

Apollo

Getting Started

Batteries: The batteries of the remote control and the robot are crucial to consistent results when running your robot. It is highly recommended that you charge these batteries when possible. There are two battery cables on the Apollo. The primary battery is located nearest the USB ports. This battery powers the microcontroller and Bluetooth connection. The second battery lead provides power directly to the motors. It is the battery that feeds the motors that will need to be charged more frequently. When charging the remote control from a computer, administrative rights may be necessary to install the correct drivers.

Startup Light Sequence: There are two revisions of Apollo hardware being used right now. The first version of the hardware has only a green light while the second revision is capable of displaying several different colors. Upon power up of the system... (Plugging a battery into the cable nearest the USB ports)

Version One should blink green four times. It is only after this fourth blink that a connection can be successful.

Version Two will blink green and then blue. After that it will blink either red, yellow, or green (low, middle, high) to indicate the battery level of the battery attached to the motor ports. The light will then go out and blink once again either red, yellow, or green (low, middle, high) to indicate the status of the primary battery (nearest the USB port). These battery indications are only meant as a rough guide. How a robot reacts to different battery levels differs on a robot to robot basis.

Syncing: Creating a connection between the remote control and robot is necessary to drive it. When this syncing is accomplished, the MAC address of the USB Dongle is tied to the MAC address of the controller. This pair of USB Dongle and PS3 controller can be used on any robot without needing to re-sync. The steps are 1. Power up the Apollo. 2. Insert the USB dongle and wait 10 seconds. 3. Remove the USB Dongle and plug the remote into Apollo. 4. Wait 10 seconds and remove the PS3 controller and replace the Dongle. 5. Cycle the power on the Apollo and your robot will be ready to link together and drive.

Linking: Once your remote control is synced with the robot, it can then be linked to it. This is the action of making the connection with the robot such that driving is possible during a match. Once the robot is powered up, press the PS button in the center of the remote. The lights on the remote will blink. Once a connection has been established, the remote will vibrate.

Motor Mapping: The default code that came on the device follows the mapping laid out in the table below.

Remote Control: While the robot is connected to the remote control, the battery level of the remote is displayed across the four lights on the remote.

4 - Full Battery

1 - Dying

Motor	Inversion Port	Direction 1	Direction 2
M1/M9	S1	Right Joystick Up*	Right Joystick Down*
M2/M10	S2	Left Joystick Up*	Left Joystick Down*
M3/M11	S3	Triangle	Cross
M4/M12	S4	Up (D-pad)	Down (D-pad)
M5	S5	L1	L2*
M6	S6	R1	R2*
M7	S7	Circle	Square
M8	S8	Left	Right

* - Indicates an Analog Command