

OTMN-II **MICRONODE II** **HIGH PERFORMANCE OPTICAL NODE**

Features / Benefits

The **OLSON TECHNOLOGY INC. MICRONODE II** is a high performance, four output, two way optical node capable of greater than +50dBmV output levels and performance to 870MHz. Features and capabilities are as follows:

- +50dBmV output
- Optional redundant forward and return path operation.
- Optional Spectrum Multiplier (block converter) module that doubles return bandwidth.
- Optional use of power port for return output / input.
- Power factor corrected switching power supply.
- Transient protected on all external ports.
- The ultimate in return band performance with DFB lasers. Optional FP lasers.
- Optional status module.

This unit is designed to be operated over the operating temperature range of -40°C to +65°C and the design incorporates the latest in GaAs amplifier technology.



Quality / Engineering / Innovation

www.olsontech.com

OTMN-II

SPECIFICATIONS

Optical Input Range.....	-4dBm to +3dBm
Forward Frequency Range.....	54MHz to 870MHz or 85MHz to 870MHz – <u>Option 1</u>
Reverse Frequency Range.....	5MHz to 42MHz or 5MHz to 65MHz – <u>Option 1</u>
Forward Frequency Response.....	<±0.75dB to 870MHz
Reverse Frequency Response.....	<±0.75dB 5MHz to 42MHz or 5MHz to 65MHz
Output Level (Forward).....	+50dBmV @ 550MHz (Each of four outputs) With -4dBm optical input, 16dB slope to 870MHz, and Transmitter OMI @ 3.2%.
Distortion.....	>62dB CSO/CTB @ above output and +3dBm optical input. Carrier loading (77 channels) to 550MHz. Simulated data loading @ -6dB from 550MHz to 870MHz.
Carrier to Noise.....	>53dB @ -1dBm optical or greater Carrier loading (77 channels) to 550MHz
In/Out Return Loss.....	>16dB – All ports 1 through 4 Port 5 (power port) - >15dB to 65MHz with optional return port configuration
Return Laser Output Power..... (With DFB Return Laser)	3.0mW ± 0.5mW
Return Path NPR..... (With DFB Return Laser)	Range over 41dB NPR is >15dB measured with 10dB of fiber and with OLSON TECHNOLOGY INC return band receiver.
Return Path NPR..... (With Block Converter Option)	Range over 41dB NPR is as follows: 1) >15dB measured with 10dB of fiber as above but with one band variable and the second band at the NPR threshold.
(With DFB Return Laser)	2) >13dB measured with 10dB of fiber as above and both bands moving together.
Return Path NPR Threshold.....	< -57dBmV / Hz
Operating Temperature Range.....	-40°C to +65°C
Gain Variation vs. Temperature.....	<±1dB typical } FORWARD <±1.5dB Max } <±1.8dB REVERSE
AC Power Requirements.....	60 VAC @ 50-60Hz; (45VAC to 90VAC). Will withstand overvoltage to 140 VAC
Internal Test Points.....	See unit diagram for functional description and location
Hum Modulation.....	>60dB @ 15 Amps AC current from any one port 7MHz to 25MHz >65dB @ 15 Amps AC current from any one port 25MHz to 870MHz
Size.....	11-1/2"W x 8-1/4"D x 9"H

CONFIGURATION / ORDERING INFORMATION

1) Standard MicroNode - Configured with one forward receiver and no return transmitter.

