



## ACU-2n/i Antenna Control Unit

Antenna controller used to monitor and control Orbital Systems antenna systems

The ACU-2 antenna control unit is a flexible antenna controller that manages all aspects of an antenna system equipped with orbital data bus (ODB) technology, including the antenna positioner functions and the antenna RF payload. The ACU-2 is located inside the electrical cabinet; it integrates all antenna and positioner functions on the ODB and provides user control access through an Ethernet connection. The ACU-2 uses multiple processors to separate real-time control of the positioner and payload from management of the user control protocols. The ACU-2 has been designed to facilitate customization for complex multi-axis antenna system applications.

### Standard System Features

The ACU-2 antenna control unit is used for all Orbital Systems antenna positioners equipped with orbital data bus (ODB) technology.

### Control Interfaces

- Web interface (HTTP); real-time operator control and system status graphical display
- Orbital Advanced Control Protocol (OACP); monitors and controls the system using JSON files
- Simple Network Management Protocol (SNMP); monitors and controls the system
- Pointing Vector Protocol (PVP); a serial protocol used to send a series of pointing vectors aim the antenna
- Location Vector Protocol (LVP); a serial protocol used to send a series of target location vectors to cause the antenna to point to the target
- Legacy serial control protocol (LSCP); enables backward-compatibility with existing Orbital Systems antenna positioners that do not support ODB
- Optional custom control interfaces, such as VXI-11, or emulation of other common positioner control protocols can be implemented for use with your application

### Control Hardware Interfaces

- 100BASE-FX fiber Ethernet, full-duplex, single-mode or multimode; multimode shipped as standard on most systems
- 100BASE-T Ethernet, CAT 5 or better, shielded preferred
- Contains embedded 100BASE-T switch with a spare 100BASE-T port that can be used to multiplex payload data with control data

### System Time Options

- Equipped with built-in GPS receiver for accurate time and location
- Supports IEEE1588 in hardware for applications that do not use GPS; IEEE1588 interfaces to Precision Time Protocol (PTP) in many operating systems

### Firmware Upgrades

- All antenna positioner and RF payload control software can be updated remotely
- All system firmware is stored in ACU-2 on a built-in microSD card
- Firmware on the microSD card is modified using TFTP with an Orbital Systems provided application

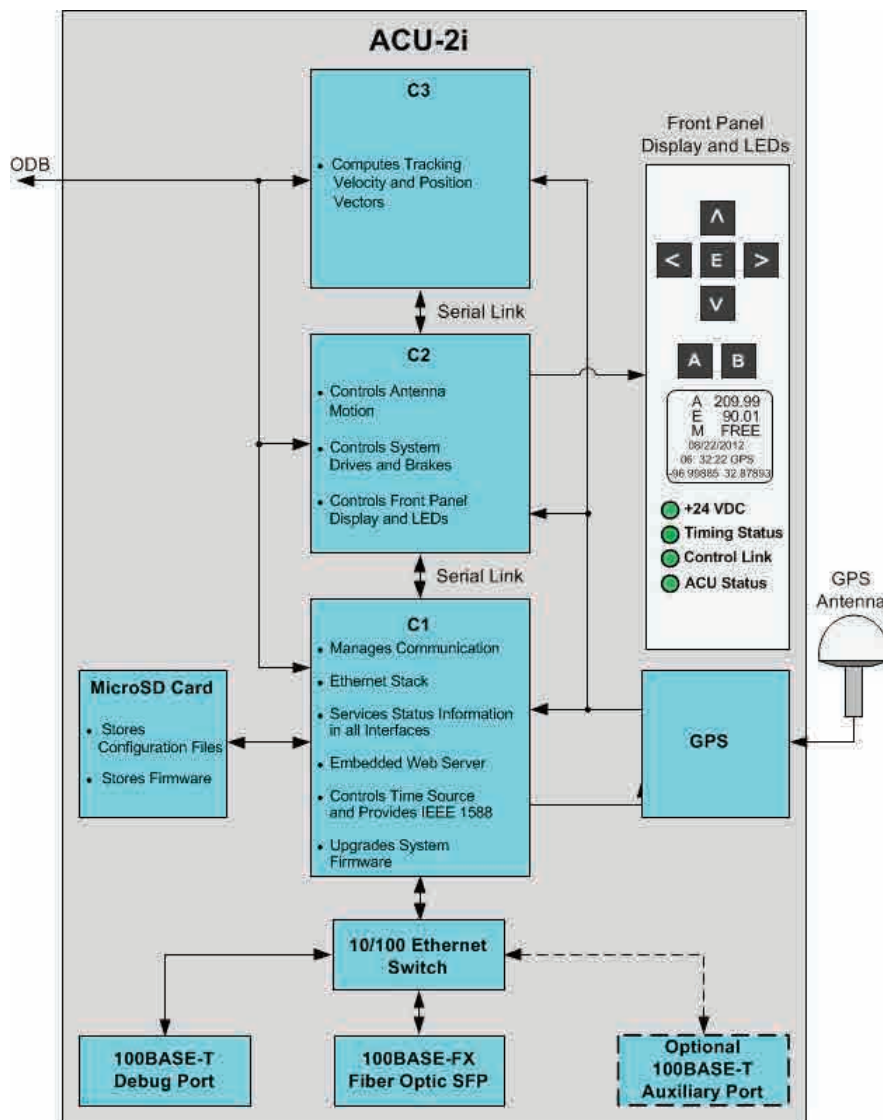


### Applications

The ACU-2 operates in one of the following modes, depending upon the application:

- Program Tracking (TLEs)
- Location Tracking
- Pointing Vector Tracking
- TT&C
- Radar
- Auto Tracking

## ACU-2n/i Functional Diagram



## Ethernet Stack

DHCP	SNMP	OACP	HTTP	Serial Control Protocol
UDP		TCP		
ICMP				
IP				
ARP				
Ethernet				