

## Advanced wireless links for IP Video streaming



### Features

- 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)
- IEE 802.3 10/100BASE-T Ethernet support
- TDMA protocol alleviates "hidden node" problem
- AES 128/256 Encryption in hardware
- Auxiliary power outputs power external IP camera, router, or other equipment
- Integrated adjustable cooling fan
- Windows™ based configurator

### Applications

- EOD/ROV/Unmanned Systems/Robots
- Perimeter Security
- Covert Hides
- First Responder
- Redeployable Security
- Integration with megapixel IP PTZ cameras
- IP CCTV

### Description

The IPM2 OEM 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. For covert 'hides' the 'Hide and Sleep' mode allows units to 'sleep' and will awaken only when other nearby IPM2 activity is detected. 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.



## Front

The front panel includes 3 status indication LEDs and a SMA RF female Jack Socket for antenna connection.



Front Panel LED Functions

Name	Colour	Function
RF TX LINK	ORANGE	TX On/SYNC
LINK	BLUE	Link State
PWR	TRI-COLOUR RED/AMBER /GREEN	Power status

## Rear

The rear panel comprises a RJ45-type 10/100 Ethernet socket and a 34-WAY JST connector. The 34 way connector is the main interface to the module and is a 2mm pitch dual row JST header type S34B-PHDSS, suitable for use with crimp housing PHDR-34VS and SPHD-001T-P0.5 crimps



See the IPM2 OEM User Guide for a description of the pin functions on the 34-way connector

## Specifications

### Supported Protocols

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

### Security

Administration Password  
Network Name  
Encryption AES 128/256

### Ethernet Port

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

### Radio

COFDM, 768 Carriers, adaptive modulation  
10MHz Modulation Bandwidth  
500mW (+27dBm) RF Output Power  
TCP/IP data throughput: up to 20Mbps on a good S/N link

### Approvals

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

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	+30	dBm	adjustable 0.5dB steps
Rx Sensitivity		-90		dBm	to maintain sync
LOS range		1km			with dipole antennas
Operating Voltage	9.5	12	15	Volts (dc)	
Operating Current	650	1000	2500	mA	current limited - depends on charge state
Aux_5V output current			800	mA	Short circuit protected
Aux_12V output current			700	mA	Resettable/PCB fuse
Spurious Emissions RF Port			-30	dBm	Complies with EN 302-064-1
Frequency Stability		+/-2.5		ppm	(-10 to +55°C)
Ambient Operating Temperature	-10		+55	°C	fant=50
Relative Humidity	0		90	%	non-condensing
Weight		140		grams	
Dimensions	W = 77	L = 137	H =21	mm	overall including connectors

\* Maximum combined current drawn from Aux\_5V and Aux\_12V will be limited by power dissipation.

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

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