



# LaserLite OTOT-870-x

STANDALONE -or- 1RU 19" EIA RACKMOUNT 1310nm OPTICAL TRANSMITTER

## Features / Benefits

- Unique, Self-Contained, Low-Profile, Rugged package designed for Low-Density Standalone CATV applications
- Optional 19" EIA Rack Kit mounts up to (3) OTOT-870's on a 1RU chassis panel for Higher-Density applications
- Low Power Consumption; Runs Cool; Integrated Universal 90-240VAC Power Supply (24VDC option)
- 48-870MHz Bandwidth supports most Analog & QAM Digital broadband transport applications
- Wide Range of 2mW to 31mW DFB laser options for TX launch power 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 option)
- Very Cost Effective

The **Olson Technology Inc. LaserLite Model OTOT-870** is a high quality, full featured, cost effective CATV transmitter designed around the latest optical component technology to reliably deliver a full slate of multiplexed video, high speed data and telephony services in an HFC broadband environment. A comprehensive lineup of DFB laser offerings provides superior performance over a wide range of optical budgets to 21-25dB, allowing unrepeated spans of over 60-70km (38-45 miles) when used in conjunction with high performance, high-sensitivity node receivers like the Olson Technology Models OTPN-1000 or OTMN-II.



The unit is ideally suited for direct fiber transmission of CATV RF signals in FTTC, FTTH, MDU, industrial, corporate, government, educational or other I-Net applications where a high performance, compact, standalone transmitter is required for desktop, shelf or wall-mounting.



The **OTOT-870** is a rugged, self-contained device with exterior RF and optical connections and test points. The field-configurable SC-APC (or optional FC-APC) optical output connector can be mounted on the front-panel or rear-panel of the unit. The OTOT-870 is forced air cooled via an external high-MTBF fan, which is designed to be field-replacable without interrupting operation.

The unit features a unique provision which allows the unit to perform as a standalone transmitter -OR- as a rack mount transmitter with the addition of the Model# OTLL-RMKIT (optional). Up to (3) OTOT-870's can be mounted in a 1RU (1.75") 19" EIA space with each kit.

The **OTOT-870** is the perfect companion to the **Olson Technology Inc. LaserLite** (Models OTPN-1000 & OTOR-300) and **LaserPlus** (Model OTMN-II & LP-OR) Optical Node & Return RX product families, but is also designed to mate with optical transmitters & receivers from most leading manufacturers.

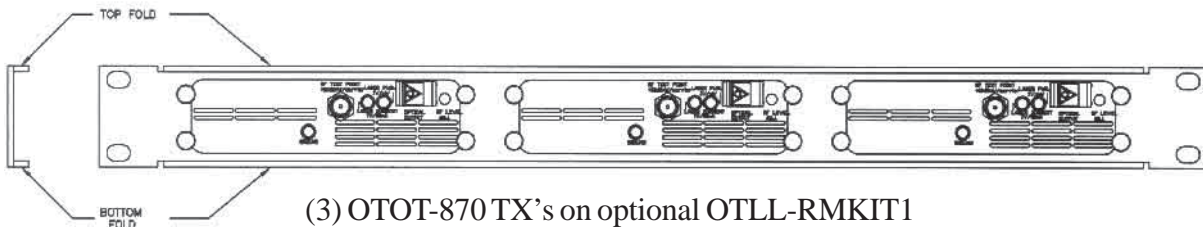
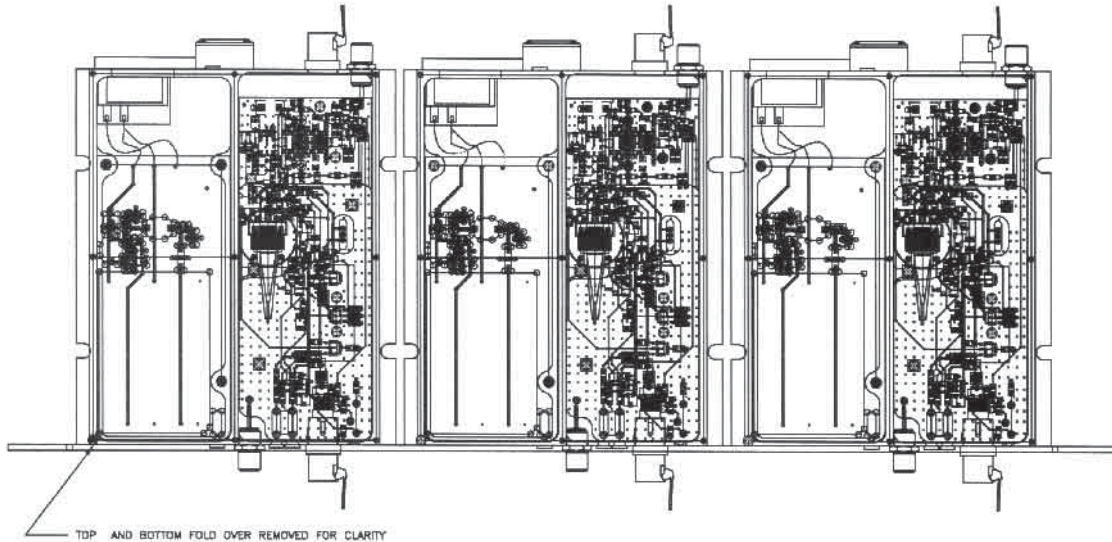
Available at Multicom, Inc.

