1.0.0.0 through 126.255.255.255. These can define a maximum of over 16.7

of admittance, its symbol is G , and is expressed in siemens. Also known as **electrical conductance**.

conducted interference Interference, such as RF noise, which is propagated by means of communications or power lines.

conducting direction For an electrical or electronic component or device, the direction in which there is lesser resistance to the flow of current. Used, for instance, in the context of semiconductors. This contrasts with **inverse direction**, where the converse is true. Also called **forward direction**.

conduction 1. The transmission of energy through a medium without the medium itself moving as a whole. Electrical, acoustic, or heat energy may be propagated in this manner. For instance, the transmission of electrical energy through a metal entailing the migration of electrons through the conductor. This contrasts with **convection**, where the medium itself is moved, and with **radiation**, where waves or particles are emitted. 2. The flow of electrical charge through a medium. This may entail, for instance the movement of electrons through a metal conductor, or the migration of ions in a gas. Also called **electrical conduction**.

conduction band A partially filled energy band in which electrons can move freely under the influence of an electric field, thus producing a net transport of electric charge.

conduction current Electric current which flows through a body by means of electrons present in a **conduction band**.

conduction electrons Electrons present in a **conduction band**. Also called **valence electrons**, **outer-shell electrons**, or **peripheral electrons**.

conduction field An energy field surrounding a conductor through which an electric current is flowing.

conductive Pertaining to, or capable of **conduction**.

conductive coating A coating which serves to facilitate conduction. For instance, an antistatic coating applied on a TV screen to prevent dust from adhering to the surface.

conductive coupling A direct connection between circuits, utilizing a wire, resistor, or another means of physical contact that passes both AC and DC. Also called **direct coupling**.

conductivity The ease with which an electric current can flow through a body. It is the reciprocal of **resistivity**. Its symbol is σ , and it is expressed in siemens per meter. Also called **electrical conductivity**, or **specific conductance**.

conductivity meter A device which measures and indicates **conductivity**.

conductivity modulation In a semiconductor, a variation in conductivity through the variation of charge-carrier concentration.

conductivity-modulation transistor A transistor whose active properties are achieved through **conductivity modulation**.

conductor 1. A medium suitable for the conduction of electrical, acoustic, heat, or other form of energy. 2. A medium which allows electric current to flow easily. Such a medium may be a metal wire, a dissolved electrolyte, or an ionized gas, among others. Among the elements, silver, copper, and gold are the best electric conductors. Also known as **electric conductor**.

conductor skin effect The tendency of AC to flow near the surface of a conductor. This effect becomes more pronounced as frequency rises, so losses due to resistance become greater with frequency increases. A conductor made from many separately-insulated wire strands which are woven together or braided in a manner that each strand regularly assumes each of the possible positions within the overall cross-section of the conductor minimizes this effect, providing for lower losses at radio frequencies. Also called **skin effect**.

conduit A pipe or tube through which cables or wires are run. A conduit may be made of metal, plastic, or another material which affords protection and/or shielding.

cone 1. A geometric shape with a circular or other closed-plane base, whose sides taper off along a diagonal line to a common vertex. 2. Anything resembling a cone (1). 3. The cone-shaped diaphragm of a **cone speaker**.

cone antenna A wideband antenna whose radiating element is in the shape of a cone (1). Also called **conical antenna**.

cone loudspeaker Same as **cone speaker**.

cone of protection A cone-shaped zone below a lightning rod, which provides a region with a highly reduced probability of a lightning strike. This cone extends 45° from the tip of the rod, which is the vertex of the cone. Such a cone may be used to protect stationary or moving objects.

cone of silence A cone-shaped zone above a radio beacon transmitter, where the intensity of the signal is greatly reduced. This zone is in the form of an inverted cone extending from the antenna, which is the vertex of said cone.

cone resonance Resonance of a **cone speaker**. Such resonance occurs in specific frequency intervals, and produces excessive radiation from the cone. The proper design of the speaker and its enclosure help minimize this undesired vibration.

cone-resonance frequency The frequency at which **cone resonance** is greatest.

cone speaker A speaker utilizing one or more cone-shaped vibrating elements. Such cones may be made of paper, fiber, plastic, metal, or another material. The larger a cone, the better its output of lower frequencies, and the smaller a cone, the better its output of higher frequencies. Frequently, multiple cones are used in such speakers, for a more balanced reproduction of sound. Also called **cone loudspeaker**.

conference call A telephone call in which three or more separate lines are connected at once.

conferencing The holding or participating in a meeting utilizing computer and/or telecommunications technology. For instance, teleconferencing, videoconferencing, or data conferencing. Such conferencing usually includes participants in different locations.

confidence coefficient Same as **confidence level**.

confidence factor Same as **confidence level**.

confidence interval An interval or range of values within which the theoretical probability of an event occurring may be specified. For instance, the probability of a failure occurring within a given time period. The wider the interval, the greater the confidence that the event will occur.

confidence level The probability that a **confidence interval** will contain a given event. May be expressed, for instance, as a percentage. Also called **confidence coefficient**, or **confidence factor**.

confidence limits The upper and lower limits of a **confidence interval**.

confidentiality, integrity, and availability For a given entity, such as a business, procedures implemented to help insure that information is shared only with the intended individuals or entities, that the data transmitted, received, processed, or otherwise handled is complete and accurate, and that the pertinent systems and means are available when needed for delivery, reception, processing, storage and the like.

config.sys Same as **CONFIG.SYS**.

CONFIG.SYS A configuration file in some operating systems.

configuration The arrangement of the components of a circuit, device, piece of equipment, system, or network. For instance, the hardware and/or software setup a computer

The larger the produced crystal, the more likely it is to have dislocations. 2. A plastic deformation of a metal.

dislocation density The concentration of **dislocations** (1) within a crystal. Such a concentration depends on various factors, including the size of the crystal and the manner in which it is prepared.

dispatcher Within a computer operating system, a program which coordinates the use of the resources of the system. For example, it initiates and terminates each task. Also called **scheduler**.

dispersion 1. The process or occurrence of scattering or separating into components. 2. The process by which radiation is separated into components with different wavelengths, energies, speeds, or other characteristics. Also, an instance of such a separation. For example, a prism disperses white light into its component colors, as each travels through it at a different velocity. 3. The scattering of microwaves by striking an obstruction. 4. The uniform distribution of sound waves emanating from an acoustic transducer. 5. The scattering of fine particles within another body. 6. In spectroscopy, a measure of resolving power. 7. **Dispersion** (2) occurring in an optical waveguide, such as an optical fiber or cable. An example is multimode distortion.

dispersion-compensating fiber An optical fiber that has the opposite dispersion of another fiber along a transmission system, and which compensates for dispersion caused by the latter fiber. Its abbreviation is **DCF**.

dispersion-compensating module A module that compensates for dispersion caused by an optical fiber along a transmission system. Its abbreviation is **DCM**.

dispersion management In a fiber-optic system, measures taken, such as the use of dispersion compensating fibers or modules, to minimize or otherwise handle dispersion.

dispersion medium A medium within which another substance is dispersed. For example, colloidal graphite.

dispersion-shifted fiber An optical fiber that has nearly zero dispersion at a given wavelength, such as 1550 or 1300 nm. Its abbreviation is **DSF**.

dispersive lens A lens which causes parallel rays of light passing through it to bend away from one another. Such lenses are thinner at the center than the edges. This contrasts with a **converging lens**, which bends parallel rays of light passing through it toward one another. Also called **divergent lens**, **concave lens**, or **negative lens**.

dispersive line A delay line which delays each frequency of a wave or signal by a different length of time.

dispersive medium A medium within which the phase velocity of electromagnetic waves varies as a function of the frequency. A plasma is an example of such a medium. In a **non-dispersive medium**, the phase velocity of electromagnetic waves is independent of frequency.

displacement 1. A change in position, or the distance from a given position, especially a starting position. Also, the magnitude of such a change. 2. Same as **dielectric displacement**. 3. The distance a memory address is from a base address. Also, the value added to the base address to obtain a second address. Also called **offset** (4).

displacement current AC arising in the presence of a time-varying electric field. This current is in addition to ordinary conduction AC. Displacement currents are necessary for the propagation of electromagnetic radiation through outer space. Also called **Maxwell's displacement current**.

displacement transducer A transducer in which the movement of an object, such as an armature, varies its rate of conversion from one form of energy to another.

display 1. A device utilized to display the images generated by a computer, TV, oscilloscope, radar, or other similar device with a visual output. It incorporates the viewing screen

and its housing. A specific example is a CRT. Also called **display device**, **display monitor**, **monitor** (1), or **video monitor** (1). 2. The viewing screen of a **display** (1). Such a display may be a CRT display, a liquid-crystal display, a plasma display, and so on. Also called **display screen**, or **screen** (1). 3. The visual output shown on a **display** (1). For a computer to generate such a display, it requires a display adapter. Also called **readout** (1).

display adapter A computer board that enables it to display images. When a computer generates images, this board converts them into the electronic signals that serve as the input to the display device, such as the monitor. The display adapter determines factors such as the maximum resolution and number of colors that can be displayed. An appropriate monitor must be utilized to best benefit from the capabilities of such an adapter. Display adapters usually incorporate their own memory, thus not occupying the RAM of the computer while preparing images. Also known by various other names, including **display board**, **display card**, **display controller**, **graphics adapter**, **video adapter**, **video board**, **video card**, and **video controller**.

display background On a screen or display, the area that is not being specifically interacted with or observed. This contrasts with **display foreground**. Also called **background** (4).

display board Same as **display adapter**.

display card Same as **display adapter**.

display console A computer display device, such as a CRT, used for accessing data which is stored or being processed. An accompanying keyboard and/or light pen may be used for input.

display controller Same as **display adapter**.

display cycle The complete sequence of operations that must occur prior to an image being shown on a screen or display.

