

1.8 m Type-Approved Tx/Rx Antenna Systems



TX-INT180KU
IntelSat Type-Approval #IA083A00



TX-EUT180KU

Features

- AZ/EL interface to 4 in O.D. Pipe / 10.16 cm
- Azimuth Fine Tune $\pm 15^\circ$ for Pointing Accuracy
- Dual side galvanized steel powder coated
- Single Piece Deep Draw Reflector Provides Superior Surface
- Boom Supports 50 lbs / 22.26 kg
- Includes Two port Linear Tx/Rx Feed assembly

Description

Why pay more for a transmit/receive antenna? The Patriot single and dual optics antennas are excellent for VSAT applications and hold IntelSat type-approval. With a past history of use in high quality SNG (Satellite News Gathering) applications, the 1.8 m antenna provides a level of surface accuracy, rugged stiffness, and precision not often found in similarly priced products. The stamping process that produces the solid metal reflector results in superior surface accuracy and repeatability. The steel back structure adds strength and stability to the system and keeps the installation process simple.

The Navigator Style fine tune Azimuth and Elevation cap reduces pointing errors during installation, allowing more accurate boresighting on the satellite. Increased pointing accuracy leads to greater link availability. Special packaging techniques are employed for every system shipped to protect the surface of the dish.

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Intelsat Type-Approval #IA091A00

C-Band		C-Band Linear		C-Band Circular		
Polarity		Receive		Receive		Transmit
Frequency		3.4-4.2 GHz		3.625-4.2 GHz		5.85-6.425 GHz
Feed - 2 Port Xpol						
Return Loss		17.7 dB typ		17.7 dB typ		17.7 dB
Insertion Loss		0.2 dB		0.3 dB		0.2 dB
Tx/Rx Isolation		40 dB		40 dB		60 dB
Feed Interface		WR229		WR229		WR137
Antenna Specifications						
Efficiency		70%		70%		70%
Midband Gain		36.0 dBi		35.6 dBi		39.5 dBi
Noise Temperature		55 K @ 10°		65K @ 10°		---
(6.138 Tx, 4.0 Rx)		50 K @ 30°		(6.138 Tx, 4.0 Rx)		60K @ 30°
Cross Pol On Axis		30 dB		15.3 dB		17.7 dB
1 dB beamwidth		22 dB		15.3 dB		17.7 dB
Tx/Rx Sidelobe Level		29 - 25 log θ		100 $\lambda/D < \theta < 20^\circ$		20° < $\theta < 26.3^\circ$
		-3.5		26.3° < $\theta < 48^\circ$		48° < θ
		32 - 25 log θ				
		-10				
Ku-Band						
		Ku-Band Linear				
Polarity		Receive		Transmit		
Single Optic Frequency		10.7 - 12.75 GHz		13.75-14.5 GHz		
Feed - 2 Port Xpol						
Return Loss		17.7 dB typ		20 dBtyp		
Insertion Loss		0.3 dB typ		0.1 dBtyp		
Tx/Rx Isolation		40 dB		80 dB		
Feed Interface		WR75		WR75		
Antenna Specifications						
Efficiency		70%		70%		
Midband Gain		45.3 dBi		47.0 dBi		
Noise Temperature		55 K @ 10° EL		---		
		50 K @ 30° EL		---		
Cross Polarization On Axis		30 dB		30 dB		
within 1 dB Beamwidth		22 dB		26 dB		
Tx/Rx Sidelobe		100 $\lambda/D < \theta < 20^\circ$		29 - 25 log θ		
		20° < $\theta < 26.3^\circ$		-3.5		
		26.3° < $\theta < 48^\circ$		32 - 25 log θ		
		48° < θ		-10		
Mechanical Data						
f/D Ratio		0.61				
Focal Distance		43.2 in / 109.7 cm				
Mount Type		Elevation over Azimuth				
Mast Pipe Size		4 in / 10.16 cm O.D.				
Offset Angle		22°				
Elevation Adjustment		8° to 90°		Continuous Fine Adjustment		
Azimuth Adjustment		+ 15° Fine, 360° Continuous				
Environmental Data						
Wind Loading						
	Operational	60 mph, gusts of 80mph		101 kph, gusts to 130 kph		
	Survival	120 mph		194 kph		
125mph Wind forces						
	Wind Force	1,660 lbs				
	Overturning Moment	11,000 ftlb (on 60in ground pole)				
Temperature						
	Operational	-40° to 140° F		(-40° to 60°C)		
	Survival	-60° to 180°F		(-51° to 82°C)		
Rain						
	Operational	1.5 in/hr		(3.1 cm/h)		
	Survival	3 in/ hr		(7.6 cm/h)		
Ice						
	Survival	2.5cm (1 inch) radial or 1.3cm (.5 inch) radial+		100 kph		



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