

## Type 183

# 1.8M RECEIVE/TRANSMIT OFFSET ANTENNA SYSTEM

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### FEATURES

- One-piece precision offset compression molded reflector.
- Heavy-duty galvanized AZ/EL mount.
- Fine azimuth and elevation adjustments.
- Galvanized feed support arm and alignment struts.
- Galvanized and 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.



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The Channel Master<sup>®</sup> Type 183 1.8m Offset Rx/Tx Antenna is a rugged commercial grade product suitable for the most demanding applications. The reflector is compression-molded for strength and surface accuracy. Molded into the rear of each reflector is a network of support ribs which not only strengthens the antenna, but also helps to sustain the critical parabolic shape necessary for transmit performance.

The AZ/EL 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 4.50" O.D. mast and prevent slippage in high winds. Hot-dip galvanizing is standard for maximum environmental protection.

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### Specifications

#### RF PERFORMANCE

		<u>C-Band Linear</u>	<u>Ku-Band Linear</u>
Effective Aperture		1.8m (71 in.)	1.8m (71 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, Co or Cross-Polarized	Linear, Co or Cross-Polarized
Gain ( $\pm 3$ dBi)	Tx	39.3 dBi @ 6.138 GHz	46.8 dBi @ 14.25 GHz
	Rx	35.4 dBi @ 3.913 GHz	45.3 dBi @ 11.95 GHz
3 dB Beamwidth	Tx	2.0° @ 6.1 GHz	.79° @ 14.3 GHz
	Rx	3.0° @ 3.9 GHz	.99° @ 12.0 GHz
Sidelobe Envelope (Tx, Co-Pol dBi)			
		29-25 Log $\Theta$	29-25 Log $\Theta$
		-3.5	-3.5
		32-25 Log $\Theta$	32-25 Log $\Theta$
		-10 (Typical)	-10 (Typical)
Antenna Cross-Polarization		>30 dB (on axis)	>30 dB (on axis)
Antenna Noise Temperature**	10° EI	41°K	44°K
(Does not include dissipative losses)	20° EI	36°K	36°K
	30° EI	33°K	33°K
VSWR		1.3:1 Max.	1.3:1 Max.
Isolation, Tx to Rx		60 dB Min.	80 dB Min.
Feed Interface	Tx	Type N or CPR-137	WR-75
	Rx	CPR-229	WR-75

\* 1° for Ku-Band Envelope

#### 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		4.50 Inch (114 mm) Diameter
Wind Loading	Operational	50 Mi/h
	Survival	125 Mi/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/ft <sup>2</sup>
Shock and Vibration		As Encountered During Shipping and Handling



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