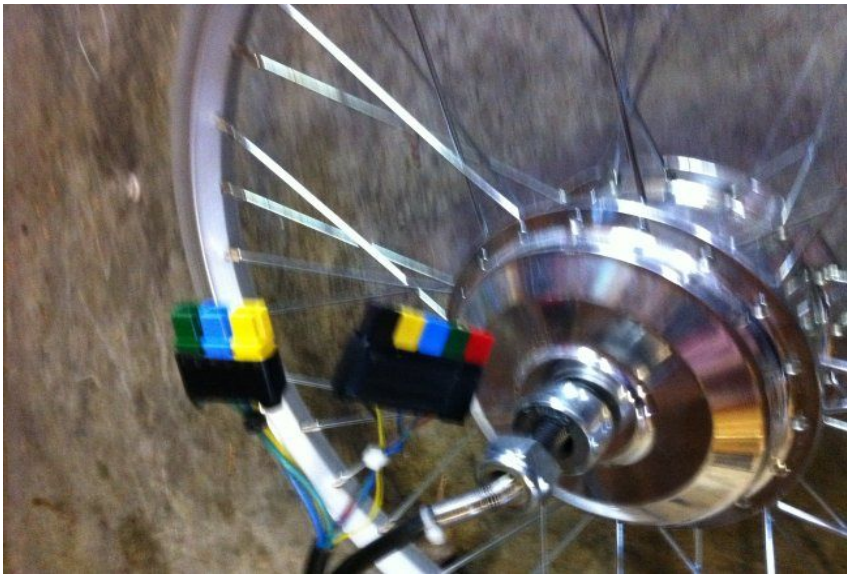
Component interconnection

Anderson connector color code:

Red: 36 V power or 36 V battery charge.
Orange: 12 V power
Pink: 5 V power
Black: Ground
Green: Brake or Phase A or joystick center
Blue: Throttle or Phase B
Yellow: Steer or Phase C

Hub motor



Original connections may be used, but have replaced with Anderson connectors for better robustness.
Connects to Motor Controller.

Green Phase A power	Blue Phase B power	Yellow Phase C power

Pink (Red in photo) 5 V	Green Phase A signal	Blue Phase B signal	Yellow Phase C signal	Black Ground

Motor Controller

Connects to Hub motor

Green Phase A power	Blue Phase B power	Yellow Phase C power

Pink 5 V	Green Phase A signal	Blue Phase B signal	Yellow Phase C signal	Black Ground

Connects to Switched 36 V supply from C2 Dual Mode

Red 36 V	Black Ground

Connects to throttle of C2 Dual Mode or conventional E-bike throttle.

Pink 5 V	Black Ground
Red Battery Charge	Blue Throttle

Throttle

Connects to Motor Controller. This is used only for testing. In the automated system, C2 Dual Mode replaces the throttle.

Red Battery Charge	Blue Throttle
Pink 5 V	Black Ground

Joystick

Connects to C2 Dual Mode

Yellow Left-right motion (steer)	Green Center	Blue Up-down motion (throttle/brake)
Pink 5 V	Brown Reserved	Black Ground

C2 Dual Mode

Connects to joystick

Pink 5 V	Brown Reserved	Black Ground
Yellow Left-right motion (steer)	Green Center	Blue Up-down motion (throttle/brake)

Connects to Motor Controller

Red Battery Charge	Blue Throttle

Pink 5 V	Black Ground

Connects to Motor Controller

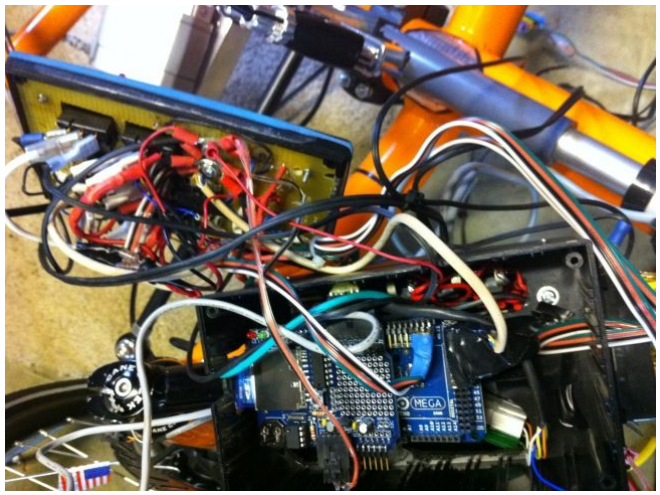
Red 36 V	Black Ground

Connects to Battery

Red 36 V	Black Ground	Orange 12 V

Connects to C1

Yellow steer	Green Brake	Blue Throttle
Pink 5 V	Purple Reserved	Black Ground



Front panel switches:
On: Turns on 5V, 12V and 36V power. 36V power also requires key switch on motor controller.
Stop: Momentary switch; may also be activated wirelessly.
Cruise: Momentary switch; may also be activated wirelessly.
Motor: Enables computer control of motor; when off, motor is controlled by joystick.
Brake: Enables computer control of brakes; when off, brakes are controlled by joystick.
Steer: Enables computer control of steering; when off, steering is controlled by joystick.
Top LEDs show battery charge.
Ten lower LEDs include internal Stop and Cruise that match the switch state. An LED marked "Reverse" is reserved. The other 7 LEDs may either come internally from C2 or externally from other microprocessors.

LED input connections are:

	Green: 4	Blue: 3	Purple: 1

Yellow: 5	Brown: 6	Gray: 7	White: 8

LED output connections are:

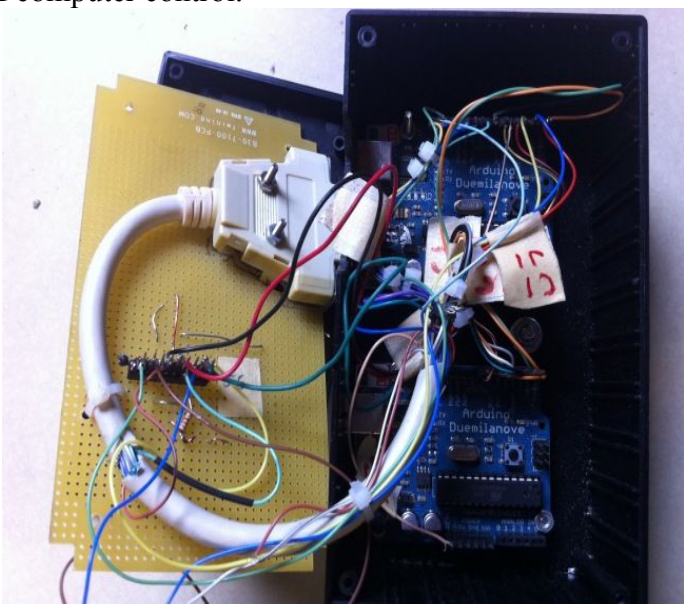
Yellow: 5	Brown: 6	Gray: 7	White: 8
	Green: 4	Blue: 3	Purple: 1

Servos

The brake servo pushes a brake lever that connects to disk brakes on the left and right wheels. The pusher is a slotted PVC tube designed so that the rider can use the lever as an emergency brake. Brake lever and servo are between the rider's legs.
Steering servo is linked to the tie bar connecting the front wheels. It is under the seat.
Both servos are cabled directly to controllers inside the C2 box.

C1 and C3 Pilot

This is the lowest level of computer control.



Connects to C2

Pink 5 V	Purple Reserved	Black Ground
Yellow steer	Green Brake	Blue Throttle

C6 Navigator

Contains shield with GPS logger and SD card.