

Upper Turret Build Details



Tank Details-

The tank is electric and powered independently by it's own 36v battery bank.

Basic UPPER Turret functions:

2 air cannons that fire foam rockets.

2 fully automatic paint ball guns. (it looks like 4, but 2 barrels are fake)

2 motors, 1 for pan and one for tilt.

The turret is controlled by a receiver called "Servoshock" (link below) which allows us to operate it wirelessly via a bluetooth Playstation 3 Dual shock controller.

Wiring specifics:

Air Cannon-

The air cannons are fired via servos mounted to their triggers. The servos are connected directly to the ServoShock receiver via servo leads.

Paintball Guns-

The paintball guns are each powered by their own internal 9v battery and are turned on and off via a push button on it's independent circuit board. The gun trigger wires have been spliced, joined and connected to a "Pico Switch" (link below) which then connects to the "Servoshock" receiver so they fire simultaneously.

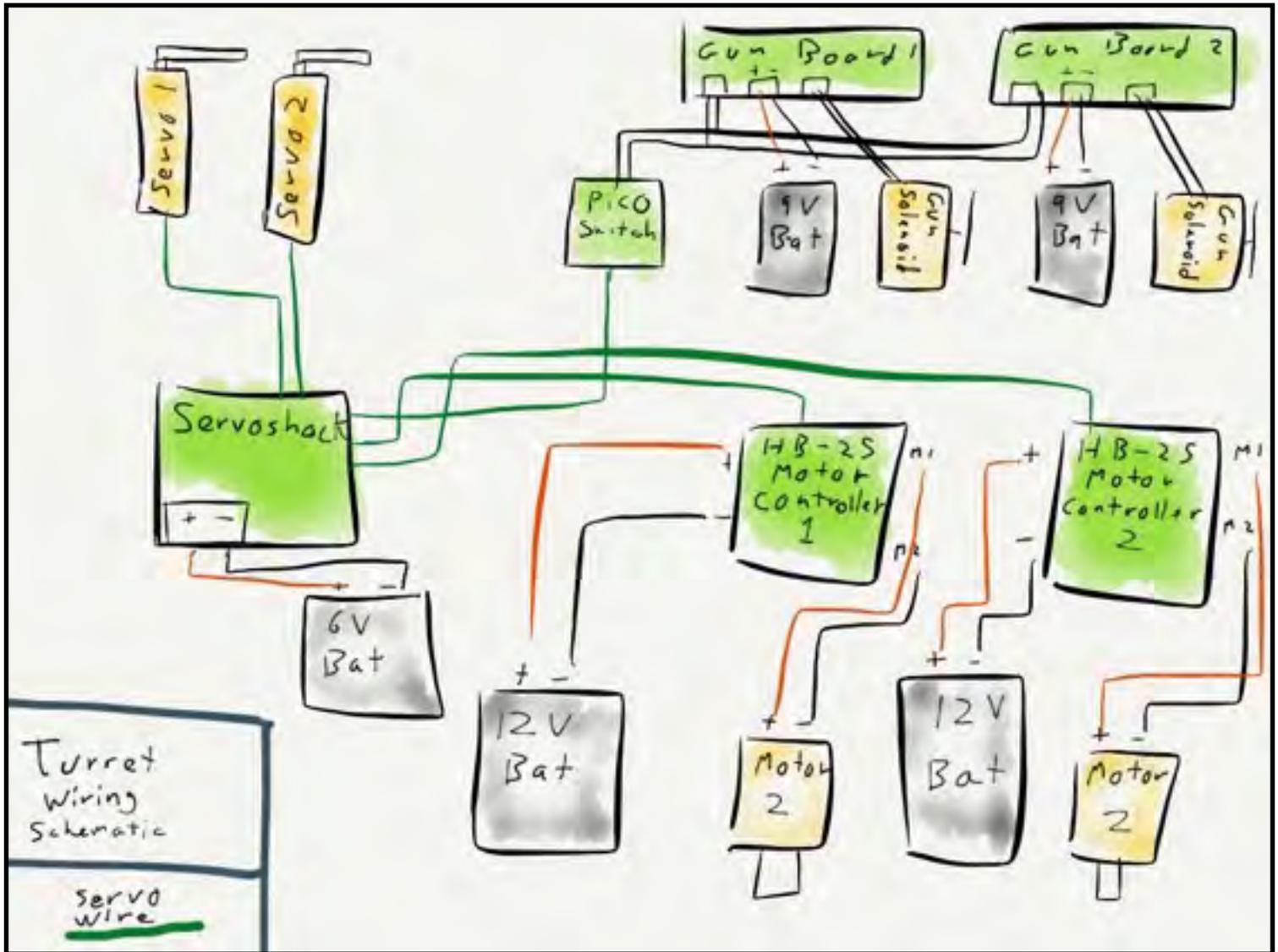
Pan Motor-

The Pan motor is connected to the HB-25 motor controller which is connected to it's own 12v Battery. A servo lead connects the HB-25 motor controller to the "Servoshock" receiver.

