# NETFLIX, INC. vs. BLOCKBUSTER INC.

## CASE NO. C 06 2361 WHA (JCS)

## BLOCKBUSTER INC.'S

# EXHIBIT D

TO

**JOINT CLAIM CONSTRUCTION AND PREHEARING STATEMENT**

*filed on November 15, 2006*

SEVENTH EDITION

# DICTIONARY of ELECTRONICS

RUDOLF F. GRAF

Newnes



# MODERN DICTIONARY of ELECTRONICS

SEVENTH EDITION

REVISED AND UPDATED

**Rudolf F. Graf**



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range. A compressed signal has a higher average level and therefore less apparent loudness than an uncompressed signal, even though the peaks are no higher in level. An expander reverses the effect of the compressor to restore the original signal.

**compound modulation** — *See* multiple modulation.

**compound-wound motor** — A dc motor having two separate field windings. One, usually the predominant field, is connected in parallel with the armature circuit, and the other is connected in series.

**compress** — To reduce some parameter of a signal, such as bandwidth, amplitude variation, duration, etc., while preserving its information content.

**compressed-air loudspeaker** — A loudspeaker that has an electrically actuated valve to modulate a stream of compressed air.

**compressed file** — A file whose contents have been compressed by a special utility program so that it occupies less space on a disk or other storage device than in its uncompressed (normal) state.

**compressed speech** — A representation of speech in which some redundant features of the digitized speech have been removed.

**compression** — 1. A process in which the effective amplification of a signal is varied as a function of the signal magnitude, the effective gain being greater for small than for large signals. In television, the reduction in gain at one level of a picture signal with respect to the gain at another level of the same signal. 2. Electronic reduction of the dynamic range so that quiet sounds are raised and loud sounds lowered. The most common application is an "automatic" recording in which it is important that all sounds recorded are made intelligible when played back. Also used when necessary to avoid overrecording and distortion, or to lift the signal level clear of background noise or hum. 3. A technique used to increase the number of bits per second sent over a data link by replacing often-repeated characters, strings, and command sequences with electronic code. When this compressed data reaches the remote end of the transmission link, data decompression is used to restore the data to its normal form for display. 4. The conversion of information to a format that requires fewer bits and can be reversed to its original state once transferred to a new location.

**compressional wave** — In an elastic medium, a wave that causes a change in volume of an element of the medium without rotation of the element.

**compression driver unit** — A speaker driver unit that does not radiate directly from the vibrating surface. Instead, it requires acoustic loading from a horn that connects through a small throat to an air space adjacent to the diaphragm.

**compression ratio** — The ratio between the magnitude of the gain (or amplification) at a reference signal level and its magnitude at a higher stated signal level.

**compression seal** — A seal made between an electronic package and its leads. The seal is formed as the heated metal, when cooled, shrinks around the glass insulator, thereby forming a tight joint.

**compressor** — 1. A device that performs analog compression. 2. A transducer that, for a given amplitude range of input voltages, produces a smaller range of output voltages. In one important type of compressor, the envelope of speech signals is used to reduce their volume range.

**compressor expander** — *See* compander.

**compromise network** — In a telephone system, a network used in conjunction with a hybrid coil to balance a subscriber's loop. The network is adjusted for an average loop length, an average subscriber's set, or both, and gives compromise (not precision) isolation between the two directional paths of the hybrid coil.

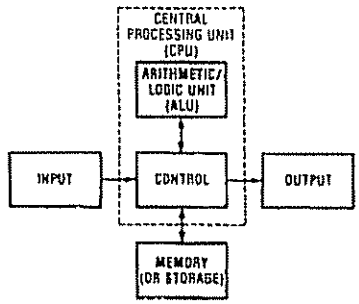
**Compton diffusion** — An elastic shock between a photon and an electron. The photon is diffused with a lesser energy and the electron acquires a kinetic energy equal to the energy decrease of the photons.

**Compton effect** — The elastic scattering of photons by electrons. Because the total energy and momentum are conserved in the collisions, the wavelength of the scattered radiation undergoes a change that depends on the scattering angle.

**computational stability** — The degree to which a computational process remains valid when subjected to such effects as errors or malfunctions.

