

K

K *See*: kilo.

k *See*: kilo.

Ka-band A range of high frequencies (20–30 GHz) allotted for satellite transmission. (C) 610.7-1995

K_a-band A radar-frequency band between 27 GHz and 40 GHz, usually in the International Telecommunication Union (ITU) allocated band 33.4–36 GHz. (AES) 686-1997

karabiner *See*: carabiner.

Karnaugh map (mathematics of computing) A rectangular diagram of a logical expression drawn with overlapping rectangles representing a unique combination of the logic variables such that an intersection is shown for all combinations. The rows and columns are headed with combinations of the variables in a Gray code sequence. *See also*: Mahoney map; logic map. (C) 1084-1986w

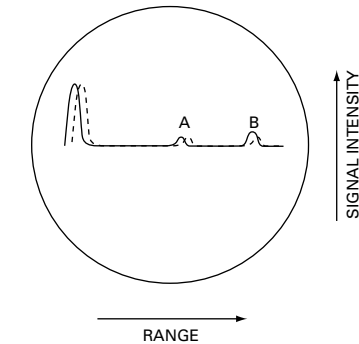
Karn's algorithm An algorithm that allows transport protocols to distinguish between good and bad round trip time samples, thus improving round trip estimation. (C) 610.7-1995

kB *See*: kilobyte.

K-band A radar frequency band between 18 GHz and 27 GHz, usually in the International Telecommunication Union (ITU) allocated band 23–24.2 GHz. (AES) 686-1997

Kbyte Kilobyte. Indicates 2^{10} bytes. (C/MM) 1212-1991s

K-display A modified A-display used with a lobe-switching antenna, in which a target appears as a pair of vertical deflections. When the radar antenna is correctly pointed at the target, the deflections (blips) are of equal height, and when not so pointed, the difference in blip height is an indication of the direction and magnitude of pointing error.



Note: Two targets, A and B, at different ranges; radar aimed at target A.

K-display

(AES) 686-1997

keep-alive circuit (1) (nonlinear, active, and nonreciprocal waveguide components) (transmit-receive, receiver protector) A circuit for providing residual ionization for the purpose of reducing the initiation time of the main discharge. *See also*: duplexer; ignitor discharge. (MTT) 457-1982w

(2) In a transmit-receive switch (TR switch), a circuit for producing residual ionization for the purpose of reducing the initiation (breakdown) time of the main discharge.

(AES) 686-1997

Kellem *See*: woven wire grip; conductor grip.

Kellem grip *See*: conductor grip.

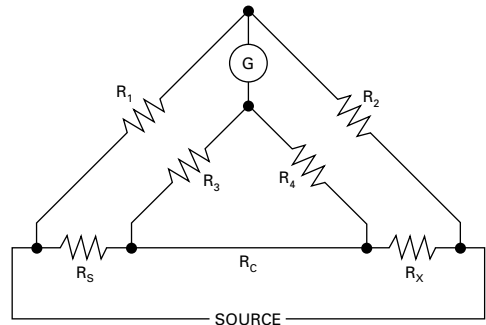
kelvin (metric practice) Unit of thermodynamic temperature, it is the fraction $1/273.16$ of the thermodynamic temperature of the triple point of water (adopted by 13th General Conference on Weights and Measures). (QUL) 268-1982s

Kelvin bridge (double bridge) (thomson bridge) A 7-arm bridge intended for comparing the 4-terminal resistances of two 4-terminal resistors or networks, and characterized by the use of a pair of auxiliary resistance arms of known ratio that

span the adjacent potential terminals of the two 4-terminal resistors that are connected in series by a conductor joining their adjacent current terminals.

$$R_x = R_s \frac{R_2}{R_1} - \frac{R_s R_3 R_4 / R_3 - R_2 / R_1}{R_3 + R_4 + R_c}$$

See also: bridge.



