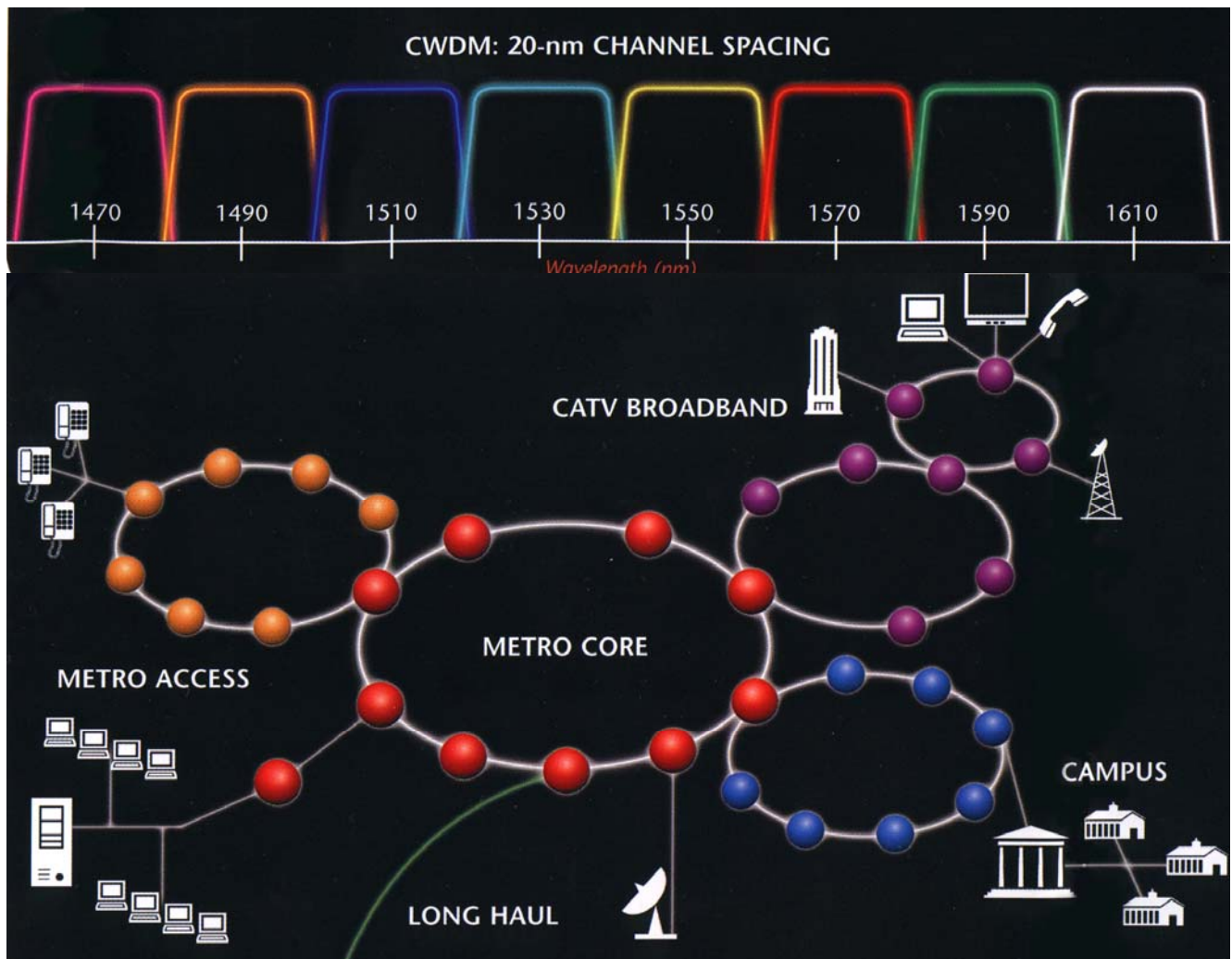


Broadband Solution using Coarse Wave-Division Multiplexing (CWDM)

Application Note



The MULTIDYNE fiber optic product line is available with Coarse Wave-division Multiplexing technology. For applications in metropolitan areas or for long-haul feeds, the more bandwidth available per fiber, the higher the return on investment. It is less expensive to add an additional wavelength than it is to install another fiber. The increase in bandwidth is up to 18 times.

