

## Rodent IV: Robust remote antenna platform

### Product Brief

The Rodent IV antenna platform provides a convenient way to deploy signals intelligence (SIGINT) antennas over hundreds of metres, allowing personnel to remain at a safe distance from the targeted zone.

Wideband RF over fibre links are employed to transmit RF signals from the remote antenna platform back to receiving equipment. This receiving equipment can be mounted in a vehicle or can be dismounted. The Rodent IV is typically deployed to the target zone using a remote controlled vehicle (RCV) but can also be hand carried.

### Key Features

- Supports multiple antennas & frequency bands on a single platform
- Very wide RF bandwidth over fibre – allowing reception of all key communication bands
- Rodent IV system deploys “live” – providing an RF feed at all times
- Exceptional spurious free dynamic range (SFDR) for small signal sensitivity
- Switchable amplification to enhance low level signals
- Automatic Gain Control (AGC)
- Extremely robust design – in-service proven over many years
- Thermal compensation provides excellent temperature performance stability
- Remote control capability for functionality & system monitoring
- Long mission life using standard LIPS batteries
- No change required in SOPs or CONOPS from existing in-theatre systems
- Reduced cost of ownership & integrated logistics support (ILS) infrastructure
- Designed to be deployed in a physically & electromagnetically hostile environment.



The use of RF over fibre, coupled with PPM's proprietary direct modulation scheme, allows the signals of interest to be relayed with minimum signal distortion and loss. In addition, the optical transmission medium provides immunity to interference from other local RF sources.



## Technical Specification

### Rodent IV RF Performance

Model	Rodent IV		Rodent IV Plus	
No. Antenna input channels	2		2**	
Input/output impedance	50Ω		50Ω	
RF link frequency response	Ch1: Contact PPM*	Ch2: Contact PPM*	Ch1: Contact PPM*	Ch2: Contact PPM*
Noise figure	Ant A: 21dB*, Ant B: 10.6dB*		10dB*	
Noise figure – max AGC / gain			6dB*	
Input P1dB	Ant A: -7dBm, Ant B: -15dBm		-7dBm	
LNA Gain adjustment	20dB remotely switchable LNA		>20dB with switchable Automatic Gain Control	
Instantaneous dynamic range	156dB in 1Hz bandwidth		156dB in 1Hz bandwidth	
Spurious free dynamic range 2/3	113dB			
Gain Flatness	+/-1.2dB: Contact PPM*		+/-1.2dB: Contact PPM*	
Max instantaneous input	30dBm			

### Other Specifications

Remote monitoring and control	Serial link RS232/422	Serial or Ethernet link
Battery level monitoring and LED	Yes (Remote and local monitoring via LIPS optical interface)	
RF input power protection	Yes	
Antenna selection LEDs (Tx/Rx)	Yes	
Audible link fail and battery alarms	Yes	
Thermoelectric cooling (Tx)	Yes	
Operating Temperature	-20°C to +55°C	
Storage	-30°C to +85°C	
Operational availability	>10 hours on fully charged LIPS 12 battery	
Optical output power	EN60825-1 Class 1 laser radiation hazard	
Cable lengths on standard reel	Contact PPM*	
Antenna Platform RF Transmitter	HIRF electromagnetically shielded module	
RF Receive module	HIRF electromagnetically shielded module	
System weight	20kg (without antennas/battery)	

### Power Supply

Remote Antenna Platform (Tx)	LIPS 10 or 12 battery pack
Receiver module (within cable reel)	19-32V - via RF or Serial port connector

### Electrical Connections

Receiver RF output connector	N-type
Receiver data connector	Amphenol TVP00RF11-35PN

\* Contact PPM – Some details have been removed from this datasheet.

\*\* Option to have simultaneous scan capability and additional antenna channels

### Rodent IV Options

- Stacked RF antenna with multiple bands to improve performance and selectivity
- Gigabit Ethernet or serial data link between antenna platform and local station for optional equipment and diagnostics
- Increased RF bandwidth available
- Simultaneous dual RF channels for high speed scanning capability
- LIPS DC power-tap for optional equipment on the antenna platform.