

WILEY
ELECTRICAL
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ELECTRONICS
ENGINEERING
DICTIONARY



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Published by John Wiley & Sons, Inc., Hoboken, New Jersey.
Published simultaneously in Canada.

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Library of Congress Cataloging-in-Publication Data is available.

Kaplan, Steven M.

Wiley Electrical and Electronics Engineering Dictionary

ISBN 0-471-40224-9

Printed in the United States of America.

10 9 8 7 6 5 4 3 2 1

campus-wide information system A computer-based information retrieval system used in an educational institution, such as a university. Useful, for instance, in course selection, or for accessing required readings. Its abbreviation is CWIS.

can A metal container which serves to enclose a component. For example, the outer casing of an electrolytic capacitor.

CAN Abbreviation of cancel character.

cancel 1. To diminish, annul, or omit. 2. To match in force or effect, especially when diminishing, annulling, or omitting.

cancel character In data transmission, a control character indicating that the associated text should be canceled. Its abbreviation is CAN.

candela The fundamental SI unit of luminous intensity. Formerly, it was defined in various manners, ranging from the light of a certain type of candle under particular conditions, to more recently as a given proportion of the radiating power of a blackbody under specific conditions. It is currently defined as the luminous intensity of a light source emitting monochromatic radiation in a given direction at a frequency of 540 terahertz, with a power of 1/683 watt per steradian in the specified direction. Its symbol is cd. This term was formerly known as **candle**, **international candle**, **standard candle**, or **new candle**.

candle Former name of **candela**.

candle power Same as **candlepower**.

candlepower Luminous intensity expressed in **candelas**. Also spelled **candle power**. Its abbreviation is **cp**.

cannibalize To remove one or more components from equipment which is in working order, to use for repairing or operating other equipment.

cannot find server An error 404 resulting from the server not being available. Also called **server not found**.

CAP Abbreviation of **carrierless amplitude phase**.

capacimeter Abbreviation of **capacitance meter**.

capacitance The ability to store electric charge between conductors which are separated by a dielectric material, when a potential difference exists between said conductors. Its value is expressed as the ratio of stored electric charge to the potential difference, and is expressed in farads, although in practicality this unit is so large that it is more common to use microfarads or picofarads. Its symbol is C. Formerly, this concept was known as **capacity** (4).

capacitance box A device containing an assembly of capacitors and switches, enabling precise adjustment of the capacitance at the terminals.

capacitance bridge A bridge which enables measuring or comparing a capacitance against a known capacitance. An example is a Schering bridge.

capacitance filter A filter consisting solely of a capacitor. Such a filter tends to smooth voltage variations because a capacitor resists discharging instantaneously. Used, for instance, in audio applications.

capacitance meter A direct-reading meter for measuring capacitance of circuits or capacitors. Its abbreviation is **capacimeter**, or **C meter**.

capacitance relay A relay which responds to very small variations in capacitance, similar to those produced by a human body, or a part of it, such as a hand. Such a device may be used, for instance, as an intrusion alarm. Also called **proximity relay**.

capacitance standard A capacitor whose capacitance value is precisely known, and which serves to measure or compare unknown capacitances. May be used, for instance in a Schering bridge. Also called **standard capacitance**.

capacitance temperature coefficient A numerical value that indicates the relationship between a change in the capaci-

tance of a component, device, material, or area, as a function of temperature. Also called **temperature coefficient of capacitance**.

capacitive Pertaining to **capacitance**.

capacitive coupling The coupling of two or more circuits by means of a **capacitance**. Also called **electrostatic coupling**.

capacitive diaphragm A metal plate placed inside a waveguide to introduce capacitive reactance at the transmitted frequency.

capacitive-discharge ignition An automotive ignition system in which energy is stored in a capacitor, and is then discharged across the gap of a spark plug at the proper intervals.

capacitive feedback The return of part of the energy from the output of a circuit back to its input by means of a common capacitance.

capacitive load A load in which current leads voltage. The capacitive reactance exceeds the inductive reactance in such a load. Also called **leading load**.

capacitive loudspeaker Same as **capacitor speaker**.