Tilt Motor-

The Tilt motor is connected to the HB-25 motor controller which is connected to it's own 12v Battery. A servo lead connects the HB-25 motor controller to the "Servoshock" receiver.

Current Basic wiring Schematic-



COMPONENT DETAILS:

Receiver-

Servoshock

Link: (www.servoshock.com)

Controller-

Playstation 3 Dual Shock remote

Link: (<http://www.amazon.com/PlayStation-Dualshock-Wireless-Controller-Black-3/dp/B0015AARJI>)

Servoshock receiver battery-

6v 4.5ah

Link- (http://www.amazon.com/volt-4-5-Rechargeable-Battery-Electronics/dp/B002QGVW3K/ref=sr_1_1?s=electronics&ie=UTF8&qid=1410157795&sr=1-1&keywords=6v+4.5ah)

Motor controllers (pan and tilt)- Parallax HB-25

Link: (<http://www.parallax.com/product/29144>)

Pan Motor- 45 RPM precision gear motor

Link: (http://www.servocity.com/html/45_rpm_precision_gear_motor.html#.VA1LImK9KK0)

Tilt Motor- 25 lbs. thrust linear actuator

Link: (http://www.servocity.com/html/25_lbs_thrust_linear_actuator.html#.VA3E70uh1Gw)

Motor AND Motor controller Battery -

12v 8ah

Link- (http://www.amazon.com/gp/product/B0009GIKNE/ref=pd_lpo_sbs_dp_ss_1?pf_rd_p=1535523722&pf_rd_s=lpo-top-stripe-1&pf_rd_t=201&pf_rd_i=B000HB03MM&pf_rd_m=ATVPDKIKX0DER&pf_rd_r=1ZMR5QDR6ZRGSVS468TT)

Paintball gun:

BT-4 ERC

Link: <http://empirepaintball.com/paintball-marker/bt-4-erc-marker>

For reference - This is the circuit board inside the paintball gun. There are 3 plugs on the board. 1) Battery 9v 2) lead to trigger switch 3) lead to solenoid

Link: (<http://www.jtpaintballparts.com/19378-BT4-E-Grip-Circuit-Board-p/gp13649.htm>)

Paintball Gun (circuit board) battery -

Standard 9v

Link: ([http://www.cdw.com/shop/products/Duracell-CopperTop-MN-1604-battery-9V-alkaline-x-2/1500719.aspx?](http://www.cdw.com/shop/products/Duracell-CopperTop-MN-1604-battery-9V-alkaline-x-2/1500719.aspx?cm_cat=GoogleBase&cm_ite=1500719&cm_pla=NA-NA-DUR_BT&cm_ven=ShoppingFeeds&ef_id=S7zdQENIYWUAAA5JTTQAAADA:20140908152330:s&gclid=CJ7B27X20cACFYhefgodqz4ANg)

[cm_cat=GoogleBase&cm_ite=1500719&cm_pla=NA-NA-](http://www.cdw.com/shop/products/Duracell-CopperTop-MN-1604-battery-9V-alkaline-x-2/1500719.aspx?cm_cat=GoogleBase&cm_ite=1500719&cm_pla=NA-NA-DUR_BT&cm_ven=ShoppingFeeds&ef_id=S7zdQENIYWUAAA5JTTQAAADA:20140908152330:s&gclid=CJ7B27X20cACFYhefgodqz4ANg)

[DUR_BT&cm_ven=ShoppingFeeds&ef_id=S7zdQENIYWUAAA5JTTQAAADA:](http://www.cdw.com/shop/products/Duracell-CopperTop-MN-1604-battery-9V-alkaline-x-2/1500719.aspx?cm_cat=GoogleBase&cm_ite=1500719&cm_pla=NA-NA-DUR_BT&cm_ven=ShoppingFeeds&ef_id=S7zdQENIYWUAAA5JTTQAAADA:20140908152330:s&gclid=CJ7B27X20cACFYhefgodqz4ANg)

[20140908152330:s&gclid=CJ7B27X20cACFYhefgodqz4ANg](http://www.cdw.com/shop/products/Duracell-CopperTop-MN-1604-battery-9V-alkaline-x-2/1500719.aspx?cm_cat=GoogleBase&cm_ite=1500719&cm_pla=NA-NA-DUR_BT&cm_ven=ShoppingFeeds&ef_id=S7zdQENIYWUAAA5JTTQAAADA:20140908152330:s&gclid=CJ7B27X20cACFYhefgodqz4ANg))

Paintball gun firing switch relay-

Pico Switch

Link: (<http://www.dimensionengineering.com/products/picoswitch>)

Air Cannon:

Havoc

Link: (http://www.hustlepaintball.com/Metadyne-Industries-Havoc-Undermount-Launcher?&search_id=2192092)

Cannon Servos:

HiTec

Powered by the receiver

Link: (http://www.servocity.com/html/hitec_servos.html)