Kelvin bridge

(QUL/PE/EEC) 268-1982s, [119]

Kendall effect (facsimile) A spurious pattern or other distortion in a facsimile record, caused by unwanted modulation products arising from the transmission of a carrier signal, appearing in the form of a rectified baseband that interferes with the lower sideband of the carrier. *Note*: This occurs principally when the single sideband width is greater than half the facsimile carrier frequency. *See also*: recording.

(COM) 168-1956w

kenotron (tube or valve) A hot-cathode vacuum diode. *Note*: This term is used primarily in the industrial and x-ray fields.

(ED) [45]

keraunic level (1) Number of thunderstorm days in a given area for a specified period of time. *Synonym*: ceraunic level. *See also*: isokeraunic map. (T&D/PE) 751-1990

(2) The average annual number of thunderstorm days or hours for a given locality (1) A daily keraunic level is called a thunderstorm-day and is the average number of days per year in which thunder is heard during a 24 h period. (2) An hourly keraunic level is called a thunderstorm-hour and is the average number of hours per year that thunder is heard during a 60 min period. (SUB/PE) 998-1996

kernel (1) (A) (software) That portion of an operating system that is kept in main memory at all times. *Synonym*: resident control program; nucleus. (B) (software) A software module that encapsulates an elementary function or functions of a system. *See also*: security kernel. (C) 610.12-1990

(2) The nucleus of the operating system.

(C/PA) 1387.2-1995

kernel benchmark program A benchmark program consisting of portions of actual computer programs such that the portion chosen is believed to be responsible for most of the execution time. (C) 610.10-1994w

kernel element (KE) An abstraction of data processing and data communication resources. An application KE represents a logical component of application layer functionality.

(SCC32) 1455-1999

kernel fileset A fileset in which one or more of the referenced files forms part of the kernel, and denoted by having the value of its *is_kernel* attribute set to `true`. (C/PA) 1387.2-1995

Kerning In text formatting, the use of inter-character spacing to expand or compact a word or a line of text. *Synonyms*: white space reduction; mortising; white space expansion.

(C) 610.2-1987

Kerr electrostatic effect *See*: electro-optic effect.

key (1) (telephone switching systems) A hand-operated switching device ordinarily comprising concealed spring contacts with an exposed handle or pushbutton, capable of closing or opening one or more parts of a circuit. (COM) 312-1977w

(2) (rotating machinery) A bar that by being recessed partly in each of two adjacent members serves to transmit a force from one to the other. *See also:* rotor. (PE) [9]

(3) (software) One or more characters, within a set of data, that contains information about the set, including its identification. *See also:* data. (C/SE) 729-1983s

(4) (A) (data management) In data management, a data element or concatenation of data elements that identifies an item within a set of items. *Note:* Such a data element is also known as a key field. *Synonyms:* sequence field; key field. *See also:* key value; primary key; secondary key; concatenation; sort key. **(B) (data management)** In a relational data model, one or more attributes that, when taken together, identify the relation to which the attributes belong. **(C) (data management)** In a tree, the portion of each node that identifies that node. (C) 610.5-1990

(5) A sequence of symbols that controls the operations of encipherment and decipherment. (LM/C) 802.10-1992

(6) When used in the context of a ROM entry, refers to an 8-bit field whose value identifies a ROM location as an immediate entry, offset entry, leaf entry, or subdirectory entry. This is a term used (but not defined) in ISO/IEC 13213: 1994. (C/BA) 896.2-1991w

(7) (A) A manually activated mechanism on a keyboard, used for entering a character or command into a computer system. *See also:* typing key; control key. **(B)** To press a lever or button. (C) 610.10-1994

(8) (relational data base) A field or group of fields in a relational data-base table that uniquely defines each row within that table. A composite key is made up of more than one field in the table. (PE/EDPG) 1150-1991w

(9) When used in the context of a read-only memory (ROM) entry, a key is an 8-bit field whose value identifies a ROM location as an immediate entry, offset entry, leaf entry, or subdirectory entry. (C/BA) 896.10-1997

keyboard (1) (test, measurement, and diagnostic equipment) A device for the encoding of data by key depression that causes the generation of the selected code element. (MIL) [2]

