

MPU5 Radio

Tactical Networking Device

Intelligent RoIP Tethering

- Integrated Radio Over IP (RoIP) functionality.
- Bring your LMR radio onto the network.
- Communicate across separate organisations seamlessly.

The World's First Smart Radio

- Onboard Android™ OS - The MPU5 is your computer.
- Install existing Android™ apps.
- Run custom apps natively.
- Connect & use USB devices.

Stay Connected Anywhere

- Powered by Wave Relay® MANET.
- Designed for mass scalability - unlimited hops.
- Rapid self-forming & self-healing.
- True peer-to-peer - no master node.

Carry Less. Do More.

- Network, voice, video, computer - All in one device.
- Eliminate extra batteries, radios, encoders, receivers & more.
- More room for mission critical equipment.

Wave Relay® MANET

The Wave Relay® mobile ad hoc network (MANET) provides solid and reliable wireless connectivity for deployed soldiers and vehicles. Wave Relay® is the core focus of Persistent Systems and is unmatched by any other MANET.

Far surpassing typical mesh networks, Wave Relay® quickly adapts to fluctuations in terrain and environmental conditions, rapidly re-routing data and continuously working to maximise connectivity and performance.

Wave Relay's® unlimited hopping without any master nodes extends the network beyond the edge.

MIMO Technology

MPU5 uses Multiple Input, Multiple Output (MIMO) technology to deliver extremely high bandwidth and extended link distances. With up to 100 Mbps of actual user throughput, transferring high resolution imagery and HD video allows for real-time information exchange and comprehensive situational awareness.

MIMO's reliability, versatility and high bandwidth makes it ideal for blasting out necessary real-time information, such as GPS locations, maps, reconnaissance video streams, and voice messages in complex urban, subterranean, and maritime environments.

Interchangeable Frequency Module

- State-of-the-Art MIMO technology.
- High reliability in complex environments.
- Cost efficient and future-proof.

Stream HD Video

- Fully integrated H.264 HD video encoding/decoding.
- Connect video cameras directly to the unit.
- View multiple video streams simultaneously.
- HD output enabling connection to HDMI-compatible displays.
- Stream video and voice simultaneously.

Reliable Voice Communications

- Monitor up to 16 channels of voice.
- Dual active PTT - Key 2 channels at once.
- Channel prioritisation & configurable talk groups.
- Voice activated full duplex communication.



Specifications

Data Rate	Up to 150 Mbps
Waveform	Advanced Wave Relay® multicast algorithms Seamless layer 2 network connectivity Integrated serial-to-ethernet capability Cloud Relay™ IPv4 and IPv6 compatible Integrated DHCP server USB RNDIS host and device
GPS - Built In	3.3V active Situational awareness Cursor-on-target compliant 1 second updates
Security Encryption	CTR-AES-256 encryption HMAC-SHA-256 authentication & integrity Integrated hardware cryptographic acceleration Utilises Suite-B algorithms Cryptographically authenticated over-the-air rekey and key zero FIPS 140-2 Level 2 Rechargeable 30 day hold up for keys and configuration settings
3 x 3 MIMO Technology	Extended range 100 Mbps of throughput Maximal ratio combining Spatial multiplexing Antenna detection
Modular Radio	RF modulations: OFDM (64-QAM, 16-QAM, QPSK, BPSK) Swappable radio modules / radio boards Software configurable bandwidths (5 MHz, 10 MHz and 20 MHz) TX/RX operating modes (SISO, 2x2 & 3x3 MIMO)
Video	HD-BNC connection 3G-SDI & composite input Integrated HD H.264 video encoding / decoding

External Connectors (I/O)	<p>PPT/EUD port: Dual active PTT channels End user device (EUD) data/charging USB host/RS-232 serial HD video output Charging downstream port (CDP): Rated for 1,500mA</p> <p>Data port: USB on-the-go RS-232 serial Ethernet Standard Charging Port (SDP): Rated for 500mA</p> <p>RoIP port: Legacy radio tethering Legacy radio detection USB host/RS-232 serial Standard Charging Port (SDP): Rated for 500mA</p> <p>Video-in port: HD-BNC connection</p>
Size & Weight	<p>With battery: 3.8 x 6.7 x 20cm (1.5 x 2.6 x 7.9 inches) 876.4 grams (30.9 oz)</p> <p>Without battery: 3.8 x 6.7 x 11.7cm (1.5 x 2.6 x 4.6 inches) 513.6 grams (18.1 oz)</p>
Frequency Range & Transmit Power	<p>Interchangeable frequency module (ordered separately):</p> <p>L-Band: 1350 - 1390 MHz S-Band †: 2200 - 2507 MHz BAS-Band: 2025 - 2150 MHz C-Band (Lower): 4400 - 5000 MHz C-Band (Upper): 5100 - 6000 MHz</p> <p>6W - 10W Transmit power (3.3W Per RF Chain)</p>
Bandwidth	Configurable bandwidths (5MHz, 10MHz and 20MHz TX/RX) Operating modes (SISO, 2x2 & 3x3 MIMO)
Battery	Low battery alert Standard twist-lock connector
Device Power	8 - 28 VDC 12 - 14 hours on fully charged battery Battery eliminator compatible provides other power options
Environmental Protection	IP68 rated MIL-STD-810G certified - altitude, temperature, humidity, salt fog, vibration, mechanical shock MIL-STD-461F RE102 Anodised black coating Operating temperature - 40°C to 85°C (- 40°F to 185°F) Low temperature storage to - 51.1°C (- 60°F) ISO 9001:2008 certified manufacturing facility



MPU5_Datasheet_08_2024_Rev2.pdf

Technical Specifications quoted are verified but do not indicate the maximum performance limitations of the equipment. Specifications are subject to change without notice. E & OE Issue A.

† S-Band FCC compliant in ISM mode

