



TYPE 121

1.2m Receive-Transmit Offset Antenna System



*Heavy-duty galvanized
Az/EI mount*

FEATURES

- One-piece precision offset thermoset-molded reflector.
- Fine Azimuth and elevation adjustments.
- Galvanized feed support arm and alignment struts.
- Factory pre-assembled mount.
- Galvanized or stainless hardware for maximum corrosion resistance.
- Available with a wide variety of C-Band and Ku-Band Rx-Tx feed assemblies and ODU mounting kits.

DESCRIPTION

The Andrew Corporation Type 121 1.2m Rx-Tx Offset Antenna is a rugged commercial grade product suitable for the most demanding applications. The reflector is thermoset-molded for strength and surface accuracy. Molded into the rear of the reflector is a network of support ribs which not only strengthens the antenna, but also helps to sustain its critical parabolic shape necessary for transmit performance. Reflectors are available with hydrophobic coating or active de-icing for use in areas where snow buildup is a problem.

The Az/EI mount is constructed from heavy-gauge steel to provide a rigid support to the reflector and feed support arm. Heavy-duty lockdown bolts secure the mount to any 2.88-3.00 in. O.D. mast and prevent slippage in high winds. Hot-dip galvanizing is standard for maximum environmental protection.

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RF PERFORMANCE

		<u>C-Band</u>	<u>Ku-Band</u>
Effective Aperture		1.2m (48 in.)	1.2m (48 in.)
Operating Frequency	Tx	5.850 - 6.725 GHz	13.75 - 14.50 GHz
	Rx	3.400 - 4.200 GHz	10.70- 12.75 GHz
Polarization		Linear, Orthogonal	Linear, Orthogonal
Gain (± 3 dBi) Tx		35.9 dBi @ 6.138 GHz	43.3 dBi @ 14.25 GHz
	Rx	32.0 dBi @ 3.913 GHz	41.8 dBi @ 11.95 GHz
3 dB Beamwidth	Tx	2.7° @ 6.1 GHz	1.2° @ 14.3 GHz
	Rx	4.2° @ 3.9 GHz	1.5° @ 12.0 GHz
Sidelobe Envelope (Tx, Co-Pol dBi)			
	Mainbeam $< \theta < 20^\circ$	29-25 Log θ	29-25 Log θ
	$20^\circ < \theta < 26.3^\circ$	-3.5	-3.5
	$26.3^\circ < \theta < 48^\circ$	32-25 Log θ	32-25 Log θ
	$48^\circ < \theta < 180^\circ$	-10 (Typical)	-10 (Typical)
Antenna Cross-Polarization		>30 dB (on axis)	>30 dB (on axis)
Antenna Noise Temperature	10° EI	60°K	45°K
	20° EI	52°K	37°K
	30° EI	50°K	34°K
VSWR		1.3:1 Max.	1.3:1 Max.
Isolation, Port-to-Port	Rx	60 dB Typical	70 dB Typical
	Tx	60 dB Typical	35 dB Typical
Feed Interface	Tx	CPR-137 or Type N	WR75 Cover Flange (UBR120)
	Rx	CPR-229	WR75 Cover Flange (UBR120)

MECHANICAL PERFORMANCE

Reflector Material	Glass Fiber Reinforced Polyester	
Antenna Optics	One-Piece Offset Feed Prime Focus	
Mount Type	Elevation over Azimuth	
Elevation Adjustment Range	10° - 90° Continuous Fine Adjustment	
Azimuth Adjustment Range	360° Continuous; $\pm 20^\circ$ Fine Adjustment	
Mast Pipe Interface	2.88-3.00 in. (73-76 mm) Diameter	
Wind Loading	Operational	50 mi/h (80 km/h)
	Survival	125 mi/h (200 km/h)
Temperature	-50°C to 80°C	
Humidity	0 to 100% (Condensing)	
Atmosphere	Salt, Pollutants and Contaminants as Encountered in Coastal and Industrial Areas	
Solar Radiation	360 BTU/h/ff ²	
Shock and Vibration	As Encountered During Shipping and Handling	