

J

J See: joule.

jabber A condition wherein a station transmits for a period of time longer than the maximum permissible packet length, usually due to a fault condition.

(LM/C) 610.7-1995, 802.3-1998

jabber control The ability of a station to interrupt automatically the transmission of data and inhibit an abnormally-long output data stream. *Note:* This term is contextually specific to IEEE Std 802.3. (C) 610.7-1995

jabber function A mechanism for controlling abnormally long transmissions (i.e., jabber). (C/LM) 802.3-1998

jack (1) (electric circuits) A connecting device, ordinarily designed for use in a fixed location, to which a wire or wires of a circuit may be attached and that is arranged for the insertion of a plug. (PE/EM) 43-1974s

(2) A connecting device within a circuit to which one or more wires may be attached and which is arranged so that a plug may be attached. *See also:* RJ-45; RJ-11. (C) 610.7-1995

jack bolt (rotating machinery) A bolt used to position or load an object. (PE) [9]

jacket (1) (electrical heat tracing for industrial applications) (cable) A thermoplastic or thermosetting plastic covering, sometimes fabric reinforced, applied over the insulation, core, metallic sheath, or armor of a cable.

(BT/PE/AV) 152-1953s, [4]

(2) **(primary dry cell)** An external covering of insulating material, closed at the bottom. *See also:* electrolytic cell.

(PE/EEC) [119]

(3) A polymeric sheath, sometimes fabric reinforced, applied over the insulation or core of a cable. (IA/PC) 515.1-1995

(4) A protective covering over the insulation, core, or sheath of a cable. (NESC) C2-1997

jack shaft (rotating machinery) A separate shaft carried on its own bearings and connected to the shaft of a machine. *See also:* rotor. (PE) [9]

jack system (rotating machinery) A system design to raise the rotor of a machine. *See also:* rotor. (PE) [9]

Jacob's ladder *See:* rope ladder.

jaggies *See:* stairstepping.

jam (1) (A) An external signal introduced deliberately into a transmission to prevent successful transmission. **(B)** A signal that carries a message that informs other stations that they must not transmit. (C) 610.7-1995

(2) A mis-feed in the feed mechanism of a printer or card reader. (C) 610.10-1994w

jamming A form of electronic countermeasures (ECM) in which interfering signals are transmitted at frequencies in the receiving band of a radar for the purpose of obscuring the radar signal (as in noise jamming) or causing confusion in interpreting the radar signal (as in repeater jamming). (AES) 686-1997

jam strobe Indication of jammer azimuth bearing, one form being a marker on the radar plan-position indicator (PPI) display. It can also show the jammer signal strength and severity of main and sidelobe jamming. (AES) 686-1997

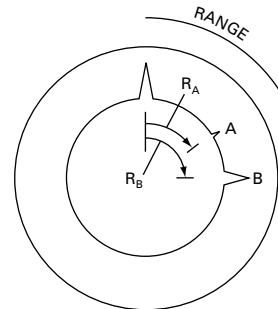
jam transfer (hybrid computer linkage components) The transfer operation, in a double-buffered digital-to-analog converter (DAC) or digital-to-analog multiplier (DAM), in which the digital value is simultaneously loaded into both the holding and dynamic registers. (C) 166-1977w

Jansky A unit of spectral power flux density: 10^{-26} times one watt per square meter per Hertz. (AP/PROP) 211-1997

jar (storage cell) The container for the element and electrolyte of a lead-acid storage cell and unattached by the electrolyte. *See also:* battery. (EEC/PE) [119]

JCL *See:* job control language.

J-display A modified A-display in which the time base is a circle and targets appear as radial deflections from the time base.



