

LaserPlus: System Overview

1 GHz HIGH DENSITY COMPACT CATV OPTICAL TRANSMISSION SYSTEM

Features / Benefits

- **Compact:** Space-Efficient 3RU footprint means that up to 13 chassis can be installed in a standard 70" rack
- **High Density:** Up to 15 applications modules per 3RU 19" EIA chassis; 195 modules per 70" rack
- **Scalable:** Full lineup of application modules optimizes virtually any CATV system architecture, from traditional 4:1 "blast-and-split" HFC configurations to newer topologies with 1:1 forward path segmentation
- **High Performance Fwd 1310nm Transmitters:** 3dBm to 15dBm outputs @ 1310nm; 195 per 70" rack
- **Triple Return Receivers:** Up to 45 fully independent 1310/1550nm receivers per chassis; 585 per 70" rack
- **Other Modules:** 1550nm Fwd FTTP Tx; CWDM/DWDM R-Tx; DWDM QAM Tx; Block Down Converter
- **Return Path Segmentation:** via 2:1 or 4:1 (5-42/65 MHz) block downconverters; Field-proven since 1999
- **Remote Monitoring and Control:** Optional network management interface supports SNMP via Ethernet port
- **Local Status Monitoring:** Rear chassis DB-25 connector outputs individual module summary alarms via contact closures, and LEDs on each module indicate general operating status & key operating parameters
- **Convenient Test Points:** Optical and RF test points are located on the front panel of each module
- **Powering Redundancy:** Fully independent, universal 90-264V_{AC} and/or $\pm 48V_{DC}$ power supplies
- **Power Efficiency:** < 150 Watts per fully-loaded chassis; Runs cooler, reduced power costs & longer life
- **Thermal Efficiency:** Four hot-swappable fans in chassis plenum creates more airflow than module-based fans
- **Integrated Fiber Management Tray:** Inside the chassis, above and in front of the application modules
- **Plug-in, Modular Front-Access Design & Hot-Swap Module Capability:** Easy replacement & configuration
- **Very Cost-Effective**



The **OLSON TECHNOLOGY, INC. LaserPlus Model LP-x** is a compact, high density optical transmission system which allows hub, headend and digital transport to coexist on a single, scalable platform. It provides the outstanding performance, system design flexibility and scalability in almost any network architecture from traditional Hybrid Fiber Coax (HFC) to the newer fiber-deep Targeted Service Delivery

(TSD) area topologies. As such, the *LaserPlus* is the ideal platform for the transport of evolving services and resultant expanding bandwidth requirements in today's advanced HFC and PON networks.

