Z

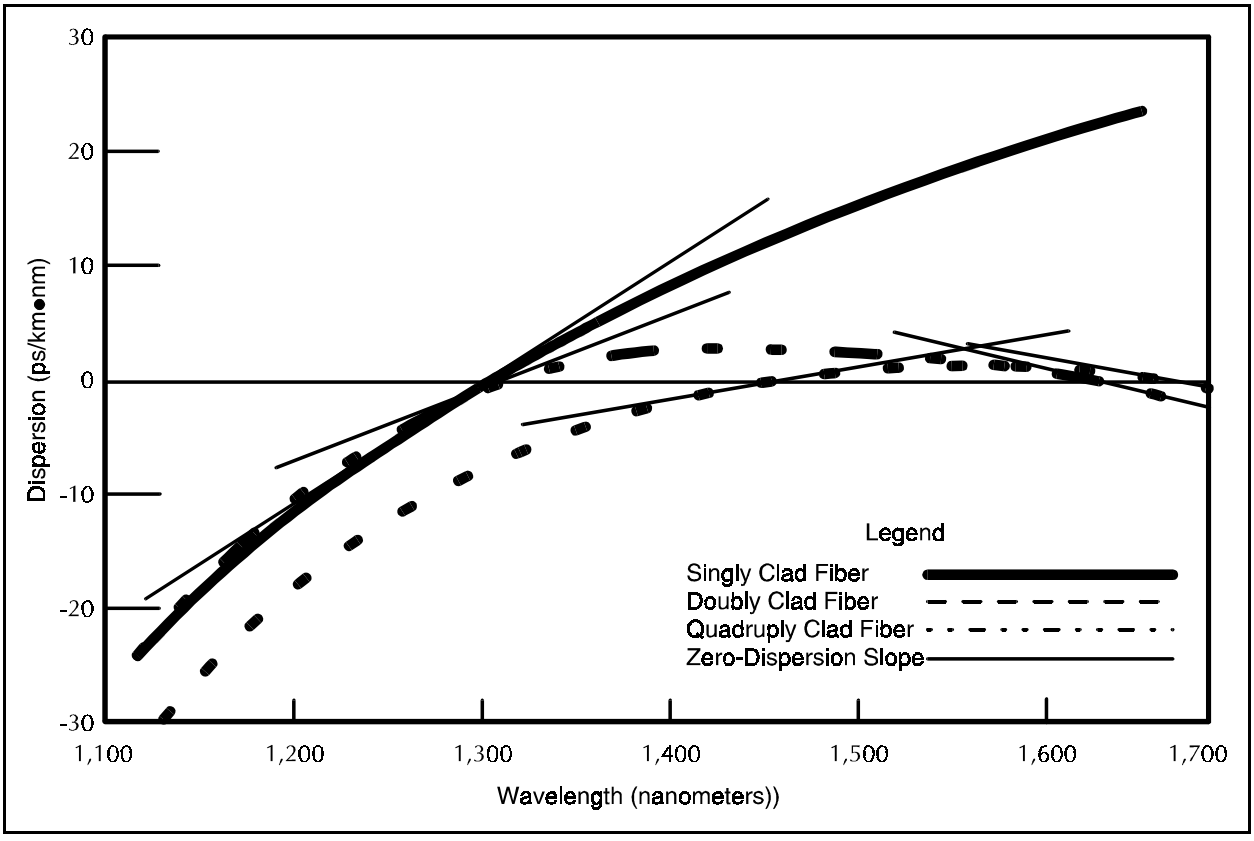
Z: *Abbreviation for* **Zulu time.** *See* **Coordinated Universal Time.**

zero-bit insertion: A bit-stuffing technique used with bit-oriented protocols to ensure that six consecutive "1" bits never appear between the two flags that define the beginning and the ending of a transmission frame. *Note:* When five consecutive "1" bits occur in any part of the frame other than the beginning and ending flag, the sending station inserts an extra "0" bit. When the receiving station detects five "1" bits followed by a "0" bit, it removes the extra "0" bit, thereby restoring the bit stream to its original value.

