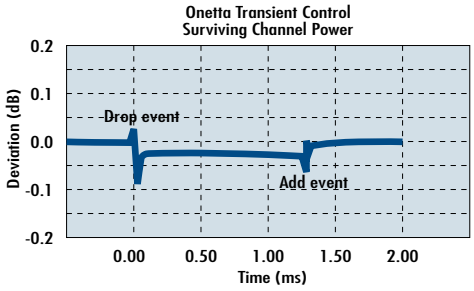
IOE 2000 L-Band Amplifiers

ONETTA™

The IOE 2000 L-Band amplifiers deliver high output power and low noise figure in a full-featured, highly integrated unit for EDFA applications. These amplifiers are ideal for long haul and ultra-long haul systems with data rates including OC-48, OC-192, and OC-768. The high level of electronic and optical integration saves system design time, and the versatile software configuration simplifies adjustments in the factory or in the field to accommodate diverse fiber spans and varying channel counts.

ULTRA-FAST OPTICAL POWER TRANSIENT CONTROL: Optical networks with dynamic wavelength provisioning lead to optical power transients in standard EDFAs. These problems compound as more amplifiers are cascaded together. Onetta's proprietary design dramatically reduces this effect, allowing for much longer chains of amplifiers and much more flexibility in network configuration.



LOW NOISE FIGURE: Onetta's leading expertise and proprietary designs result in C-band noise figure performance in the L-band.

FULLY INTEGRATED CONTROL ELECTRONICS: The on-board control electronics reduce system design time by providing a clean and simple electrical interface to customers' line cards. Equipment manufacturers simply supply a standard +5V/GND power line and RS-232 command lines and the IOE 2000 amplifier does the rest. Drivers for pumps and other components are built in, along with a digital control system that features an easy-to-use interface and command set. Additional monitor and alarm pins are provided for complete network management.

FEATURES AND BENEFITS

- Excellent gain flatness: Gain across the entire band is extremely uniform over the full dynamic range and operating temperatures, providing extra system design margin and extending system reach.
- High output power: Output powers of at least 21 dBm accommodate high-capacity systems with long spans and high channel counts.
- Variable gain: The IOE 2000 amplifier accommodates a wide range of span lengths and transmission fiber loss and dispersion. The EDFA can be configured via software in the factory or in the field through simple software commands.
- Mid-stage access ports: Dispersion compensation and optical add/drop can be built into the mid-stage of the EDFA, extending the overall system reach by lowering noise accumulation.
- High reliability: All optical components have been qualified to Telcordia standards.
- Volume production: These amplifiers have been designed from the beginning for volume production through utilization of highly available components and accommodation of industry standard tolerances.

IOE 2100-01

The IOE 2100-01 is ideal for span lengths up to 100 kilometers with all major fiber types, including NZDSF fibers such as Corning's LEAF and Lucent's TrueWave, as well as traditional fibers such as SMF or DSF.

2100-01 Optical Specs

Table represents worst-case performance under typical operating conditions. Contact Onetta for more information regarding performance under specific run conditions.

	Min	Max	Units
Bandwidth	1570	1603	nm
Total Input Power	-----	-2	dBm
Total Output Power	-----	21	dBm
Gain Ripple (over entire operating temperature range)	-----	1.7	dB
Gain Ripple (over single temperature)	-----	1.0	dB
Noise Figure (at -5 dBm total input power and 26dB gain)	-----	6.5	dB
Total Power Into the Mid-stage	-----	14.5	dBm
Mid-stage Loss	-----	10	dB
Polarization Mode Dispersion (PMD)	-----	0.4	ps
Polarization Dependent Gain (PDG)	-----	0.3	dB
Warm-up Time	2	10	min
Transient response (1 dB add/drop)	50	200	µs
Maximum Excursion Standard (1 dB add/drop)	-----	0.5	dB
Maximum Excursion Premium (1 dB add/drop)	-----	0.15	dB

IOE 2100-02

The 2100-02 L-Band Booster is ideal for terminal or node applications requiring low noise figures with high input powers. This amplifier can compensate for terminal or node losses from Mux or Demux, optical routing or switching, and add/drop.

2100-02 Optical Specs

Table represents worst-case performance under typical operating conditions. Contact Onetta for more information regarding performance under specific run conditions.

	Min	Max	Units
Bandwidth	1570	1603	nm
Total Input Power	+5	+8	dBm
Total Output Power	-----	21	dBm
Gain Ripple (over entire operating temperature range)	-----	1.7	dB
Gain Ripple (over single temperature)	-----	1.0	dB
Noise Figure (at +5 dBm total input power and 16 dB gain)	-----	8.0	dB
Total Power Into the Mid-stage	-----	16	dBm
Mid-stage Loss	-----	7	dB
Polarization Mode Dispersion (PMD)	-----	0.4	ps
Polarization Dependent Gain (PDG)	-----	0.3	dB
Warm-up Time	2	10	min
Transient response (1 dB add/drop)	50	200	µs
Maximum Excursion Standard (1 dB add/drop)	-----	0.5	dB
Maximum Excursion Premium (1 dB add/drop)	-----	0.15	dB

For more information on product specifications, please contact the Onetta Sales Department at sales@onetta.com

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