

# IRU - 58

## P2P and P2MP Radios



**Carrier Grade Wireless Broadband IP Radio with Integrated Antenna**

### HIGH-CAPACITY LONG-RANGE OPTIMIZED FOR IP BACKHAUL

This platform deploys reliable and secure high-speed wireless IP connections between multiple remote locations through high-capacity Point to Point and Point to Multipoint links. Available in multiple frequency bands and configurations, it covers a distance of up to 40 km.

Shyam's Wireless Broadband IP Radio Unit incorporates the latest technologies such as MIMO, OFDM and Diversity bundled with Shyam's proprietary protocols. The Carrier Grade Solution ensures 24/7 connectivity with zero network downtime. The solution can also be installed in a Multiple Point to Point architecture; multiple units are deployed on the same tower, where they provide a dedicated high-capacity connection to each remote site.

### FEATURES

**Optimized Transmission Cost:** Control your transmission cost by avoiding the need to use fiber and leased lines. Significantly reduces CAPEX and OPEX.

**Rapid Deployment:** This solution is provided as a Plug-and-Play solution for rapid deployment. Dismantling and redeployment of the unit is speedy as well.

**Sensible Business Case:** The unit directly contributes to your bottom line as it offers the most cost-effective way to provide high bandwidth as well as network expansion.

**Single Integrated Voice and Data Solution:** Can connect routers via ethernet to provide a Single Voice & Data Link for customers. The revenue generating potential for this application is immense.

**All-Weather Reliability:** Our system is outdoor capable and rugged enough to withstand extreme weather conditions. The system is maintenance free.

### HIGHLIGHTS

Carrier Grade Performance  
 Reducing Operational Expenses And Revenue Loss Due to Service Interruptions  
 Very Low Power Consumption  
 Long Range with Modular, Scalable Capacity  
 Available in External and Integrated 19/23 dBi Antenna Options  
 MIMO & OFDMA Technologies  
 Flexible Architecture: Point to Point, Multiple Point to Point and Point to Multi Point  
 Long Range - Up to 40 km (Depending on Terrain, Frequency, etc.)  
 Robust Systems; Operational in nLOS, High Interference and Harsh Weather Conditions  
 Very Simple Installation and Maintenance  
 Remote Power through PoE  
 TDD - TDMA Duplex Technique Suitable for Both TDM and Ethernet Services  
 License Exempt Frequencies (2.4 and 5.8 GHz) with Security  
 Multiple Data Rate Options (2/5/18/50/100 Mbps)

## P2P and P2MP Radios

S. NO.	MODEL NO.	PRODUCT DESCRIPTION
<b>Point to Point Radio - TDMA (Outdoor)** Link</b>		
1.	RM-1C-18M-19-24	2.4 GHz, 18Mbps with Integrated Antenna
2.	RM-1C-18M-E-24	2.4 GHz, 18Mbps with External Antenna
3.	RM-1C-50M-19-24	2.4 GHz, 50Mbps with Integrated Antenna
4.	RM-1C-50M-E-24	2.4 GHz, 50Mbps with External Antenna
5.	RM-1C-100M-19-24	2.4 GHz, 100Mbps with Integrated Antenna
6.	RM-1C-100M-E-24	2.4 GHz, 100Mbps with External Antenna
7.	RM-1C-18M-23-58	5.8 GHz, 18Mbps with Integrated 23 dbi Antenna
8.	RM-1C-18M-E-58	5.8 GHz, 18Mbps with External Antenna
9.	RM-1C-50M-23-58	5.8 GHz, 50Mbps with Integrated 23 dbi Antenna
10.	RM-1C-50M-E-58	5.8 GHz, 50Mbps with External Antenna
11.	RM-1C-100M-23-58	5.8 GHz, 100Mbps with Integrated 23 dbi Antenna
12.	RM-1C-100M-E-58	5.8 GHz, 100Mbps with External Antenna

S. NO.	MODEL NO.	PRODUCT DESCRIPTION
<b>Point to Multi Point Basestation and Subscribers - TDMA (Outdoor)</b>		
1.	RPMP-1C-18M-E-24	2.4 GHz, 18Mbps
2.	RPMP-1C-18M-E-58	5.8 GHz, 18Mbps
3.	RPMP-1C-50M-E-24	2.4 GHz, 50Mbps
4.	RPMP-1C-50M-E-58	5.8 GHz, 50Mbps
5.	RPMP-1C-100M-E-24	2.4 GHz, 100Mbps
6.	RPMP-1C-100M-E-58	5.8 GHz, 100Mbps

