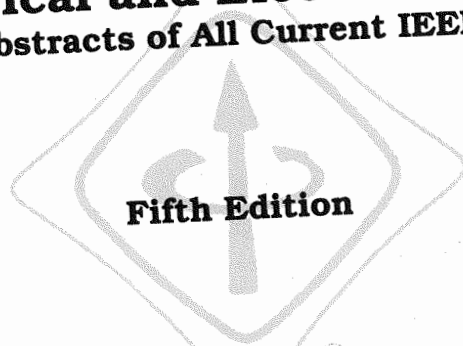


IEEE Std 100-1992

**The New IEEE Standard Dictionary
of Electrical and Electronics Terms**
[Including Abstracts of All Current IEEE Standards]



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The Institute of Electrical and Electronics Engineers, Inc.
345 East 47th Street, New York, NY 10017-2394, USA

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Printed in the United States of America

ISBN 1-55937-240-0

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January 15, 1993

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bandwidth balancing mechanism

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bar generator

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bandwidth balancing mechanism. A procedure to facilitate effective sharing of the bandwidth, whereby a node occasionally skips the use of empty queued arbitrated (QA) slots. 802.6-1990

bandwidth, coherent; dispersive bandwidth.
Syn: frequency selective bandwidth. 211-1990

bandwidth, effective (bandpass filter in a signal transmission system). The width of an assumed rectangular bandpass filter having the same transfer ratio at a reference frequency and passing the same mean square of a hypothetical current and voltage having even distribution of energy over all frequencies. *Note:* For a nonlinear system, the bandwidth at a specified input level. *See:* network analysis; signal. 145-1983, [43]

bandwidth, frequency selective. The inverse of the product $2\pi\sigma_\tau$, where σ_τ is the time delay spread. 211-1990

bandwidth-limited operation (fiber optics). The condition prevailing when the system bandwidth, rather than the amplitude (or power) of the signal, limits performance. The condition is reached when the system distorts the shape of the waveform beyond specified limits. For linear systems, bandwidth-limited operation is equivalent to distortion-limited operation. *See:* attenuation-limited operation; distortion-limited operation; linear optical element. 812-1984

bandwidth, root-mean-square. The root mean squared (rms) deviation of the power spectrum of the received signal relative to zero frequency or the spectral center, in units of radians per second. This bandwidth, β , may be defined as

$$\beta^2 = \frac{\int_{-\infty}^{\infty} [2\pi(f-f_0)]^2 |S(f)|^2 df}{\int_{-\infty}^{\infty} |S(f)|^2 df}$$

where $S(f)$ is the Fourier transform of the signal $s(t - \tau_0)$ with true time delay τ_0 and f_0 is the center frequency of the spectrum. *Note:* β^2 is the normalized second moment of the spectrum $|S(f)|^2$ about the mean. 686-1982

bang snuffer (nonlinear, active, and nonreciprocal waveguide components). A switch used in radar receivers to suppress carrier leakage during the transmit period. *See:* gate (microwave). 457-1982

bank (navigation) (navigation aid terms). Lateral inclination of an aircraft in flight. *See:* list. 172-1983

bank. An aggregation of similar devices (for example, transformers, lamps, etc.) connected together and used in cooperation. *Note:* In automatic switching, a bank is an assemblage of fixed contacts over which one or more wipers

or brushes move in order to establish electric connections. *See:* relay level. [119]

bank-and-wiper switch (telephone switching system). A switch in which an electromagnetic ratchet or other mechanisms are used, first, to move the wipers to a desired group of terminals, and second, to move the wipers over the terminals of this group to the desired bank contacts. [119]

banked winding. *See:* bank winding.

bank winding (banked winding). A compact multilayer form of coil winding, for the purpose of reducing distributed capacitance, in which single turns are wound successively in each of two or more layers, the entire winding proceeding from one end of the coil to the other, without return. [120]

bar (of lights) (illuminating engineering). A group of three or more aeronautical ground lights placed in a line transverse to the axis, or extended axis, of the runway. [126]

bar code. An identification code consisting of a pattern of vertical bars whose width and spacing identifies the item marked. *Note:* The code is meant to be read by an optical input device, such as a bar code scanner. Applications include retail product pricing labels, identification of library documents, and railroad box car identification. *See also:* universal product code. *Syn:* optical bar code. 610.2-1987

bare conductor (National Electrical Code). A conductor having no covering or electrical insulation whatsoever. *See:* covered conductor. [86]

barehand work. A technique of performing live-line maintenance on energized wires and equipment whereby one or more linemen work directly on an energized part after having been raised and bonded to the energized wire or equipment. These linemen are normally supported by an insulated ladder, nonconductive rope, insulated aerial device, helicopter, or the energized wires or equipment being worked on. Most barehand work includes the use of insulating live-line tools. 516-1987

bare lamp (illuminating engineering). A light source with no shielding. *Syn:* exposed lamp. [126]

barette (illuminating engineering). A short bar in which the lights are closely spaced so that from a distance they appear to be a linear light. *Note:* Barettes are usually less than 4.6 m (15 ft) in length. [126]

bar generator (television). A generator of pulses that are uniformly spaced in time and are synchronized to produce a stationary bar pattern on a television screen. *See:* television. 188-1952w

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