

**5.4 METER SYSTEM SHOWN IN STOWED CONFIGURATION**

This system features a 16-panel 5.4 meter reflector and high performance autotracking X-band feed. The Y- over X-axis pedestal configuration is mounted on a rigid base extension suitable for ground or rooftop installation. The dual shaped optics use a monopod feed/subreflector to optimize efficiency. The result is superior G/T performance.

Uniquely suited to LEO satellite tracking, the X/Y pedestal moves in a full hemispherical coverage with no zenith keyhole. All motor power control and interlock functions are conveniently housed in an environmentally sealed enclosure located on the base extension.

The Operator Control System (OCS) allows for multi-satellite pre-mission planning, automated pre-pass system set up and alignment, system performance integrity analysis, signal routing assignments, remote system control, and programming for post mission analysis and maintenance. The station includes a GPS-based timing subsystem for precision time determination for satellite track scheduling.

5.4 METER FIXED AT-A-GLANCE

- » X-Y pedestal axis layout eliminates overhead pass "keyhole"
- » Unique monopod feed design for precision alignment and high efficiency
- » High G/T using dual shaped optics
- » Automated operation and diagnostics
- » Dual polarization feed with high polarization isolation
- » Automated control system for "lights out" operation

OPTIONS

- » S-band prime focus transmit only feed
- » L/S-band prime focus Tx/Rx feed
- » Redundant LNAs
- » Software modules for customer specific hardware
- » Customer-tailored training and instruction services
- » Fiber optic inter-facility links
- » Automated signal routing matrix
- » Depot and/or contract maintenance plans
- » Radome for severe environments, security and extended life

5.4 Meter Fixed X-Band Tracking System Specifications

RF SYSTEM SPECIFICATIONS

Reflector	5.4 meter 16 panel segmented aluminum reflector
Feed Type	Monopod cassegrain autotrack
RF Range	8.025 to 8.5 GHz
G/T	(8.025 GHz) @ 5° EI: 31.00 dB/K Typical (8.025 GHz) @10° EI: 31.50 dB/K Typical
Polarization	Simultaneous RHC and LHC
Beamwidth at 8.025 GHz	0.45° (nominal)
Axial Ratio	0.5 dB max

SERVO CONTROL PERFORMANCE

Track Accuracy	< 0.05° BRE one sigma
Pointing Accuracy	0.089° BRE one sigma at 45° EI angle
Pedestal Position feedback	Dual speed resolvers
Control System	Station control computer (SCC) which allows: <ul style="list-style-type: none">» automated ephemeris data updates» satellite pre-mission planning and scheduling» automated pre-pass testing» automated system performance integrity analysis» signal routing» satellite acquisition and autotrack» program track back up» complete antenna subsystem control
Servo Controller Modes	Manual, slave, scan, autotrack, and program track
GPS Time Mark	Synchronized to UTC within 1 microsecond

MECHANICAL/ENVIRONMENTAL

Travel Limits (each axis)	
Electrical	±90°
Mechanical	±91°
Acceleration (each axis)	5°/second/second
Velocity (each axis)	5°/second
Operating Temperature Range	
Outdoor Equipment	-40 to +55° C
Indoor Equipment	15 to 30° C
Humidity	
Outdoor	100% condensing
Indoor	85% noncondensing
Operational Wind	72 km/h gusting to 85 km/h
Survival Wind	180 km/h stowed at zenith



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