SYSTEM	
<b>Type</b>	Outdoor
<b>Mounting</b>	Wall and Pole Mount
<b>Frequency Bands *</b>	2.310 - 2.900 GHz 4.940 - 6.030 GHz
<b>RF Output (dBm)</b>	23 dbm (Configurable)
<b>Rx Sensitivity (dBm)</b>	16 QAM: -85
<b>2.4 / 5.8 GHz</b>	64 QAM: -75 MCS0 HT20: -92 MCS0 HT40: -90 MCS7 HT20: -73 MCS7 HT40: -71
<b>Link Topology</b>	Point to Point Point to Multipoint Multiple Point to Point Using Burst Synchronization Technique
<b>Interface b/w IDU &amp; ODU</b>	Outdoor Cat5/6e Cable
<b>Dimension</b>	52.5 x 138 x 275 mm

FEATURES	
<b>Throughput</b>	2/5/18/50/100 Mbps (Bi-Directional)
<b>Channel Bandwidth</b>	5/10/20/40 MHz
<b>Duplex Technique</b>	TDD
<b>Modulation</b>	OFDM - 16QAM/64QAM BPSK, QPSK
<b>Packets Per Second</b>	50,000
<b>MCS</b>	1 - 15
<b>Encryption</b>	WEP, AES
<b>Adaptive Modulation &amp; Coding</b>	Supported
<b>Automatic Channel Selection</b>	Supported
<b>Diversity Support</b>	Supported
<b>Error Correction (FEC)</b>	Supported
<b>Hub Site Synchronization</b>	Supported
<b>Framing/Coding</b>	IEEE 802.3/U
<b>Bridging</b>	Self-Learning Up to 2047 MAC Addresses IEEE 802.1Q

\*Only 5825 to 5875MHz is allowed in India as per WPC

## P2P and P2MP Radios

FEATURES	
SFP Port	Optional
Latency	3 msec (Typical)
Maximum Frame Size	1536 bytes
VLAN Support (Q-in-Q)	Transparent
Dynamic Bandwidth Management	Supported
DFS	Supported
Site Survey Tool (Built-in Spectrum Analyser) Concurrent Data, VoIP and Video	Supported
POWER	
Power Supply	24 - 48 V DC, PoE, 110-255 V AC
Max Power Consumption	7 W

INTERFACES	
<b>Ethernet</b>	
Type	10/100 Base-T Interface with Auto-negotiation (IEEE 802.3) 10/100/1000 Base-T Interface with Auto-Negotiation (IEEE 802.3)
Multicast / Unicast Traffic	Supported
Number of Ethernet Ports	1
Connector	RJ-45
<b>RF</b>	
Antenna Port	N-Type (1,2) (Only for Unit with External Antenna Option)
Integrated Antenna Specifications	Upto 18 Mbps/Upto 100 Mbps
Frequency Band	2.310 - 2.900 GHz    4.940 - 6.030 GHz
Gain	19 dBi                      23 dBi

INTERFACES		
Beam Width (Horizontal/Vertical)	25° (Typical)	8° (Typical)
Polarization	Cross Polarized	Vertical or Horizontal

MANAGEMENT	
Network Management	SNMP Embedded Web Server
Firmware Upgrade	Local & Remote
Software Management Application	Proprietary Management Software

ENVIRONMENT	
Water & Dust Protection	IP67
Operating Temperature	-20° to 70° C (-4° to 158° F)
Humidity	Up to 95% (Non-Condensing)

REGULATION	
<b>RADIO</b>	
FCC : 47CFR	Part 15, Subpart C
<b>C&amp;B</b>	
IC	RSS-210
<b>SAFETY</b>	
TUV	60950, According to UL 60950
CAN-CSA	C22.2 No. 60950
<b>EMI/EMC</b>	
Standard Support	CISPR-22
<b>ENVIRONMENTAL</b>	
Environmental Standard	Category D of QM333

## MINIMUM REQUIREMENTS

PC with 200 MHz or Faster Processor  
32 MB RAM Memory  
Internet Explorer 6.0 or Higher,  
Netscape Navigator 8.0 or Higher,  
Firefox 3.0 or Higher for Web-Based  
Configuration  
Windows 2000 or XP  
Installed per PC or Network Adapter  
with Ethernet  
Network Cable and TCP/IP Protocol  
Installed per PC

## PACKAGE CONTENTS

ODU  
Mounting Clamp  
Ethernet Cable (Optional)  
External Antenna (Optional)  
PoE Injector  
CD (Containing Installation Manual)

## CERTIFICATIONS

