

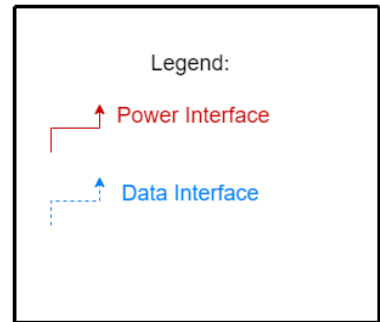
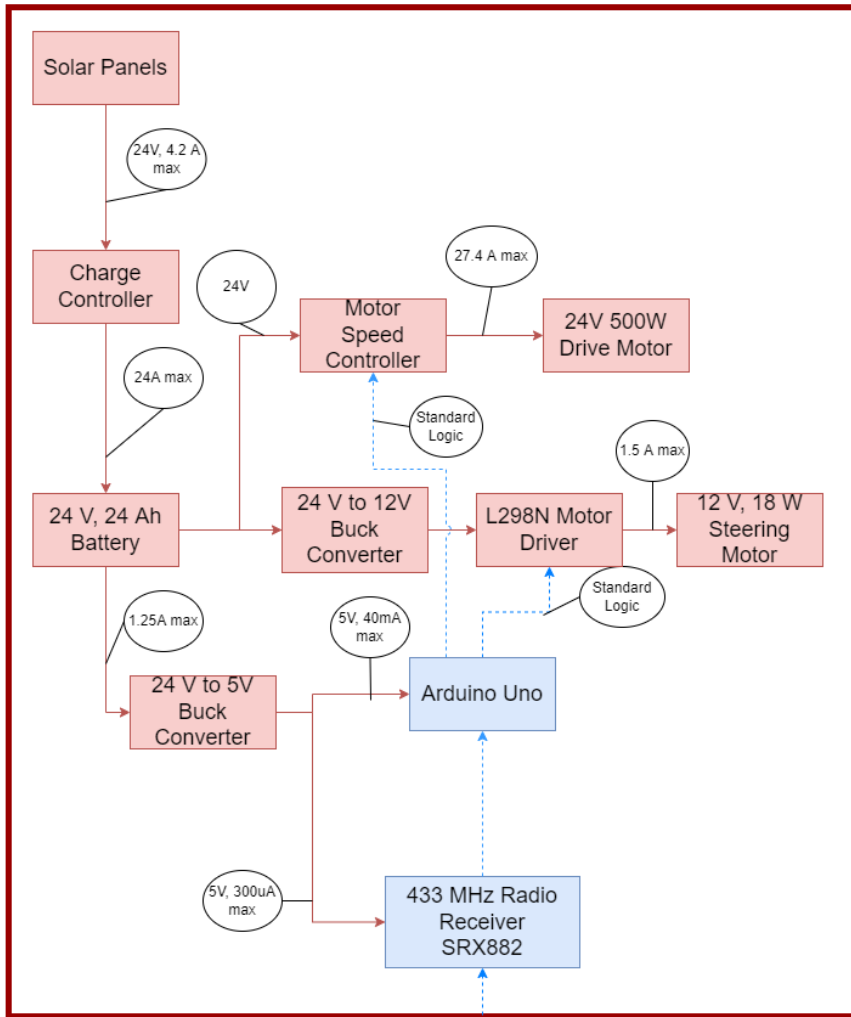


