

# Model **HD65 X-Y SERIES**

## Antenna Pedestal

### FEATURES:

- X-Y Positioner Configuration
- Rugged Construction
- Supports Solid Reflectors up to 4.5 meters (15-ft)
- High Reliability and Accuracy
- High Torque and Low Backlash
- Fast Slew Rates
- Brushless DC Motors
- Supports P-Band through Ka-Band
- PC-based Automated Computer Control with P500 / P600 ACU
- Optional Acquisition-Aid Antenna
- Optional Compass & Inclinometer
- Optional Fiber-Optic Control Available

A member of the CPI Malibu Division HD series of planocentric drive pedestals, the HD65 X-Y is ideally suited for satellite tracking systems where coverage of the keyhole is critical or for telemetry antenna systems mounted on a shipboard platform.

The HD65 X-Y is designed to support solid reflectors in the range of 3.0 to 4.5-meters or a FLAPS™ reflector up to 5.5-meters, in winds of 50 MPH. High output torque with low backlash is accomplished with the use of planocentric gearboxes and brushless DC motors. The gearboxes use built-in angular ball bearing construction, which improves the ability to support external loads, increases moment rigidity and maximum allowable moment. The result is increased reliability and a reduction in maintenance. The use of roller bearings throughout the gearbox yields low backlash (less than 1 arc. min.)

For added reliability, the pedestal is designed with servo amplifiers that have protection for over-current, voltage, and temperature. O-ring seals on all panels, allows for positive air pressurization of the pedestal.

The HD65 X-Y provides both electronic and mechanical stops and all components are modular, with connectorized sub assemblies for ease of maintenance. Strategically placed and sized access hatches ensure that all pedestal components are easily accessible. Safety switches are implemented to protect the operator.



**MODEL HD65 X-Y WITH  
3.7M REFLECTOR**

### Related Data Sheets

- P500/P600 Antenna Control Unit
- X-Band SCM Feed
- Conically Scanning Feed
- Local/Remote ACU
- Fiber-Optic Interfaces

# MODEL HD65 X-Y SERIES SPECIFICATIONS

Parameter	Specifications		
	Reflector Diameter (meters)		
Antenna	3.0 (10-ft)	3.7 (12-ft)	4.5 (15-ft)
Operating Frequency <sup>1</sup>	8000-8500 MHz		
Polarization <sup>2</sup>	Simultaneous Right Hand and Left Hand Circular		
VSWR	1.5:1 maximum		
Feed Type <sup>3</sup>	Single Channel Monopulse		
<b>Antenna Gain (minimum)</b>			
8000 MHz	45.3 dBi	47.1 dBi	49.2 dBi
8100 MHz	45.5 dBi	47.2 dBi	49.3 dBi
8200 MHz	45.6 dBi	47.3 dBi	49.4 dBi
8300 MHz	45.7 dBi	47.4 dBi	49.5 dBi
8400 MHz	45.8 dBi	47.5 dBi	49.6 dBi
8500 MHz	45.9 dBi	47.6 dBi	49.7 dBi
<b>Antenna Beamwidth (3 dB) (nominal)</b>			
8000 MHz	0.82°	0.69°	0.55°
8100 MHz	0.81°	0.68°	0.54°
8200 MHz	0.80°	0.67°	0.54°
8300 MHz	0.79°	0.66°	0.53°
8400 MHz	0.79°	0.66°	0.53°
8500 MHz	0.78°	0.65°	0.52°
<b>Sidelobes (nominal) G/T @ 10° elevation<sup>4</sup></b>			
	16 dBp	16 dBp	16 dBp
8000 MHz	22.9 dB/°K	24.6 dB/°K	26.7 dB/°K
8100 MHz	23.0 dB/°K	24.7 dB/°K	26.8 dB/°K
8200 MHz	23.1 dB/°K	24.8 dB/°K	26.9 dB/°K
8300 MHz	23.2 dB/°K	24.9 dB/°K	27.0 dB/°K
8400 MHz	23.3 dB/°K	25.0 dB/°K	27.1 dB/°K
8500 MHz	23.4 dB/°K	25.1 dB/°K	27.2 dB/°K
<b>Pedestal</b>			
Type	X-Y		
Velocity	≤ 15°/sec	≤ 15°/sec	≤ 15°/sec
Acceleration	≤ 15°/sec <sup>2</sup>	≤ 15°/sec <sup>2</sup>	≤ 15°/sec <sup>2</sup>
Travel (Each Axis)	Electrical	± 98°	
	Mechanical	± 102°	
Torque	Continuous	1,000 ft-lbs	
	Peak	2,000 ft-lbs	
Compliance	7.8 x 10 <sup>-6</sup> radians/ ft-lbs		
<b>Environmental</b>			
Temperature	Operating	-40°C to +52°C	
	Storage	-54°C to +71°C	
Relative Humidity	Up to 100%, including condensation		
Rain	Up to 4 Inches per Hour		
Ice	One-half Inch, Radial		
Wind	Operating	80 km/h / 50 MPH (gusting to 105 km/h / 65 MPH)	
	Stowed	193 km/h / 120 MPH	
Weight	682 kg / 1500 lbs	943 kg / 2075 lbs	1182 kg / 2600 lbs
Power Requirements	110-220 VAC, 50-60 Hz, 1Ø		

## NOTES:

1. Other frequency bands available upon request, as well as dual band system (i.e. S & X-Band).
2. Simultaneous orthogonal linear polarizations available.
3. Conically scanning feed may be used for L/S & C-Band systems.
4. G/T specifications are nominal and may vary based upon system configuration.  
Subject to change without notice.