

Progwhiz.Com

Developer Kits

Startup Guide

WWW.PROGWHIZ.COM

Contents

Introduction	3
Developer Kit Beginner	4
Setup Hardware	4
Step 1	4
Step 2	4
Step 3	5
Step 4	5
Step 5	6
Setup Software	7
Start	7
Step 1	7
Step 2	7
Step 3	8
Step 4 (2 Servo Version)	8
Step 5	9
Step 6 (6 Servo Version)	10
Step 7	10
Developer Kit Intermediate	11
Setup Hardware	11
Step 1 (Wired)	11
Step 2	12
Step 3	14
Step 4	14
Step 5	15
Step 5b	15
Step 6 (Wireless)	16
Setup Software	17
Start	17
Step 1	17
Step 2 (Intermediate Option 1)	17
Step 3	18
Step 4 (Intermediate Option 2)	18
Step 5	19
Getting Started Videos	20
Demonstration Videos	21

Introduction

The following document will illustrate how to start using each of the developer kits both from the Hardware and Software Perspectives.

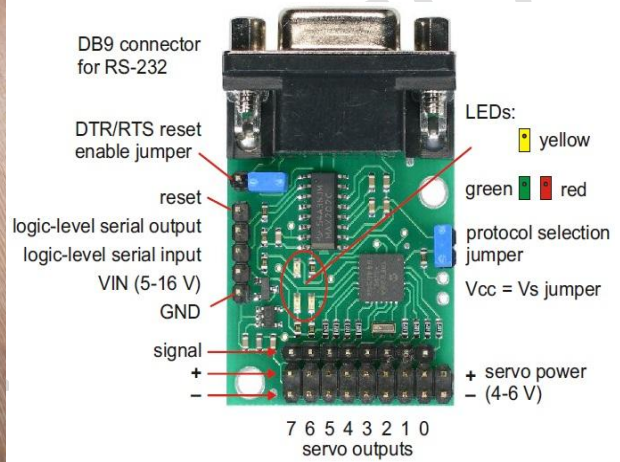
- ❖ [Developer Kit – Beginner](#)
- ❖ [Developer Kit – Intermediate \(Wired\)](#)
- ❖ [Developer Kit – Intermediate \(Wireless\)](#)

Developer Kit Beginner

Setup Hardware

Step 1

Controller Pins Layout



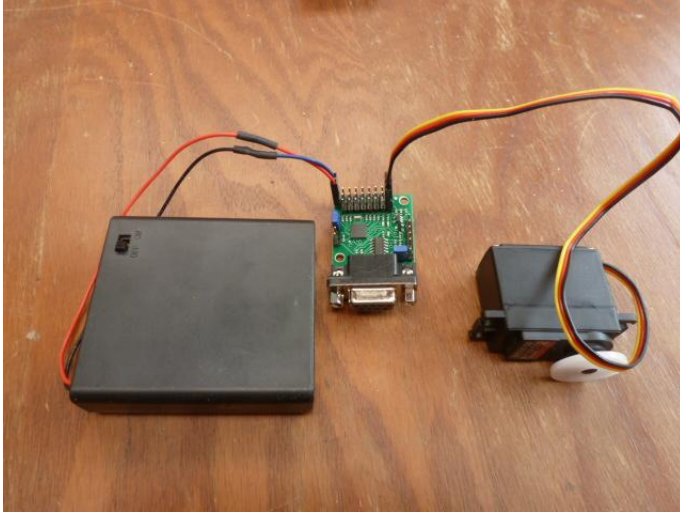
Step 2

Connecting the power source, note the ground is on the edge of the controller



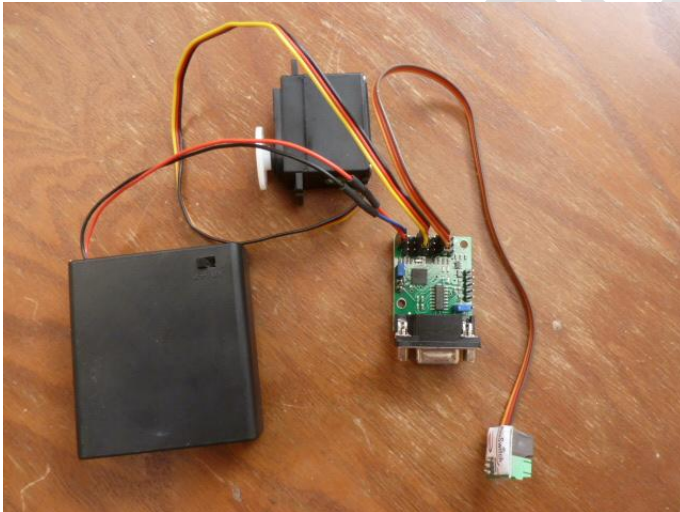
Step 3

Connecting the servo. Please see software GUI to know which pins are assigned to the Servo. The ground is also the pin closest to the edge of the controller.



