

## GCS03 - Gound control station interface

The GCS03 is the ground control station interface to communicate with UAV Navigation's AP04 autopilot. It is a compact and robust communication system, which enables communication between the UAV and the ground station software, as well as real time manual control of the UAV and automatic antenna steering.

The GCS03 acts as a bi-directional communication relay between the UAV and the ground station software using its integrated radio link. It performs low-level message integrity verification, guaranteeing that no unnecessary communication will clog the link. Its integrated radio link allows data communication ranges in excess of 60 miles.

With its integrated GPS, the GCS03 can track UAVs and aim antennas with great precision, even while the GCS03 is in motion. Using a standard PWM control signal, high gain directional antennas can be steered in pan and tilt to reach a longer video transmission range.

The GCS03 includes communications through an Ethernet port, allowing the AP04 telemetry to be distributed over a computer network. As a backup, in case the regular external power fails, the GCS03 incorporates a standby battery that permits communication with the UAV for up to 2 hours after external power is lost.



## GCS03 Ground control station technical specifications

### MANUAL CONTROL

For fixed wing aircraft, the manual control acts on elevator, aileron, rudder and throttle deflections.

For helicopters, the manual control acts on forward and lateral motions, heading and altitude.

Control rate	50Hz
Resolution	1 mrad
Number of channels	4

### COMMUNICATIONS

Baud rate	115.2 Kb/s (full duplex)
Range	100Km
Frequency	902-928MHz (1.3GHz option)
Method	Freq. hopping spread spectrum
Simult. multiple UAVs	Yes

### ELECTRICAL

Supply (unregulated)	9V to 36V
Power consumption	2.0 W
Embedded battery endurance	2hrs

### MECHANICAL / ENVIRONMENTAL

Size (mm, H X W X L)	30 x 103 x 123
Weight	300gr
System connector	Ethernet / DB-9 female
Joystick connector	DB-15 female
Power connector	2.5mm mini-jack female
Radio link RF connector	SMA female
GPS RF connector	SMA female
Temperature range	-40° to +85°C

### GPS

Channels	12
Differential	YES

### ANTENNA STEERING

PWM rate	50Hz
PWM signal	1 ms to 2ms high, 1 us steps

