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REVISION HISTORY

REVISION	DESCRIPTION	DATE
1.0	Original Version	Mar 06
1.1	Updated formatting	May 09

1. OVERVIEW

In fiber optic transmission systems it is often necessary to split or combine optical signals. Dense Wave Division Multiplexing (DWDM) allows multiple optical signals at different, closely-spaced wavelengths to be transmitted down a single fiber.

There are currently two models in the 9000DWDM family:

- **9000DWDM-32:** Allows the use of a single fiber for transmission of up to 32 channels at different wavelengths.
- **9000DWDM-40:** Allows the use of a single fiber for the transmission of up to 40 channels at different wavelengths.

Features:

- Bi-directional mux/demux of 32 or 40 wavelengths in the C-Band DWDM spectrum (ITU-T G.694.1 compliant)
- 0.8nm (100GHz) channel spacing
- Passive design for any bit rate
- Low insertion loss to conserve system power
- High optical isolation for low crosstalk
- SC/PC, ST/PC, FC/PC connector options

Applications:

- Multi-channel transport of video, audio, data, control in fiber limited applications
- Cost reduction exercises through fewer leased fibers
- Studio and Facility extension/expansion
- L-band & IF Link Transport
- STL and TSL Links
- Signal aggregation for outdoor event coverage
- Signal aggregation for security and monitoring

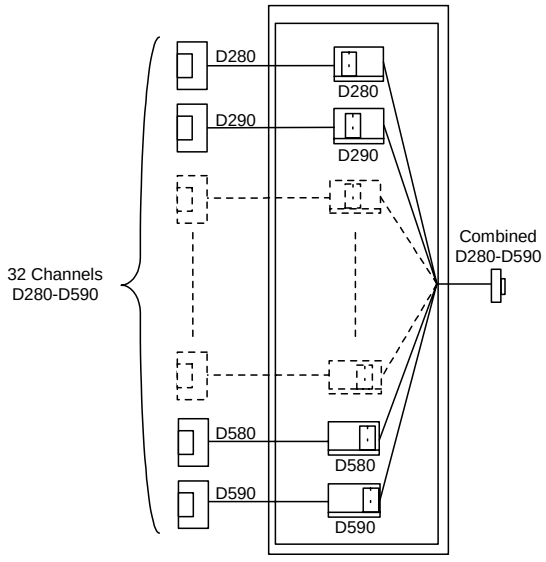

Figure 1-1: 9000DWDM-32 Block Diagram

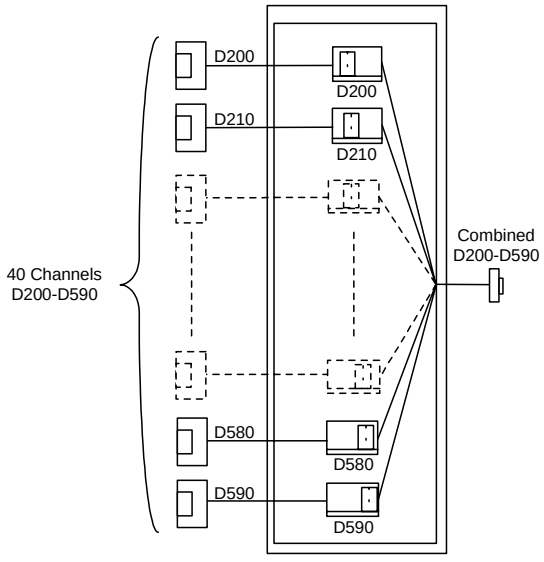

Figure 1-2: 9000DWDM-40 Block Diagram

2. INSTALLATION

The 9000DWDM's are available in Multiplexor and Demultiplexor versions. For optimum insertion loss characteristics, it is important to install a Multiplexor version at one end of the fiber link and a Demultiplexor version at the other end.

