Wave Relay® is a Mobile Ad Hoc Networking System (MANET) designed to maintain connectivity on the move. It is a scalable, peer-to-peer network which provides data, video, and voice even in the most challenging applications. With user throughput of 41 Mbps UDP and 31.1 Mbps TCP, Wave Relay® provides a dynamic, reliable, and secure wireless networking solution beyond mesh.

The Quad Radio Router includes four customizable radio interfaces, and five 10/100 Mbps Ethernet ports that are IP67 rated and designed for outdoor use. An integrated NATO Audio 6-pin U-283/U connector enables standard push-to-talk headsets and speaker boxes to be connected to the system. Two RS-232 serial ports are available that enable serial-over-Ethernet connectivity.

THE QUAD RADIO ROUTER CAN BE VEHICLE MOUNTED FOR MOBILE DEPLOYMENTS, MAST MOUNTED TO COVER LARGE GEOGRAPHIC AREAS, AND/OR PAIRED WITH A TRACKING ANTENNA SYSTEM KIT TO PROVIDE LONG-RANGE, AIR-TO-GROUND CONNECTIVITY.

It seamlessly operates peer to peer to any Wave Relay® MPU devices.

- Peer-to-Peer Mobile Ad Hoc Network (MANET)
- Secure High Bandwidth Data
- Transfers Data, Video, & Voice
- Multiple Video Streams
- Real-time Position Location
- Push To Talk (PTT) Voice
- Wave Relay® over IP (WRoIP)
- 27Mbps Multicast Throughput
- Cloud Relay Compatible
QUAD RADIO ROUTER

FREQUENCY

<table>
<thead>
<tr>
<th>WR Pin #</th>
<th>WR Frequency Range</th>
<th>WR Output Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-RAD-02</td>
<td>907-922 MHz</td>
<td>28dBm/600mW</td>
</tr>
<tr>
<td>WR-RAD-03</td>
<td>2312-2507 MHz</td>
<td>28dBm/600mW</td>
</tr>
<tr>
<td>WR-RAD-04</td>
<td>2412-2462 MHz</td>
<td>28dBm/600mW</td>
</tr>
<tr>
<td>WR-RAD-09</td>
<td>5180-5320, 5500-5700, 5745-5825 MHz</td>
<td>28dBm/600mW</td>
</tr>
<tr>
<td>WR-RAD-12</td>
<td>2312-2507 MHz</td>
<td>33dBm/2W</td>
</tr>
<tr>
<td>WR-RAD-14</td>
<td>1352-1387 MHz</td>
<td>27dBm/500mW</td>
</tr>
<tr>
<td>WR-RAD-15</td>
<td>4400-4800 MHz</td>
<td>25dBm/320mW</td>
</tr>
<tr>
<td>WR-RAD-16</td>
<td>4800-4985 MHz</td>
<td>26dBm/400mW</td>
</tr>
</tbody>
</table>

DATA CONNECTION

- Connection: 10/100 Ethernet (5)
- Type: RS-232 Serial (2)
- PTT Audio
- 8-48 VDC Input Power

POWER & ENVIRONMENTAL

- Power Consumption: Average - 8 W, Up to 55 W
- Operating Temperature: -40º to 85ºC
- Cooling: Convection
- Enclosure: IP67 Rated

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Modulations</th>
<th>OFDM, DSSS, CCK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel Width</td>
<td>5, 10, 20 or 40 MHz</td>
</tr>
<tr>
<td>Throughput</td>
<td>41 Mbps UDP (20 MHz channel)</td>
</tr>
<tr>
<td></td>
<td>31.1 Mbps TCP (20 MHz channel)</td>
</tr>
<tr>
<td></td>
<td>27 Mbps Multicast Throughput</td>
</tr>
<tr>
<td>Radio</td>
<td>4) N-Type Female</td>
</tr>
<tr>
<td>GPS</td>
<td>(1) SMA Connection (3.3V Active Antenna)</td>
</tr>
<tr>
<td>Size</td>
<td>8.5 x 6 x 2 in</td>
</tr>
<tr>
<td></td>
<td>21.6 x 15.2 x 5.1 cm</td>
</tr>
<tr>
<td>Weight</td>
<td>3.2 lb / 1451.5 g</td>
</tr>
<tr>
<td>Security</td>
<td>FIPS 140-2 Level 2</td>
</tr>
</tbody>
</table>

NETWORKING

- Seamless layer 2 network connectivity
- Industry leading Wave Relay® MANET routing
- 802.11a/b/g AP compatible with MANET
- Integrated serial-to-Ethernet capability
- Cursor-on-Target compatible
- Wave Relay® over IP (WRoIP)
- Dynamic Link Exchange Protocol (DLEP) Certified
- IPV4 and IPV6 compatible
- Integrated DHCP server
- Advanced multicast algorithms

SECURITY

- Integrated hardware cryptographic accelerator
- FIPS 140-2 (Up to level 2)
- Utilizes Suite B algorithms
- Active response to tamper
- AES-CTR-256 with SHA-512 HMAC
- Over the air re-keying

NATIVE VOICE CAPABILITY

- Supports up to 16 channels of Push-to-talk (PTT) Voice
- G.711 codec with toll-quality audio

MANAGEMENT

- Secure web management interface
- Network wide management and configuration functionality
- Google™ Earth based network monitoring

MANUFACTURING & WARRANTY

- Designed and manufactured in USA
- Limited one year warranty
- Monthly training classes available
- Courses led by industry experts
- ISO 9001:2008 certified
- MIL-STD certified

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