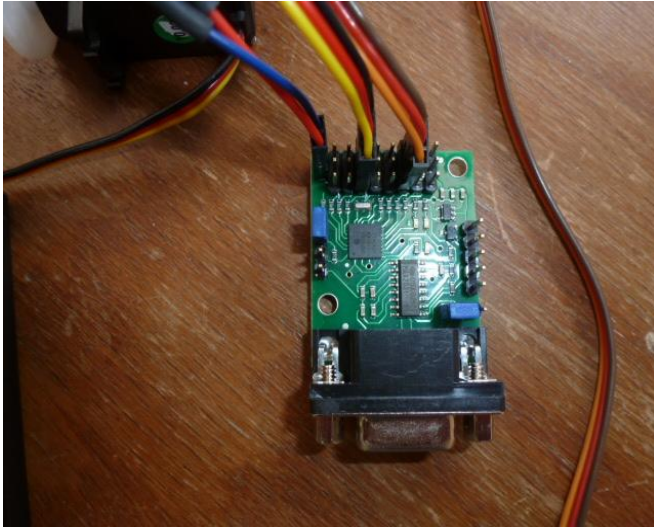
Step 4

Connecting the switch relay. Please see software guide which pins are assigned to the switch



Step 5

Controller and Peripherals attached



Connect Controller to PC via COM Port Cable



Setup Software

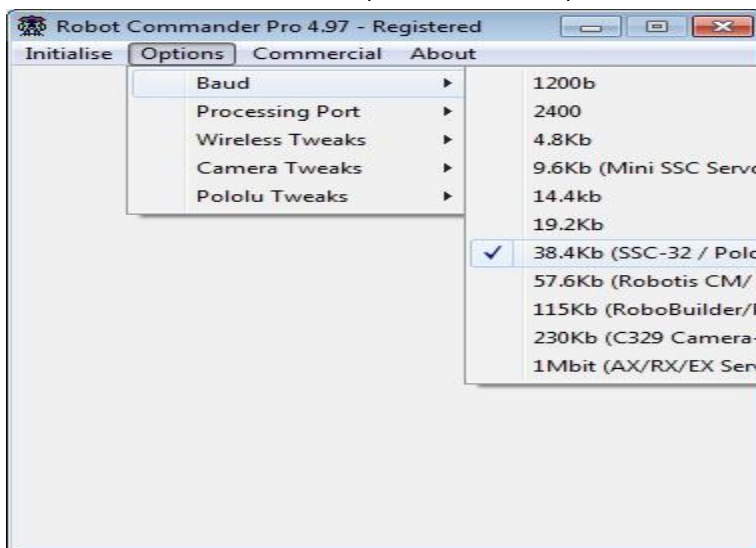
Start

Double click on the shortcut to the Robot Commander Software



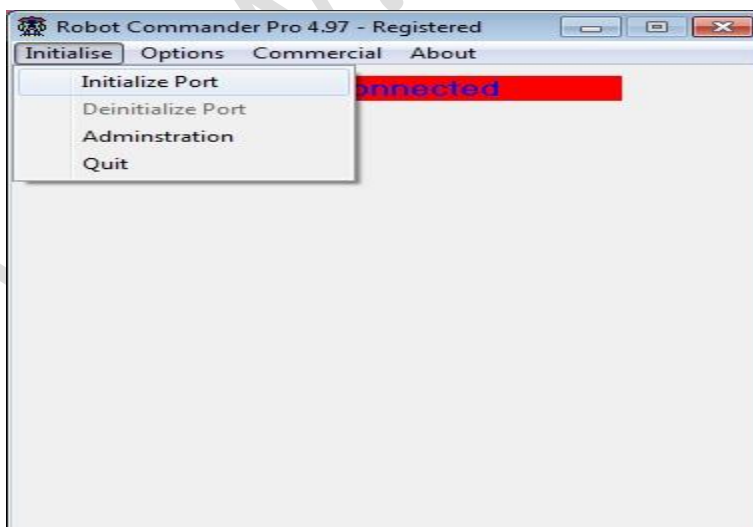
Step 1

Select the Port and Baud Rate (38k or 56k Baud)



