



Advanced OFDM Radio

MPR Radio

IHPR/IMPR/ICR Bundle



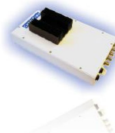
ICR Radio Unit



MPR Radio Unit



HPR Radio Unit

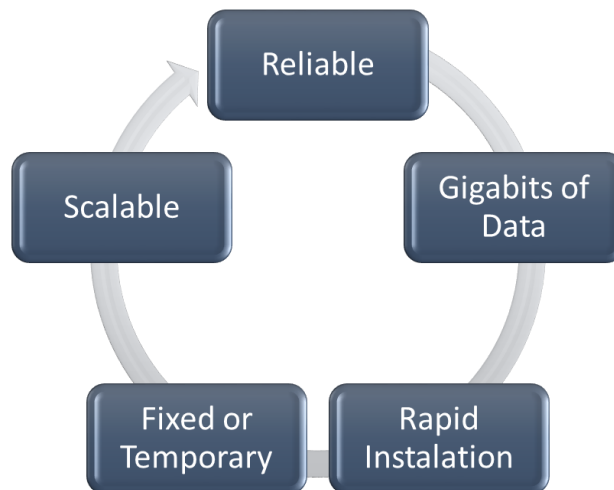


IHPR-DP Bundle



Overview

OFDM (MIMO) solutions deliver the power, connectivity, high-demand services and cost-effectiveness that are crucial to increased return on investment, whilst offering the flexibility to support virtually any wireless broadband network. The platform combines superior access performance with the flexibility to facilitate a wide range of applications.



System Features

- Advanced OFDM radio platform
- Raw data rates up to 108Mbps
- Operates in 2.4 and/or 5.1-5.8GHz ISM bands
- Optional 5.4GHz band support
- Range up to 60km*
- DFS and TPC features for regulatory regional compliance
- Data Throughput up to 50+Mbps
- Carrier-class OS and resiliency features
- Power-over-Ethernet technology
- Rugged environmental IP66 waterproof enclosure

Applications

- Point-to-Point or Point-to-Multipoint Data network segments
- Wireless ISP or Hotspots
- Resilience for FSO or Fibre links
- Fast Roll-out & Temporary Deployment

*Depends on radio environment and antennas

Embedded Router Platform

CableFree OFDM radios are high-performance carrier-grade Radio Solutions. They embody state-of-the-art software-defined-radio hardware, coupled with a powerful carrier-class router operating software with advanced Layer 2 Bridging and Layer 3 Routing features:

- High performance CPU, 500MHz x86 architecture
- IP Bridging
- Layer3 IP Routing
- Advanced Networking: RSTP, BGP, OSPF & MPLS
- VPN and Ethernet-over-IP (EoIP) tunnels
- Virtual Router Redundancy Protocol (VRRP)
- WISP & hotspot –specific features including Walled Garden, Cookies, RADIUS authentication, accounting, control of connection time
- Advanced, feature-rich QoS & traffic prioritisation
- Uplink and downlink bandwidth control on a per-user basis
- Firewall, NAT, DHCP Client and Server

Enhanced Wireless Performance

CableFree OFDM radios offer major advantages over competing radio products:

- Highly configurable – up to 2 radio cards – ‘mix and match’ 2.4/5GHz
- 108Mbps raw data rate using ‘turbo mode’ offers 25Mbps throughput.
- OFDM Software-defined radio – ‘state-of-the art’ radio using powerful DSP technology
- Software Selectable 5, 10, 20, 40MHz; also custom channel widths available
- Optional proprietary TDMA wireless protocol - improves P2P and P2MP wireless links through packet optimisation. No protocol/speed degradation for long links. Added security layer. Full duplex option using dual wireless cards
- Sophisticated RadioOS software platform
- Hotspot features including Radius authentication and per-user bandwidth controls

Part Numbers

Product Code	Description
MPR-U-1-2/5S	MPR Unit, 2.3-2.5, 4.9-6.0GHz Single Radio, Single Unit, 40Mbps, 10/100 Interface, N connectors+
MPR-U-2-2/5S	MPR Unit, 2.3-2.5, 4.9-6.0GHz Dual Radio, Single Unit, 40Mbps, 10/100 Interface, N connectors+

+ note that external antennas are required. For integrated antenna model see IMPR

Specifications

System Variant	WMPR-dual
Performance	
Range	Up to 20km
Bandwidth	Up to 54Mbps (108Mbps Turbo mode)
Power Consumption	10W; 48V fed from Power-over-Ethernet injector; 115/230Vac; optional Uninterruptible Power Supply (UPS)
Operating Temperature	-20...+60 deg C
Wireless	
Frequency	5GHz: 5.150-5.350 (5 MHz step) 5.725-5.825 (5 MHz step) 5.47-5.725 GHz, 4.90-6.00GHz DFS (Dynamic Frequency Select) feature for regions requiring DFS enabled
Radio Type	Direct Sequence Spread Spectrum (DSSS)
Modulation	2 & 5GHz: OFDM (BPSK, QPSK, 16-QAM, 64-QAM); Dynamic (Adaptable to Conditions)
RF Channels	Software Selectable 5, 10, 20, 40MHz; also custom channel widths available
RF Output Power	18dBm (63mW, standard power) or 28dBm (630mW, high power version)– TPC (Transmit Power Control), 1dB steps under software control
Sensitivity @FER=0.08:	54 Mbps OFDM -73 dBm; 48 Mbps OFDM -76 dBm; 36 Mbps OFDM -82 dBm; 24 Mbps OFDM -85 dBm; 18 Mbps OFDM -88 dBm; 12 Mbps OFDM -89 dBm; 11 Mbps OFDM -91 dBm; 9 Mbps OFDM -90 dBm; 6 Mbps OFDM -91 dBm; 5.5Mbps OFDM -92 dBm; 2 Mbps OFDM -93 dBm; 1 Mbps OFDM -94 dBm
Radio Data Rate	2GHz & 5GHz 108, 96, 72 48, 36, 24, 18, 12 Mbps, 54, 48, 36, 24, 18, 12, 9, 6 Mbps, auto-fallback
Compatibility	Proprietary modes plus back compatibility fully interoperable modes
Radio Architecture	Support ad-hoc, peer-to-peer networks and infrastructure communication to wired Ethernet networks via Access Point
Security	64/128-bit WEP data encryption; WPA, WPA2, TKIP, CCMP, AES; Proprietary modes
Router Platform	
CPU	AMD x86-class 400MHz or 500MHz; 128MB SRAM; 4GB FLASH
System Software	RadioOS 8.1; Choice of license levels 1-6; Remotely Upgradeable via TFTP
Management	Local and Remote configuration, control and administration via RS232, Telnet, HTTP, SNMP and Proprietary protocols
Resilience Features	Virtual Router Redundancy Protocol (VRRP) allows two complete radio ODUs to be configured with one in 'hot standby' for high-availability applications
Mechanical	
Dimensions (mm)	180x130x60mm
Connectors	External: RF: N-type; 10/100 Ethernet with auto MDI/MDIX: RJ45 Internal: RS232 console: DB9
Environmental	IP66
Weight	2kg