GROWING DEMAND FOR SPEED

Growth of the latest tablets, phones, and other mobile devices with bandwidth-intensive applications has created an explosion of demand for higher speeds whether this is at home or on-the-go. People want to be connected no matter where they are and 35,000 feet is no exception.

ViaSat is changing way the world communicates by satellite. The Exede® service from ViaSat has revolutionized the residential Internet experience with the highest connection speeds at an affordable price. Now, we are bringing the same experience to airline passengers.

The service is based on a Ka-band system that integrates high-capacity Ka-band satellites and ViaSat’s common ground equipment comprised of satellite hubs and user terminals. The ViaSat Aero Mobile Terminal, models 2540 and 2532, are a key component in delivering a superior connection to commercial aircraft.

HIGHLY-DIFFERENTIATED IN-FLIGHT EXPERIENCE

Commercial airlines can deliver a highly-differentiated inflight service, where many passengers simultaneously enjoy a high-speed connection, while the economics of Ka-band provide a sustainable advantage.

The airborne terminal is an integral part of the ViaSat mobile system delivering the fastest Internet connection speeds to passengers. The Aero mobile terminal delivers typical connection speeds of 70 to 100 Mbps to the aircraft and 2.5 to 20 Mbps from the aircraft.

- Highest quality of service for passengers
  - Capacity to deliver the fastest speeds to each user
  - Coverage over the continental United States and Europe
- Best value to the airline
  - Lowest cost per MB
  - Best passenger experience
- Growing high-capacity coverage worldwide
  - Designed for access to future commercial Ka-band satellites
  - Existing regions to be supplemented with increased coverage

With our partners, high capacity Ka-band services are expanding to international regions based on a common ViaSat platform. As new Ka-band satellites are launched, the coverage will continue to expand, opening new routes for international flights.
### SPECIFICATIONS

#### ANTENNA

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antenna Class</td>
<td>Tx/Rx medium profile airborne antenna</td>
</tr>
<tr>
<td>Array Configurations</td>
<td></td>
</tr>
<tr>
<td>2540 antenna</td>
<td>Suitable for Airbus &amp; Boeing class aircraft</td>
</tr>
<tr>
<td>2532 antenna</td>
<td>Suitable for Embraer &amp; Bombardier/C-series class aircraft</td>
</tr>
<tr>
<td>Aperture</td>
<td>Ka-band dual-polarized waveguide horn array; RHCP/LHCP cross or co-polarization operation possible</td>
</tr>
<tr>
<td>RF Electronics</td>
<td>Airborne Tx/Rx integrated assembly (ATRIA) attached to aperture outside fuselage (to maximize G/T ratio)</td>
</tr>
<tr>
<td>Control System</td>
<td>Built-in antenna control unit attached to aperture outside fuselage with rate sensors and reprogrammable servo-motors (for AZ/EL position control)</td>
</tr>
<tr>
<td>Weight (max)</td>
<td>75 lb</td>
</tr>
<tr>
<td>Dimensions (max)</td>
<td></td>
</tr>
<tr>
<td>Swept Diameter</td>
<td></td>
</tr>
<tr>
<td>2540 antenna</td>
<td>37.3 in</td>
</tr>
<tr>
<td>2532 antenna</td>
<td>31.8 in</td>
</tr>
<tr>
<td>Height</td>
<td></td>
</tr>
<tr>
<td>2540 antenna</td>
<td>8.6 in</td>
</tr>
<tr>
<td>2532 antenna</td>
<td>8.1 in</td>
</tr>
<tr>
<td>Power</td>
<td>From power supply (48V DC)</td>
</tr>
<tr>
<td>Dissipation (max)</td>
<td>180 W</td>
</tr>
<tr>
<td>Tx Frequency</td>
<td>28.1 to 30.0 GHz</td>
</tr>
<tr>
<td>Rx Frequency</td>
<td>18.3 to 20.2 GHz</td>
</tr>
<tr>
<td>G/T</td>
<td></td>
</tr>
<tr>
<td>2540 antenna</td>
<td>12.5 dB/K (with radome loss)</td>
</tr>
<tr>
<td>2532 antenna</td>
<td>11.3 dB/K (with radome loss)</td>
</tr>
<tr>
<td>EIRP</td>
<td>43.5 dB (with radome loss)</td>
</tr>
<tr>
<td>Elevation coverage</td>
<td>0° to 75°</td>
</tr>
<tr>
<td>Azimuth coverage</td>
<td>360° continuous</td>
</tr>
</tbody>
</table>

