Main Features

- Laser gyro inertia motion unit for an autonomous gyro-stabilized shipborne antenna
- Three axis pedestal featuring full hemispheric coverage vs roll-pitch-yaw
- Optimized dual shaped antenna available in 5.5 m and 4.6 m sizes
- High accuracy monopulse feeds for optimal tracking accuracy
- Quick tracking acquisition for any elevation angle
- Special mobility form factors

Main Benefits

- Off-shore extension of tracking & receiving range
- Field and time proven experience, used in many nation critical projects and campaigns

This fully autonomous shipborne antenna system is able to point and acquire targets as low as horizon, even with severe roll and pitch angles.

This antenna system typically complies with medium-size ship inertia at sea (length > 80m).

The shipborne antenna can be directly mounted on the ship’s deck for permanent shipborne use, or proposed in a transportable form factor, for mixed shipborne and land-based applications. When land-based operated, the stabilization system is kept functional, making extra antenna alignment unnecessary.
Mechanicals and Servo-control Specifications

**PEDESTAL**
- Azimuth travel range: ±360°
- Elevation travel range: -25° / +115°
- Cross elevation range: ±25 °/s
- Angular velocity: 20 °/s
- Angular acceleration: 20 °/s²
- Motors: DC brushless
- Position readouts: optical encoders

**REFLECTOR**
- 8 panel segmented carbon auto-aligned reflector

**SERVO-CONTROL**
- Pointing accuracy, sea state 4: ≤0.4° at 3σ
- Tracking accuracy, sea state 4: ≤0.2° at 3σ

**Antenna Control Unit modes**
- Manual, slew, scan, autotrack, program-track

**Digital Tracking Receiver modes**
- S or X band tracking
- Coherent or non-coherent signal acquisition

**Monitoring and Control System**
- Add functions to the antenna system for automated remote sensing stations:
  - Satellite pass scheduling, and orbit calculation
  - Automated pre-pass tests
  - Configuration for each satellite
  - Signal acquisition, autotrack, program-track in backup
  - Log-book; pass graphical analysis
  - M&C of Cortex HDR and Cortex CRT

Environmental Specifications

**Operating Temperature Range:**
- Outdoor equipment: -20°C to +50°C
- Indoor equipment: +10°C to +35°C

**Operational Wind**
- Mean: ≤60 km/h
- Gust: ≤80 km/h
- Survival Wind: ≤160 km/h

**Humidity**
- Outdoor: 100% condensing
- Indoor: 85% non-condensing

Options

- Special mobility form factors (trailer, flat, ISO container)
- Also available in telecom band (L+C, Ku)
- Special telemetry RF feeds available
- Radome for fixed deck installation (necessary for 5.5m antenna)
- L/S/C Tri-band feed for telemetry applications

RF system Specifications

<table>
<thead>
<tr>
<th></th>
<th>L + C</th>
<th>S band</th>
<th>X band</th>
<th>Ku</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed type</td>
<td>Cassegrain with corrugated horn</td>
<td>Central horn</td>
<td>Cassegrain with corrugated horn</td>
<td>Cassegrain with corrugated horn</td>
</tr>
<tr>
<td>Tracking</td>
<td>TE21 mode coupler</td>
<td>8 dipoles monopulse</td>
<td>TE21 mode coupler</td>
<td>TE21 mode coupler</td>
</tr>
<tr>
<td>Receive frequency range</td>
<td>1200 to 1600 MHz 3400 to 4200 MHz</td>
<td>2200 to 2300 MHz (Tx: 2025 to 2120MHz)</td>
<td>8000 to 8500 MHz</td>
<td>10700 to 12750 MHz</td>
</tr>
<tr>
<td>Receive polarization</td>
<td>L: LHCP or RHCP C: H/V or LHCP/RHCP</td>
<td>RHCP and LHCP</td>
<td>RHCP and LHCP</td>
<td>H/V</td>
</tr>
<tr>
<td>-3dB beamwidth</td>
<td>≅ ±1.3° ≅ ±0.5°</td>
<td>≅ ±1.05° ≅ ±0.80°</td>
<td>≅ ±0.25° ≅ ±0.22°</td>
<td>≅ ±0.19°</td>
</tr>
<tr>
<td>G/T of data channel at 5° elevation 8250MHz / 2250MHz 20°C, clear sky</td>
<td>Upon request</td>
<td>13.5 dB/K (4.6m) 16.5dB/K (5.5m)</td>
<td>29.0 dB/K (4.6m) 31.5dB/K (5.5m)</td>
<td>Upon request</td>
</tr>
</tbody>
</table>

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