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# LaserLite OTOT-870-x

## SPECIFICATIONS

Input Frequency Range.....	48MHz to 870MHz
Frequency Response.....	$\pm 1.0$ dB
Input Level for Optimum Performance.....	+18dBmV/carrier minimum
Input Return Loss.....	>15dB
Optical Output Power.....	3, 6, 8, 10, 12, 14 or 15dBm
Distortion Performance.....	Measured at input level of +18dBmV/carrier to 547.25MHz (77 channels) and simulated digital loading @ 6dB reduced level from 550MHz to 870MHz CSO..... >60dB down CTB..... >62dB down
Input Adjustment Range.....	4dB minimum to +22dBmV/carrier
RF Test Point.....	Set to +10dBmV/carrier for optimum performance
Carrier to Noise.....	Measured with high sensitivity receiver, <b>OLSON TECHNOLOGY Model LaserLite OTPN-1000</b> . At 0dBm optical input >52dB
Power Requirements.....	<10watts - 90VAC to 240VAC @ 50-60Hz
Test Points	RF Test Point: Type F Optical Power Test: Test Jack 1V/mW for 3-6dBm, and 0.1V/mW for 8-15dBm. Laser Current Test Jack - 1V/50mA
RF Connector.....	RF input: Type F
Impedance.....	75 $\Omega$
Power Connector.....	IEC 320 w/ 5x20 0.5A Slo Blo Fuse
Optical Connector.....	SC/APC -standard; FC/APC - optional
Cooling.....	Fan cooled - forced air. Fan is removable without interrupting operation
Size.....	5 15/32"W x 1 3/8"H x 7 5/8"D
Weight.....	1.5lbs. / 0.68kg



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# LaserLite OTOT-870-x

## Distortion Performance

Composite Triple Beat  
Composite Second Order

(All Powers)

CTB > 62db down

(All Powers)

CSO > 60dB down

Carrier-to-Noise (dB)

Low Channel Load (77 NTSC) CNR Performance

High Channel Load (110 NTSC) CNR Performance

Olson Tech Model Number #	Output Power (dBm)	Link Loss (dBm)	All Fiber No Passive Loss (CNR db)	Fiber + 3.5dB Passive Loss (CNR db)	Fiber + 7dB Passive loss (CNR db)	All Fiber No Passive Loss (CNR db)	Fiber + 3.5dB Passive Loss (CNR db)	Fiber + 7dB Passive loss (CNR db)
OTOT-870-3	3	1	55	-	-	53	-	-
		2	54	-	-	52	-	-
		3	53	-	-	51	-	-
		4	52	53	-	50	51	-
		5	51	52	-	49	50	-
		6	50	51	-	48	49	-
		7	49	50	51	47	48	49
OTOT-870-6	6	4	55	56	-	53	50	-
		5	54	55	-	52	51	-
		6	53	54	-	51	52	-
		7	52	53	54	50	51	52
		8	51	52	53	49	50	51
		9	50	51	52	48	49	50
10	49	50	51	47	48	49		
OTOT-870-8	8	6	55	56	57	53	54	55
		7	54	55	56	52	53	54
		8	53	54	55	51	52	53
		9	52	53	54	50	51	52
		10	51	52	53	49	50	51
		11	50	51	52	48	49	50
12	49	50	51	47	48	49		
OTOT-870-10	10	8	55	56	57	53	54	55
		9	54	55	56	52	53	54
		10	53	54	55	51	52	53
		11	52	53	54	50	51	52
		12	51	52	53	49	50	51
		13	50	51	52	48	49	50
14	49	50	51	47	48	49		
OTOT-870-12	12	10	55	56	57	53	54	55
		11	54	55	56	52	53	54
		12	53	54	55	51	52	53
		13	52	53	54	50	51	52
		14	51	52	53	49	50	51
		15	50	51	52	48	49	50
16	49	50	51	47	48	49		

**Notes:**

1. Loading refers to the total modulated analog channel loading. Power levels are per channel peak envelope power.
2. Measured at input level of +18dBmV/carrier
3. Activation of digital loading @ 6dB reduced level may negatively impact analog performance. Testing of QAM digital loading with (77) 6 MHz analog video channels (i.e. 550 MHz) and (33) 64 QAM channels to 750 MHz indicates a typical CNR degradation of less than 0.5 dB.

# LaserLite OTOT-870-x

## Distortion Performance (Continued)

### Carrier-to-Noise (dB)

#### Low Channel Load (77 NTSC) CNR Performance

#### High Channel Load (110 NTSC) CNR Performance

Olson Tech Model Number #	Output Power (dBm)	Link Loss (dBm)
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All Fiber No Passive Loss (CNR db)	Fiber + 4.5dB Passive Loss (CNR db)	Fiber + 9dB Passive loss (CNR db)
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All Fiber No Passive Loss (CNR db)	Fiber + 4.5dB Passive Loss (CNR db)	Fiber + 9dB Passive loss (CNR db)
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		12
		13
OTOT-870-14	14	14
		15
		16
		17
		18

	54	55	56
	53	54	55
	52	53	54
	51	52	53
	50	51	52
	49	50	51
	48	49	50

	52	53	54
	51	52	53
	50	51	52
	49	50	51
	48	49	50
	47	48	49
	46	47	48

		13
		14
OTOT-870-15	15	15
		16
		17
		18
		19

	54	55	56
	53	54	55
	52	53	54
	51	52	53
	50	51	52
	49	50	51
	48	49	50

	52	53	54
	51	52	53
	50	51	52
	49	50	51
	48	49	50
	47	48	49
	46	47	48

#### Notes:

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