

**MODERN  
DICTIONARY  
OF**

**electronics**

**Rudolf F. Graf**

APPROXIMATELY 20,000 TERMS  
Including the latest terms in the fields of

<b>COMMUNICATIONS</b>	<b>MICROELECTRONICS</b>
<b>RELIABILITY</b>	<b>FIBEROPTICS</b>
<b>SEMICONDUCTORS</b>	<b>COMPUTERS</b>
<b>MEDICAL ELECTRONICS</b>	

*AUTHORITATIVE COMPREHENSIVE  
COMPLETELY UP-TO-DATE*

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Petitioner - Samsung Electronics Co., Ltd., et al.  
Patent Owner - Image Processing Technologies  
LLC



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## Pref

In recent decades, technological advances in our daily lives have taken place at a feverish pace in related fields. Invariably, those who are active in these fields need new vocabulary terms to effectively communicate ideas about their fields of specialization. New words give them their initial meaning, and through technological advances and through common usage, the meaning of a dictionary is thus an analysis of the words determined by common usage.

Therefore, it should come as no surprise that the *Modern Dictionary of Electronics*—the most comprehensive electronics dictionary in the world—contains over 20,000 terms unique to electronics. This edition includes 3000 more entries than were included in the first edition published in 1972, and nearly twice as many. All definitions were reviewed and modified to further enhance the intelligibility of the definitions. Concise, meaningful, concise definitions requiring no further explanations have been updated and modified for clarity to the definitions.

While this volume is as up-to-date as possible, the field of electronics is expanding so rapidly that it is constantly being developed and old terms are being given specialized meanings. It is the intent of this issue revised editions of this dictionary and definitions will always be welcome.

Acknowledgement and thanks are due to the engineering societies—notably the IEEE—for their assistance in defining many terms during the preparation of this dictionary. In particular I want to express my appreciation to J. Whalen for his invaluable contribution.

## communications satellite—comparator

signals from stations operating in the communications service.

**communications satellite**—An orbiting space vehicle that actively or passively relays signals between communications stations.

**communications security**—The protection resulting from all measures designed to deny unauthorized persons information of value which might be derived from the possession and study of telecommunications or to mislead unauthorized persons in their interpretations of the results of such possession and study.

**communication switch**—A device used to execute repetitive sequential switching.

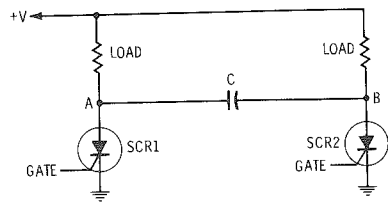
**communication zone indicator**—A device that indicates whether or not long-distance high-frequency broadcasts are successfully reaching their destination.

**community antenna television**—A television system that receives and retransmits television broadcasts. Microwave transmitters and coaxial cables are used to bring the television signals to subscribers in a community. Abbreviated *catv*.

**community dial office**—A small dial telephone office that serves an exchange area and that operates with no employees located in the building.

**community television system**—A receiving system by means of which television signals may be distributed over coaxial cables to homes in an entire community.

**commutation**—1. A mechanical process of converting the alternating current in the armature of direct-current generators into the direct-current generator output. 2. Sampling of various quantities in a repetitive manner, for transmission over a single channel. 3. The switching of currents back and forth between various paths as required for operation of some system or device. In particular, a switching of current to or from the appropriate armature coils of a motor or generator. The turning off of an active element at the correct time as in an inverter or power controller.



Commutation capacitor.

**commutation capacitors**—1. Cross-connected capacitors in a thyatron inverter.

2. A specially designed capacitor used in the turn off (commutation) circuit of an SCR where it is subjected to exceedingly fast rise time pulses. Thus the capacitor must be capable of discharging large peak currents in very short periods of time.

**commutation switch**—A device used to carry out repetitive sequential switching.

**commutator**—1. The part of the armature to which the coils of a motor are connected. It consists of wedge-shaped copper segments arranged around a steel hub and insulated from it and from one another. The motor brushes ride on the outer edges of the commutator bars and thereby connect the armature coils to the power source. 2. Device used in a direct current generator to reverse the direction of an electric current and maintain a current flowing in one direction. 3. A switch or equivalent device that permits the reversal or exchange of external connections of a transducer to provide a desired sequencing of signals.

**compactron**—An electron tube based on a building-block concept which involves the standardizing of basic tube sections, diodes, triodes, pentodes; clipping them together as required; and sealing them in a single envelope.

**compander**—A combination consisting of a compressor at one point in a communication path to reduce the volume range of signals, followed by an expander at another point to improve the ratio of the signal to the interference entering the path between the compressor and expander.

**companding**—A process in which compression is followed by expansion. Companding is often used for noise reduction, in which case the compression is applied before the noise exposure and the expansion afterward.

**compander**—See *Compander*.

**companion keyboard**—A remote keyboard connected by a multiwire cable to an ordinary keyboard and able to operate it.

**comparator**—1. A circuit which compares two signals and supplies an indication of agreement or disagreement. 2. In a computer, a circuit that determines whether the absolute difference between a data sample and the previous sample passed is greater than or equal to a redundancy criterion (which may be a tolerance or a limit). 3. A device that compares two inputs for equality. One type compares voltages and gives one of two outputs; less than, or greater than. Another type compares binary numbers and has three

inputs. 4. A unit often found in audio showrooms, which by switch selection, will connect up a combination of speakers, amplifier, tuner, pick-up, tape player, etc. For comparing different types. 5. A circuit which compares two signals and provides a "difference" signal.

**compare**—A computer operation in which two quantities are matched for the purpose of discovering their relative magnitudes or algebraic values.

**comparison**—The examination of how two similar items of data are related. The comparison is usually followed by a decision.

**comparison bridge**—A type of voltage-comparison circuit resembling a four-arm electrical bridge. The elements are so arranged that if a balance exists in the circuit, a zero error signal is derived.

**compatibility**—1. That property of a color-television system which permits typical, unaltered monochrome receivers to receive substantially normal monochrome from the transmitted signal. 2. The property that makes possible use of a stereo system with a monophonic program source, or reproduction of a stereo program monophonically on a monophonic system. 3. The ability of one unit to be used with another without detrimental effect on the signal through mismatch. For example, a compatible pickup will play both mono and stereo records.

**compatible IC**—A hybrid IC in which the active circuit element is within the silicon planar integrated structure. A passive network, which may be separately optimized, is deposited onto its insulating surface to complete the IC device.

**compatible monolithic integrated circuit**—A device in which passive components are deposited by thin-film techniques on top of a basic silicon-substrate circuit containing the active components and some passive parts. Also see *All-Diffused Monolithic Integrated Circuit*.

**compensated amplifier**—A broad-band amplifier the frequency range of which is extended by the proper choice of circuit constants.

**compensated-impurity resistor**—A diffused-layer resistor into which are introduced additional n- and p-type impurities.

**compensated-loop direction finder**—A direction finder employing a loop antenna and a second antenna system to compensate for polarization error.

**compensated semiconductor**—A semiconductor in which one type of impurity or imperfection (donor) partially cancels the electrical effects of the other (acceptor).