delivering the promise

WavePump™ 1480 & 980nm Pump Laser Combiner

Features

- High optical power handling
- Very low insertion loss
- Multi-channel pumping
- Telcordia™ reliability
- Flexible wavelength and channel spacing

Benefits

- Increased amplifier power
- Enhanced amplifier reliability
- Higher amplifier efficiency
- Raman or EDFA design
- Economical

Product Capabilities and Value

Higher power amplifiers are needed in order to handle the ever-increasing channel counts and bit rates of DWDM telecommunication systems. This requires combining multiple pump lasers in the amplifier in the most efficient, economical way possible.

The WavePump is a reliable, low-loss, all-fiber pump laser combiner for use in EDFA and Raman amplifier designs. The Fused Cascaded Fiber (FCF) approach offers an intrinsically low loss design while allowing many pump lasers to be combined to achieve high amplification. High pump power levels are easily handled with the all-fiber design, and the available wavelengths cover 980nm, 1480nm, or Raman pump lasers. The WavePump can accommodate your design needs with its range of center wavelength and channel spacing options.

WaveSplitter understands that excellent performance is just one of the many selection criteria for choosing a pump laser combiner, and the WavePump has been designed to the highest reliability standards. The WavePump meets or exceeds all of the Telcordia™ reliability requirements.

Finally, WavePump offers a low-cost alternative to expensive polarization beam combiners and other methods of combining pump lasers. When you combine the technical benefits of low-loss, multiple channels, and high power handling capability with the Telcordia™ reliability and value, the WavePump makes an excellent choice to meet your amplifier design goals.

WAVESPLITTER™
Lighting the Internet on Fiber™

Performance Specifications for 1480 and 980nm WavePump Pump Laser Combiner

Parameters	1480	980
Available Channel Spacing Range[1] (nm)	5 to 20	3 to 6
Available Channel Wavelength Range[1] (nm)	1420 to 1490	973 to 983
Available Number of Channels	2, 3 and 4	
0.5 dB Bandwidth	≥ 35% of channel spacing	
Insertion Loss		
2 Channel (dB)	≤ 0.4	≤ 0.5
3 & 4 Channel (dB)	≤ 0.8	≤ 1.0
PDL (dB)	≤ 0.2	
Isolation (dB)	≥ 15	
Directivity (dB)	≤ -55	
Return Loss (dB)	≥ 55	
Thermal Wavelength Drift (pm/°C)	3 to 7 (typical)	2 to 5 (typical)
Operating Temperature (°C)	0 to 70	
Storage Temperature (°C)	-40 to 85	
Fiber Type	SMF 28	Flexcor™ 1060
Optical Power (mW)	Excess of 3,000	
Dimensions[2, 3, 4] (LxD) (mm)	90 (±0.5) x 4.78 (±0.07)	

Insertion loss, isolation, and PDL are measured at target wavelengths and room temperature.

US patent no. 5,809,190

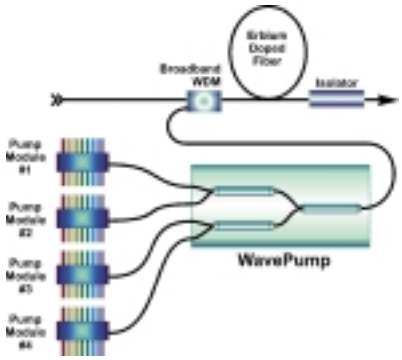
1 - Custom channel spacing and wavelengths available. Measured wavelengths are referenced to vacuum unless otherwise requested.

2 - Will also be available in a smaller package.

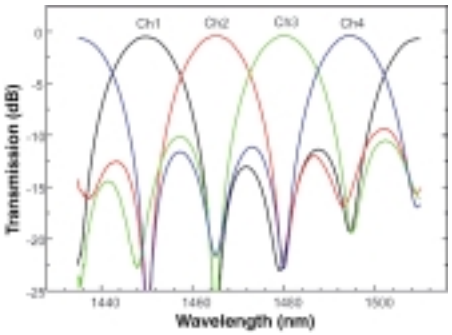
3 - Options include packaging couplers as an assembly or an unspliced kit.

4 - Termination of unused ports available upon request.

Note: All data taken prior to connectorization.



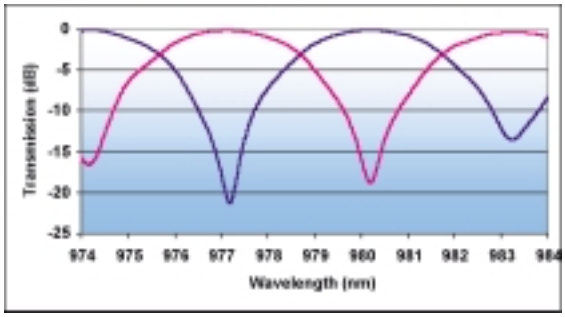
The WavePump™ is used to combine multiple pump lasers at different wavelengths in an EDFA.



Typical spectra showing the multiple input channels of a 1480nm WavePump.™ The WavePump has very low insertion loss at the pump laser wavelengths.

WavePump Ordering Information: Standard WavePump devices are specified with appropriate part number options. If you require devices with different specifications, please see below for more information.**

	Channel Spacing	Channel Count	Channel Wavelength	Connector Type
WP_-	___	___-	_____-	___
4=1480 9=980	Select a channel spacing Ex. 5nm=050 15.5nm=155	04 = 4 ch 03 = 3 ch 02 = 2 ch 01 = not used	Select a starting wavelength Ex. 1450.00nm=145000 973.00nm=097300	08 = LC 07 = ST 06 = FC/UPC 05 = FC/APC 04 = SC/UPC 03 = SC/APC 02 = ST/PC 01 = None*



Typical spectra showing the multiple input channels of a 980nm WavePump.™ The WavePump has low insertion loss at the pump laser wavelengths.

* Denotes standard product

** Custom orders are those that require a specification or configuration other than what is printed. Add "9's" to the appropriate section of the order number.

For more information on any WaveSplitter product contact your sales representative listed on our web site www.wavesplitter.com. Or contact WaveSplitter Technologies, Inc. directly at 510.580.8888.

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