

# Appendix J

## Glossary of Terms

**attenuation:** signal reduction inherent in a transmission line or cable over a given distance. The amount of loss is usually stated in decibels per kilometer at a specific wavelength.

**bend loss:** increased attenuation caused by bending a fiber cable at a radius smaller than the recommended bend radius.

**bend radius, minimum:** radius to which a fiber cable can be bent without damaging the cable.

**BNC series:** a radio frequency (RF) quick connect/disconnect connector covered by Military Specification.

**braid:** a weave of metal fibers used as a shield covering for an insulated conductor or a group of insulated conductors.

**breakout cable:** a tightly-buffered multifiber fiber-optic cable.

**buffer:** the coating immediately surrounding an individual optical fiber. It is used for mechanical protection of the fiber.

**cladding:** the glass or plastic outer coating of an optical fiber that surrounds the core and keeps the light within the fiber. It is usually described by its diameter.

**coaxial cable:** a cylindrical transmission line comprised of a center conductor, a dielectric material, a shield (or an outer conductor), and usually covered by an insulating jacket.

**conduit:** a pipe, tube, or tile for routing and protecting electrical wires or cables.

**connector:** a coupling device designed to connect conductors from one circuit with those from another circuit.

**core:** the central portion of an optical fiber that actually carries the light. It is usually described by its diameter in microns. For example, 50/125 means 50 micron diameter core, 125 micron diameter cladding.

**crimping tool:** a mechanical device that is used to crimp a contact and a ferrule of a BNC Plug connector.

**dielectric:** a material that serves as an insulator.

**discontinuity:** a broken connection (open circuit), or loss of specified connection characteristic.

**dust cap:** a device attached to a connector to provide protection against dust and foreign debris.

**ferrule:** a short tube used to make a solderless connection to shielded or coaxial cable.

**fiber-optic link:** a data transmission system consisting of a transmitter, receiver, and length of fiber-optic cable.

**fiber optics:** light pulse transmission through optical fibers.

**ground:** a connection between an electrical circuit and the earth, or some conducting body (e.g., chassis) serving in place of earth.

**heat-shrinkable:** describes tubes, caps, sleeves, boots, or other forms of plastic which shrink when heated to encapsulate, protect or insulate connections, splices, terminations and other configurations.

**impedance:** the total opposition a circuit, cable or component offers to alternating current. It includes both resistance and reactance and is generally expressed in ohms.

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## (Continued)

**impedance match:** a condition whereby an impedance of a particular circuit, cable or component is the same as the impedance of the circuit, cable or device to which it is connected.

**jack:** a connecting device into which a plug can be inserted to make circuit connections.

**jacket:** the outer sheath which protects against the environment and may also provide additional insulation.

**maximum recommended pulling tension:** the maximum load which can be applied along the axis of a cable without breaking the fibers.

**microbend loss:** attenuation caused by excessive cable bending or manufacturing flaws.

**micron:** one millionth of a meter or 0.000039 inch.

**minimum bend radius:** the smallest radius to which a cable can be bent without damaging the fiber.

**mismatch:** a condition whereby an impedance of a particular circuit, cable or component is not equal the impedance of the circuit, cable or device to which it is connected.

**optical power:** the power emitted from a light source into a fiber-optic cable; defined in watts but usually expressed in decibels.

**optical power budget:** the total amount of optical power available from the fiber-optic transmitter less the losses present in the fiber-optic link.

**plug:** a movable portion of a coaxial RF connector attached to a cable or removable assembly.

**raceway:** any channel designed expressly and used solely for holding wires and cables.

**reflections:** return of the radio frequency energy towards the source which is caused by an impedance mismatch along the transmission path.

**RG:** a symbol used to designate coaxial cables made to a government specification.

**shield:** a sheet, screen or braid of metal (usually copper, aluminum, or other conducting material) usually placed between a dielectric and a jacket of a coaxial cable.

**surge:** a temporary and relatively large increase in the voltage or current in an electric circuit or cable.

**transceiver:** a module composed of a transmitter and receiver.