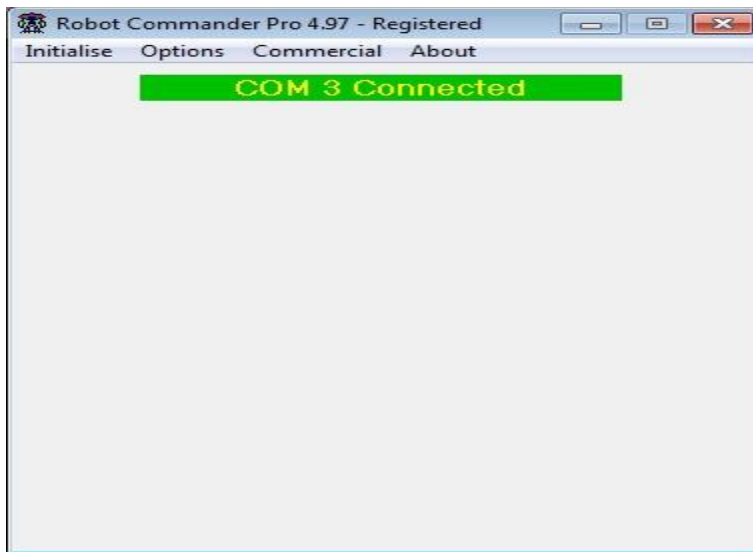
Step 2

Initialise connection to the COM Port



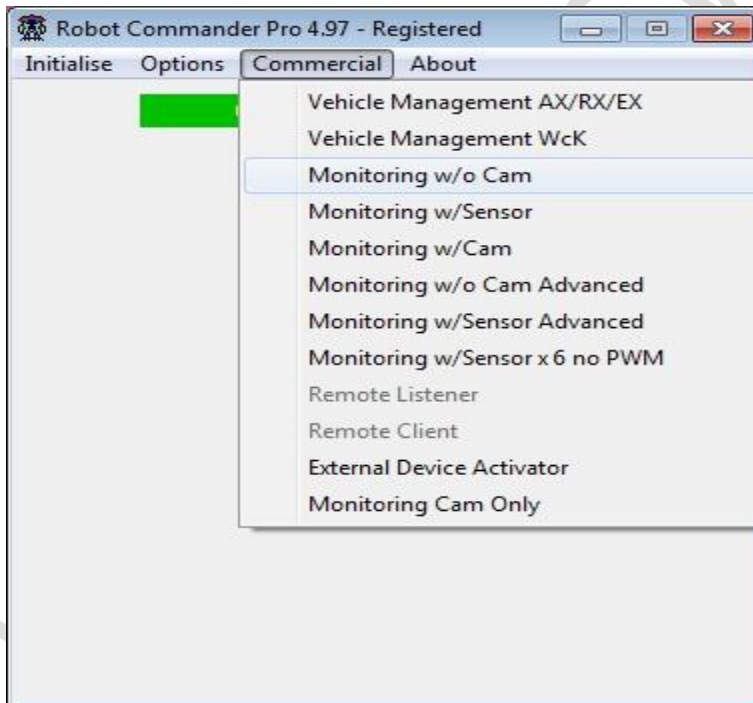
Step 3

Connected



Step 4 (2 Servo Version)

Select Monitoring w/o Cam



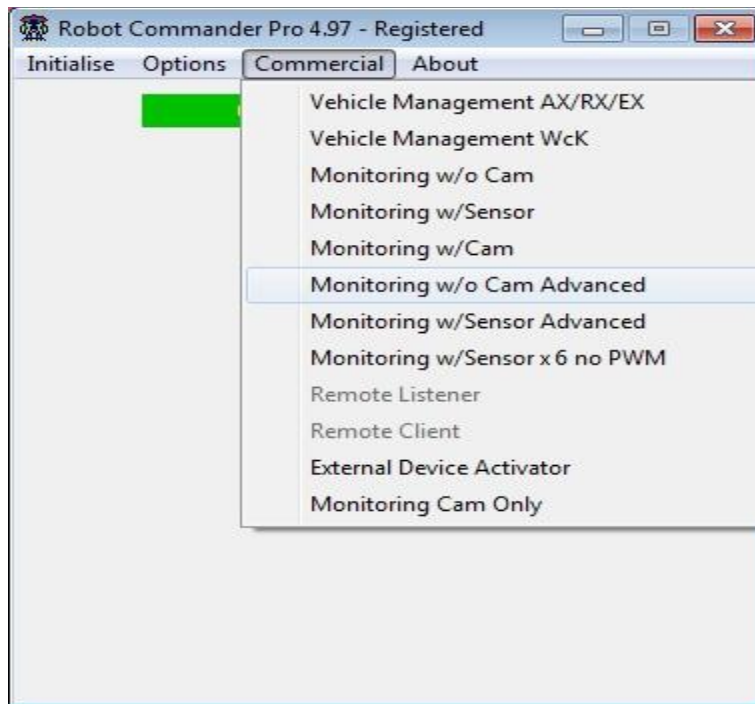
Step 5

Verify hardware pins connected with the diagrammatic representation shown in the Robot Commander



