Main Features

- 5.5 m optimized dual shaped antenna
- Light weight carbon-fiber made reflector panels
- C130 air-transportable off-road trailer for easy truck hookup
- Elevation/Azimuth/Tilt pedestal featuring full hemispherical coverage
- Dual polarized X-band feed (in baseline) for maximum compatibility with all satellites
- Optimal tracking accuracy thanks to high accuracy monopulse feed and auto-levelling electronic system. Quick tracking acquisition at any elevation angle
- X-band baseline feed can be replaced or completed with S-band Rx/Tx autotracking feed for EIRP up to 54 dBW
- Also available with 4.6m dish

In the sphere of field-operable ground stations, Zodiac Data Systems mobile antennas provide the optimum, in terms of cost, performance, reliability, durability, ease of deployment and maintenance.

Our mobile S-band, X-band or combined S+X-band solutions are designed to meet a wide range of customer requirements. All RF subsystems are conveniently housed on the trailer, together with SSPA and frequency converters, sited as close as possible to the antenna. The <30kg carbon reflector panels allow simple system assembly and disassembly in under three hours, without the assistance of external lifting equipment. Our reflectors are corrosive-resistant to frequent handling during deployment.

Durability and ease of installation are key features in the design of our mobile units, which have seen the test of time in both military and civilian applications, often in extreme environments around the world. Air-transportable in C-130 aircraft or similar, our 7m-long trailers facilitate roll-on/roll-off loading and unloading, and simple hookup for off-road vehicle towing. Zodiac Data Systems mobile antenna units are widely deployed around the world in the hands of well-satisfied, military and civilian customers. As with all of the many remote sensing and telemetry systems we manufacture, our after-sales support of our customers is of paramount importance to our company.

FOR TODAY AND TOMORROW AND THE LONGTERM
MAKE ZODIAC DATA SYSTEMS YOUR TECHNOLOGY PARTNER OF CHOICE
### Mechanical and Servo-control Specifications

#### PEDESTAL
- Azimuth travel range ± 360°
- Elevation travel range 0° / 90°
- Angular velocity 15 °/s
- Angular acceleration 20 °/s²
- Motors DC brushless
- Position readouts optical encoders

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

#### SERVO-CONTROL
- Pointing accuracy ≤ 0.15°
- Tracking accuracy ≤ 0.05°

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

### Digital Tracking Receiver modes
- S or X band tracking with auto frequency diversity
- Coherent or non-coherent signal acquisition

### In-Depth 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
  - In-depth M&C of Cortex HDR and Cortex CRT

### Environmental specifications
- **Operating Temperature Range:**
  - Outdoor equipment -30°C to +50°C
  - Indoor equipment +10°C to +35°C
- **Operational Wind**
  - Mean ≤ 72 km/h
  - Gust ≤ 90 km/h
- **Survival Wind**
  - ≤ 160 km/h in tilted configuration
- **Humidity**
  - Outdoor 100 % condensing
  - Indoor 85 % non-condensing

### Options
- 4.6m or 5.5m reflector
- X, S or S+X bands support
- Reflector + feed de-icing
- Fiber Optics
- Cortex CRT and HDR integration for satellite tracking systems
- Cortex RTR and Advantys decommutation for airborne telemetry tracking system
- Operations shelter design & integration

### RF system Specifications

<table>
<thead>
<tr>
<th></th>
<th>S band</th>
<th>X band</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Feed type</strong></td>
<td>Central horn</td>
<td>Cassegrain with corrugated horn</td>
</tr>
<tr>
<td><strong>Tracking</strong></td>
<td>8 dipoles monopulse</td>
<td>TE21 mode coupler</td>
</tr>
<tr>
<td><strong>Receive frequency range</strong></td>
<td>2200 to 2300 MHz</td>
<td>7900 to 8500 MHz</td>
</tr>
<tr>
<td><strong>Receive polarization</strong></td>
<td>RHCP and LHCP</td>
<td>RHCP and LHCP</td>
</tr>
<tr>
<td><strong>Transmit frequency range</strong></td>
<td>2025 to 2120 MHz</td>
<td></td>
</tr>
<tr>
<td><strong>Transmit polarization</strong></td>
<td>RHCP or LHCP</td>
<td></td>
</tr>
<tr>
<td><strong>-3dB beamwidth</strong></td>
<td>± 0.80°</td>
<td>± 0.22°</td>
</tr>
<tr>
<td><strong>Axial ratio</strong></td>
<td>≤ 1.5 dB on axis</td>
<td>≤ 0.5 dB on axis</td>
</tr>
<tr>
<td><strong>G/T of data channel</strong> @ 5° elevation 8250MHz / 2250MHz 20°C, clear sky</td>
<td>≥ 16 dB/K</td>
<td>≥ 31.5 dB/K (X only) ≥ 31.0 dB/K (S+X)</td>
</tr>
<tr>
<td><strong>Transmit Power handling</strong></td>
<td>up to 100 W CW EIRP up to 54 dBW</td>
<td></td>
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</table>

### 5.5m El/Az/Tilt Tracking Antenna

North America office
11800 Amber Park Drive, Suite 140
Alpharetta, GA 30009
Tel. +1 770 753 4017 Fax: +1 770 753 4022
zds.info@zdsus.com

www.zodiacaerospace.com

5 avenue des Andes
91978 Courtabœuf - FRANCE
Tel. +33 (0)1 69 82 78 00
contact_zds-fr@zodiacaerospace.com

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