



# StingRay RF over Fibre

## Optical Amplifiers DWDM

(Dense Wavelength Division Multiplexing) System

The StingRay range of optical amplifiers compensate for module loss and boost the optical power to extend the transmission distance of signals carried up to 500 km.

Optical amplifiers should be used with StingRay DWDM 200 Series of RF over fibre units, which are designed to provide compact fibre links, with up to forty wavelengths on a single fibre cable. The modules benefit from a high and wide dynamic range with automatic link optimisation ensuring high quality RF over fibre transmission.

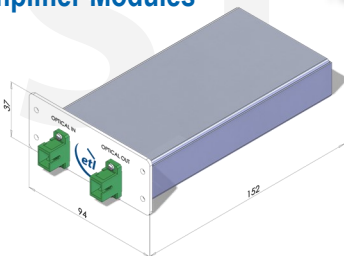
The StingRay optical amplifier system comprises of either a pre-amplifier module, a post-amplifier module or an inline amplifier module designed to operate within the 1U SRY-C800-1U chassis. Other chassis are available.

### Typical applications:

- Linking back-up sites to the main sites. For disaster recovery and weather effects.
- Long distance distribution of comms traffic across site with minimal loss - up to 500 km distances
- Ku-band and Ka-band ready for HTS applications
- General satcoms– teleports, video head-ends, TVRO
- Compact solution for small quantity links such as tactical HQ



### Amplifier Modules



**Signal boost** up to 22 dBm output power.

**500 km transmission distance** when used with StingRay DWDM fibre modules. Available to compensate for span lengths up to 90 km

**1550 nm** typical operating wavelength

DCM modules housed in separate 1U chassis

### EDFA Chassis



**Remote control & monitoring** via RJ45 Ethernet port with SNMP & web browser interface

**Compact** amplifier modules housed in a 1U high chassis

**Resilience** from dual redundant power supplies & hot-swap amplifier modules

**Dry contact alarm port** for power supply & amplifier status

**Local control & monitoring** via front panel push buttons & display





**Optical Parameters - Optical Amplifier Modules**

Model Number		SRY-OAC-13-801-XX Optical Pre-Amplifier	SRY-OAC-22-802-XX Optical Post-Amplifier	SRY-OAC-18-803-XX Optical Line Amplifier
Spec Version		1.3	1.2	1.0
Optical Specification				
Operating Wavelength	Minimum	1529 nm	1529 nm	1529 nm
	Typical	1550 nm	1550 nm	1550 nm
	Maximum	1561 nm	1561 nm	1561 nm
Output Optical Power	(Saturated)	Typ 13 dBm	Typ 22 dBm <small>(In APC mode, the output power is fixed and settable from +12dBm to +22dBm)</small>	Max 18 dBm <small>In APC mode, the output power is fixed and settable from +12 dBm to +18dBm</small>
Input Optical Power	Minimum	-30 dBm	-10 dBm	-15 dBm
	Maximum	-10 dBm	+6 dBm	+12 dBm
Gain <small>(Can be set in AGC mode)</small>	Minimum	20 dB	17 dB	6 dB
	Typical	23 dB	20dB	14 dB
	Maximum	26 dB	23 dB	18 dB
Gain Flatness	Maximum	1.5 dB	1.5 dB	1.5 dB
Noise Figure	Typical	5 dB	5 dB	4.5
Output Power Stability	Typical	±0.05	±0.05	±0.05
	Max	±0.1	±0.1	±0.1
Return Loss (RL)		-45 dB	-45 dB	-45 dB
Polarization dependent gain	Max	0.3 dB	0.3 dB	0.3 dB
Polarisation mode dispersion (ps)	Max	0.5	0.5	0.5
Input & output ports		FC/APC or SC/APC		
Electrical Specifications				
Power Consumption		10W typical, dual fused IEC		
PSU Redundancy		Redundant supplies to module (Diode OR)		
Alarms		Pump failure & temperature		
Remote Control & Monitoring, via Chassis		Serial (RS232 or RS422/485) and Ethernet (RJ45) on Rear Panel—Monitoring and control by serial command or Web Page		
MTBF		> 100,000 hours		
Environmental Conditions				
Operating Temperature		-5°C to + 60°C		
Storage Temperature		-40°C to + 80°C		
Location		Indoor Use only		
Humidity		10 to 85% non-condensing (Relative Humidity)		
Altitude		10,000 feet AMSL (Above Mean Sea Level)		
Physical Dimensions & Parameters				
Weight		0.3kg		
Dimensions		37mm high x 152mm deep x 94mm wide (Fit Stingray 800 series Chassis)		
Front Panel Colour		RAL9003– White (Semi-Matte)		



Parameters - EDFA Chassis		
Model Number	SRY-C800-1U EDFA (Erbium Doped Fibre Amplifier) chassis	
Capacity	OAC	2 x Module of type SRY-OAC-xx-xxx-xx
Input & Output ports	SC/APC or FC/APC	
Wavelength range	Module dependant	
PSU Power	100-240VAC 50/60Hz, dual fused IEC	
PSU Redundancy	Hot Swap Dual Redundant and Alarmed, Diode OR	
AC consumption	50 W, Max. consumption at steady state	
Alarms	Dry Contact (D-Type) & Ethernet (RJ45), PSU & Amplifier Status	
Remote Control & Monitoring	Serial (RS232 or RS422/485) and Ethernet (RJ45) on Rear Panel. Monitoring and control by serial command or Web page	
Environmental Conditions (amplifier & chassis)		
Operating Temperature	0 to 45°C	
Storage Temperature	- 40°C to +80°C	
Location	Indoor use only	
Humidity	10 to 85% non-condensing, relative humidity	
Altitude	10,000 feet Above Mean Sea Level (AMSL)	
Physical Dimensions & Parameters		
Weight	6.5 Kg	
Dimensions	1U High x 450mm deep x 19" wide	
Front Panel Colour	RAL9003-White (Semi-Matte)	

Note 1: The specification is subject to regular reviews and will be updated from time to time as part of our continuing product development and improved spec accuracy.  
Note 2: Operation beyond the quoted limits stated above may cause instantaneous and permanent damage.

Please see separate datasheet for DWDM fibre modules & 200 series chassis options

