ORBIT

*Communications without Boundaries*

# MPT™ - Multi-Purpose Terminal

Airborne Stabilized VSAT System

## Versatile Solutions for Airborne Platforms

Orbit's Multi-Purpose Terminal is an innovative family of stabilized VSAT systems, delivering high-quality broadband communications via satellite across a range of airborne platforms.

Built to fulfill the "anytime, anywhere" coverage requirements of the military and government airborne satcom markets, MPT supports Ku, Ka and X frequency bands. By providing outstanding RF performance and dynamic response under the harshest environmental conditions, it meets the critical, high-speed communications needs of ISR platforms, mission aircraft, Unmanned Aerial Systems (UAS), helicopters and more.

Today's defense industries are not only demanding optimized Size, Weight and Power consumption (SWaP) characteristics for their broadband communications systems, but also superior reliability and endurance. Orbit is a market leader in providing agile and compliant solutions suitable for any airborne application and integration requirement.

With more than 1,600 airborne systems operating around the world, Orbit's customers include fixed- and rotary-wing, High- and Medium-Altitude Long-Endurance (HALE/MALE), aircraft manufacturers, airborne systems integrators, communications service providers, government agencies, armed forces, and Maintenance, Repair and Overhaul (MRO) companies.

Orbit offers a complete range of airborne building blocks, including airborne modems, BUCs, RF tracking functionality and ground stations, that maximize flexibility and enable future scalability. Its MPT series adheres to the most stringent worldwide satcom and environmental regulations and complies with military standards and/or RTCA DO-160 F/G.

## Parabolic Solution

30- to 90-cm circular antenna terminals supporting Ku, Ka or X bands

## Key Features

- Multiband support
- Optimized Size Weight and Power (SWaP)
- Stabilization using various types of aircraft INS
- Signal RF tracking with either built-in receiver or third-party RSSI source
- Redundant communication ports supporting Ethernet/ Serial/ARINC429 interfaces
- Continuous cable-less polarization compensation for Ku-band
- Low to no BUC-to-Antenna Insertion Loss
- Mil-STD and/or RTCA DO160 F/G certification

# MPT System Specifications

| | MPT 30 | MPT 46 | MPT 60 | MPT 87 |
|---|---|---|---|---|
| **Parameters** | | | | |
| Frequency Range | Ku-band - Tx: 13.7-14.5 GHz, Rx: 10.9-12.7 GHz<br>Ka-band - Tx: 29.0-31.0 GHz, Rx: 19.2-21.2 GHz | | | |
| Antenna Size | 30 cm | 46 cm | 60 cm | 87 cm |
| Polarization | Ku-band: Linear V/H or H/V electrically selectable<br>Ka-band: Circular | | | |
| G/T (Typical, at mid-range, at 30° elevation, without radome) at ground level | Ku-band: 9.0 dB/°K<br>Ka-band: 10.0 dB/°K | Ku-band: 12.4 dB/°K<br>Ka-band: 13.7 dB/°K | Ku-band: 14.5 dB/°K<br>Ka-band: 15.9 dB/°K | Ku-band: 17.0 dB/°K<br>Ka-band: 18.8 dB/°K |
| G/T (Typical, at mid-range, at 30° elevation, without radome) at 35,000 ft | Ku-band: 10.3 dB/°K<br>Ka-band: 11.7 dB/°K | Ku-band: 13.7 dB/°K<br>Ka-band: 15.2 dB/°K | Ku-band: 16.0 dB/°K<br>Ka-band: 17.2 dB/°K | Ku-band: 18.0 dB/°K<br>Ka-band: 20.1 dB/°K |
| EIRP (without radome) using 50W BUC (both Ku and Ka) | Ku-band: 45.8 dBW<br>Ka-band: 52.0 dBW | Ku-band: 50.4 dBW<br>Ka-band: 56.7 dBW | Ku-band: 52.7 dBW<br>Ka-band: 59.0 dBW | Ku-band: 56.0 dBW<br>Ka-band: 62.0 dBW |
| Pedestal Type | Elevation Over Azimuth | | | |
| Azimuth Range | Continuous 360° | | | |
| Elevation Range (mechanical) | 0° to 90° | | | |
| Signal Tracking Accuracy | Better than 0.15 dB RMS | | | |
| Weight (w/o radome & BUC) | ~ 10 Kg | ~ 12 Kg | ~ 15 Kg | ~ 28 Kg |
| Environmental Conditions | According to Airborne RTCA DO-160G/MIL-STD | | | |

Note:
Orbit's flight-tested building blocks, variety of frequency-band configurations (Ka-band, ITU range) and turnkey solutions (including modem, RF tracking, ground station, etc.) ensure fast delivery and timely in-service dates.

More than 25 YEARS of experience