

Av-Comm 4.5m Ku Band Inclined Orbit Antenna System TECHNICAL SPECIFICATIONS

The Av-Comm 4.5m Ku Band Inclined Orbit Antenna System has been designed to provide a reliable and cost effective solution for inclined orbit tracking applications. Our solution utilises a high performance 4.5m reflector integrated with an Antenna Control Unit (ACU) which provides the motorisation and tracking functionality. Our solution can be configured for use in a variety of frequency bands and can support tracking via Step, Memory, or TLE methods.

The Av-Comm 4.5m Ku Band Inclined Orbit Antenna System is designed for teleport and uplink providers who require accurate and reliable antenna positioning essential to inclined orbit tracking operations. The antenna system can also be used as a motorised system to allow for fast and accurate positioning of the antenna between satellites.

Note: Additional frequency band solutions available

Main Features

- 4.5m Aperture Antenna
- Step Track/Memory Track/TLE Tracking
- 16 Bit resolver position sensors 0.005 degree resolution
- Variable Speed Drives (VSDs) for azimuth and elevation motor control (single or dual speed)
- Three axis motorisation (Az/El/Pol*)
- Ethernet interface
- Support SNMP monitoring
- Spectrum analyser*
- Local antenna jog control
- Stainless steel ACU enclosure*
- Emergency stop
- Hard and soft position limit interlocks
- Integrated beacon receiver for satellite position tracking*

Antenna Specifications	cat# D1046	
Parameter	Receive	Transmit
Frequency (GHz)	12.25 -12.75	14.0-14.5
	*10.95-12.75	
Gain at Midband	53.63dB	54.7dB
Sidelobes 1 st sidelobe 1 00 λ /D° ≤ ⊖ ≤ 48°	-14dB 29-25Log O dBi	-14dB 29-25Log 0 dBi
VSVVR	1.25:1	1.25.1
Beamwidth	0.35°	0.3°
Typical G/T at 20º Elevation, Clear Horizon, 4Hz with 55ºK LNA	24.8dB/°K (11.85GHz, with 90°K LNA)	
Feed Interface	WR-75F	WR-75G
Feed Insertion Loss	0.25dB	0.4dB
Cross Polarization Isolation		
On Axis	35dB	35dB
Within 1dB Beamwidth	30dB	30dB
Port to Port Isolation (Tx-RX with Filter)	≥85dB	
Axial Ratio (Circular Polarization)		
2 Port Tx/Rx	1.3	1.09







Environment Specifications	
Wind Loading Operational	126km/h
Wind Loading Survival	198km/h

Mechanical Specifications	Parameters
Azimuth Adjustment	360° continuous
Elevation Adjustment	5° to -90°
Polarisation Adjustment	±90°
*Optional	