

Glossary of Terms

5-Mil Copper — Solid Copper Shield. Provides added electrical protection.

802.14 — IEEE's Cable TV MAC and PHY Protocol Working Group.

10GBASE-T — IEEE standard for 10 Gigabit Ethernet transmission over copper.

10GX® — Belden's most advanced end-to-end UTP structured cabling system delivering guaranteed performance of 625 MHz and data-rates of 10Gb/s.

A — Ampere.

ABR — Available Bit Rate.

Abrasion Resistance — Ability of a wire, cable or material to resist surface wear.

Abrasion Stripper — More accurately described as "buffing stripper," which is a motorized device for removing flat cable insulation by means of one or two buffing wheels that melt the insulation and brush it away from the conductors.

AC — Alternating current. Electric current that alternates or reverses polarity in a cyclical manner (e.g. 60 Hz AC power).

Accelerated Aging — A test that simulates long time environmental conditions in a relatively short time.

ACMC — Alien Crosstalk Margin Computation is the Pass/Fail criteria to determine if a channel complies with 10GBASE-T Alien noise requirements.

ACR — Attenuation Crosstalk Ratio. The difference between attenuation and crosstalk, measured in dB, at a given frequency. Important characteristic in networking transmission to assure that signal sent down a twisted pair is stronger at the receiving end of the cable than are any interference signals imposed on that same pair by crosstalk from other pairs.

ADSL — Asymmetric Digital Subscriber Line.

AES/EBU — Informal name of a digital audio standard established jointly by the AES (Audio Engineering Society) and EBU (European Broadcast Union) organizations.

AF — Audio frequency.

AFEXT — Alien far-end crosstalk loss is a measure of the unwanted signal coupling from near-end disturbing channel pairs into a disturbed pair of a neighboring channel or part thereof, measured at the far-end.

Air Core — Cables that are not gel filled.

Air-Gap Dielectric — A coaxial design in which a monofilament of plastic holds the center conductor in place in a hollow plastic tube allowing the remainder of the dielectric to be air. Typical velocities of up to 84% can be achieved in this design.

Alien crosstalk — A measure of the unwanted signal coupling between cabling or components in close proximity.

Alloy — A combination of two or more different polymers/metals. Usually combined to make use of different properties of each polymer/metal.

Alpeth — Coated Aluminum Polyethylene. Basic sheath.

Alternating Current (AC) — Electric current that alternates or reverses polarity in a cyclical manner (e.g. 60 Hz AC power).

AM — Amplitude modulation.

Ambient — Conditions that exist in the environment of the cable. Conditions existing at a test or operating location prior to energizing equipment (e.g. ambient temperature).

American Wire Gage (AWG) — A standard for expressing wire diameter. As the AWG number gets smaller, the wire diameter gets larger.

Ampacity — Current handling capability expressed in amperes. The maximum current a conductor can carry without being heated beyond a safe limit.

Ampere — A standard unit of current. Defined as the amount of current that flows when one volt of electromotive force (EMF) is applied across one ohm of resistance. One ampere of current is produced by one coulomb of charge passing a point in one second.

Amplitude — The magnitude of a current or voltage. It can be the maximum, minimum, average or RMS value of an alternating current (AC) signal. These four magnitudes are the same for a direct current (DC) signal.

Analog — Representation of data by continuously variable quantities as opposed to a finite number of discrete quantities in digital.

Analog Signal — An electrical signal which varies continuously, not having discrete values. Analog signals are copies or representations of other waves in nature. An analog audio signal, for instance, is a representation of the pressure waves which make up audible sound.

ANEXT — Alien near-end crosstalk loss is a measure of the unwanted signal coupling from near-end disturbing channel pairs into a disturbed pair of a neighboring channel or part thereof, measured at the near-end.

Anneal — To soften and relieve strains in any solid material, such as metal or glass, by heating to just below its melting point and then slowly cooling it. Annealing generally lowers the tensile strength of the material, while improving its flex life and flexibility.

ANSI — American National Standards Institute.

ASP — Aluminum Steel Polyethylene. Provides mechanical and electrical protection.

ASTM — The American Society for Testing and Materials, a standards organization which suggests test methods, definitions and practices.

Asynchronous Transfer Mode — The SONET standard for a packet switching technique which uses packets of a fixed length.

ATM — Asynchronous Transfer Mode.

Attenuation — The decrease in magnitude of a signal as it travels through any transmitting medium, such as a cable or circuitry. Attenuation is usually expressed logarithmically as the ratio of the original and decreased signal amplitudes. It is usually expressed in decibels (dB).

Audio — A term used to describe sounds within the range of human hearing (20 Hz to 20 kHz). Also used to describe devices which are designed to operate within this range.

Audio Frequency — Frequencies within the range of human hearing (approximately 20 Hz to 20 kHz).

Augmented Category 6 — TIA standard for a cabling system and components specified to 500MHz to support 10GBASE-T and other high frequency applications.

AWG — American Wire Gage. A wire diameter specification. The smaller the AWG number, the larger the wire diameter.

AWM — Appliance Wiring Material. A UL designation for a type of wire.

Backbone — The cable used to connect all systems of a multi-level distributed system to an intermediate system.

Backshell — Housing on a connector that covers the area where the cable conductors connect to the connector contacts. It can be a metal housing providing continuity of the shield through IDC connectors.

Balanced Line — A cable having two identical conductors which carry voltages opposite in polarity, but equal in magnitude with respect to ground, suitable for differential signal transmission.

Balun — Balanced to unbalanced (Bal-un) transformer used to connect an unbalanced transmission line (i.e. coaxial cable) to a balanced system or cable, or vice versa. It can also provide impedance transformation, as 300 ohm balanced to 75 ohm unbalanced.

Bandwidth — The difference between the upper and lower limits of a given band of frequencies. It is expressed in Hertz. The range of frequencies that a transmitted communications signal occupies or that a receiving system can accept. For example, it takes more bandwidth to download a photograph in a second than to download a page of text. Virtual reality and three-dimensional audio/visual presentations require even more.

Baud — Rate of digital transmission equal to the reciprocal of the time of one output signaling element.

Bel — A unit that represents the logarithm of the ratio of two levels. One bel equals the base 10 logarithm of the ratio of two power levels. It is also equal to the base 10 logarithm of square of the ratio of two voltage or current levels, provided the impedances are the same at the two levels. (See *dB*.)

Belden — A leading manufacturer of the specialty wire, cable and fiber products needed for new applications in data, audio, video and voice signal transmission, among other things.

Belflex® — A premium hybrid matte-finish jacket material that exhibits superior flexibility at low temperatures along with resistance compared to standard PVC jacketing materials.

Beldfoil® — Belden trademark for highly effective electrostatic shield of reinforced metallic foil.