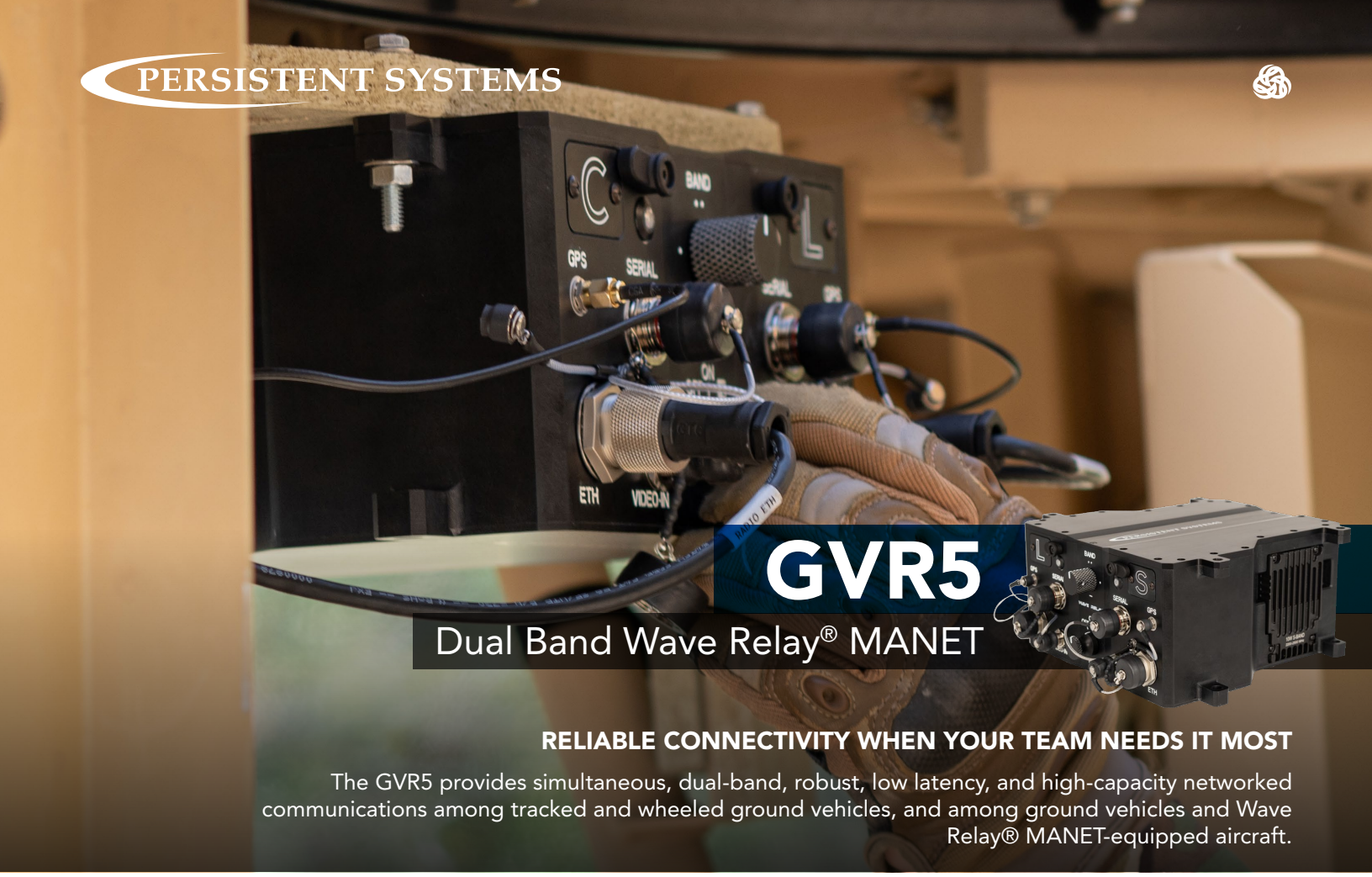
PERSISTENT SYSTEMS



# GVR5

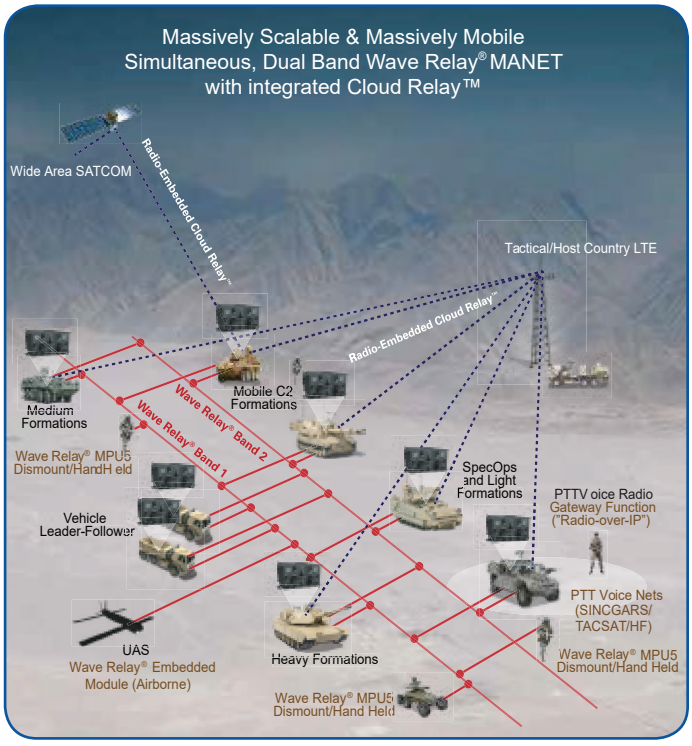
## Dual Band Wave Relay® MANET

### RELIABLE CONNECTIVITY WHEN YOUR TEAM NEEDS IT MOST

The GVR5 provides simultaneous, dual-band, robust, low latency, and high-capacity networked communications among tracked and wheeled ground vehicles, and among ground vehicles and Wave Relay® MANET-equipped aircraft.

