



MPU5

Five times the throughput and four times the range of current MANET Radios.

THE NETWORKED BATTLEFIELD WITH WAVE RELAY®

- An Extremely Efficient Scalable MANET
- Designed for Mass Scalability - No Hop Limits
- Rapid Self-Forming & Self-Healing - No Single Point of Failure, No Master Node

ANDROID™ ON BOARD DELIVERS A LIMITLESS SOLUTION

- Install Existing Android™ Apps
- Develop & Run Custom Apps
- Connect & Use USB Devices

STREAMING 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 Simple Connection to HDMI-compatible Displays

POWERFUL, DYNAMIC RADIO DESIGN

- State-of-the-Art MIMO Technology
- Interchangeable Radio Design
- High Reliability in Complex Environments

ADVANCED AUDIO ARCHITECTURE

- 16 Channels of Voice
- Dual Active PTT Voice - Key 2 Channels & Monitor up to 16 Channels at Once
- Integrated Radio Over IP (RoIP) Functionality
- Legacy Radio Tethering
- Communicate With Multiple Radio Platforms Simultaneously

REDUCE YOUR SWaP AND INCREASE PERFORMANCE

- Network, Voice, Video, Computer – All in One Device
- Eliminate Extra Radios, Encoders, Receivers & More
- Small, Lightweight Form Factor

ONE SOLUTION. INFINITE POSSIBILITIES

From operational planning to reconnaissance and tactical missions with many moving parts, Persistent Systems' new MPU5 platform delivers reliability and high-performance in one small, light package.

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. Wave Relay® far surpasses typical mesh networks by quickly adapting 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 150 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 make 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. MIMO also significantly extends operating range, making it ideal for military personnel operating in any corner of the world.

MULTIPLE HD VIDEO STREAMS

For some time, the limiting factor for streaming HD video directly from an operator or vehicle was the wireless communication link. Not anymore. MPU5 can not only stream multiple HD videos simultaneously but also be used to encode and decode the video stream, reducing the number of devices the user has to carry. Multiple HD video streams also allow for rapid information exchange from several sources, dramatically increasing situational awareness and optimising synergy of operators in the field.



ANDROID™ ON BOARD

MPU5 runs the Android™ operating system natively, making a wide array of potential solutions available to you. The user can run applications directly on the MPU5 device and develop custom apps, which provides flexibility in different mission sets or use cases. With a situational awareness application like ATAK running on an MPU5 device, the user can view any team member's status, as well as display the whole team's situational awareness information on anything from a large screen display in an operations centre, to a tactical end user device.

ADVANCED AUDIO ARCHITECTURE

MPU5's advanced audio architecture consists of up to 16 voice channels, complete with prioritisation, so that no crucial voice data goes unheard. MPU5's Radio over Internet Protocol (RoIP) capability allows you to tether your current radios to an MPU5 device, bringing them into the network. You can now leverage your current radio infrastructure as a networked resource rather than having it be incompatible with the Wave Relay® MANET. MPU5's standard G.711 codec allows for integration with various Voice over Internet Protocol (VoIP) systems, meaning even more of your current systems are incorporated into the network.



| SPECIFICATION | |
|--|---|
| 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 Frequency Range: 1350—1390 MHz RF-2100* S-Band Frequency Range:2200-2500 MHz RF-3100 † C-Band (Lower):4400-5000MHz C-Band (Upper): 5000—6000MHz</p> <p>6W Transmit Power* (3 x 2W RF chains)</p> |
| BANDWIDTH | <p>Configurable bandwidths: 5MHZ, 10MHz, 20MHz, 40MHz TX/RX</p> <p>Operating modes: All modes from SISO to 3x3 MIMO</p> |
| DEVICE POWER INPUT & AVERAGE CHARGE LIFE | <p>8-28 VDC 8-10 hours on fully charged battery Battery Eliminator Compatible provides other power options</p> |
| ENVIRONMENTAL PROTECTION & MANUFACTURING | <p>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</p> |
| 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</p> <p>Data Port USB On-the-GO RS-232 Serial Ethernet HD Video Input</p> <p>RoIP Port Legacy Radio Tethering Legacy Radio Detection USB Host/RS-232 Serial</p> <p>Video In Port HD-BNC Connection</p> |

* For Military or Licensed Use

† S-Band FCC Compliant in ISM Mode

| SPECIFICATION | |
|-----------------------|---|
| DATA RATE | Up to 150MBPS |
| WAVEFORM | <p>Advanced Wave Relay® multicast algorithms Seamless layer 2 network connectivity Integrated serial-to-Ethernet capability Cloud Relay™ DLEP Certified IPv4 and IPv6 compatible Integrated DHCP server USB RNDIS Host and Device</p> |
| GPS – BUILT IN | <p>3.3V Active Situational Awareness Cursor-on-Target Compliant 1 second updates</p> |
| SECURITY ENCRYPTION | <p>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</p> |
| 3 x 3 MIMO TECHNOLOGY | <p>Extended Range 150 Mbps of throughput Maximal Ratio Combining Spatial Multiplexing Antenna Detection</p> |
| MODULAR RADIO | <p>RF Modulations: OFDM (64-QAM, 16-QAM, QPSK, BPSK) Swappable Radio Modules/Radio Boards Software configurable bandwidths: 5 MHz, 10 MHz, 20 MHz, 40 MHz TX/RX Operating Modes: All modes from SISO to 3x3 MIMO</p> |
| VIDEO | <p>HD-BNC Connection 3G-SDI & Composite Input Integrated HD H.264 Video Encoding/Decoding</p> |
| BATTERY | <p>Low Battery Alert Standard Twist-Lock Connector</p> |



WAVE RELAY®

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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

