

# MN1000-2W Mini Optical Node User's Manual

## General Introduction

MN1000-2W is a next-generation optical node for use in bi-directional optical fiber and CATV network systems. It is an ideal terminal for HFC or FTTx systems, containing one optical receiving module and one transmitting module. The MN1000-2W Mini Node is very compact in size with high performance and high reliability.

## Precautions



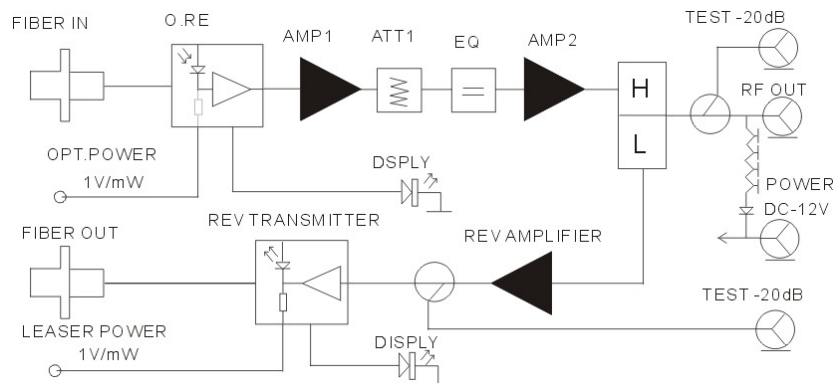
- 1、 Please read this complete user manual before installation or operation of this unit.
- 2、 Power supply: For your safety, DO not touch any connector end of power supply
- 3、 Power cord protection

Install the power adapter in a safe place without any other object on it. Pay careful attention to the proper routing of the power cable to the receiver.

- 4、 Avoid leakage of any liquid, including rain or snow.

Do not remove the screws on the shell to prevent moisture damage.