(2) An input device consisting of a systematic arrangement or layout of keys, used to encode data. *See also:* live keyboard; QWERTY keyboard; Dvorak keyboard; keypad; membrane keyboard. (C) 610.10-1994w

keyboard punch *See:* keypunch.

keyboard scanner A unit within a keyboard that detects the depression of a key and generates an encoded signal indicating the identity of that key. (C) 610.10-1994w

keyboard send/receive (KSR) A teletypewriter unit with keyboard and printer. *Contrast:* automatic send/receive. (C) 610.10-1994w

keyboard-to-disk *See:* key-to-disk converter.

key code An alpha or alphanumeric designator used to identify the style and angular position of the keying pins. (C/BA) 1101.4-1993, 1101.7-1995, 1101.3-1993

key compression The elimination of data from the beginning and the end of a key in which these characters are not needed to distinguish the key from other keys in the set. (C) 610.5-1990w

key distribution system The manual or automated means by which cryptographic keys are communicated between nodes of a computer or communications system. (C) 610.7-1995

keyed access *See:* indexed access.

keyer A device that changes the output of a transmitter from one value of amplitude or frequency to another in accordance with the intelligence to be transmitted. *Note:* This applies generally to telegraph keying. *See also:* radio transmission. (AP/ANT) 145-1983s

key field *See:* key.

key folding function A hash function in which the original key is split into two or more parts and some portion of their sum is returned as the hash value. For example, in the function below, the key is divided into three parts and the sum of the three parts is returned as the hash value.

Original key	Calculation	Hash value
96472135	964 + 721 + 35 = 1738	1738
90007810	900 + 078 + 10 = 988	988

(C) 610.5-1990w

key gases Gases generated in oil-filled transformers that can be used for qualitative determination of fault types, based on which gases are typical or predominant at various temperatures. (PE/TR) C57.104-1991

key generation The process of generating the key values for the items in a set according to some algorithm. (C) 610.5-1990w

keying (1) (modulating systems) Modulation involving a sequence of selections from a finite set of discrete states. *See also:* telegraphy. (IT) [7]

(2) (telegraph) The forming of signals, such as those employed in telegraph transmission, by an abrupt modulation of the output of a direct-current or an alternating-current source as, for example, by interrupting it or by suddenly changing its amplitude or frequency or some other characteristic. *See also:* telegraphy. (AP/ANT) 145-1983s

(3) (television) A signal that enables or disables a network during selected time intervals. *See also:* television. (BT/AV) [34]

keying interval (periodically keyed transmission system) (modulation systems) One of the set of intervals starting from a change in state and equal in length to the shortest time between changes of state. *Note:* The keying interval equals the symbol duration. (IT) [7]

keying rate (modulation systems) The reciprocal of the duration of the keying interval. (Std100) 270-1964w

keying wave *See:* marking wave.

keyless ringing (telephony) A form of machine ringing on manual switchboards that is started automatically by the insertion of the calling plug into the jack of the called line. (EEC/PE) [119]

key letter in context index (KLIC) A variation of a keyword in context (KWIC) index in which letters are used as the fundamental indexing units instead of keywords. *See also:* key phrase in context index. (C) 610.2-1987

key light (illuminating engineering) The apparent principal source of directional illumination falling upon a subject or area. (EEC/IE) [126]

key management The generation, storage, distribution, deletion, archiving, and application of keys in accordance with a security policy. (LM/C) 802.10-1992