Note: Two targets, A and B, at different ranges

J-display

(AES) 686-1997

jet-engine modulation (JEM) Amplitude and/or frequency modulation of the radar echo from a jet-powered aircraft by motion of the compressor or turbine blades. *Note:* These modulations may cause errors in measuring the Doppler frequency of the target, but they also provide information useful in non-cooperative target recognition. *See also:* target recognition. (AES) 686-1997

jerk (inertial sensors) A vector that specifies the time rate of change of the acceleration; the third derivative of displacement with respect to time. (AES/GYAC) 528-1994

jitter (1) (A) (data transmission) (repetitive wave) Time-related, abrupt, spurious variations in the duration of any specified, related interval. **(B) (data transmission) (repetitive wave)** Amplitude-related, abrupt, spurious variations in the magnitude of successive cycles. **(C) (data transmission) (repetitive wave)** Frequency-related, abrupt, spurious variations in the frequency of successive pulses. **(D) (data transmission) (repetitive wave)** Phase-related, abrupt, spurious variations in the phase of the frequency modulation of successive pulses referenced to the phase of a continuous oscillator. *Note:* Qualitative use of jitter requires the use of a generic derivation of one of the categories to identify whether the jitter is time, amplitude, frequency, or phase related and to specify which form within the category, for example, pulse delay-time jitter, pulse-duration jitter, pulse-separation jitter. Quantitative use of jitter requires that a specified measure of the time or amplitude related variation, (for example, average, root-mean-square, or peak-to-peak) be included in addition to the generic term that specifies whether the jitter is time-, amplitude-, frequency-, or phase-related. (PE) 599-1985

(2) **(oscilloscopes, electronic navigation, and television)** Small, rapid aberrations in the size or position of a repetitive display, indicating spurious deviations of the signal or instability of the display circuit. *Note:* Frequently caused by mechanical or electronic switching systems or faulty components. It is generally continuous, but may be random or periodic. (BT/PE/AV) 201-1979w, 599-1985w

(3) **(facsimile)** Raggedness in the received copy caused by erroneous displacement of recorded spots in the direction of scanning. *See also:* recording. (COM) 168-1956w

(4) **(pulse terminology)** Dispersion of a time parameter of the pulse waveforms in a pulse train with respect to a reference time, interval, or duration. Unless otherwise specified by a mathematical adjective, peak-to-peak jitter is assumed. *See also:* mathematical adjectives. (IM/WM&A) 194-1977w

(5) The time varying phase of a pulse train relative to the phase of the reference pulse train. *See also:* phase jitter; amplitude jitter. (C) 610.7-1995

(6) Refers to the time-uncertainty of a transitioning edge recurring in a repetitive signal. This uncertainty is only with respect to other edges in that signal. Jitter is commonly measured using random bit patterns and accumulating an eye pattern to show the worst-case difference in transitions.

(C/MM) 1596.3-1996

(7) (A) Small, rapid variations in the size, shape, or position of observable information, frequently caused by mechanical and electronic switching systems or faulty components. It also refers to zero-mean random errors in successive target position measurements due to target echo characteristics, propagation, or receiver thermal noise. (B) Intentional variation of a radar parameter, for example, pulse interval.

(AES) 686-1997

(8) The time varying phase of a pulse train relative to the phase of a reference pulse train. Jitter is usually measured as the difference in edge times of the receiver's recovered clock or transmitter data output to a reference clock or data signal, typically the preceding station's transmitter clock or data output. The specifications are measured in nanoseconds.

(C/LM) 8802-5-1998

jitter, maximum output See: maximum output jitter.

jitter, timing See: timing jitter.

jitter tolerance, input See: input jitter tolerance.

jitter transfer function The ratio between input jitter and output jitter in specified frequency bands throughout the applicable jitter mask. The jitter transfer is controlled by the gain and cutoff frequency of the jitter transfer characteristic.

(COM/TA) 1007-1991r

jnd See: just noticeable difference.

job (1) A user-defined unit of work that is to be accomplished by a computer. For example, the compilation, loading, and execution of a computer program. See also: job stream; job step; job control language.

(C) 610.12-1990

(2) A set of processes comprising a shell pipeline, and any processes descended from it, that are all in the same process group.

(C/PA) 9945-2-1993

(3) That entity originated or initiated by a user which is handled by the printer interface control unit. A job need not result in the imaging of information on media.

(C/MM) 1284.1-1997

(4) See also: batch job.

(PA/C) 1003.2d-1994

job control (1) A facility that allows users to selectively stop (suspend) the execution of processes and continue (resume) their execution at a later point. The user typically employs this facility via the interactive interface jointly supplied by the terminal I/O driver and a command interpreter. Conforming implementations may optionally support job control facilities; the presence of this option is indicated to the application at compile time or run time by the definition of the { _POSIX_JOB_CONTROL } symbol.