A) OTMN-II - 5-42MHz Return }
54-870MHz Forward } Option 0

B) OTMN-II - 5-65MHz Return }
85-870MHz Forward } Option 1

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2) Return Transmitter Options

- A) 3mW DFB Return Laser – Single
 - 5-42MHz – Transmitter: Option 02X
 - 5-65MHz – Transmitter: Option 03X
 - X – denotes High Pass option below
 - B) 3mW DFB Return Laser – Dual
 - 5-42MHz – Transmitter: Option 12X
 - 5-65MHz – Transmitter: Option 13X
 - X – denotes High Pass option below
 - C) Internal Plug-In High Pass Filter
 - High Pass Filter @ 10MHz: Option B
 - Filter Bypass: Option A
 - D) 1mW F-P Laser - Single
 - 5-42MHz – Transmitter: Option 04X
 - 5-65MHz – Transmitter: Option 05X
 - X – denotes High Pass Option above
 - E) 1mW F-P Laser Dual
 - 5-42MHz – Transmitter: Option 14X
 - 5-65MHz – Transmitter: Option 15X
 - F) Return Spectrum Multiplier Option. Must be utilized with a single DFB Return Laser and Internal Filter Bypass Option. Dual Return Transmitters are not available with this option.
 - 5-42MHz: Option 22A
 - 5-65MHz: Option 23A
 - G) No Return Transmitter – 000
- 3) Redundant Receiver Option – Adds a second receiver to the forward path and provides redundant switch board on primary receiver.
- Redundant Receiver: Option 01
 - Standard Single Receiver: Option 00
- 4) Split Band Dual Receiver Option – Call factory
- 5) Fifth Port Option – Adds a return band RF port to the power port.
- Return Port: Option 01
 - No Return Port (standard): Option 00
- 6) Status Module Option – Adds a status transponder unit for monitor and control.
- With Status: Option 01
 - Without Status (standard): Option 00

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SPECIFY A MODEL NUMBER

OTMN – X – XXX – XX – XX – XX

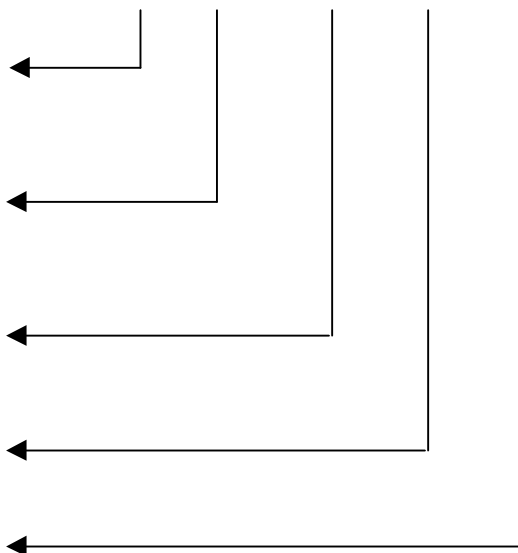
0 – 5-42MHz
1 – 5-65MHz

Specify Return
Transmitter / Spectrum
Multiplier

Specify Redundant
Receiver

Fifth Port Option

Specify Status



ACCESSORIES REQUIRED FOR OPERATION

- 1) Plug-In Attenuators – PAD-XXX
Specify in ½dB increments.
Example: 8.5dB is PAD-085
17.0dB is PAD-170
0dB is PAD-000
- 2) Plug-In Equalizers – OLEQ-XX
Specify in 1dB increments.
Example: 17dB is OLEQ-17
0dB is OLEQ-00

