

# Introduction to Active Products



## WaveSmart Optical Signal Platform PowerNode

The WaveSmart platform of powered optical signal products bridges the gap between Clearfield's FieldSmart platform of fiber integration management and the active transmission gear residing in the central office and/or head-end environment. Designed to complement Clearfield's FieldSmart platform of fiber management solutions, WaveSmart ensures service providers have the configurability required for cost-effective optical signal relay.

The WaveSmart PowerNode 1550 EDFA offers user-defined power output levels for the distribution of optical signals and long distance transmission relay in conjunction with the 1550nm optical transmitters for CATV and FTTH systems. Additionally, custom options are available for DWDM CATV systems transmitting multi-wavelengths. As service providers have gained experience in deploying these fiber-rich networks, they've come to realize that the one-size-fits-all design of integrating signal amplifiers within transmission gear is not appropriate for all deployments.

The WaveSmart PowerNode 1550 EDFA features a low noise figure, high gain, optimized structure and high reliability for 1550nm optical transmission networks. The internal microprocessor is designed to provide real-time monitoring and control for the operating status of the pump and input/output optical power. Warning information will be generated in case of an amplifier failure and in critical condition, the pump laser will be automatically switched off when no optical power is available. Custom wavelengths and user-defined power output levels are available.

### The Clearfield Alternative

As the delivery of triple play services is forcing service providers to look for ways to deploy custom configurations in a nimble and cost-effective manner, traditional suppliers are strapped in their ability to respond to these user-led initiatives. Clearfield's long history of listening and then aggressively responding to our customers, teamed with our business strategy of partnering with the industry's best suppliers, and finally, having the in-house core competency to package these alternatives in a cost-effective manner, makes WaveSmart a strategic option for all video providers.

# WaveSmart Optical Signal Platform PowerNode



## WaveSmart PowerNode 1550 EDFA



### Application

Clearfield's  $\lambda$ WaveSmart PowerNode 1550 Erbium Doped Fiber Amplifier (EDFA) is designed for the distribution of optical signals and long distance transmission relay in conjunction with the 1550nm optical transmitters for CATV, FTTH Systems, and 1310/1550 overlays.

### Description

Clearfield's  $\lambda$ WaveSmart PowerNode 1550 EDFA features low noise, high gain, optimized structure with high reliability for 1550nm optical transmission networks. The internal microprocessor is designed to provide real time monitoring and control for the operation of the pump and input/output optical power. Warning information is generated in case of amplifier failure, and in critical conditions, the pump laser is automatically switched off to protect the amplifier. The pump laser is automatically switched off when no input optical power is available. In addition, manual shielding is provided on the optical adapters.

### Features & Benefits

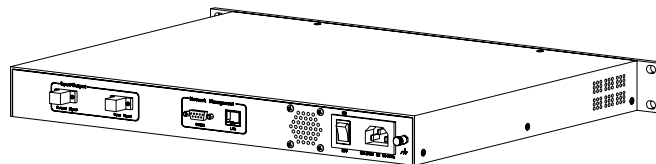
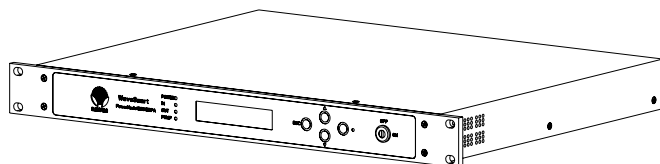
- Various optical output power options.
- Interchangeable 19" and 23" rack brackets.
- Front or rear access options available.
- High gain, high power.
- Single-stage or double-stage 980nm and 1480nm pump laser with low power dissipation.
- Very low optical noise figure.
- Non-polarized optical isolator at both optical input and output.
- AC power supply range 90V-265V.
- The system is controlled by a microprocessor.
- LCD display on the front panel with user-friendly interface.
- Eye-protection function.
- Local or remote status monitoring and control through RS-232/RJ45 ports.
- Support of switching function of the pump, for easy on-site maintenance.
- An SNMP interface compliant with HMS Standard MIB.

WaveSmart PowerNode 1550 EDFA

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## WaveSmart PowerNode 1550 EDFA



### Specifications

Performance			Index			Note
			Min	Typ	Max	
Optic Specification	Operation Wavelength ( $\lambda$ )	(nm)	1540		1560	
	Input power range	(dBm)	0	3	10	
	Total output power	(dBm)	14		22	Pin=0dBm
	Noise figure	(dB)		4.5	5.5	Pin=0dBm
	Polarization dependence loss	(dB)		0.1	0.3	
	Polarization dependence gain	(dB)			0.5	
	Polarization mode dispersion	(ps)			0.4	
	Pump power leakage	(dBm)			-30	
	Echo loss	(dB)	50			
General Specification	SNMP network management interface		RJ45			
	Communication interface		RS232			
	Power supply	(V)	90~265			-48VDC optional
	Power Consumption	(W)	$\leq 50$			
	Operating temp. Range	(C)	0~50			
	Storage temp. Range	(C)	-40~85			
	Operating relative humidity	(%)	5~95			
	Dimension	(")	19(23) $\times$ 10 $\times$ 1.75			(W) $\times$ (D) $\times$ (H)

### Configured Part Numbers

EDFA -      - 19/23R -      -     

1
2
3

<p><b>1 Select dB level</b></p> <p>14 = 14 dB      19 = 19 dB          15 = 15 dB      20 = 20 dB          16 = 16 dB      21 = 21 dB          17 = 17 dB      22 = 22 dB          18 = 18 dB</p>	<p><b>2 Select connector</b></p> <p>SA = SC APC          FA = FC APC</p>	<p><b>3 Select input and output location</b></p> <p>F = Front          R = Rear</p>
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