

Advanced wireless links for streaming IP video



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)
- IEEE 802.3 10/100BASE-T Ethernet support
- TDMA protocol alleviates "hidden node" problem
- AES 128/256 Encryption in hardware
- On/Off, Channel selection + Link and other status LEDs
- Rechargeable battery version for fully portable operation
- Auxiliary power outputs power external IP camera, router, or other equipment

Applications

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

Description

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

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 network-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 Panel

The front panel provides 3 status indication LEDs, SMA RF female Jack Socket for antenna connection and fan outlet vent.



Front Panel LED Functions

Name	Colour	Function
rf tx	ORANGE	TX On/SYNC
link	BLUE	Link State
pwr	TRI-COLOUR RED/AMBER /GREEN	Power/Battery /Status

Rear Panel

The rear panel comprises power on/off switch, channel selector switch and Deafen switch together with 10/100 Ethernet socket accepting standard RJ45 plug. Also on the rear panel is a 3 way LEMO socket for dc in and 7 way LEMO socket for auxiliary functions.



Rear Panel Functions

Name	Function
dc in	12Vdc (2.5A Max)
aux	Console port/Auxiliary power
ethernet	10/100 Ethernet port
ON OFF	on/off power switch
RX -20dB	deafen switch
CH	Next channel up
ch1	Selected Channel LED
ch2	Selected Channel LED
ch3	Selected Channel LED
ch4	Selected Channel LED

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
10MHz Modulation Bandwidth
500mW (+27dBm) RF output power
TCP/IP data throughput: upto 20Mbps on good S/N link

Parameter	MIN	TYP	MAX	UNITS	NOTES
RF operating frequency range	1200		1400	MHz	Default 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		1		km	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 fuse
Spurious Emissions RF Port			-30	dBm	
Frequency Stability		+/-2.5		ppm	(-10 to +55°C)
Ambient Operating Temperature	-10 0		+55 +35	°C	Without internal battery With internal battery
Relative Humidity	0		90	%	non-condensing
Weight		300 570		grams	without battery option with battery option
Dimensions	W = 82	L = 134	H = 36	mm	excluding length of SMA 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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