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The **OLSON TECHNOLOGY, INC. *MetroNode Model OTMN-III*** is a high performance, four output CATV optical node, offering the capability of greater than +48 dBmV output levels. This node benefits the system operator by extending overall path length, maximizing equipment usage, and reducing the number of network elements. Full RF output can be maintained with an optical input as low as -4 dBm. With system performance to 1 GHz, the new ***Metronode OTMN-III*** provides the ideal platform for support of the evolving technologies and services in today's advanced HFC and PON networks. ***Metronode OTMN-III*** offers protection configurations which are ideal for critical analog and digital television, telephony, and data services. Utilizing extensive modular design with easy in-field replacement, the ***Metronode OTMN-III*** can meet any advanced broadband network requirement.

- Next Generation of the OT "*Metro Node*" family. Field-Proven design for the future.
- High Performance, High Output, Economical, Low Power Dissipation, Two-Way Capable
- Advanced GaAs device technology provides Excellent RF Performance to 1 GHz
- Quad RF Amplifier Module provides Four (4) +48 dBmV high level RF Output Ports
- Interstage Slope and RF Input/Output controlled via internal Plug-in EQs and Plug-in attenuator Pads
- Choice of frequency Diplexer splits: 42/54 MHz -or- 65/85 MHz for NTSC, PAL & CENELEC use
- +48 dBmV High RF Output Levels maintained over Wide Optical Input Range: -4 dBm to +3 dBm
- Multiple Redundancy & Segmentation Configurations via dual Receiver &/or dual Transmitter Options
- Choice of DFB & CWDM Return Lasers; High Performance Return Path: >15dB over 41dB NPR
- Power Factor Corrected Switching Power Supply accepts 40-90V_{AC} ; Overvoltage Protection to 140V_{AC}
- Optional High Sensitivity Receiver (-8 dBm to -3 dBm)
- Optional Powering via 5th Dedicated AC Input Port; No Power Inserter Required at the Node
- Integrated User-Friendly Fiber Management Tray to accommodate optical fiber and splices

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Optical Input Range (Standard).....	-4 dBm to +3 dBm
Optical Input Range (Optional).....	-8 dBm to -3 dBm
Forward Frequency Range.....	54 MHz to 1,000 MHz or 85 MHz to 1,000 MHz
Reverse Frequency Range.....	5 MHz to 42 MHz or 5 MHz to 65 MHz
Forward Frequency Response.....	<±0.75 dB to 1,000 MHz
Reverse Frequency Response.....	<±0.75 dB 5 MHz to 42 MHz or 5 MHz to 65 MHz
Output Level (Forward).....	+48 dBmV @ 550 MHz (Each of four outputs) With -1 dBm optical input, 10 dB slope to 1,000 MHz, and Transmitter OMI @ 3.2%.
Distortion.....	>62 dB CSO/CTB @ above output and +3 dBm optical input. Carrier loading (77 channels) to 550 MHz. Simulated data loading @ -6 dB from 550 MHz to 1,000 MHz.
Carrier to Noise.....	>53 dB @ -1 dBm optical or greater Carrier loading (77 channels) to 550 MHz
In/Out Return Loss.....	>16 dB - All ports
Return Laser Output Power(s).....	2.5 mW and 3.0 mW ±0.5 mW
Return Path NPR.....	Range over 41 dB NPR is >15 dB measured with 10 dB of fiber and with (With DFB Return Laser) Olson Technology Inc. LP-OR-300 return band receiver.
Return Path NPR.....	Range over 41 dB NPR is as follows: (With DFB Return Laser) >13 dB measured with 10 dB of fiber as above and both bands moving together.
Return Path NPR Threshold.....	<-57 dBmV/Hz
Operating Temperature Range.....	-40°C to +65°C
Gain Variation vs. Temperature.....	<±1 dB typical } FORWARD <±1.5 dB Max } <±1.8 dB REVERSE
AC Power Requirements.....	76.5 Watts @ 60 V _{AC} @ 50-60 Hz; (45V _{AC} to 90V _{AC}). Will withstand overvoltage to 140 V _{AC}
Internal Test Points.....	See unit diagram for functional description and location
Hum Modulation.....	>60 dB @ 15 Amps AC current from any one port 7MHz to 25MHz >65 dB @ 15 Amps AC current from any one port 25MHz to 1,000MHz
Size.....	15.5"W x 10.3"D x 9.5"H

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OTMN3 -	N -	XYZ -	AB -	CD -	EF - /OPT
	Diplexer Freq	Return Transmitter(s)	Receiver(s)	Port Segments	OPTIONS
	0: 42/54 MHz 1: 65/85 MHz	000: NO return transmitter X=0 Single Transmitter X=1 Dual Transmitter module X=3 Dual Transmitter module, 2x4 return paths X=4 TWO Dual Transmitters, 4x4 return paths Y=2 3 mW DFB NTSC 1310nm Y=3 3 mW DFB PAL 1310nm Y=4 2.5 mW DFB NTSC 1550nm Y=5 2.5 mW DFB PAL 1550nm Y=6 2.5 mW DFB NTSC CWDM Y=7 2.5 mW DFB PAL CWDM (Specify CWDM wavelengths, 1470 nm to 1610 nm) Z=A Filter Bypass Z=B 10 MHz High Pass Filter	00: Single Rx (std) 01: Two Rx w/ABS 02: Two Receivers 03: Four Receivers 04: High Sensitivity Rx 05: Two Rx High Sensitivity w/ABS 06: Dual Split Band Rx (Contact Olson)	00: 1 input / 4 outputs 02: 2 inputs / 4 outputs 04: 4 inputs / 4 outputs	IP: Powder-coated housing Other options as required (Contact Factory)
* ACCESSORIES REQUIRED FOR OPERATION					
1) Plug-in RF Equalizers - Model 9510xxL (Individual 1 GHz EQ; xx = value) 2) Plug-in RF Attenuators - Model 9518xxL (Individual attenuator pads; xx = value) 3) Return path 4x4 adapter - Model xxxxxx (required for FOUR isolated return paths)					
Standard OTMN-III node shipped with forward path RF performance configured at 10 dB RF slope, +48 dBmV / port @ -1 dBm optical input. Optional Pad & EQ accessories needed for different performance values.					

Common part numbers:

- OTMN3-0-000-00-00-00 One-way node, 54 MHz to 1 GHz with one input to four output ports.
- OTMN3-0-02A-00-00-00 Two-way node, 54 MHz to 1 GHz with one input to four output ports. Return paths 5 MHz to 42 MHz from all ports feed one 1310 nm DFB transmitter.
- OTMN3-0-32A-03-02-00 Two-way node, 54 MHz to 1 GHz with 2 inputs to dual output ports. Return paths 5 MHz to 42 MHz from 2 ports feed 1 of two 1310 nm DFB transmitters in a dual transmitter module.

