Rover Bluetooth Control

Control your Rover using Bluetooth from a phone or tablet.

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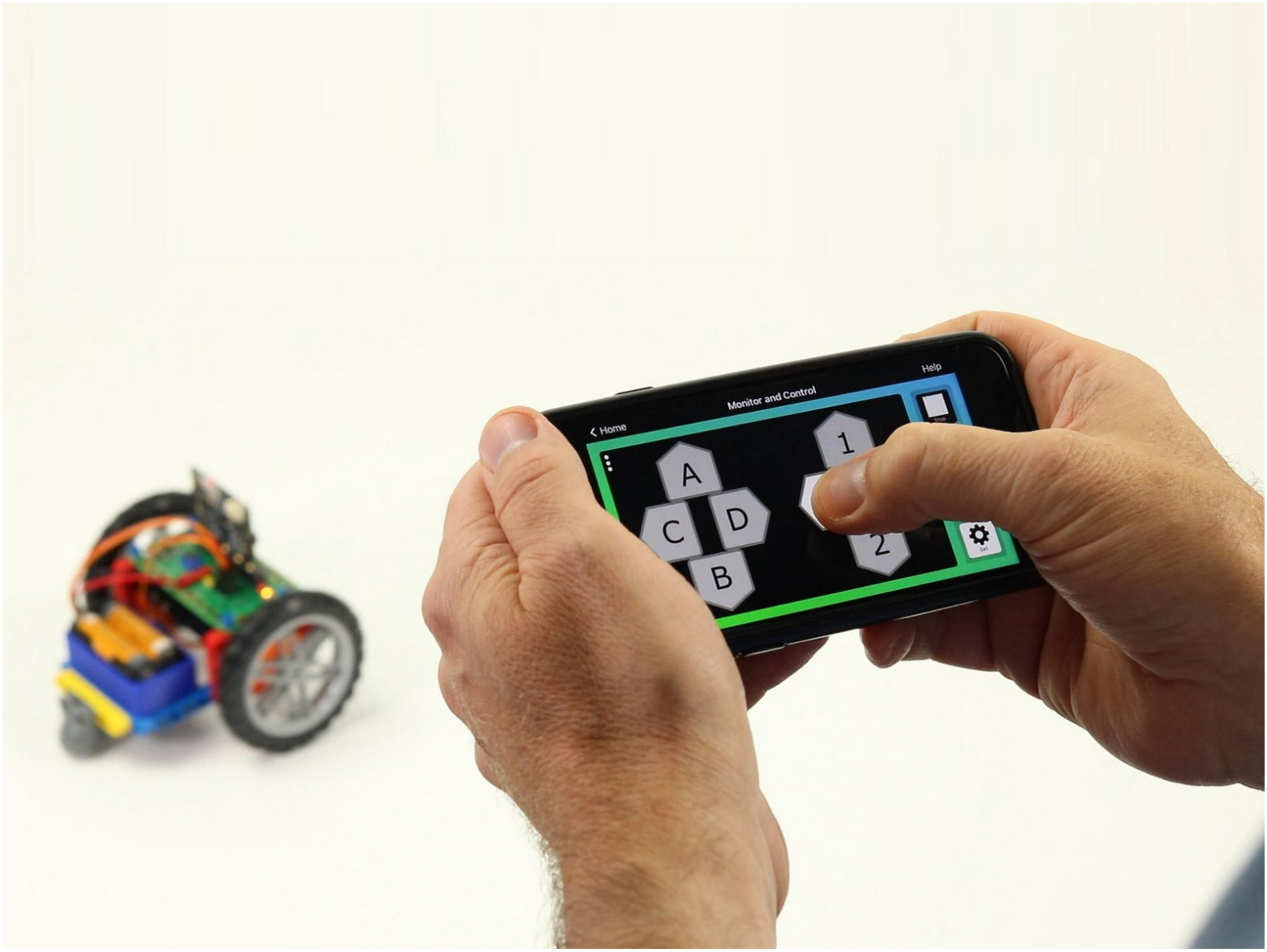


INTRODUCTION

Control your Rover using Bluetooth from a phone or tablet.