**compute bound** — A program that is speed-limited by the computations being performed.

**computer** — 1. Any device capable of accepting information, applying prescribed processes to the information, and supplying the results of these processes; sometimes, more specifically, a device for performing sequences of arithmetic and logical operations; sometimes, still more specifically, a stored-program digital computer capable of performing sequences of internally stored instructions, as opposed to calculators on which the sequence is impressed manually (desk calculator) or from tape or cards (card-programmed calculator). 2. A tool for managing data. It can work with numbers and alphanumeric data such as names, words, addresses, and stock numbers. It can be programmed to repeat the same function over and over. It can logically evaluate information given to it, and act on its own findings. It can store huge volumes of data for future use, reference, and updating, and even "converse" with its operator. 3. A machine in which stored instructions operate on other instructions to modify or alter them. Data words and instruction words of the same size, stored in the same medium, differ only in their function. The same word can be both a data word and an instruction word at different times during the execution of a program. 4. An electrical/electronic device that can accept information, process it mathematically (in accordance with previous instructions), and then provide the results of this processing. 5. An electronic device that uses programmed instructions to monitor and control various types of data in order to solve mathematical problems or control industrial applications. Its instructions are executed in various sequences, as required. 6. A calculating device that processes data represented by a combination of discrete data (in digital computers) or continuous data (in analog computers). 7. A device that manipulates data and makes comparisons according to a series of instructions stored in its memory. By changing the instructions the computer can be made to do a completely different

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**computerized n** computer. The compu taught by leading the instructions can be t gramming for such "s to optimize, or impro

**electron-beam welding** — 1 The process of using a focused beam of electrons to heat materials to the fusion point. 2 Process in which a welder generates a stream of electrons traveling at up to 60 percent of the speed of light. It focuses the beam to a small, precisely controlled spot in a vacuum and converts the kinetic energy into an extremely high temperature on impact with the work piece.

**electron-bombarded semiconductor amplifier** — Abbreviated EBS amplifier. An amplifier consisting of an electron-gun modulation system, semiconductor target, and output coupling network all within a glass or ceramic envelope. The semiconductor target is a pair of silicon diodes, each consisting of two metallic electrodes with a pn junction under the top contact. Amplifier operation is based on the fact that a modulated electron beam can control the current in a reverse-biased semiconductor junction.

**electron-bombardment-induced conductivity** — In a multimode display storage tube, a process by which the image on the surface of the cathode-ray tube is erased by the use of an electron gun.

**electron charge** — Also called elementary charge. The charge of a single electron. Its value is $1\ 602189 \times 10^{-19}$ coulomb. The fundamental unit of electrical charge.

**electron-coupled oscillator** — Abbreviated ECO. A circuit using a multigrid tube in which the cathode and two grids operate as a conventional oscillator and the electron stream couples the plate-circuit load to the oscillator.

**electron coupling** — In vacuum (principally multigrid) tubes, the transfer of energy between electrodes as electrons leave one and go to the other.

**electron device** — Any device in which the passage of electrons through a vacuum, gas, or semiconductor is the device's principal means of conduction.

**electron diffraction** — 1 The phenomenon or the technique of producing diffraction patterns through the incidence of electrons on matter. 2 The bending of an electron stream that occurs when the stream travels through a medium such as very thin metal foil.

**electron-diffraction camera** — A special evacuated camera equipped with means for holding a specimen and bombarding it with a sharply focused beam of electrons. A cylindrical film placed around the specimen records the electrons that may be scattered or diffracted by it.

**electron drift** — The movement of electrons in a definite direction through a conductor, as opposed to the haphazard transfer of energy from one electron to another by collision.

**electronegative** — Having an electric polarity that is negative.

**electronegative developer** — A developer containing negatively charged toner particles.

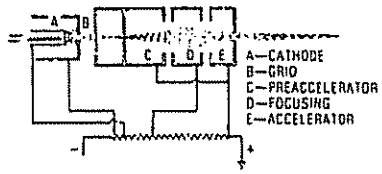
**electron emission** — The freeing of electrons into space from the surface of a body under the influence of heat, light, impact, chemical disintegration, or a potential difference.

**electron emitter** — In a cathode tube, the electrode that serves as a source for electrons.

**electron filter lens** — An electrostatic device that uses an electric potential barrier to allow the transmittance of electrons at or above a set level of energy while stopping the passage of those below it.

