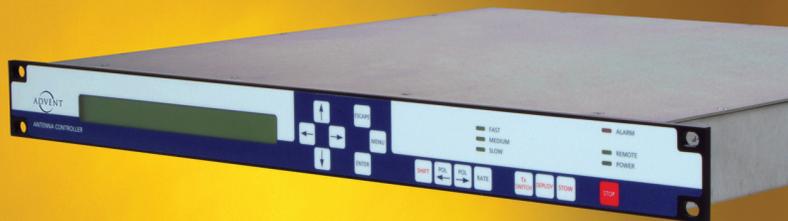


ACU4000 Antenna Control Unit

- The ACU4000 is an antenna control unit designed to operate with the Advent NewSwift or motorized Mantis antenna systems
- The unit provides user friendly 3 speed motor control of azimuth, elevation and polarization axis as well as automatic stow and deploy functions
- The ACU4000 provides all power and communication interfaces to the drive control unit (DCU) mounted on the antenna
- The ACU4000 comes with the option of interfacing with a GPS receiver, a fluxgate compass and a beacon receiver to provide facilities for automatic satellite acquisition or tracking
- The ACU provides an 800 city database to enable satellite pointing without the need for GPS



Specification

INTRODUCTION

The ACU4000 series antenna control units are designed to operate with the NewSwift, or motorized Mantis antenna systems. The ACU4000 provides all power and communication interfaces to the DCU (Drive Control Unit) mounted on the antenna.

The ACU4000 provides a user friendly interface enabling the control of azimuth, elevation and polarization for the deployment and operation of the motorized antenna system. An LCD front panel displays the position of azimuth, elevation and polarization.

The ACU has software embedded into the controller to be able to calculate the position of a satellite from the location and orientation of the uplink system. The location and orientation can also be entered manually. If a beacon receiver is added to the system the ACU can search for and peak on the satellite beacon signal. If a tracking beacon receiver is used the software embedded into the unit can track inclined orbit satellites.

Tracking is maintained using a differential slope track algorithm. From the detailed characteristics of the beam pattern stored within the controller the ACU can optimise the antenna pointing with the minimum of movement during the tracking process.

The ACU4200 provides the ability to recall presets of up to 50 stored satellite locations and additional software providing up to 800 city information database enabling the controller to find the satellite without the need of GPS.

The ACU4000 series controller is a 1U high 390mm deep chassis, powered directly off a nominal 12V DC battery supply, as well as providing all power requirements for the antenna mounted DCU. This allows the antenna to be deployed and stowed without the presence of a mains power supply.

FRONT PANEL INDICATIONS

Alarm

Indication of alarms within the antenna system.

Remote

Indication that front panel is 'locked out' by a controller on the PC or REMOTE Interface

Power

Indicates unit is connected to a power supply

Fast/Medium/Slow

Indication of rate of movement of antenna drive motors

FRONT PANEL CONTROLS

STOP

Stops any current antenna system activity

DEPLOY/STOW

To control the automatic deploy or stow of the antenna

TX SWITCH

To change the state of the transmit waveguide polarization switch

RATE

Changes the current movement rate

POL ← POL →

Controls the polarization axis movement

SHIFT

Allows alternative control of all dual function control keys

↑, ↓, ←, → Controls the azimuth and elevation axis movement functions.

In the menu mode, used to navigate and select options

MENU

Steps through key menu options

ENTER, ESCAPE

Used to select menu options, and escape from current selections

POSITIONAL DISPLAY ACCURACY

Azimuth, elevation & polarization
± 0.1%

ANGULAR CONTROL RATES

NewSwift

Azimuth/polarization

Fast 2.0°/s
Medium 0.5°/s
Slow 0.1°/s

Elevation

Fast 1.0°/s
Medium 0.5°/s
Slow 0.1°/s

ANGULAR CONTROL STEPS

All antenna types

Fast 1.0°
Medium 0.5°
Slow 0.1°

ENVIRONMENTAL AND PHYSICAL

Temperature range

32 to +122°F operating

Size

1RU chassis by 15.3 inches deep

Weight

6.6 pounds approx.

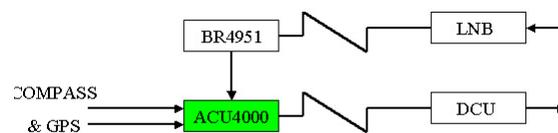
POWER

Operating Voltage

12V DC nominal

Power Consumption

16A peak



These specifications are accurate at the time of issue but may be subject to change and will not form part of any contract.

Issue D

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