

WILEY ELECTRICAL AND ELECTRONICS ENGINEERING DICTIONARY

Steven M. Kaplan
Lexicographer



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instance, an Internet service provider which does not guarantee that customers will be able to have access at all times.

beta Its symbol is β . 1. The second letter of the Greek alphabet, and as such often designates the second constituent of a series. 2. The current gain of a transistor with a common-emitter amplifier configuration. 3. Same as **beta software**. 4. Same as **beta hardware**.

beta circuit In an amplifier, a circuit which provides feedback.

beta cutoff frequency The higher frequency at which the current gain of a transistor with a common-emitter amplifier configuration drops 3 decibels, or 70.7%, in relation to a reference lower frequency.

beta decay Radioactive decay in which beta particles are emitted. Also called **beta disintegration**.

beta disintegration Same as **beta decay**.

beta emission The emission of beta particles by a radioactive element.

beta emitter Same as **beta radiator**.

beta hardware Hardware undergoing beta tests. Also called **beta (4)**.

beta particle A charged particle emitted by many radioactive elements. When the emitted particle is negative, it is an electron, and when positive it is a positron.

beta radiation A stream consisting of beta particles.

beta radiator A radioactive element that emits beta particles. Also called **beta emitter**.

beta-ray spectrometer An instrument which measures the energy distribution of beta particles and secondary electrons.

beta rays A stream consisting of beta particles.

beta release 1. Same as **beta software**. 2. Same as **beta version (2)**.

beta software Software undergoing beta tests. Its abbreviation is **betaware**. Also called **beta (3)**, **beta version (1)**, or **beta release (1)**.

beta tests Tests performed on new software or hardware under normal operating conditions. This contrasts with **alpha tests**, which are done under experimental conditions.

beta version 1. Same as **beta software**. 2. Beta software which has been offered as a separate program, or as part of a package. Also called **beta release (2)**.

betatron A particle accelerator in which electrons are injected into a doughnut-shaped vacuum chamber that surrounds a magnetic field. This magnetic field is varied in a manner which further accelerates the electrons each time around. Energies in the GeV range can be achieved in this manner.

betaware Abbreviation of **beta software**.

BeV Abbreviation of **billion electronvolt**.

bevatron A high-energy proton synchrotron which can generate energies in excess of 10 GeV.

Beverage antenna A directional antenna consisting of one or more parallel horizontal conductors which are $\frac{1}{2}$ to several wavelengths long. All conductors are suspended parallel to the ground, usually within a couple of meters of the surface. Also called **wave antenna**.

beyond-the-horizon communication Communication by means of radio waves that are propagated well beyond line-of-sight distances. This is usually due to scattering by the ionosphere or troposphere. Also called **over-the-horizon communication**, **forward-scatter communication**, **scatter communication**, or **extended-range communication**.

beyond-the-horizon propagation Propagation of radio waves well beyond line-of-sight distances. This is usually due to scattering by the ionosphere or troposphere. Also called **over-the-horizon propagation**, **forward-scatter propagation**, **scatter propagation**, or **extended-range propagation**.

beyond-the-horizon transmission Transmission of radio waves well beyond line-of-sight distances. This is usually due to scattering by the ionosphere or troposphere. Also called **over-the-horizon transmission**, **forward-scatter transmission**, **scatter transmission**, or **extended-range transmission**.

bezel A rim that secures a transparent covering for an indicating device such as a meter, oscilloscope, or watch. It may or may not have markings.

Bézier curve In computer graphics, a curve which is defined by mathematical formulas. These curves have handles which assist in reshaping them. Used, for instance, in computer-aided design.

BFO Abbreviation of **beat-frequency oscillator**.

BGA Abbreviation of **Ball Grid Array**.

BGP Abbreviation of **border gateway protocol**.

Bh Chemical symbol for **bohrium**.

bhp Abbreviation of **brake horsepower**.

Bi Chemical symbol for **bismuth**.

bi-amping The use of two separate amplifier channels to drive a speaker, each handling a different frequency interval. This requires the utilization of a crossover network to divide the audio signal. Bi-amping results in increased effective amplifier power, greater linearity, increased damping factor, and reduced intermodulation distortion. Also spelled **biamping**. Also called **bi-amplification**.

bi-amplification Same as **bi-amping**. Also spelled **biampification**.

bi-directional Operating, moving, transferring, flowing, transmitting, receiving, or responding in two directions, usually opposite. There are numerous examples, including bi-directional buses, bi-directional bar-code scanners, bi-directional antennas, and bi-directional transistors. **Bilateral** and **bi-directional** may be contrasted in the following manner: **bilateral** refers to the two sides of something, while **bi-directional** pertains to two directions. Though not necessarily the same, these terms are sometimes used synonymously. Also spelled **bidirectional**.

bi-directional antenna An antenna whose directivity pattern is divided into two principal lobes. These lobes are usually in opposite directions. Also spelled **bidirectional antenna**.

bi-directional antenna array An assembly of antenna elements with the proper dimensions, characteristics, and spacing, so as to have a directivity pattern which is divided into two principal lobes. These lobes are usually in opposite directions. Also called **bi-directional array**. Also spelled **bidirectional antenna array**.

bi-directional array Same as **bi-directional antenna array**. Also spelled **bidirectional array**.

bi-directional bar code Also spelled **bidirectional bar code**. Also called **bi-directional bar-code symbol**. 1. A bar code which can be read left-to-right, or right-to-left. 2. A bar code which can be read horizontally or vertically.

bi-directional bar-code reader Also spelled **bidirectional bar-code reader**. Also called **bi-directional bar-code scanner**. 1. A bar-code reader which can read left-to-right, or right-to-left. 2. A bar-code reader which can read horizontally or vertically.

bi-directional bar-code scanner Same as **bi-directional bar-code reader**. Also spelled **bidirectional bar-code scanner**.

bi-directional bar-code symbol Same as **bi-directional bar code**. Also spelled **bidirectional bar-code symbol**.

bi-directional bus In computers, a bus that carries signals in both directions. Also spelled **bidirectional bus**.

bi-directional counter A counter which can count both upwards and downwards. It has, for instance, both an adding input and a subtracting input, thus giving it the ability to