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WILEY ELECTRICAL AND ELECTRONICS ENGINEERING DICTIONARY

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Lexicographer



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transfer functions, and the number of sound sources and their locations, are taken into account. Used, for instance, in designing surround-sound systems, and in formulating audio compression techniques.

psychogalvanometer A device which measures galvanic skin response.

pT Abbreviation of **picotesla**.

Pt Chemical symbol for **platinum**.

PTC Abbreviation of **positive temperature coefficient**.

PTFE Abbreviation of **polytetrafluoroethylene**.

PTFE resin Abbreviation of **polytetrafluoroethylene resin**.

PTH Abbreviation of **plated-through hole**, or **pin-through hole**.

PTM Abbreviation of **pulse-time modulation**.

PTT Abbreviation of **push-to-talk**, or **press-to-talk**.

PTT operation Abbreviation of **push-to-talk operation**, or **press-to-talk operation**.

PTT switch Abbreviation of **push-to-talk switch**, or **press-to-talk switch**.

Pu Chemical symbol for **plutonium**.

public-address amplifier An amplifier specially designed for use in a **public-address system**. The features of such an amplifier may include multiple microphone inputs, and muting of all other inputs when telephone paging.

public-address system A system, such as that utilized in airports or shopping centers, which serves convey voice messages through a distributed group of speakers powered by one or more amplifiers. Its abbreviation is **PA system**.

public carrier A telecommunications entity, such as a telephone company, that provides services to the general public. Public carriers are usually regulated by the appropriate authorities, such as governmental agencies. Also called **common carrier**, **carrier (3)**, **commercial carrier**, or **communications common carrier**.

public data network A communications network which is established and operated by a telecommunications entity such as a public carrier. Its abbreviation is **PDN**.

public-domain software Software which has been given or otherwise relinquished to the public, and which has no protections such as a copyrights. Its abbreviation is **PD software**.

public file A file available to the public in general, as opposed to a **private file**, which is not.

public folder In a communications network, a folder available to the public in general, as opposed to a **private folder**, which is not.

public key In public-key encryption, the key which is utilized to encrypt, and which is available to the public in general. The **private key** is used for decryption, and is only intended for the recipient.

public-key cryptography Same as **public-key encryption**.

public-key encryption An encryption method which uses two keys for successful encryption and decryption of messages. The first key is used to encrypt and is public, as most anyone can look it up. To decrypt, the second key is necessary. This key is private, as only the recipient knows it. Since it is not necessary to send the decryption key in any message, this method eliminates the vulnerability inherent in its being sent to the recipient. Also called **public-key cryptography**, or **asymmetric encryption**.

Public-Key Infrastructure A system in which entities such as certification authorities issue digital certificates, or their equivalent, in order to authenticate, use, and manage cryptographic keys. Such an infrastructure helps provide a secure environment for communications and transactions using a public network such as the Internet. Its abbreviation is **PKI**.

public switched network Its abbreviation is **PSN**. 1. Same as **public switched telephone network**. 2. Any public network providing switching, which includes telephone networks and public data networks.

public switched telephone network Its abbreviation is **PSTN**. The multiple interconnected telephone networks in place worldwide, which enable most any phone to dial most any other phone around the globe. POTS is the basic service a PSTN provides. Such a network may also be used for data services, such as dial-up Internet access. Also called **public telephone network**, **public switched network (1)**, or **switched telephone network**.

public telephone network Same as **public switched telephone network**.

public Web site A Web site which can normally be accessed by any user. The term is utilized to contrast with a **private Web site**.

puck The pointing device of a digitizing tablet. It is similar to a mouse, but is much more accurate, because its location is determined by touching an active surface with an absolute reference. Also called **cursor (4)**, **pen (1)**, or **stylus (1)**.

pull 1. Same as **pull technology**. 2. To receive information utilizing **pull technology**.

pull-down menu In a GUI, a menu which is always available in the active window, but whose contents are revealed only when a user selects said menu with a mouse or keyboard command. Once selected, the menu choices are presented in a vertical array below the menu title. Also called **pop-down menu**, or **drop-down menu**.