Key Management Stack The protocols residing above SDE that request services via an SDE SAP that is supported by the use of a bootstrap SAID with either of the two values reserved for key management. (C/LM) 802.10-1998

key migration The modeling process of placing the primary key of a parent or generic entity in its child or category entity as a foreign key. (C/SE) 1320.2-1998

keypad A small group of keys that are set up for convenience and greater flexibility such that they are grouped together physically on a keyboard. For example, a numeric keypad or a cursor control keypad. (C) 610.10-1994w

key performance indicator (KPI) A measurement of the performance of a particular business system in terms of the aims and goals of an enterprise. (C/PA) 1003.23-1998

key phrase in context index (KPIC) A variation of a keyword in context (KWIC) index in which phrases are used as the fundamental indexing units instead of keywords. *See also:* key letter in context index. (C) 610.2-1987

key pin A hardware implementation that prevents mating of incompatible modules. (C/BA) 1101.4-1993, 1101.7-1995

key pulsing (telephone switching systems) A switchboard arrangement using a nonlocking keyset and providing for the transmission of a signal corresponding to each of the keys depressed. (COM) 312-1977w

key-pulsing signal (telephone switching systems) In multifrequency and key pulsing, a signal used to prepare the equipment for receiving digits. (COM) 312-1977w

keypunch A keyboard-activated card punch that punches holes in a card, according to input received from the keyboard. *Synonym:* keyboard punch. *See also:* numeric keypunch. (C) 610.10-1994w

keypunching The process of using a card punch to generate punch cards. (C) 610.10-1994w

key range A particular range of values of the keys found in some set of data. *Note:* Key ranges may be used to partition the set into subsets. (C) 610.5-1990w

key sequence Pertaining to a set of data that has been sequenced according to the value of some key. (C) 610.5-1990w

keyshelf (telephone switching systems) The shelf on which are mounted control keys for use by operators or other personnel. (COM) 312-1977w

key sorting A sorting technique in which a table of sort keys and corresponding addresses that point to the items to be stored are manipulated instead of moving the items themselves. *See also:* address table sorting. (C) 610.5-1990w

keystone distortion (1) (television) A form of geometric distortion that results in a trapezoidal display of a nominally rectangular raster or picture. *See also:* television. (BT/AV) [34]

(2) (camera tubes) A distortion such that the slope or the length of a horizontal line trace or scan line is linearly related to its vertical displacement. *Note:* A system having keystone distortion distorts a rectangular pattern into a trapezoidal pattern. (ED) 161-1971w

keystroke The action of pressing one of the keys on a keyboard. (C) 610.10-1994w

keystroke counter A counter that records the number of key depressions made on a given unit within some period of time. (C) 610.10-1994w

key-style view A view that represents the structure and semantics of data within an enterprise, i.e., data (information) models. The key-style view is backward-compatible with FIPS PUB 184. (C/SE) 1320.2-1998

key-to-disk converter An input device that converts data from a keyboard to disk storage. *Synonym:* keyboard-to-disk. *See also:* key-to-tape converter; card-to-disk converter. (C) 610.10-1994w

key-to-tape converter An input device that converts data from a keyboard to magnetic tape. *See also:* card-to-tape converter; key-to-disk converter. (C) 610.10-1994w

key transformation In searching, the process of mapping a set of keys into a set of integers, using a hash function. (C) 610.5-1990w

key transformation function *See:* hash function.

key value The contents of a key. (C) 610.5-1990w

keyway (rotating machinery) A recess provided for a key. *See also:* key. (PE) [9]

keyword In automatic indexing, a significant word in a title or document that characterizes the content of the document. *Synonyms:* descriptor; lead term. (C) 610.2-1987

keyword and context (KWAC) *See:* keyword and context index.

keyword and context index (KWAC) A type of keyword in context index in which items are presented in the form of a permutation index. *See also:* permutation on subject headings index. (C) 610.2-1987

keyword in context (KWIC) *See:* keyword in context index.

keyword in context index (KWIC) An automatic index in which keywords are placed in alphabetical order in a central column and the remainder of the information is given to the

right and left, preserving the context. *Contrast:* keyword out of context index. *See also:* keyword and context index; key letter in context index; key phrase in context index; author and keyword in context index. (C) 610.2-1987

keyword out of context (KWOC) *See:* keyword out of context index.

