

Model **HD85** SERIES

Antenna Pedestal

FEATURES:

- EL/AZ Configuration
- Rugged Construction
- Supports Solid Reflectors up to 6.1 meters (23 ft)
- High Reliability and Accuracy
- High Torque and Low Backlash
- Rotary Joints & Sliprings for Continuous Azimuth Rotation
- Fast Slew Rates
- Brushless DC Motors
- Supports P-Band through Ka-Band
- PC-based Automated Computer Control with P500 / P600 ACU
- Camera Ready and Compatible
- 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 HD85 is designed to support solid reflectors in the range of 5.0 to 6.1-meters or a FLAPS™ reflector up to 10-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 HD85 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. Various slip ring and rotary joint packages are available for integration in the pedestal to allow for continuous travel or for high transmit power applications.



MODEL HD85 WITH 6.1M REFLECTOR

Related Data Sheets

- P500 / P600 Antenna Control Unit
- Acquisition-Aid Antenna
- Single Channel Monopulse Feed
- Conically Scanning Feed
- Maximum Range Curves
- Local/Remote ACU
- Fiber-Optic Interfaces

MODEL HD85 SERIES SPECIFICATIONS

| Parameter | Specifications | |
|---|--|---|
| Antenna | Reflector Diameter (meters) | |
| | 5.0 (16.4-ft) | 6.1 (20-ft) |
| Operating Frequency ¹ | 1435-2400 MHz | |
| Polarization ² | Simultaneous Right Hand and Left Hand Circular | |
| VSWR | 2.0:1 maximum | |
| Feed Type ³ | Conically Scanning or Single Channel Monopulse | |
| Antenna Gain (minimum) | | |
| 1435 MHz | 34.0 dBi | 35.7 dBi |
| 1540 MHz | 34.5 dBi | 36.4 dBi |
| 1710 MHz | 35.5 dBi | 37.3 dBi |
| 1850 MHz | 36.3 dBi | 37.9 dBi |
| 2200 MHz | 37.7 dBi | 39.5 dBi |
| 2400 MHz | 38.5 dBi | 40.2 dBi |
| Antenna Beamwidth (3 dB) (nominal) | | |
| 1435 MHz | 2.8° | 2.3° |
| 1540 MHz | 2.6° | 2.1° |
| 1710 MHz | 2.4° | 1.9° |
| 1850 MHz | 2.1° | 1.8° |
| 2200 MHz | 1.8° | 1.5° |
| 2400 MHz | 1.7° | 1.4° |
| Sidelobes (nominal) | 24 dBp | 24 dBp |
| G/T @ 10° elevation⁴ | | |
| 1435 MHz | 12.1 dB/°K | 13.8 dB/°K |
| 1540 MHz | 12.7 dB/°K | 14.5 dB/°K |
| 1710 MHz | 13.6 dB/°K | 15.5 dB/°K |
| 1850 MHz | 14.4 dB/°K | 16.2 dB/°K |
| 2200 MHz | 16.0 dB/°K | 17.7 dB/°K |
| 2400 MHz | 16.7 dB/°K | 18.5 dB/°K |
| Pedestal | | |
| Type | Elevation/Azimuth | |
| Velocity | ≤ 20°/sec | ≤ 15°/sec |
| Acceleration | ≤ 20°/sec ² | ≤ 15°/sec ² |
| Travel ⁵ | Azimuth | 420° minimum (cable wrap) |
| | Elevation | -10° to +190° (mechanical) |
| Torque | Continuous | 5,800 ft-lbs |
| | Peak | 12,500 ft-lbs |
| Compliance | 2.0 x 10 ⁻⁷ 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 | Operating | 80 km/h / 50 MPH (gusting to 105 km/h / 65 MPH) |
| | Stowed | 193 km/h / 120 MPH |
| Weight | 1795 kg / 3950 lbs | 2227 kg / 4900 lbs |
| Power Requirements | 110-220 VAC, 50-60 Hz, 1Ø | |

NOTES:

Subject to change without notice.

- Other frequency bands available upon request.
- Simultaneous orthogonal linear polarizations available.
- Specifications denoted are for conically scanning system.
- G/T specifications are nominal and may vary based upon system configuration.
- Continuous azimuth travel is available through the use of an optional slipping/rotary joint assembly.