

SATCOM

MIMO / MANET
SDR RADIO



Hornet 1

MIMO IP Mesh Network

VERSATILE MILITARY COMMUNICATIONS



The **Hornet 1** SDR meets modern battlefield requirements in flexibility, COMSEC, TRANSEC and Broadband Capabilities.

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

Depending on the SNR level and required data throughput, data bandwidth is automatically varied from 0.5 to 87 Mbps. This is achieved by increasing the frequency bandwidth from 1.25 up to 20MHz and switching modulation techniques that function at up to 64QAM.

10 Pre-programmed mission profiles can be configured for rapid operator selection while providing two independent full duplex audio (voice) channels. The Dual 1W RF output power transceivers achieves single link distances of up to 1.5km for non-line-of-sight (NLOS), while LOS distances beyond 15km are achievable between elevated sites or air to ground links.

The Hornet 1 accessory battery capacity is designed to keep radios operational for up to 5 hours. The radio itself has a built in battery which ensures continuation of existing links while a depleted battery is replaced with a charged one.

FEATURES SUMMARY

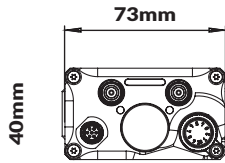
- MIMO Mesh-Ultra technology
- 10 Talk Groups per network
- AES128 or AES256 Encryption Options
- Programmable over the air
- Data rates 0.5Mbps up to 87Mbps SNR dependent.
- Low latency, under 180ms for video; less than 20ms for data
- 2W total RF output power
- Built in PTT, volume and function controls, including Microphone and speaker for stand-alone transmission and talkback.
- 3G/4G and Wi-Fi Accessory Options
- Ethernet, RS232, USB and I/O connectivity Accessory Options
- Up to 5 hours of Battery Life in continuous 12Mbps operation
- Hot-Swappable external battery
- GPS



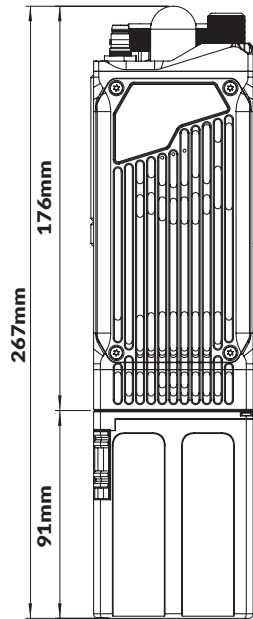
FEATURE SUMMARY

Frequency Range	1.98-2.70 GHz (other Frequency models available on request)
Channel	10 Programmable
Power Source	12VDC (nom) 8-18VDC (operational)
RF Impedance	50-ohm nominal, unbalanced
Dimensions	72w x 265h x 40d (including Battery) 72w x 177h x 40d (excluding Battery)
Weight	550g (excluding Battery) 920g (including Battery)
Interface	Handset Rotary Channel Select (10 positions) Hot-shoe (USB, Ethernet, RS232, IO x5, Audio In x2, Audio Out x2, DC out, DC in) TNC x2 SMA (GPS) Buttons (PTT x2, Volume Up + Down, function, programmable)
A/F Power + Distortion	Internal Speaker 1W in 8ohm, THD 10% Headset Out, up to 1W 4-250ohm, THD 1%
Battery Capacity	72Wh, 11.1V Nom.w
Expected Mission Time	12hours (Voice Data) with 74Wh Battery

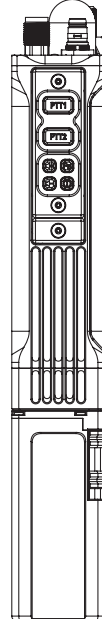
HORNET 1 DIMENSIONS



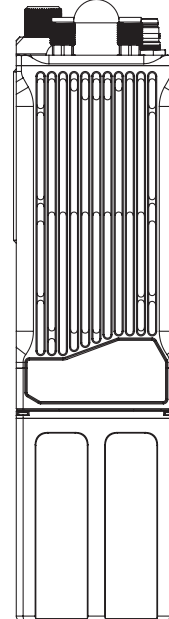
TOP VIEW



FRONT VIEW



SIDE VIEW



REAR VIEW

TRANSCEIVER

Power Output	2x 1W (33dBm) total
Audio Output	Handset: Via 7-way connector Internal speaker: Selectable
Audio Input	Handset: Via 7-way connector Internal microphone: Selectable
Waveform	Auto - Adaptive Modulation up to 64QAM
Bandwidth	20 - 1.25MHz selectable or Auto

STANDARDS

Environmental Temperature	MIL-STD-810H -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
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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)
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COMSEC

Encryptions	FIPS140-2 compliant AES128/AES256
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Please verify specifications with our sales department.



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