pull-in current Same as **pickup current**.

pull-in voltage Same as **pickup voltage**.

pull switch A switch that is actuated by pulling. Such a switch, for instance, may use a cord that is pulled in case of an emergency.

pull technology Data distribution, such as that over the Internet, in which users receive information by requesting it. For example, a user requesting the download of a given page by entering its address or by clicking on a desired hyperlink. In **push technology**, material is delivered whether the user wants it or not. Also called **pull (1)**.

pulling 1. A variation in the frequency of a circuit, especially that of an oscillator, caused by an external circuit, device, or factor, such as a variation in load impedance. Also called **frequency pulling**. 2. An effect in which a component, circuit, or device induces another to change from a desired value. 3. A technique used for cultivating crystals, in which a growing crystal is slowly withdrawn from a molten solution of the crystal. Also called **crystal pulling**.

pulsar A neutron star which emits sharp and brief pulses of energy, as opposed to the usual steady stream of radiation. Pulsar pulse rates have been observed ranging from around one millisecond, to approximately 5 seconds.

pulsating current A current which passes through regular cycles, and whose average is not zero. Such a current may result, for instance, from the sum of an alternating current and a direct current. Also called **undulating current**.

pulsating DC Abbreviation of **pulsating direct current**. A DC which passes through regular cycles. While the polarity of such a current never changes, its amplitude does.

pulsating direct current Same as **pulsating DC**.

pulse For a quantity which is normally constant, a well-defined variation which increases from a steady value to a maximum, then back to or near the original value, all in a comparatively short time. Pulses may be desired or unwanted. Applications of intentionally-generated pulses include clock pulses, gate pulses, dial pulses, radar pulses, blanking pulses, and certain light pulses. Undesired pulses include noise pulses, spikes, and certain light pulses. A