Display Data Channel A VESA standard for the exchange of information between a monitor and a display adapter. For instance, a monitor can inform the graphics subsystem of the computer about its capabilities, such as maximum resolution. Its abbreviation is **DDC**. Also called **VESA DDC**.

display device Same as **display** (1).

display dimmer A circuit which varies the intensity in the illumination of a meter or other display. Seen, for instance, in home entertainment components which are less distracting to a viewer watching programming under conditions of reduced surrounding light.

display element A component of a displayed image, such as a cube, text, or the foreground.

display flicker Brief and irregular fluctuations in an image presented by a **display** (1). This may occur, for instance, when the refresh rate is too low. Also called **screen flicker**, or **monitor flicker**.

display foreground On a screen or display, the area that is being specifically interacted with or observed. This contrasts with **display background**. Also called **foreground** (3).

display image The combination of the various display elements displayed on a screen at any given moment.

display loss The ratio of the minimum input signal that a receiver can detect, to the minimum output signal that can be detected by a user viewing the display of said receiver. May refer, for instance, of a radar receiver and its operator. Also called **visibility factor**.

display mode A specific configuration of the settings of a computer monitor. For instance, the resolution, the number of colors that may be displayed, and whether it displays graphics and/or text. Also called **screen mode**, **monitor mode**, or **video mode**.

display monitor Same as **display** (1).

drive circuit

drive circuit A circuit which provides **drive (1)**, especially to a motor.

drive control 1. A device which controls **drive (1)**. 2. In a TV receiver, a potentiometer which adjusts the output of the horizontal oscillator. Also called **horizontal drive control**.

drive current A current which causes the function of a component, circuit, device, piece of equipment, system, process, or mechanism.

drive signal Same as **drive (1)**.

drive tray A tray upon which a storage medium, such as an optical disc, is laid for insertion into its drive.

drive voltage A voltage which causes the function of a component, circuit, device, piece of equipment, system, process, or mechanism.

driven antenna An antenna which receives energy directly from the transmission line. This contrasts with a **parasitic antenna**, which is driven indirectly, that is, through radiation from a driven antenna. Also called **primary radiator**.

driven array An antenna incorporating multiple driven elements, all fed by a common source.

driven element An antenna element which is driven directly by the transmission line. This contrasts with a **parasitic element**, which is driven indirectly, that is, through radiation from a driven element. Also called **active element (3)**.

driver 1. A circuit or device which provides and/or controls **drive (1)**. 2. Same as **device driver**. 3. In an amplifier, the stage that precedes the output stage. Also called **driver stage**. 4. A transducer which converts electrical energy into sound energy, which is then radiated outward to the surrounding medium. Also called **speaker**, or **loudspeaker**. 5. Within a speaker system, a specialized speaker unit, such as a woofer or tweeter.

driver element Within an antenna incorporating multiple elements, a **driven element**.

driver stage Same as **driver (3)**.

driver transformer A transformer which provides **drive (1)**. Utilized, for instance, between stages of an amplifier.

driving-point admittance The reciprocal of **driving-point impedance**.

driving-point impedance The complex ratio, measured at the input terminals of a network or transducer, of the applied alternating voltage, to the resulting AC between said terminals.

driving signal 1. Same as **drive (1)**. 2. In a TV transmitting system, a timing signal utilized to synchronize the horizontal or vertical scanning of an image.

DRO 1. Abbreviation of **dielectric resonator oscillator**. 2. Abbreviation of **digital readout**. 3. Abbreviation of **destructive readout**.

drone cone A cone speaker which is not driven. It vibrates in response to a driven speaker in the same enclosure. Utilized to reinforce bass frequencies. Also called **passive radiator**.

drop In a pulse train, a decrease in mean pulse amplitude, after maximum amplitude has been attained. Usually expressed as a percentage of maximum amplitude. Also called **pulse drop (2)**.

drop 1. Same as **drop-out (1)**. 2. Same as **drop cable**. 3. The voltage difference between any two points of a circuit or conductor, due to the flow of current. Also called **voltage drop (1)**, or **potential drop (2)**. 4. The voltage difference between the terminals of a circuit element, due to the flow of current. Also called **voltage drop (2)**, or **potential drop (3)**.

drop bar A safety device which grounds a high-voltage capacitor upon opening the door of a protective enclosure.

drop cable An aboveground or underground line which connects a terminal of a distribution cable to a subscriber's

premises. Such a line may carry telephone service, cable TV, a link to a network, electric power, and so on. It may consist, for example, of a telephone wire extending from a pole to the home of a subscriber. Also called **drop (2)**, **drop wire**, or **service wire**.

drop-down menu In a GUI, a menu which is always available in the active window, but whose contents are revealed only when a user selects said menu with a mouse or keyboard command. Once selected, the menu choices are presented in a vertical array below the menu title. Also spelled **drop-down menu**. Also called **pull-down menu**, or **pop-down menu**.

drop-in The erroneous gaining of bits during a read/write operation.

drop-out Same as **dropout**.

drop repeater In a multichannel communications system, a repeater which incorporates the necessary equipment for the local termination of multiple channels.

drop wire Same as **drop cable**.

dropdown menu Same as **drop-down menu**.

dropout Also spelled **drop-out**. 1. To lose or delete part of a transmitted signal, whether this occurs intentionally or not. Also called **drop (1)**. 2. The erroneous loss of bits during a read/write operation. 3. A deterioration or loss of signal when a magnetic tape is dirty or has lost sections of its magnetic coating. In a video tape, for instance, this is manifested as streaks appearing on the screen during playback.

dropout current The maximum current at which a device, such as a relay or circuit-breaker, will release to its deenergized position. Also called **release current**.

dropout value The maximum actuating quantity, such as a current or voltage, at which a device, such as a relay or circuit-breaker, will release to its deenergized position. Also called **release value**.

dropout voltage The maximum voltage at which a device, such as a relay or circuit-breaker, will release to its deenergized position. Also called **release voltage**.

dropping resistor A resistor used in series with a load, which reduces the voltage applied to said load. The voltage reduction is equal to the voltage drop across the terminals of the resistor. Also called **series dropping resistor**.

dross Contaminants, usually oxides, which form on the surface of molten metals or alloys, especially solders.

drum 1. Something whose shape resembles that of a drum. 2. An early type of data-storage device, which consisted of a cylinder coated with a magnetic material, and whose tracks each had their own read/write head. Also called **drum storage**, or **magnetic drum**. 3. A rotating drum used in electrostatic printing, such as that employed by a laser printer to retain a charge.

drum recorder A recorder whose reproduced information is printed on a sheet which is wrapped around a rotating drum. Used, for instance, in some fax devices.

drum scanner A scanner in which the original to be scanned is mounted within a drum which is spun very rapidly during scanning, and which incorporates devices such as microscope lenses and photomultiplier tubes. The resolution attained when utilizing drum scanners is particularly high.

drum storage Same as **drum (2)**.

drum switch A switch whose contacts, pins, surfaces, or the like, are placed on the periphery of a revolving drum. Used, for instance, as a motor controller.

drum winding 1. A winding in which the coils are on the outside of a cylindrical surface. 2. A winding in which the coils are on the inside of a cylindrical surface.

dry battery A battery composed of **dry cells**.

dry cell 1. A primary cell in which the positive electrode is carbon, the negative electrode is zinc, and the electrolyte is

Extended Graphics Array An enhanced VGA standard supporting resolutions up to 1024 x 768. Its abbreviation is XGA.

Extended Industry Standard Architecture Same as EISA.

extended memory In certain computer systems, memory beyond 1 megabyte.

extended play Playback time which is longer than ordinarily available. Also refers to storage capacity which is greater than usual. In the case of videocassette recorders, it also refers to recording time which is longer than ordinarily available. Its abbreviation is EP.

extended-range communication Communication by means of radio waves that are propagated well beyond line-of-sight distances. This is usually due to scattering by the ionosphere or troposphere. Also called **over-the-horizon communication**, **forward-scatter communication**, **scatter communication**, or **beyond-the-horizon communication**.

extended-range propagation Propagation of radio waves well beyond line-of-sight distances. This is usually due to scattering by the ionosphere or troposphere. Also called **over-the-horizon propagation**, **forward-scatter propagation**, **scatter propagation**, or **beyond-the-horizon propagation**.

extended-range transmission Transmission of radio waves well beyond line-of-sight distances. This is usually due to scattering by the ionosphere or troposphere. Also called **over-the-horizon transmission**, **forward-scatter transmission**, **scatter transmission**, or **beyond-the-horizon transmission**.

extended superframe A T-carrier framing format or standard with enhanced features, such as less-frequent synchronization, and real-time monitoring of the line. It encompasses 24 DS1 frames, while a **superframe** assembles 12. Its abbreviation is ESF. Also called **extended superframe format**.

extended superframe format Same as **extended superframe**. Its abbreviation is **ESF format**.

Extended TACACS Abbreviation of **Extended Terminal Access Controller Access Control System**. An enhanced version of TACACS, which provides additional support for auditing and accounting. Its abbreviation is XTACACS.

Extended Terminal Access Controller Access Control System Same as **Extended TACACS**.

Extended VGA Abbreviation of **Extended Video Graphics Array**. Any of various graphics standards which provide for higher resolution than VGA. SVGA resolutions range from 800 x 600 pixels, to 1600 x 1200 pixels, with support for over 16.7 million colors. Also called **SVGA**.

Extended Video Graphics Array Same as **Extended VGA**.

extensible 1. That which can be extended or enhanced. For example, a computer system which provides expansion slots, enabling it to incorporate additional peripherals. 2. That which can be extended or protruded. For instance, a panel which can project out, facilitating its use.

Extensible HTML Abbreviation of **Extensible Hypertext Markup Language**. A markup language that combines HTML and XML, and which features greater portability and ease of extension and enhancement. Its own abbreviation is XHTML.

Extensible Hypertext Markup Language Same as **Extensible HTML**.

Extensible Markup Language A specification for the format of documents and data to be used on the Web. It is a scaled-down version of SGML, and seeks to retain the comparative simplicity of HTML, yet offer greater flexibility in areas such as organization and presentation, while being fully compatible with both. Its abbreviation is XML.

Extensible Stylesheet Language Within **Extensible Markup Language**, a standard defining stylesheets. Its abbreviation is XSL.

Extensible Stylesheet Language Transformations A language utilized for converting XML documents into other XML documents with different structures. Its abbreviation is XSLT.

extension 1. An enlargement in scope, or in length of time. For instance, a plug-in which adds functionality to an application. 2. A set of characters appearing at the end of a filename, indicating the file type. For example, in the filename *notepad.exe*, the *.exe* portion is the extension, and in this case specifies an executable program. Also called **filename extension**. 3. A telephone, modem, or similar device connected to a main line, such as a PBX.

extensometer An instrument which measures small variations in the dimensions of a solid. For instance, it may measure deformation due to stress. An example is a laser extensometer.

extent In a direct-access storage device, such as a hard disk, a contiguous block reserved for a specific data set or program.

