

123T-1 Antenna Control System

Simplified transportable satellite tracking

Key Features

- Optrack, Steptrack, and Pointing modes
- LCD display with full alphanumeric readouts
- Simplified operation
- GPS, Flux Gate Compass, Inclinometer interface
- L, S, C, X, Ku, Ka-Band operation including multi-band
- Multiple antenna support

Options

- Handheld jog controller (PMU)
- Internal L-Band or 70 MHz tracking receiver (redundant receiver available)
- External Model 253 tracking receiver with integral block down converters
- Ethernet, RS422, or RS232 supervisory computer interface



Key Features

The Model 123T-1 provides precision satellite tracking with most Mobile, Transportable, or Flyaway Antennas.

The Antenna Control Unit (ACU) is the operator interface point for the system, featuring PC-104 based processing and operator-friendly function menus. The Power Drive Unit (PDU) provides all motor and antenna connections.

Internal Tracking Receiver Options

The Model 250 receiver is available with L-Band or 70 MHz input. L-Band frequency range is 950-2150 MHz and the tracking C/NO is 40 dB-Hz. Dual Model 250 receivers can be installed for redundancy.

Antenna Pointing Accuracy

Normally better than 0.07° RMS (0.05° optional) in winds of 30 mph gusting to 45 mph. Includes all drive train errors, but excludes structural errors between the transducers and RF beam.

Tracking Accuracy - Optrack

Optrack provides high performance tracking of stable or inclined orbit satellites with an adaptive self-learning ephemeris modeling mode. The Control System accuracy (excluding non-repeatable mechanical errors) is normally better than 5% RMS (0.03 dB) of the receive beamwidth in winds of 30 mph gusting to 45 mph, satellite inclination of up to 15°, and signal scintillation of up to 2 dB.

A variety of operational modes are available for quick target acquisition, pointing, and tracking.

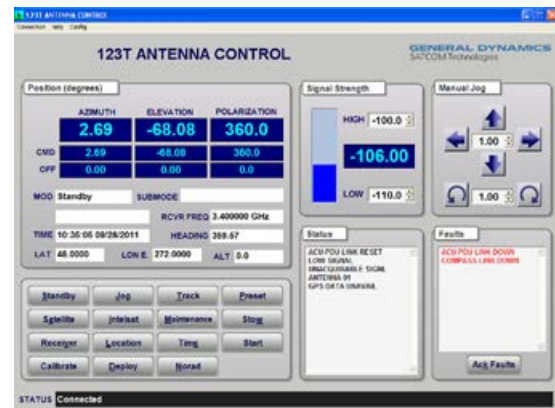
Operational Modes			
Tracking	Pointing	Acquisition	Other
Optrack	Intelsat	Smart Scan	Maintenance
Steptrack	NORAD*		Standby
	Preset Position		Deploy
	Manual Jog		Stow
	Eutelsat*		Calibrate
* Optional			

123T-1

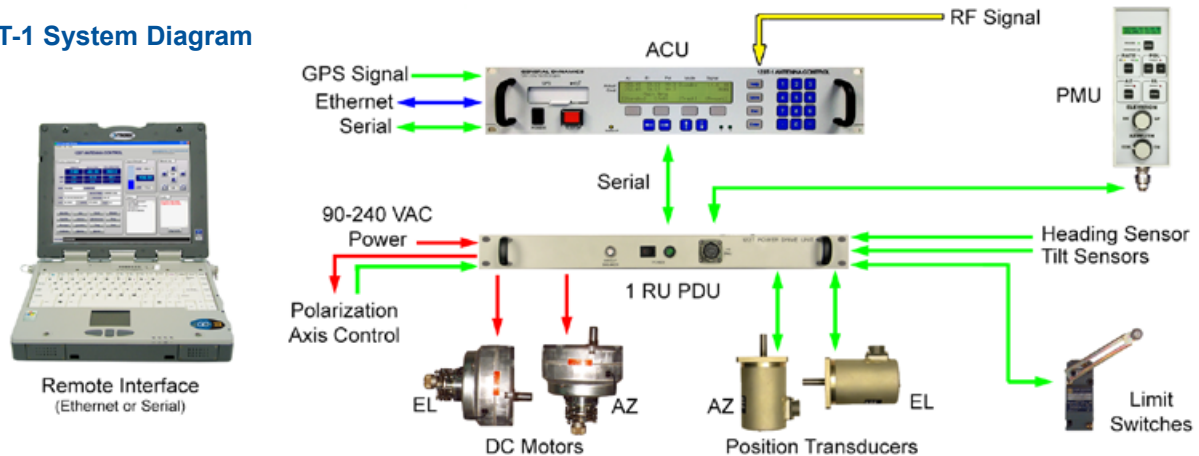
PROVEN PERFORMANCE / EXPERIENCE

Antenna	Band	Testing
240 MVO/DMVO (VRSI)	QUAD	DISA, Intelsat
2.4 SM-LT (VRSI)	QUAD	DISA, Intelsat
8' GMF	X	Engineering
3.8M VRSI (VRSI)	TRI	DISA, Intelsat
2.4M Flyaway (SF-LT) (VRSI)	TRI	DISA, Intelsat
2.4M High Wind (HWT) (VRSI)	QUAD	DISA, Intelsat
4.6M DMVO (VRSI)	TRI	Engineering
2.1M TMS305	X	NATO
LHGXA	X	DISA
QRSA	X	DISA

REMOTE GRAPHICAL USER INTERFACE OPTION



123T-1 System Diagram



SPECIFICATIONS

- CE Certified
- Passed Munsen Road Test (shock and vibration)
- Passed DISA Tracking Stability Test
- Auto Calibrate, Auto Deploy, Auto Stow
- Single RS 422 Cable for ACU to PDU link
- EL current detect circuit used during stow to produce known antenna "clamp down" torque

ACU	Size	Weight	Power
2RU rack mount chassis with sides	3.5" H x 19" W x 16.38" D	16 lbs.	Accepts 120/230 VAC, 50/60 Hz, 60W
PDU *			
2RU rack mount chassis with slides	3.5" H x 19" W x 17.13" D	21 lbs.	Accepts 120/230 VAC, 50/60 Hz, 800W Peak
1RU rack mount chassis with slides	1.75" H x 19" W x 17.13" D	18 lbs.	Accepts 120/230 VAC, 50/60 Hz, 800W Peak
Antenna Interface			
AZ/EL/POL DC Motor amplifiers available for 24 - 36V motors. Potentiometer or Resolver Position Feedback supported.			
EL velocity limit and AZ centered switch inputs available.			
Environmental		Temperature	Humidity
Operating		-20° to 60°C *	95% Non-Condensing
Storage		-40° to 70°C	95% Non-Condensing

* The PDU model varies. Contact GDST for details.

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