PremiseNode

HIGH OUTPUT FTTP PREMISE NODE: OPTICAL RECEIVER
with OPTIONAL RETURN TRANSMITTER
OTPN-2200C / OTPT-300A

Features and Benefits

- *Flagship Model of the OT "Premise Node" family: High-Output, Premium-Performance & Full-Featured*
- *Stable, High RF Output Level (+46 dBmV) over Wide (+2 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 control 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) 54-1,220MHz (±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, 85/102MHz or 30/45MHz)*
- *Choice of Return Transmitter (1310/1550/1610nm); Single or Dual Fiber*
- *Optional PON Bypass*
- *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 PremiseNode Model OTPN-2200C 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-2200C is forced air cooled via an external high-MTBF fan, which is designed to be field replaceable without interrupting operation. The base "receiver-only" 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-2200C 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-2200C accepts a return path transmitter for two-way CATV service. This OTPT300A "side-car" transmitter module is available with DFB lasers for 1310 nm, 1550 nm, or CWDM wavelengths for DOCSIS and telephony return path compatibility. It is a separate unit designed to be installed at any time 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-2200C is the perfect companion to the Olson Technology, Inc. LaserLite (Models OTOT-1220C-x & OTOR-300) and LaserPlus (Models LP-OT-x and LP-OR) Forward Transmitter and Return Receiver product families, but is also designed to mate with analog optical transmitters and return receivers from most leading manufacturers.

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PremiseNode

OTPN-2200C / OTPT-300A
Specifications

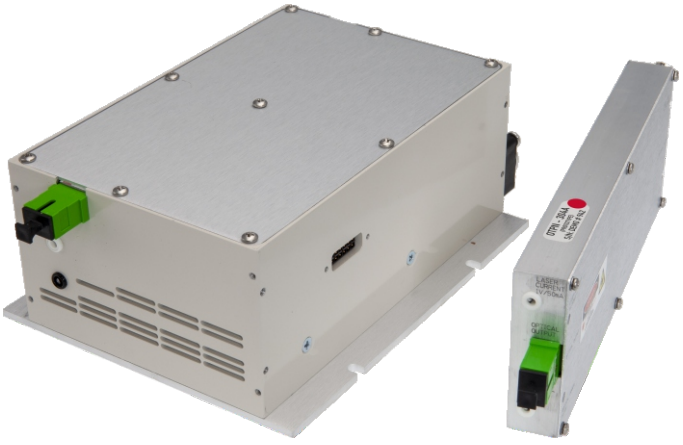
(Forward Optical Receivers)

RF OUTPUT & PERFORMANCE PARAMETERS:	
Frequency Range (& Flatness)	54-1,220MHz, 102-1,220MHz, 85-1,220MHz or 45-1,220MHz (±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
Slope Adjustment	4-17dB
RF Test Point	-20dB *(internal)*
RF Output Connector	Type F

** NOTE: Typical; Measured with 12dB slope to 1,220MHz; +8dBm optical transmitter with OMI @ 2.8%, and; 77 NTSC Channel loading to 550MHz & digital loading to 1,220MHz (-6 dB below analog).*

OPTICAL PARAMETERS:	
Wavelength	1280-1600nm
Optical Input Power Range	-6dBm to +2dBm
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
General Specifications

(Return Optical Transmitters)

RF INPUT & PERFORMANCE PARAMETERS:	
Frequency Range (& Flatness) via Diplexer	5-42MHz (NTSC), 5-65MHz (PAL), 5-85MHz (DOCSIS) (±1.0dB)
Freq. Range (& Flatness) via Ext. Aux. RF Input	5-300MHz (±1.0 dB)
Return Loss	> I6dB @ 5-42MHz, 5-30MHz, 5-65MHz, or 5-85MHz

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-2200 (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)	1550nm ±20nm
Laser Type; Optical Output Power (OTPT-305A)	Distributed Feedback: +2.0 mW ±0.5 mW

OTPT-347A thru OTP7:361A 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

ACCESSORIES

MODEL	DESCRIPTION
OTLL-SCFCKIT	SC/APC to FC/APC Optical Connector Adapter
OTLL-RMKIT-2	Rack Mount Kit (Holds 3 OTPN-2200's)
OTOA-1000	Optical Attenuator
OTLL-FANKIT	OTPN-2200C Replacement Fan Assembly

