



**RMOR1000-45**

**Rackmount Fiber Optic Receiver**

# **Users Manual**

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## 1. Overview

The RMOR1000-45 is an indoor rackmount fiber optic receiver for HFC cable networks or other optical fiber distribution systems. It features 1 GHz bandwidth high performance photodiode receiver with GaAs hybrid amplifier for superior performance with low distortion characteristics.

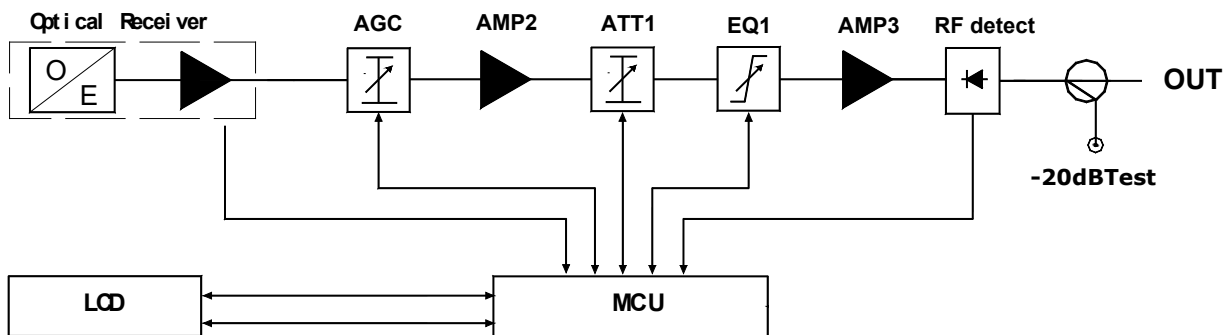
Featured with an AGC function to maintain a specific output level with an optical level input of -6 to +2 dBm. Control can be accomplished through controls on the front panel and LCD screen.

RF output level is at 45 dBmV with a 30 to 45 dBmV level control as well as a 0 to 15 dB slope control in 1 dB steps which can be set from the front panel.

## 2. Features

- 1310nm and 1550nm dual-window receiving;
- Front panel LCD screen can display the current settings and adjustments.
- Optical AGC operation from -6 to +2 dBm.
- Dual redundant, field replaceable switching power supplies.
- 1RU rackmount aluminum housing with a field replaceable cooling fan.

