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Absorption: That portion of fiber optic attenuation resulting of conversion of optical power to heat.

Analog: Signals that are continually changing, as opposed to being digitally encoded.

Attenuation Coefficient: Characteristic of the attenuation of an optical fiber per unit length, in dB/km.

Attenuator: A device that reduces signal power in a fiber optic link by inducing loss.

Average power: The average over time of a modulated signal.

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Back reflection, optical return loss: Light reflected from the cleaved or polished end of a fiber caused by the difference of refractive indices of air and glass. Typically 4% of the incident light. Expressed in dB relative to incident power.

Backscattering: The scattering of light in a fiber back toward the source, used to make OTDR measurements.

Bandwidth: The range of signal frequencies or bit rate within which a fiber optic component, link or network will operate.

Bending loss, microbending loss: Loss in fiber caused by stress on the fiber bent around a restrictive radius.

Bit-error rate (BER): The fraction of data bits transmitted that are received in error.

Bit: An electrical or optical pulse that carries information.

Buffer: A protective coating applied directly on the fiber.

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Cable Assembly : A cable that is connector terminated and ready for installation.

Cable (Fiber Optic) : One or more optical fibers enclosed, with strength members, in a protective covering.

Cable Plant (Fiber Optic): The combination of fiber optic cable sections, connectors and splices forming the optical path between two terminal devices.

Cable Television : Communications system that distributes broadcast and non-broadcast signals as well as a multiplicity of satellite signals, original programming and other signals by means of a coaxial cable and/or optical fiber.

Carrier-to-Noise Ratio (CNR): The ratio, in decibels, of the level of the carrier to that of the noise in a receiver's IF bandwidth before any nonlinear process such as amplitude limiting and detection takes place.

C-Band: The wavelength range between 1530 nm and 1562 nm used in some CWDM and DWDM applications.

CATV : Originally an abbreviation for community antenna television; the term now typically refers to cable television.

CCIR : Abbreviation for Consultative Committee on Radio. Replaced by ITU-R.

CCTV : Abbreviation for closed-circuit television. An arrangement in which programs are directly transmitted to specific users and not broadcast to the general public.

CDMA: Abbreviation for code-division multiple access. A coding scheme in which multiple channels are independently coded for transmission over a single wideband channel using an individual modulation scheme for each channel.

Center Wavelength : In a laser, the nominal value central operating wavelength. It is the wavelength defined by a peak mode measurement where the effective optical power resides. In an LED, the average of the two wavelengths measured at the half amplitude points of the power spectrum.

Central Office (CO): A common carrier switching office in which users' lines terminate. The nerve center of a communications system.

CGA : Abbreviation for color graphics adapter. A low-resolution color standard for computer monitors.

Chromatic dispersion: The temporal spreading of a pulse in an optical waveguide caused by the wavelength dependence of the velocities of light.

Channel : A communications path or the signal sent over that path. Through multiplexing several channels, voice channels can be transmitted over an optical channel.

Channel Capacity: Maximum number of channels that a cable system can carry simultaneously.

Cladding Mode : A mode confined to the cladding; a light ray that propagates in the cladding.

Cleave: The process of separating an optical fiber by a controlled fracture of the glass, for the purpose of obtaining a fiber end, which is flat, smooth, and perpendicular to the fiber axis.

Coaxial Cable: 1) A cable consisting of a center conductor surrounded by an insulating material and a concentric outer conductor and optional protective covering. 2) A cable consisting of multiple tubes under a single protective sheath. This type of cable is typically used for CATV, wideband, video, or RF applications.

Coder: A device, also called an encoder that converts data by the use of a code, frequently one consisting of binary numbers, in such a manner that reconversion to the original form is possible.

CTS : Abbreviation for clear to send. In a communications network, a signal from a remote receiver to a transmitter that it is ready to receive a transmission.