Use the Wave Relay® MANET's massively scalable network, with Cloud Relay™ and intelligent Radio-over-IP (RoIP), to rapidly task-organize vehicles, munitions, dismounts, and airborne assets. The GVR5 interoperates with the Wave Relay® MANET family of tactical networking devices.

- Simultaneous Dual Band Wave Relay® MANET (Mobile Ad-Hoc Network)
- Automatically routes communications over the best band depending on geography and RF congestion
- Embedded Cloud Relay™ federates the GVR5 with 3rd Party Communications Systems, such as LTE and Wide Band SATCOM
- Massive Network Scalability & Robust IP networking supports Rapid Task Organization, Joint Operations, & Mobile Command & Control
- Tracked and Wheeled Vehicle Ready
- Ideal for manned-unmanned vehicle teaming and vehicle leader-follower operations




**NO NDA REQUIRED**

**persistentsystems.com**

# SPECIFICATIONS

## Key Features

- Simultaneous Dual Band Wave Relay® MANET
  - **WR-GVR5-SYS-01:** C-Band & L-Band
  - **WR-GVR5-SYS-02:** C-Band & S-Band
  - **WR-GVR5-SYS-03:** L-Band & S-Band
- Optimize communications range, data throughput, and penetration with the GVR5's 3x3 MIMO antennas with vertical and horizontal polarizations.
- Make any command and control service available, virtually, from anywhere in the network, using the GVR5's Internet Protocol differentiated services and efficient voice and video multicast.
- Manually or remotely enable/disable one or both RF bands for LPI/LPD or EMCON operations
- The GVR5's embedded Cloud Relay™, in conjunction with the massively scalable Wave Relay® MANET, makes rarely available means of communicating, such as high capacity SATCOM and LTE, available to anyone in the network.
- The GVR5's on-board video encoder, efficient multicast technology, and IP differentiated services will ensure video renders everywhere it's needed, in time, and without over-loading the network.
- The GVR5 is wheeled and tracked vehicle-ready and has optional ballistic shock mounting for the harshest combat environments.

## Core Features

### Dual Band Communications Options

Choose Any Two Frequency Bands

C: 4430MHz to 5000MHz

L: 1350MHz to 1390MHz

S: 2200MHz to 2507MHz

Selective RF Standby via front panel and software APIs.

### 3x3 MIMO Antenna Options

Optimize communications range and penetration using the GVR5's alternative combinations of vertically and horizontally polarized antennas.

Each antenna type comes with either wide or narrow vertical beam widths to support your unique communications preferences.

### Networking

IPv4/IPv6 with Differentiated Services

Advanced Wave Relay® MANET multicast algorithms

RTP Multicast & Unicast

RTSP Unicast

Layer 2 network connectivity

Cloud Relay™

Integrated DHCP server

### Security

FIPS 140-2 Certification

Integrated Hardware Cryptographic Acceleration

CTR-AES-256 Encryption

HMAC-SHA-256 Authentication & Integrity

NSA Suite-B Algorithms

Cryptographically authenticated Over-the-Air Rekey and Key Zero

Front Panel Single Switch Zero

Add a HAIPE to use the radio on a Type 1 Black Core Network.

### Video

(2) 3G-SDI Input

H.264 Encoding

Native Scaling

**Bit Rates**

500 Kbps - 20 Mbps

**Frame Rates**

6/10/15/24/29.97/30/59.94/60 fps

(59.94/60 fps not available at 1080p)

### (2) 1 GHz Quad Core ARM

Wave Relay OS

### I/O

(2) RJ-45 Ethernet (10/100 Mbps)

(2) 3G-SDI Video

(2) SMA GPS Antenna

(2) RS-232

### Environment

MIL-STD-810

**Temperature**

Storage: -60°F (-51°C) to +160°F (+71°C)

Operating: -25°F (-32°C) to +125°F (+51°C) plus solar radiation 1120W/m2

**Relative Humidity**

95% non-condensing from 86°F (30°C) to 160°F (71°C)

**Altitude**

Storage: -1,312ft to 50,000ft;

Operating: -1312ft to 15,000ft

**Other**

Steam & Water Jet Cleaning, Blowing Sand & Dust, Salt Fog, Fungus, Fording, Shock Pulse, Drop, Vibration, ESD, HEMP, NSL, NBC

Optional ballistic shock mounts

### EMI

MIL-STD-461

CE102

CS101

CS114-116

RE-102

RS-103

### Power: MIL-STD-1275

Reverse Polarity Protection

**Input Voltage Range**

20 to 33VDC

**Max. Power Consumption**

125W

**Starting Operation**

Operates through 12VDC for 1sec (initial engagement surge), 16VDC for 30sec (cranking surge)

**Transient Disturbance**

Operates through 250V for 70µs (spike), 100V for 50ms (surge)

### Human Factors

MIL-STD-1472

### Safety

SEL Form 1183

### Dimensions

10.05"W x 9.96"D x 4.59"H (excluding connectors)

### Max Weight (C/L) Radio

9.5lbs