PROJECT: AMPED CART

ELECTRICAL SCHEMATICS AND DIAGRAMS

CONTRIBUTORS: ASHLYNN BURGESS

Cart



Amped Cart:
Electrical Block Diagram
Ashlynn Burgess - EE

Remote Control

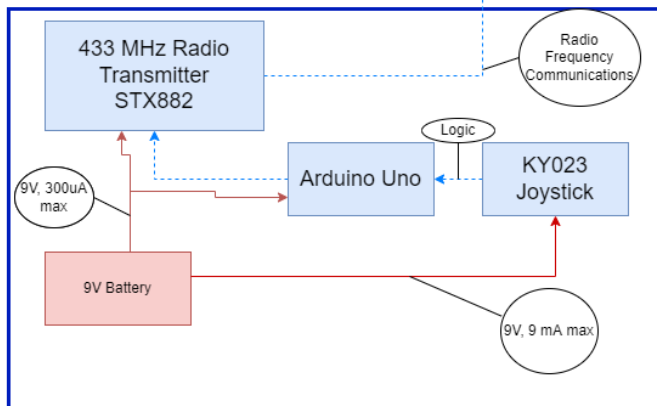


Figure 1. Updated Electrical Power and Data Block Diagram

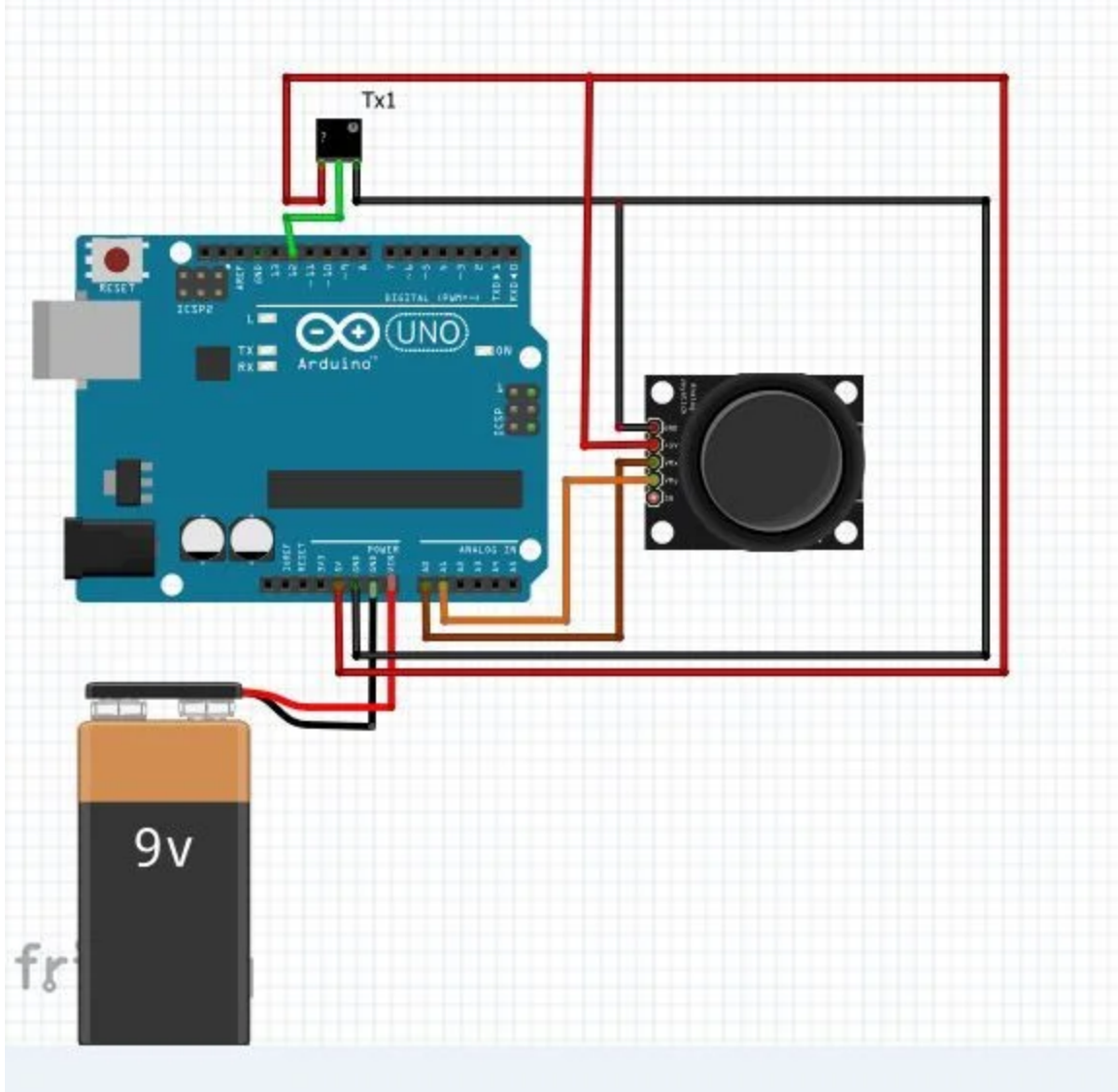


Figure 2. Remote Control Wiring Diagram

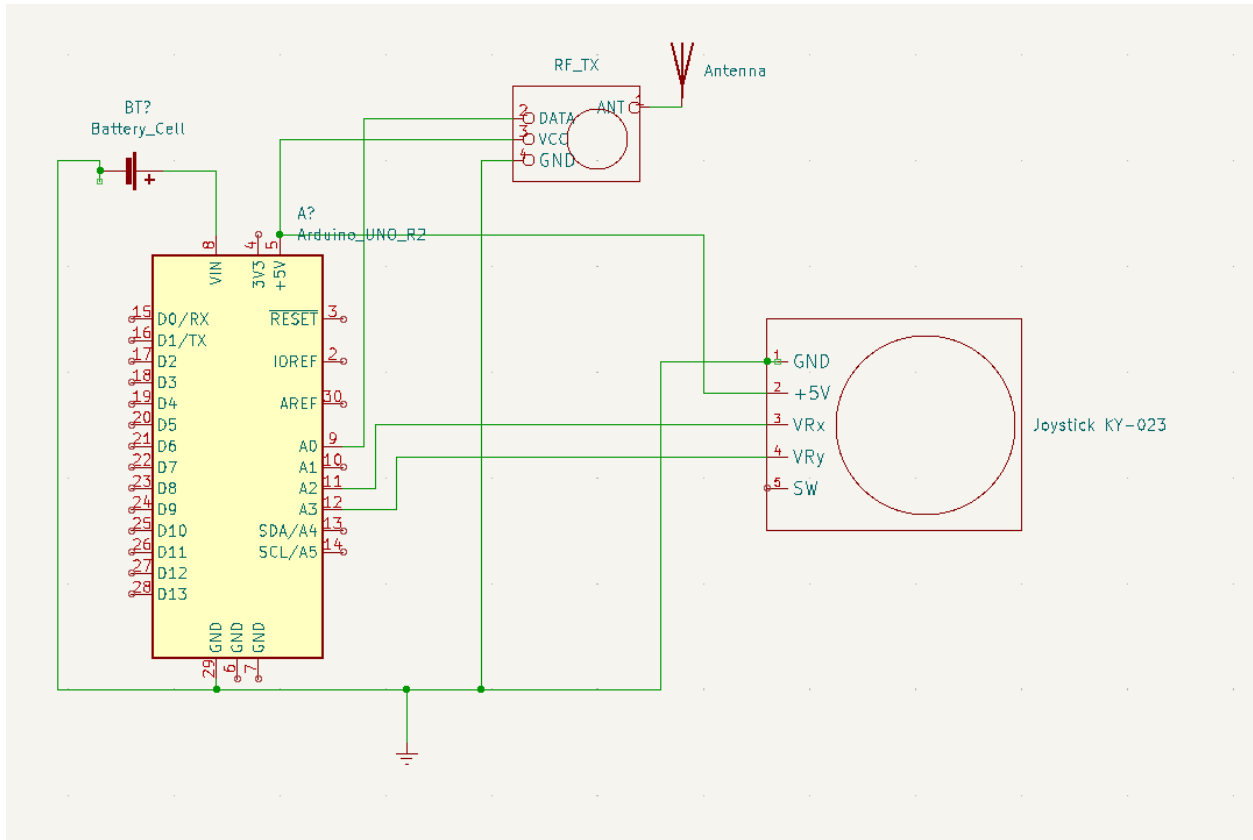


Figure 3. Remote control RF transmitter schematic (Using Kicad design software.)