(C/PA) 9945-1-1996, 9945-2-1993

(2) A facility that allows users to stop (suspend) selectively the execution of processes and continue (resume) their execution at a later time. The user typically employs this facility via the interactive interface jointly supplied by the terminal I/O driver and a command interpreter. Conforming implementations may optionally support job control facilities. The presence of this option is indicated to the application at compile time by the subtype Job_Control_Support in package POSIX_Options or at run time by the value returned by the function Job_Control_Is_Supported in package POSIX_Configurable_System_Limits;.

(C) 1003.5-1999

job control job ID A handle that is used to refer to a job. The job control job ID can be any of the forms shown in the table.

Job Control Job ID Formats

Job Control Job ID	Meaning
%%	Current job
%+	Current job
%-	Previous job
%n	Job number <i>n</i>
%string	Job whose command begins with <i>string</i>
%?string	Job whose command contains <i>string</i>

(C/PA) 9945-2-1993

job control language (JCL) A command language used to identify a sequence of jobs, describe their requirements to an operating system, and control their execution. Note: Commonly used in batch-oriented environments such as IBM's 370 Computer.

(C) 610.13-1993w, 610.12-1990

job function A group of engineering processes that is identified as a unit for the purposes of work organization, assignment, or evaluation. Examples are design, testing, or configuration management.

(C) 610.12-1990

job identifier A unique name for a job. A name that is unique among all other job identifiers in a batch system and that identifies the server to which the job was originally submitted.

(C/PA) 1003.2d-1994

job name A label that is an attribute of a job. The job name is not necessarily unique.

(C/PA) 1003.2d-1994

job-oriented terminal A terminal that is designed for a particular application, for example, a terminal used for airline checking or for point of sale.

(C) 610.10-1994w

job owner The *username@hostname* of the user submitting the job, where *username* is a user name defined by Section 2.2.2.88 of POSIX.1 and *hostname* is a network host name.

(C/PA) 1003.2d-1994

job priority An attribute used in selecting a job for execution. A value specified by the user that may be used by an implementation to determine the order in which jobs will be selected to be executed. *Job priority* has a numeric value in the range -1024 to 1023. Note: The *job priority* is not the execution priority (*nice value*) of the job.

(C/PA) 1003.2d-1994

jobsite The assembly point at the structure or equipment where the workers, tools, and vehicles are assembled to perform the climbing to the worksite.

(T&D/PE) 1307-1996

job state An attribute of a batch job. The state of a job determines the types of requests that the batch server that manages the job can accept for the job. Valid states include QUEUED, RUNNING, HELD, WAITING, EXITING, and TRANSITING.

(C/PA) 1003.2d-1994

job step A user-defined portion of a job, explicitly identified by a job control statement. A job consists of one or more job steps.

(C) 610.12-1990

job stream A sequence of programs or jobs set up so that a computer can proceed from one to the next without the need for operator intervention. *Synonym:* run stream.

(C) 610.12-1990

jog (inch) (control) A control function that provides for the momentary operation of a drive for the purpose of accomplishing a small movement of the driven machine. See also: electric drive.

(IA/ICTL/IAC/APP) [60], [75]

jogging (packaging machinery) The quickly repeated closure of the circuit to start a motor from rest for the purpose of accomplishing small movements of the driven machine. *Synonym:* inching.

(IA/PKG) 333-1980w

jogging speed The steady-state speed that would be attained if the jogging pilot device contacts were maintained closed. Note: It may be expressed either as an absolute magnitude of speed or a percentage of maximum rated speed. See also: feedback control system.

(IA/ICTL/IAC) [60]

JOHNNIAC Open Shop System (JOSS) A procedural language used for performing numerical computations and mathematics.

(C) 610.13-1993w

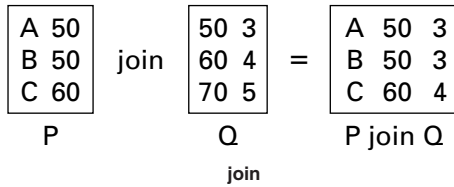
Johnson noise (1) (interference terminology) The noise caused by thermal agitation (of electron charge) in a dissipative body. Notes: 1. The available thermal (Johnson) noise power *N* from a resistor at temperature *T* is *N* = *kTΔf*, where *k* is Boltzmann's constant and *Δf* is the frequency increment. 2. The noise power distribution is equal throughout the radio frequency spectrum, that is, the noise power is equal in all equal frequency increments. See also: signal.