**electron flow** — The movement of electrons from a negative to a positive point in a metal or other conductor, or from a negative to a positive electrode through a liquid, gas, or vacuum.

**electron gun** — 1 An electrode structure that produces and may control focus and may deflect and converge one or more electron beams. 2 A device for producing and accelerating a beam of electrons. 3 The portion of a TV picture tube or cathode-ray tube that produces the stream of electrons and may also focus and center the stream. 4 The source of the electron beam in a picture tube, comprising a cathode plus several focusing electrodes that collimate and focus the electron beam into a spot on the screen. In a color tube there may be three electron guns usually integrated into a single unit (unitized gun), or a single gun for the three colors.




*Electron gun.*

**electronic** — 1 Pertaining to that branch of science which deals with the motion, emission, and behavior of currents of free electrons, especially in vacuum, gas, or phototubes and special conductors or semiconductors. This is contrasted with electric, which pertains to the flow of large currents in metal conductors. 2 Of or pertaining to devices, circuits, or systems using the principle of electron flow through a conductor. Examples: electronic control, electronic equipment, electronic instrument, electronic circuit.

**electronic autopilot** — An arrangement of gyroscopes, electronic amplifiers, and servomotors for detecting deviations in the flight of an aircraft and applying the required corrections directly to its control cables.

**electronic balance** — Weighing balance that uses forces produced by known currents to balance unknown currents, and thereby unknown weights, very accurately to within parts of a microgram.

**electronic "bug"** — A keying system that converts the Morse signals from a hand key into correctly proportioned and spaced dots and dashes.

**electronic bulletin board** — A shared file where users can enter information for other users to read or download. Many bulletin boards are set up according to general topics and are accessible throughout a network.

**electronic calculator** — Electronic device for arithmetic and logarithmic computations; may also include digital printer and computer.

**electronic camouflage** — Use of electronic means or exploitation of electronic characteristics to reduce, submerge, or eliminate the radar-echoing properties of a target.

**electronic carburetor** — A fuel-metering actuator in which the air/fuel ratio is controlled by continual variations of the metering rod position in response to an electronic control signal.

**electronic charge** — The quantity of charge represented or possessed by one electron. It is equal to $1\ 602189 \times 10^{-19}$ coulomb.

**electronic circuit** — A circuit containing one or more electron tubes, transistors, integrated circuits, magnetic amplifiers, etc.

**electronic commutator** — A type of switch that provides a continuous switching or sampling of a number of circuits by means of a radial-beam electronic tube or electronic switching circuit.

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**electronic frequency synthesizer** — A device that generates two or more selectable frequencies from one or more fixed-frequency sources.

**electronic funds transfer system** — *See* EFTS.

**electronic gate** — A device in which diodes and/or transistors provide input-output relations that correspond to a Boolean-algebra function (AND, OR, etc.).

**electronic heating** — Also called high-frequency heating. A method of heating a material by inducing a high-frequency current in it or having the material act as the dielectric between two plates charged with a high-frequency current.

**electronic hookup wires** — Wires used to make the internal connections between the various electrical parts of electronic assemblies.

**electronic industries** — Industrial organizations engaged in the manufacture, design, development, and/or substantial assembly of electronic equipment, systems, assemblies, or the components thereof.

**Electronic Industries Association** — Abbreviated EIA. A trade association of the electronics industry. Some of its functions are the formulation of technical standards, dissemination of marketing data, and the maintenance of contact with government agencies in matters relating to the electronics industry. The association was originally known as the Radio Manufacturers Association (RMA), and later as the Radio-Electronics-Television Manufacturers Association (RETMA).

**electronic instrument** — Any instrument that depends for its operation on the action of either one or more electron devices.

**electronic instrument cluster** — *See* EIC.

**electronic intelligence** — The technical and intelligence information derived from foreign noncommunications electromagnetic radiations emanating from other than nuclear detonations or radioactive sources.

**electronic interference** — Electrical or electromagnetic disturbances that result in undesired response in electronic equipment.

**electronic jamming** — Intentional radiation, reradiation, or reflection of electromagnetic energy for the purpose of reducing the effectiveness of enemy electromagnetic devices or impairing the use of any electronic devices, equipment, or systems being used by an enemy.