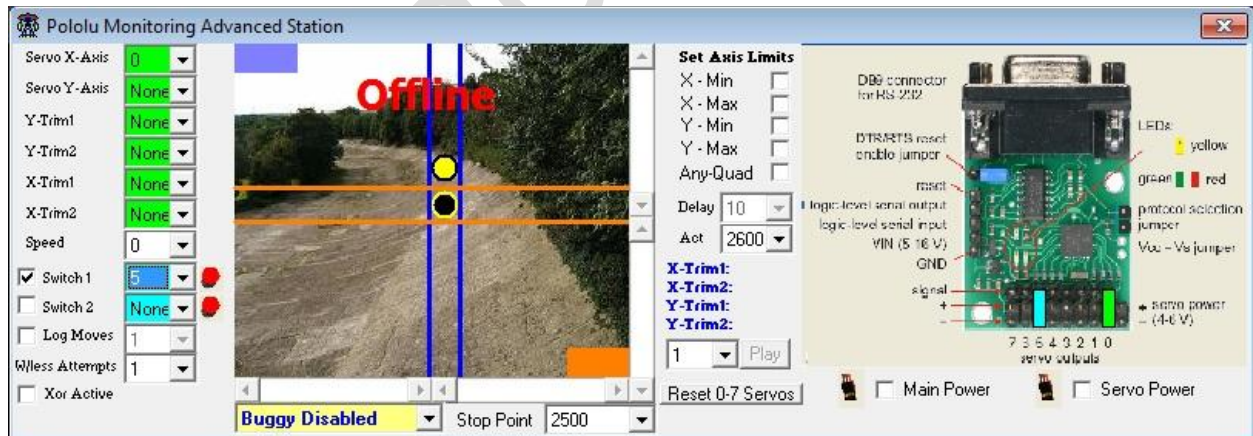
Step 6 (6 Servo Version)

Select Monitoring w/o Cam Advanced



Step 7

Verify hardware pins connected with the diagrammatic representation shown in the Robot Commander



Developer Kit Intermediate

Setup Hardware

Step 1 (Wired)



Step 2

You can connect power with a Single power connector or with Dual power connectors.

Single Power Source: Jumper is Closed as seen in Fig I. Power is connected as shown in Fig II,III,IV

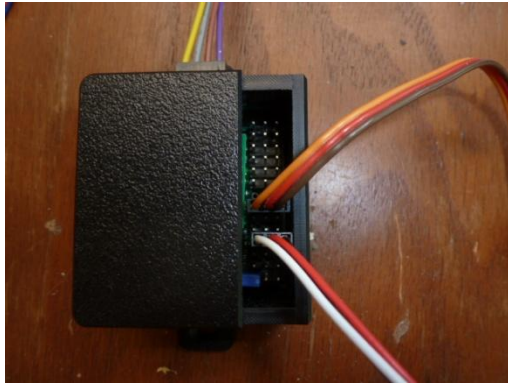


Fig I

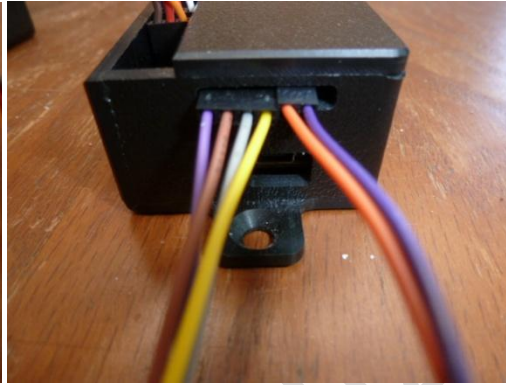


Fig II

Connector Type 1

Connector Type 2

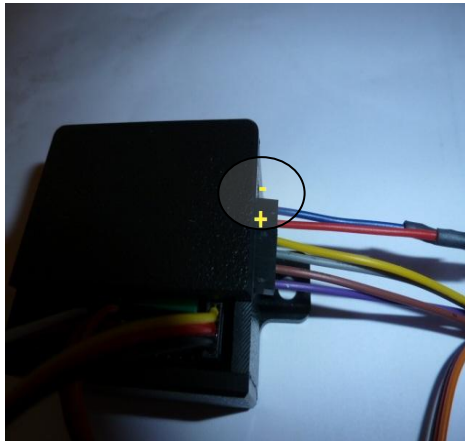


Fig III

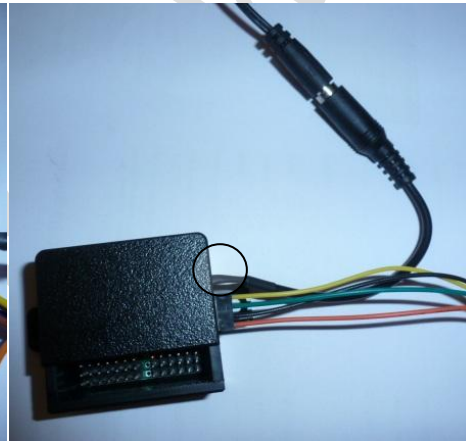


Fig IV

Dual Power Source: Jumper is Opened/Removed. Power is connected as shown in Fig VI, VII