Using a "DPAD" controller you can make the Rover forward & backward, and spin in either direction. You can also open and close the Gripper and adjust the speed of the Rover.

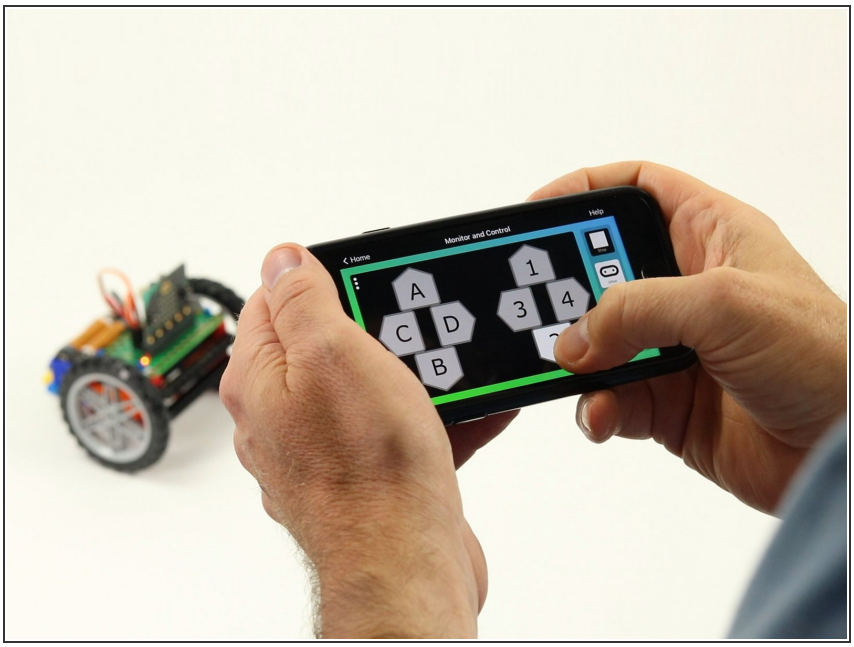
TOOLS:

- Computer (1)

PARTS:

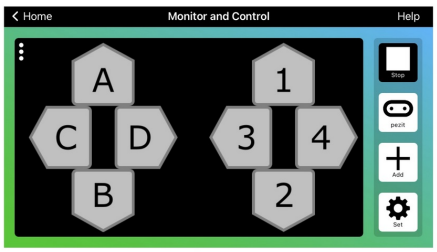
- Bit Board Rover Kit (1)
- micro:bit (1)
- Phone or Tablet (1)

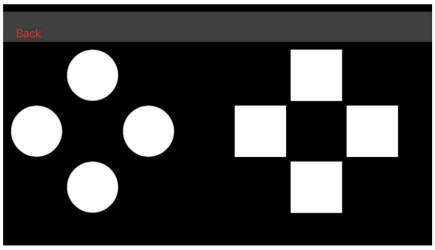
Step 1 — Bluetooth Control



- You can control your Rover using Bluetooth from a phone or tablet along with an app that supports the micro:bit's Bluetooth Messaging Event System.
- If you are using an iPhone or iPad you can use the **DPAD** controller found in the “Monitor & Control” section of the micro:bit iOS app.
  - Find the iOS app here: https://apps.apple.com/gb/app/micro-bit/...
- If you are using an Android phone or tablet you can use “Bitty Controller” which has its own “DPAD controller” option.
  - Find Bitty Controller in the Google Play store here: https://play.google.com/store/apps/detai...
  - Find more information about Bitty Controller here: https://bittysoftware.blogspot.com/p/app...