**electronic keyboard** — A keyboard that is used to generate characters through electronic means rather than through mechanical linkages.

**electronic keying** — A method of keying whereby the dots and dashes are produced solely by electronic means.

**electronic line scanning** — Facsimile scanning in which a spot on a cathode-ray tube moves across the copy electronically while the record sheet or subject copy is moved mechanically in a perpendicular direction.

**electronic mail** — Abbreviated e-mail or email. 1. Electronic messages that can be sent over a communications network from one computer to another. 2. Sending messages electronically between computers or terminals.

**electronic microphone** — A device that depends for its operation on the generation of a voltage by the motion of one of the electrodes in a special electron tube.

**electronic mine detector** — *See* mine detector.

**electronic multimeter** — A device employing the characteristics of an electron-tube circuit for the measurement of electrical quantities, at least one of which is voltage or current, on a single calibrated scale.

**electronic music** — The electronic generation and processing of audio signals, or the electronic processing of natural sound, and the manipulation and arrangement of these signals via tape recorders into a finished musical composition.

**electronic music synthesizer** — An audio signal processor that contains sound generators (oscillators) and additional circuitry such as filters to produce familiar sounds, such as those produced by conventional musical instruments, or to create unique sounds and effects.

**electronic news-gathering** — Abbreviated ENG. The use of video cameras, recording, and other ancillary electronic gear to collect news stories for TV airing.

**electronic organ** — The electronic counterpart of the pipe organ. All tones and tone variations, such as vibrato, tremolo, etc., are produced by electronic circuits instead of by pipes.

**electronic pacemaker** — Also called a pacemaker. An electrical device, usually with electrodes planted in the myocardium, that performs the pacing function in a diseased heart no longer capable of pacing itself. Electronic pacemakers can receive power from implanted batteries, radio-frequency signals, biological energy sources, etc.

**electronic packaging** — The coating or surrounding of an electronic assembly with a dielectric compound.

**electronic part** — A basic circuit element that cannot be disassembled and still perform its intended function. Examples of electronic parts are capacitors, connectors, filters, resistors, switches, relays, transformers, crystals, electron tubes, and semiconductor devices.

**electronic photometer** — Also called photoelectric photometer. A photometer with a photocell, phototransistor, or phototube for measuring the intensity of light.

**electronic power supply** — A circuit that transforms electrical input energy, that is, alternating or direct current. (Sources operating on rotating machine principles, or deriving electrical power from other energy forms such as batteries and solar cells, are excluded.) Supplies covered by this definition fall into one of four groups: 1) ac in, dc out — most common supplies. 2) ac in, ac out — line regulators, variable-frequency supplies. 3) dc in, dc out — converters. 4) dc in, ac out — inverters.

**electronic products** — Materials, parts, components, subassemblies, and equipment that employ the principles of electronics in performing their major functions. These products may be used as instruments and controls in communications, detection, amplification, computation, inspection, testing, measurement, operation, recording, analysis, and other functions employing electronic principles.

**electronic profilometer** — An electronic instrument for measuring surface roughness. The diamond-point stylus of a permanent-magnet dynamic pickup is moved over the surface being examined. The resultant variations in voltage are amplified and then measured with a meter calibrated to read directly in microinches of deviation from smoothness.

**electronic raster scanning** — Scanning by electronic means so that substantially uniform coverage of an area is provided by a predetermined pattern of scanning lines.

**electronic reconnaissance** — Search for electromagnetic radiations to determine their existence, source, and pertinent characteristics for electronic warfare purposes.

**electronic rectifier** — A rectifier using electron tubes or equivalent semiconductor elements as rectifying elements.

**electronic regulation** — *See* electronic control.

**electronic relay** — An electronic circuit that provides the functional equivalent of a relay but has no moving parts.

**electronics** — 1. The field of science and engineering concerned with the behavior of electrons in devices and



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the utilization of such devices 2 Of or pertaining to the field of electronics, such as electronics engineer, course, laboratory, committee 3 Name given to that branch of electrical engineering which deals with devices whose operation depends upon the movement of electrons in space as opposed to the movement of electrons in liquids or solid conductors, e g , radio tubes, photoelectric cells It includes the study of radio, radar, television, sound films, and control of industrial processes 4 That branch of science involved in the study and utilization of the motion, emissions, and behaviors of currents of electrical energy through gases, vacuums, semiconductors, and conductors; not to be confused with electrics, which deals primarily with the conduction of large currents of electricity through metals 5 That branch of science and technology which deals with the study, application, and control of the phenomena of conduction of electricity in a vacuum, in gases, in liquids, in semiconductors, and in conducting and superconducting materials