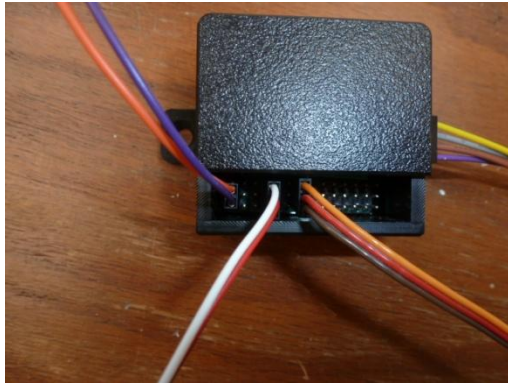


Fig V

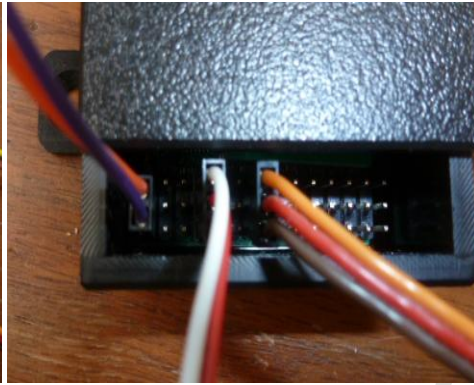


Fig VI

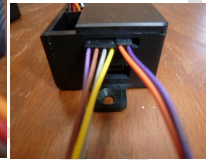
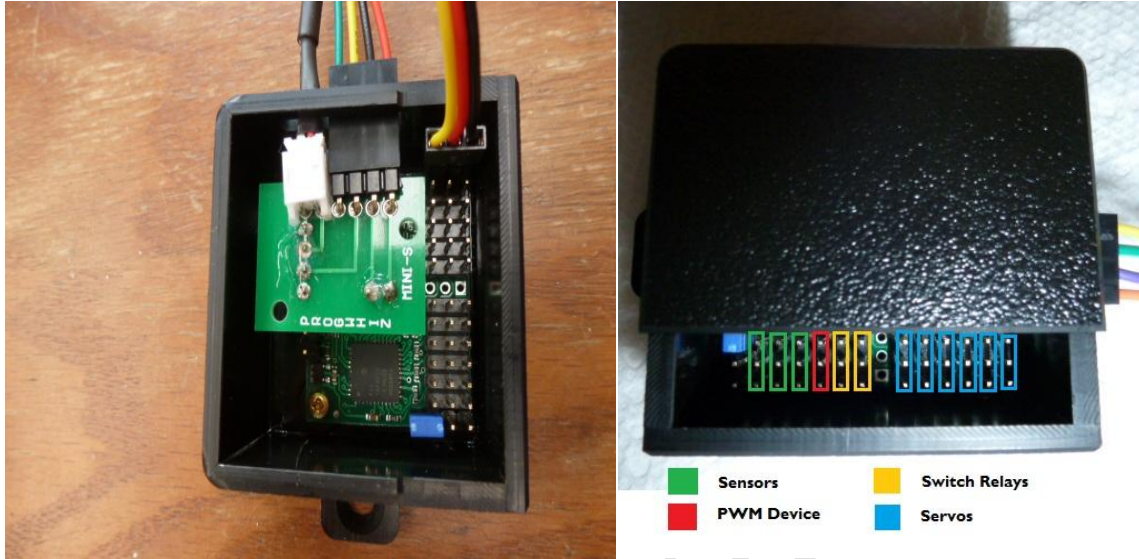


Fig VII

Connecting the Power Source. Make sure the unit is powered before you attempt to connect via the software application 'Robot Commander'.

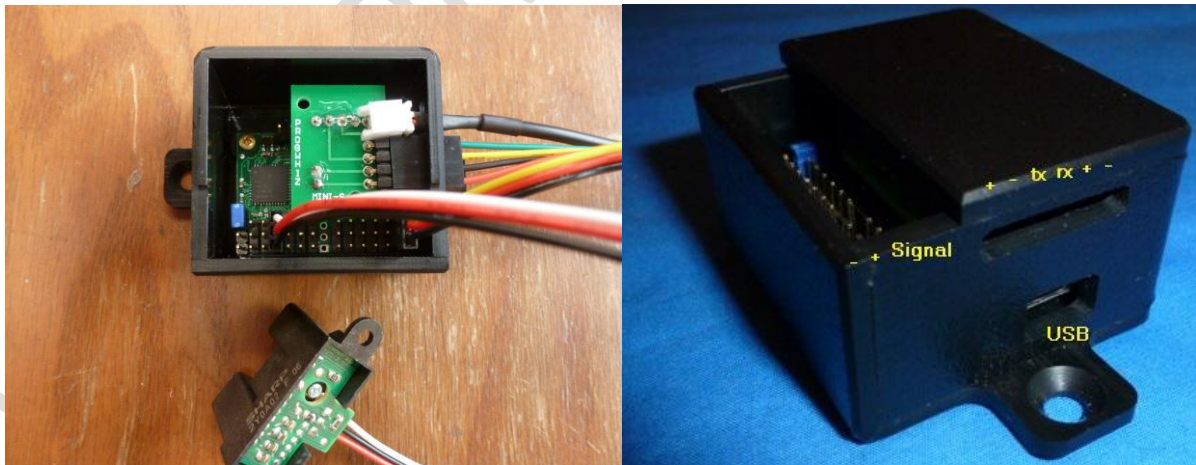
Step 3

Connecting the servo. Please see software GUI to know which pins are assigned to the Servo. The ground is also the pin closest to the edge of the controller.