(IE) [43]

(2) (broadband local area networks) See also: noise figure; noise.

(LM/C) 802.7-1989r

join (1) A relational operator that combines two relations having a common attribute and which results in a relation containing all of the attributes from both of the original relations. *See also:* intersection; projection; product; selection; union; difference.



(C) 610.5-1990w

(2) A junction at which an arrow segment (going from source to use) merges with one or more other arrow segments to form a root arrow segment. May denote bundling of arrow meanings, i.e., the inclusion of multiple object types within an object type set. (C/SE) 1320.1-1998

join dependency A type of dependency within a relation R , in which R is join dependent on X, Y, \dots, Z (subsets of attributes in R) if and only if R is equal to the join of its projections on X, Y, \dots, Z . *See also:* functional dependency. (C) 610.5-1990w

joint (interior wiring) A connection between two or more conductors. (EEC/PE) [119]

joint, compression *See:* compression joint.

joint insulation *See:* connection insulation.

jointly owned generation (power operations) Generation facility owned jointly by several electric utilities each entitled to a share of the capability. *Note:* One of the participating utilities operates the facility. (PE/PSE) 858-1987s

joint, protector *See:* protector joint.

joint review A process or meeting involving representatives of both the acquirer and the developer, during which project status, software products, and/or project issues are examined and discussed. (C/SE) J-STD-016-1995

joint use Simultaneous use by two or more kinds of utilities. (NESC/T&D) C2-1997, C2.2-1960

Jordan bearing A sleeve bearing and thrust bearing combined in a single unit. *See also:* bearing. (PE) [9]

JOSEF A general-purpose programming language similar to Pascal. (C) 610.13-1993w

JOSS *See:* JOHNNIAC Open Shop System.

joule (1) (metric practice) The work done when the point of application of a force of one newton is displaced a distance of one meter in the direction of the force. (QUL) 268-1982s

(2) (laser maser) A unit of energy: one (1) joule = 1 watt · second. (LEO) 586-1980w

Joule effect The evolution of thermal energy produced by an electric current in a conductor as a consequence of the electric resistance of the conductor. *See also:* Joule's law; thermoelectric device. (ED) [46]

Joule heat The thermal energy resulting from the Joule effect. *See also:* thermoelectric device. (ED) [46]

Joule's law (heating effect of a current) The rate at which heat is produced in an electric circuit of constant resistance is equal to the product of the resistance and the square of the current. (Std100) 270-1966w

journal (1) (shaft) A cylindrical section of a shaft that is intended to rotate inside a bearing. *See also:* armature; bearing. (PE) [9]

(2) (data management) A chronological record of the changes made to a set of data. *Note:* This record may be used as an audit trail to reconstruct a previous version of the data. *Synonym:* log. (C) 610.2-1987, 610.5-1990w

journal bearing (rotating machinery) A bearing that supports the cylindrical journal of a shaft. *See also:* bearing. (PE) [9]

joystick A cursor control device consisting of a lever having at least two degrees of freedom and that can be used as a locator. (C) 610.6-1991w, 1084-1986w, 610.10-1994w

jpd *See:* just perceptible difference.

J scan *See:* J-display.

J-scope A cathode-ray oscilloscope arranged to present a J-display. (AES/RS) 686-1990

JTAG (1) Test access port and boundary scan architecture. (C/BA) 896.3-1993w

(2) An abbreviation for Joint Test Activity Group that is used to describe the serial diagnostic signals that have been defined by this group. (C/MM) 1596.4-1996

jukebox A storage device that holds multiple disks and which has one or more disk drives that can mount the disks in the disk drive as they are needed. *Synonym:* autochanger. (C) 610.10-1994w

