



Satellite Systems Corporation
101 Malibu Drive Virginia Beach, VA 23452 USA
Voice (757) 463-3553 FAX (757) 463-3891
info@satsyscorp.com

Model ATX 3000

Automatic Inclined Orbit Antenna Controller
With REMOTE Monitor and Control Software Interface

The ATX-3000 antenna tracking controller is a user-friendly microprocessor-based intelligent positioning system to reliably track inclined orbit satellites or for use as a positioner for geosynchronous satellites with memories for up to 99 satellites.



FEATURES -

- ★ Fully programmable positioner with memories for up to 99 satellites.
- ★ New! **SINGLE POINT CALIBRATION** for fast set up!
- ★ New! Peaking and history track algorithms. Tighter peaks, less loss, improved performance
- ★ New! Full remote control / control your antennas position from anywhere in the world!
- ★ New! Foul weather mode / improved performance during Wx events.
- ★ Automatic Calibration for true Azimuth and Elevation displayed in 0.01 degrees.
- ★ High resolution Brushless resolvers for ultimate position feedback.
- ★ RS-232/422/485 and Ethernet, + control interface, all Standard / Front panel selectable
- ★ New M&C monitor interface software with event triggered alarm features and email notifications to your laptop / cell phone or PDA.
- ★ **AC** and **DC** configurations available. Ask about our newly revamped DC configurations.

ATX features include:

Multiple Peaking and history track algorithm set - Multiple user selectable peaking/ history track algorithms. SSC has introduced our best peaking algorithm ever! With our newest peaking algorithm the ATX 3000 delivers maximum performance with minimal signal loss.

Foul weather feature - FWx - Don't let rain fade and controller performance ruin your link! Our latest foul weather feature allows a user to either locally or remotely select our new FWx - foul weather feature mode. When bad weather is approaching or has arrived, the user can select our new foul weather mode feature. With our new proprietary FWx mode the tracker delivers maximum performance and signal during bad weather. The user can select the duration of the FWx based on the weather conditions.

Remote operation from anywhere in the world! - Satellite system introduces full remote control for your antenna controller. Now with our latest Monitor and Control software we have added full antenna control. Great for remote operation of multiple antennas or correct antenna position instantly without having to travel to the site whether it is 1 mile away or 10,000 miles away! **

AC and DC solutions- Multiple AC and DC solutions available, please contact factory for your application.

**SSC recommends that any remote antenna move be monitored by personnel at the antenna site to ensure safety to life and property.

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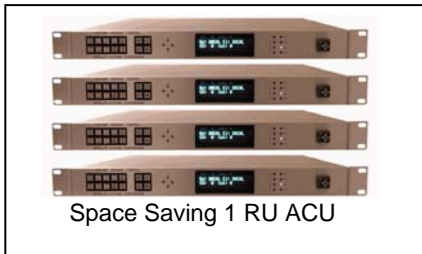
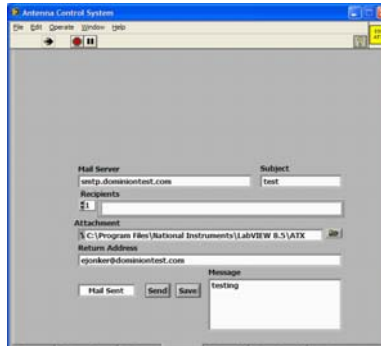
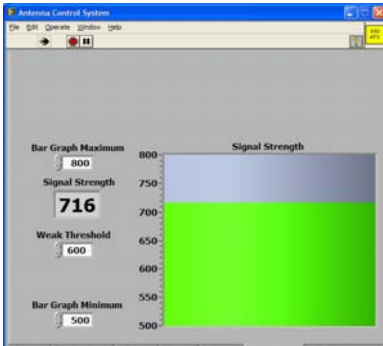
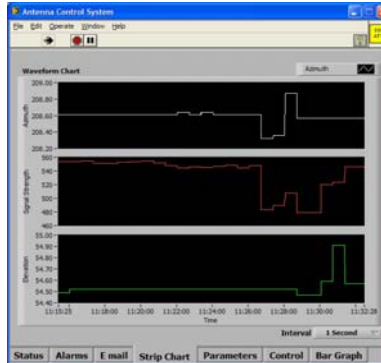


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Satellite Systems announces the new control GUI **Version 2.0** for our antenna control product line. Enhanced control features allow for remote control of your antenna and additional monitoring tools are included such as strip charting for signal strength, Azimuth & Elevation movement. **Version 2.0** also includes a new event-triggered alarm feature that allows for email notification to your laptop / cell phone or PDA. Alarms are triggered via signal strength, loss of signal, and other conditions. New logging to file feature allows for analysis of controller events. Easily imported to Excel. Revolving log file saving feature automatically closes the file and starts a new file once per day for archiving and date stamping purposes.