Exterior Gateway Protocol A routing protocol used between autonomous systems on the Internet. Its abbreviation is EGP.

external bus A bus between a CPU and peripherals. A PCI bus is an example. An **internal bus** runs between a CPU and memory.

external cache A memory cache which utilizes a memory bank between the CPU and main memory. This contrasts with **internal cache**, which is built right into the CPU. **Internal cache** is faster, but smaller than external cache, while external cache is still faster than main memory. Also called **level 2 cache**, or **L2 cache**.

external capacitor A capacitor which is externally connected to an oscillator, to vary its frequency.

external circuit A circuit, or part of a circuit, which is outside of a main circuit, or any other circuit in question. For instance, that which is externally connected to a battery, including its load.

external device A device which is not part of a central system, but which is utilized with it. For instance, a peripheral, such as a mouse or printer, used with a computer system.

external drive A drive, such as a disk drive or tape drive, that is not located within the system unit of a computer, as opposed to an **internal drive**, which is.

external electric field 1. An electric field other than that being considered. 2. An electric field affecting a given particle or body situated in the medium surrounding said field.

external error An error caused by an external device.

external feedback Feedback provided by an external circuit.

external field An external electric field, or an external magnetic field.

external interrupt In a computer, an interrupt generated by an external device. This contrasts with an **internal interrupt**, which is generated by the CPU.

external magnetic field 1. A magnetic field other than that being considered. 2. A magnetic field affecting a given particle or body situated in the medium surrounding said field.

external memory A deprecated term for **external storage**.

external modem A modem which is self-contained, and which usually connects to a computer via a cable to a serial port. This contrasts with an **internal modem**, which is plugged into an expansion slot.

external photoelectric effect The ejection of electrons from a surface through the absorption of sufficient incident electromagnetic radiation, such as infrared, visible, or ultraviolet

interrupt latency

interrupt latency The time interval that elapses between an interrupt being generated, and it being serviced.

interrupt mask A setting or bit which determines whether an interrupt will be serviced. Non-maskable interrupts can not be disabled, while maskable interrupts can be.

interrupt priority 1. The priority hierarchy established in case more than one interrupt arrives simultaneously. If multiple interrupts arrive at once, attention is given only to that with the highest priority. 2. The level a given interrupt has within an interrupt priority (1).

interrupt request Its abbreviation is **IRQ**. 1. An interrupt generated by a hardware component. 2. The hardware line via which an interrupt request (1) is sent. Also called **interrupt request line**.

interrupt request line Same as interrupt request (2). Its abbreviation is **IRQ line**.

Interrupt Service Routine A routine which performs the actions required in response to an interrupt.

interrupt signal Same as **interrupt**.

interrupt table Same as **interrupt vector table**.

interrupt vector A memory location containing the address of an interrupt handler.

interrupt vector table A list enumerating interrupt vectors. Also called **interrupt table**.

interrupted continuous wave A continuous wave which is interrupted at regular intervals. For example, such a wave may be interrupted at an audio-frequency rate so as to provide keying. Its abbreviation is **ICW**.

interrupted current A current which is varied, or started and stopped at intervals, as opposed to a steady current.

interrupter Also spelled **interruptor**. 1. A device, such as a chopper, which periodically or intermittently interrupts a direct current. 2. A device, such as a switch, which periodically or intermittently opens a circuit.

interrupter circuit A circuit which serves as an **interrupter**.

interrupting capacity A rating based on the amount of current that a protective device, such as a fuse or circuit breaker, can safely interrupt. Also called **interrupting rating**.

interrupting rating Same as **interrupting capacity**.

interruptor Same as **interrupter**.

Intersecting Storage Rings A device in which beams of protons stored in two interlaced rings are made to collide where said rings meet. The beams are stored in the rings after acceleration in proton synchrotrons, and energies in excess of 60 GeV can be produced. Its abbreviation is **ISR**.

intersection 1. The point where two things meet. It may refer to the meeting of circuits, planes, beams, bearings, and so on. 2. A logical operation which is true only if all of its elements are true. For example, if three out of three input bits have a value of 1, then the output is 1. Any other combination yields an output of 0. For such functions, a 1 is considered as a true, or high, value, and 0 is a false, or low, value. Also called **AND**, or **conjunction**.

interstage Between stages, such as those of a multistage circuit or device. For example, between stages of a cascade amplifier.

interstage coupling Coupling between stages, such as those of a multistage circuit or device. For example, direct coupling between stages of a cascade amplifier.

interstage transformer A transformer which serves to couple stages of a multistage circuit or device.

interstice A small or narrow space between component, parts, or objects.

interstitial ad An Internet ad that occupies most or all of the viewable browser window, and which frequently forces the user to view and listen to at least part before being allowed

to proceed to wherever was intended. Such advertisements usually feature gimmicks such as flashy graphics and sounds.

intersymbol interference In digital communications, a type of interference resulting from the overlap of individual digital pulses, in which case the receiver may not be able to distinguish between changes of state, which in turn can lead to an increased error rate. The closer the signal bandwidth is to the overall channel bandwidth, the greater the possibility of the manifestation of this form of interference.

intersystem communications Communications between two or more computer systems, be it via a direct link of CPUs, shared I/O channels, or the like.

intersystem electromagnetic compatibility 1. The ability two or more systems have to function in the same electromagnetic environment, without the function or performance of any of the systems being adversely affected by any electromagnetic interference created by any of them. Often, there is electromagnetic interference present, but it may not be sufficient to affect other devices. 2. The extent to which **intersystem electromagnetic compatibility** (1) exists.

interval 1. A space or separation between two points, locations, objects, or the like. For example, the distance between peaks of successive wave cycles. 2. A given range of values. For instance, an interval of frequencies or temperatures. Also, a specific range of values, such as the readings an instrument can display. 3. The time that elapses between the occurrence of two specified events, states, or instants. For example, the regular intervals at which AC voltage alternates, the irregular intervals at which a circuit with a loose connection might open and close, or the time within which a pulse rises from 0 to its maximum amplitude.

interval timer Also called **timer**. 1. An instrument or device utilized to measure time intervals, such as those occurring between events, or those required to complete given operations. 2. A **timer** (1) that controls the duration of a pulse, operation, event, process, or the like. 3. A **timer** (1) utilized to power, or otherwise activate a circuit, device, piece of equipment, system, mechanism, process, or the like. 4. A **timer** (1) utilized for synchronization purposes.

intervalometer An instrument which enables actuation of a device or piece of equipment at precise intervals.

intra-LATA Same as **intraLATA**.

intra office Same as **intraoffice**.

intraframe 1. Anything occurring within a single frame of video. 2. Same as **intraframe coding**.

intraframe coding Video compression in which temporal redundancy is not factored in. This form of compression does not take advantage of any similarities between successive frames, resulting in lower compression ratios. However, individual frames can be better accessed and manipulated. This contrasts with **interframe coding**, in which temporal redundancy is factored in. Also called **intraframe compression**, or **intraframe** (2).

intraframe compression Same as **intraframe coding**.

intraLATA Within the same **LATA**. A call made within the same **LATA** is not a long-distance call. Also spelled **intra-LATA**.

intranet A private network utilizing the same, or similar protocols as those used over the Internet. Such a network may consist, for instance, of the Web site which serves the internal needs of an organization. An intranet is usually protected by a firewall, which enables an organization to allow its members access to the Internet, while its own private resources are protected from outsiders.

intranet server A server dedicated to serving an **intranet**.

intraoffice Transmitted, communicated, or occurring within the same central office. For instance, a telephone call to a neighbor. Also spelled **intra office**.

overflow Also called **arithmetic overflow** 1. The condition in which the result of an operation exceeds the capacity of its designated storage location. For example, an operation whose exponent exceeds the number of bits allotted to it. Also called **overflow condition** 2. The amount by which the result of an operation exceeds the capacity of its designated storage location.

overflow condition Same as **overflow** (1).

overflow error An error which occurs as a result of dividing by zero, or by a number so small that the result exceeds the capability of a program or computer. Also called **divide overflow**.

overflow indicator A component, device, mechanism, or message which alerts to an **overflow condition**.

overflow record 1. A data record which is too large to fit in the allotted storage space. Such a record, for instance, may be stored in another area, or may be discarded. 2. A location or record indicating any discarded records, such as those that were too large or not processed in time.

overhaul 1. The careful examination, or disassembling, of devices, equipment, or systems, seeking out any components, units, or mechanisms which require adjustment, repair, and/or replacement. 2. To make extensive adjustments, repairs, and/or replacements.

overhead 1. Time, space, or procedures which are necessary for a given function or task, but which do not necessarily form a part of it. 2. In communications, bandwidth occupied by control codes, origin and destination information, error detection and correction coding, encryption, and so on. In ATM, for instance, each cell consists of 53 bytes, 48 of which are payload, and 5 of which are overhead. 3. In computers, procedures or processing time required for desired tasks, such as running applications, but which do not necessarily form a part of a given task. Housekeeping is an example. 4. Something located, operating, or originating from above something else.

overhead bits In communications, the bits utilized for **overhead** (2).

overhead line 1. Same as **overhead power line**. 2. Same as **overhead transmission line**.

overhead power line A power line whose conductors are suspended above the ground using supports, such as poles, towers, or other structures such as buildings. Since open-wire lines are usually used, a dielectric such as ceramic or glass is utilized to safely attach such lines to their supports. Also called **overhead line** (1).

overhead projector A projector utilized to reproduce transparencies. Such a projector usually incorporates a Fresnel lens.

overhead transmission line A transmission line, such as that utilized for power or communications, whose conductors are suspended above the ground using supports, such as poles, towers, or other structures such as buildings. If open-wire lines are used, a dielectric such as ceramic or glass is utilized to safely attach such lines to their supports. Also called **overhead line** (2).

overlaid windows On a computer screen, a group of windows arranged in a manner that they overlap one another. The title bars are generally visible, allowing a user to know which windows are open. Also called **cascading windows**.

overlap 1. The performance of all or part of an operation while one or more other operations take place. Also, the time during which this occurs. 2. To partially cover something, or have an area, region, or segment in common. Also, the area covered or in common.

overlay 1. To cover a surface with a layer or design. Also, that which is placed over, or which otherwise covers something else. For example, a graticule placed over the screen of an oscilloscope. 2. The superimposition or insertion of

one image onto or into another. Used, for instance, to place a computer-generated image onto a filmed image. 3. The use of the same area of a computer's RAM for multiple segments of the same program. When the size of a program exceeds the memory capacity of a given system, segments that are not needed at a given instant are shuttled out of the main memory, and when needed are shuttled back in, each time overwriting the segment which had been there earlier. 4. Same as **overlay segment**. 5. An area code whose boundaries overlap with those of another area code. Also called **area code overlay** (1). 6. An area code whose boundaries are the same as those of another area code. That is, both area codes serve the same specific region or zone. Also called **area code overlay** (2).

overlay network One of multiple communications networks which share the same geographic region. For example, a cellular network in the same area as a land-based telephone system.

overlay program 1. A program which may be divided into **overlay segments**. 2. A program which is divided into **overlay segments**.

overlay segment One of multiple segments of a program, which, one at a time, occupies the same area of RAM in **overlay** (3). Also called **overlay** (4).

overload Also spelled **over-load**. 1. A load which exceeds the optimum, operational, or rated load of a component, circuit, device, piece of equipment, machine, or system. Such a load may produce, for instance, distortion, excessive heating, malfunction, or failure. Also, to deliver a signal which leads to this condition. 2. In a communications network, a level of traffic which exceeds that which can be reliably handled. When such a condition occurs in a telephone network, for instance, calls may be blocked or delayed, the quality of connected calls may be diminished, and so on. 3. Same as **overloading** (2).

overload capacity The extent to which a component, circuit, device, piece of equipment, machine, or system can withstand an overload condition without permanent damage.

overload condition A state in which an **overload** (1) exists.

overload distortion Distortion resulting from an **overload** (1).

overload indicator A component, device, display, mechanism, or alarm which alerts to an **overload condition**.