## 3. Schematic block diagram

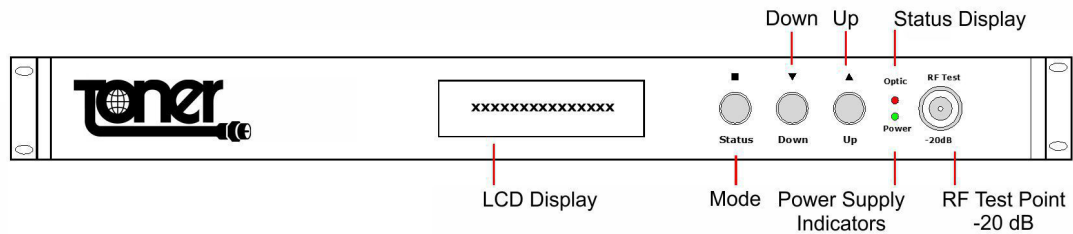


## 4. Specifications

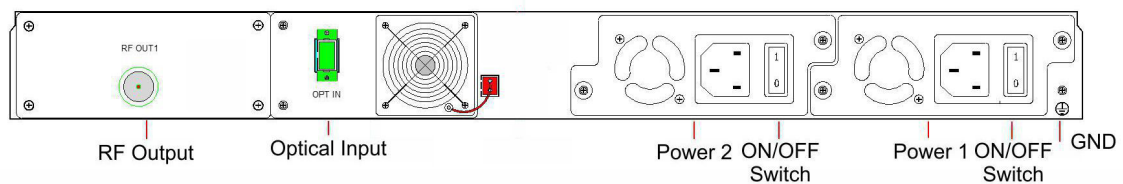
Items	Parameters
<b>OPTICAL</b>	
Optical Wavelength	1290-1600 nm
Optical Input Window	-8 to +2 dBm
AGC Range	-6 to +2 dBm
Optical Return Loss	> 45 dB
Optical Input Connector	SC/APC
<b>RF</b>	
RF Bandwidth	45-1000 MHz
RF Output Level	45 dBmV
RF Output Level Control	30 to 45 dB in 1 dB steps
RF Output Tilt Control	0 to 15 dB in 1 dB steps
Flatness	< 0.75 dB
RF Output Return Loss	> 16 dB
RF Connector	F female
RF Test Point	-20 dB (front panel)
Composite Triple Beat (CTB)	≤ 67 dBc (@ -1 dBm, 1310 nm input)
Composite Second Order (CSO)	≤ 67 dBc (@ -1 dBm, 1310 nm input)
C/N	52 dB (@ -1 dBm, 1310 nm input)
<b>MECHANICAL</b>	
Housing	1 RU rackmount
Size	1.75 x 19 x 21.6" (44.5 x 483 x 550 mm)
Weight	9 lbs (4.0 kg)
Operating Temperature	20 to 130°F (-7 to 45°C)
Power Consumption	14.5 W
Power Supply (Two Each)	90-230 VAC US plug (EIA power cord)

## 5. Panel Block Diagram

### 5.1 Front panel



### 5.2 Rear panel



**6.1 Fiber Optic Connection:** Make sure the receiver is turned off. Using a proper fiber connector cleaner, clean the SC/APC connection on the rear of the receiver. Also use a fiber connector cleaner to clean the SC/APC cable connection before it is plugged in to the receiver.

**6.2 Display**

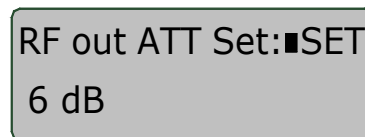
S/N	LCD content	Explanation
1	RMOR100-45	Model of Receiver
2	Input Power: XXXXX	Optical Input Power Level
3	Power +24v:23.8v Temperature: 34.5°C	Internal +24V Display; Internal Temperature in Degrees Celsius
4	RF out ATT Setting from -15 to 0 dB	Optical receiver RF output attenuation <b>setting</b> ; use the up/down buttons to adjust from 30 dBmV to 45 dBmV
5	RF out Equalizer setting from 1.5 to 0 dB	Equalization setting of RF output use up/down buttons to change equalization

**6.3 Setting and Control**

You can set the various parameters from the front panel. Use the up/down buttons to select the different parameters you wan to adjust. Once you select the parameter you then use the mode button to select that parameter pressing for a full second. When you release the mode button, the indicator should be flashing indicating that you can adjust the setting with the up/down buttons. Once you have the setting you want, press the mode button to save the settings.

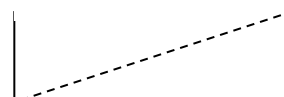
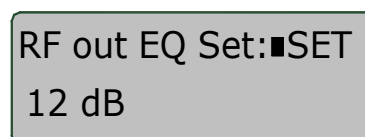
**6.3.1 RF Output Level Setting**

Once properly connected, it is often desirable to adjust the RF output level to meet specific requirements. This can be accomplished through the front panel controls and display. The output level can be adjusted from 30 to 45 dBmV in 1 dB steps. Using the up/down buttons scroll to the RF out ATT Set in the display and then use the procedure above in 6.3 to make the necessary adjustments.



**6.3.2 Output Equalization Value Adjustment**

Often it is desirable to set a sloped output on the RF output. This is easily accomplished using the front panel controls. You are able to put up to 15 dB of slope in the RF output level using the internal equalizer. If you set 15 dB of slope Channel 2 at 54 MHz will be attenuated by 15 dB and the channels above it will attenuate in a slope like the dashed line in this drawing:



## 7. Caution

**Make sure the receiver is securely mounted**

**Mount in a cool dry location**

**Mount indoors, this is not intended to be exposed to the elements**

**Do not exceed an optical input level of 2 dBm as damage can occur**



### LASER RADIATION

The laser transmitters emit invisible radiation that can cause permanent eye damage. AVOID DIRECT EXPOSURE TO BEAM. Operate only with the proper optical fiber installed in the transmitter optical connector. The laser transmitter should be disabled with the front panel switch whenever the optical connector is empty.

