



MPT WGX™ Airborne Satcom Terminal

Ka-Band Multi-Purpose VSAT System





Multi-Role Airborne Terminal for Inmarsat Global Xpress and WGS

Orbit's innovative MPT WGX family of modular, highly reliable multi-role aviation terminals are fully interoperable between the Wideband Global Satcom (WGS) system and Inmarsat's Global Xpress (GX) constellation.

MPT WGX operates across commercial and military Ka-bands through a 30 cm (12") or 46 cm (18") antenna, fully integrated with modems, electronics and software. The lightweight, small-footprint terminals couple high performance and Orbit's industry-leading reliability, enabling a wide range of communication opportunities for unmanned aerial vehicles (UAVs), military mission aircraft, rotary-wing platforms and business jets.

Built to fulfill the "anytime, anywhere" connectivity needs of the military, governmental and business aviation markets, MPT WGX provides outstanding RF and tracking performance under the harshest environmental conditions.

Orbit offers a complete range of airborne building blocks, including airborne modems, BUCs, RF tracking functionality and ground stations, that maximizes flexibility and meets current and future mission requirements. MPT WGX adheres to the most stringent worldwide satcom and environmental regulations and military standards.

Tracking Superiority

The combination of Orbit's Advanced Control Loop™ algorithm and integrated RF tracking meets the demanding accuracy requirements of Ka-band, ensuring maximum gain, signal stability, as well as optimized margins and throughput.

Seamless Global Coverage

MPT WGX enables worldwide connectivity, across the range of Ka-band frequency bands, through Inmarsat's global GX satellite coverage or via the WGS system. The system is electronically switchable between networks bands and polarizations via Automatic Beam Switching (ABS) using the industry-standard OpenAMIP protocol.

Full Regulatory Compliance

MPT WGX complies with industry regulations and standards including FCC, ETSI, Inmarsat Global Xpress, WGS and RTCA DO-160G. Orbit has extensive experience qualifying and integrating terminals into new networks, airframes and platforms.

Reliability and Durability

Designed to withstand the most demanding airborne conditions, MPT WGX features a rugged electro-mechanical design that complies with the most stringent environmental standards for shocks and vibrations.

Simple Integration and Installation

Orbit systems are shipped pre-configured and pre-tested and can usually be installed in a matter of hours. Physical dimensions and interfaces are standardized, enabling immediate installation on a range of platforms.

World-Class Customer Support

Through our international service centers, Orbit's trained support engineers are available 24/7 to handle the urgent needs of customers worldwide.

A global inventory replenishment system ensures efficient spare parts distribution across regions. With the capability to remotely access systems for troubleshooting and diagnostics, Orbit's real-time service support increases availability and enhances customer satisfaction and cost benefits.



Serving Diverse Airborne Segments

- Mission aircraft
- UAVs
- Rotary-wing platforms
- Vertical Take-Off & Landing (VTOL)
- Business jets

Key Features

- WGS (MIL-STD-188-164C) compliance
- Inmarsat GX Category 1 & 4 certification (in process)
- G-MODMAN / RG-MODMAN compatibility
- User-friendly web user interface
- OpenAMIP/OpenBMIP protocol and SNMP support
- Optimized Size Weight and Power (SWaP)
- Stabilization using various types of aircraft INS
- Integrated RF electronics behind the aperture
- RTCA/DO-160G certification

MPT WGX Ka-Band Antenna System Specifications

	MPT 30WGX	MPT 46WGX
Frequency Range (Multi-role terminal support for both GX and WGS)	Tx 29.0-31.0 GHz, Rx: 19.2-21.2 GHz	
Antenna Size	30 cm / 12"	46 cm / 18"
Polarization	Circular, 4-port, electrically switchable Co/Cross-Pol	
G/T (Typical, at mid-band, at 30° elevation, without radome) @ 36,000 ft	11.7 dB/°K	15.2 dB/°K
EIRP Psat @ mid-band (without radome)	50.2 dBW	55.3 dBW
Pedestal Type	Elevation Over Azimuth	
Azimuth Range	Continuous 360°	
Elevation Range (mechanical)	0° to 90°	
Pointing Accuracy	≤0.2°	
Weight on Tail	<12.0 Kg	13.6 Kg
Installation Options	Multiple (e.g., Tail/Avionics Bay/Fuselage)	
KPSU Input Voltage [RTCA/DO-160G]	+28 V DC, Typical	
Operational Temperature	-55° C to +70° C	
Altitude	55,000 ft	
Environmental Conditions and EMI/EMC	Airborne RTCA/DO-160G	

Note:

Orbit's flight-proven building blocks, range of frequency-band configurations (e.g., Ku, Ka-Wideband and X) and a variety of turnkey solutions (including modem, RF tracking, ground station, etc.) ensure fast delivery and timely in-service dates.

