Satcom

Hornet PRR1

MIMO IP Mesh Network

VERSATILE MILITARY COMMUNICATIONS

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The ***Hornet PRR1*** SDR meets modern battlefield requirements in flexibility, COMSEC, TRANSEC, MANET and Broadband Capabilities.

The state-of-the-art MIMO (Multiple Input, Multiple Output) IP Mesh technology provides simultaneous encrypted Voice, Data and Video capability. The Mesh capability enables self-forming and self-healing network establishment of up to 64 nodes per network in any configuration.

Data Rates are automatically varied from 0.5 to 87 Mbps depending on the available SNR. The best throughput during a mission is achieved by automatically adapting the frequency bandwidth between 1.25Mhz and 20Mhz and the modulation between 4QAM(QPSK) to 64QAM with the option to switch over to another available link with a better link throughput capacity.

A Pre-programmed mission plan can be configured with one Talk (TX) channel which includes full duplex audio (voice) talk channels, video streaming, encryption and the monitoring of up to 16 pre-set audio channels.

Changes between mission plans and zeroizing can be performed via log in with Mission Plan Application.

Point-To-Point (P-T-P) Link distances between two HORNET PRR radios in NON-Line-of-Sight (N-LOS) up to 500m is achieved in forests and build-up areas.

LOS distances beyond 5km are achievable between elevated sites or via air to ground links.

Longer link distances between two PRR units up to and beyond 10km end to can be achieved with more MANET radios in the area providing multi-link options.

Battlefield awareness capability includes 2 independent video streams to a central command center while GPS position, battery status and mesh utilization is displayed on the Command-and-Control map.

The mission time on the internal battery is up to 4 hours, but can be extended with another 19 hours when connected to the auxiliary battery.

FEATURES SUMMARY

MIMO Mesh-Ultra technology (MANET)

AES128 or AES256 Encryption Options

Programmable over the air

Adaptive Data rates 05.Mbps up to 87MBps SNR dependent.

Low latency, under 180ms for video; less than 20ms for data

2x SD/HD-SDI Powered Camera input (5VDC, encoders embedded)

2x 100mW total RF output power

Ethernet and RS485, Accessory Options

Standard Rapid Mission Time: 4 hours with built in Battery (continuous 12Mbps operation)

Extended Mission Time: 23 hours of Battery Life with external battery (continuous 12Mbps operation)

Built-In GPS for Situational Awareness, (Position Tracking)

Compact, lightweight Rugged Design.

FEATURE SUMMARY

Frequency Range	1.98-2.70 GHz (other Frequency models available on request)
Channel	**1 TX + up to 16 RX (Configurable)**
Power Source	12VDC (nom) 8-18VDC (operational)
RF Impedance	50-ohm nominal, unbalanced
Dimensions	**60w x 136h x 38d**
Weight	250g
Interface	Headset (MIC, SPK, PTT)
	Rotary Volume
	Aux (Ethernet, RS485)
	TNC x2 Antenna
	HD-BNC x2 (SD/HD-SDI video Input 75Ω)
	Power (8-18V)
Battery Capacity	1400mWh, 11.1V Nom.w
Expected Mission Time	**4hours (Voice Data)**
Extended Mission Time	23 hours (Voice Data)

38mm

60mm

12VDC

SDI1
SDI2

AUX

HS

TOP VIEW

136mm
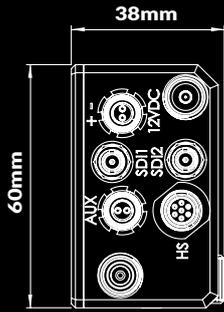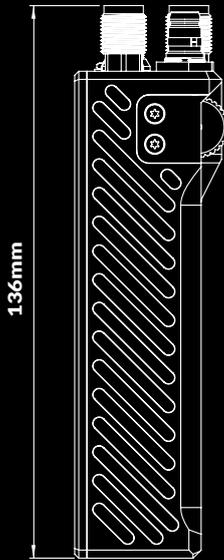
SIDE VIEW
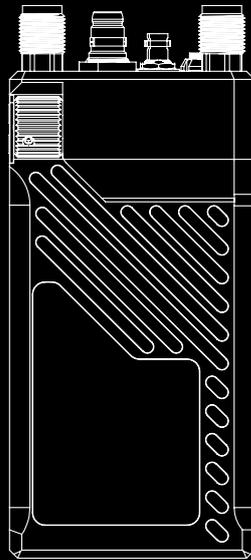
FRONT VIEW
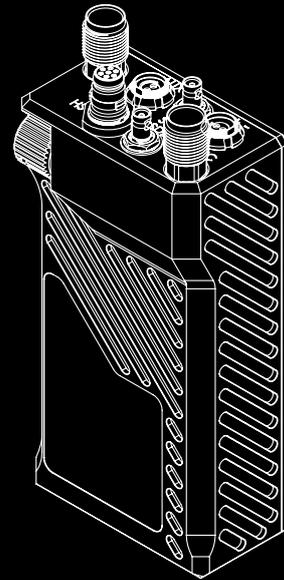
VIDEO

Input	2x SD/HD-SDI video Input 75Ω (switchable 5V over coax)
Formats	720p to 1080p 30
Encoder Throughput	Dual encoding is limited to total bandwidth equivalent to 1920x1080p30.
Encoder Latency	< 40ms in ultra-low delay mode Variable in standard delay mode (1s default)

TRANSCEIVER

Power Output	2x 100mW (20dBm)
Waveform	Auto - Adaptive Modulation up to 64QAM
Bandwidth	20 - 1.25MHz selectable or Auto

ENVIRONMENTAL STANDARDS

Environmental	MIL-STD-810H
Temperature	-20 to +65degC Operation, 501.5/502.5 -30 to +85degC Storage, 501.5/502.5
Shock	X,Y,Z 40g's 15ms, 516.6 Procedure I 122cm 26drops, 516.6 Procedure IV
Vibration	X,Y,Z 514.6C-7
Immersion	10m for 1 hour, 512.5 Procedure I
EMI/RFI	MIL-STD-461E

DATA CAPABILITY

Bit Rates	Up to 87Mbps

TRANSEC

Interference Avoidance (IAS)	Token-based: flexible channel bandwidth and variable power levels
	Low Probability of Exploitation (LPE)
	Low Probability of Detection (LPD)
	Low Probability of Intercept (LPI)

COMSEC

Encryptions	FIPS140-2 compliant AES128/AES256

Product specifications are correct at time of print. Please verify specifications with our sales department.

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