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Positioning Methods

Designate:	Automatically moves the antenna in each axis to one of 99 pre-stored satellite positions.
Direct Az/El:	Automatically moves the antenna in each axis to the coordinates entered via the front panel.
Jog:	Manually moves the antenna in each axis in response to front panel controls.
Peak:	Performs a peaking algorithm on the current target.
Step Track:	Automatically performs peaking algorithm in response to input signal level decreasing below a programmable minimum.
History Track:	Automatically moves the antenna in each axis along a sidereal time tagged path. (<i>History track is often referred to as Memory Track or Program Track</i>)
External:	Moves the antenna in each axis in response to commands received through the active monitor and control port.

Performance

Accuracy:	Antenna pointing accuracy within ten percent of the 3dB beamwidth. Tracking Resolution: > 0.05 degrees with properly specified position sensor.
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Interfaces

Reference:	Accepts input of linear, analog signal reference from 0 - 20 VDC. Internal op amp circuit provides pre-scaling of gain and slope of tracking reference signal. Final scaling is provided through software.
M&C:	Accepts RS-232 / RS-485 (4-wire) data / Ethernet via RJ 45 10/100 Base T for remote monitor and control of all controller functions. SatSysCorp ATX monitor / control software suite is included.
Front Panel:	Large Graphic VFD displays antenna position, signal level and operating mode. Keypad provided for user inputs.
Motor Control:	The rack mounted microprocessor controller is linked to any of SSC's motor control options by serial interface cable.
Prime Power (ACU):	90 - 260 VAC, 47 - 63 Hz, single-phase, auto sensing, 65 watts maximum

Monitor and Control Software for ATX 3000 Antenna Controller

- Event triggered alarms - Any alarm conditions can be sent to the user via email to your laptop /cell phone or PDA . Events can be triggered via signal strength, AZ, EL, & POL movements, communication errors and other threshold parameters.
- Antenna position and parameter control feature set.
- Large easy to read signal strength panel.
- Event triggered alarms / Easy to use email control. Email multiple users / Multiple alarm parameters.
- Status monitor – The status monitor panel allows for real time data of your systems status.
- Strip Chart utility – Strip charting utility allows for recording of signal strength and AZ&EL motor movements. Events are recorded and presented on time based event chart. Additional logging feature allows for tab delimited file that can be imported into your favorite spreadsheet program. The log files can be automatically saved and restarted on a daily basis and pulled up later for review of tracking performance.
- Revolving log file saving feature allows user to automatically back up log files for later analysis of controller events. Easily imported to Excel or other spread sheet programs.



Antenna Drive Units for AC Motors

Solid-state variable frequency 3 phase AC motor controllers with microprocessor motor speed management.
Static braking with torque at 150% of rated motor torque.
Variable speed control 0 to 60 Hz with constant torque.
Low frequency voltage boost 150% starting torque under 20% speed.
Local jog control and Emergency Stop switch are provided at the ADU.
Optional handheld remote jog control is available.

HP configuration options:

1 - 10 hp available. * Other higher HP options available, please contact the factory.

AC System Standard Dimensions

ACU: 1 RU, 19" x 15.5" x 1.75"

ADU: Dual axis 3 phase AC motor control unit is a NEMA-4 outdoor enclosure 16"W x 20"H x 9"D. Some configurations may require a larger enclosure.

Interconnections

Local AC main power is required at the ADU.

A two conductor, 20 gauge shielded cable from the ADU to indoor ACU interface is required.

Required Limit switches connect to ADU.

Extra Emergency stop switches may connect to ADU.

High resolution absolute, brushless resolvers or optical position encoders mount directly on antenna Az and El pivot axis.

