MPT™

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, regular and wideband Ka and X frequency bands. By providing outstanding RF performance and dynamic response under the harshest environmental conditions, it meets the broadband needs of 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 and armed forces.

Orbit provides turnkey airborne solutions, including aero 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 the Radio Technical Commission for Aeronautics (RTCA) DO-160 F/G and/or military standards.

MPT solutions

Parabolic

30, 34, 46 and 60cm circular-antenna terminals optimized for SWaP and multi-band operation (by swapping RF front ends per frequency band)

Low-profile

28cm-high terminals available in Ku, Ka and Ku/Ka auto-switching configurations

Key features

- Multi-band support via RF front ends
- Optimized SWaP
- Tracking/ stabilization via feedback from INS and RF tracking
- 25 years' experience
- RTCA DO160 and MIL-STD certification

ORBIT *If you can conceive it, we can provide it.*

MPT™ system specifications

	MPT 34	MPT 46	MPT 60	MPT 25LP
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	34cm (Parabolic Antenna)	46cm (Parabolic Antenna)	60cm (Parabolic Antenna)	Height 285 Diameter 770
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: 9.7 dB/°K Ka-band: 10.9 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: 10.2 dB/°K Ka-band: 11.4 dB/°K
G/T (Typical, at mid-range, at 30° Elevation, without radome) At 35,000 Ft	Ku-band: 11 dB/°K Ka-band: 12.2 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: 11.6 dB/°K Ka-band: 12.6 dB/°K
EIRP (without radome) Ku-Band: P1dB Ka-Band: PSat	Ku-band: 46.3 dBW (with 50W BUC) Ka-band: 45.7 dBW (With 10W BUC)	Ku-band: 50.4 dBW (with 50W BUC) Ka-band: 49.7 dBW (With 10W BUC)	Ku-band: 52.7 dBW (with 50W BUC) Ka-band: 52 dBW (With 10W BUC)	Ku-band: 46.8 dBW (with 50W BUC) Ka-band: 46 dBW (With 10W BUC-)
Pedestal Type	Elevation Over Azimuth, with Polarization compensation			
Azimuth Range	Continuous 360º			
Elevation Range (mechanical)	0º to 90º			
Velocity	40º/sec			
Acceleration	50º/sec²			
Tracking Accuracy (excluding radome beam deflection and CFE INS error)	Better than 0.2º			
Weight (w/o radome & BUC)	~ 14 Kg	~ 15Kg	~ 15 Kg	~ 33 Kg
Swept Volume	H: 46 cm D: 48 cm	H: 58 cm D: 50 cm	H: 70 cm D: 66 cm	H: 29 cm D: 77cm
Environmental Conditions	According to Airborne RTCA DO-160G/MIL-STD			According to Airborne RTCA DO-160F/ MIL-STD

Notes:
- Support for antenna diameters ranging from 30-90cm
- Additional configurations (including X-band) available
- Optional radome tuned for single- or multi-frequency ranges
- Turnkey solution available (including modem, RF tracking, autonomous Inertial Navigation System (INS), ground station, etc.)