capacitive post A post placed inside a waveguide to introduce capacitive reactance.

capacitive reactance The opposition to the flow of AC by the capacitance of a capacitor or circuit. Its symbol is X_C , it is measured in ohms, and its formula is: $X_C = 1/2\pi fC$, where π is pi, f is frequency in hertz, and C is capacitance in farads.

capacitive speaker Same as **capacitor speaker**.

capacitive transducer A transducer consisting of two capacitor plates, one fixed and the other flexible or movable, which converts changes in applied voltage into movement. Also called **electrostatic transducer**.

capacitive tuning The tuning of a circuit by adjusting a variable capacitor.

capacitive voltage divider A voltage divider formed by two or more capacitors.

capacitor A component which has **capacitance**. The conductors separated by the dielectric material are known as electrodes or plates. The value of the capacitance will vary depending on the size, shape, and composition of the conductors, the distance between them, and on the dielectric. In addition to storing charge, a capacitor blocks DC, and may be fixed or variable. There are various types, including mica, electrolytic, metallized paper, and MOS capacitors. Formerly known as **condenser** (3).

capacitor amplifier An amplifier circuit whose active component is a ferroelectric capacitor whose capacitance varies as a function of the applied voltage. Also called **dielectric amplifier**.

capacitor antenna An antenna which utilizes the capacitance between two conductors or systems of conductors. Also called **condenser antenna**.

capacitor bank A group of capacitors connected in series and/or parallel.

capacitor color code A system utilizing markings, such as color dots and bands, to indicate capacitor information such as values, multipliers, and tolerance.

capacitor filter A power-supply filter in which a capacitor is connected to the output of the rectifier. That is, the input component of the filter is a capacitor. Also called **capacitor-input filter**.

capacitor-input filter Same as **capacitor filter**.

capacitor loudspeaker Same as **capacitor speaker**.

capacitor microphone A microphone in which a flexible metal diaphragm and a rigid plate form a two-plate air capacitor. As the incident sound waves make the flexible plate

diamond-like carbon An artificially-prepared form of carbon, with a structure similar to that of diamond. Although its properties are not quite as defined as that of diamond, it has many applications in electronics, including its use in capacitors, in optical windows for bar-code readers, in disk-drive heads, and in semiconductors.

diamond needle Same as **diamond stylus**.

diamond stylus A phonograph pickup whose tip is a ground diamond. Also called **diamond needle**.

diaphragm 1. A vibrating membrane in a speaker. It produces a sound-wave output in response to its electric input. Cones and domes are examples of commonly utilized diaphragms in speakers. Also called **speaker diaphragm**, or **loudspeaker diaphragm**. 2. A vibrating membrane in a microphone. It produces an electric output in response to its sound-wave input. Also called **microphone diaphragm**. 3. A pressure-sensitive element in some sensors, such as certain barometers. 4. A membrane, disk, adjustable opening, or other device or mechanism which serves to restrict or regulate the passage of a waves and/or matter, such as light waves or electrolytes.

diathermy The use of high-frequency radio waves for therapeutic purposes. Used, for example, to generate localized heat in body tissues.

diatomic Occurring as, pertaining to, or consisting of two atoms. For example, molecular oxygen, whose chemical formula is O_2 .

DIB 1. Abbreviation of **device-independent bitmap**. 2. Abbreviation of **Directory Information Base**.

dibit Any of the four possible combinations of two consecutive bits, which are 00, 01, 10, and 11. Used, for instance, in differential phase-shift keying when four states are represented.

diborane A colorless and reactive gas whose chemical formula is B_2H_6 . It is used as a semiconductor dopant.

dice Plural form of **die** (1), or **die** (2).

dichotomizing search A search technique in which the desired item is compared to a list to determine in which half it is located, the other half being discarded. Then, within this half, a similar search is performed. This process of pinpointing the half that contains the item is continued successively until the search is complete. Also known as **binary search**.

dichotomy 1. Characterized by branching into two divisions, such as a routine into two subroutines. 2. Characterized by continued branching into two divisions. For example, two branches, each forming two, for a total of four, then those four forming eight, and so on.

