

Features

- 10W total downlink output power.
- Single Fiber Working between Master Optical Unit (MOU) and Remote Unit (RU) with built-in WDM.
- Modular design MOU allows flexible and scalable configuration.
- One MOU supports up to four RUs.
- Operation & Maintenance communication over optical fiber.
- Built-in wireless modem for remote controlling and monitoring.
- Passive cooling (no fan required).
- IP65 weatherproof RU with built-in surge protector.

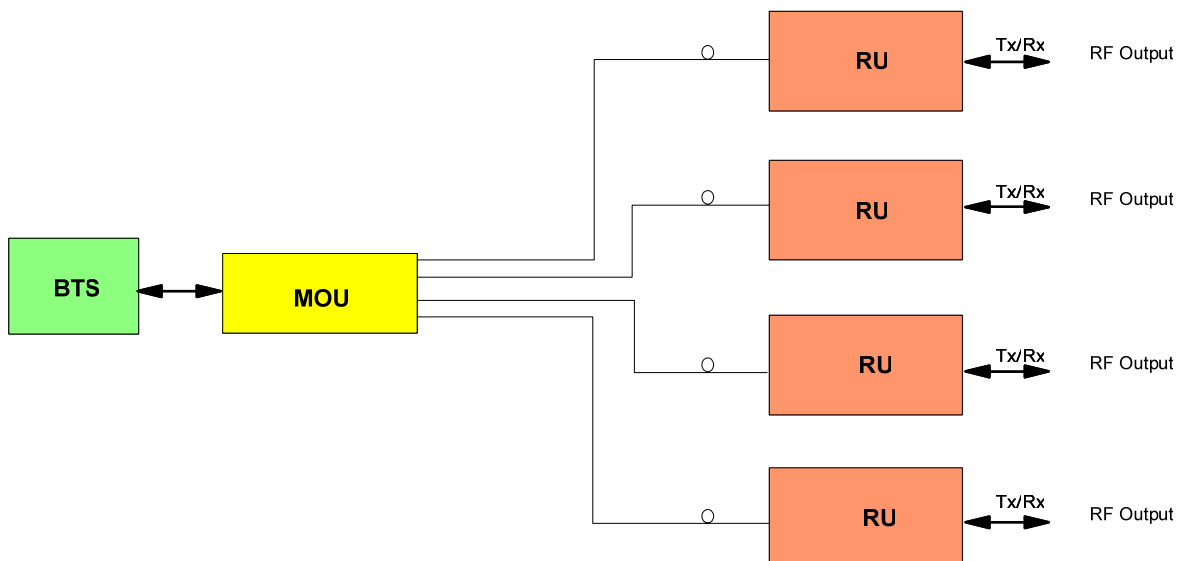


Product Description

The RA-8000 Fiber Optical Repeater provides an effective solution for coverage enhancement. It uses single band fiber and is suitable for applications where large signal coverage is required, such as citywide enhancement, highway and canyons, campus, underground tunnels, airports and convention centers, etc.

The system consists of Master Optical Unit (MOU) and Remote Unit (RU). The MOU's modular design can support up to four RUs by adding additional optical interface card. The RU's fully weatherized enclosure with the built-in AC power surge protector. The RU is designed for installation at any outdoor environment. Product reliability and lower maintenance cost is achieved by advanced design.

Functional Block Diagram



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Technical Specifications

System Specifications			
System			Trunked 800MHz
Optical Fiber			Single Mode
Optical Wavelength	nm		1310, 1550 + WDM
Optical Link Frequency	MHz		800 - 2200
Maximum Optical Path Loss	1 MOU: 1 RU	dB	10
	1 MOU: 2 RU		6.5
	1 MOU: 3 RU		6.5/10
	1 MOU: 4 RU		6.5
Maximum Number of RU:MOU			4

Master Optical Unit (MOU)			
Optical Specifications			
Optical Wavelength	nm		1310 + WDM
Optical Output Power	1 MOU: 1 RU	dBm	0 - 4
	1 MOU: 2 RU		-3.5 - 0.5
	1 MOU: 3 RU		-3.5 - 0.5/0-4
	1 MOU: 4 RU		-3.5 - 0.5
Optical Return Loss	dB		> 45
Optical Link Gain	dB		0

Electrical Specifications			
Uplink Output Power		dBm	0
Max. Gain	Downlink	1 MOU: 1 RU	0
		1 MOU: 2 RU	-7
		1 MOU: 3 RU	-7/0
		1 MOU: 4 RU	-7
	Uplink		10
Gain Adjustable Range (1dB step)	dB		0 - 30
Absolute Maximum Input RF Power	dBm		10
Input Coupling Signal			1x DL + 1x UL or 1x DL/UL

Mechanical Specifications			
Dimensions, H x W x D	mm		177 x 482 x 360 (19" 4U)
Weight (approx.)	kg		14
Power Supply	AC110/220	VAC	85 - 264/47 - 63Hz
	DC-48	VDC	-76 - -38
Power Consumption (approx.)	W		40
MCU Battery Backup Time (approx.)	hr		3
Fiber Connectors			FC/ APC
RF Connectors			SMA - Female
Operating Temperature	°C		-33 to +55
Operating Humidity	%		≤ 85
Environmental Class			IP65
MTBF	hr		> 50,000

Note: Typical specification at room temperature

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Technical Specifications

Remote Unit (RU)			
Optical Specifications			
Optical Wavelength	nm	1550 + WDM	
Optical Output Power	dBm	0 - 4	
Optical Return Loss	dB	> 45	
Optical Link Gain	dB	0	
Electrical Specifications			
Frequency Range	Downlink	MHz	851 - 869
	Uplink		806 - 824
Downlink Output Power	dBm		40
Operating Bandwidth	MHz		18
Maximum Gain	Downlink	dB	65
	Uplink		55
Gain Adjustable Range (1dB step)	dB		0 - 30
Pass Band Ripple (p-p)	dB		≤ 5
Spurious Emission* (out of band 10MHz)	9KHz - 1GHz	dBm	-36
	1GHz - 12.75GHz		-30
Uplink Noise Figure at Maximum Gain	dB		≤ 6
Input VSWR			≤ 1.5
System Group Delay	μsec		≤ 0.5
Absolute Maximum Input RF Power	dBm		10
Mechanical Specifications			
Dimensions, H x W x D	mm		615 x 330 x 200
Weight (approx.)	Kg		32
Power Supply	VAC		85 - 264/45 - 65Hz
Power Consumption (approx.)	W		130
Power Up Waiting Time (approx.)	sec		60
MCU Battery Backup Time (approx.)	hr		3
RF Connectors			N - Female
Fiber Connectors			FC/APC
Operating Temperature	°C		-33 to +55
Operating Humidity	%		≤ 95
Environmental Class			IP65
MTBF	hr		> 50,000

Note: Typical specification at room temperature.

* Parameters test at 10dB optical loss.

Operation and Maintenance

Installation, commissioning and monitoring of the RA-8000 can be accomplished by the OMT software via direct connection to a PC that facilitates remote monitoring and parameter adjustment. An optional Operations and Maintenance Center (OMC) software can be incorporated for central monitoring of Comba Products with SNMP interface.

The MOU and RU is communicated over the optical Fiber, hence, the RUs can be remotely controlled by connection to MOU locally or remotely.

Adjustable parameters include: Uplink Gain Setting, Downlink Gain Setting, Alarm Threshold Setting, etc.

Monitored parameters include: Downlink Output Power, Temperature, Optical TX/RX etc.

Alarm parameters include: Output Power Low, Door Open, Temperature, etc.

