



Glossary

The following list describes acronyms and definitions for terms used throughout this document:

- **A:** ampere. A unit of measure for electrical current.
- **ac, AC:** alternating current. An electric current that reverses its direction at regularly recurring intervals.
- **AC/RF:** alternating current radio frequency.
- **AFC:** automatic frequency control. An arrangement whereby the tuning of a circuit is automatically maintained within specified limits with respect to a reference frequency.
- **AGC:** automatic gain control. A process or means by which gain is automatically adjusted in a specified manner as a function of input level or other specified parameters.
- **AMPL:** amplitude.
- **amplifier cascade:** two or more amplifiers in a series, the output of one feeding the input of another.
- **attenuation:** The difference between transmitted and received signal strength due to loss through equipment, lines, or other transmission medium. Usually expressed in decibels.
- **attenuator:** A passive device designed to reduce signal strength without distorting the waveform. Usually specified in dB.
- **AUX:** auxiliary.
- **baseband:** The original band of frequencies occupied by the signal before it modulates the carrier frequency to form the transmitted signal. Characteristic of any network technology that uses a single carrier frequency and requires all stations attached to the network to participate in every transmission.
- **baud (Bd):** A measure of signaling rate based on the number of signaling events per unit of time.
- **beamwidth:** The included angle between two rays (usually the half-power points) on the radiation pattern, which includes the maximum lobe, of an antenna.
- **BIOS:** basic input/output system.
- **blanking level:** The amplitude of the front and back porches of the composite video signal. The blanking level separates the range containing picture information from the range containing synchronization information.
- **BNC:** A coaxial connector that uses two bayonet lugs on the side of the female connector. BNC stands for Bayonet Neill Concelman and is named after Amphenol engineer Carl Concelman.

- **BPF:** bandpass filter.
- **BW:** bandwidth. A measure of the information-carrying capacity of a communications channel, for example the range of usable frequencies that can be carried by a CATV system. The bandwidth corresponds to the difference between the lowest and highest frequency that can be carried by the channel.
- **C/N or CNR:** carrier-to-noise ratio. The ratio, in decibels, of the carrier to that of the noise in a receiver's IF bandwidth after specified band limiting and before any nonlinear process such as amplitude limiting and detection takes place.
- **C/T:** carrier-to-noise temperature ratio.
- **CISC:** Complex Instruction Set Computer. A computer that uses many different types of instructions to conduct its operations, i.e., IBM PCs, Apple Macintosh's, IBM 370 mainframes.
- **compression:** The non-linear change of gain at one level of a signal with respect to the change of gain at another level for the same signal. Also, the elimination of redundant information from an audio, data, or video signal to reduce transmission requirements.
- **CW:** continuous wave.
- **CWDM:** coarse wave-division multiplexing. CWDM allows a modest number of channels, typically eight or less, to be stacked in the 1550 nm region of the fiber called the C-Band. This capacity is greater than WDM (wave-division multiplexing) and lesser than DWDM (dense wave-division multiplexing).
- **dB:** decibel. One tenth of a bel, the number of decibels denoting the ratio of two amounts of power being ten times the common logarithm of this ratio.
- **dBc:** decibels relative to a reference carrier.
- **dB_i:** decibels of gain relative to an isotropic radiator.
- **dB_m:** decibels relative to 1 milliwatt.
- **dB_{mV}:** decibels relative to 1 millivolt.
- **dB_{uV}:** decibels relative to 1 microvolt.
- **dBW:** decibels relative to 1 watt.
- **DC:** directional coupler.
- **dc, DC:** direct current. An electric current flowing in one direction only and substantially constant in value.
- **deviation:** The peak difference between the instantaneous frequency of the modulated wave and the carrier frequency, in an FM system.
- **differential gain:** The difference in amplification of a signal (superimposed on a carrier) between two different levels of carrier.
- **diplex filter:** A filter which divides the frequency spectrum into a high frequency segment and a low frequency segment so that two different signals can be sent down the same transmission path.
- **distribution:** The activities associated with the movement of material, usually finished products or service parts, from the manufacturer to the customer.
- **distribution system:** The part of a CATV system consisting of the transmission medium (coaxial cables, fiber optic cables, etc.) used to carry signals from the headend system to subscriber terminals.

