UAS SOLUTIONS

PUT YOUR PLATFORMS ON THE NETWORK

Persistent offers ready-to-integrate solutions to provide reliable connectivity, bidirectional video transmission, and edge computing power for UAS platforms of all sizes in congested and contested RF environments.

Off-the-shelf solutions are designed to transform UAS platforms into fully networked assets, enabling seamless integration with advanced connectivity and real-time data sharing. Built to meet diverse operational needs, these solutions ensure reliable performance in challenging environments, turning any UAS into a versatile tool for mission success.

For long-range and dependable connectivity, fixed and steerable Ground Control Station (GCS) solutions support both land and maritime operations.

Ready-to-Integrate Networking Solutions for Uncrewed Aircraft Systems (UAS), Drones, & Loitering Munitions

With the Wave Relay® Dismount Kit, end-users can operate UAS platforms, receive video feeds, and control camera gimbals using gear they already carry. The MPU5, paired with your Android™ app, serves as the controller, streamlining mission execution with unmatched reliability.

SOLUTIONS

COMMAND & CONTROL	MILES RANGE (100+)	MBPS THROUGHPUT (100+)
L-, S- & C-BAND AVAILABILITY	HD VIDEO ENCODING & STREAMING	SERIAL-TO-IP FOR AUTOPILOT
WAVE RELAY MANET	WAVE RELAY OS	

EMBEDDED MODULE	MPU5	RF MODULE
INTEGRATED ANTENNA SERIES	MULTI-BAND TRACKING ANTENNA	RDC

NO NDA REQUIRED

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COMPONENTS

UAS Datalink: delivers exceptional connectivity, bidirectional video transmission, and edge computing for UAS platforms of all sizes, particularly in RF-congested and contested environments. Equipped with Wave Relay® devices, RF Modules, and high-performance antennas, these solutions leverage up to 10W of transmit power and 3x3 MIMO technology to ensure long-range, high-throughput communication. Available in L-, S-, and C-Bands, the RF Modules are interchangeable, allowing for flexible integration while adapting to evolving spectrum regulations. The always-on Wave Relay Interference Resilience & Defense (IRD) capability protects the network from interference without compromising performance or scalability.

Designed with a low SWaP form factor, Persistent's UAS Datalink solutions consolidate communication, computing, and video subsystems into a single device. This SWaP optimization enhances UAS flight time and reduces integration complexity. The onboard computing platform powered by Wave Relay OS processes sensor data locally, enabling real-time decision-making while transmitting actionable knowledge instead of raw data.

Ground Control Station (GCS): ensures long-range and high-throughput connectivity for both land-based and maritime missions. The wearable GCS solution allows teams to control UAS platforms up to 15 miles away using MPU5 devices integrated into their gear.

For extended range, the directional GCS solution uses Integrated Sector Antennas, capable of supporting UAS operations up to 75 miles, while maritime GCS solutions provide 360° coverage to swarms of UAS platforms at sea. For even greater reach, the steerable, long-range GCS solution employs Multi-Band Tracking Antennas to achieve connectivity up to 130 miles, even in GPS-denied or contested RF environments. To ensure global connectivity and over-the-horizon control, Cloud Relay™ and Integrated Sector Antennas blanket areas with Wave Relay® coverage, enabling operators to safely manage UAS platforms from remote locations via Layer 3 transports such as SATCOM, Starlink, or Cellular.

Controller / Remote Video Terminal (RVT): the Wave Relay® Dismount Kit serves as the controller for your UAS platform, empowering any end user with an MPU5 and Rugged Display & Controller (RDC) to operate the UAS, view video feeds, or utilize additional sensors and payloads without requiring dedicated equipment. Compatible with standard Android™ flight control apps and software like QGroundControl, the kit allows seamless control via the RDC or TAK with the Wave Relay plugin. Users can also distribute real-time video across the network, enabling teams to access feeds and control pan, tilt, and zoom capabilities even beyond line-of-sight. Additionally, the MPU5's Ethernet and USB connectivity support integration with external controllers for flexible operations.

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