

## **LaserPlus** Model LP-OLAT - Advanced L-Band Transmitter

### Features / Benefits

Fully compatible with all Olson Technology, Inc.'s L-Band receivers.

Extreme bandwidth range of 10MHz up to 4,000MHz (2,200 MHz for DWDM models) handles all stacked satellite signals.

Excellent L-Band performance with digital gain control over a 25dB RF range in 1dB steps.

Transmitter Input IP3 from -10dBm to +15 dBm (depending on digital gain setting).

Transmitter Input  $P_{1dB}$  from -12.5dBm to +12.5 dBm (depending on digital gain setting).

Transmitter handles total RF Input Power from -25dBm to 0 dBm (depending on digital gain setting).

1310nm, 1550nm, CWDM, and DWDM wavelengths available high-performance DFB lasers.

Built-In test points, LED indicators and alarms for easy setup and maintenance.

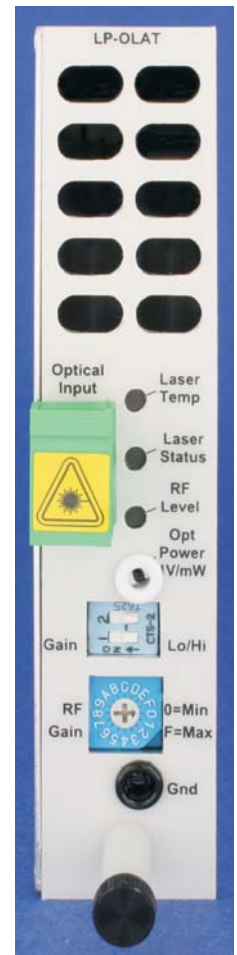
75 Ohm "F" RF connector standard, 50 Ohm SMA RF connector option.

SC/APC optical connector standard, FC/APC connector optional.

The Olson *LaserPlus* LP-OLAT Advanced L-Band Transmitter offers a feature-rich, versatile system in a compact rack-mount package. The Advanced L-Band Transmitter has been engineered to meet today's high performance standards for L-Band transport with an extreme bandwidth range that will also allow the system to handle the next generation of satellite signals. The Advanced L-Band system is ideal for a wide variety of communications applications, including L-Band satellite antenna remoting, trunking radio, telemetry tracking, and time and frequency reference distribution. The extended frequency range to 4GHz allows this system to accommodate additional transponders coinciding with common European satellite communication applications.

The enhanced bandwidth to 4GHz (2.2GHz DWDM) is also unique in that it facilitates stacked LNB applications to accommodate additional transponders containing enhanced DBS programming services (e.g., HDTV, local channels, etc.) over single-mode fiber for DBS television distribution in campus, fiber-to-the-premise (FTTx), and multiple dwelling unit (MDU) environments. The transmitter is offered with 75 Ohm impedance using "F" RF connectors or 50 Ohms with SMA RF connectors. Optical connector options include SC/APC and FC/APC. Built-in test points, LED indicators and alarms allow the receiver to be easily set up and maintained.

The LP-OLAT Transmitter is housed in a machined Aluminum enclosure that fits the standard *LaserPlus* chassis allowing up to 14 or 15 modules in a 3RU space. (The exact number is determined by the number of power supplies in the chassis, single or dual).



## Transmitter Specifications

### Optical Characteristics (with SM 9/125µm Fiber)

	Min	Typ	Max	Units
Operating Wavelength		1310		nm
Operating Wavelength		1550		nm
Operating Wavelength (CWDM)	1290		1610	nm
Operating Wavelength (DWDM)	22		46	ITU ch
Tx Output Power (FP)		+3		dBm
		2		mW
Tx Output Power (DFB)		+5		dBm
		3		mW
Tx Output Power (DFB, CWDM)		+4		dBm
		2.5		mW
Tx Output Power (DFB, DWDM)		+9		dBm
		8		mW
Tx Return Loss		>55		dB
Optical Connector (Standard)		SC/APC		
Optical Connector (Optional)		FC/APC		