**electronic search reconnaissance** — The determination of the presence, source, and significant characteristics of electromagnetic radiations

**electronic security** — Protection resulting from measures designed to deny to unauthorized persons information of value that might be obtained by interception and analysis of noncommunications electromagnetic radiations

**electronic shock absorption** — An integrated data bit storage buffer inside a CD portable, which receives information at twice the normal speed but supplies information to the digital-to-analog converter at normal speed, ensuring that any interruption of the data flow caused by shocks or bumps does not result in interruption of play

**electronic shutter** — A mechanical shutter with an electronic timing circuit This circuit allows a wider range of exposure times, can be more accurate, and, placed in a circuit with a photoconductive cell, allows automatic setting of shutter speeds

**electronic sky screen equipment** — An electronic device for indicating the departure of a missile from a predetermined trajectory

**electronic speed control** — 1 A system whereby a motor's speed is controlled by feedback from a frequency-sensing circuit attached to the device being powered; changes from the desired speed cause corrective signals to speed up or slow down the motor 2 Changes in speed in a record player, whether gross (as from 33⅓ to 45 rpm) or small (as an order of ±3 percent), can be made by alternating components in the external speed-regulation circuit, rather than by mechanically shifting belts or idler wheel

**electronic sphygmomanometer** — Device that measures and/or records blood pressure electronically

**electronic stethoscope** — An electronic amplifier of sounds within a body Its selective controls permit tuning for low heart tones or high pulmonary tones It has an auxiliary output for recording or viewing audio patterns.

**electronic stimulator** — A device for applying electronic pulses or signals to activate muscles, or to identify nerves, or for muscular therapy, etc

**electronic surge arrestor** — A device used to switch high-energy surges to ground so as to reduce the transient energy to a level that is safe for secondary protectors (e.g , zener diodes, silicon rectifiers)

**electronic switch** — 1 A circuit element causing a start and stop action or a switching action electronically, usually at high speeds 2 An electronic circuit used to perform the function of a high-speed switch Applications include switching a cathode-ray oscilloscope back and forth between two inputs at such high speed that both input waveforms appear simultaneously on the screen

**electronic switching** — Electronic circuits and solid-state devices used to perform most telephone central office switching functions

**electronic switching system** — Abbreviated ESS 1 A telephone switching system that uses a computer with a storage containing program switching logic The output of the computer actuates reed or electronic switches that establish telephone connections automatically 2 A system that uses solid-state switching devices and computerlike operations to accomplish switching of telephone calls 3 A type of telephone switching system that uses a special-purpose digital computer to direct and control the switching operation. ESS permits custom-calling services such as speed dialing, call transfer, and three-way calling.

**electronic thermal conductivity** — The part of thermal conductivity due to the transfer of thermal energy by means of electrons and holes

**electronic timer** — 1 A synchronizer, pulse generator, modulator, or keyer that originates a series of continuous control pulses at an unvarying repetition rate known as the pulse-recurrence frequency. 2 A timer using electronic circuits (either tube or transistor type) to control a time period, in place of a motor or other means

**electronic tube relay** — A relay that employs electronic tubes as components

**electronic tuning** — 1 Altering the frequency of a reflex klystron oscillator by changing the repeller voltage 2. Frequency changing in a transmitter or receiver by changing a control voltage rather than circuit components.

**electronic video recording** — The recording of video images by means of photographic film, or magnetic tape or disk, so that the image's record can be played back in a video format at a later time

**electronic viewfinder** — Also called viewfinder monitor 1 A small TV screen attached to a video camera that allows the operator to view a given scene exactly as it is being viewed by the camera 2 A small television camera that replaces the reflex viewfinder of a motion picture camera. This permits the image photographed to be viewed simultaneously by a number of people, since the TV image may be transmitted to several receivers

**electronic voltmeter** — Also called vacuum-tube voltmeter A voltmeter that utilizes the rectifying and amplifying properties of electron tubes or semiconductors and their circuits to secure such characteristics as high input impedance, wide frequency range, peak-to-peak indications, etc

**electronic volt-ohmmeter** — A device employing the characteristics of an electron-tube or semiconductor circuit for the measurement of voltage and resistance on a single-calibrated scale.

