

Advanced wireless links for IP Video streaming

Applications

- EOD/ROV/Unmanned Systems/Robots
- Perimeter Security
- Covert Hides
- First Responder
- Redeployable Security
- IP CCTV

Description

The IPM2 Outdoor unit is an L-band COFDM transceiver capable of streaming video from megapixel IP cameras at distances of >1Km.

The use of COFDM helps mitigate radio multipath issues and ensures video is uninterrupted even in a NLOS environment.

The IPM2 units use proprietary advanced technology and offer many advantages over standards-based equipment. The token-based TDMA protocol ensures low latency data transfers and eliminates 'blind node' issues. IP data rates of >20Mbit/sec are achievable on links with good signal-to-noise and as the link deteriorates adaptive modulation ensures that the best achievable data rate and range are maintained.

As the IPM2 units are IP-based, they can be used to provide connectivity to IP-enabled systems and net-centric devices. Simple mesh networks can be established and operating range can be extended with the repeater function. The units are plug-and-play and for most applications only power needs to be applied - the units will link automatically. Security sensitive applications can use the built-in hardware-based 128/256-bit AES encryption.

The same core electronics are used throughout the IPM2 product range so all IPM2 units will operate with all other IPM2 units. Additionally, as our IPM2 units meet the requirements of EN 302-064 (Wireless Video Links) IPM2 equipment can be used at 0.5W EIRP on the UK unlicensed 1394MHz frequency band.

Features

- IP67-rated enclosure
- POE for simple remote powering
- IP radio transceiver with 4 field selectable RF channels
- Plug and Play - Single unit performs Master/Client/Repeater roles
- COFDM with automatic adaptive modulation
- Up to 20 Mbps IP data rates (10MHz radio bandwidth)
- Range - 1km Line of sight (using supplied dipole antennas)
- IEEE 802.3 10/100BASE-T Ethernet support
- TDMA protocol alleviates "hidden node" problem
- AES 128/256 Encryption in hardware
- LAN, RF Channel, Link, RSSI and Tx/Rx status LEDs
- Windows™ based configurator



Side Status Indicators



Name	Colour	Function
RF TX	ORANGE	TX On/SYNC
LINK	BLUE	Link State
LAN	RED	LAN/Status
RSSI	YELLOW	RSSI
CH1:4	GREEN	Channel #

Connections



Ethernet /POE
The RJ45 Ethernet connection provides 10/100 Ethernet Port for data transport and administration purposes and supports Power over Ethernet (PoE) for powering the unit as a Powered Device (PD).

CONSOLE/MODE
The USB console port provides features for querying and setting various parameters of the ODU.

Mode Switch
The Mode switch is located just above the console port USB connector. The mode switch allows local selection of RF channel (long press) and toggles sequentially between Normal, Discreet and Audible RSSI modes of operation (short presses).

Specifications

Supported Protocols

IEE 802.1D Spanning Tree Protocol (STP)
Packet Prioritisation
Device Prioritisation

Ethernet Port

Connector: RJ-45 X 1
Standards supported: IEEE 802.3, IEEE 802.3u
10/100 BaseT Auto-sense and MDI/MDX support

Approvals

Approved to EN 302 064-1 (Wireless Video Links)

Security

Administration Password
Network Name
Encryption AES 128/256

Radio

COFDM, 768 Carriers, adaptive modulation
10MHz Modulation bandwidth
500mW (+27dBm) RF output power
TCP/IP data throughput: upto 20Mbits/sec on a good S/N link

POE

802.3af/at (15.4W or more) compliant

Parameter	MIN	TYP	MAX	UNITS	NOTES
RF operating frequency range	1200		1400	MHz	default freq 1394MHz
Modulation b/w		10		MHz	
TX o/p power		+27	+27	dBm	adjustable 0.5dB steps
RF Output Port Return Loss		10		dB	50 Ohm
Rx Sensitivity		-90		dBm	to maintain sync
Line of Sight range		1		km	with dipole antennas
POE Operating Voltage	36	48	57	Volts (dc)	on data or spare pairs (see note 1)
Supply Voltage (Option)	10	12	14	Volts (dc)	via pigtail cable (see note 2)
		24		Volts (ac)	
DC Power		10	15	Watts	depending on application
PoE Isolation Voltage			1500	Vpk	Impulse Test
Spurious Emissions RF Port			-30	dBm	Meets EN 302-064-1
Frequency Stability		+/-2.5		ppm	(-10 to +55°C)
Operating Temperature	-10		+55	°C	
Relative Humidity	0		90	%	non-condensing
Weight		900		grams	
Dimensions	W=122	W=122	H=66	mm	excluding length of connectors/bracket

Note 1: Power can be provided to the unit by any IEEE 802.3af/at (15.4W or more) compliant Power Sourcing Equipment (PSE), either via the spare pairs (pins 4+5 and 7+8), or data pairs (pins 3+6 and 1+2).

Note 2: The ODU supports powering from a 12V +/-2V DC power source or 24V AC via a separate pigtail cable through the Console entry point. These power configurations are optional and must be requested at the time of order.

This product is approved for use in the UK for video streaming on the unlicensed 1394MHz band at 0.5W EIRP. Users outside the UK must comply with local frequency licensing laws/regulations

All product specifications are subject to change without notice. adaptiveRF Ltd will not be liable for claims arising from technical or editorial errors or omissions.

For further information and pricing please contact us at:

adaptiveRF Ltd
12A High Street
Botley
Southampton
Hampshire
SO30 2EA
United Kingdom

Phone: +44(0)1489 798155
Email: sales@adaptiverf.com
Web: <http://www.adaptiverf.com>