

RA-R



Raman Amplifier, Rackmount

The Optilab RA-R Raman Amplifiers are optical fiber amplifiers that are designed to recover optical loss incurred in optical fiber, thus extending the transmission distance. The RA-R is designed to amplify optical signals in ultra long-haul DWDM networks, and can also be incorporated into HFC/CATV networks to increase the transmission range of analog and digital channels. Unlike EDFAs, Raman Amplifiers are based on Raman amplification that occurs during the back scattering wherein the single mode optical fiber in the link itself acts as the gain medium. RA-R Raman Amplifiers are typically installed in the mid-stream of a signal or placed before receivers to increase the optical power level signals. Utilizing a multiple high-power pump laser design, the RA-R provide very broad operating wavelength range, constant optical gain, and effectively reduce noise figures in the link. Contact Optilab for more information.

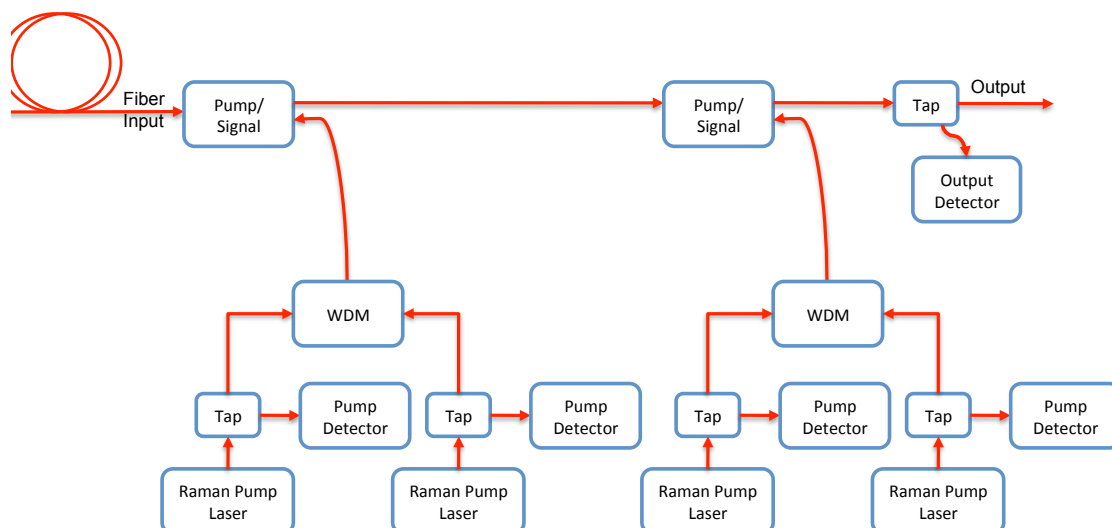
Features

- 80 DWDM channels at 10 G/40 G transmission
- QAM digital and analog channels in HFC/CATV
- Gain up to 13 dB/ch.
- Effective Noise Figure of -1.3 dB

Applications

- DWDM
- Ultra-long Haul
- HFC Networks
- Undersea Link

Functional Diagram



Raman Amplifier, Rackmount | RA-R

OPTIONS

RA-xx-yy-R

xx C, C-Band; CL, C+L - Band

yy Optical Signal Gain

TECHNICAL INFO

For technical info and support:

sales@optilab.com

www.optilab.com

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- Performance
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Optical Specifications	
Wavelength Range	RA-C: 1525 nm to 1565 nm, RA-CL: 1528 nm to 1605 nm
Signal Gain Average	RA-C, 11 dB to 13 dB, RA-CL, 10 dB to 12 dB
Gain Flatness	RA-C, ± 0.75 dB, RA-CL, ± 0.90 dB
Pump Laser	RA-C, 4; RA-CL, 6
Input Signal Level	-40 to +5 dBm per channel
Effective Noise Figure	-1.3 dB typ.
Polarization Mode Dispersion (PMD)	0.2 ps max.
Polarization Dependent Gain (PDG)	0.2 dB max.
Power Stability	± 0.1 dB over 8 hours
Input / Output Isolation	30 dB min.
Optical Input Connectors	Bare fiber, SMF-28 with 3mm standard; High Power rated SC/APC, FC/APC, LC/APC (Optional)
Optical Output Port	SC/APC Connector, FC/APC, LC/APC (Optional)
Mechanical Specifications	
Operating Temperature	0° to +50° C
Storage Temperature	-10° to +70° C
Power Supply	80-240 V, 43-63 Hz AC, 40 - 58 V DC (Optional) Dual Power Supply Standard
Power Consumption	80 W max.
Display	Output Power Level, TEC Temperature
Controls/Monitoring	Pump Laser Temperature and Current
Communication Interface	RS-232 interface cabling from PC to rackmount units
Alarms	Over Temperature, Over Current
Dimensions	2RU: 19" x 20.5" x 3.5"

Gain Flatness