**NOTES:**

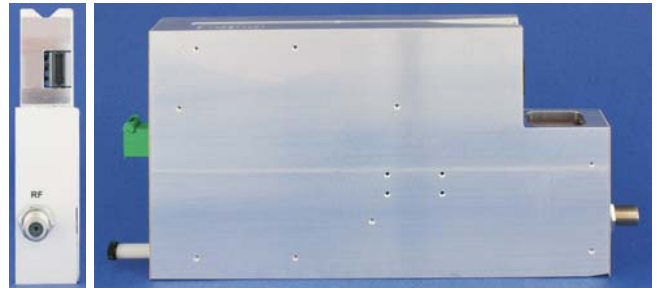
- 1) The RF gain will change 2dB for each 1dB of optical loss.
- 2) The transmitter P<sub>1dB</sub> and also IP3 varies dB per dB as the gain is changed. See the manual for detailed data.
- 3) Noise figure is a complex variable that is influenced by the Tx and Rx attenuator settings as well as the optical loss. See the manual for detailed data.
- 4) The Hi/Lo Gain switch on the front panel changes the gain by +10dB. The hexadecimal rotary switch on the front panel changes the gain in 1dB steps. The "0" setting on the rotary switch is the lowest gain (0dB). The "F" setting on the rotary switch is the highest gain (+15dB).

### RF and System Characteristics

	Min	Typ	Max	Units
Frequency (non-DWDM Models)	10		4,000	MHz
Frequency (DWDM Models)	10		2,200	MHz
Amplitude Flatness	Any 500MHz / ±1.5			dB
	Any 40MHz / ±0.35			dB
Return Loss	10			dB
Output Impedance (Standard)		75		Ohms
Output Impedance (Optional)		50		Ohms
Link Gain	-50		+30	dB
Noise Figure (See manual)	10		45	dB
Tx Input IP3	-10		+15	dBm
Tx Input P <sub>1dB</sub>	-12.5		+12.5	dBm
Tx Input/Rx Output VSWR	1.9:1			
Tx Total RF Input Power	-25		0	dBm
Hi/Lo Gain Switch	0		+10	dB
Hexadecimal Rotary Gain Switch	0		+15	dB

### Physical Characteristics

	Min	Typ	Max	Units
Tx Weight		14.1		oz.
		0.40		kg
Transmitter Dimensions	4.5H x 1.125W x 8.75D			in.
	114H x 29W x 222D			



Rear and Side Views of the LP-OLAT LaserPlus Advanced L-Band Transmitter

### Ordering Information

Model LP-OLAT-X4013-D5-xx-SA	Transmitter, 4GHz, 1310nm, +5dBm/3mW DFB Laser, 50 or 75 Ohm F Connector, SC/APC
Model LP-OLAT-X4013-D5-xx-FA	Transmitter, 4GHz, 1310nm, +5dBm/3mW DFB Laser, 50 or 75 Ohm SMA Connector, FC/APC
Model LP-OLAT-X4015-D4-xx-SA	Transmitter, 4GHz, 1550nm, +4dBm/2.5mW DFB Laser, 50 or 75 Ohm F Connector, SC/APC
Model LP-OLAT-X4015-D4-xx-FA	Transmitter, 4GHz, 1550nm, +4dBm/2.5mW DFB Laser, 50 or 75 Ohm SMA Connector, FC/APC
Model LP-OLAT-X40zz-C4-xx-SA	Transmitter, 4GHz, CWDM Wavelengths, +4dBm/2.5mW DFB Laser, 50 or 75 Ohm F Connector, SC/APC
Model LP-OLAT-X40zz-C4-xx-FA	Transmitter, 4GHz, CWDM Wavelengths, +4dBm/2.5mW DFB Laser, 50 or 75 Ohm SMA Connector, FC/APC
Model LP-OLAT-X22yy-E9-xx-SA	Transmitter, 2.2GHz, DWDM Wavelengths, +9dBm/8mW DFB Laser, 50 or 75 Ohm F Connector, SC/APC
Model LP-OLAT-X22yy-E9-xx-FA	Transmitter, 2.2GHz, DWDM Wavelengths, +9dBm/8mW DFB Laser, 50 or 75 Ohm SMA Connector, FC/APC

**NOTES:**

- 1) The "zz" in the CWDM model number may be 47, 49, 51, 53, 55, 57, 59, 61, for each of the eight available ITU-grid CWDM wavelengths.
- 2) The "yy" in the DWDM model number may be 22, 23, ...45, 46 for each of the available ITU-grid DWDM wavelengths (*Note: Availability of some DWDM channels is limited at times*).
- 3) The "xx" in the part number is the impedance. "xx" = 50 for 50 Ohm, SMA connector. "xx" = 75 for 75 Ohm, F connector.