**electronic warfare** — Abbreviated EW. 1. Military usage of electronics to reduce an enemy's effective use of radiated electromagnetic energy and to ensure our own effective use. 2. Military action involving the use of electromagnetic energy to determine, exploit, reduce, or prevent hostile use of the electromagnetic spectrum, and action that retains friendly use of the electromagnetic spectrum There are three divisions within electronic warfare: electronic warfare support measures (ESM), electronic countermeasures (ECM), and electronic counter-countermeasures (ECCM)

**electronic warfare support measures** — Abbreviated ESM That division of electronic warfare involving actions taken to search for, intercept, locate, and immediately identify radiated electromagnetic energy for the purpose of immediate threat recognition Thus, ESM

**quasi-optical** — Having properties similar to those of light waves. The propagation of waves in the television spectrum is said to be quasi-optical (i.e., cut off by the horizon).

**quasi-random code generator** — A high-speed PCM information source that provides a means of closed-loop testing for use in designing and evaluating wideband communications links.

**quasi-rectangular wave** — A wave nearly, but not quite, rectangular in shape.

**quasi-single-sideband transmission** — Simulated single-sideband transmission done by transmitting parts of both sidebands.

**quasi-steady-state vibration** — A nearly periodic vibration in which the amplitude and phase relationships of the component sinusoids vary slowly with time.

**quaternary** — A coding scheme that uses four different voltage levels to represent information, used over the local loop with basic ISDN.

**quaternary signaling** — The communications mode in which information is passed by the presence and absence, or plus and minus variations, of four discrete levels of one parameter of the signaling medium.

**quench** — To stop an oscillation abruptly.

**quenched spark** — A spark consisting of only a few sharply defined oscillations because the gap is deionized almost immediately after the initial spark has passed.

**quenched spark gap** — A spark gap with provision for producing a quenched spark. One form consists of many small gaps between electrodes that have a relatively large mass and, thus, are good radiators of heat. As a result, they cool the gaps rapidly and thereby stop conduction.

**quenched spark-gap converter** — A spark-gap generator or other power source in which the oscillatory discharge of a capacitor through an inductor and a spark gap provides the radio-frequency power. The spark gap comprises one or more closely spaced gaps in series.

**quench frequency** — 1. An ac voltage applied to an electrode of a tube used as a superregenerative detector to alternately vary its sensitivity and thereby prevent sustained oscillations. The quench frequency is usually lower than the signal frequency to be received. 2. The number of times per second a circuit goes in and out of oscillation.

**quenching** — 1. The process of terminating a discharge in a radiation-counter tube by inhibiting the reignition. 2. A process of rapid cooling from an elevated temperature, in contact with liquids, gases, or solids. 3. The inhibition or elimination of one process by another process. The stimulated emission of a laser oscillator can be quenched by a pulse of radiation of the same frequency traversing the oscillator in a different direction. This pulse induces the excited ions to emit radiation in a direction apart from the oscillating mode and, hence, the oscillation is decreased.

**quenching circuit** — A circuit that inhibits multiple discharges from an ionizing event by suppressing or reversing the voltage applied to a counter tube.

**quenching frequency** — That frequency at which oscillations in a superregenerative receiver are suppressed (quenched).

**quench oscillator** — A superregenerative receiver circuit that produces the quench-frequency signal.

**queue** — 1. A line of items waiting for service in a system, such as messages to be transmitted in a message-switching system. 2. To arrange in or form a queue. 3. A waiting line for execution of computer or peripheral operations. 4. A multi-element data structure in which the first element in is the first element out. This data structure works in the same manner as a supermarket checkout line — items are added at one end and removed at the other. Compare with a stack, in which items are added and removed only from one end. 5. An area in the temporary call store memory used to record a writing list for some particular function. For example, the writing list or queue for customer dial pulse receiver circuits. 6. A list of processes to be executed in sequential order, information blocks to be processed in sequential order, or a mixture of the two. 7. Orderly access to a system; generally, "first in, first out" prioritization.