dichroic mirror A mirror which reflects light of given frequencies, while transmitting the rest. Used, for instance, in color TV cameras.

dichroism 1. A property of some crystals, in which different colors are exhibited when viewed from different axes. 2. A property of some substances or materials, in which different colors are exhibited when viewed through different thicknesses. Occurs, for instance, in some solutions.

dichromate cell An electrolytic cell with a carbon electrode immersed in an approximately 12% potassium dichromate solution, and a zinc electrode immersed in an approximately 9% sulfuric acid solution.

dicing The cutting of a semiconductor material into **dice**.

DID Abbreviation of **direct inward dial**, or **direct inward dialing**.

die 1. A piece of semiconductor material or dielectric upon which one or more electrical components may be mounted, etched, or formed. Used, for instance, for fabrication of repetitive units in semiconductor manufacturing. Its plural form is **dice**. Also called **chip** (2), or **semiconductor die**

(1). 2. A piece of semiconductor material or dielectric upon which one or more electrical components has been mounted, etched, or formed. Its plural form is **dice**. Also called **chip** (3), or **semiconductor die** (2). 3. To cease functioning. 4. A tool, device, or mold which serves to impart a desired shape and/or finish to a molten or semisolid material. It may consist, for instance, of a mold into which a molten metal is forced.

die attach The attachment of a die (1) to a substrate. An epoxy resin, for instance, may be used for such bonding. Also called **die attachment**, or **die bonding**.

die attachment Same as **die attach**.

die bonding Same as **die attach**.

dielectric A material which is an electric insulator. An electric field may be applied through such a material with little or no energy loss. Dielectrics are used, for instance, to separate the plates in a capacitor, or between the conductors of a cable. Examples of dielectrics include air, oil, glass, paper, rubber, and various plastics and ceramics. A vacuum is a perfect dielectric. Also known as **dielectric material**.

dielectric absorption A property of certain dielectrics, in which electric polarization is retained after removal of the electric field. Such an effect can last up to several years, and it is the basis for electrets. Also called **dielectric hysteresis**, or **electric hysteresis** (1).

dielectric amplifier An amplifier circuit whose active component is a ferroelectric capacitor whose capacitance varies as a function of the applied voltage. Also called **capacitor amplifier**.

dielectric antenna An antenna whose radiating elements are partially or completely composed of a dielectric, such as ceramic.

dielectric breakdown An abrupt increase in the electric current flowing through a dielectric, when the applied voltage exceeds a given critical value. Such a breakdown is usually destructive. Also called **electric breakdown** (2).

dielectric breakdown voltage For a given dielectric, the voltage at which dielectric breakdown occurs. Also called **electric breakdown voltage**.

dielectric constant For a given material, the property which determines the electrostatic energy that can be stored per unit volume for a unit potential gradient. This is equivalent to the ratio of the capacitance of a capacitor using the material in question as a dielectric, to the capacitance of a capacitor using a vacuum as a dielectric. The dielectric constant of a vacuum is defined as 1, and for most calculations air is also considered to have this value. Also known as **relative dielectric constant**, **permittivity**, **relative permittivity**, **specific inductive capacity**, or **inductivity**.

dielectric current The current flowing at any given instant through the surface of a dielectric which is in a changing electric field.

dielectric displacement A vector quantity pertaining to the charge displaced by an electric field within a given medium. It is equal to the electric field strength multiplied by the permittivity of the medium, and is usually expressed in coulombs per square meter. Also known by various other names, including **dielectric strain**, **dielectric stress**, **displacement** (2), **electric displacement**, **electric displacement density**, and **electric field induction**.

dielectric fatigue A property of some dielectrics, which have been subjected to a sustained continuous voltage, where there is a reduction in the resistance to breakdown.

dielectric flux density Same as **dielectric displacement**.

dielectric heating The heating of a dielectric, such as a plastic, by applying a high-frequency electric field to it. This is usually accomplished by placing the material between the electrodes of a two-electrode capacitor, and applying an alternating electric field. Dielectric losses produce the heat.