

Notes

11/08/2024

Meeting goals

Get ArduPilot up and running on Cube

Meeting Notes

What was completed?

- Installed latest ArduPilot firmware to Cube
 - Issue with flashing firmware on QGC (Ubuntu), worked with APM Mission Planner (Windows)
 - Once firmware updated, the FC was able to communicate with QGC
 - Experimented with calibrating accelerometer and compass
- Telemetry Radio [Manual](#)

What is in progress?

- Looking in to telemetry radio - Matthew
- Goal is to have software fully integrated by the end of semester
 - Working control (Thrust & Steering)
Working w/ RC Controller
 - Working GPS
Working Telemetry Radio

What is the goal for the next meeting?

11/12/2024

Meeting goals

Meeting Notes

What was completed?

- Issue w/ QGC finding firmware seems to be fixed, able to flash autopilot firmware from QGC
- Got RC Receiver working by connecting receiver to RCIN pins on controller and forcing SBUS protocol in ArduPilot parameters
- Configured motor parameters, servo functions
 - Servo 1 - Steering
 - Servo 3 - Throttle

What is in progress?

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What is the goal for the next meeting?

- Get PWM Control working

11/15/2024

Meeting goals

- Get PWM Control working with flight controller to control motor

Meeting Notes

What was completed?

- Researched GPS modules, trying to find one with the right connector and protocol to be recognized by AutoPilot
- Configured PWM output and got it working. Receiver is now controlling motor

What is in progress?

- Finalizing GPS modules pick
- Getting telemetry radio working

What is the goal for the next meeting?

- Get telemetry radio connection between ground station and flight controller

1/14/2025

Meeting goals

- Work on getting M8N GPS Module Connected

Meeting Notes

What was completed?

- Resoldered the wires on the GPS using these colors to connect it to I2C:

I2C

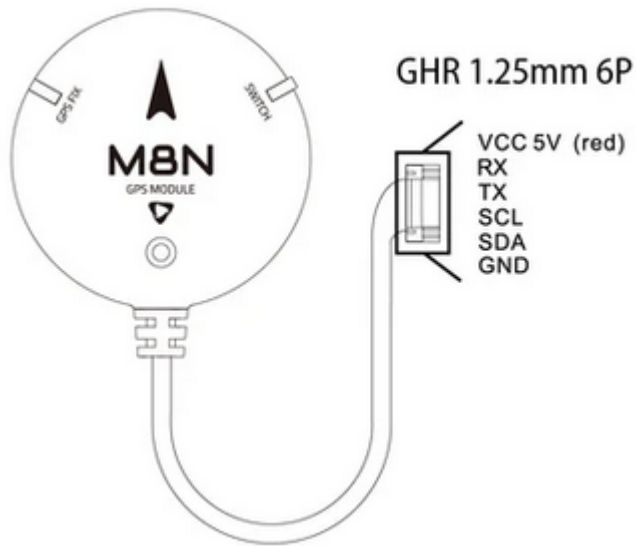
Pin #	Name	Dir	Wire Color	Description
1	VCC_5V	out	red / gray	Supply to peripheral from AP
2	SCL	in/out	blue / black	SCL, 5V level, pull-up on AP
3	SDA	in/out	green / black	SDA, 5V level, pull-up on AP
4	GND	-	black	GND connection

POWER 2

- Did not work
- I believe it should be this to connect it to the GPS 2 Module but unsure of how the colors line up:

GPS 2

Pin #	Name	Dir	Wire Color	Description
1	VCC_5V	out	red / gray	Supply to GPS from AP
2	MCU_TX	out	yellow / black	3.3V-5.0V TTL level, TX of AP
3	MCU_RX	in	green / black	3.3V-5.0V TTL level, RX of AP
4	SCL	out	gray / black	3.3V-5.0V I2C2
5	SDA	in	gray / black	3.3V-5.0V I2C2
6	GND	-	black	GND connection



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What is in progress?

What is the goal for the next meeting?

- Resolder the 6 wires onto an 8 pin connector and test the GPS on the GPS2 Port
 - If this does not work, pick out another GPS and order

Images

Revision #4

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