

LaserLite Model OTOT-870 Standalone or 1RU 19" EIA Rack-Mount 1310nm Optical Transmitter

Features / Benefits

Rugged and compact CATV fiber optic transmitter.

Available RF bandwidth of 48-870MHz supports most analog and QAM digital broadcast transport applications.

Wide range of 2mW to 31mW DFB laser options for Tx launch powers from 3dBm to 15dBm.

Unsurpassed noise and distortion performance at all optical powers.

External RF and optical test points facilitate optical circuit set-up and maintenance.

Field-configurable front or rear panel SC/APC optical output connector. (FC/APC optional)

Self-contained, low profile, rugged flange mount package.

Optional 19" EIA rackmount kit for up to three (3) transmitters on a 1RU chassis panel.

Low power consumption, runs cool, integrated 90-240V_{AC} power supply. (24V_{DC} optional)



The Olson Technology, Inc. *LaserLite* Model OTOT-870 1310nm 48-870MHz CATV Broadcast Transmitter is a cost-effective, high quality, full-featured standalone or 1RU 19" EIA optical transmitter. Designed for optical transport of analog and QAM digital broadcast signals, the transmitter is ideal for CATV Hybrid Fiber Coax (HFC) applications, as well as direct transmission of CATV RF signals in Industrial, corporate, government, educational, and other applications.

The Model OTOT-870 transmitter uses state-of-the-art RF and optical component technology. A comprehensive lineup of DFB laser offerings provides superior performance over a wide range of optical budgets (up to 16dB of loss), allowing unrepeated spans of over 45km (28 miles) when used in conjunction with high performance, high sensitivity node receivers such as the Olson Technology Model OTPN-1000 or OTMN-II. Less demanding applications can operate to 25dB of loss or 70km (43 miles) distance.

The rugged, self-contained OTOT-870 provides exterior RF input and optical output connections, plus front panel RF and laser test points. The field-configurable SC/APC (or optional FC/APC) optical output connector can be mounted on the front or rear panel of the unit. The OTOT-870 is cooled with forced air via an external high MTBF fan designed to be field-replaceable without interrupting operation. The stand-alone unit can be rack-mounted using the Model OTLL-RMKIT-1 to mount up to three OTOT-870's in a 1RU (1.75") 19" space.

The Model OTOT-870 is the perfect companion to Olson Technology's OTPN-1000 and OTMN-II optical nodes. It is also designed to operate with optical receivers from most leading manufacturers. The companion OTOR-300 return receiver works with all RF return path optical transmitters in the 5MHz to 300MHz frequency range.

System Specifications

RF and System Characteristics

	Min	Typ	Max	Units
Frequency Range	48		870	MHz
Frequency Response	-1.0		+1.0	dB
Input Impedance		75		Ohms
Input Return Loss	16			dB
Input Level (+3 to +6dBm)		+18		dBmV/ch
Input Level (+8 to +15dBm)		+19		dBmV/ch
CSO	60			dBc
CTB	63			dBc
Input Adjustment Range (1)	4			dB
RF Test Point (2)		+10		dBmV/Ch

Physical Characteristics

	Min	Typ	Max	Units
Weight		1.5 0.68		lbs. kg
Dimensions (W x H x D)		5.5 x 1.6 x 7.5 140 x 41 x 191		in. mm



Electrical and Environmental Characteristics

	Min	Typ	Max	Units
Power Supply Voltage	+90		+240	V _{AC}
Power Supply Frequency	50		60	Hz
Power Consumption			10	W
Operating Temp. Range	-10		+55	°C
Humidity (RH Non Con.)	5		95	%
Cooling	Forced Air Fan Field-replaceable			
Power Connector	IEC 320 w/ 5x2.0 0.5A Slo-Blo Fuse			

NOTES:

- 1) To +22dBmV/carrier.
- 2) Set for 77 analog channels, full QAM digital loading.

Transmitter Interfaces

RF Input Connector	F-type.
Optical Output Connector	SC/APC std, FC/APC opt, front or rear panel.
Optical Power Test Jack	0.1V/mW
Laser Current Test Jack	1V/50mA

Typical CNR Performance

Rx Power (dBm) (Note 1)	Low Ch. Load (77 NTSC) CNR (dB)			High Ch. Load (110 NTSC) CNR (dB)		
	All Passive	Passive +3.5dB Fiber	Passive +7dB Fiber	All Passive	Passive +3.5dB Fiber	Passive +7dB Fiber
+2dBm	56.0	55.1	54.3	55.0	54.1	53.3
+1dBm	55.5	54.6	53.8	54.5	53.6	52.8
0dBm	55.0	54.1	53.3	54.0	53.1	52.3
-1dBm	54.0	53.1	52.3	53.0	52.1	51.3
-2dBm	53.0	52.1	51.3	52.0	51.1	50.3
-3dBm	52.0	51.1	50.3	51.0	50.1	49.3
-4dBm	51.0	50.1	49.3	50.0	49.1	48.3

Notes

- 1) For example, a +8dBm transmitter thru 10dB of passive optical loss with *Low Ch. Load* would be looked up as "-2dBm" in the first column in this case yielding 53.0dB typical CNR.
- 2) Loading refers to total modulated analog channels loading. Power levels are per channel peak envelope power.
- 3) All CNR is measured at +18dBmV/carrier.

Ordering Information

OTOT-870-3-XX	Optical Transmitter, 1310nm, +3dBm Optical Output
OTOT-870-6-XX	Optical Transmitter, 1310nm, +6dBm Optical Output
OTOT-870-8-XX	Optical Transmitter, 1310nm, +8dBm Optical Output
OTOT-870-9-XX	Optical Transmitter, 1310nm, +9dBm Optical Output
OTOT-870-10-XX	Optical Transmitter, 1310nm, +10dBm Optical Output
OTOT-870-12-XX	Optical Transmitter, 1310nm, +12dBm Optical Output
OTOT-870-13-XX	Optical Transmitter, 1310nm, +13dBm Optical Output
OTOT-870-14-XX	Optical Transmitter, 1310nm, +14dBm Optical Output
OTOT-870-15-XX	Optical Transmitter, 1310nm, +15dBm Optical Output

Note: : The "XX" in the part numbers specifies the optical connector type. SA = SC/APC; FA = FC/APC.