GPS Auto Pod

Selectable Array Antenna System with Integral GPS Receiver

Applications

- GPS Antenna System for Airborne Video Downlink

Features

- Fully Solid State
- No moving parts
- Auto GPS driven
- Integral GPS Receiver, compass and microprocessor
- Exceptional reliability
- Selectable omni and manual modes
- Zero Inertia Tracking
- Smaller/Lighter than electro-mechanical steerable antennas
- No maintenance costs
- Transmit and receive configurations

Overview

The GPS Auto Pod is a selectable array antenna system with Integral GPS Receiver to enable fully automatic microwave signal steering for ENG applications. The innovative GPS Auto-Pod Series antennas herald a new era of intelligent microwave antennas.

This is accomplished by applying seamless high speed electronic switching techniques to selectively direct the transmitted microwave signal to appropriate sectors of multiple narrow beam antenna elements. The GPS Auto-Pod Antenna improves on the performance criteria of the best mechanically steered antennas–but without any of their disadvantages.

Because the GPS Auto-Pod Antenna substitutes low stressed electronic switching gates for all moving parts, there is literally no maintenance, no limit to operational life and no performance degradation in extreme environments.

The GPS Auto-Pod Antenna contains a built-in 12 channel GPS receiver, electronic compass (eliminating the need for an externally mounted GPS receiver and compass) and microprocessor that are used to compute the aircraft's position and direction. This calculation is then used to select the optimum antenna element combination for gain and multipath elimination to direct the transmitted signal to a predetermined receiver location. The receiver location's latitude/longitude co-ordinates are entered into the microprocessor by a hand-held controller or by utilizing the 12-channel GPS receiver's "waypoint" programming. Up to seven receiver locations can be user named and stored for immediate access. A NMEA 0183 data output is provided for auto-tracking receiver antenna systems.

MICROWAVE RADIO COMMUNICATIONS

Supplied with the GPS Auto-Pod Antenna is an Active GPS Antenna and hand-held controller. The hand-held controller contains a keypad for controlling the microprocessor and an 8 line LCD display for monitoring the status of the GPS Auto-Pod Antenna. A menu of screens and 'hot-keys' are provided for the selection between automatic, manual and omni-directional antenna configurations, as well as information on distance to, and bearing from, the receiver location.

The GPS Auto-Pod Antenna is a fraction of the weight (11 lbs.) of electro-mechanical designs, considerably lower current draw (0.3 amps @ +28 VDC), smaller in size providing an additional benefit of less air drag, and significantly superior in update speed and slew rate.

To complement the GPS Auto-Pod Antenna, we offer a comprehensive range of high performance microwave links and accessories. We are always ready to help and advise customers with planning or special operational needs.

Courtesy of Robinson Helicopter

Hand Held Controller

Connecticut State Police Helicopter

SPECIFICATIONS

ANTENNA

Type: .....Selectable array with intelligent electronic switching
Polarization: .....Right circular standard; others available
Gain: 11dBi
Beamwidth: ..... Horizontal 45 degrees, Vertical 35 degrees
Frequency Availability: ..... 1.7GHz to 7.1GHz
Bandwidth: .....Up to 500MHz
Return Loss: 14dB
Power Handling: .....30 Watts
GPS Data Output: .....NMEA 0183 standard
(Other formats and switch selected multiple formats available)

MECHANICAL

Diameter: .....11.25 in. (286mm)
Height: .....9.12 in. (232mm)
Weight: .....11 lbs.. (5Kg)
Mounting: .....Multi-point fixing

CONNECTORS

RF Input: .....Type "N"
Downlook Antenna (optional): ..... SMA
GPS Antenna Input: ..... TNC
MS Series Multi-Way: .....DC Supply
Data to/from hand-held controller
GPS bearing data output

ENVIRONMENTAL

Altitude: ..... 0 to 15,000ft/ 0 to 4500m
Operating Temperature: .....–20°C to +55°C
Humidity: ..... 95% long term

POWER

Voltage Input:..... +7 to +28V DC
Consumption: .....0.3 amps nominal @ +28 VDC

Microwave Radio Communications
101 Billerica Avenue, Building #6
North Billerica, MA USA
01862-1256

Tel: +1.978.671.5700
Fax: +1.978.671.5800
e-mail: info@mrcbroadcast.com
web site: www.mrcbroadcast.com