Step 4

Connecting the Sensor. Please see software GUI to know which pins are assigned to the Sensor. The ground is also the pin closest to the edge of the controller.

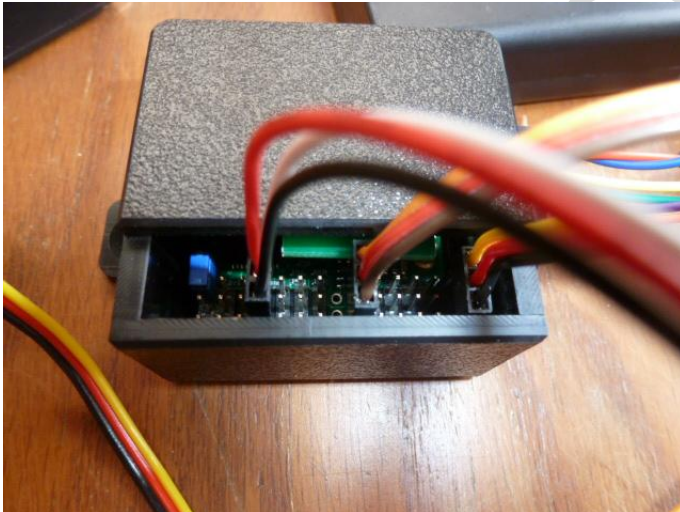


Step 5

Connecting the Switch Relay. Please see software GUI to know which pins are assigned to the Switch. The ground is also the pin closest to the edge of the controller.

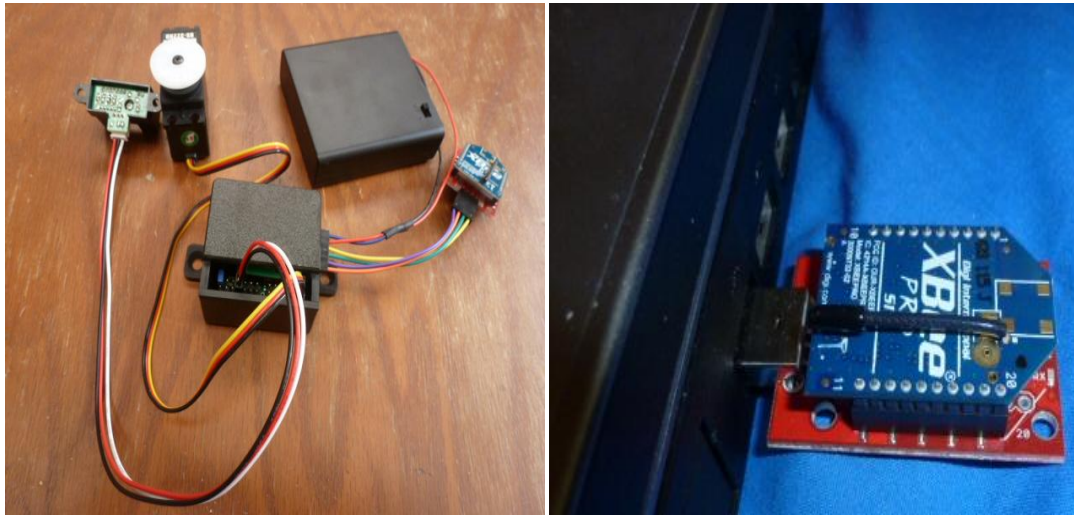


Step 5b



Step 6 (Wireless)

Top view of the Wireless Configuration



Ensure to install the wireless drivers for windows prior at:

Windows 7 – 32 bit http://www.progwhiz.com/files/support/CDM20808_32.zip

Windows 7 – 64 bit http://www.progwhiz.com/files/support/CDM20808_64.zip

Setup Software

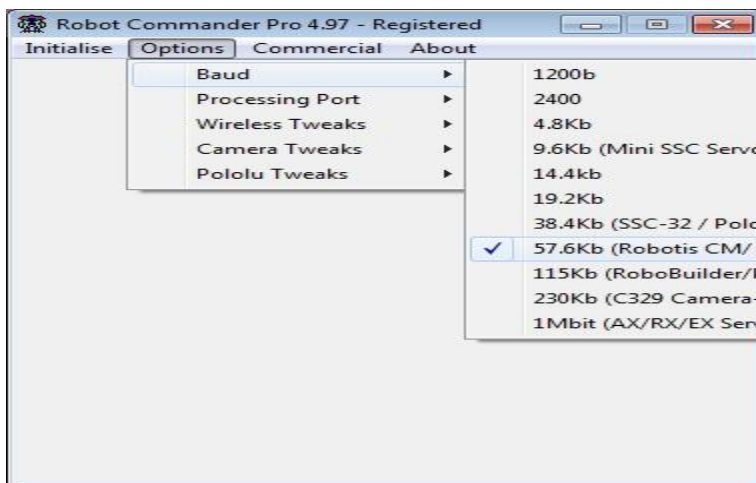
Start

Double click on the shortcut to the Robot Commander Software



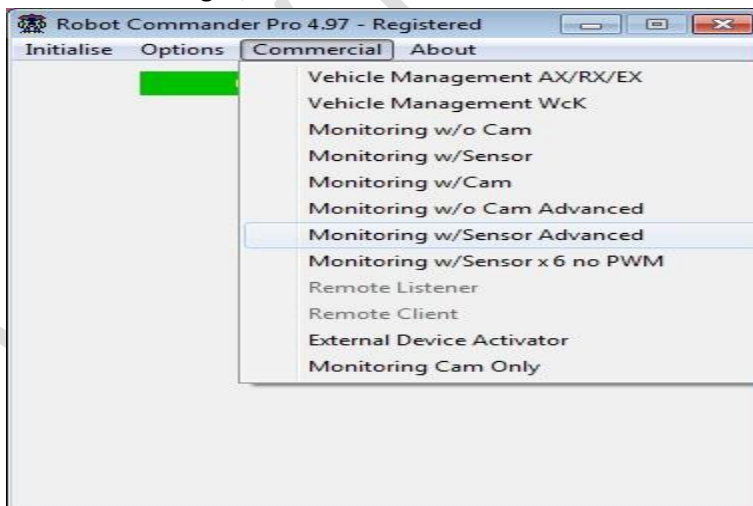
Step 1

Select the Port and Baud Rate. Baud to use is 56k.



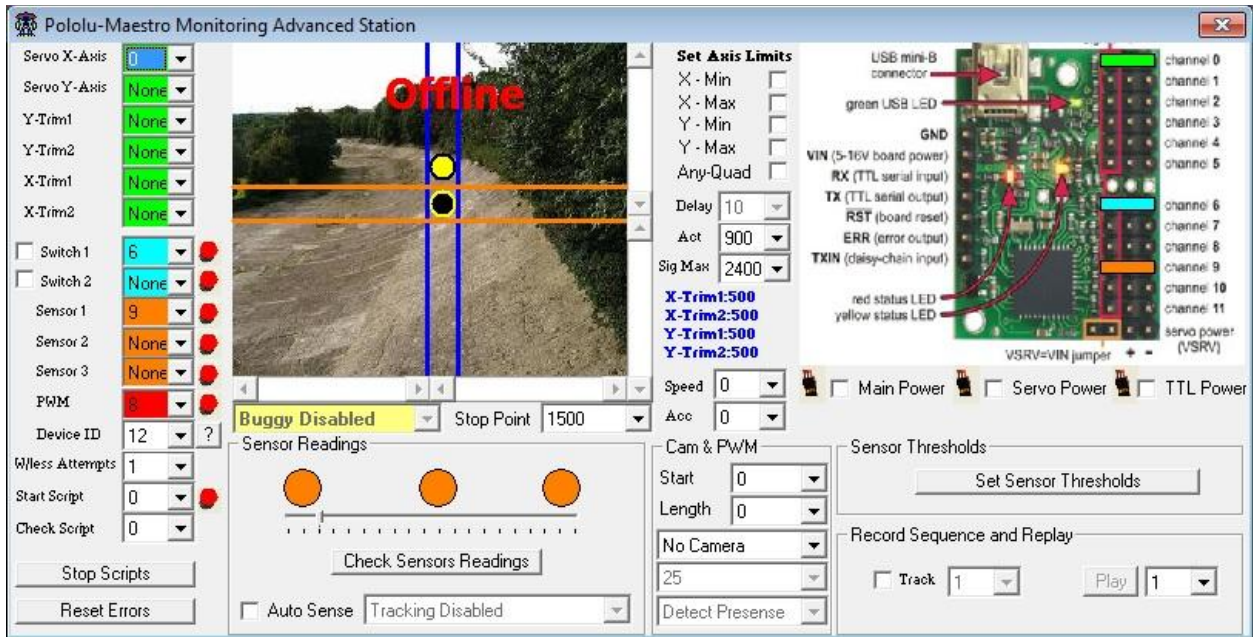
Step 2 (Intermediate Option 1)

