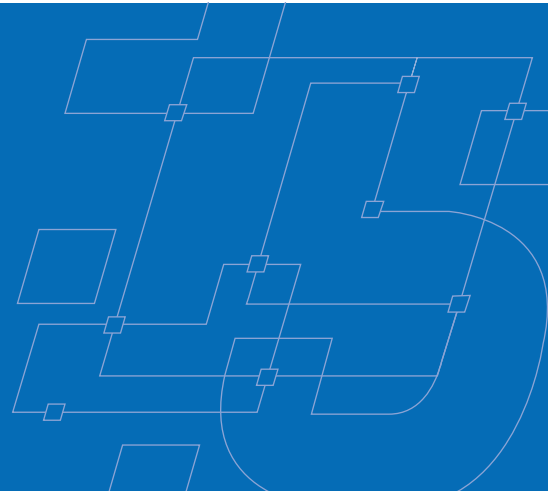


# OPTICAL AMPLIFIERS



## PRODUCT OVERVIEW

BTI'S AMPLIFIER MODULES INCREASE THE REACH OF ANY DWDM OPTICAL SIGNALS, ALLOWING FOR BROADER NETWORK REACH WHILE MINIMIZING THE NEED FOR COSTLY ELECTRICAL REGENERATION. AMPLIFIER MODULES BOOST OPTICAL SIGNALS TO REDUCE THE EFFECTS OF OPTICAL POWER ATTENUATION, ALLOWING SIGNALS TO TRAVEL FURTHER OVER FIBER. THE SINGLE-SLOT MODULES FIT INTO ANY ACTIVE NETSTENDER™ OR BTI 7000 SERIES CHASSIS.



## APPLICATIONS

### SINGLE CHANNEL AND SUB-BAND AMPLIFICATION

SINGLE CHANNEL: 1528-1563nm

SUB-BAND: 1546.12nm to 1559.79nm

The Sub-Band Booster Amplifier (SBA) and Sub-Band Pre Amplifier (SPA) are an affordable alternative to the full C-Band amplifiers for single channel amplification or low to moderate wavelength count systems. They can be used to extend the length of single 1550nm channel or DWDM signals from one up to 16 wavelengths. For signals of up to 10Gb/s and typical fiber and dispersion characteristics, the SBA and SPA boost power levels to extend reach up to 160km point-to-point (when combined with dispersion compensation modules).

## KEY FEATURES

- Single channel, sub-band and C-band (DWDM) amplification options
- Pre, post, or line amplification options
- Adjustable gain and power control modes
- High performance – flat gain over a wide dynamic range
- Fully managed with inventory and optical performance monitoring
- Integrated optical monitoring port

# OPTICAL AMPLIFIERS

## DWDM AMPLIFICATION

Full C-BAND: 1528nm to 1563nm

The Optical Booster Amplifier (OBA), Optical Line Amplifier (OLA), and Optical Pre-Amplifier (OPA) can be used to extend the length of DWDM links of any wavelength count in the wavelength band 1528nm to 1563nm. An Optical Line Amplifier with Mid-Stage Access (OLAM) is also available. The OLAM makes it possible to insert passive devices (e.g. dispersion compensation modules) between the first- and second-stage amplifiers without increasing the span loss. For signals of up to 10Gb/s and typical fiber and dispersion characteristics, the OBA, OLAM, and OPA combination boosts power levels to extend reach up to 350km for a 40 wavelength channel count system (when combined with dispersion compensation modules and Forward Error Correction).

## TECHNICAL INFORMATION

**Module Size:** Single Slot  
**Supported Chassis:** All active chassis: 7060, 7030, 2060, 2030

	Single Channel Booster Amplifier (SBA)	Single Channel Pre-Amplifier (SPA)	Optical Booster Amplifier (OBA)	Optical Line Amplifier (OLA)	Optical Line Amplifier with Mid-stage Access (OLAM)	Optical Pre Amplifier (OPA)
<b>Operating Wavelength</b>	Single $\lambda$ : 1528-1563nm. DWDM $\lambda$ : 1546.12 – 1559.79nm	Single $\lambda$ : 1528-1563nm. DWDM $\lambda$ : 1546.12 – 1559.79nm	DWDM $\lambda$ : 1528 – 1563nm	DWDM $\lambda$ : 1528 – 1563nm	DWDM $\lambda$ : 1528 – 1563nm	DWDM $\lambda$ : 1528 – 1563nm
<b>Input Level</b>	$-15 \leq \text{Pin} \leq 9$	$-35 \leq \text{Pin} \leq -10$	$-15 \leq \text{Pin} \leq 8$	$-28 \leq \text{Pin} \leq -5$	$-28 \leq \text{Pin} \leq -5$	$-35 \leq \text{Pin} \leq -1$
<b>Maximum Output Power (dBm)</b>	18	5	18	16	18	10
<b>Gain (dB)</b>	18	27	10	26	29	27
<b>Constant Gain</b>	√	√	√	√	√	√
<b>Constant Power</b>	√	√				
<b>Gain Flattening Filter</b>			√	√	√	√
<b>Adjustable Gain</b>				√	√	
<b>Power Monitor Port</b>	√	√	√			√