overload level 1. The operational level beyond which an **overload** (1) begins. 2. The maximum level of **overload** (1) which can be tolerated without malfunction, failure, or danger. 3. The extent to which an **overload** (1) occurs.

overload protection The utilization of **overload protectors**.

overload protector A device or mechanism, such as a circuit breaker or peak limiter, which is utilized to prevent **overloads** (1), or their harmful effects.

overload recovery time The time it takes a component, circuit, device, piece of equipment, or system, to resume ordinary operation after an **overload** (1). Some devices can recover within a nanosecond after being overdriven. Also called **recovery time** (2).

overload relay 1. A relay which is actuated when a load exceeds a given value. Used, for instance, as an **overload protector**. 2. Same as **overcurrent relay**.

overload release A device or mechanism, such as a peak limiter, which opens a circuit when the load exceeds a specified maximum.

overload time 1. The duration of an **overload** (1). 2. The maximum time an **overload** (1) can occur without causing permanent damage or creating a safety hazard.

overloaded circuit 1. An electric circuit whose load exceeds that which it can handle safely. Such an **overload**, for instance, may blow a fuse, or cause permanent damage. 2. A

peripheral 1. Any device which transfers data to a CPU and/or receives data from a CPU. Such devices include keyboards, pointing devices, digitizing tablets, scanners, disk drives, microphones, monitors, printers, and speakers. Also, any external device which otherwise assists, enhances, or depends on computer function. Also called **peripheral device**, **peripheral equipment** (1), or **I/O device**. 2. Anything which is auxiliary in nature. For example, an auxiliary device as opposed to a main device.

peripheral buffer An area of computer memory reserved for data awaiting transfer to the CPU from a peripheral, or vice versa. Also called **I/O buffer**.

peripheral bus A bus, such as a local bus, which provides parallel data transfer between the CPU, the memory, and high-speed peripherals.

peripheral card A circuit board, such as a sound card or graphics card, which is plugged into the bus or an expansion slot of a computer, in order to add and control a peripheral. Also called by various other terms, including **expansion card**, **expansion board**, **accessory card**, **add-on board**, **adapter card**, **card** (1), and **adapter** (3).

Peripheral Component Interconnect Same as **PCI**.

Peripheral Component Interconnect bus Same as **PCI**.

Peripheral Component Interconnect local bus Same as **PCI**.

peripheral controller A circuit board or device which controls the way peripheral devices access the computer, and vice versa. It is usually contained on a single chip. Examples include disk controllers, graphics controllers, and video controllers. Also called **controller** (1), or **host adapter**.

peripheral device Same as **peripheral** (1).

peripheral electrons Electrons which are present in the outermost shell of an atom. Such electrons can move freely under the influence of an electric field, thus producing a net transport of electric charge. Peripheral electrons also determine the chemical properties of the atom. Also called **valence electrons**, **outer-shell electrons**, or **conduction electrons**.

peripheral equipment 1. Same as **peripheral** (1). 2. Any equipment which transfers data to a CPU and/or receives data from a CPU, or which otherwise assists, enhances, or depends on computer function. For example, a machine utilized for laser cutting which is controlled by an external computer.

peripheral interface adapter A circuit board which is plugged into the bus or an expansion slot of a computer, in order to enable the exchange of data with a peripheral. An example is a network adapter. Its abbreviation is **PIA**. Also called **peripheral interface card**.

peripheral interface card Same as **peripheral interface adapter**.

Perl Acronym for Practical Extraction Report Language. A UNIX-based programming language which is often used for system administrative tasks, or for the creation of scripts.

permalloy A ferromagnetic alloy consisting of about 79% nickel, 17% iron, and 4% molybdenum, although the relative proportions may vary. Other elements, such as manganese, may be present in small quantities. It has high permeability, and is used for instance, in tape deck heads, or to shield components from magnetic fields.

permanent cookie Same as **persistent cookie**.

permanent magnet A high-retentivity material, such as alnico alloy or certain steels, which can be magnetized sufficiently to retain its magnetism indefinitely. Permanent magnets have applications in various areas of electronics, including their use in sensing devices and speakers. Its abbreviation is **PM**.

permanent-magnet dynamic loudspeaker Same as **permanent-magnet speaker**. Its abbreviation is **PM dynamic loudspeaker**.

permanent-magnet dynamic speaker Same as **permanent-magnet speaker**. Its abbreviation is **PM dynamic speaker**.

permanent-magnet focusing The utilization of one or more permanent magnets to focus an electron beam. Used, for instance, in klystrons.

permanent-magnet generator An electric generator which utilizes a permanent magnet to provide the magnetic flux. Used, for instance, in ignition systems. Its abbreviation is **PMG**. Also called **magneto**.

permanent-magnet loudspeaker Same as **permanent-magnet speaker**. Its abbreviation is **PM loudspeaker**.

permanent-magnet motor A motor which utilizes one or more permanent magnets to produce torque, or another driving force. Also called **magnet motor**.

permanent-magnet speaker A dynamic speaker incorporating a permanent magnet which produces the constant magnetic field. Its abbreviation is **PM speaker**. Also called **permanent-magnet loudspeaker**, **permanent-magnet dynamic speaker**, or **permanent-magnet dynamic loudspeaker**.

permanent-magnet stepper motor A stepper motor in which the rotor is a permanent magnet. Also called **permanent-magnet stepping motor**.

permanent-magnet stepping motor Same as **permanent-magnet stepper motor**.

permanent memory Computer memory which retains its content when the power is interrupted or turned off. Examples include ROM, EEPROM, and flash memory. Also called **non-volatile memory**.

permanent-split capacitor motor A capacitor motor in which the auxiliary winding and capacitor are energized at all times. Also called **capacitor start-run motor**.

permanent storage 1. Storage, such as that of a ROM chip, which can not be altered once data has been placed there. 2. Computer storage which retains its content when the power is interrupted or turned off. Almost all computer storage, such as that utilizing disks or tapes, is of this nature. Also called **non-volatile storage** (1). 3. Computer memory which retains its content when the power is interrupted or turned off. Examples include ROM, EEPROM, and flash memory. Also called **non-volatile storage** (2).

permanent virtual circuit In a communications network, a virtual circuit between two nodes which is established before any actual data transfers takes place, and which is available at all times. Used, for instance, in frame relay. This contrasts with a **switched virtual circuit**, which is established only when needed. Its abbreviation is **PVC**.

permeability 1. Its symbol is μ . A quantitative indicator of the response of a material or medium to a magnetic field. It is expressed by the following formula: $\mu = B/H$, where B is the magnetic flux density of the material or medium, and H is the strength of the surrounding magnetic field. Relative permeability is obtained using the following formula: $\mu_r = \mu/\mu_0$, where μ_r is relative permeability, and μ_0 is the permeability of free space. The absolute permeability of free space is a physical constant equal to approximately 1.256637×10^{-6} henry per meter, and its relative permeability is equal to 1, as seen by the this formula. Materials whose relative permeability is less than 1 are diamagnetic, those slightly above 1 are paramagnetic, and those substantially above 1 are ferromagnetic. Also known as **magnetic permeability**. 2. The quality or state of being permeable.

permeability of a vacuum Same as **permeability of free space**.

beams may be transmitted simultaneously. Also called **planar-array antenna**.

planar-array antenna Same as **planar array**.

planar circuit A circuit which is two-dimensional. This contrasts with a **non-planar circuit**, which is three-dimensional.

planar device A semiconductor device, such as a diode or transistor, whose terminals all lie along the same plane or face.

planar diode A diode whose terminals lie along the same plane or face. Usually manufactured utilizing a planar process.

planar process In the manufacturing of semiconductor devices, the production of all components along a single plane, as opposed to three-dimensionally. It is a widely-utilized process in which an oxide layer is first grown on the substrate, followed by multiple steps of diffusion and etching to produce the desired junctions, and usually ending with another oxide layer for insulation, stability, and protection.

planar transistor A transistor whose terminals all lie along the same plane or face. Usually manufactured utilizing a planar process.

Planck constant A fundamental physical constant equal to approximately 6.62607×10^{-34} joule-second. It is the ratio of the energy of a photon to its frequency. Its symbol is h .

Planck's law A fundamental law stating that electromagnetic energy is composed of discrete quanta of energy, called photons. The energy of a photon, or light quantum, is equal to hf , where h is the **Planck constant**, and f is the frequency of the radiation in hertz.

plane A flat surface considered to extend endlessly in all directions.

plane of incidence The plane containing light, sound, particles, waves, or the like, which is reflected off a surface, object, or region. Also called **incidence plane**.

plane of polarization For an electromagnetic wave, the plane which contains both the electric field vector and the direction of propagation of said wave. Also called **polarization plane**.

plane of reflection The plane containing light, sound, particles, waves, or the like, which are incident upon a surface, object, or region. Also called **reflection plane**.

plane polarization Polarization of an electromagnetic wave in which the electric field vector is always situated in a plane that also contains the direction of propagation of said wave.

plane-polarized light A light wave with **plane polarization**. Also called **linearly-polarized light (2)**.

plane-polarized wave A wave with **plane polarization**. Also called **linearly-polarized wave (2)**.

planetary electron An electron in an orbital. Also called **orbital electron**.

plant 1. Same as **power generating station**. 2. One or more building or structures utilized to manufacture products.

plant load factor For a given power generator or group of generators, the ratio of the actual energy produced, to the amount that would have been produced at the maximum continuous duty rating. Usually expressed as a percent. Its abbreviation is **PLF**.

plasma A state of matter consisting of a gas that has been completely ionized, and which contains equal numbers of positive and negative particles, such as positive ions and free electrons. A plasma is electrically conductive, and susceptible to magnetic fields. Such a state of matter may be observed, for instance, in stars, interstellar gases, thermonuclear reactions, and in gas-discharge tubes. A gas which has

been sufficiently ionized so as to become conductive and susceptible to magnetic fields is usually considered a plasma as well. The other physical states in which matter is known to exist are solid (1), liquid, gas, and Bose-Einstein condensates.

plasma confinement The confinement of a plasma within a region, such as the central part of an enclosure. One technique utilized for this purpose is magnetic confinement. Also called **plasma containment**.

plasma containment Same as **plasma confinement**.

plasma display A flat display which utilizes a matrix of small tubes, each containing a gas. Each tube represents a pixel, and when powered, the gas ionizes to produce a glow, depending on the contained gas, the glow discharge may be red, green, or blue. Used, for instance, for large-screen and digital TV. Also called **plasma monitor**, **plasma display panel**, or **gas-plasma display**.

plasma display panel Same as **plasma display**. Its abbreviation is **PDP**.

plasma-enhanced chemical-vapor deposition A chemical-vapor deposition technique in which gaseous reactants are placed into a plasma. The makes high temperatures unnecessary, as the plasma provides species which are highly energetic and reactive. Its abbreviation is **PECVD**, or **plasma-enhanced CVD**.

plasma-enhanced CVD Same as **plasma-enhanced chemical-vapor deposition**.

plasma etching A dry-etching technique in which a plasma provides species which are highly energetic and reactive, which chemically etch patterns into the immediately surrounding material.

plasma length In a plasma, the maximum distance at which a charged particle will be influenced by the electric field of another particle of the opposite charge. It usually refers to the interactions between an electron and any given positive ion. Also called **Debye length**, **Debye screening radius**, **Debye shielding distance**, or **Debye shielding length**.

plasma monitor Same as **plasma display**.

plasma screen The viewing screen of a **plasma display**.

plastic A solid material which can flow into a given desired shape through the application of heat and/or pressure. A plastic is ordinarily synthetic, and its chief constituent is usually a polymerized organic molecule, such as polyvinyl chloride. The two main classifications for plastics are thermosetting and thermoplastic. Plastics are electrical insulators, and have many applications in electronics, including their use in components such as capacitors, recording media such as floppy disks and optical disks, optical fibers, lenses, IC packages, in frames, as an encapsulant, and for tubing, among many others.

