ATS-Series
Antenna Tracking System

ATS-series antenna consists of 5.3/4.5/3.7 meters of dual reflectors or prime focus dish with X-Y pedestal configuration. The pedestal is mounted on a rigid base extension tube suitable for installation on ground, rooftop or on track with an optional NPM (None penetrating Mount). Thanks to dual shape optics for achieved the superior G/T performance and prime focus shape to be suitable for verity of application.

The full sky coverage without zenith keyhole makes these antennas suitable for LEO or MEO satellite tracking.

**ATS Antennas Includes:**
- 5.3m, 4.5m or 3.7m dual-reflector or prime focus shape antenna
- Full sky coverage motorized mount with X-Y configuration without zenith keyhole
- high resolution (0.01°) absolute encoders
- Limit switches safety mechanism
- Rack mount Antenna Controller
- X-band horn with Simultaneous LHC and RHC Polarization (other bands also available)
- 50 meter cables
- One year warranty and 10 years part supply

**OPTIONS:**
- NPM (None Penetrating Mount)
- Radome
- LNA
- Custom made feed
- Dual S/X band or single S, C, Ku, Ka band feed
### RF Specifications:

<table>
<thead>
<tr>
<th></th>
<th>ATS-37 (3.7 meter)</th>
<th>ATS-45 (4.5 meter)</th>
<th>ATS-53 (5.3 meter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency band</td>
<td>X-Band (8.0 to 8.5 GHz)</td>
<td>other bands also available</td>
<td></td>
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<tr>
<td>Polarization</td>
<td>Simultaneous RHCP and LHCP</td>
<td></td>
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<tr>
<td>G/T</td>
<td>28.52 dB/K @ 8.2 GHz El=5°</td>
<td>30.23 dB/K @ 8.2 GHz El=5°</td>
<td>32.02 dB/K @ 8.2 GHz El=5°</td>
</tr>
<tr>
<td>Gain</td>
<td>47.44 dBi</td>
<td>49.14 dBi</td>
<td>50.57 dBi</td>
</tr>
<tr>
<td>VSWR</td>
<td>≤1.35:1</td>
<td>≤1.35:1</td>
<td>≤1.35:1</td>
</tr>
<tr>
<td>Beamwidth</td>
<td>0.69° @ 8.2 GHz</td>
<td>0.57° @ 8.2 GHz</td>
<td>0.48° @ 8.2 GHz</td>
</tr>
<tr>
<td>First Sidelobe</td>
<td>&lt; -14dB</td>
<td>&lt; -14dB</td>
<td>&lt; -16dB</td>
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<tr>
<td>Axial ratio</td>
<td>≤1dB</td>
<td>≤1dB</td>
<td>≤1dB</td>
</tr>
<tr>
<td>Isolation</td>
<td>≥40dB</td>
<td>≥40dB</td>
<td>≥40dB</td>
</tr>
</tbody>
</table>

### Mechanical/Environmental Specifications:

- **Antenna Diameter**: ATS53 (5.3m) ATS45 (4.5m) ATS37 (3.7m)
- **Reflector type**: Dual reflector or prime focus
- **Mount type**: X-Y type
- **Antenna travel range**: X/Y ±90° without zenith keyhole
- **Acceleration (each axis)**: 0 to 5°/s²
- **Velocity (each axis)**: 0 to 5°/s
- **Tracking Accuracy**: < 0.05°
- **Pointing accuracy**: 0.07°
- **Surface Accuracy**: 0.5 mm
- **Outdoor Operating Temperature**: -40° to +55° C
- **Indoor Operating Temperature**: 10° to 30° C
- **Outdoor Humidity**: 0% ~ 100%
- **Indoor Humidity**: < 85% non-condensing
- **Operational Wind**: 75 km/h gusting to 85 km/h
- **Survival Wind**: 180 km/h (in park position at zenith) gusting to 210 km/h
- **Seismic**: 0.3 G horizontal, 0.15 G vertical
- **Ice Loading**: 13mm Operational; 25mm Survival
- **Adaptation**: Salt, pollutant, radiation, rain