



Airborne stabilized VSAT systems

Versatile solutions for a range of airborne platforms

AirTRx is a family of innovative airborne stabilized VSAT systems, providing quality broadband communications via satellite to various airborne platforms.

Designed to accommodate the regional and global coverage needs of the airborne market, AirTRx supports Ku, Ka and X frequency bands. By providing outstanding RF performance and dynamic response under the most challenging conditions, it meets the broadband needs of mission aircraft, commercial and business jets, as well as helicopters.

As customers demand more complex, compact, reliable and comprehensive broadband infrastructure to support audio, video and data services, Orbit continues to invest heavily in R&D to maintain and enhance its position as a leading provider of flexible advanced systems suitable for any airborne application.

With more than 1,600 airborne systems in operation globally, Orbit's customers include aircraft manufacturers (including helicopters and UAVs), 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 to fulfill customer needs and assure future scalability. Its AirTRx series adheres to the most stringent worldwide satcom regulations and complies with the Radio Technical Commission for Aeronautics (RTCA) DO-160 F/G standard.

AirTRx solutions

Parabolic

30, 34, 46 and 60cm circular-antenna terminals optimized for SWaP and multi-band operation (by swapping RF front ends by 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
- Unique polarization compensation, with cableless rotation
- Optimized SWaP
- Short lead time
- Tracking/stabilization via feedback from INS and RF tracking
- 25 years' experience
- RTCA DO160 F/G certification



AirTRx™ system specifications

	AirTRx 34	AirTRx 46	AirTRx 60	AirTRx 25LP
Parameters				
Frequency Range*	Ku-band: Tx: 13.75-14.50 Rx: 10.95 – 12.75 Ka-band: Tx 29.0-31.0 Rx: 19.2 – 21.2			
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 360°			
Elevation Range (mechanical)	0° to 90°			
Velocity	40°/sec			
Acceleration	50°/sec ²			
Tracking Accuracy (excluding radome beam deflection and CFE INS error)	Better than 0.2°			
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			According to Air- borne RTCA DO-160F

Notes:

- Support for antenna diameters ranging from 30-90cm
- Additional configurations (including X-band) available
- Optional radome
- Turnkey solution available (including modem, RF tracking, ground station, etc.)