Jules' Own Version of International Algorithmic Language

A high-order programming language used primarily for solving scientific and control problems. *Note:* Based on ALGOL 58. *See also:* TINT. (C) 610.13-1993w

jump (A) (electronic computation) To (conditionally or unconditionally) cause the next instruction to be obtained from a storage location specified by an address part of the current instruction when otherwise it would be specified by some convention. (B) (electronic computation) An instruction that specifies a jump. *Note:* If every instruction in the instruction code specifies the location of the next instruction (for example, in a three-plus-one-address code), then each one is not called a jump instruction unless it has two or more address parts that are conditionally selected for the jump. *See also:* transfer; conditional jump; unconditional jump. (C) 162-1963

(2) (A) To depart from the implicit or declared order in which computer program statements are being executed. *Synonym:* transfer. (B) A program statement that causes a departure as in definition (A). *Contrast:* if-then-else; case. *See also:* go to; branch. (C) The departure described in definition (A). *See also:* unconditional jump; conditional jump. (C) 610.12-1990

juniper (1) (telephone switching systems) Crossconnection wire(s). (COM) 312-1977w

(2) (A) (protective grounding of power lines) A metallic wire connecting the conductors on opposite sides of a dead-end structure so that continuity is maintained. (B) (protective grounding of power lines) A conductor placed across the clear space between the ends of two conductors or metal pulling lines that are being spliced together. Its purpose then is to act as a shunt to prevent workers from accidentally placing themselves in series between the two conductors. (T&D/PE) 1048-1990

(3) A conductive tool used to maintain electrical continuity across equipment, or a conductor that shall be opened mechanically to enable various operations of live-line work to be performed. *Synonym:* bypass. (T&D/PE) 516-1995

(4) (A) (conductor stringing equipment) The conductor that connects the conductors on opposite sides of a dead-end structure. (B) A conductor placed across the clear space between the ends of two conductors or metal pulling lines that are being spliced together. Its purpose, then, is to act as a shunt to prevent workers from accidentally placing themselves in series between the two conductors. (T&D/PE) 524a-1993, 524-1992

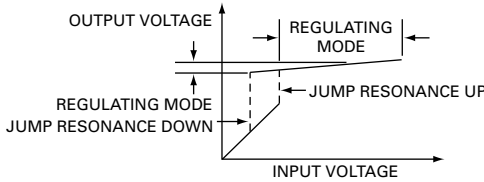
juniper cable assembly An electrical or optical assembly, used for the bidirectional transmission and reception of information, consisting of a pair of transmission lines terminated at their ends with plug connectors. This assembly may or may not contain additional components, located between the plug connectors, to perform equalization. (C/LM) 802.3-1998

jump instruction (A) A computer instruction that specifies a jump. *Contrast:* unconditional jump instruction. *See also:* conditional jump instruction. (B) An instruction that changes the sequence in which computer instructions are performed.

Note: A jump instruction generally specifies the next instruction in terms of a real address. *See also:* branch instruction.

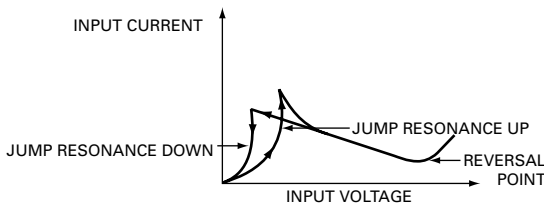
(C) 610.10-1994

jump resonance A phenomenon associated with ferroresonant regulators where the output voltage suddenly changes to the regulating mode of operation at some value of the ascending input voltage (see the figures below), or suddenly drops out of the regulating mode of operation with descending input voltage.



Output versus input voltage with jump resonance

Jump resonance



Reversal point with jump resonance

Jump resonance

(PEL) 449-1998

junction (1) (germanium gamma-ray detectors) (charged-particle detectors) (x-ray energy spectrometers) (of a semiconductor radiation detector) A region of transition between semiconductor regions of different electrical properties (for example, n-n⁺, p-n, p-p⁺ conductors) or between a metal and a semiconductor. (NPS/NID) 759-1984r, 300-1988r

(2) The transition boundary between semiconductor regions of different electrical properties (for example: n-n⁺, p-n, p-p⁺ semi-conductors, or between a metal and a semiconductor). (NPS) 325-1996