keyword out of context index (KWOC) An automatic index in which the keywords are extracted from their normal context and are displayed in a left hand column with the full context following on the right in its normal order. *Contrast:* keyword in context index. *See also:* keyword out of title index; word and author index. (C) 610.2-1987

keyword out of title *See:* keyword out of title index.

keyword out of title index A type of keyword out of context index in which the items being indexed are document titles. (C) 610.2-1987

kHz *See:* kilohertz.

kick-sorter *See:* pulse; pulse-height analyzer.

kilo (A) (mathematics of computing) A prefix indicating one thousand (10^3). **(B) (mathematics of computing)** In statements involving size of computer storage, a prefix indicating 2^{10} , or 1024. (C) 1084-1986

kilobyte (1) Either 1000 bytes or 2^{10} or 1024 bytes. *Notes:* 1. The user of these terms shall specify the applicable usage. If the usage is 2^{10} or 1024 bytes, or multiples thereof, then note 2 below shall also be included with the definition. 2. In IEEE Std 610.10-1994, the terms kilobyte (kB) means 2^{10} or 1024 bytes, megabyte (MB) means 1024 kilobytes, and gigabyte (GB) means 1024 megabytes. *See also:* megabyte; gigabyte. (C) 610.10-1994w

(2) Equivalent to 1024 bytes. *Note:* There is a plan to deprecate this base-2 usage because of the potential for confusion with the base-10 definition. An alternative notation for base-2 is under development. Because the above mentioned base-2 usage is widespread in some areas of application, however, it may be employed in IEEE publications for a limited time. (C/MM) 1284.1-1997

(3) A quantity of data equal to 2^{10} bytes, or 1024 bytes. (C/MM) 1394a-2000

kilogram (metric practice) The unit of mass; it is equal to the mass of the international prototype of the kilogram (adopted by 1st and 3rd General Conference on Weights and Measures 1889 and 1901). (QUL) 268-1982s

kilohertz (1) A unit of frequency equal to 1000 cycles per second. (LM/C) 802.7-1989r

(2) A unit of frequency equal to 1000-Hz, that is, 10^3 Hz. (C) 610.7-1995

kilopascal (kilo pascals) Metric unit for water or air pressure. (T&D/PE) 957-1987s, 957-1995

kilovar (1000 vars) The practical unit of reactive power, equal to the product of the root-mean-square (rms) voltage in kilovolts (kV), the rms current in amperes (A), and the sine of the angle between them. power systems relaying. (PE/T&D) C37.99-2000, 18-1992

kilovolt-ampere rating (voltage regulators) The product of the rated load amperes and the rated range of regulation in kilovolts. *Note:* The kilovolt-ampere rating of a three-phase voltage regulator is the product of the rated load amperes and the rated range of regulation in kilovolts multiplied by 1.732. *See also:* voltage regulator. (PE/TR) C57.15-1968s

kilowatt A measure of the instantaneous power requirement. (IA/PSE) 241-1990r

kinematic drift *See:* misalignment drift.

kinescope *See:* picture tube.

kinetic depth effect The effect achieved in computer graphics when a three-dimensional object is rotated about an axis and lines nearer the viewer appear to move more rapidly than those farther away. (C) 610.6-1991w

kinetic energy The energy that a mechanical system possesses by virtue of its motion. *Note:* The kinetic energy of a particle

at any instant is $(1.2)mv^2$, where m is the mass of the particle and v is its velocity at that instant. The kinetic energy of a body at any instant is the sum of the kinetic energies of its several particles. (Std100) 270-1966w

Kingsbury bearing See: tilting-pad bearing.

kino gun See: end injection.

Kirchhoff approximation When used in computing electromagnetic scattering from surfaces, this approximation assumes that the surface is locally planar and the field on the surface is equal to the field that would have existed had the surface been a plane tangent to the actual surface at that point. *Notes:* 1. Valid when the local radius of curvature is much greater than a wavelength and multiple scattering can be neglected. 2. Not valid in shadow regions. (AP/PROP) 211-1997

Kirchhoff's laws (A) (electric networks) The algebraic sum of the currents toward any point in a network is zero.

