

More than  
**25 YEARS**  
of experience



## 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 and Ka frequency bands. By providing outstanding RF performance and dynamic response under the most challenging conditions, it meets the broadband needs of mission aircrafts, commercial and business jets, as well as helicopters.

As customers demand more sophisticated, compact and reliable broadband infrastructure to support audio, video and data services, Orbit continues to enhance its position as a leading provider of flexible advanced systems for multiple airborne applications.

With more than 1,600 airborne systems in operation globally, Orbit's customers include 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 to fulfill customer needs and assure future scalability. Its AirTRx series adheres to the most stringent worldwide satcom regulations and complies with the RTCA DO-160 F/G standard.

### AirTRx solutions

#### Parabolic

25cm to 60cm circular antenna terminals supporting Ku or Ka frequency bands (by swapping RF front ends)

#### Low-profile

28cm-height elliptical antenna terminals available in Ku, Ka and Ku/Ka electrically switching configurations

### 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
- RTCA DO160 F/G certification



## AirTRx™ system specifications

	AirTRx 30	AirTRx 46	AirTRx 60	AirTRx 25LP
<b>Parameters</b>				
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	Height: 21 cm Width: 60 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: 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: 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: 11.6 dB/°K Ka-band: 12.6 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: 46.8 dBW Ka-band: 53 dBW
Pedestal Type	Elevation Over Azimuth, with Polarization compensation			
Azimuth and Polarization Range	Continuous 360°			
Elevation Range	0° to 90°			
Velocity	Az & Pol: 150°/sec El: 50°/sec	40°/sec		
Acceleration	Az & Pol: 150°/sec <sup>2</sup> El: 50°/sec <sup>2</sup>	50°/sec <sup>2</sup>		
Signal Tracking Accuracy	Better than 0.15 dB RMS			
Weight (w/o radome & BUC)	~ 11 Kg	~ 14Kg	~ 15 Kg	~ 33 Kg
Swept Volume	H: 35 cm D: 34 cm	H: 58 cm D: 50 cm	H: 70 cm D: 66 cm	H: 28.5 cm D: 77cm
Environmental Conditions	According to Airborne RTCA DO-160			

**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.