#### POWER SUPPLY

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Output</td>
<td>48 VDC</td>
</tr>
<tr>
<td>Power Source</td>
<td>+115 VAC input, variable frequency 400 Hz nominal, 100 W maximum, 80 W typical</td>
</tr>
<tr>
<td>Dissipation (max)</td>
<td>55 W</td>
</tr>
<tr>
<td>Dimensions (WxHxD)</td>
<td>11.8 x 3.1 x 7.1 in</td>
</tr>
<tr>
<td>Weight (max)</td>
<td>10 lb</td>
</tr>
</tbody>
</table>

#### MODEM

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return Link</td>
<td>2.5 to 20 Mbps (typical)</td>
</tr>
<tr>
<td>Forward Link</td>
<td>70 to 100 Mbps (typical)</td>
</tr>
<tr>
<td>Navigation Data</td>
<td>ARINC 429 bus</td>
</tr>
<tr>
<td>Size</td>
<td>4 MCU ARINC 600 compliant, type 1 connector</td>
</tr>
<tr>
<td>Weight</td>
<td>10 lb</td>
</tr>
<tr>
<td>Power Source</td>
<td>+115 VAC input, variable frequency 400 Hz nominal, 100 W maximum, 80 W typical</td>
</tr>
<tr>
<td>MAC Layer enhancements</td>
<td>WiMAX mobility protocols satellite beam hand-offs</td>
</tr>
</tbody>
</table>

#### Forward Channel

<table>
<thead>
<tr>
<th>Modulation/Coding</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-APSK Rate</td>
<td>2/3, 3/4, 4/5, 5/6, 8/9</td>
</tr>
<tr>
<td>8PSK Rate</td>
<td>3/5, 2/3, 3/4, 5/6</td>
</tr>
<tr>
<td>QPSK Rate</td>
<td>1/3, 2/5, 1/2, 3/5, 2/3, 4/5, 5/6</td>
</tr>
<tr>
<td>Adaptive Coding &amp; Modulation</td>
<td></td>
</tr>
<tr>
<td>Symbol Rate</td>
<td>10 to 52 MSym/s</td>
</tr>
</tbody>
</table>

#### Return Channel

<table>
<thead>
<tr>
<th>Modulation/Coding</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>8PSK Rate</td>
<td>7/12, 2/3, 3/4</td>
</tr>
<tr>
<td>QPSK Rate</td>
<td>3/8, 1/2, 5/8, 3/4</td>
</tr>
<tr>
<td>BPSK Rate</td>
<td>1/2</td>
</tr>
<tr>
<td>Automatic power control and rate adaptation</td>
<td></td>
</tr>
<tr>
<td>Symbol Rate</td>
<td>625, 1250, 2500, 5000, 10000 and 20000 KSym/s</td>
</tr>
</tbody>
</table>

#### Baseband Interfaces

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAN Interface</td>
<td>1000BaseT Ethernet</td>
</tr>
<tr>
<td>Control</td>
<td>1000BaseT Ethernet</td>
</tr>
<tr>
<td>Aircraft data interface</td>
<td>ARINC™ 429</td>
</tr>
</tbody>
</table>

#### INTERFACE CABLES

<table>
<thead>
<tr>
<th>Modem to antenna</th>
<th>Two IFL cables; each &lt;150 feet ECS 31150 or equivalent loss; DC – 2500 MHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply to antenna</td>
<td>Custom</td>
</tr>
</tbody>
</table>

#### SUPPORTED AIRCRAFT

- **Boeing**: B737, B747, B757, B767, B777
- **Embraer**: E190, E195, E170, E175

### SYSTEM DIAGRAM

![System Diagram](attachment:image.png)

### CONTACT

**SALES**
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