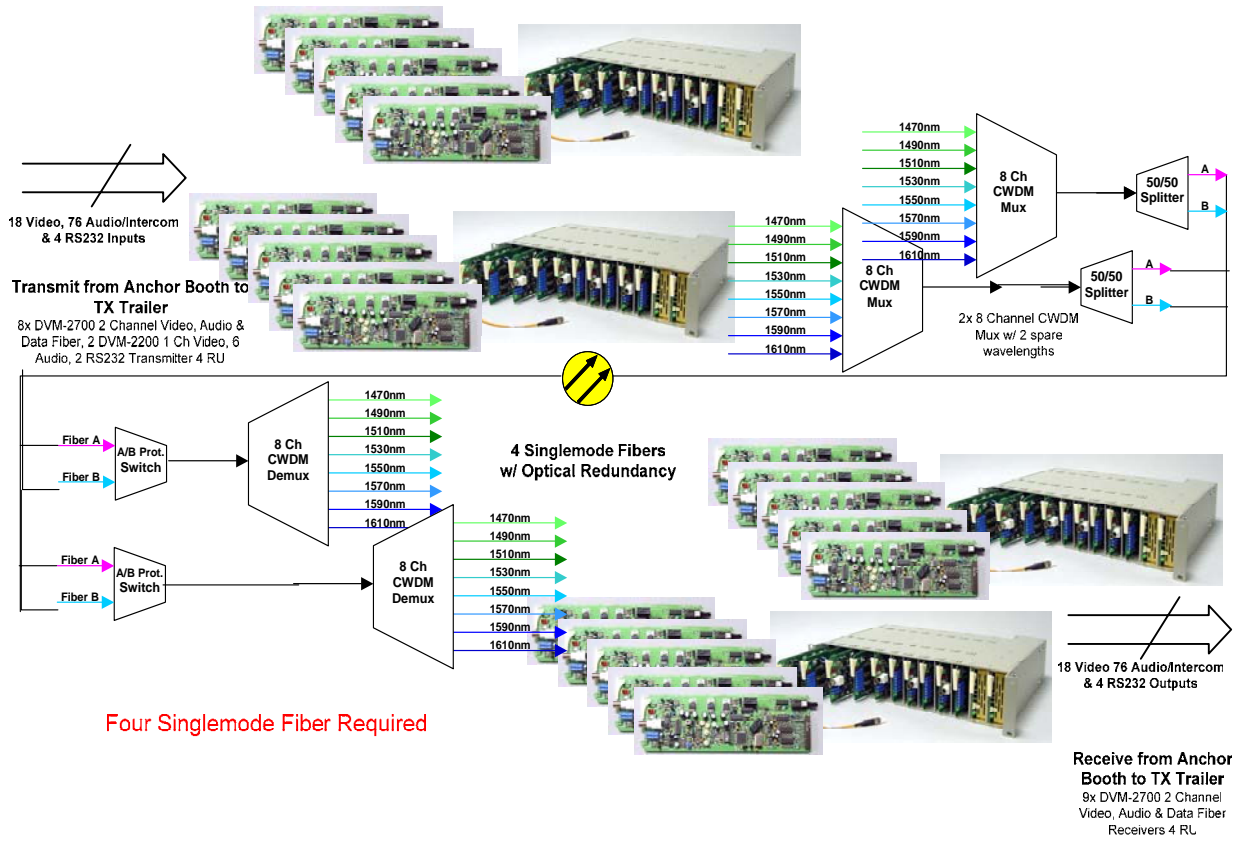
Advances in laser and thin film technology have made it economically possible to provide more than 1 or 2 wavelengths per optical fiber. We can now multiplex 4, 8, 16 or 18 wavelengths on a single fiber. Add and Drop Mux and Demux modules are also available.