Plastic Ball Grid Array A surface-mount ceramic chip package that utilizes tiny balls of solder to attach its leads to a printed-circuit board. Plastic Ball Grid Arrays feature low induction, compact size, and a high lead count in a small area. Its abbreviation is **PBGA**.

plastic chip package Same as **plastic package**.

plastic DIP Same as **PDIP**.

plastic dual in-line package Same as **PDIP**.

plastic-film capacitor A capacitor in which layers of a metal foil, usually aluminum, are alternated with layers of a plastic, such as polystyrene, to form a roll. Such capacitors are well suited, for instance, for use at high temperatures and high frequencies.

plastic-led chip carrier A square or rectangular plastic chip package having J-leads on all four sides. This occupies less room than comparable packages with gull-wing leads. Its abbreviation is **PLCC**.

function and capabilities, in addition to tumors and strokes. Also called **positron emission tomography scan**.

positron emission tomography scan Same as **positron emission tomography**. Its abbreviation is **PET scan**.

positron emission tomography scanner An instrument which takes **positron emission tomographies**. Its abbreviation is **PET scanner**.

POSIX Abbreviation of **Portable Operating System Interface for UNIX**. A set of ISO and IEEE standards aimed at making applications portable between platforms, especially between UNIX systems and others.

post 1. A upright length of a material, such as wood or metal, which serves for support, attachment, connection, or the like. For example, that utilized to join two or more conductors. 2. A terminal, used for making electrical connections, that incorporates a screw which is usually adjusted by hand. Used, for instance, to connect audio speaker cables. Also called **binding post**, **binding screw**, or **screw terminal**. 3. A post (1) placed in a waveguide to introduce a reactance, susceptance, or the like. An example is a capacitive post. Also called **waveguide post**. 4. In a communications network, especially the Internet, to submit a message to a newsgroup, online bulletin board, or the like.

POST Acronym for **Power-On Self-Test**.

post-acceleration Also spelled **postacceleration**. Also called **post-deflection acceleration**. 1. In a CRT, acceleration of an electron beam after its deflection. 2. In an electron tube, acceleration of an electron beam after its deflection.

post-deflection acceleration Same as **post-acceleration**. Also spelled **postdeflection acceleration**.

post-emphasis The process of restoring an audio-frequency signal to its original form before reproduction. This is done to offset the preemphasis of higher frequencies occurring prior to transmission or during recording. May be used, for instance, in frequency-modulated receivers. The utilization of preemphasis followed by postemphasis may help improve the overall signal-to-noise ratio and reduce distortion, among other benefits. Also spelled **postemphaisis**. Also called **post-equalization**, or **deemphasis**.

post-emphasis network An electric network which serves to provide **post-emphasis**. Also spelled **postemphaisis network**. Also called **deemphasis network**, or **deaccentuator**.

post-equalization Same as **post-emphasis**. Also spelled **postequalization**.

post-mortem Same as **postmortem**.

Post Office Protocol A widely-used protocol to store, access, and send email over the Internet. Its abbreviation is **POP**.

Post Office Protocol server Same as **POP server**.

post-processor Same as **postprocessor**.

postacceleration Same as **post-acceleration**.

postdeflection acceleration Same as **post-acceleration**. Also spelled **post-deflection acceleration**.

postemphaisis Same as **post-emphasis**.

postemphaisis network Same as **post-emphasis network**.

postequalization Same as **post-emphasis**. Also spelled **post-equalization**.

postfix notation A manner of forming mathematical or logical expressions in which the operators appear after the operands. For example, $(A + B) \times C$, which is in **infix notation**, would appear as $ABC + \times$ in postfix notation. Also called **reverse Polish notation**, or **suffix notation**.

postmortem The analysis or study of a recent event, such as a malfunction, crash, or failure. Also spelled **post-mortem**.

postprocessor Hardware or software which performs processing after another device or program has processed data. Also spelled **post-processor**.

PostScript A de facto page-description language standard which is supported by most printing establishments and many printers.

pot 1. Abbreviation of **potentiometer**. 2. Abbreviation of **potential**.

pot core A ferrite magnetic core in which a center post, around which the coil is wound, is surrounded by an enclosure in the general form of a kitchen pot. Such a configuration shields against stray flux.

potassium A soft silvery-white metallic element whose atomic number is 19. It is an alkali metal, extremely reactive, and oxidizes rapidly or ignites in moist air. It has over 20 known isotopes, of which 2 are stable. Its applications in electronics include its use in high-sensitivity magnetometers, optical devices, and many of its compounds are of significance in this field. Its chemical symbol, **K**, is taken from the Latin word for alkali: *kalium*.

potassium bichromate Same as **potassium dichromate**.

potassium bifluoride Colorless crystals whose chemical formula is KHF_2 . Used for etching, and as an electrolyte.

potassium bromide White crystals or powder whose chemical formula is KBr . Used in spectroscopy, and in photography.

potassium carbonate A white powder whose chemical formula is K_2CO_3 . Used in optical glasses, TV tubes, and in electroplating.

potassium chloride White crystals or powder whose chemical formula is KCl . Used in electrode cells, and in photography.

potassium cyanide A white powder or mass whose chemical formula is KCN . Used in electroplating.

potassium dichromate Bright orange-red crystals whose chemical formula is $K_2Cr_2O_7$. Used in batteries, electroplating, photolithography, and in ceramics. Also called **potassium bichromate**.

potassium dihydrogen phosphate A ferroelectric substance whose chemical formula is KH_2PO_4 . Its abbreviation is **KDP**.

potassium ferricyanide Ruby-red crystals used in etching and electroplating.

potassium ferrocyanide Pale yellow crystals or powder used in etching and electroplating.

potassium fluoride A white powder whose chemical formula is KF . Used in hard soldering, and in etching.

potassium hydroxide A white powder whose chemical formula is KOH . Used in fuel cells, batteries, as an electrolyte, and in electroplating.

potassium iodide A white powder whose chemical formula is KI . Used in spectroscopy and other analytical techniques.

potassium manganate Dark green crystals whose chemical formula is K_2MnO_4 . Used in batteries, and in photography.

potassium perchlorate Colorless or white crystals or powder whose chemical formula is $KClO_4$. Used in analytical techniques, and in photography.

potassium permanganate Dark purple crystals whose chemical formula is $KMnO_4$. Used in analytical techniques, and in photography.

potassium silicate A colorless or yellow solid used in ceramics and electrodes.

potassium sodium tartrate Colorless to white crystals displaying piezoelectricity and ferroelectricity. Used in piezoelectric devices, such as crystal microphones, and for silvering mirrors. Also called **Rochelle salt**, or **Seignette salt**.

potential The work required to bring a unit charge from a reference point to a specific point within an electric field. The reference point is usually considered to be an infinite distance from the specific point, whose potential is considered to be zero.

potential barrier

ered to be zero. When 1 joule is required to bring 1 coulomb of charge, the potential is equal to 1 volt. Its symbol is V , and it is expressed in volts. Its abbreviation is **pot**. Also called **electric potential**, or **electrostatic potential**.

potential barrier Within a field of force, a region in which the potential is such that it opposes the passage of a particle through it, or the movement of a particle subject to said field. Observed, for instance, in junction diodes. Also called **potential hill**.

potential difference The difference in potential between two points, especially those of a circuit. It is the work required to move a unit charge between these points. Its abbreviation is **PD**, and its symbol is U , or ΔV . When expressed in volts, as it usually is, also called **voltage**. Also called **electric potential difference**.

potential divider A component, circuit, or device which is utilized to provide an output which is a desired fraction of the input potential difference. For instance, a resistor, variable resistor, tapped resistor, or combination of resistors with taps, movable contacts, or junctions may be utilized for this purpose. Also called **voltage divider**.

potential drop 1. The potential difference between any two points of a circuit or conductor. 2. The potential difference between any two points of a circuit or conductor, due to the flow of current. Also called **voltage drop** (1), or **drop** (3). 3. The potential difference between the terminals of a circuit element, due to the flow of current. Also called **voltage drop** (2), **drop** (4).

potential energy The energy a body possesses as a consequence of its position, configuration, or state. Potential energy provides a body with the capacity to do work. Examples include the energy stored in a capacitor, or that in a compressed spring. Its abbreviation is **PE**.

potential gradient For a given conductor or dielectric, the voltage per unit length. Also called **voltage gradient**.

potential hill Same as **potential barrier**.

potential transformer A transformer utilized to provide an output voltage different than the input voltage. It is a step-down transformer when the output voltage is lower than the input voltage, or a step-up transformer when the output is higher than the input voltage. Used, for instance, as an instrument transformer. Also called **voltage transformer**.

potentiometer Its abbreviation is **pot**. 1. A variable resistor incorporating a sliding contact or tap, so as to allow a variable proportion of the total resistance to be included in a circuit. It is usually utilized as a potential divider. 2. A **potentiometer** (1) used as a volume control. 3. A device or instrument which incorporates one or more calibrated resistors, and which is utilized to measure unknown potential differences when compared with a precisely known potential difference, such as that of a standard cell.

potentiometry 1. The use of **potentiometers** to study and measure unknown potential differences. 2. The study and measurement unknown potential differences, such as those in quantitative electrochemical analysis.

POTS Acronym for plain old telephone service. Analog land-based telephone service with no added features, consisting simply of one or more single-line telephone instruments connected to a public switched telephone network.

