OLSON TECHNOLOGY INC.

toner cable equipment, inc.
www.tonercable.com

OTPN-2000C / OTPT-300A

High Output FTTP Premise Node Optical Receiver with Optional Return Transmitter

Features

- Flagship Model of the OT "Premise Node" family: High-Output, Premium-Performance & Full-Featured
- Stable, High RF Output Level (+46 dBmV) over Wide (+3 to -6dBm @ 1310/1550nm) Optical Input range
- Superior Low-Noise Performance (CNR > 49 dB @ -6 dBm Optical Input) & CSO/CTB Specs (> 64/69dB)
- Designed to Directly Feed 64+ television outlets in FTTB applications (more with line extender amplifiers)
- Inter-Stage Slope and RF Input/Output controls via internal Plug-in EQ's and Plug-In attenuator Pads
- Calibrated external Optical Input Power Meter (1V/mW) and internal RF test points (@ -20dB)
- Full CATV Forward Path Bandwidth (Analog and QAM Digital) 54-1,000MHz (±1.0dB)
- DFB & CWDM Return Laser Transmitter options (field-installable) for two-way DOCSIS operation
- Choice of Return/Forward Frequency Diplexer Splits (42/54MHz, 65/85MHz or 30/45MHz)
- Built-in Universal 90-240 VAC (@ 50/60 Hz) CE-approved Power Supply for local powering
- > 6kV surge tolerant RF output and SMT construction for consistency, reliability & performance
- Compact (3"x 5"x 8"), Lightweight, Rugged cast aluminum housing for easy installation

The OLSON TECHNOLOGY, INC. PremiseNode Model OTPN-2000C is a high-output, high-performance, full-featured CATV optical node designed around the very latest optical receiver technology to reliably deliver a full slate of multiplexed video, high speed data & telephony services in an HFC/PON fiber-to-the-premise (FTTP) environment. The unit is ideally suited for direct fiber transmission of CATV RF signals in FTTH, MDU, industrial, corporate, government, educational or other I-Net applications where a high performance, compact indoor node is required. The unit is constructed with high quality components to enable it to meet or exceed its performance specifications over a wide temperature range in an uncontrolled environment, but does require protection from the elements. It is configured for standalone desktop, shelf or wall-mounting, or can be 2RU 19" EIA rack-mounted via the optional OTLL-RMKIT2 kit. The OTPN-2000C is forced-air cooled via an external high-MTBF fan, which is designed to be field-replaceable without interrupting operation. The base "receiveronly" model is a rugged, self-contained device with an optical input range which is wider and more sensitive than traditional CATV node receivers, permitting its link deeper into the subscriber base. The OTPN-2000C accepts reliable plug-in attenuator pads to allow the RF output level to be adjusted over a wide range of optical input power. The unit also allows for an interchangeable equalizer so that the slope of the RF output can be adjusted. See the middle chart on page 6 for more details. The units ships with a 15dB equalizer installed. The attenuator pad is usually in the 8dB to 10dB range. The OTPN-2000C includes a unique provision which provides for the addition of an optional high-performance return DFB or CWDM laser return transmitter, creating a complete two-way, DOCSIS-compatible indoor node in a low-profile, integrated package. This "sidecar" module, the OTPT-300A, is a separate unit, designed so it can be installed initially or added later in the field with a minimum of effort. The OTPT-300A also features an external wideband (5-300MHz) RF input, which eliminates the need for costly sub-band modulators and demodulators in local origination upstream video applications.The OTPN-2000C is the perfect companion to the Olson Technology, Inc. LaserLite (Models OTOT-1000C-x & OTOR-300) and LaserPlus (Models LP-OT-x and LP-OR) Forward Transmitter and Return Reiver product families, but is also designed to mate with analog optical transmitters and return receivers from most leading manufacturers.

969 Horsham Road • Horsham, Pennsylvania 19044 USA • Phone: 215-675-2053 Fax: 215-675-7543 • info@tonercable.com

toner
cable equipment, inc.
www.tonercable.com

OLSON TECHNOLOGY INC.