Customer Premises Equipment (CPE): Terminal, associated equipment, and inside wiring located at a subscriber's premises and connected with a carrier's communication channel(s) at the demarcation point (demarc), a point established in a building or complex to separate customer equipment from telephone company equipment.

Detector: A photodiode that converts optical signals to electrical signals.

Digital: Signals encoded into discrete bits.

Dispersion: The temporal spreading of a pulse in an optical waveguide. May be caused by modal or chromatic effects.

EDFA: Erbium-doped fiber amplifier, an all optical amplifier for 1550 nm SM transmission systems.

Edge-emitting diode (E-LED): A LED that emits from the edge of the semiconductor chip, producing higher power and narrower spectral width.

End finish: The quality of the end surface of a fiber prepared for splicing or terminated in a connector.

ESCON: IBM standard for connecting peripherals to a computer over fiber optics. Acronym for Enterprise System Connection.

Excess loss: The amount of light lost in a coupler, beyond that inherent in the splitting to multiple output fibers.

Fiber Distributed Data Interface, FDDI: 100 Mb/s ring architecture data network.

Fiber Amplifier: an all optical amplifier using erbium or other doped fibers and pump lasers to increase signal output power without electronic conversion.

Fiber optics: Light transmission through flexible transmissive fibers for communications or lighting.

FO: Common abbreviation for "fiber optic."

Optical amplifier: A device that amplifies light without converting it to an electrical signal.

Optical fiber: An optical waveguide, comprised of a light carrying core and cladding which traps light in the core.

Optical power: The amount of radiant energy per unit time, expressed in linear units of Watts or on a logarithmic scale, in dBm (where 0 dB = 1 mW) or dB* (where 0 dB* = 1 microWatt).

Optical return loss, back reflection: Light reflected from the cleaved or polished end of a fiber caused by the difference of refractive indices of air and glass. Typically 4% of the incident light. Expressed in dB relative to incident power.

Optical switch: A device that routes an optical signal from one or more input ports to one or more output ports.

Optical time domain reflectometer (OTDR): An instruments that used backscattered light to find faults in optical fiber and infer loss.

Overfilled launch: A condition for launching light into the fiber where the incoming light has a spot size and NA larger than accepted by the fiber, filling all modes in the fiber.

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Photodiode: A semiconductor that converts light to an electrical signal, used in fiber optic receivers.

Power meter, fiber optic: An instrument that measures optical power emanating form the end of a fiber.

Preform: The large diameter glass rod from which fiber is drawn.

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Receive cable: A known good fiber optic jumper cable attached to a power meter used as a reference cable for loss testing. This cable must be made of fiber and connectors of a matching type to the cables to be tested.

Receiver: A device containing a photodiode and signal conditioning circuitry that converts light to an electrical signal in fiber optic links.

Refractive index: A property of optical materials that relates to the velocity of light in the material.

Repeater, regenerator: A device that receives a fiber optic signal and regenerates it for retransmission, used in very long fiber optic links.

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Scattering: The change of direction of light after striking small particles that causes loss in optical fibers.

Short wavelength: A commonly used term for light in the 665, 790, and 850 nm ranges.

Singlemode fiber: A fiber with a small core, only a few times the wavelength of light transmitted, that only allows one mode of light to propagate. Commonly used with laser sources for high speed, long distance links.

Step index fiber: A multimode fiber where the core is all the same index of refraction.

Surface emitter LED: A LED that emits light perpendicular to the semiconductor chip. Most LEDs used in datacommunications are surface emitters.

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Talkset, fiber optic: A communication device that allows conversation over unused fibers.

Test cable: A short single fiber jumper cable with connectors on both ends used for testing. This cable must be made of fiber and connectors of a matching type to the cables to be tested.

Test kit: A kit of fiber optic instruments, typically including a power meter, source and test accessories used for measuring loss and power.

Test source: A laser diode or LED used to inject an optical signal into fiber for testing loss of the fiber or other components.