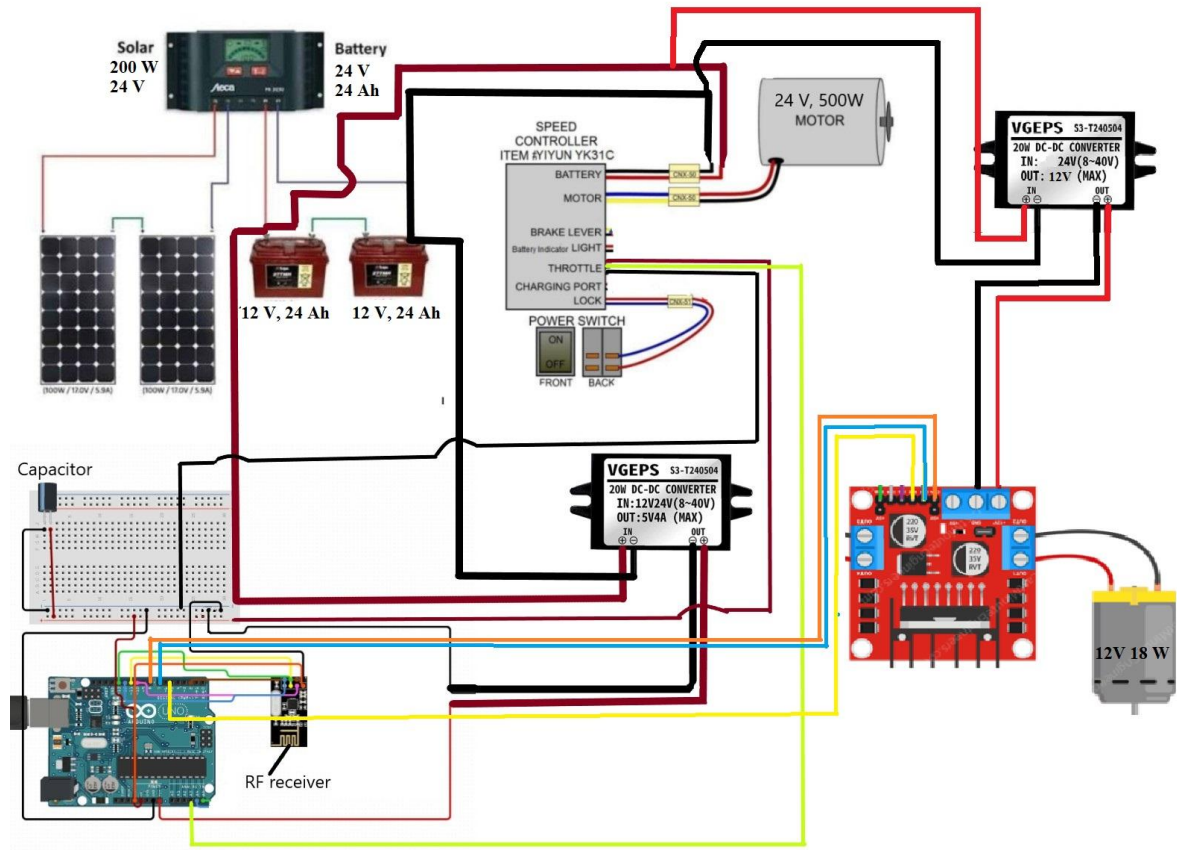




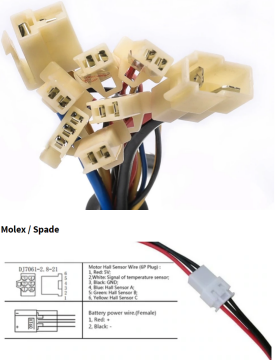


Figure 4. Amped Cart Updated Wiring Diagram

Wires and Connectors

Connection	Type	Specs	Image
Solar Panel to Charge Controller	Wire with connector	<p>Extension cable with PV connector</p> <ul style="list-style-type: none"> ● Model: 1*2.5mm ● Number of cores: single core multiple strands ● The maximum external diameter of the wire: 5.3 ± 0.2 (mm) ● Nominal cross section: 2.5 (mm) ● Uses: Photovoltaic power generation ● Core material: tinned copper wire ● Product Certification: TUV ● Voltage rating: 0.6/1KV ● Rated voltage: 1000V ● length: 3M 	
Solar panel Parallel connection	connector	<p>2 in 1 Parallel connector</p> <ul style="list-style-type: none"> ● Maximum working voltage:DC1000V ● Rated Current:30A ● Flame class: UL94-V0 ● Contact resistance:$\leq 5\text{m}\Omega$ ● Shell Protection degree:IP67 ● Specification of Connecting Line: 4mm^2 ● Contact Material: Copper,Tin plate ● Ambient temperature range: -40 ~ +85°C ● Safety Level:classII 	

<p>Charge controller to Battery pack</p>	<p>Wires with clips</p>	<p>cable with alligator clip</p> <ul style="list-style-type: none"> • Model: 1*2.5mm • Number of cores: single core multiple strands • The maximum external diameter of the wire: 5.3 ± 0.2 (mm) • Nominal cross section: 2.5 (mm) • Uses: Photovoltaic power generation • Core material: tinned copper wire • Product Certification: TUV • Voltage rating: 0.6/1KV • Rated voltage: 1000V • length : 3M 	
<p>Battery series connection, Battery to Buck converter connections.</p>	<p>Cable with lug</p>	<ul style="list-style-type: none"> • 2 AWG • Stranding(0.25mm): 634 • Thickness: .06 inches • Copper conductor Diameter: 0.30 inches • Diameter total: 0.42 inches • Max amperage: 205 A • weight/ft: 0.24 lbs 	
<p>Connections to Drive Motor Controller</p>	<p>Connectors</p>	<p>CNX-50 Connector</p> <ul style="list-style-type: none"> • Current rating: 13A • Voltage rating: 600V • Row spacing: 4.2 mm • Number of Pins: 2 <p>CNX-51 Connector</p> <ul style="list-style-type: none"> • Current rating: 13A • Voltage rating: 600V • Row spacing: 2.8 mm • Number of Pins: 2 <p>CNX-54 Connector</p> <ul style="list-style-type: none"> • Current rating: 13A • Voltage rating: 600V • Row spacing: 2.8 mm • Number of Pins: 6 	 <p>Molex / Spade</p>

Small electronics connections will be made on an electronics board with soldering and standard electronics jumper cables.