OTPN-2000C / OTPT-300A

High Output FTTP Premise Node Optical Receiver with Optional Return Transmitter

Specifications

OTPN-2000C (Forward Optical Receiver)

RF OUTPUT & PERFORMANCE PARAMETERS:

Frequency Range (& Flatness)	54-1,000MHz, 85-1,000MHz or 45-1,000MHz (±1.0dB)
Output Level *	+46dBmV @ 550MHz *
Return Loss	>16dB
Impedance	75-Ohm
CNR*	>53dB @ -1dBm; >49dB @ -6dBm optical input*
CSO*	>64dBc @ -1dBm optical input*
CTB*	>69dBc @ -1dBm optical input*
RF Gain Adjustment	0-18dB (with Model# 95080x plug-in pad)
Slope Adjustment	4-17dB (with Model# 95180x plug-in equalizer)
RF Test Point	-20dB (internal)
RF Output	Connector Type F

** NOTE: Typical; Measured with 12dB slope to 1,000MHz; +8dBm optical transmitter with OMI @ 2.8%, and; 77 NTSC Channel loading to 550MHz & digital loading to 1,000MHz (-6 dB below analog).*

OPTICAL PARAMETERS:

Wavelength	1280-1600nm
Optical Input	Power Range -6 dBm to +3dBm
Return Loss	>60dB with APC type connector
Optical Input Power Test Point	1 V/mW (external)
Optical Connector	SC/APC standard; FC/APC optional); 8° APC

ELECTRICAL, ENVIRONMENTAL & MECHANICAL PARAMETERS:

Dimensions	3" H x 4.5" W x 8" D (7.75cm x 12.1cm x 20.5cm)
Weight	2.1 lb. (0.96 kg)
Operating Temperature Range	-10 to +55°C
Enclosure IP Rating	IP20
Powering	90 - 240VAC @ 50-60 Hz via IEC320 connector
Power Dissipation	19W maximum
Cooling	Fan cooled, forced air (Field-replaceable)

OTPT-300A Series (Return Optical Transmitters)

RF INPUT & PERFORMANCE PARAMETERS:

Frequency Range (& Flatness) via Diplexer	5-42MHz (NTSC) / 5-65MHz (PAL) (±1.0dB)
Freq. Range (& Flatness) via Ext. Aux. RF Input	5-300MHz (±1.0 dB)
Return Loss	>16dB @ 5-42MHz, 5-30MHz or 5-65MHz

OPTICAL PARAMETERS:

Return Loss	>60dB with APC type connector
Laser Power Test Point 1	V/mW (external)
Laser Current Test Point 1	V/50 mA (external)
Optical Connector	SC/APC standard; FC/APC optional); 8° APC

ELECTRICAL, ENVIRONMENTAL & MECHANICAL PARAMETERS:

Dimensions	2.5" H x 0.75" W x 7.1" D (6.25cm x 1.8cm x 18cm)
Weight	0.5 lb. (0.2 kg)
Powering (& Power Dissipation)	via OTPN-2000 (4W maximum)

OTPT-304A & OTPT-305A SPECIFICATIONS (DFB Return Optical Transmitters)

RF INPUT & PERFORMANCE PARAMETERS:

Return Path NPR (DFB)**	>15dB over 41dB NPR **
NPR 41dB Threshold	-57dBmV/Hz

***NOTE: As measured with 10dB of fiber and OTOR-300 High Sensitivity Return Band Receiver*

OPTICAL PARAMETERS:

Wavelength (OTPT-304A)	1310nm ±20nm
Laser Type; Optical Output Power (OTPT-304A)	Distributed Feedback: +3.0mW ±0.5 mW
Wavelength (OTPT-305A) 1	1550nm ±20nm
Laser Type; Optical Output Power (OTPT-305A)	Distributed Feedback: +2.0 mW ±0.5 mW

OTPT-347A thru OTPT-361A SPECIFICATIONS (CWDM Return Optical Transmitters)

RF INPUT & PERFORMANCE PARAMETERS:

Return Path NPR (DFB)**	>15dB over 41dB NPR **
NPR 41dB Threshold	-57dBmV/Hz

**NOTE: As measured with 10dB of fiber and OTOR-300 High Sensitivity Return Band Receiver

OPTICAL PARAMETERS:

Wavelengths (OTPT-347 thru 361)	1470, 1490, 1510, 1530, 1550, 1570, 1590 or 1610 nm ±3 nm
Laser Type; Optical Output Power (OTPT-347 thru 361)	Course Wave Division Mux: +2.0mW ±0.5mW

969 Horsham Road • Horsham, Pennsylvania 19044 USA • Phone: 215-675-2053 Fax: 215-675-7543 • info@tonercable.com