- **DSP:** digital signal processor.
- **duplexer:** A device which permits the connection of both a receiver and a transmitter to a common antenna.
- **DVM:** digital voltmeter.
- **DWDM:** dense wave-division multiplexing. A method of placing multiple wavelengths of light into a single fiber that yields higher bandwidth capacity. Dense WDM indicates close spacing and more than 4 to 8 wavelengths.
- **EC:** European Community.
- **EEPROM:** electrically erasable programmable read-only memory.
- **EMC:** electromagnetic compatibility. A measure of equipment tolerance to external electromagnetic fields.
- **emission designer:** An FCC or CCIR code that defines the format of radiation from a transmitter.
- **EPROM:** erasable programmable read-only memory.
- **EQ:** equalizer.
- **equalization:** The process of compensating for an undesired result. For example, equalizing tilt in a distribution system.
- **ERP:** effective radiated power.
- **ESD:** electrostatic discharge. Discharge of stored static electricity that can damage electronic equipment and impair electrical circuitry, resulting in complete or intermittent failures.
- **FCM:** forward configuration module.
- **FET:** field-effect transistor. A transistor in which the conduction is due entirely to the flow of majority carriers through a conduction channel controlled by an electric field arising from a voltage applied between the gate and source electrodes.
- **FM:** frequency modulation. A transmission technique in which the frequency of the carrier varies in accordance with the modulating signal.
- **frequency:** The number of similar shapes in a communications or electrical path in a unit of time. For example, the number of sine waves moving past a fixed point in a second.
- **frequency agile:** The ability to change from one frequency to another without changing components.
- **frequency response:** The effect that changing the frequency has on the magnitude of a signal.
- **ft-lb:** foot-pound. A measure of torque defined by the application of one pound of force on a lever at a point on the lever that is one foot from the pivot point.
- **gain:** A measure of the increase in signal level, relative to a reference, in an amplifier. Usually expressed in decibels.
- **Hertz:** A unit of frequency equal to one cycle per second.
- **HFC:** hybrid fiber/coaxial. A network that uses a combination of fiber optics and coaxial cable to transport signals from one place to another. A broadband network using standard cable television transmission components, such as optical transmitters and receivers, coaxial cable, amplifiers, and power supplies.

The broadband output stream is transmitted as an optical signal, over the high-speed, fiber optic transmission lines to local service areas where it is split, converted to electrical RF signals, and distributed to set-tops over coaxial cable.

- **I/O:** input/output.
- **IC:** integrated circuit.
- **IEC:** International Electro-technical Commission.
- **IF:** intermediate frequency. The common frequency which is mixed with the frequency of a local oscillator to produce the outgoing radio frequency (RF) signal.
- **in-lb:** inch-pound. A measure of torque defined by the application of one pound of force on a lever at a point on the lever that is one inch from the pivot point.
- **ITU:** International Telecommunications Union.
- **LE:** line extender.
- **LED:** light-emitting diode. An electronic device that lights up when electricity passes through it.
- **LNC:** low-noise converter.
- **Mbps:** megabits per second. A unit of measure representing a rate of one million bits (megabits) per second.
- **multipath, multipath transmission:** The phenomenon which results from a signal traveling from point to point by more than one path so that several copies of the signal arrive at the destination at different times or at different angles.
- **Nm:** Newton meter. A measure of torque defined by the application of one Newton of force on a lever at a point on the lever that is one meter from the pivot point. (1 Nm = 0.737561 ft-lb)
- **OIB:** optical interface board.
- **PCB:** printed circuit board.
- **PROM:** programmable read-only memory. A memory chip on which data can be written only once. Once data has been written onto a PROM, it cannot be written to again.
- **PWB:** printed wiring board.
- **QAM:** quadrature amplitude modulation. An amplitude and phase modulation technique for representing digital information and transmitting that data with minimal bandwidth. Both phase and amplitude of carrier waves are altered to represent the binary code. By manipulating two factors, more discrete digital states are possible and therefore larger binary schemes can be represented.
- **QPSK:** quadrature phase-shift keying. A phase modulation technique for representing digital information. QPSK produces four discrete states, each state representing two bits of information.
- **RCM:** reverse configuration module.
- **RCVR:** receiver.
- **reverse path:** Signal flow direction toward the headend.
- **RF:** radio frequency. The frequency in the portion of the electromagnetic spectrum that is above the audio frequencies and below the infrared frequencies, used in radio transmission systems.

- **RFI:** radio frequency interference.
- **RMA:** return material authorization. A form used to return products.
- **RPD:** remote PHY device.
- **RX:** receive or receiver.
- **S/N or SNR:** signal-to-noise ratio. The ratio, in decibels, of the maximum peak-to-peak voltage of the video signal, including synchronizing pulse, to the root-mean-square voltage of the noise. Provides a measure and indication of signal quality.
- **SA:** system amplifier.
- **SM:** status monitor.
- **SMC:** status monitoring and control. The process by which the operation, configuration, and performance of individual elements in a network or system are monitored and controlled from a central location.
- **SMIU:** status monitor interface unit.
- **SNMP:** simple network management protocol. A protocol that governs network management and the monitoring of network devices and their functions.
- **synchronous transmission:** A transmission mode in which the sending and receiving terminal equipment are operating continuously at the same rate and are maintained in a desired phase relationship.
- **torque:** A force that produces rotation or torsion. Usually expressed in lb-ft (pound-feet) or N-m (Newton-meters). The application of one pound of force on a lever at a point on the lever that is one foot from the pivot point would produce 1 lb-ft of torque.
- **TX:** transmit or transmitter.
- **UPS:** un-interruptible power supply.
- **uV:** microvolt. One millionth of a volt.
- **V:** volt.
- **W:** watt. A measure of electrical power required to do work at the rate of one joule per second. In a purely resistive load, 1 Watt = 1 Volt x 1 Amp.