EXAMPLE

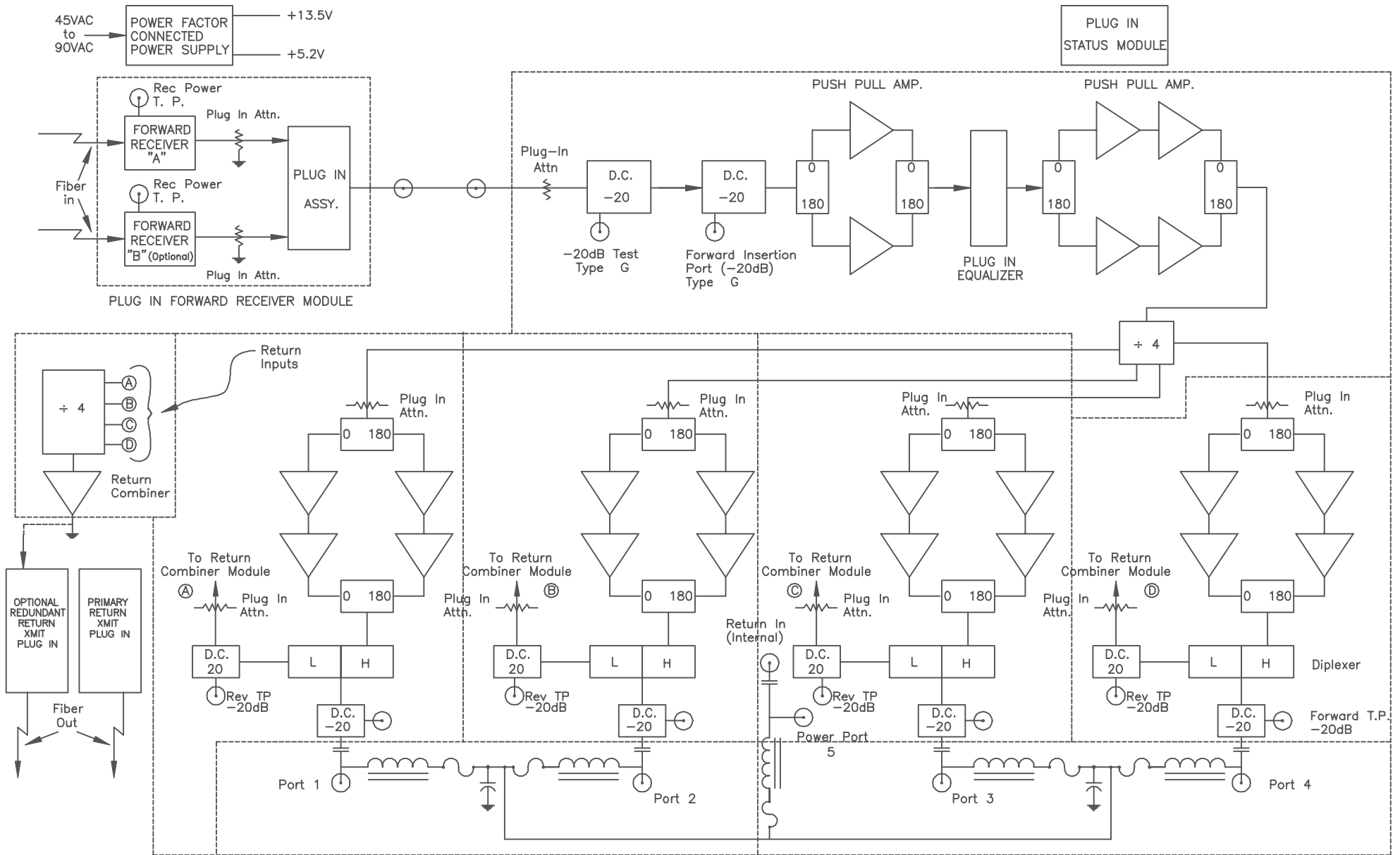
OTMN-0-000-00-00-00

Standard Unit 5-42MHz
No Return Transmitter
