Now with SBS Suppression to +16dBm!

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LaserLite: 1GHz FTTP/CATV DM Transmitter (OTOT-1000C-FF)

STANDALONE -or- 1RU 19" EIA RACKMOUNT 1550nm OPTICAL TRANSMITTER

Features / Benefits

- Low-Cost Direct Modulated (DM) ECL 1550nm analog optical transmitter alternative to conventional Externally Modulated (EM) $LiNbO_3$ optical transmitters
- 48-1,000MHz available RF bandwidth for CATV analog & digital multichannel transport
- Electronic SBS dispersion compensation and advanced predistortion circuitry enables full analog and digital QAM loading while minimizing second-order and third-order distortions
- +8dBm or +10dBm optical output drives multiple EDFAs in short-haul (0-10km) applications
- Also accomodates optical loss budgets up to 14dB (or up to 10km) without an EDFA
- Optimized for fiber distances of 0-10km (-FF)
- (25) ITU-grid wavelengths @ 100GHz spacing available; Standard 1550nm ±10nm wavelength option available for non-DWDM, CATV HFC and FTTx AON/PON deployments
- Low Profile, Rugged Cast Aluminum, Flange-Mount Package
- Optional 19" EIA Rack Mount Kit mounts up to three(3) OTOT-1000-FF's on a 1RU chassis panel
- Low Power Consumption; Runs Cool; Integrated 90-240 V_{AC} Power Supply
- *Now with SBS suppression up to +16dBm!*

The Olson Technology, Inc. Model OTOT-1000C-FF 1550nm, 1GHz FTTx/CATV Broadcast Transmitter is a cost-effective, high quality, full-featured standalone or a 1RU 19" EIA optical transmitter. Its revolutionary design is specifically engineered for optical transport of analog and digital QAM broadcast signals in traditional CATV Hybrid Fiber Coax (HFC) applications, as well as in newer Fiber-to-the-Premise (FTTP) deployments using Active/Passive Optical Network (AON/PON) architectures. This transmitter was designed for high power, one-transmitter-to-multiple-receiver (up to 1024 fanout), point-to-point AON and point-to-multipoint PON system topologies. Each transmitter's +8dBm or +10dBm optical output can directly feed up to sixteen (16) remote HFC nodes/receivers (via Model OTCP 1x16 optical coupler) or can also be split externally (Models OTCP 1x2, 1x3 or 1x4) to drive EDFA fiber amplifiers subsequently feeding up to 1,024 homes with multichannel CATV-style video and/or data. In this scenario, each transmitter feeds up to four(4) 8-port EDFAs, such as the Model OTEA-CO-B-816-SA, for large-scale distribution of broadcast broadband signals in short-haul FTTP applications, with maximum runs up to 10km of standard G.652 single-mode fiber such as SMF-28, or up to 25km of G.653 low dispersion (e.g. NZ-DSF) optical fiber. (NOTE: *This unit is NOT suitable for long-haul CATV trunking applications*). The rugged, low-profile Model OTOT-1000C-FF transmitter utilizes a next-generation directly-modulated (DM), high-quality, low-chirp, optically isolated DWDM Laser with a single +8dBm or +10dBm optical output. A DM 1550nm transmitter, such as the OTOT-1000C-FF, achieves a high level of performance, similar to that of EM sources (but at <30% of the cost of comparable EM transmitters), making it an attractive choice for today's FTTH & CATV deployments. SBS suppression is now available up to +16dBm.

The OTOT-1000C-FF is a rugged self-contained device with a cast Aluminum housing 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 unit is forced air cooled via an external high-MTBF fan, which can be field-replaced without interrupting operations. It also features a unique provision which allows the unit to perform as a standalone flange-mount transmitter -OR- as a rack mount transmitter by using the optional Model OTLL-RMKIT-1. Up to three(3) OTOT-1000C-FF's can be mounted in a 1RU (1.75") 19" EIA space with each kit, or the user can mix-and-match various LaserLite components (i.e. transmitters, receivers, couplers, etc.), as required.

The LaserLite Model OTOT-1000C-FF is the perfect companions to EDFAs and optical receiver products from Olson Technology, Inc., like the LaserLite OTEB-CO & OTEA-CM series, the MetroNode Model OTMN-x and PremiseNode Model OTPN-x product families. It is also designed to operate seamlessly with EDFAs and optical receivers &/or nodes from most leading manufacturers. *Note that only EDFA's rated to operate with DM transmitters can be used.*

Specifications

RF & LINK PERFORMANCE PARAMETERS:

Frequency Range	*48MHz to 1,000MHz*
Frequency Response	*±1.0dB*
Input Impedance	*75 Ohms*
*Input Return Loss **	*>15dB*
Input Level, Nominal	*+18dBmV/ch* (79 NTSC channels)*+320 MHz Digital*
*CNR & Distortion Performance **	*CNR > 50.5dB*
	CSO > 55dBc (@ 0 - 5km); *> 53dBc* (@ 0 - 10km)
	CTB > 60dBc

* Typical: Measured with 3.2% OMI, 0dBm input to Olson Model# OTPN-400 reference receiver

OPTICAL PARAMETERS:

Wavelength (±0.1nm)	*ITU channels 22 to 46 @ 100GHz* (0.8nm) *optical spacing*
Output Power	*+8dBm / 6mW or +10dBm / 10mW*
SBS Suppression	*>+16dBm*

ELECTRICAL, ENVIRONMENTAL & MECHANICAL PARAMETERS:

Dimensions	*5.5"W x 1.6"H x 7.5"D (140mm W x 41mm H x 190mm D)*
Weight	*24.0 oz. (0.68kg)*
Operating Temperature Range	*-10°C to +55°C*
Cooling	*Fan cooled, forced air, replaceable w/o interrupting operation*
Humidity Range	*to 95%* (For use only in non-condensing environments)
Powering	*90-240V_{AC} @ 50-60Hz; <11.5Watts*
Power Connector	*IEC 320 with 5x20, 0.5A SloBlo Fuse*

TRANSMITTER INTERFACES:

RF Input Connector	*F-Type* (rear of module)
RF Input Test Point (F-Type Connector)	*+10dBmV/carrier @ 550MHz for optimal OMI & performance*
Input Level Adjust	*+4dB (to +22dBmV/carrier) via variable attenuator* (front panel)
Optical Output Connector	*SC/APC standard; FC/APC optional* (front or rear panel)
Optical Power Test Jack	*0.1V/mW*
Laser Current Test Jack	*1V/50mA*

Ordering Options

Model No.	***Description***
OTOT-1000C-08-FFxx	*LaserLite* FTTH 0-10km Tx; 48-1,000MHz; +8dBm/6mW; 90-240V_{AC}; SC/APC
OTOT-1000C-10-FFxx	*LaserLite* FTTH 0-10km Tx; 48-1,000MHz; +10dBm/10mW; 90-240V_{AC}; SC/APC
	xx = DWDM ITU-Grid Channels # 22 - 46 **(i.e. xx = 25 for 1557.36nm)**
	00 = Standard 1550nm ± 10nm (non-DWDM)
	(Channels # 22 - 46 = 1559.79nm - 1540.56nm)
OTLL-SCFCKIT	*LaserLite Optical Connector Adapter Kit; SC/APC to FC/APC*
OTLL-RMKIT-1	LaserLite *1RU 19" Rack Mount Kit for up to three(3) modules (i.e. OTOT, OTOR, OTCP, etc.)*

All specifications are subject to change without notice