

AL-3601-TxRx

Ku-Band Train Satcom Antenna System



In today's dynamic world, having access to broadband networks anywhere and anytime, has become essential. Whether at home, at work or traveling, Orbit's train satcom solution keeps you in touch - always. Orbit & TeS offer the ultimate solution - a VSAT Ku-Band Mobile Stabilized Antenna System for high-speed trains. Characterized

by a low profile Radome to suit high-speed trains, this highly efficient system allows passengers to maintain their daily routine while traveling, saving time and cost.

With no need for an external compass, tracking is free of disturbances or high-current electrical wiring. This is achieved by a combination of solid-state rate gyro, a GPS receiver and an NBR (Narrow Band Receiver), enabling accurate and reliable satellite tracking. The system includes a 3 axes stabilized pedestal incorporating a unique elevation motion of the reflector.

AL-3601-TxRx is an easy to operate plug & play system, which is completely independent of the train, requiring a 24 Volt DC power source only.

Benefits

- Innovative technology
- Low profile Radome
- No need for external compass
- A single cable between the antenna system and the indoor equipment
- ETSI & FCC satellite regulations compliant
- EN-50155 train standard compliant

Key Features

- High EIRP & G/T antenna system
- Self contained IMU (Inertial Measurement Unit)
- Unique RF tracking algorithm with NBR ensuring positive satellite identification
- Tx/Rx VSAT system (available as TVRO as well with optional future upgrading to Tx/Rx)



System Specifications

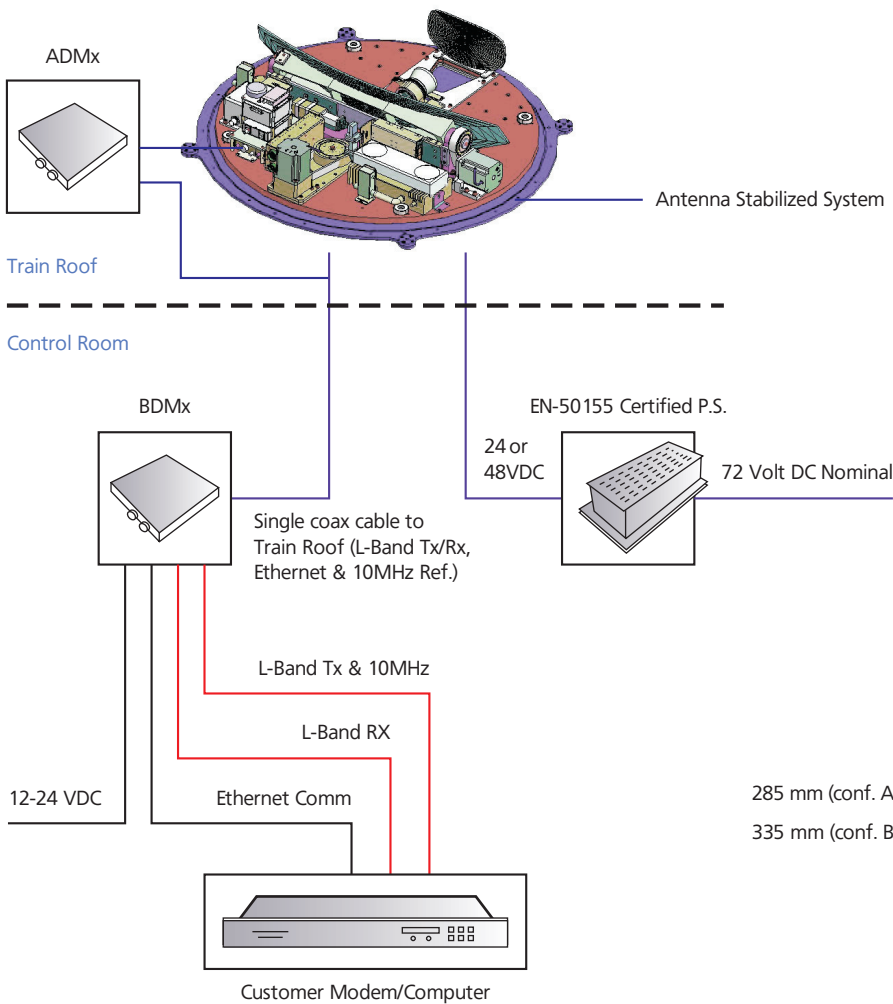
Antenna Sub-System			
Parameter		Units	Values
Frequency Range	Rx	GHz	10.95-12.75
	Tx		14.00-14.50
Antenna Gain	Rx	dBi	31.0
	Tx		32.5
System G/T @ 10/95 GHz		dB/K	9.5
System EIRP		dBW	40.5 (with 8w BUC)
Cross-Pol.		dB	Better than 30
Polarization			Linear(V/H)

Stabilized Sub-System			
Parameter		Units	Values
Axis Travel		Deg.	
Elevation Conf. A			15 to 47*
Elevation Conf. B			38 to 70**
Azimuth			Continuous
Polarization			±90
Velocity (AZ, EL & Pol)		Deg/sec	20
Acceleration			
Angular (AZ, EL & Pol)		Deg/sec	20
Linear		km/hr/sec	20
Pointing Accuracy		Deg	
Elevation			< 0.5
Azimuth			< 0.5
Polarization			< 0.5

System			
Parameter		Units	Values
Train Speed		Km/hr	350
Input Voltage		Volt DC	72
Input Power		Watt	350
Operating Temperature		°C	-25 to 50
Storage Temperature		°C	-40 to 80
Relative Humidity (with radome)			100%
System Weight		KG	90 (APPROX)

* Radome height 285mm ** Radome height 335mm

System Layout

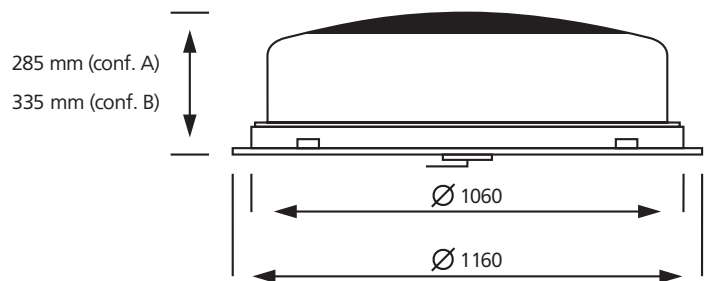


The system consists of:

- Antenna Reflector and Feed, (with polarization compensation)
- LNB's (one of three covering Rx range 10.95 -12.75 GHz.
- 8w BUC & RF Front-End
- Polarization over Elevation over Azimuth positioner
- Antenna Control Unit (ACU) & Narrow Band Receiver (NBR)
- Inertial Measurement Unit
- GPS receiver
- Radome & Radome base

The system is fully independent of the Train, requiring a source of DC power only.

Outline Dimensions



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