POTS splitter Abbreviation of plain old telephone service **splitter**. A filter which separates the voice and data signals of a telephone line via which DSL service is accessed. The voice frequencies are in the lower frequency range, and the data is in the higher interval. Not all DSL services require a POTS splitter. Also called **splitter** (3), or **DSL splitter**.

potted circuit An electric circuit which is embedded, encased, or immersed in a material to protect it from its surrounding environment. For example, a circuit which is immersed in oil or embedded in rubber, and surrounded by a metal case.

potting The process of embedding, encasing, or immersing a circuit in a material to protect it from its surrounding environment.

potting material A material, such as wax, plastic, rubber, or resin, utilized for **potting**.

pound Its abbreviation, **lb**, is taken from the Latin word for pound, *libra*. 1. A unit of mass equal to exactly 453.59237 grams. Also called **pound mass**. 2. A unit of mass equal to approximately 373.242 grams. Used in certain contexts, such as the indication of mass of precious metals or stones. 3. A unit of weight or force equal to the force of gravity on one **pound** (1). This value varies by location, and is equal to approximately 4.44822 newtons. Also abbreviated **lbf**, which is more proper than **lb**. Also called **pound force**.

pound-foot A unit of torque equal to approximately 1.35582 newton meter. Its abbreviation is **lbf ft**, or **lb ft**. Also called **foot-pound** (2).

pound force Same as **pound** (3).

pound mass Same as **pound** (1).

poundal A unit of force equal to approximately 0.138255 newton. Its abbreviation is **pdl**, or **pl**.

pounds per square foot A unit of pressure equal to approximately 47.88026 pascals. Its abbreviation is **lbf/ft²**, or **psf**.

pounds per square inch A unit of pressure equal to approximately 6.894757 kilopascals. Its abbreviation is **lbf/in²**, or **psi**.

powdered-iron core A magnetic core made from powdered ferrite. The particles are mixed with an appropriate binder, and the core is formed through applied pressure. Used, for instance, as a radio-frequency choke, or for magnetic storage. Also called **ferrite core**, or **dust core**.

power 1. The rate at which energy is expended, or at which work is performed. Its symbol is P , its abbreviation is **pwr**, and it is usually expressed in watts, or some multiple of watts, such as megawatts. When dealing specifically with the rate at which electric energy is utilized in a DC circuit or system, it is equal to the potential difference, expressed in volts, multiplied by the current, expressed in amperes. In an AC circuit or system, **true power** is the rate at which work is performed or energy is transferred, **apparent power** is the product of the RMS current and the RMS voltage, while **reactive power** is the power in an AC circuit which cannot perform work. Also called **electric power** (1). 2. To provide **power** (1). 3. A number indicating the exponent to which another number, the base, is raised. For example, in 2^8 , the 8 is the power, and the 2 is the base. Also called **exponent**. 4. The product obtained when multiplying a given number by a given **power** (3). For instance, in 2^8 , 2 is raised to the 8th power, which results in 256. 5. The multiplication of a given number or value by another, to express a multiple of a given standard or reference. For instance, 256X oversampling, or a 64x DVD drive. 6. A measure of the ability of a lens, or optical system, to magnify an image or object.

power adapter A converter that changes the AC available from an electrical outlet into a low-voltage source of DC power. Utilized, for instance, to provide for the energy requirements of portable devices such as notebook computers, in cell phone chargers, and so on. Also called **AC adapter**.

power amplification 1. For a given component, circuit, device, stage, piece of equipment, or system, the production of an output power which is greater than the input power. 2. For an amplifying device such as a transistor, electron tube, or photomultiplier tube, the ratio of the output power to the input power. Also called **power gain** (2), or **power ratio**. 3. Same as **power output** (1).

power amplifier An amplifier designed to provide an output power which is much greater than the input power. Such an amplifier is utilized to deliver power to a load, such as a loudspeaker. When there are multiple amplifiers, or ampli-

of 44.1, as the latter has been divided by 2. Also spelled **submultiple**.

subnanosecond A time interval shorter than a nanosecond. Also spelled **sub-nanosecond**.

subnet Abbreviation of **subnetwork**.

subnet mask Abbreviation of **subnetwork mask**.

subnetwork A network within a larger network. For example, the Internet is a worldwide network of interconnected autonomous networks, each of which is a subnetwork. Its abbreviation is **subnet**. Also spelled **sub-network**.

subnetwork mask A bit combination which identifies which portion of an IP address corresponds to the network or subnetwork, and blocks out the rest. For example, a network may use the same values in the first three address fields of a four field address such as WWW.XXX.YYY.ZZZ, and block out, or mask, all but the ZZZ portion, since it is the only one that will vary. Its abbreviation is **subnet mask**. Also spelled **sub-network mask**. Also called **address mask**, or **network mask**.

subnotebook Same as **subnotebook computer**. Also spelled **sub-notebook**.

subnotebook computer A computer which is lighter and smaller than a notebook computer, but larger than a handheld computer. Such a computer usually weighs less than one kilogram, and generally features computing power similar to a desktop model. Also spelled **sub-notebook computer**. Also called **subnotebook**, or **mini-notebook**.

subpanel A panel which forms part of a larger panel. For instance, that which provides additional controls. Also spelled **sub-panel**.

subprogram A part, such as a subroutine or module, of a larger program. For example, a subroutine can be invoked by a program to perform a given task, then return control to the invoking program. Also spelled **sub-program**.

subroutine Within a computer program, a small group of instructions which perform a given task. Also spelled **sub-routine**. Also called **routine** (1), **function** (3), or **procedure** (2).

subschemata A subset within a **schema**. It may consist, for instance, of a database description from the perspective of a specific application, or the part of a database pertaining to a given department within an enterprise. Also spelled **sub-schema**.

subscribe 1. To pay or otherwise sign-up for a given service, such as CATV. 2. To authorize an entity to send information. For example to agree to become part of a mailing list.

subscriber A user or other entity which has been authorized to utilize or receive one or more services. For example, a user who has paid for access to the Internet, telephone service, or satellite channels.

Subscriber Identity Module Same as **SIM**.

Subscriber Identity Module card Same as **SIM card**.

subscriber line A pair of wires, or its equivalent, extending from a telephone central office to the premises of a customer. Also called **subscriber loop**, **loop** (7), **local loop**, **local line**, or **line loop**.

subscriber line interface circuit A circuit, usually in the form of a chip, that converts a two-wire subscriber line signal into a four-wire signal, and vice versa, at a central office, PBX, or the like, and which in addition performs other functions such as line supervision. Its acronym is **SLIC**.

subscriber loop Same as **subscriber line**.

subscription television Same as **subscription TV**.

subscription TV Abbreviation of **subscription television**. Also called **pay TV**. 1. A service in which payment is made to be able to view TV content which is otherwise unavailable at a given location. Examples include pay-per-view,

and premium channels. A decoder box is usually necessary for such programming. 2. Any TV service which requires payment. These include **subscription TV** (1), basic satellite, premium cable, and so on.

subset A set which is contained within or forms part of another larger set.

subsonic Pertaining to, generating, sensitive to, or utilizing **subsonic frequencies**. Also spelled **sub-sonic**. Also called **infrasonic**.

subsonic frequency A frequency below the range that humans can hear. That is, below about 20 Hz. Also spelled **sub-sonic frequency**. Also called **subaudible frequency**, or **infrasonic frequency**.

subsonic phenomena Phenomena occurring within, or pertaining to **subsonic frequencies**. Also spelled **sub-sonic phenomena**. Also called **infrasonic phenomena**.

substation A station which is a part of a larger station, which supplements a larger station, or which is located between larger stations or between a larger station and another location. For example, a station between a power station and a group of homes. Also spelled **sub-station**.

substitution method 1. A method of measurement in which an unknown quantity is determined via the replacement with known quantities which have the same effect as that which has been replaced. For example, the determination of an unknown resistance by placing a resistor with a known value in its place. 2. The substitution of a component or device with an equivalent one, for testing, troubleshooting, or performing repairs.

substrate 1. The base layer, or other surface upon which something is deposited, etched, attached, or otherwise prepared or fabricated. A substrate also provides physical support and insulation. For example, the base film of a magnetic tape, or the plastic base of a compact disc. 2. A **substrate** (1) utilized in the manufacturing of circuits and microcircuits. Such a substrate may be made, for instance, of ceramic, plastic, glass, or a semiconductor material. An active substrate has active elements, such as transistors, formed directly on it, while passive substrates have components mounted upon them.

substring A subset within, or portion of, a **string**. Also spelled **sub-string**.

subsystem Also spelled **sub-system**. 1. A system which is a part of, or assists, a larger system. Cache memory, for instance, is a specialized high-speed storage subsystem. 2. A system which is subordinate to another system.

subterranean Located or utilized beneath the surface of the earth.

subtitles In TV programming, and similar multimedia presentations such as films presented in theaters, the providing of text, and symbols such as ♪, which are intended to accurately transcribe the dialogue and describe the sounds of that being presented. A decoder is not necessary to show subtitles, as the displayed text and symbols are always superimposed on the viewed image. Useful, for instance, for those with reduced hearing. This contrasts with **closed-captioning**, which requires a decoder to appear on-screen.

subtractor Same as **subtractor**.

subtractor circuit Same as **subtractor**. Also spelled **sub-tractor circuit**.

subtractive color A color formed by a **subtractive mixture**.

subtractive color process A method of producing colors through a **subtractive mixture**. Also called **subtractive process**, or **subtractive synthesis**.

subtractive color system A system of combining subtractive primary colors in varying proportions to yield a full range of colors.

template 1. A pattern or design usually cut out of a metal or plastic plate or sheet, which is used as a guide for shaping, drawing, carving, or the like. Such patterns or designs may also be available or otherwise prepared via computer applications. Used, for instance, to help in preparing circuit diagrams or flowcharts. 2. An overlay usually made of plastic or cardboard which is placed over a computer keyboard, or a part of one, which labels or describes the functions of keys within a given application. 3. A predefined layout which serves as the basis for a document, such as a monthly report prepared utilizing a word-processing application, or that composing a Web page. A style sheet specifies parameters such as page size, margins, headers, footers, fonts, hyperlinks, and so on. Also called **style sheet**.

temporary cookie A cookie that is deleted or otherwise disappears when a Web browser is closed, or after a comparatively short time. This contrasts with a **persistent cookie**, which is kept indefinitely or until deleted. Also called **transient cookie**, or **session cookie**.

temporary directory A directory which holds **temporary files**. Its abbreviation is **temp directory**.

temporary file A file that is used only when needed, after which time it is deleted. For example, such files created during a session in which a given application is in use. Temporary files may be located in memory and/or a disk. Its abbreviation is **temp file**.

temporary folder A folder which holds **temporary files**. Its abbreviation is **temp folder**.

temporary magnet A magnet, such as that made of soft iron, which retains its magnetism for brief periods, as opposed to a **permanent magnet**, which can remain magnetized indefinitely. Temporary magnets are usually characterized by low reluctance and low retentivity.

temporary storage A segment of computer memory or storage which is utilized to temporarily store information that awaits transfer or processing. A buffer is an example. Also called **interim storage**.

ten-turn potentiometer A potentiometer whose moving contact can travel approximately ten times around its shaft or axis. Its abbreviation is **10-turn potentiometer**.

ten's complement Same as **tens complement**.

