9.0 meter class antenna for many applications

Applications:

- Tracking LEO and MEO satellites: TERRA, AQUA, NPP, FY3, METOP, NOAA-POES, FY1, FY3, DMSP, JPSS-1 and more
- EOS- Earth Observation Satellites
- DB- Direct Broadcast
- TT&C - general satellite uplink and downlink telemetry, including microsats
- Radar applications for advanced meteorological and environmental analysis
- SARSAT reception of MEO satellites in S and L bands

Advantage:

- Elevation- Over-Azimuth Full Sky coverage mount (Az=0 – 360° ; El= 0 -90°)
- X, S and L band feeds provide communication with low earth orbit (LEO) and medium earth orbit (MEO) satellites with custom radio frequency (RF) components used for satellite communications and public safety applications.
- They have high-efficiency feeds for RX and TX / RX applications with integrated down-converter options.
- Multi-band feeds and optional polarity selection depending on application.
- Built-in filtering options to reject strong out of band interference
- Built-in high isolation diplexers for TX / RX applications.
- POAM Electronics provides combination up-converter / down-converter / loopback test converters for telemetry, tracking and command (TT&C) applications.
- All of the firm's converters are custom-made to the specifications of the client.
Features:

- **Antenna Diameter:** 9.0m
- **Antenna Type:** Ring focus antenna
- **Operating frequency:** Suitable for up to 18GHz
- **Surface accuracy:** 0.5mm
- **Reflector material:** Aluminium
- **Mount type:** EL over AZ Configuration
- **EL range:** 0-90 degree; AZ range: 0-360 degree
- **Antenna control via ACU or PC**
- **Variable speed motors set to the specifications of the client**
- **Software and hardware travel limit switches**
- **Custom-made software for any specific application**
- **Deicing with manual or automatic controls**
- **Standard 19-in Rack Mount Control Unit**
- **Power requirement:** 3-phase AC 50/60 Hz
# RAP-90
## 9m Full-Sky Coverage Antenna

### Electrical Specification:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>L-Band</th>
<th>S-Band</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Operating Frequency, GHz</strong></td>
<td>1.4~1.9</td>
<td>2.2~2.4</td>
</tr>
<tr>
<td><strong>Gain, Mid-band, dBi</strong></td>
<td>39.1</td>
<td>44.3</td>
</tr>
<tr>
<td><strong>Polarization</strong></td>
<td>Two-port or Four port TX/RX Linear / circular Polarization</td>
<td></td>
</tr>
<tr>
<td><strong>Sidelobe dB</strong></td>
<td>20</td>
<td>22</td>
</tr>
<tr>
<td><strong>XPD(on Axis), dB</strong></td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td><strong>XPD across 1dB Beam Width, dB</strong></td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td><strong>VSWR</strong></td>
<td>1.25</td>
<td>1.25</td>
</tr>
<tr>
<td><strong>-3 dB Beam Width, Mid-band</strong></td>
<td>1.5°</td>
<td>1.0°</td>
</tr>
<tr>
<td><strong>Typical G/T (EL&gt;10°, 2-port)</strong></td>
<td>18.73dB/K</td>
<td>22.65dB/K</td>
</tr>
<tr>
<td><strong>Feed Interface</strong></td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td><strong>Port Isolation, H to V dB</strong></td>
<td>35</td>
<td>35</td>
</tr>
</tbody>
</table>

### Mechanical Specification:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>9.0m</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Antenna Diameter</strong></td>
<td>9.0m</td>
</tr>
<tr>
<td><strong>Antenna Type</strong></td>
<td>Cassegrain</td>
</tr>
<tr>
<td><strong>Surface Accuracy(RMS)</strong></td>
<td>&lt;0.5mm</td>
</tr>
<tr>
<td><strong>Antenna Travel Ranges</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Azimuth</strong></td>
<td>0 to 360° (Continuous)</td>
</tr>
<tr>
<td><strong>Elevation</strong></td>
<td>0° to 90° (Continuous)</td>
</tr>
<tr>
<td><strong>Drive Mode</strong></td>
<td>Motorized (AC 3-Phase Motors) with speed controller</td>
</tr>
<tr>
<td><strong>Motor Travel Rates</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Azimuth</strong></td>
<td>Variable (Max 10°/S)</td>
</tr>
<tr>
<td><strong>Elevation</strong></td>
<td>Variable (Max 5°/S)</td>
</tr>
</tbody>
</table>

### Environmental Specification:

<table>
<thead>
<tr>
<th>Parameter</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operational Wind</strong></td>
<td>79km/h gusting to 126km/h</td>
</tr>
<tr>
<td><strong>Survival Wind</strong></td>
<td>198km/h</td>
</tr>
<tr>
<td><strong>Temperature</strong></td>
<td>-40°~+60°</td>
</tr>
<tr>
<td><strong>Relative Humidity</strong></td>
<td>100%</td>
</tr>
<tr>
<td><strong>Solar Radiation</strong></td>
<td>1135Kcal/h/m²</td>
</tr>
<tr>
<td><strong>Seismic(Survival)</strong></td>
<td>0.3g(H), 0.15g(V)</td>
</tr>
<tr>
<td><strong>Ice Loading</strong></td>
<td>13mm Operational; 30mm Survival</td>
</tr>
</tbody>
</table>