RELATED OLSON TECHNOLOGY PRODUCTS

MODEL	DESCRIPTION
OTPN-2200C	Receive only wideband indoor node, 5-42MHz return band
OTPN-2201C	Receive only wideband indoor node, 5-85MHz return band
OTPN-2200C-PAL	Receive only wideband indoor node, 5-65MHz return band
OTPN-2200C-SP1	Receive only wideband indoor node, 5-30MHz return band
OTOR-300	Indoor return band optical receiver

OTPT MODELS

OT MODEL#	OT PART #	RETURN LASER
OTPT-304A	037-000471	3mW, 1310nm, DFB
OTPT-305A	037-030471	2mW, 1550nm, DFB
OTPT-347A	037-040471	CWDM, 2mW, 1470nm DFB
OTPT-349A	037-050471	CWDM, 2mW, 1490nm DFB
OTPT-351A	037-060471	CWDM, 2mW, 1510nm DFB
OTPT-353A	037-070471	CWDM, 2mW, 1530nm DFB
OTPT-355A	037-080471	CWDM, 2mW, 1550nm DFB
OTPT-357A	037-090471	CWDM, 2mW, 1570nm DFB
OTPT-359A	037-100471	CWDM, 2mW, 1590nm DFB
OTPT-361A	037-110471	CWDM, 2mW, 1610nm DFB

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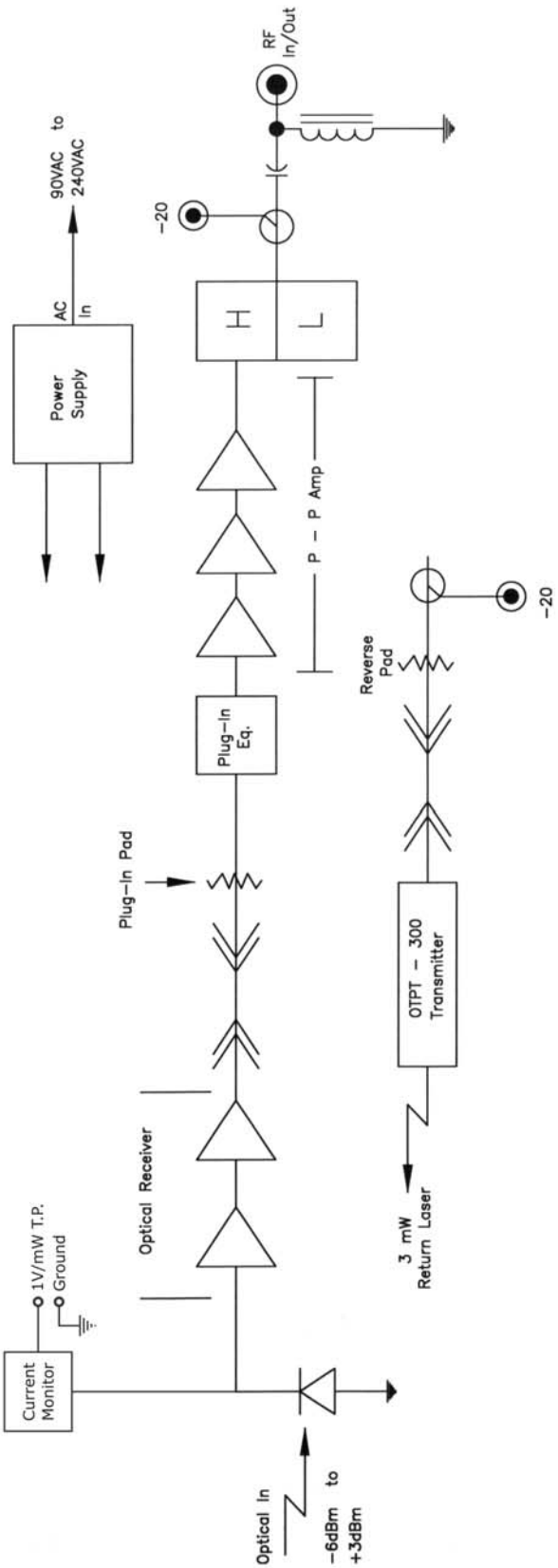
OTPN-2200C / OTPT-300A
Block Diagram



OTPN-2200C / OTPT-300A
Performance