Cobham Antenna Systems
Microwave Antennas
Tactical Communications Antennas
Link 16, MIDS, JTRS, JTIDS
The most important thing we build is trust
The Link16 protocol uses frequency bands that cover 960-1215MHz. Our range of extended performance, broadband omni antennas has been designed for use in Link16 systems for terrestrial and naval applications communicating with airborne platforms.

For short range applications a broadband dipole, model EVD2-960-1215/004 that has nominal 0dBi gain and moderate power can be used.

Model XPO2V-500-1300/034 is a high power, 2dBi gain omni, that has been used for marine applications by the UK Navy.

Bandstop Filter

A high power (200W) band pass filter provides 35dB notches at the IFF frequencies 1030MHz and 1090MHz and band stop above 2GHz for protection against harmonics. The filter reduces mutual interference where IFF and Link16 equipment is co-sited. The unit can be mounted externally although it can afford greater protection when located close to the Link16 radio.

<table>
<thead>
<tr>
<th>Antenna Summary</th>
<th>Broadband dipole for 20W transmitters and short range.</th>
<th>Broadband extended performance omni for 200W transmitters, fixed, marine and mobile</th>
<th>Broadband extended performance omni for 200W transmitters, fixed, marine and mobile</th>
<th>Broadband extended performance omni, initially for deployment on Arctic ice breakers</th>
<th>Broadband extended performance omni, for high power 200W transmitters, fixed ground</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Dipole</td>
<td>Single element</td>
<td>Dual element</td>
<td>Quad element</td>
<td>Quad element</td>
</tr>
<tr>
<td>Model</td>
<td>EVD2-960-1215/004</td>
<td>XPO2V-500-1300/034</td>
<td>XY04-960-1215/1425</td>
<td>OA7-1090V/1328</td>
<td>XY04-960-1215/1120</td>
</tr>
<tr>
<td>Gain dBi</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>HPBW Elevation°</td>
<td>80</td>
<td>50</td>
<td>33</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Power handling (mean) W</td>
<td>20</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>Dimensions inch</td>
<td>13x1Ø</td>
<td>13x1Ø</td>
<td>24x1Ø</td>
<td>41x1Ø</td>
<td>40x1Ø</td>
</tr>
<tr>
<td>Dimensions mm</td>
<td>281x25Ø</td>
<td>333x79Ø</td>
<td>620x79Ø</td>
<td>1040x122Ø</td>
<td>1029x79Ø</td>
</tr>
<tr>
<td>Connector</td>
<td>N(F)</td>
<td>N(F)</td>
<td>N(F)</td>
<td>N(F)</td>
<td>N(F)</td>
</tr>
<tr>
<td>Application</td>
<td>Hand held radio/ Vehicle</td>
<td>Vehicle/Fixed ground/ Marine</td>
<td>Vehicle/Fixed ground/ Marine</td>
<td>Ice breaking/ Marine</td>
<td>Fixed ground</td>
</tr>
</tbody>
</table>
High Gain Link16 Antenna XVO7-960-1215/1120

NATO Stock Number: 5985-99-7586585

With the bandwidth of the system and limited transmit power from the aircraft, longer transmission range is achieved by providing higher gain on the ground for receive bands.

The 7dBi gain omni has achieved reception from aircraft at 250 miles (400km) range.

Fly-by Analysis Pattern

Omni antenna XVO7-960-1215/1120 has 17° elevation beamwidth. Detailed analysis has demonstrated that the aircraft will receive stronger signals the closer it gets to the ground antenna, irrespective of aircraft height or elevation angle. This is illustrated showing relative signal strength at the aircraft flying at different altitudes and from 250 miles range to overhead.

This antenna can be incorporated in to MIDS, JTRS and JTIDS systems for high data rate transmission.

The antenna weighs 5.5lbs (2.5kgs) and has a base spigot for mounting to standard 1 inch pole mount clamps, although other configurations are possible.

Product Enhancements

Additional capabilities that are available across Link16 products include:

- Optional integrated GPS antenna
- Feed through for additional omni on top providing high isolation
- Sector antennas to create pseudo-omni pattern
Link16

Link16 is a military inter-computer data exchange format of NATO enabling military aircraft, ships, Army and Marine Corps units to exchange their tactical picture in near real time. Link16 is defined as one of the digital services of the MIDS in the Standardization Agreement STANAG 5516. It is a TDMA-based secure, jam-resistant high-speed digital data link that operates over-the-air in the L-band portion (969–1206 MHz) of the UHF spectrum.

MIDS

MIDS is the NATO name for the communication component of Link-16. Another such terminal is the MIDS-JTRS (MIDS Joint Tactical Radio System). An older MIDS is the JTIDS (Joint Tactical Information Distribution System).

JTIDS

The Joint Tactical Information Distribution System (JTIDS) is the L-band TDMA network radio system used by the US armed forces and their allies to support data communications.

JTRS

The Joint Tactical Radio System (JTRS, often pronounced "jitters") is the next-generation software-defined radio for voice and data that will be backward-compatible with other military and civilian radio systems.

STANAG

STANAG is the NATO abbreviation for Standardization Agreement, which sets up processes, procedures, terms and conditions for common military or technical procedures or equipment between the member countries of the alliance.