zero dBm transmission level point (0 dBm TLP): In a communication system, a point at which the reference level is 1 mW, *i.e.*, 0 dBm. *Note:* The actual power level of the communications traffic is not necessarily 0 dBm. It is usually below the reference level. The reference is for system design and test purposes. *Synonym* **zero transmission level point.**

zero-dispersion slope: In a single-mode optical fiber, the rate of change of dispersion, with respect to wavelength, at the fiber's zero-dispersion wavelength. *Note 1:* In silica-based optical fibers, the zero-dispersion wavelength occurs at approximately 1.3 µm, but this wavelength may be shifted toward the minimum-loss window by the addition of dopants to the fiber material during manufacture. *Note 2:* Doubly and quadruply clad single-mode fibers have two zero-dispersion points, and thus two zero-dispersion slopes.

zero-dispersion wavelength: 1. In a single-mode optical fiber, the wavelength or wavelengths at which material dispersion and waveguide dispersion cancel one another. *Note:* In all silica-based optical fibers, minimum material dispersion occurs naturally at a wavelength of approximately 1.3 µm. Single-mode fibers may be made of silica-based glasses containing



zero-dispersion slopes for representative single-mode fibers

dopants that shift the material-dispersion wavelength, and thus, the zero-dispersion wavelength, toward the minimum-loss window at approximately 1.55 µm. The engineering tradeoff is a slight increase in the minimum attenuation coefficient. **2.** Loosely, in a multimode optical fiber, the wavelength at which material dispersion is minimum, *i.e.*, essentially zero. *Synonym* **minimum-dispersion wavelength**.

zero dispersion window: *Synonym* **minimum dispersion window.**

zerofill: To fill unused storage locations with the representation of the character denoting "0".

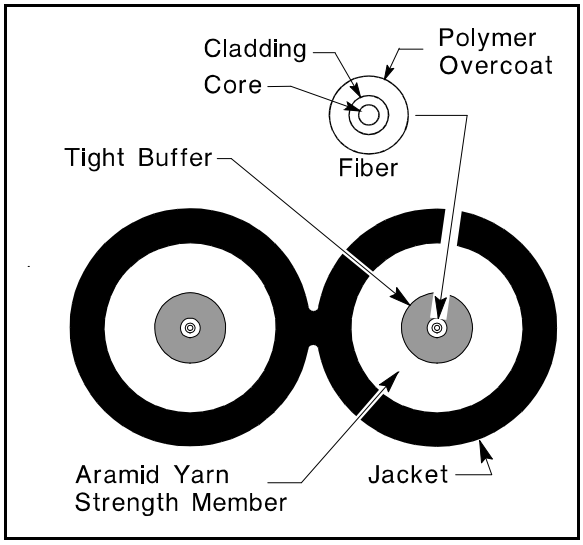
zero-level decoder: A decoder that yields an analog level of 0 dBm at its output when the input is the digital mailed signal. [47CFR] *Note:* The signal is a 1-kHz sine wave.

zero suppression: The elimination of nonsignificant zeros from a numeral.

0TLP: *Abbreviation for* **zero transmission level point.**

zero transmission level point (0TLP): *Synonym* **zero dBm transmission level point.**

zip-cord: In optical communications, a two-fiber cable consisting essentially of two single-fiber cables having their jackets conjoined by a strip of jacket material. *Note 1:* This name is borrowed from electrical terminology referring to lamp cord. As with lamp cord, optical zip-cord may be easily furcated by slitting or tearing the two jackets apart, permitting the installation of optical connectors. *Note 2:* Zip-cord cables include both loose-buffer and tight-buffer designs. [FAA]



cross section of a two-fiber tight-buffered zip-cord optical cable

zone: *See* **communications zone, Fresnel zone, skip zone.**

zone of silence: *Synonym* **skip zone.**

Z Time: *Abbreviation for* **Zulu Time.** *See* **Coordinated Universal Time.**

Zulu Time (Z): *Synonym* **Coordinated Universal Time.** *Formerly a synonym for* **Greenwich Mean Time.**

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