



Applications:

Various frequency bands and antenna configurations are available for applications such as:

- ▶ ENG (Electronic News Gathering)
- ▶ Surveillance
- ▶ UAV Communications
- ▶ Law Enforcement

Key Features

- ▶ Uses GPS Data To Steer
- ▶ System Gyro & Flux Gate Compass Ensure Stable Transmission
- ▶ Optional Antennas for Varying Environment
- ▶ Simple to Use Control Panel

This system is primarily used to point an antenna for microwave communications from either a fixed or rotary wing aircraft. It operates independent of aircraft instrumentation which makes it easier to install and transfer between aircraft during maintenance.

The GCP-4 control panel, which controls power to the antenna and selects the mode of operation, indicates magnetic north and antenna bearing through a dual circle of LEDs and indicates good GPS data or fault conditions. It also selects antenna steering which may be manual or auto.

In manual mode, a front panel knob allows the operator to set the antenna to point at a certain bearing. As the aircraft rotates, the gyro and flux gate compass keep the antenna pointed at that bearing without any further operator assistance. When auto mode is selected, the serial input from the GPS receiver is also used. If no GPS data is present as indicated by the LED the system operates the same as manual mode.

With good GPS data, the location of the ground site is programmed into the GPS receiver as a waypoint, so that the main control board in the antenna pod can continuously point the antenna at that waypoint. The GCP-4 control panel communicates with the antenna pod through RS-422 serial connector. In addition the panel can be configured to control a transmitter, receiver, filter switching, antenna switching, and video scrambling.

The system is primarily used for transmit applications although, options are available for receive or duplex operation. Auxiliary antennas can be added for receive capability to allow the aircraft to also be used as an airborne relay.

An RF rotary joint allows the antenna to continuously rotate 360°. This system has a built in FSK modem enabling the GPS data to be sent to the ground, on a transmitter subcarrier for steering of a ground antenna.

Antenna	
Polarization	Vertical & RHC or LHC & RHC
Gain	14 dBi @ 2.5 GHz
AZ Beamwidth	3 dB 15° @ 2.5 GHz
EL Beamwidth	3 dB 25° @ 2.5 GHz
Frequency	1.99-2.5 GHz (Others Available Between 1.3 & 15 GHz)
Return Loss	14 dB

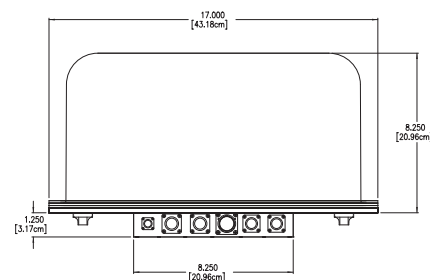
Power	
Voltage Input	+24 to +32 VDC
Consumption	2.0 A

Environmental	
Operating Temp.	-20 °C to +55 °C
Humidity	Up to 95% RH Non-Condensing

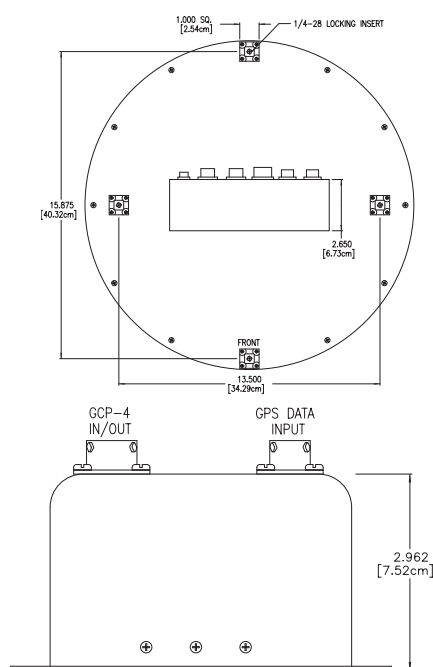
Mechanical	
Dimensions	17" Diameter x 8" High (Not including Mounting Posts and Connector Blocks)(43.18 x 20.32 cm)
Weight	A Complete System < 50 lbs (<22 kg) or <60 lbs with Optional Receive Capability (< 27.21 cm)

Options:	
12" High Antenna Pod (17" diameter x 12" High - doesn't include mounting posts)	
Internal 2 dBi Omni Antenna (With 12" Pod)	
Internal Downlook Antenna (With 12" Pod)	
BMT75/85 Analog Transmitter or Heli-Coder I or II System for Digital COFDM Transmission	
Video Encryption/Decryption	
BMR120 Receiver with BRC-12-A Remote Controller, and BPF-100 Filters	

Misc.	
A Complete System:	
• Total Power of 2.0A @ 24-32 VDC, 5.5 A Including Analog Transmitter	
Includes:	
• Interconnect Cable Harness (6 lbs)	
• Gyro-4 (2.25 lbs)	
• Gyro Power Supply (3 lbs)	



GCA-4 Outline



GCP-4 Outline

