

OTPN-3000 - Precision Optic Node

Features/Benefits

Small battery-powered full-featured CATV node with a precision built-in 3-wavelength optical power meter and a rechargeable battery good for four hours of operation.

Built-In 3-wavelength digital optical power meter with selectable wavelength of 1310nm, 1490 or 1550nm with a usable optical power range from +5dBm to -25dBm.

Built-In battery status indicator indicates 20%, 40%, 60%, 80% & 100% capacity remaining.

Excellent CATV performance with +38dBmV/Ch output over a wide usable optical input range, -8dBm to +4.5dBm and CNR up to 54.5dB, CSO of -63dB, and CTB of -66dB.

CATV Receiver 50 to 870MHz forward bandwidth accommodates up to 110 channels.

Digitally adjustable built-in RF attenuator and equalizer settings allow for accurate adjustment of parameters via front panel buttons and the LCD screen.

SC/APC optical connector standard. FC/APC option available.



The Olson OTPN-3000 Precision Optic Node provides CATV headend operators with a unique node with an extensive array of features, small size and low-cost. The OTPN-3000 includes a high-performance 1550nm CATV receiver, a precision 3-wavelength (1310nm, 1490nm & 1550nm) optical power meter and battery power good for four hours of operation. The OTPN-3000 CATV receiver is fully compatible with all 1550nm forward path transmitters. The OTPN-3000 provides an output of +38 dBmV of RF over the entire optical input range, allowing multiple RF splits without the use of an external RF amplifier. The Precision Optic Node is unique because it operates over a ultra-wide optical input range of -8dBm to +4.5dBm without degrading performance.

A unique built-in LCD display and digital control buttons allow the operator to quickly and easily set the tilt and RF output levels of the unit. There is no need to open the MDN to replace fixed pads and equalizers. The unit remembers specific settings even if power is lost.

The unit includes a -20dB test points for the forward RF signals. The node ships with a mating universal AC power supply for operation or recharging.

Optical and Electrical Characteristics
(with SM 9/125µm Fiber)

	Min	Typ	Max	Units
CATV Receiver				
Operating Wavelength	1540	1550	1560	nm
Optical Input Power	-8.0		+4.5	dBm
Channel Loading			110	Ch.
Bandwidth	50		870	MHz
Flatness (peak-to-valley)			2	dB
RF Output Level		+38		dBmV
Output Return Loss		16		dB
Output Impedance		75		Ohms
Backreflection Tolerance			-50	dB
Composite Second Order (CSO)		-63		dBc
Composite Triple Beat (CTB)		-66		dBc

	Min	Typ	Max	Units
Power Metering				
Operating Wavelength	1270	1310	1370	nm
Operating Wavelength	1480	1490	1500	nm
Operating Wavelength	1540	1550	1560	nm
Optical Crosstalk			-30	dB
Power Reading Range	-25		+5	dBm

Environmental Characteristics

	Min	Typ	Max	Units
Operating Temp. Range	0		+55	°C
Storage Temp. Range	0		+70	°C
Humidity	5		95	%

Electrical and Environmental Characteristics

	Min	Typ	Max	Units
Power Supply Voltage	+10	+12	+15	V _{DC}
Power Dissipation		10		Watts
Battery Life		4		Hours

Physical Characteristics

	Min	Typ	Max	Units
Weight		40		oz.
		1,100		g
Dimensions	8.45 x 2.95 x 2.23			in
	215 x 75 x 56.6			mm

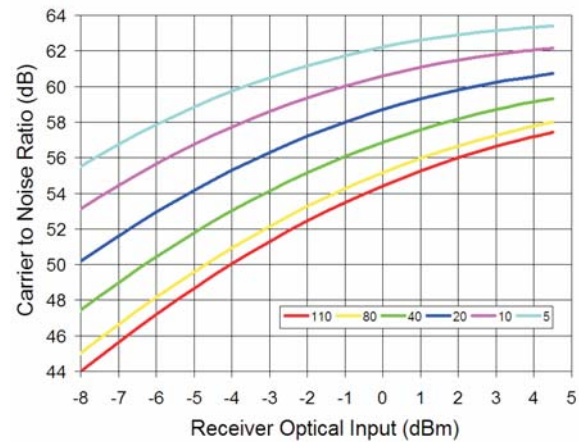


Figure 1 - Typical CNR with Six Different Channel Loadings

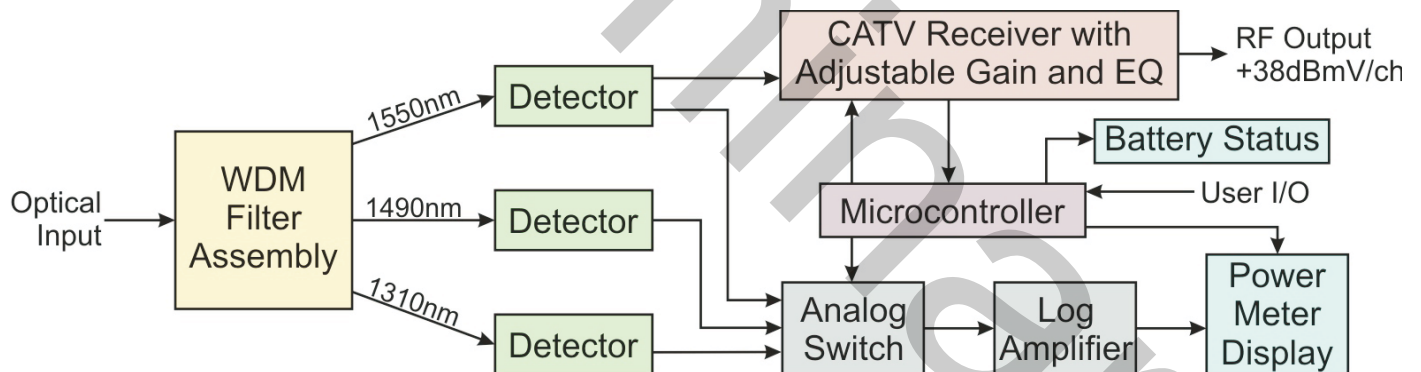


Figure 2 - OTPN-3000 Functional Block Diagram

OTPN-3000 Part Numbers

Configuration	Precision Optical Node
SC/APC Connectors	OTPN-3000-SA
FC/APC Connectors	OTPN-3000-FA

Note: All OTPN-3000 nodes ship with the mating 110V_{AC} power supply, Model OTPS-12A-4W