(B) (electric networks) The algebraic sum of the products of the current and resistance in each of the conductors in any closed path in a network is equal to the algebraic sum of the electromotive forces in that path. *Note:* These laws apply to the instantaneous values of currents and electromotive forces, but may be extended to the phasor equivalents of sinusoidal currents and electromotive forces by replacing algebraic sum by phasor sum and by replacing resistance by impedance. See also: network analysis. (Std100) 270-1966

Kirchhoff's theory of diffraction A scalar wave theory, valid when the diffracting aperture has dimensions that are large relative to the wavelength. The diffracted field at any point is found by evaluating an integral involving the field and its derivative over the aperture only, and these quantities are assumed to be the same as they would be were the aperture infinitely large in both directions. (AP/PROP) 211-1997

KLIC See: key letter in context index.

Klein See: conductor grip.

klydonograph See: Lichtenberg figure camera.

klystron A velocity-modulated tube comprising, in principle, an input resonator, a drift space, and an output resonator. See also: reflex klystron; power klystron. (Std100) [84]

knee-point voltage (1) (Class C transformers) The point on the excitation curve where the tangent is at 45° to the abscissa. The excitation curve shall be plotted on log-log paper with square decades. *Note:* The above definition is for non-gapped CT. When the current transformer has a gapped core, the knee-point voltage is the point where the tangent to the curve makes an angle of 30° with the abscissa. (PE/PSR) C37.110-1996

(2) That sinusoidal voltage of rated frequency applied to the secondary terminals of the transformer, all other windings being open circuited, which, when increased by 10% causes the exciting current to increase by 50%. (PE/PSR) C37.110-1996

knife-edge diffraction See: edge diffraction.

knife switch A form of switch in which the moving element, usually a hinged blade, enters or embraces the stationary contact clips. *Note:* In some cases, however, the blade is not hinged and is removable. (SWG/PE) C37.100-1992

knockout (power and distribution transformers) A portion of the wall of a box or cabinet so fashioned that it may be readily removed by a hammer, screwdriver, and pliers at the time of installation in order to provide a hole for the attachment of a raceway cable or fitting. (PE/TR) C57.12.80-1978r

knot (pulse terminology) A point, t_k , m_k ($k = 1, 2, 3, \dots, n$), in a sequence of points wherein $t_k \leq t_{k\pi A}$ 1 through which a spline function passes. (See corresponding figure.) (IM/WM&A) 194-1977w

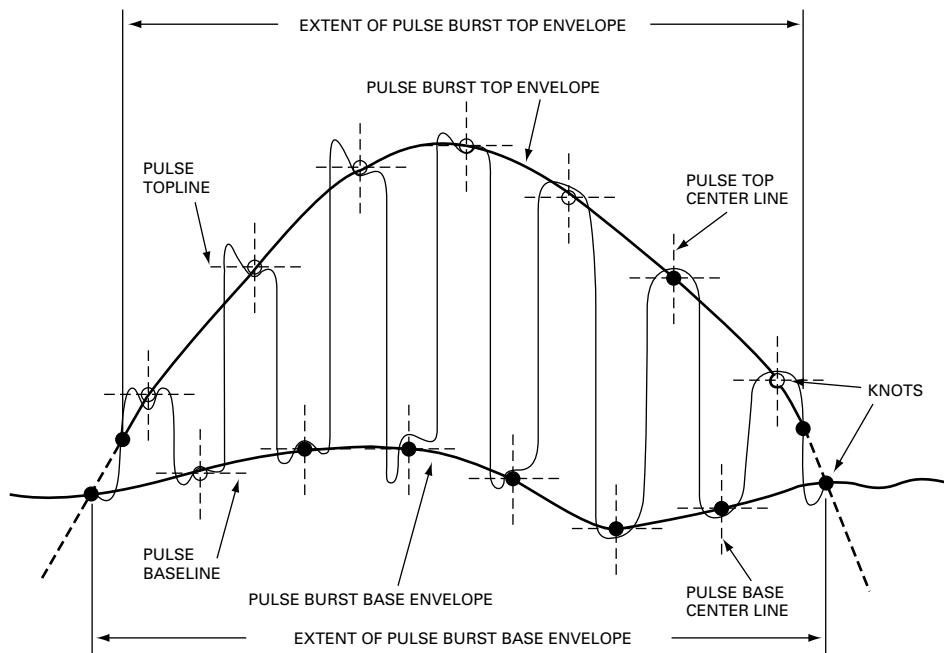
knowledge (1) Information structure to facilitate derivation of new information. (SCC20) 1232.1-1997

