

# Glossary

**Access network:** The portion of a network that links end-users in businesses and homes with broadband services.

**ATM:** Asynchronous Transfer Mode. A data networking protocol used for high-bandwidth, low-delay, connection-oriented, packet-like switching and multiplexing.

**Automated test system:** System integrating multiple test applications that can run simultaneously and requiring very little handling.

**DWDM:** Dense Wavelength Division Multiplexing. A technology that enables a single optical fiber to carry multiple data channels (or wavelengths). Commercial DWDM systems can have as many as 160 separate channels.

**DS0:** Digital Signal 0. North American Digital Hierarchy standard used for transmitting data over an optical network at 64 Kb/s.

**E0:** European Digital Hierarchy standard used for transmitting data over an optical network at 64 Kb/s.

**Ethernet:** Protocol for data networking. Ethernet networks typically operate at 10, 100 or 1000 Mb/s.

**Gigabit Ethernet:** A version of Ethernet that operates at 1 Gb/s (1000 Mb/s).

**Long-haul network:** A long-distance network that transmits data between cities or countries.

**Metropolitan network:** Metropolitan area network (MAN or metro). A network, often ringed in structure, that covers an entire city and its suburbs.

**Nanopositioning:** A positioning technique used during optical component manufacturing to align components with a precision measured in nanometers (one billionth of a meter).

**OC-192:** A standard optical signal transmission rate of approximately 10 gigabits per second. Equivalent to SDH STM-64.

**Optical layer:** Commonly used to refer to specific wavelengths or channels of a DWDM network. Each wavelength carries a separate stream of data encoded in a light signal.

**Physical layer:** Commonly used to refer to the propagation medium of an optical network, including the glass fiber and all in-line active and passive components. Light signals, which are forms of encoded data, are transmitted over this layer.

**Protocol layer:** Commonly used to refer to the formatting rules for transmitting data over an optical network. Networks send and receive data using industry-wide formats; some examples are SONET, SDH, ATM and Ethernet.

**Protocol:** A formal set of rules governing the format, timing, sequencing and error control of data exchange across a network. Many protocols may be required and used on a single network.

**SDH:** Synchronous Digital Hierarchy. Standardized by the International Telecommunication Union (ITU-TSS). A protocol for transmitting information over optical fiber.

**SONET:** Synchronous Optical Network. Standardized by the American National Standards Institute (ANSI). A protocol for backbone networks, capable of transmitting at extremely high speeds and accommodating gigabit-level bandwidth.

**Spot-curing technology:** Technology by which a dose of energy of a specific wavelength band and irradiance is used to cause an adhesive, encapsulant or sealant to change from a liquid to a solid in a small area.

**STM-64:** Synchronous Transfer Module. Optical signal standards transmission rate, part of SDH. STM-64 operates at a rate of 9953.28 Mb/s. Equivalent to SONET OC-192.

**Waveguide technology:** Technology, based on the localized control of the index of refraction, allowing the manufacturing of optical lightguides on planar substrates. Devices made from such lightguides can be used in optical components to add, drop or modify wavelengths used to carry data in optical networks.