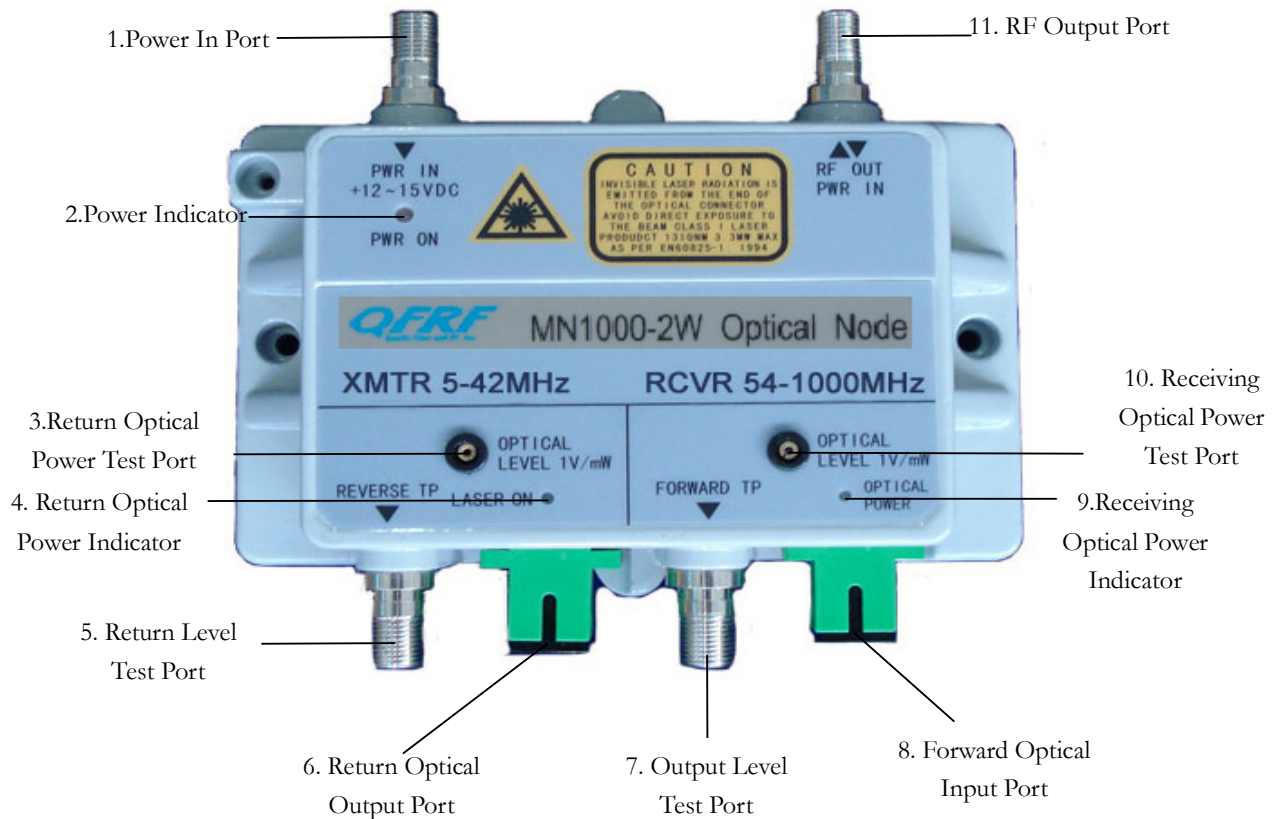
## Block Diagram



## Operation explanation

- 1、 When power supply is plugged in the red indicator of POWER should be lit.
- 2、 Downlink receiving parts
  - a. Test the optical receive power with an optical power meter. Typical input power is -1 to +2.0dBm.
  - b. Connect fiber to the fiber adapter at the downlink end of optical receiver. When the "OPTICAL POWER" indicator turns green that shows you have acceptable optical input power. The alarm indicator turns red if the input optical power is over than 2dBm.
  - c. Testpoint level is 20dB lower than output port.
- 3、 Uplink Parts:
  - a. When the Green Indicator is lit that means the optical transmitter module is working well.

- b. Ensure that the Return RF Drive level is no more than 15dBmV.
- c. Testpoint signal level is 20dB lower than the return signal input port.
- d. Connect the return path fiber to the fiber adapter.



1. Power In Port: +12~15V DC input
2. Power Indicator: If power supply feeding is normal, indicator is lighted.
3. Return Optical Power Test Port: Output power test, 1V/mW
4. Return Optical Power Indicator: If output power is normal, indicator is lighted.
5. Return Level Test Port: Return input level monitoring, -20dB test
6. Return Optical Output Port: Connect to return fiber with SC/APC connector
7. Output Level Test Port: Forward output level monitoring, -20dB monitoring
8. Forward Optical Input Port: Connect to forward fiber with SC/APC connector
9. Receiving Optical Power Indicator: If receiving power is normal, indicator is lighted.
10. Receiving Optical Power Test Port: Input optical power test,1V/mW
11. RF Output Port: Forward signal output port, return signal input port as well as +12~15V DC feeding port

## Specifications

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
Downstream Receiver						
$\lambda$	Optical wavelength		1290		1600	nm
Vopt.in	Test voltage	$\lambda=1310$		1		V/mW
Pin	Optical input power	continuous	0.25	1	2	mW
F	Frequency range (option)		54		1000	MHz
FL	Flatness of frequency response	f=54 to 1000MHz		$\pm 0.5$		dB
S22	Output return loss			16		dB
Lo	Output level			25		dBmV
	Optical input return losses		45			dB
CTB	CTB	77 NTSC channel loading,	61	68		dB
CSO	CSO		60	63		dB
f	Equivalent input noise	f=55MHz			7	pA/Hz
Upstream FP Transmitter						
$\lambda$	Optical wavelength		1290	1310	1330	nm
Wout	Optical output power		0.5	1	2	mW
Vopt.in	Test voltage	$\lambda=1310$		1		V/mW
LRin	RF input level			15		dBmV
F	Frequency range (option)		5		42	MHz
FL	Flatness of frequency response	f=5 to 42MHz		$\pm 0.5$		dB
S11	Input return loss	f=5 to 42MHz		16		dB
	Optical output return loss		45			dB
Itot	Total current consumption (DC)	V+=8V		330		mA
Tmb	Operating temperature range		-20		+65	°C