sat-nms ACU19V - Replacement for Model 7200 Antenna Control Unit

The ***sat-nms*** ACU19V is an advanced automatic tracking antenna controller. It can be used as a cost efficient antenna tracking system to replace the Vertex / General Dynamics Satcom Technologies Model 7200 Antenna Control Unit keeping the outdoor 7150 Antenna Drive Unit as it is. The replacement is simple plug & play by reusing the existing cables. The system is based on the ***sat-nms*** ACU-ODM Module and provides Model 7200 ACU fully compatible rear panel connectors in the 19" 1RU chassis.

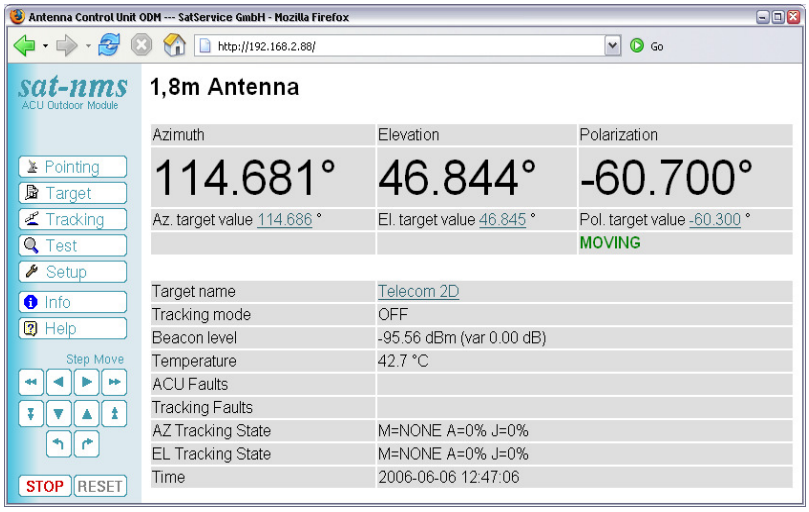
The ***sat-nms*** ACU19V points any antenna size precisely on the satellite and performs a fully automatic and accurate inclined orbit satellite tracking with an improved adaptive tracking algorithm. The ***sat-nms*** ACU19V records the tracked positions over several days and calculates based on this data a precise mathematical model, which is used to predict the antenna position. This reduces the step-track failures and provides continuous operation in case of a beacon receive failure. In the Program Tracking Mode the antenna follows a path defined by a file that contains time stamped azimuth, elevation and polarization values These values have usually been calculated by external software.

The ***sat-nms*** ACU19V includes:

- Drive Interface compatible with 7150 Antenna Drive Unit (includes limit switches, alarms, drive control)
- Ethernet UDP Interface for ***sat-nms*** LBRX and analog voltage interface for 3rd party beacon receivers
- Resolver analog angle detectors interface for the azimuth, elevation, polarization
- Optical high precision SSI interface for digital angle detectors for azimuth, elevation, polarization
- A/D Interface to measure the voltage across a precision potentiometer for polarization angle

The ***sat-nms*** ACU19V unit includes an integrated web server and provides its operator interface via web browser. The ***sat-nms*** ACU19 includes also http and ftp for remote diagnosis and support. The system is easy to maintain. The support can be performed remotely and the interface to high-level MNC Systems is provided via Ethernet and TCP/IP.

In addition to that, a local keypad and display are available to allow local control via the front panel.



Key Features

- Adaptive Step Tracking with self-learning Orbit Model Tracking Algorithm
- Web-based, user-friendly Operator Interface
- Operating via Front Panel Display and Keypad
- Very compact rack-mount Design in 1RU
- HTTP Protocol for external MNC Interface

Contact Information

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Technical Specification

Positioning

Position Encoding	Resolver, Digital SSI and Potentiometer, scalable per Axis
Quantization Error	Resolver 16bit: 0.0055° Optical SSI: 13bit: 0.044°, 16bit: 0.0055°, 17bit: 0.0028°, 19bit: 0.0007°
Display Position Resolution	0.001°
Maximum Travel Rate of each Antenna Axis	1°/sec
Interfaces to Beacon Receivers	***sat-nms*** LBRX or Analog Voltage Input for other Vendors Equipment
Analog Voltage Input	0 to 10V via D-Sub 9pol Connector
Option Tracking Accuracy	Encoder coupling and Alignment Error should not exceed 0.003° to achieve specified Tracking Accuracy. The Influence of Antenna Structure Thermal Error is not considered.
In step track Mode	Better than 10% of Receive 3dB Beam Width (RMS).
In adaptive Tracking Mode	Better than 5% of Receive 3dB Beam Width (RMS).
Position Encoding	1 LSB of Resolver / Digital Conversion
Operational Modes	Manuel Mode, Step Track, Adaptive Tracking takes into Account last Days History, Program Tracking based on time stamped File Data
Number of Presets	99 Storage of ACU Configuration (including LBRX Beacon Receiver Settings)

System Interfaces

sat-nms MNC Interface	10-Base-T, via HTTP GET Requests, RS232 and SNMP
Operator Access	With Web Browser
To ***sat-nms*** MNC and ***sat-nms*** ACU-IDU	Ethernet RJ45 or RS232
3 Angular Detectors	Resolver, SSI or A/D Input via D-Sub Connectors
Drive Interface for Limit Switches, Interlock, Motors-off Switches and Drive Interface	Via Opto-Coupler Inputs and Outputs according to the 7150 Antenna Drive Unit. Connector D-Sub 25pol.

MNC Interface Specification

Ethernet Interface for MNC and User Interface	10/100-Base-T, via HTTP GET Requests
Operator Interface	Web Browser and Front Panel Display + Keypad
RS232 ***sat-nms*** MNC Interface	D-SUB9

Electrical and Mechanical Specification, Environmental Conditions

Supply Voltage	110 to 230V /50 to 60Hz 2A
Power Consumption	50 W
Temperature Range	-10° to 50°C
Humidity	Up to 90% non-condensing
Dimensions	19”,1RU, 450x45x380 mm (WxHxD)
Weight	4.5 kg