No Fifth Port Return

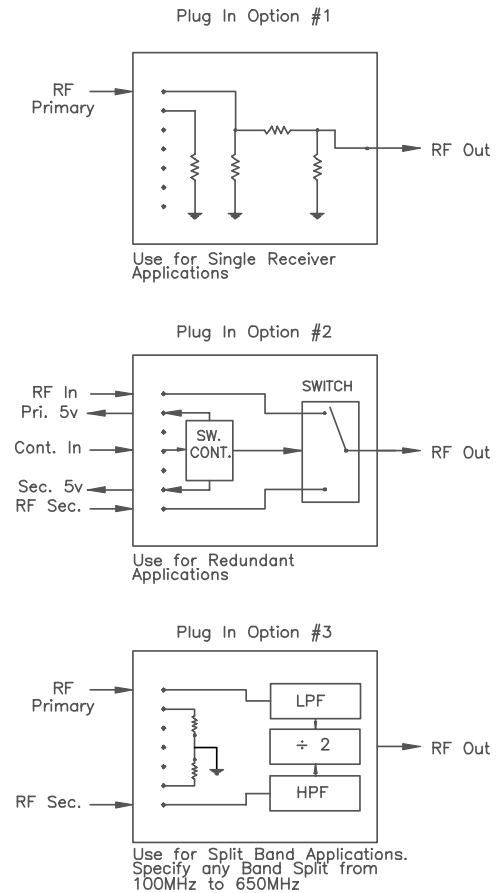
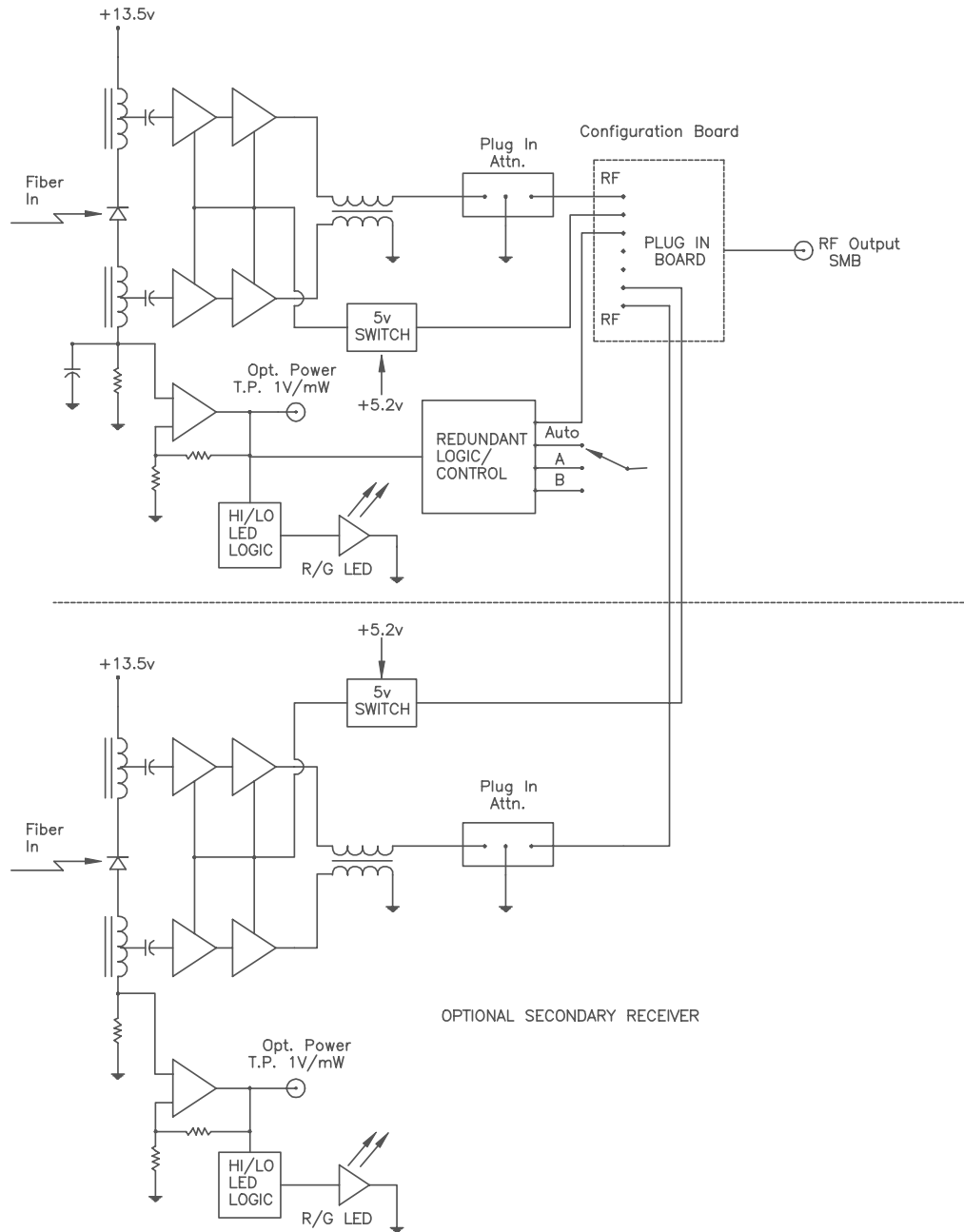