Select Monitoring w/Sensor Advanced



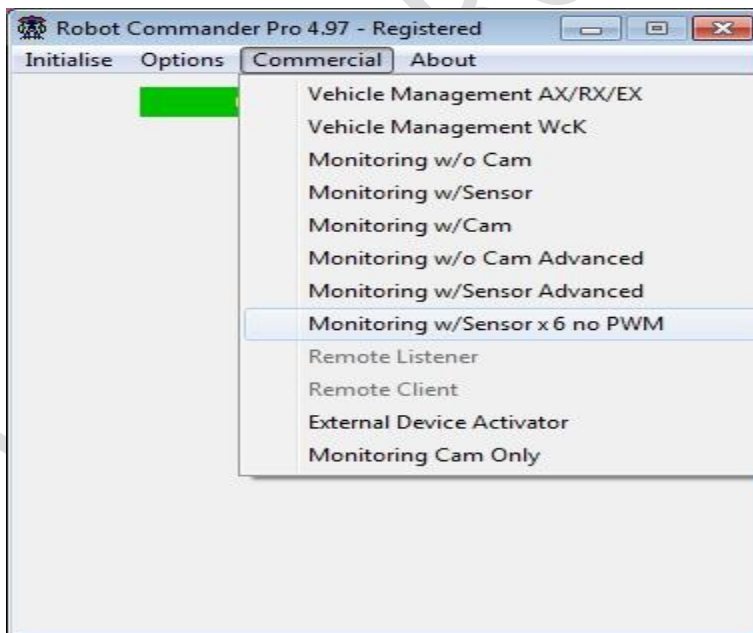
Step 3

Verify hardware pins connected with the diagrammatic representation shown in the Robot Commander



Step 4 (Intermediate Option 2)

Select Monitoring w/Sensor x 6 no PWM



Step 5

Verify hardware pins connected with the diagrammatic representation shown in the Robot Commander

The screenshot displays the Maestro Monitoring software interface for an Advanced Station 6 Sensors No PWM. The main window shows a camera feed of a dirt road with a red 'Offline' text overlay. The interface is divided into several sections:

- Left Panel:** Lists various sensors and servos. Servo X-Axis is set to 0, and Servo Y-Axis is set to None. Y-Trim1, Y-Trim2, X-Trim1, and X-Trim2 are all set to None. Sensors 1 through 6 are listed with status indicators (red lights).
- Center:** A camera feed showing a dirt road. A yellow dot is visible on the road, and a blue vertical line is overlaid on the image.
- Right Panel:** Contains 'Set Axis Limits' (X-Min, X-Max, Y-Min, Y-Max, Any-Quad, Delay, Act, Sig Max), 'Speed' (0), 'Acc' (0), and 'Camera Settings' (No Camera, 25, Detect Presense).
- Bottom Panel:** Includes 'Sensor Readings' (F, L, R, B), 'Check Sensors Readings', 'Auto Sense' (Tracking Disabled), 'Sensor Thresholds' (Set Sensor Thresholds), and 'Record Sequence and Replay' (Track 1, Play 1).
- Hardware Diagram:** A diagram of the Maestro board with various pins labeled: USB mini-B connector, green USB LED, GND, VIN (5-16V board power), RX (TTL serial input), TX (TTL serial output), RST (board reset), ERR (error output), TXIN (daisy-chain input), red status LED, yellow status LED, and VSRV=VIN jumper. A channel list on the right side of the diagram shows channels 0 through 11.

Buttons at the bottom left include 'Stop Scripts' and 'Reset Errors'. A large watermark 'WWW.PROGWHIZ.COM' is visible across the bottom half of the image.

Getting Started Videos

The following are videos of how to configure the software for each type of hardware/kit.

- 1) [Startup Guide 8 Port Controller](#)
- 2) [Startup Guide 8 Port Controller Advanced](#)
- 3) [Startup Guide for 12 Port Controller Intermediate Option 1](#)
- 4) [Startup Guide for 12 Port Controller Intermediate Option 2](#)
- 5) [Server/Client Software Module](#)

Demonstration Videos

The following are videos of simple prototypes showing some of the capabilities and flexibilities of the Kits:

- 1) [Simple Turret with Sensor detection enabled](#)
- 2) [Gripper/Claw 1 Axis of Motion](#)
- 3) [Gripper/Claw 1 Axis of Motion with Sensor](#)
- 4) [Gripper/Claw two Axis of Motion](#)
- 5) [Image Capture Capability with Image Detection/Tracking – Basic Camera GUI](#)
- 6) [Image Capture Intermediate GUI](#)
- 7) [RC Car Demo](#)
- 8) [RC Car Demo Driving](#)
- 9) [RC Car 2 Demo Turret](#)
- 10) [RC Car 3 Demo Driving](#)
- 11) [RC Tank Demo](#)
- 12) [RC Tank2 Demo](#)