Communications & Power Industries

malibu division

Model **HD-30 Series**

Antenna Pedestal

Product Data Sheet

Features:

- Portable, Compact, Lightweight
- Rugged Construction
- Supports Solid Reflectors up to 1.2 meters (4 ft.)
- High Reliability and Accuracy
- High Torque and Low Backlash
- Fast Slew Rates
- Brushless DC Motors
- PC-based Automated Computer Control with P-Series ACU P500, P600 or P700
- Acquisition-Aid Antenna (with reduced pedestal performance) (Optional)
- Compass and Inclinometer (Optional)
- Fiber-Optic Control (Optional)
- Transit Case (Optional)

A member of CPI Malibu's HD series of harmonic drive pedestals, the HD-30 is designed to support solid reflectors up to 1.2 meters in winds of 60 MPH. High output torque with low backlash is accomplished with the use of two stage reduction gearboxes and brushless DC motors. The rugged gearboxes use built-in angular ball bearing construction, which improves the ability to support external loads, increases moment rigidity, and increases maximum allowable moment, resulting in increased reliability and a reduction in maintenance. The use of roller bearings throughout the gearbox yields low backlash (less than 1 arcmin).

Designed with drive motors that have integrated servo amplifiers, the HD-30 can be controlled via RS-232 commands sent directly to the motors. In addition, the motors are equipped with digital encoders to provide accurate positioning information to the antenna control unit.

The HD-30 pedestal is ideally suited for transportable applications where weight and shipping volume are key factors. Features such as the sectional solid reflector, sectional FLAPS™ reflector, fiber-optic interface cables, tripod mount and small riser base, ensure that the system is lightweight and compact during transport.

The HD-30 pedestal can be supplied with a tripod mount, with extendable legs, for transportable applications where no antenna-mounting pad is available at the test site or supplied with a small base for rigid mounting to mobile platforms.

Related Data Sheets

- Acquisition-Aid Antenna
- Conically Scanning Feed
- P-Series Antenna Control Unit

Model **HD-30 SERIES**

Specifications*

KEY PERFORMANCE VALUES WITH STANDARD HARDWARE COMPLEMENT

Antenna		Reflector Diameter (meters) 1.2 (4 ft.)	
Operating Frequency[1]		1435-2400 MHz	
Polarization[2]		Simultaneous Right Hand and Left Hand Circular	
VSWR		2.0:1 maximum	
Feed Type		Conically Scanning	
Antenna (minimum) Antenna gains, beamwidth, G/T are estimates and feed configurations may change the final values.			
	Antenna Gain (dBi)	Antenna Beamwidth (3 dB) (nominal)	G/T @ 10° elevation[3]
1435 MHz	22.1	12.2°	-2.9 dB/°K
1540 MHz	22.7	11.4°	-2.3 dB/°K
1710 MHz	23.6	10.2°	-1.4 dB/°K
1850 MHz	24.3	9.5°	-0.7 dB/°K
2200 MHz	24.6	6.6°	0.7 dB/°K
2400 MHz	25.3	6.0°	1.5 dB/°K
Sidelobes (nominal)	≤ -12 dBp		
Pedestal			
Type		Elevation/Azimuth	
Velocity		≤ 20°/sec	
Acceleration		≤ 40°/sec^2	
Travel	Azimuth	360° continuous with slipring/rotary joint	
	Elevation	-5° to +185° (mechanical)	
Torque	Continuous	125 ft. lbs.	
	Peak	250 ft. lbs.	
Compliance		2.0 x 10-5 radians/ ft. lbs.	
Environmental			
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 (Estimate)	Operating	65 km/h / 40 MPH (gusting to 98 km/h / 60 MPH)	
	Storage	129 km/h / 120 MPH	
Weight		68 kg / 180 lbs.	
Power Requirements		110-220 VAC, 50-60 Hz, 1Ø	

NOTES
1. Other frequency bands available upon request.
2. Simultaneous orthogonal linear polarizations available.
3. G/T specifications are nominal and may vary based upon system configuration.

*Specifications subject to change.

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