(3) A point at which either a root arrow segment divides into branching arrow segments or arrow segments join into a root arrow segment. (C/SE) 1320.1-1998

junction, alloy *See:* alloy junction.

junction box An enclosed distribution panel for connecting or branching one or more corresponding electric circuits without the use of permanent splices. *See also:* cabinet. (T&D/PE) [10]

junction circuit A circuit that connects two other circuits. (C) 610.10-1994w

junction, collector *See:* collector junction.

junction depth (1) (germanium gamma-ray detectors) (charged-particle detectors) (x-ray energy spectrometers) (of a p-n semiconductor radiation detector) The distance below the crystal surface at which the conductivity type changes. (NPS/NID) 325-1986s, 759-1984r, 300-1988r
 (2) (solar cells) The distance from the illuminated surface to the center line of the junction in a solar cell. (AES/SS) 307-1969w

junction, diffused *See:* diffused junction.

junction, doped *See:* doped junction.

junction, emitter *See:* emitter junction.

junction frequency (JF) The frequency at which the traces seen on an oblique-incidence ionogram corresponding to the low-angle ray and to the high-angle ray respectively, for a given mode, merge together. *Note:* The high-angle ray is also called the Pederson ray. (AP/PROP) 211-1997

junction, fused *See:* alloy junction.

junction, grown *See:* grown junction.

junction loss (wire communication) That part of the repetition equivalent assignable to interaction effects arising at trunk terminals. *See also:* transmission loss. (EEC/PE) [119]

junction, n-n *See:* n-n junction.

junction, p-n *See:* p-n junction.

junction point *See:* node.

junction pole (wire communication) A pole at the end of a transposition section of an open wire line or the pole common to two adjacent transposition sections. (EEC/PE) [119]

junction, p-p *See:* p-p junction.

junction, rate-grown *See:* rate-grown junction.

junction, rectifying *See:* rectifying junction.

junction resistance (thermoelectric device) The difference between the resistance of two joined materials and the sum of the resistances of the unjoined materials. *See also:* thermo-electric device. (ED) [46]

junction temperature (light-emitting diodes) The temperature of the semiconductor junction. (IE/EEC) [126]

junction transistor A transistor having a base electrode and two or more junction electrodes. *See also:* transistor. (ED) 216-1960w

junction transposition (wire communication) A transposition located at the junction pole (s pole) between two transposition sections of an open wire line. (EEC/PE) [119]

junction (1) (wire communication) (crossbar systems) A circuit extending between frames of a switching unit and terminating in a switching device on each frame. (PE/EEC) [119]

(2) (telephone switching systems) Within a switching system, a connection or circuit between inlets and outlets of the same or different switching networks. (COM) 312-1977w

justification (A) In text formatting, the process of aligning text to form even margins or to achieve desired vertical spacing. *See also:* right justification; incremental justification; full justification; left justification; vertical justification; hyphenless justification. (B) The result of the process in (A). (C) 610.2-1987

justification range In text formatting, the permitted minimum and maximum space that can be inserted between words or characters by a justification routine. (C) 610.2-1987

justification routine In text formatting, a routine that produces justified text by using interword or intercharacter spacing. (C) 610.2-1987

justify (1) To shift a numeral so that the most significant digit, the least significant digit, or the radix point is placed at a specific position in a register. (C) 1084-1986w

(2) Align text to a margin. Right justification adjusts the text so that its end touches the right margin or end of the text field. Left justification adjusts the text so that its beginning touches the left margin or beginning of the text field. (C) 1295-1993w

just noticeable difference (jnd) (visual) (television) The smallest difference between luminances or colors, occurring either alone or together, of (usually) adjacent areas that is easily discernible or obvious in the course of ordinary observation. (BT/AV) 201-1979w

just operate value, relay *See:* relay just-operate value.

just perceptible difference (television) (visual) The smallest difference between luminances or colors, occurring either alone or together, of (usually) adjacent areas that is discernible in the course of careful observation under the most favorable conditions. (BT/AV) 201-1979w

just scale A musical scale formed by taking three consecutive triads each having the ratio 4:5:6, or 10:12:15. *Note:* Consecutive triads are triads such that the highest note of one is the lowest note of the next. (SP/ACO) [32]