Multiplexors: 9000DWDM-M32
9000DWDM-M40

Demultiplexors: 9000DWDM-D32
9000DWDM-D40

2.1. REAR PANEL OVERVIEW

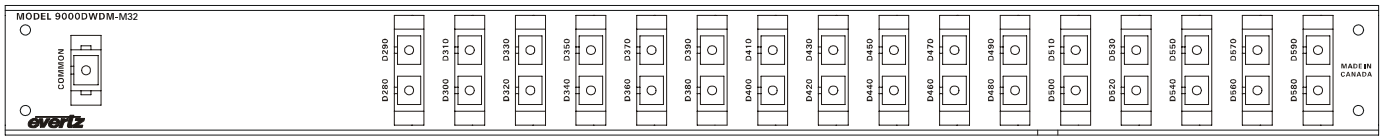

Figure 2-1: 9000DWDM-32 Rear Panel

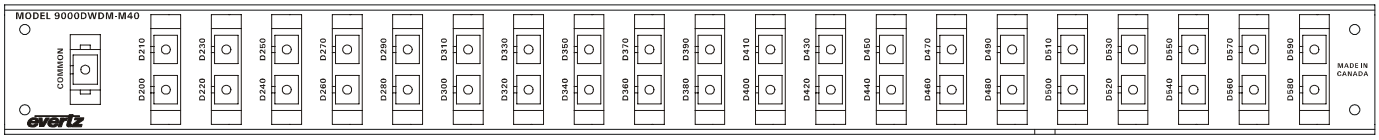

Figure 2-2: 9000DWDM-40 Rear Panel

2.1.1. Optical Connections

COMMON: The 9000DWDM is available with female SC/PC (shown), ST/PC or FC/PC type optical connectors. The COMMON port is where the single fiber connecting the Multiplexor and Demultiplexor should be connected.

WAVELENGTH IN/OUTPUTS: The 9000DWDM is available with female SC/PC (shown), ST/PC or FC/PC type optical connectors. The individual devices each transmitting and receiving at a different specific wavelength should be connected to the port corresponding to the appropriate specific wavelength.

2.2. MOUNTING

The 9000DWDM is equipped with rack mounting angles and fits into a standard 19 inch by 1.75 inch (483mm x 45mm) rack space.

2.3. CARE AND HANDLING OF OPTICAL FIBER

2.3.1. Safety

Never look directly into an optical fiber. Non-reversible damage to the eye can occur in a matter of milliseconds.

2.3.2. Handling and Connecting Fibers

Never touch the end face of an optical fiber. Always keep dust caps on optical fiber connectors when not connected and always remember to properly clean the optical end face of a connector before making a connection.

The transmission characteristics of the fiber are dependent on the shape of the optical core and therefore care must be taken to prevent fiber damage due to heavy objects or abrupt fiber bending. Evertz recommends that you maintain a minimum bending radius of 5 cm to avoid fiber-bending loss that will decrease the maximum attainable distance of the fiber cable. For further information about care and handling of fiber optic cable see section 3 of the Fiber Optics System Design chapter of this manual.

3. SPECIFICATIONS

3.1. OPTICAL INPUT/OUTPUT

Connector: SC/PC, ST/PC or FC/PC female housing
Wavelength
9000DWDM-32: ITU C28-C59 (1554.94nm – 1530.33nm)
9000DWDM-40: ITU C20-C59 (1561.42nm – 1530.33nm)

Channel Spacing: 0.8nm (100GHz)
Passband @ 0.5dB: ± 0.1nm
Isolation
Adjacent Channel: > 25dB
Non-Adjacent Channel: > 40dB

Directivity: > 40dB
Fiber Size: 9 μm core / 125 μm overall
Return Loss: > 45dB
Maximum Optical Power: < 300mW (+25dB)

3.2. LINK LOSS WITH MUX AND DEMUX COMBINATION

9000DWDM-M32 & 9000DWDM-D32: < 8dB maximum

9000DWDM-M40 & 9000DWDM-D40: < 10dB maximum

3.3. PHYSICAL

Dimensions: 19“ W x 1.75” H x 18.75” D (483mm W x 45mm H x 477mm D)
Weight (net): 6.5 lbs (3 kg)