Step 2 — The DPAD



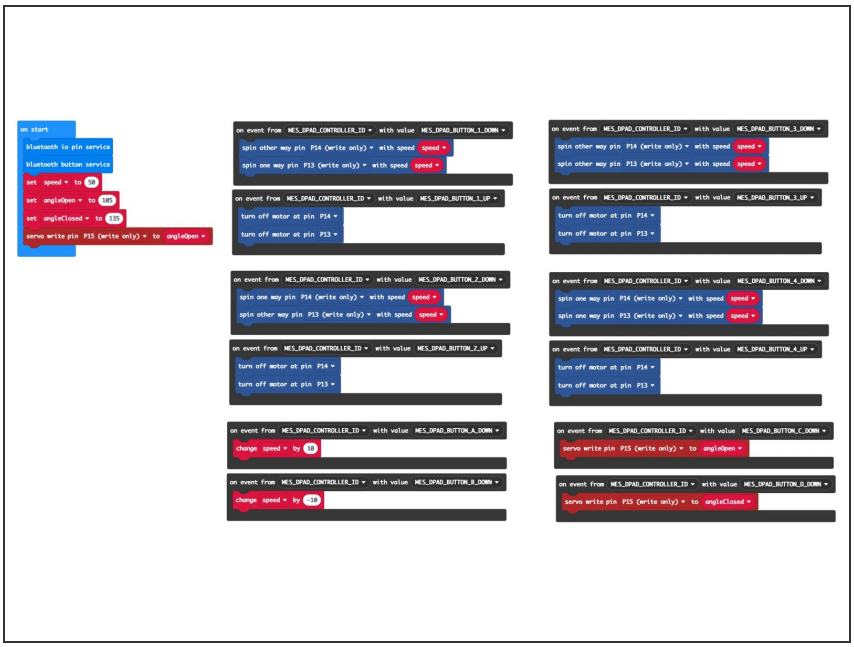


The DPAD may look familiar if you've ever used a video game controller.

- The DPAD will control the Rover in the following manner:
  - 1 will move forward, 2 will move backwards.
  - 3 will spin to the left, 4 will spin to the right.
  - C will open the gripper, D will close the gripper.
  - A will increase speed, B will decrease speed.

Keep in mind you can change what any of these controls do by editing the code.

Step 3 — Load the Code

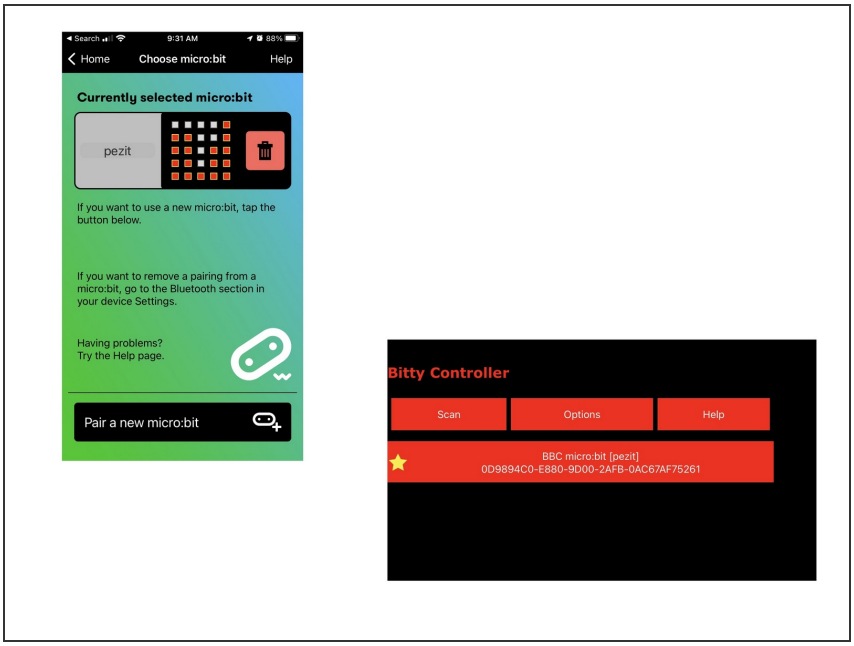


⚠ If you've never used a micro:bit before you'll want to check out this guide: Bit Board V1 Setup and Use

- We're going to load the following code for our **Rover Bluetooth** program: https://makecode.microbit.org/_7PP2ekbUf...