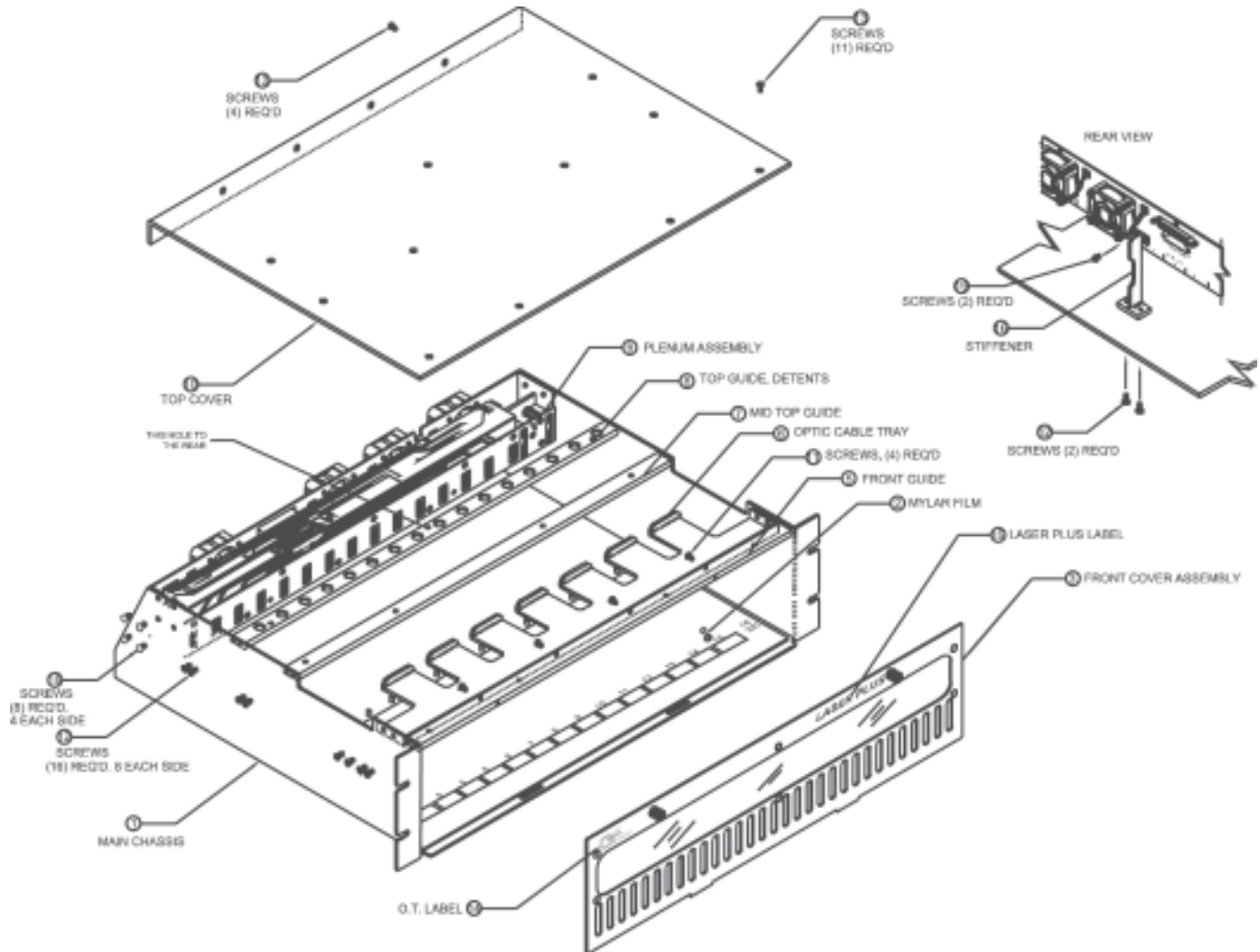
The three (3) rack-unit *LaserPlus* chassis accepts up to fifteen "mix-and-match" applications modules and single or dual redundant independent power supplies (AC or DC), minimizing headend space requirements. This fully-integrated, cost-effective package utilizes many of the very latest RF and optical design techniques to provide superior system performance to beyond 1,000 MHz, while dramatically reducing component size and minimizing system powering requirements, and the costs normally associated with them.

The *LaserPlus* transmission platform is the perfect companion to optical receiver/node products in the Olson Technology, Inc. *MetroNode Model OTMN-II* and *PremiseNode Model OTPN-x* product families, but is also designed to operate seamlessly with optical transmitters, receivers and nodes from most leading manufacturers.