(2) The aspect of an instance's specification that is determined by the values of its attributes, participant properties, and constant, read-only operations. (C/SE) 1320.2-1998

knowledge base (1) A collection of interrelated information, facts, or statements. (C) 610.5-1990w, 610.12-1990

(2) A combination of structure, data, and function used by reasoning systems. (ATLAS) 1232-1995

knowledge/data base management system One system within the AI-ESTATE architectural concept. This system supports



Pulse burst envelopes

knot

- access to data and knowledge in external data stores and knowledge bases which will be accessed by services external to AI-ESTATE. (ATLAS) 1232-1995
- knowledge reference** Knowledge that associates, either directly or indirectly, a DIT entry with the DSA in which it is located. (C/PA) 1328.2-1993w, 1326.2-1993w, 1224.2-1993w, 1327.2-1993w
- KOPS** A measure of computer processing speed. *See also:* MIPS; MFLOPS. (C) 610.12-1990
- Kordic algorithm** A widely used algorithm that calculates the sine and cosine of an angle using only addition, subtraction, and shifting operations in scaled arithmetic. (C) 1084-1986w
- KP** Key pulse. (COM/TA) 973-1990w
- kPa (kilo pascals)** Metric unit for water or air pressure. (T&D/PE) 957-1987s, 957-1995
- KPIC** *See:* key phrase in context index.
- K-scope** A cathode-ray oscilloscope arranged to present a K-display. (AES/RS) 686-1990
- KSR** *See:* keyboard send/receive.
- kth code transition level $T[k]$** The input value corresponding to the transition between codes $k-1$ and k . (IM/WM&A) 1057-1994w
- K28.5** The 8B/10B control (K) symbol used as one of the spaceborne fiber-optic data bus (SFODB) Frame Sync characters. (C/BA) 1393-1999
- K28.7** The 8B/10B control (K) symbol used as the other spaceborne fiber-optic data bus (SFODB) Frame Sync character. (C/BA) 1393-1999
- K_u-band (1)** A range of microwave frequencies (15–17 GHz) whose uses include satellite transmission. (C) 610.7-1995
- (2)** A radar-frequency band between 12 GHz and 18 GHz, usually in one of the International Telecommunication Union (ITU) allocated bands 13.4–14.4 GHz or 15.7–17.7 GHz. (AES) 686-1997
- kV** Phase-to-phase voltage of the circuit(s). When phase-to-ground voltage is the intention, it should be so noted. (T&D/PE) 957-1995, 957-1987s
- kVA or volt-ampere short-circuit input rating of a high-reactance transformer (power and distribution transformers)** One that designates the input kVA or volt-amperes at rated primary voltage with the secondary terminals short-circuited. (PE/TR) C57.12.80-1978r
- kV·T product** Inductive influence expressed in terms of the product of its root-mean-square magnitude, in kilovolts, times its telephone influence factor (TIF). (COM/IA/TA/SPC) 469-1988w, 519-1992
- KWAC** *See:* keyword and context; keyword and context index.
- KWIC** *See:* keyword in context; keyword in context index.
- KWOC** *See:* keyword out of context; keyword out of context index.