Antenna Drive Units for DC Motors

DC Motor jacks provided by SSC in 12 - 48 inch stroke lengths. Built in encoder feedback. 24 / 36 VDC / integrated limit switches. (DC systems jacks are quoted separately)

DC System Standard Dimensions

ACU: 1 RU, 19" x 15.5" x 1.75"

ADU: 1 RU, 19" x 15.5" x 1.75" (Enclosure solution also available, please contact factory.)

Options

Motors, Gear reducers, Jack screws, Limit switches, Emergency stop switches, umbilical control.

Beacon Receivers

Designed to work in concert with SSC Model 3430 / 3434 line of Beacon Tracking Receivers.

Remote Spectrum Analyzers

Our ATX 3000 is designed to interface perfectly with the DTi Remote Carrier Monitor. Great for antenna control / pointing, beacon monitoring / analysis & signal monitoring.

Please visit www.satsyscorp.com for additional equipment including:

- Upconverters,
- Downconverters,
- Redundancy switches & RF switches.



Part Numbering Information

1. *Please choose your acu configuration from the following table:* Example – ACU3000 – A-C2-E0
 ACU3000

AC or DC system	Feed Back	Polarization OPTIONS
AC system A	Resolver C2	No Pol E0
OR	OR	OR
DC system D	Encoder C3	Pol Motor Only E1
		OR
		Resolver Feedback E2
		OR
		Encoder Feedback E3
		OR
		POT Feedback E4
Pot can be used with encoder or resolver sensor		

2. *Please choose your AC adu configuration from the following table:* Example – ADU3000 F– F22-F22-P0-H0

Two voltage configuration options: (must be specified at time of order.)

220 - 240 Volts, 47 - 63 Hz single- or three-phase prime power, 220 - 240 Volts three-phase motors.

- OR -

380 - 460 Volts, 47 - 63 Hz single- or three-phase prime power, 380 - 460 Volts three-phase motors.

(A single-phase 90 - 260 VAC, 47 - 63 Hz, 45 watts maximum is also required for outdoor controls).

AC ADU3000

Prime Power at Antenna	AZ Horse Power	EL Horse Power	Polarization Motor	Electric Brakes
208 - 240 Volts 3 phase D	240 Volt 1 HP D11	240 Volt 1 HP D11	No Pol MTR P0	No H0
OR	OR	OR	OR	OR
380 – 480 Volts 3 phase F	240 Volt 2 HP D12	240 Volt 2 HP D12	24 Vdc P1	24 VDC H1
	OR	OR	OR	OR
	240 Volt 3 HP D13	240 Volt 3 HP D13	220 VAC P2	220 VAC H2
	OR	OR		
	380 – 480 Volt 1 HP F21	380 – 480 Volt 1 HP F21		
	OR	OR		
	380 – 480 Volt 2 HP F22	380 – 480 Volt 2 HP F22		
	OR	OR		
	380 – 480 Volt 3 HP F23	380 – 480 Volt 3 HP F23		
	OR	OR		
	380 – 480 Volt 4 HP F24	380 – 480 Volt 4 HP F24		
	OR	OR		
	380 – 480 Volt 5 HP F25	380 – 480 Volt 5 HP F25		
	OR	OR		
	380 – 480 Volt 7 HP F27	380 – 480 Volt 7 HP F27		
	OR	OR		
	380 – 480 Volt 10 HP F30	380 – 480 Volt 10 HP F30		

Other Power/ HP Configurations are available.

Please see <http://www.satsyscorp.com> for more information.



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DC ADU3000

3. *Please choose your DC adu configuration from the following table:* Example – ADU3000 – F24-Q36- F24-Q36-H0

AZ Voltage	AZ Jack Length	EL Voltage	EI Jack Length	Pol options
12 Volts D12	12 " stroke L12	12 Volts D12	12 " stroke L12	No Pol MTR HO
OR	OR	OR	OR	OR
24 Volts F24	24" stroke N24	24 Volts F24	24" stroke N24	24VDC H1
OR	OR	OR	OR	
36 Volts H36	36 " stroke Q36	36 Volts H36	36" stroke Q36	

**Other voltage and stroke lengths available.

Please see <http://www.satsyscorp.com> for more information.