Key Features

► Designed for the mobile user

► No need for fixed infrastructure or MAC-level timing

► True peer-to-peer mobile network

► No master node or base station needed

► Massively scalable – add and subtract MPU5s from the network without losing connectivity or reconfiguring devices

► Grows, adapts, and extends as more MPU5s are added

► Intelligent routing algorithms keep you connected and ready for anything no matter your network topology

► Easy Cloud Relay™ and layer 2 integration allow you to connect MANET bubbles across large geographic distances

PERSISTENT SYSTEMS

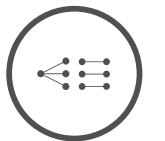**WAVE RELAY® MANET**

P2P

PEER TO PEER ROUTING

ETHERNET

MULTICAST/ UNICAST

PERSISTENT SYSTEMS

ISO 9001: 2008

MADE IN USA

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MPU5
WAVE RELAY®
MANET

THE WORLD'S FIRST SMART RADIO

Specifications

MANET
Wave Relay®
Self Forming/Healing
Peer-to-Peer
No Master Node

Node Entry Time
<1 sec

Max. Number of Hops
No Limit

Max. Number of Nodes
No Limit

Max Distance between Nodes
130 mi

Ethernet
10/100 Mbps
Integrated serial-to-Ethernet

Integration and Extension
Seamless layer 2 network extension
Cloud Relay™ compatible

Protocols
Advanced multicast algorithms
IPv4 and IPv6 compatible
USB RNDIS Host and Device

Network Protocols
UDP Multicast
UDP Unicast
RTP
TCP
Broadcast

Management
Web-Browser-Interface
Secure
Remotely accessible
Network Firmware upgrade

Dimensions (Without Battery)
1.5 x 2.6 x 4.6 in.
3.8 x 6.7 x 11.7 cm

Weight (Without Battery)
13 oz.
368.5 g

Environmental
Operating Temperature: -40°C to +85°C
IP68 Rated - 20 meter immersion for 30 minutes
MIL-STD-810G Shock/Vibe/Salt Fog certified
MIL-STD-461F Emissions certified
FCC certified Part 15
Industry Canada Certified

Security
Cryptographic Acceleration
Suite-B Algorithms
CTR-AES-256 Encryption
SHA-256 HMAC

Power
Input Voltage: 8 – 28 VDC

What is Wave Relay®?

Over the past 15 years, the engineers at Persistent Systems have pioneered the development of Wave Relay® – the world's most advanced Mobile Ad Hoc Network (MANET). The Wave Relay® MANET allows a distributed and decentralized group of fully mobile users to communicate continuously and efficiently without the need for fixed infrastructure or MAC-level timing. Because Wave Relay® does not require any pre-existing infrastructure, it is ideal for applications that require rapid setup and complete mobility.

Where would you use Wave Relay®?

Wave Relay®'s fault-tolerant and self-healing characteristics make it a completely dynamic network that adapts to changes in network topology. Wave Relay® operates at a convergence rate of a sub-millisecond, meaning that the network is constantly calculating the optimal route to transmit data efficiently and without packet loss. This allows for complete network mobility, adaptability, and flexibility. Wave Relay® reaches its highest potential in topologies that involve multiple mobile nodes – whether they be ground, air, or sea assets – and each node is utilized as a transceiver, meaning the MPU5 can serve as a transmitter, receiver, and a repeater. In these topologies, Wave Relay®'s peer-to-peer routing algorithm allows data to be shared rapidly and reliably whenever and wherever you need it.

Peer-to-Peer Routing

Every node on the Wave Relay® network communicates with each other, forming a true peer-to-peer mobile network with no master node or base station. Not only does this eliminate any single points of network failure, it allows for a large and decentralized group of users to maintain a high degree of situational awareness. The Wave Relay® MANET knows "what is going on," empowering the operators to succeed. Because the Wave Relay® MANET is truly peer-to-peer, radios can be added to and subtracted from the network without losing connectivity or reconfiguration. This gives Wave Relay® users the ability to scale the size of the network easily and quickly depending on the needs of the task at hand.

Scalability

Because the Wave Relay® MANET routes data from radio to radio in a true peer-to-peer fashion, the network grows, adapts, and extends as more nodes are added. The network gets stronger with each additional node, thus creating more line of sight (LOS) data paths and heightening network efficiency. Users that would not be able to "see" each other can now connect and distribute situational awareness data without packet loss. The ability to extend your network by seamlessly adding more nodes is unique to Wave Relay® and has proven to be an asset in the field. Massively scalable and incredibly intelligent – the MPU5 keeps you connected and ready for anything.