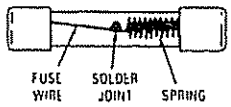
**queue control block** — A control block for regulating the sequential use of a programmer-defined facility for a number of tasks.

**queued access method** — An access method that provides automatic synchronization of data transfer between programs using the access method and input/output devices. Delays for input/output operations are thereby eliminated.

**queuing theory** — A research technique having to do with the correct order of moving units, such as sequence assignments for bits of information, whole messages, assembly-line products, or automobiles in traffic.

**quick-break** — A characteristic of a switch or circuit breaker, whereby it has a fast contact-opening speed that is independent of the operator.

**quick-break fuse** — A fuse that draws out the arc and rapidly breaks the circuit when its wire melts. Usually a spring or weight is used to quickly separate the broken ends.




*Quick-break fuse.*

**quick-break switch** — A switch that minimizes arcing by breaking a circuit rapidly, independent of the rate at which the switch handle is moved.

**quick-connect terminal** — 1. A plug-in type of terminal designed to make possible rapid wiring. 2. A type of connection, similar to a lamp plug and wall socket, used where connections are frequently removed, then connected again. Quick-connect terminals are found on home appliances, hi-fi equipment, TV sets, and in other applications.

**quick disconnect** — A type of connector designed to facilitate rapid locking and unlocking of two contacts or connector halves.

**quickening** — A characteristic of a display with compressed time scale (such as that employed in time-lapse photography). Used to exaggerate trends.

**quick-flashing light** — A rhythmic light that shows very quick, regular, alternate displays of light and darkness.

**quick-make** — A characteristic of a switch or circuit breaker, whereby it has a fast contact-closing speed that is independent of the operator.

**quick-make switch** — A switch or circuit breaker that has a high contact-closing speed independent of the operator.

**quick-stop control** — On some tape recorders, and on all recorders used for dictation, a control with which the operator can stop the tape without taking the machine out of the play or record position.

**UNIX** — A complex and powerful multiuser computer operating system written in the C language originally developed, marketed, and trademarked by AT&T. It needs a computer with a large amount of RAM (random-access memory or storage capacity). UNIX allows a computer to handle multiple users and programs simultaneously and has TCP/IP built-in. It is the most common operating system for servers on the Internet. It also allows software to be moved (known as porting) to computers of different sizes or types. UNIX is available in several related versions.

**unload** — In a computer: 1. To remove the tape from the columns of a recorder by raising or lowering the recording head. 2. To remove a portion of the address part of an instruction. 3. *See also* dump.

**unloaded antenna** — An antenna with no added inductance or capacitance.

**unloaded applicator impedance (dielectric heaters)** — The complex impedance measured at the point of application and at a specified frequency without the load material in position.

**unloaded line** — A line with no loading coils.

**unloaded Q (switching tubes)** — Also called the intrinsic *Q*. The *Q* of a tube unloaded by either the generator or termination.

**unloading amplifier** — An amplifier capable of reproducing or amplifying a given voltage signal while drawing negligible current from the voltage source.

**unloading circuit** — In an analog computer, a computing element or combination of computing elements capable of reproducing or amplifying a given voltage signal while drawing negligible current from the voltage source, thus decreasing the loading errors.

**unmodulated** — Having no modulation; e.g., a carrier that is transmitted during moments of silence in radio programs, or a silent groove in a disc recording.

**unmodulated groove** — Also called a blank groove. In mechanical recording, the groove made in the medium with no signal applied to the emitter.

**unoriented** — A structure in which the crystallographic axes of the grains of a metal are not aligned to give directional magnetic properties.

**unpack** — In a computer, to separate combined items of information, each into a separate machine word.

**unsaturated logic** — A form of logic containing transistors operated outside the region of saturation; for example, current-mode logic (CML) and emitter-coupled logic (ECL).

**unserved energy** — The amount of energy not delivered as a result of an equipment outage.

**untuned** — Not resonant at any of the frequencies being handled.

**unusable samples** — In random-sampling-oscilloscope technique, those samples not falling within the time window.

**unweighted noise** — The measured noise level in electronic equipment, with a measuring device that is sensitive to a wide range of frequencies that extend beyond the audible spectrum.