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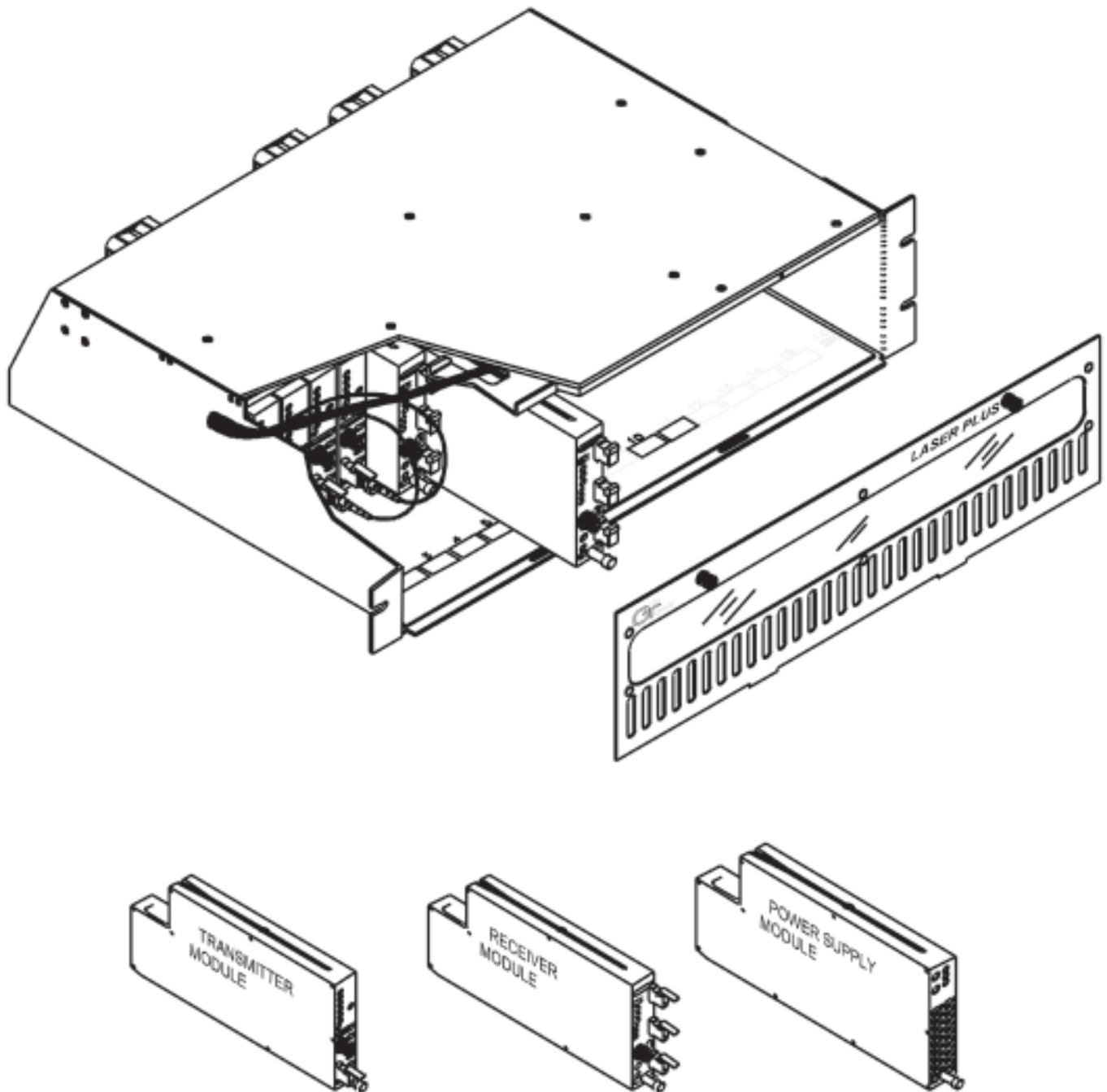
Quality / Engineering / Innovation



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Up to thirteen (13) 3RU **LaserPlus** chassis can be installed in a standard 70" rack, allowing for a density of 195 transmitters or 585 return receivers per 70" rack. No additional spacing is required between chassis shelves because of the system's superior thermal efficiency, permitting far more efficient use of precious rack space. The true benefit to the system operator is that he can now stack many more applications modules in the same physical area that may be currently occupied with comparable units from competitive product offerings.

In addition, the system operator can also choose to "mix-and-match" the various **LaserPlus** applications modules, as needed, to custom-configure the chassis to meet almost any system architecture, and later reconfigure the system as advanced service requirements evolve over time.

