



XY Pedestals

Our XY pedestal is ideal for tracking satellites in Low-Earth Orbits (LEOS) because it completely eliminates the problem of the overhead keyhole more reliably and less expensively than a three-axis system. Our fully balanced XY pedestal design has been developed with new concepts for safety, reliability, and adaptability. We design these pedestals to carry various sizes of reflectors and to operate in different RF bands ranging from L to Ka-Band.

TCS does not use the traditional bulky and restrictive multiconductor control cable. We use either a fiber optic or RS232/485/422 control interface. TCS came up with the concept of the Pedestal Interface Unit (PIU), which houses most of the pedestal electronics like power supplies, servos, and our Pedestal Interface PCB. The PIU will be physically located inside or near the pedestal. The Pedestal Interface PCB is the central place where all the signals are processed and interfaced to the ACU.



Special Features

- Fully balanced XY configuration providing high dynamics and accurate pointing
- Fiber control interface to the ACU-M1
- Advanced technology resulting in less number of parts and Improved reliability
- Electronic zeroing of synchros from the ACU-M1
- Extensive interlocks system for enhanced safety
- Use of high efficiency servo amplifiers and motors
- Simultaneous RHCP & LHCP and/or vertical & horizontal polarizations
- Autotrack with Conical Scan, SCM feeds etc.
- Digital demodulation and Autotrack phasing at the controller
- Improved G/T by minimizing losses in the feed
- Adjustable electrical limits and programmable soft limits
- Implementation of Type I, Type I with feed forward and Type II servo loops
- Real time switching of servo loops based on the mode of operation extends life
- Up to 24 discrete commands with flexibility to assign to different commands

- Up to 47 status lines with flexibility to assign to monitor different signals
- Easy to add or delete commands & status even after commissioning of the system.
- Manual or remote stow function with built in safety and monitoring
- Perform extensive tests to evaluate the performance and to do the faultfinding
- Pedestals have mechanical stops with shock absorbers
- Transportable systems with electrical actuators to lay pedestal flat on the trailer

Optional

- Pedestal Interface Unit with most of the electronics for easy access & monitoring
- Dual drive torque bias to eliminate backlash
- Dual speed synchro/resolvers for increased resolution
- An integrated camera systems with control from the ACU-M1
- Variety of tracking modes for GEOS, LEOS and fast moving targets





Specifications

	Series 3000XY	Series 5000XY	Series 6000XY
Reflector Size	10' to 14' (3m to 4.3 m)	16.4' (5m)	20' (6m)
Gearbox Peak Torque	3,500 ft-lb per axis	7,500 ft-lb per axis	14,000 ft-lb per axis
Velocity (minimum)	12°/sec (both axes)		
Acceleration (minimum)	25°/sec/sec (both axes)		
Backlash	0° in Dual Opposed Mode		
Synchro/Resolver	Single or Dual		Dual
Motor Type	DC Brush Type with Tach/Brake (Brushless optional)		
Servo Amplifier	PWM		
Total Travel	±95° (both axes)		
XY Mount Weight	600 lb (272 kg)	2,200 lb (997 kg)	4,200 lb (1905 kg)
System Total Weight	2,000 lb (907 kg)	5,300 lb (2404 kg)	7,500 lb (3403 kg)
Gain @ 2,400 MHz (typical)	> 34 dB (10')	> 38 dB	> 39.5 dB
Beamwidth @ 2,400 MHz	2.7° (10')	1.65°	1.35°
Wind Speed Operational	60 MPH		
Wind Speed Stowed	120 MPH		
Temperature, Operating	-25°C to +55°C		
Temperature, Stowed	-50°C to +70°C		

• Please contact TCS for systems not listed here.



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