TENS Acronym for **transcutaneous electrical nerve stimulation**.

tens complement The complement when using the decimal number system. For instance, the complement of six in the decimal system is four: $(10 - 6) = 4$. It is obtained by subtracting a number from the radix, which in the decimal system is 10. Its abbreviation is **10's complement**.

tension 1. The potential difference or electromotive force between two points, such as those in a circuit, expressed in volts, or in multiples of volts, such as kilovolts or millivolts. Also called **voltage**. 2. The condition of being stretched or pulled, often tightly. Also, the process or act of so stretching or pulling. 3. A force creating and/or maintaining a **tension** (2).

tera- A metric prefix representing 10^{12} , which is equal to a trillion. For instance, 1 terahertz is equal to 10^{12} Hz, or 1,000,000,000,000 Hz. When referring to binary quantities, such as bits and bytes, it is equal to 2^{40} , or 1,099,511,627,776, although this is frequently rounded to a trillion. To avoid any confusion, the prefix **tebi-** may be used when dealing with binary quantities. Its abbreviation is **T**.

tera-electronvolt A unit of energy or work equal to 10^{12} electronvolts. Also spelled **teraelectronvolt**. Its abbreviation is **TeV**.

terabecquerel A unit of activity equal to 10^{12} becquerels. Its abbreviation is **TBq**.

terabit 2^{40} , or 1,099,511,627,776 bits, although this is frequently rounded to a trillion bits. To avoid any confusion, the term **tebibit** may be used when referring to this concept. Its abbreviation is **Tb**, or **Tbit**.

terabits per second 2^{40} , or 1,099,511,627,776 bits, per second. Usually used as a measure of data-transfer speed. Its abbreviation is **Tbps**. To avoid any confusion, the term **tebibits per second** may be used when referring to this concept.

terabyte 2^{40} , or 1,099,511,627,776 bytes, although this is frequently rounded to a trillion bytes. To avoid any confusion, the term **tebibyte** may be used when referring to this concept. Its abbreviation is **TB**, or **Tbyte**.

terabytes per second 2^{40} , or 1,099,511,627,776 bytes, per second. Usually used as a measure of data-transfer speed. Its abbreviation is **TBps**. To avoid any confusion, the term **tebibytes per second** may be used when referring to this concept.

teracycle A unit of frequency equal to 10^{12} cycles, or 10^{12} Hz. The term currently used for this concept is **terahertz**.

teraelectronvolt Same as **tera-electronvolt**.

teraflops Same as **TFLOPS**.

teragram A unit of mass equal to 10^{12} grams. Its abbreviation is **Tg**.

terahertz A unit of frequency equal to 10^{12} Hz. Its abbreviation is **THz**. Also called **teracycle**.

terajoule A unit of energy or work equal to 10^{12} joules. Its abbreviation is **TJ**.

terameter A unit of distance equal to 10^{12} meters. Its abbreviation is **Tm**.

teraohm A unit of resistance, impedance, or reactance equal to 10^{12} ohms. Its abbreviation is **TΩ**.

teraohmmeter An ohmmeter designed to provide accurate indications of resistance values in the teraohm range.

terapascal A unit of pressure equal to 10^{12} pascals. Its abbreviation is **TPa**.

teravolt A unit of potential difference equal to 10^{12} volts. Its abbreviation is **TV** (5).

terawatt A unit of power equal to 10^{12} watts. Its abbreviation is **TW**.

terawatt-hour A unit of energy equal to 10^{12} watt-hours. Its abbreviation is **TWh**, or **TWhr**.

terbium A soft silver-gray metallic chemical element whose atomic number is 65. It is ductile, malleable, and is a rare-earth element. It has nearly 30 known isotopes, of which one is stable. It is used, for instance, in phosphors, lasers, and as a dopant. Its chemical symbol is **Tb**.

terminal 1. A computer input/output device which incorporates a video adapter, monitor, keyboard, and usually a mouse. Used in networks. Also called **computer terminal** (1), **network terminal** (1), **console** (3), or **station** (6). When such a terminal has no processing capability it is called **dumb terminal**, while a terminal that incorporates a CPU and memory does have processing capability, and is called **intelligent terminal**. 2. A personal computer or workstation which is linked to a network. Also called **computer terminal** (2), **network terminal** (2), or **station** (7). 3. A device, such as a wire or adapter, which serves to make electrical, network, or other types of connections. Also, the specific point or location where this occurs. 4. A device, such as a post or a strand of metal, which protrudes from an electrical component to facilitate connection within a circuit. 5. That which is at an end, or consists of the end of something, such as that of a series, or of a transmission line.

Terminal Access Controller Access Control System Same as **TACACS**.

necting wires. It is common for wireless cable to also offer Internet access and other data transmission services.

wireless communications Same as **wireless (1)**.

wireless connection A communications connection which is wireless (1).

wireless data Information sent via **wireless data transmission**.

wireless data transmission The transmission of data in a wireless (1) manner.

wireless device A device which communicates in a wireless (1) manner.

Wireless Fidelity Same as **Wi-Fi**.

wireless headphones Headphones which do not have a cord. Such headphones receive signals from its base unit which is plugged into an audio amplifier, or similar device. Also called **cordless headphones**.

wireless intercom Also called **wireless intercom system**. 1. An intercom system which does not utilize connecting wires, cords, or cables. 2. An intercom system which utilizes the power-line wiring present in a given structure or location. Each station simply plugs into an available outlet.

wireless intercom system Same as **wireless intercom**.

wireless Internet Internet access via radio-frequency waves, such as microwaves. This type of access may be obtained, for instance, using a properly equipped cellular telephone or PDA. Its abbreviation is **wireless net (1)**.

wireless keyboard A computer keyboard which does not have a cord. Such a keyboard may use infrared or radio-frequency waves to communicate with the computer. Also called **cordless keyboard**.

wireless LAN Abbreviation of **wireless local-area network**. A LAN whose nodes communicate via radio-frequency waves, such as microwaves, or infrared waves. Useful, for instance, in settings where multiple nodes, such as computers, are constantly in motion. Its own abbreviation is **WLAN**. Also called **local-area wireless network**.

wireless local-area network Same as **wireless LAN**.

wireless local loop The use of RF waves, such as microwaves, for last mile connections between a telephone company's central office and the customers it serves. May be used, for instance, to provide telecommunications access to new communities without having to run wires or cables to each user. Its abbreviation is **WLL**. Also called **radio local loop**.

wireless loudspeakers Same as **wireless speakers**.

wireless markup language A markup language that is utilized to provide Internet content to mobile devices, such as properly equipped digital cellular telephones or PDAs. This format is tailored to the special needs of such devices, such as reducing the need for keyboard input. Its abbreviation is **WML**.

wireless medium A communications pathway which is not physically linked by cables or wires. For instance, the communications channels among the nodes of a wireless network.

wireless microphone A microphone which does not have a cord. It has its own power source, and transmits via infrared or radio-frequency signals. Also called **cordless microphone**.

wireless modem A modem which transmits data without utilizing connecting wires or cables. Used, for instance, in cell phones, PDAs, or wireless networks. Also called **radio modem**.

wireless mouse A computer mouse which does not have a cord. Such a mouse may use infrared or radio-frequency waves to communicate with the computer. Also called **cordless mouse**.

wireless net 1. Same as **wireless Internet**. 2. Same as **wireless network**.

wireless network A network whose nodes communicate via radio-frequency waves, such as microwaves or infrared waves. Wireless LANs and wireless WANs are examples. Such networks feature benefits such as comparative ease of setting it up, and the removal of most mobility restrictions. Its abbreviation is **wireless net (2)**.

wireless networking The use of a **wireless network**.

wireless PDA Abbreviation of **wireless personal digital assistant**. A PDA which links to a network, peripheral, and/or another computer wirelessly.

Wireless Personal Area Network A network in which multiple devices are wirelessly interconnected when located within a given radius, such as ten meters, and which is suitable for a single user moving around employing PDAs, desktop computers, printers, and so on. Its abbreviation is **WPAN**. Also called **Personal Area Network**.

wireless personal digital assistant Same as **wireless PDA**.

wireless phone Abbreviation of **wireless telephone**. Also called **cordless phone**. A telephone which does not have a cord between the base unit and the handset, and which communicates via low-powered radio-frequency signals. In this context, although both **cordless telephones** and **cellular telephones** are wireless, the main difference between them is that the former plugs directly into a land telephone network, while the latter is linked to it via microwaves.

wireless portal Same as **wireless application protocol portal**.

wireless printer A printer that works wirelessly with properly equipped computers. Such printers and computers usually communicate via infrared signals. For best results, the communicating devices should be close to each other, and the signal should travel along an unobstructed path.

wireless reception The reception of wireless signals, such as radio-frequency waves or infrared waves, by a device such as a PDA or cellular telephone.

wireless remote control Remote control which utilizes radio, infrared, or acoustic waves, as opposed to connecting wires or cables.

wireless security system A security system whose components are not physically wired to each other, instead using radio-frequency and/or infrared signals to communicate. Such a system is ideally suited for structures that are already built, or in locations where a cabled arrangement would be impractical.

wireless service A service in which information, such as voice, video, or data, is transmitted and/or received without the use of connecting wires. Instead, signals are sent by means of electromagnetic waves such as radio-frequency waves or infrared waves. Cellular and satellite communications are two examples of such services.

wireless service provider A provider of wireless communications services, such as wireless Internet, or cellular telephony.

wireless speakers Speakers which do not have a cord. Such speakers incorporate their own amplifiers, and receive their signals from an audio amplifier, or similar device. Also called **wireless loudspeakers**.

wireless standard A standard or protocol, such as wireless application protocol, utilized for wireless communications.

wireless system A system which provides **wireless communications**. Such a system includes transmitting equipment, control mechanisms, the information-bearing signals so sent, the transmission path they follow, and receiving devices.

wireless technology Any technology, such as that utilized in cellular telephony, GPS, or wireless networks, which does

not use connecting wires or cables for the exchange of information.

wireless telecommunications Same as **wireless** (1).

wireless telegram A message sent via **wireless telegraphy**.

wireless telegraph Also called **radiotelegraph**. 1. The transmission of **wireless telegrams**. 2. A device utilized to send **wireless telegrams**.

wireless telegraphy Telegraphy in which radio waves are utilized, as opposed to wires. Also called **radiotelegraphy**.

wireless telephone Same as **wireless phone**.

wireless telephony The use of telephones for **wireless communications**.

wireless transmission The transmission of wireless signals, such as radio-frequency waves, by a device such as a microwave antenna.

wireless WAN Abbreviation of **wireless wide-area network**. A WAN whose nodes communicate via radio-frequency waves, such as microwaves. Such a network may span multiple countries. Its abbreviation is **WWAN**.

wireless Web Wireless access to the World Wide Web. A wireless portal, for instance, may be used for this.

wireless wide-area network Same as **wireless WAN**.

wirelessly Without the use of connecting wires, cables, or the like.

wiresonde An instrument similar to a **radiosonde**, except that the gathered data is transmitted via a **connecting wire** or cable.

wiretap Also spelled **wire tap**. 1. A concealed device which serves to surreptitiously intercept a communication, especially a telephonic conversation. Also called **tap** (4). 2. To install a **wiretap** (1), or make such a connection. Also called **tap** (5). 3. To monitor and/or record a communication using a **wiretap** (1). Also called **tap** (6).