- pulse of very short duration is an **impulse** (3), although both terms are often used synonymously.
- pulse amplifier** Its abbreviation is **PA**. 1. An amplifier specifically designed to amplify **pulses**. 2. An amplifier which delivers a single output pulse for each input pulse.
- pulse amplitude** Also called **pulse height**. 1. For a pulse, the maximum absolute value of the displacement from a reference position, such as zero, or from a steady value which is otherwise maintained. 2. For a pulse, the instantaneous value of the displacement from a reference position, such as zero, or from a steady value which is otherwise maintained. 3. For a pulse, the average value of the displacement from a reference position, such as zero, or from a steady value which is otherwise maintained.
- pulse-amplitude modulation** Pulse modulation in which the amplitude of the pulses in a pulse train, which serve as the carrier, are varied according to the information-bearing signal. Its acronym is **PAM**.
- pulse-amplitude selector** Same as **pulse-height selector**.
- pulse analysis** The utilization and function of a **pulse analyzer**.
- pulse analyzer** An instrument which measures and indicates pulse characteristics, such as amplitude and frequency.
- pulse band-width** Same as **pulse bandwidth**.
- pulse bandwidth** The interval of frequencies within which a given percentage of the **pulse amplitude** (1) is maintained. Also spelled **pulse band-width**.
- pulse carrier** A pulse train utilized as a carrier. Used, for instance, in pulse-amplitude modulation.
- pulse characteristics** Same as **pulse form**.
- pulse code** 1. A code consisting of one or more combinations of pulses. 2. A pulse train which is modulated to convey information.
- pulse-code modulation** Modulation in which an analog signal is sampled, the amplitude of each sample is quantized, and then encoded as a digital signal for transmission. In order for the signal to be faithfully reproduced, the sampling rate must exceed the Nyquist rate. At the receiving end a decoder is utilized to recover the original information. Widely used to convert analog signals into digital form. Its abbreviation is **PCM**.
- pulse coder** A circuit or device which converts a signal into a coded pulse train. Also called **pulse encoder**.
- pulse communications** Communications utilizing any form of pulse modulation.
- pulse counter** A device detects and counts pulses. A binary counter, for example, produces one output pulse for every two input pulses, while a decade scaler produces a single pulse for every ten input pulses. Other pulse counters tally the number of pulses for a given time interval.
- pulse counting** The use and function of a **pulse counter**.
- pulse current** A unidirectional surge of current of very short duration. It quickly rises to a maximum, then drops to zero in a similar fashion. Such a surge may be produced, for instance, when switching equipment on or off. Also called **impulse current**, or **impulse** (1).
- pulse decay time** Same as **pulse fall time**.
- pulse decoder** A circuit or device which converts that which has undergone pulse modulation back into its original form. Also called **pulse detector** (1).
- pulse decoding** The function and use of a **pulse decoder**.
- pulse detector** 1. Same as **pulse detector**. 2. A device, such as a pulse counter, which senses pulses. Also called **pulse sensor**.
- pulse dialer** In telephony, a device which utilized for **pulse dialing**.
- pulse dialing** Telephone dialing in which one or more pulses interrupt a steady DC, to indicate each dialed digit. For example, when dialing a 4, four such pulses are sent. Also called **rotary dialing**.
- pulse discriminator** A circuit or device which makes fine distinctions between nearly identical pulses. Used, for instance, to respond only to pulses of a given shape, period, amplitude, or the like.
- pulse droop** 1. A detectable downward slope present in an otherwise flat top of a rectangular pulse. 2. In a pulse train, a decrease in mean pulse amplitude, after maximum amplitude has been attained. Usually expressed as a percentage of maximum amplitude. Also called **droop**.
- pulse duration** Its abbreviation is **PD**. 1. For a given pulse, the time interval that elapses between the end of the rise time and the start of the decay time. The pulse duration may also be defined in other manners, such as the time interval between the 50% points of peak pulse amplitude. Also called **width** (2). Also known as **pulse length**, or **pulse width**, although both are deprecated terms. 2. The time interval that a pulse is emitted or transmitted. For example, the time during which a radar pulse is transmitted.
- pulse-duration modulation** A form of modulation in which the duration of pulses are varied to convey meaningful information. The position of the leading and/or trailing edges of each pulse may be changed relative to its unmodulated location. Its abbreviation is **PDM**. Also called **pulse-length modulation**, or **pulse-width modulation**, although both are deprecated terms.
- pulse duty factor** In a pulse train, the ratio of the pulse duration, to the pulse interval.
- pulse encoder** Same as **pulse coder**.
- pulse excitation** Excitation, such as that of a laser, provided in pulses.
- pulse fall time** The time required for the amplitude of a pulse to decrease from a given percentage of its peak amplitude, such as 90%, to another, such as 10%. **Pulse rise time** is the converse. Also called **pulse decay time**, **fall time** (2), or **decay time** (2).
- pulse form** The characteristics of a **pulse**. These include the shape, such as rectangular, the amplitude, the duration, any pulse droop present, and so on. Also called **pulse shape**, or **pulse characteristics**.
- pulse forming** The altering of one or more characteristic of a pulse or pulse train. Also called **pulse shaping**.
- pulse-forming circuit** A circuit which serves for **pulse forming**. Examples include pulse stretchers and pulse regenerators. Also called **pulse-shaping circuit**.
- pulse-forming line** A transmission line or artificial line which serves for **pulse forming**. Used, for instance, in radars to produce high-intensity pulses. Also called **pulse-shaping line**.
- pulse-forming network** An electric network which serves for **pulse forming**. Examples include pulse stretchers and pulse regenerators. Also called **pulse-shaping network**.
- pulse frequency** Same as **pulse repetition frequency**.
- pulse-frequency modulation** A form of modulation in which the repetition rate of pulses within a train is varied so as to convey meaningful information. Its abbreviation is **PFM**. Also called **pulse-repetition-rate modulation**.
- pulse generator** A circuit or device which produces **pulses**. Such a circuit or device may produce any number of desired waveforms, with varying amplitudes, duration, and pulse repetition frequency. Also called **pulser**.
- pulse group** Same as **pulse train**.
- pulse height** Same as **pulse amplitude**.