Epoxy-free optical paths are used for increased durability and reliability. Thin-film filter technology is used for low insertion loss and high isolation. Optical performance guaranteed over the temperature range 0 to 70 degrees C.

For the highest performance and isolation it is recommended to use a Multiplexer at both the transmission side and the receiver side. If a Multiplexer is not used to filter the different wavelengths, an optical receive may receive more than one wavelength as an input and become inoperative.



In the USA and Canada call **1-(800)-4TV-TEST**
191 Forest Avenue, Locust Valley, NY 11560-2132 USA
1-(800)-488-8378, (516)-671-7278, FAX (516)-671-3362
E-Mail: sales@multidyne.com
Web Site: www.multidyne.com



Four Singlemode Fiber Required

CWDM Application, 18 Ch 12 Bit Video, 76 Ch. 24 Bit Audio/Intercom & 4 RS232
CWDM over 4 Fibers with Optical Redundancy

It is desirable in many applications to utilize the different wavelengths bi-directionally. For example, you may have 4 wavelengths in an East bound direction and 4 wavelengths in a West bound direction. This is easily accomplished by using a Demultiplexer on both sides of the link. **Unless otherwise stated, all MULTIDYNE CWDM systems are design for bi-directional operation utilizing demultiplexers.**

Just about every Multidyne fiber optic product is available with an option for a CWDM compliant laser. The supported wavelengths include 1270, 1290, 1310, 1330, 1350, 1370, 1390, 1410, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570, 1590 and 1610 nano-meters. The Laser wavelength drift is less than +/- 3nm from 0 to 70 degrees Centigrade. Multidyne offers 4, 8, 16 and 18 channel Mux and Demux modules for CWDM applications.

The 16 and 18 channel CWDMs require the new Corning Metro Optimized SMF-28e fiber. It has a more uniform attenuation characteristic over the extended CWDM spectrum.

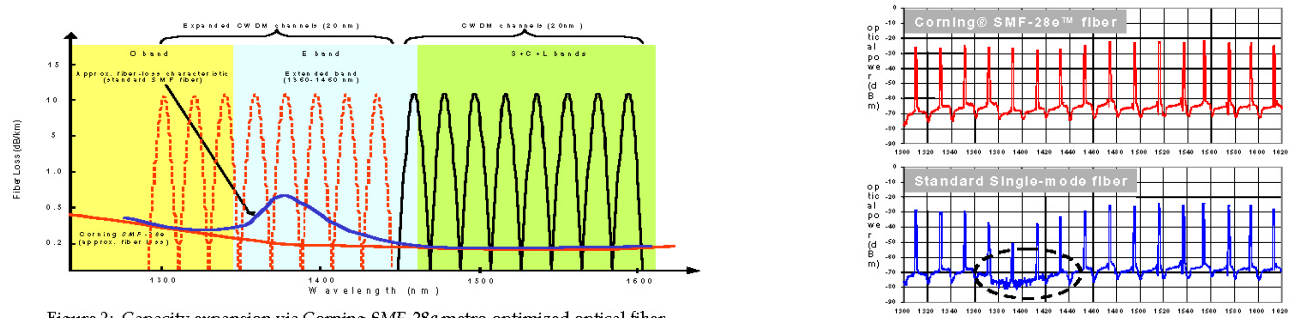


Figure 2: Capacity expansion via Corning SMF-28e metro-optimized optical fiber

When ordering MULTIDYNE equipment you will note the “-7-xxxx” option. This is the CWDM laser option. The xxxx designates the desired wavelength. For example, if you would like a DVM-2000 fiber optic transmitter with a 1610nm CWDM laser. The correct part number would be DVM-2000-FTX-7-1660.



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