



## AirTRx™

### Airborne Satcom Systems

#### Optimized Solutions for Airborne Platforms

The innovative AirTRx family of airborne satcom systems enables reliable, high-speed connectivity across a range of airborne platforms.

Today's customers are demanding increasingly capable, compact and reliable airborne satcom systems to provide critical aircraft and customer services. Orbit continues to enhance its position as a leading provider of flexible, industry-leading systems to enable and grow airborne applications.

Serving the growing regional and global coverage needs of airlines, government agencies and fleet operators, AirTRx supports Ku and Ka frequency bands. Through 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.

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 complete, pre-assembled and tested systems, configurable from a range of modular system building blocks – including modems, BUCs, and RF tracking functionality. Additionally, Orbit supplies ground stations to help establish and scale customer networks.

The AirTRx series complies with the most stringent worldwide satcom regulations and meets 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 negligible BUC-to-Antenna Insertion Loss
- RTCA DO160 F/G certification

# AirTRx system specifications

	AirTRx 30	AirTRx 46	AirTRx 60	AirTRx 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	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.



info@orbit-cs.com | www.orbit-cs.com