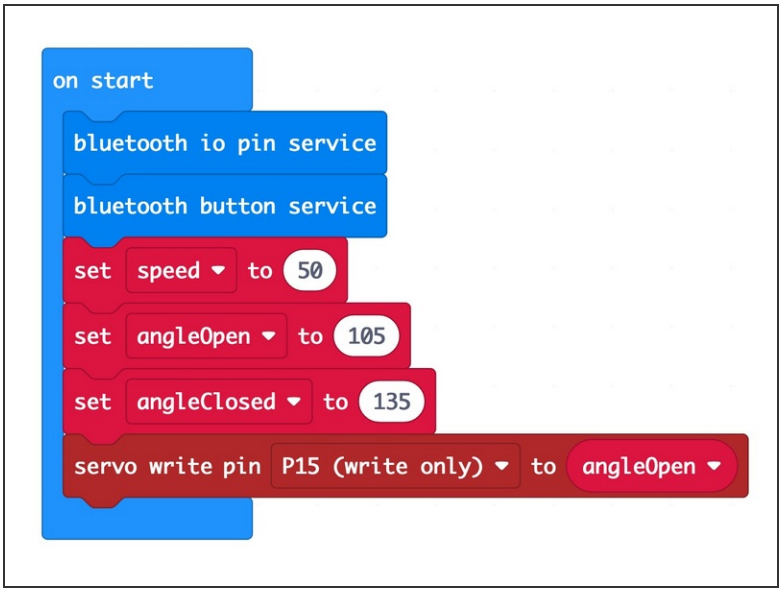
ⓘ Note: This code will work with either of the apps mentioned in Step 1.

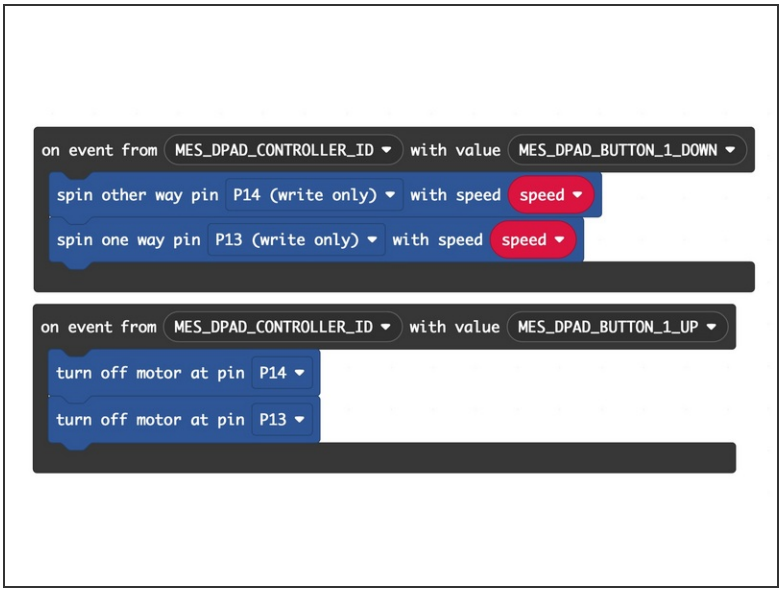
Step 4 — Pair with micro:bit



- You'll need to pair the phone or tablet with the micro:bit in your Rover.
- Please see the extensive guide to pairing provided on the makecode.microbit.org web site: https://makecode.microbit.org/v0/referen...
- Once you pair your device with the micro:bit on the Rover you can use the DPAD to control it!

Step 5 — Take it Further - Exploring the Code





- The **on start** block has two commands to enable the Bluetooth services we need.
- The rest of the code in the **on start** block is just like other Rover code.
- The other blocks are all on event blocks, which are looking for data from the **MES_DPAD_CONTROLLER_ID** with a specific value.
- Besides the on start block, each dark gray block looks for a button to be down or up, and reacts appropriately.
- While these **Control** blocks look a bit more complex than other blocks, they are pretty easy to explore and use in your code.