**unwind** — In a computer, to code all the operations of a cycle, at length and in full, for the express purpose of eliminating all red-tape operations.

**UPC** — Abbreviation for universal product code. A product identification system designed to assign a unique number to every product in distribution. A 10-digit bar code, with the first 5 digits identifying the manufacturer, the second 5 identifying the item. Each digit is represented by the ratio of the widths of adjacent stripes and white areas. Used with optical checkout scanning devices that retrieve item price from a computer.

**upconverter** — 1. A device that increases the frequency of a transmitted signal. 2. A type of parametric amplifier that is characterized by the frequency of the output signal being greater than the frequency of the input signal.

**update** — 1. To search a file (such as a particular record in a computer tape) and select one entry, then perform some operation to bring the entry up-to-date. 2. In a computer, to modify an instruction so that the address numbers in it are increased by a specified amount each time the instruction is executed. 3. Generally applied to computer files in which records are added, deleted, or amended to ensure that the latest information is contained in the file.

**update-response time** — The interval between the entry of new data into a system and the display of that data.

**updating** — The act of bringing information up to the current value.

**up/down counter** — Also called reversible counter. A counter with the capability of counting in an ascending or descending order, depending on the logic present at the up/down inputs.

**uplink** — 1. An rf link from a site on the earth or from an aircraft to a satellite. 2. The earth-to-geosynchronous satellite microwave link and related components, such as earth station transmitting equipment. The satellite contains an uplink receiver; uplink components in the earth station are involved with the processing and transmission of signals to the satellite. 3. The communications path from the earth to the satellite. 4. The earth station electronics and antenna that transmit information to a communication satellite for relay back to the ground.

**upload** — 1. The process of transferring communications instructions or data from terminals, including PCs, into a mainframe or host computer system. 2. To send a file from one computer to another via modem or other telecommunication method. *See also* download.

**upper operating temperature** — The maximum temperature to which a material can be subjected and still maintain specified operating characteristics within limits.

**upper sideband** — 1. The higher frequency or group of frequencies produced by an amplitude-modulation process. 2. In carrier transmission, the band of frequencies that is higher than the carrier frequency. It is the sum of the instantaneous values of the carrier frequency and the modulating frequency.

**upset-duplex system** — A direct-current telegraph system in which a station between any two pieces of duplex equipment may transmit signals by opening and closing the line circuit and thereby upsetting the duplex balance.

**upset welding** — A resistance-welding process wherein the weld is made simultaneously over the entire area of abutting surfaces or progressively along the joint with the aid of rolls or clamps that force the abutting surfaces together. The pressure is applied before heating starts and is maintained throughout the heating period.

**up time** — 1. The time during which an equipment is either operating or available for operation, as opposed to down time, when no productive work can be accomplished. 2. That element of active time during which an item is either alert, reacting, or performing a mission.

**up-time ratio** — The quotient of up time divided by up time plus down time.

**urea plastic material** — A thermosetting plastic material, with good dielectric qualities, used for radio-receiver cabinets, instrument housing, etc.

**urgency** — The degree to which a process requires attention; determined by the process's priority.



**URL** — Abbreviation for l
An HTTP address used by the
a certain site

**usable samples** — In ran
technique, those samples falli

**USART** — Acronym for u
chronous receiver/transmitter
receiver/transmitter.

**USASCII** — Abbreviation
Information Interchange. Th
coded character set consisti
ters (bits including parity ch
change among data-processi
and associated equipment. Tl
control characters and graph
with ASCII.

**USASCSOCR** — The Uni
dard Character Set for Optica

**USASI** — Abbreviation fo
Standards Institute, the suc
Standards Association)

**USB-compatible** — Uni
ble. A new technology that
different kinds of peripher
to allow as many as 127 d
a single attachment point. I
12 Mb/sec.

**U scan** — A parallel re
ambiguity in the readout of
code-position transitions by
brushes, depending on the stat

**useful life** — The total tim
debugging and wearout.

**Usenet** — A worldwide sy
with comments passed amon
machines. Usenet is complete
10,000 discussion areas, calle

**user-defined key** — A
gram can be changed, so th
of commands can be execute
Same as programmable key a
a special-function key, a use
predefined purpose.

**user-friendly** — Term us
hardware or software that i