LaserLight

Economy 1.22GHz 1550nm
Optical Transmitter
OTOT-1220C-FF

Features and Benefits

Rugged and compact CATV fiber optic transmitter.

- *Available enhanced RF bandwidth of 48-1,220MHz 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.*
- *The perfect blend of economy and performance.*
- *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 AC supply. (24V_{DC} optional)*

The Olson Technology LaserLite Model OTOT-1220E-X Economy 1.22GHz 1310nm CATV Broadcast Transmitter is a high quality, full-featured, cost-effective 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-1220E 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 unrepeatered spans of over 45km (28 miles) when used in conjunction with high performance, high sensitivity node receivers such as the Olson Technology Model OTPN-2000 or OTMN-II. Less demanding applications can operate to 25dB of loss or 70km (43 miles) distance.

The rugged, self-contained OTOT-1220E 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-1220E is cooled with forced air via an external high MTBF fan designed to be fieldreplaceable without interrupting operation. The stand-alone unit can be rack-mounted using the Model OTLL-RMKIT-1 to mount up to three OTOT-1220E's in a 1RU (1.75") 19" space.

The Model OTOT-1220E is the perfect companion to Olson Technology's OTPN-2200 and OTMN-3-2 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.

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Advance Optical Componenets
OTOT-1220E-X

RF and System Characteristics

	Min	Typ	Max	Units
Frequency Range	48		1,220	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		lbs.
		0.68		kg
Dimensions (W x H x D)		5.5 x 1.6 x 7.5		in.
		140 x 41 x 191		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		10	W
Operating Temp. Range			+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/m
Laser Current Test Jack	W1V/50mA

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.

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

Ordering Information

OTOT-1220C-3-XX	Optical Transmitter, 1310nm, +3dBm Optical Output
OTOT-1220C-6-XX	Optical Transmitter, 1310nm, +6dBm Optical Output
OTOT-1220C-8-XX	Optical Transmitter, 1310nm, +8dBm Optical Output
OTOT-1220C-9-XX	Optical Transmitter, 1310nm, +9dBm Optical Output
OTOT-1220C-10-XX	Optical Transmitter, 1310nm, +10dBm Optical Output
OTOT-1220C-12-XX	Optical Transmitter, 1310nm, +12dBm Optical Output
OTOT-1220C-13-XX	Optical Transmitter, 1310nm, +13dBm Optical Output
OTOT-1220C-14-XX	Optical Transmitter, 1310nm, +14dBm Optical Output
OTOT-1220C-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