Ordering Information

Model Number	Description
LP-CH-16B	"LP" 3RU CHASSIS (AC/DC COMPATIBLE); 16 SLOTS
LP-CH-MET	"LP" 3RU CHASSIS MODULE EXTRACTION TOOL
LP-CH-SNMP-1	"LP" 3RU CHASSIS SNMP ELEMENT MANAGER INTERFACE, RJ-45
LP-PS-AC	"LP" 90-264 V _{AC} POWER SUPPLY MODULE
LP-PS-DC	"LP" -48 V _{DC} POWER SUPPLY MODULE
LP-OT-xx-A-SA	"LP" TSD "L" Tx (1 IN; VAR.OUT), 48-1,000MHz, xx = 03 to 06dBm DFB, 1310nm, SC/APC
LP-OT-xx-B-SA	"LP" TSD "L" Tx (2 IN; VAR.OUT), 48-1,000MHz, xx = 03 to 06dBm DFB, 1310nm, SC/APC
LP-OT-xx-C-SA	"LP" TSD "L" Tx (1 IN; PAD OUT), 48-1,000MHz, xx = 03 to 06dBm DFB, 1310nm, SC/APC
LP-OT-xx-D-SA	"LP" TSD "L" Tx (2 IN; PAD OUT), 48-1,000MHz, xx = 03 to 06dBm DFB, 1310nm, SC/APC
LP-OT-xx-A-SA	"LP" HFC "H" Tx (1 IN; VAR.OUT), 48-1,000MHz, xx = 08 to 15dBm DFB, 1310nm, SC/APC
LP-OT-xx-B-SA	"LP" HFC "H" Tx (2 IN; VAR.OUT), 48-1,000MHz, xx = 08 to 15dBm DFB, 1310nm, SC/APC
LP-OT-xx-C-SA	"LP" HFC "H" Tx (1 IN; PAD OUT), 48-1,000MHz, xx = 08 to 15dBm DFB, 1310nm, SC/APC
LP-OT-xx-D-SA	"LP" HFC "H" Tx (2 IN; PAD OUT), 48-1,000MHz, xx = 08 to 15dBm DFB, 1310nm, SC/APC
LP-OT-10-A-FQxx-SA	"LP" QAM Tx (1 IN; VAR.OUT), 48-1,000MHz, 10dBm DFB, xx = DWDM ITU nm, SC/APC
LP-OT-10-A-RCxx-SA	"LP" RETURN Tx (1 IN; VAR.OUT), 5-300MHz, 10dBm DFB, xx = CWDM ITU nm, SC/APC
LP-OT-10-A-RDxx-SA	"LP" RETURN Tx (1 IN; VAR.OUT), 5-300MHz, 10dBm DFB, xx = DWDM ITU nm, SC/APC
LP-OR-300	"LP" RETURN Rx (TRIPLE), 5-300MHz, -17 to +3dBm, 1310/1550nm, SC/APC
LP-OR-301	"LP" RETURN Rx (SINGLE), 5-300MHz, -17 to +3dBm, 1310/1550nm, SC/APC
LP-OR-302	"LP" RETURN Rx (DUAL), 5-300MHz, -17 to +3dBm, 1310/1550nm, SC/APC
LP-OR-304	"LP" RETURN Rx (DUAL with ABS), 5-300MHz, -17 to +3dBm, 1310/1550nm, SC/APC
LP-OR-235	"LP" RETURN Rx (DUAL with WDM), 5-300MHz, -17 to +3dBm, 1310/1550nm, SC/APC
LP-DC-212	"SP" 2XRSM DOWN CONVERTER (BANDS 1&3) INCLUDING OPTICAL Rx; SC/APC
LP-DC-212-NR	"SP" 2XRSM DOWN CONVERTER (BANDS 1&3); NO OPTICAL Rx
LP-DC-234	"SP" 2XRSM DOWN CONVERTER (BANDS 2&4) (REQUIRES OTDC-212)

All specifications are subject to change without notice

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