wiretapping The use of a **wiretap** (1). Also, the installation of a **wiretap** (1). Also spelled **wire-tapping**.

wireway A specially designed channel through which cables and wires are run. A cable tray provides mechanical support, and protection which is tailored to specific needs. Such protection may include jackets and/or shields which safeguard against flames, high electrical noise, vibrations, crushing, and so on. Also called **cable tray**.

wirewound resistor A resistor in which the resistive element is a length of a resistance wire or strip, such as that made of nichrome, which is wound around insulating form or core. Also spelled **wire-wound resistor**.

wiring Also called **electric wiring**. 1. The system of wires and/or conductors that connect electrical components, circuits, and devices together. For instance, the wires in a piece of electrical equipment, or the interconnections between components of an IC. 2. The process of installing or manufacturing **wiring** (1).

wiring board A patch panel, plugboard, printed-circuit board, or other panel or board serving for mounting and making connections between components and circuits.

wiring capacitance A capacitance which is not concentrated within a capacitor. Examples include the capacitance between the turns in a coil, or between adjacent conductors of a circuit. This contrasts with **lumped capacitance**, which is concentrated within a capacitor. Also called **self-capacitance**, **stray capacitance**, or **distributed capacitance**.

wiring closet A location or enclosure, such as a wall box or distribution frame, that houses communications wires and cables, and which provides terminals and connections.

wiring connector A device, object, or tool, such as a binding post or a wire-wrapping tool, which serves to join two or more conductors.

wiring diagram A graphical representation of the electrical elements in a circuit, and the way each is interconnected with each other. Each circuit element is represented by a symbol, while lines represent the wiring. Also called **wiring schematic**, **circuit diagram**, **schematic circuit diagram**, or **diagram** (3).

wiring harness A group of insulated conductors which are bound together so as to facilitate the connection of their various terminals. Used, for instance, to run multiple automobile cables, each controlling individual items or systems, such as brake lights, turn indicators, trunk releases, and electrical signals enhancing braking.

wiring schematic Same as **wiring diagram**.

withstand voltage Same as **withstanding voltage**.

withstanding voltage The maximum voltage which can be applied to a dielectric without adverse effects, such as dielectric breakdown. Also called **withstand voltage**, or **dielectric withstanding voltage**.

wizard 1. An interactive utility which provides help, such as that which may be needed during the installation or use of an application. Such a wizard usually provides guidance step-by-step. Also called **assistant**. 2. An expert in some area of computing or networking, such as a hacker. 3. A user with certain privileges in a given setting, such as MUDs.

WLAN Abbreviation of **wireless LAN**.

WLL Abbreviation of **wireless local loop**.

WM Abbreviation of **wattmeter**.

WML Abbreviation of **wireless markup language**.

WO Abbreviation of **write once**.

wobbulator A signal generator whose output is varied continuously between two limits. Used, for instance, to determine the frequency response of a circuit or device.

wolfram A lustrous silver-gray metal whose atomic number is 74. It is very hard and dense, ductile, has great corrosion resistance, and has the highest melting point and lowest vapor pressure of all known metals. At elevated temperatures it also has the highest tensile strength. It has almost 35 known isotopes, of which 3 are stable. Its applications include its use as bulb filaments, in electron tubes, in X-ray tubes, hard parts such as rocket nozzles, and in high-speed cutting devices and tools. Its chemical symbol is W. Also called **tungsten**.

Wollaston wire An extremely fine platinum wire which is used, for instance, in hot-wire instruments.

Wood's alloy Same as **Wood's metal**.

Wood's metal A silver-gray alloy whose composition is 50% bismuth, 25% lead, 12.5% tin, and 12.5% cadmium. It is used, for instance, as a solder with a low melting point. Also called **Wood's alloy**.

woofer A large speaker designed to reproduce frequencies below a given threshold, such as 1000 or 300 Hz. Depending on the design and components, a woofer may accurately reproduce frequencies below the limit of human hearing. Such a speaker unit is usually utilized with others, such as midranges and tweeters, for reproduction across the full audio spectrum. Also called **low-frequency speaker**.

Word A common word processing program.

word The fundamental unit of storage for a given computer architecture. It represents the maximum number of bits that can be held in its registers and be processed at one time. A word for computers with a 32-bit data bus is 32 bits, or 4 bytes. A word for computers with a 256-bit data bus is 256 bits, or 32 bytes, and so on. Also called **computer word**.

word processing The use of a **word processor**.

word processing application Same as **word processor**.

word processing program Same as **word processor**.

section or removal of components, which virtually eliminates any mechanical stress. Such sockets usually have a lever or other device which assists insertion and removal, and are commonly utilized for placing and removing chips.

zig-zag Same as **zigzag**.

zigzag Also spelled **zig-zag**. 1. A line or path which has sharp turns in alternating directions. 2. One back and forth trace or interval within a **zigzag** (1). 3. To move in a **zigzag** (1) pattern. 4. To have a **zigzag** (1) pattern.

zinc A lustrous bluish-white metallic chemical element whose atomic number is 30. Below 100 or 110 °C it is brittle, but above this temperature it becomes malleable and ductile. Zinc has been known since ancient times, can be refined to better than 99.999999%, and has about 25 known isotopes, of which 4 are stable. Its applications include its use for galvanization, in important alloys such as brass, in fuses, batteries, lasers, and semiconductors. Its chemical symbol is **Zn**.

zinc acetate White crystals used in ceramics, and for galvanizing.

zinc-air battery 1. Same as **zinc-air cell**. 2. A battery composed of two or more **zinc-air cells**.

zinc-air cell A cell in which the anode is zinc, and in which the cathode reactant is oxygen present in air. Such cells feature a comparatively flat discharge curve. Used, for instance, in button cells, such as those utilized in hearing aids. Also called **zinc-air battery** (1).

zinc ammonium chloride A white powder used for galvanizing, and in batteries.

zinc bromide A white crystalline powder whose chemical formula is **ZnBr₂**. Used as a radiation viewing shield, and in batteries.

zinc-carbon cell A primary cell in which the positive electrode is carbon, and the negative electrode is zinc. It may be a wet cell or dry cell. When it is a dry cell with an ammonium chloride electrolyte, it is called **Leclanché cell**.

zinc chloride A white crystalline powder whose chemical formula is **ZnCl₂**. Used, for example, in batteries, soldering, and for galvanizing and etching.

zinc cyanide A white powder whose chemical formula is **Zn(CN)₂**. Used in plating.

zinc-mercuric-oxide cell A primary cell in which the anode is zinc, the cathode is mercuric oxide, and the electrolyte is a solution of potassium hydroxide. It produces an essentially constant output of 1.35V throughout its useful life, and is usually in the form of a small flat disk. It is used in hearing aids, watches, and other small devices, but is being replaced by other cells due to the toxicity of mercury. More commonly known as **mercury cell**.

zinc orthosilicate Same as **zinc silicate**.

zinc oxide A white crystalline powder whose chemical formula is **ZnO**. Used, for instance, for galvanizing, as a UV absorber, and in optics, lasers, semiconductors, ceramics, photography, and piezoelectric devices.

zinc selenide Yellow-red crystals whose chemical formula is **ZnSe**. Used as a phosphor, and in optics.

zinc silicate A mineral whose chemical formula is **Zn₂SiO₄**, and whose color may be white, yellow, green, blue, brown, or red. It usually exhibits fluorescence under UV light, and may also show phosphorescence. Used, for instance, as a phosphor, and as a source of zinc. Also called **zinc orthosilicate**, or **willemitite**.

zinc-silver oxide cell A cell with a zinc anode, a silver oxide cathode, and a potassium hydroxide electrolyte. Usually encountered as button cells which feature high energy density, a comparatively flat discharge curve, and long shelf life. Also called **silver-oxide cell**.

zinc standard cell A standard cell used as a reference voltage source, in which the positive electrode is mercury, the negative electrode is an amalgam of zinc and mercury, and the electrolyte is a solution of zinc sulfate. It has a voltage of approximately 1.433 at 15 °C. Also called **Clark cell**.

zinc sulfide A yellow-white powder whose chemical formula is **ZnS**. Used, for instance, as a phosphor, and in lasers, semiconductors, and optics.

zinc telluride Reddish crystals whose chemical formula is **ZnTe**. Used, for instance, in lasers and semiconductors.

zip To compress files using a program such as WinZip or PKZIP.

zip cord 1. A two-wire cord, such as a lamp cord, which is adapted for another use. For example, a cut a lamp cord which is utilized to connect a speaker to an amplifier. 2. In optical communications, a two-fiber cable fashioned out of two single-fiber cables joined together.

Zip disk A 3.5 inch removable disk utilized with a **Zip drive**.

Zip drive A portable disk drive that uses 3.5 inch removable disks, and which is utilized, for instance, for archiving or for physically transferring files between locations as opposed to transmitting them over a network.

zip tone A short tone sent over a trunk which indicates that a call is arriving, readiness for an order, or to warn that a call is being monitored. Also called **beep tone**.

zipping The compression files using a program such as WinZip or PKZIP.

zirconia Same as **zirconium oxide**.

zirconium A lustrous silver-gray metal whose atomic number is 40. It is very strong, malleable, ductile, and heat and corrosion-resistant. When finely divided, it can ignite spontaneously in air, and is used in flash bulbs. It has about 25 known isotopes, of which 4 are stable. Its applications include its use in corrosion-resistant alloys, as a vacuum-tube getter, as a coating for nuclear rods, and in ceramics and welding. Its chemical symbol is **Zr**.

zirconium boride A gray metallic powder whose chemical formula is **ZrB₂**. Used in electrodes and thermocouples.

zirconium carbide A hard gray solid whose chemical formula is **ZrC**. Used, for instance, in ceramics, electrodes, lasers, and semiconductors.

zirconium hydride A gray-black powder whose chemical formula is **ZrH**. Used, for instance, as a nuclear moderator, in ceramics, and as a vacuum-tube getter.

zirconium nitride A hard yellow-red powder whose chemical formula is **ZrN**. Used, for instance, in ceramics.

zirconium oxide A white solid whose chemical formula is **ZrO₂**. Used, for instance, in ceramics, piezoelectric devices, induction coils, batteries, and optics. Also called **zirconia**.

zm Abbreviation of **zeptometer**.

Zmodem An enhanced version of **Xmodem** which increases the transfer block size, provides greater speed, and improved error-checking. Another feature provides for a transfer to resume at the point it was interrupted, which saves time and aggravation when using noisy lines to send or receive large files.

Zn Chemical symbol for **zinc**.

zone 1. One area or region, as opposed to another. Also, such a zone between other zones. For example, a skip zone. 2. A specific **zone** (1) when two or more such areas or regions are defined. For instance, a Fresnel zone, or the layers into which the atmosphere is divided. 3. A **zone** (1) where certain properties or characteristics are present. For example, a far-field region versus a near-field region. 4. In computers, an area designated for storage, or for storage with a specific purpose. May consist, for instance, of sectors, tracks, bands,