Overview
The ADVENT Motorised Mantis MSAT Man Portable Data Terminal is the latest evolution of the MSAT range. This highly portable tri-band satellite antenna system is designed for rapid deployment in hostile environments and now has a full 1 button auto acquire operation.

Available with either a 90 or 120cm reflector, the MSAT is one of the most highly specified and advanced antenna systems available.

Applications:
- Secure Military Communications
- First on Scene Broadcast
- Emergency Services
- Special Operations
- Disaster Recovery
- Mining

Features
- X, Ka and Ku bands
- 3 axis simultaneous motorisation
- 1 button auto acquire
- 90 or 120cm reflector
- 23kg (90cm) or 25kg (120cm)
- Mains / Battery Operation
- Fully integrated man portable design
- Interchangeable modem options
- Over 5Mbps data rate for the 90cm version and over 10Mbps for the 120cm
- Less than 5 minute set-up time to satellite acquisition
- Graphical interface control
- ITAR Free
**X-Band Specification**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tx Frequency Band</td>
<td>7.9–8.4 GHz</td>
</tr>
<tr>
<td>Rx Frequency Band</td>
<td>7.25–7.75 GHz</td>
</tr>
<tr>
<td>EIRP (sat)</td>
<td>48.1 dBW</td>
</tr>
<tr>
<td>G/T @ 7.5 GHz</td>
<td>12.8 dB/K</td>
</tr>
<tr>
<td>Axial Ratio</td>
<td>&lt;2.0 dB (Tx), &lt;1.2 dB (Rx)</td>
</tr>
<tr>
<td>BUC Power (saturated)</td>
<td>25 W</td>
</tr>
<tr>
<td><strong>120cm version:</strong></td>
<td></td>
</tr>
<tr>
<td>EIRP (sat)</td>
<td>51.0 dBW</td>
</tr>
<tr>
<td>G/T @ 7.5 GHz</td>
<td>15.5 dB/K</td>
</tr>
</tbody>
</table>

**Ku-Band Specification**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tx Frequency Band</td>
<td>13.75–14.5 GHz</td>
</tr>
<tr>
<td>Rx Frequency Bands from</td>
<td>10.7–12.75 GHz</td>
</tr>
<tr>
<td>EIRP (sat)</td>
<td>54.2 dBW (25W)</td>
</tr>
<tr>
<td>G/T @ 11.7 GHz</td>
<td>19.0 dB/K</td>
</tr>
<tr>
<td>Axial Ratio</td>
<td>Linear H/V</td>
</tr>
<tr>
<td>BUC Power (saturated)</td>
<td>30 dB</td>
</tr>
<tr>
<td><strong>120cm version:</strong></td>
<td></td>
</tr>
<tr>
<td>EIRP (sat)</td>
<td>58.8 dBW (40W)</td>
</tr>
<tr>
<td>G/T @ 11.7 GHz</td>
<td>20.3 dB/K</td>
</tr>
</tbody>
</table>

**Ka-Band Specification**

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<th>Specification</th>
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</thead>
<tbody>
<tr>
<td>Tx Frequency Band</td>
<td>29.5–31 GHz</td>
</tr>
<tr>
<td>Rx Frequency Band</td>
<td>20.2–21.2 GHz</td>
</tr>
<tr>
<td>EIRP (sat)</td>
<td>56.6 dBW (10W)</td>
</tr>
<tr>
<td>G/T @ 20.7 GHz</td>
<td>21.9 dB/K</td>
</tr>
<tr>
<td>BUC Power (saturated)</td>
<td>4, 5 or 10W</td>
</tr>
<tr>
<td><strong>120cm version:</strong></td>
<td></td>
</tr>
<tr>
<td>EIRP (sat)</td>
<td>59.1 dBW (10W)</td>
</tr>
<tr>
<td>G/T @ 20.7 GHz</td>
<td>24.0 dB/K</td>
</tr>
</tbody>
</table>

**Common Specification**

**Power Requirements**
- 90–260 VAC
- External Battery Pack Option for DC unit
  - Note: 10–36 V DC available with 20W X Band and 8W (and lower) Ku Band terminals

**Interfaces**
- AC Power
- L-Band Tx Interface (External Modem)
- L-Band Rx Monitor
- L-Band Modem Output
- RJ45 Ethernet (1 or 2 based on modem option)
- EIA–530 (Modem dependant)
- DVE Encoder version with SDI Input

**Modems**
- Modems may be exchanged at base level maintenance.
- **Modem Options**
  - iDirect e850 mp
  - Comtech DMD1050
  - Paradise Q-Lite modem
  - Elbit – Shiron modem
- **Encoder option**
  - Advent DVE5100 (H.264)

**Certification**
- Skynet 5 (X-Band)
- WGS (X & Ka Band)–Planned

**Control Interface**
- Embedded web server for control and management using external PC for initial base level configuration. Simple two button operator interface for field level control.

**Alignment**
- One button auto acquire, using integrated GPS, compass and beacon / carrier receiver.

**Physical Specification**

**Transportability**
- One airline checkable case

**Packaging**
- Optional Rucksack or rugged carry case in one or two box solution depending on reflector size

**Weight**
- 23 kg / <50.6lbs (without carry case)
- **120cm version:**
  - 25 kg / <55lbs (without carry case)

**Environment Specification**

**Operating Temperature**
- -20°C to +55°C

**Storage Temperature**
- -40°C to +80°C

**Operating Altitude**
- 3000 m

**Survival Altitude**
- 4500 m

**Operating Wind Speed**
- 11.16 ms (5mph / 20.3Kph) – no ballast
- 20.11 ms (45mph / 72.4Kph) – with ballast

**Shock**
- MIL–810F Method 513.5 procedure IV

**Vibration**
- MIL–810F Method 514.1 procedure I

**Sand / Dust**
- DEF STAN 00-35, Pt 3, Iss 4, Test CL25

**Water Ingress**
- DEF STAN 00-35, Pt 3, Iss 4, Test CL27

**EMC**
- B5 EN61000–6–2–2007
- B5 EN61000–6–2–2007

**CE marked**

**Environmental Specification**

**BS EN61000**
- BS EN61000–6–2–2007
- BS EN61000–6–2–2007

**Rating**
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