Block Diagram

OTMN-II Diagram

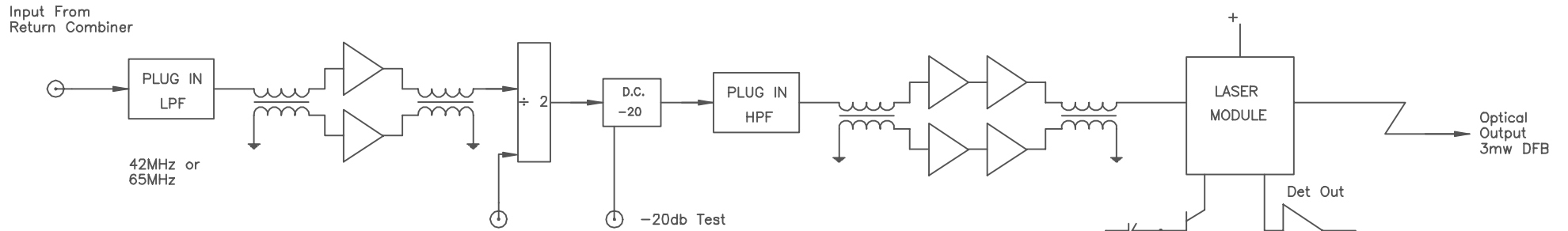


OTMN-II FORWARD RECEIVER DIAGRAM



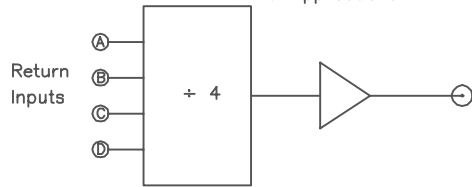
Block Diagram

OTMN-II RETURN LASER TRANSMITTER

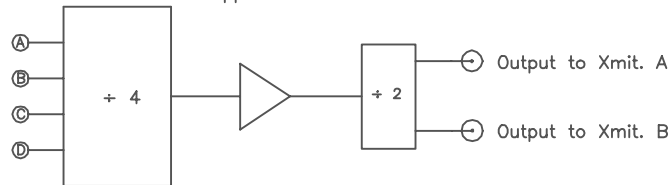


RETURN COMBINER OPTIONS

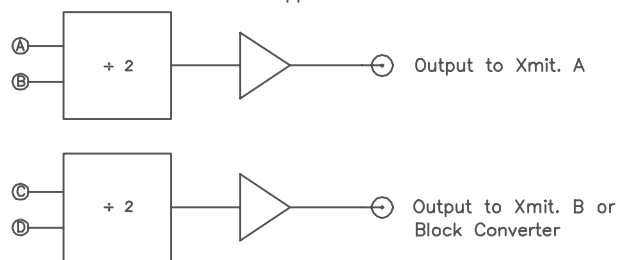
Option #1 - For Single Return Xmit. Applications



Option #2 - For Dual Return Xmit. Applications



Option #3 - For Split Return or Block Conv. Applications



Wide Band Aux.
In - SMB
Use With Block
Converter

OPTIONAL BLOCK CONVERTER

