

More than
25 YEARS
of experience



Military airborne stabilized VSAT systems

Versatile solutions for a range of airborne platforms

Orbit's Multi-Purpose Terminal (MPT) is a family of innovative stabilized VSAT systems, delivering high-quality broadband communications via satellite to a range of platforms.

Built to meet the regional and global coverage needs of the military mobile market, MPT supports Ku, Ka and X frequency bands. By providing outstanding RF performance and dynamic response under the harshest environmental conditions, it meets the broadband 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 solutions suitable for any airborne application and installation method.

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.

MPT solutions

Parabolic

30cm to 90cm circular-antenna terminals supporting Ku, X or Ka frequency bands (by swapping RF front ends).

Key features

- Multiband support
- Optimized Size Weight and Power (SWaP)
- Stabilization using various types of aircraft INS
- Optional Integrated IMU
- 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 none 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: 13.75-14.50 GHz, Rx: 10.95-12.75 GHz Ka-band: Tx 29.0-31.0 GHz, Rx: 19.2-21.2 GHz			
Antenna Size	Diameter: 31 cm	Diameter: 46 cm	Diameter: 60 cm	Diameter: 87 cm
Polarization	Ku-band: Linear V/H or H/V electrically selectable Ka-band: Circular			
G/T (Typical, at mid-range, at 30° elevation, without radome) at ground level	Ku-band: 8.0 dB/°K Ka-band: 10.7 dB/°K	Ku-band: 12.4 dB/°K Ka-band: 13.7 dB/°K	Ku-band: 14.5 dB/°K Ka-band: 15.9 dB/°K	Ku-band: 17.0 dB/°K Ka-band: 18.8 dB/°K
G/T (Typical, at mid-range, at 30° elevation, without radome) at 35,000 ft	Ku-band: 9.1 dB/°K Ka-band: 12.0 dB/°K	Ku-band: 13.7 dB/°K Ka-band: 14.9 dB/°K	Ku-band: 16.0 dB/°K Ka-band: 17.2 dB/°K	Ku-band: 18.0 dB/°K Ka-band: 20.1 dB/°K
EIRP (without radome) using 50W BUC (both Ku and Ka)	Ku-band: 45.8 dBW Ka-band: 52.0 dBW	Ku-band: 50.4 dBW Ka-band: 56.7 dBW	Ku-band: 52.7 dBW Ka-band: 59 dBW	Ku-band: 56.0 dBW Ka-band: 62.0 dBW
Pedestal Type	Elevation Over Azimuth, with Polarization compensation			
Azimuth Range	Continuous 360°			
Elevation Range (mechanical)	0° to 90°			
Velocity	Az & Pol: 150°/sec El: 50°/sec	40°/sec		
Acceleration	Az & Pol: 150°/sec ² El: 50°/sec ²	50°/sec ²		
Signal Tracking Accuracy	Better than 0.15 dB RMS			
Weight (w/o radome & BUC)	~ 11 Kg	~ 14Kg	~ 15 Kg	~ 22 Kg
Swept Volume	H: 35 cm D: 34 cm	H: 58 cm D: 50 cm	H: 70 cm D: 66 cm	H: 97 cm D: 100 cm
Environmental Conditions	According to Airborne RTCA DO-160G/MIL-STD			

Note:

Orbit's flight-tested building blocks, variety of frequency-band configurations (e.g., Ka-band, ITU range) and turnkey solutions (including modem, RF tracking, ground station, etc.) are all available within short lead times.

