Tank Bluetooth Control

Control your Tank using Bluetooth from a phone or tablet.

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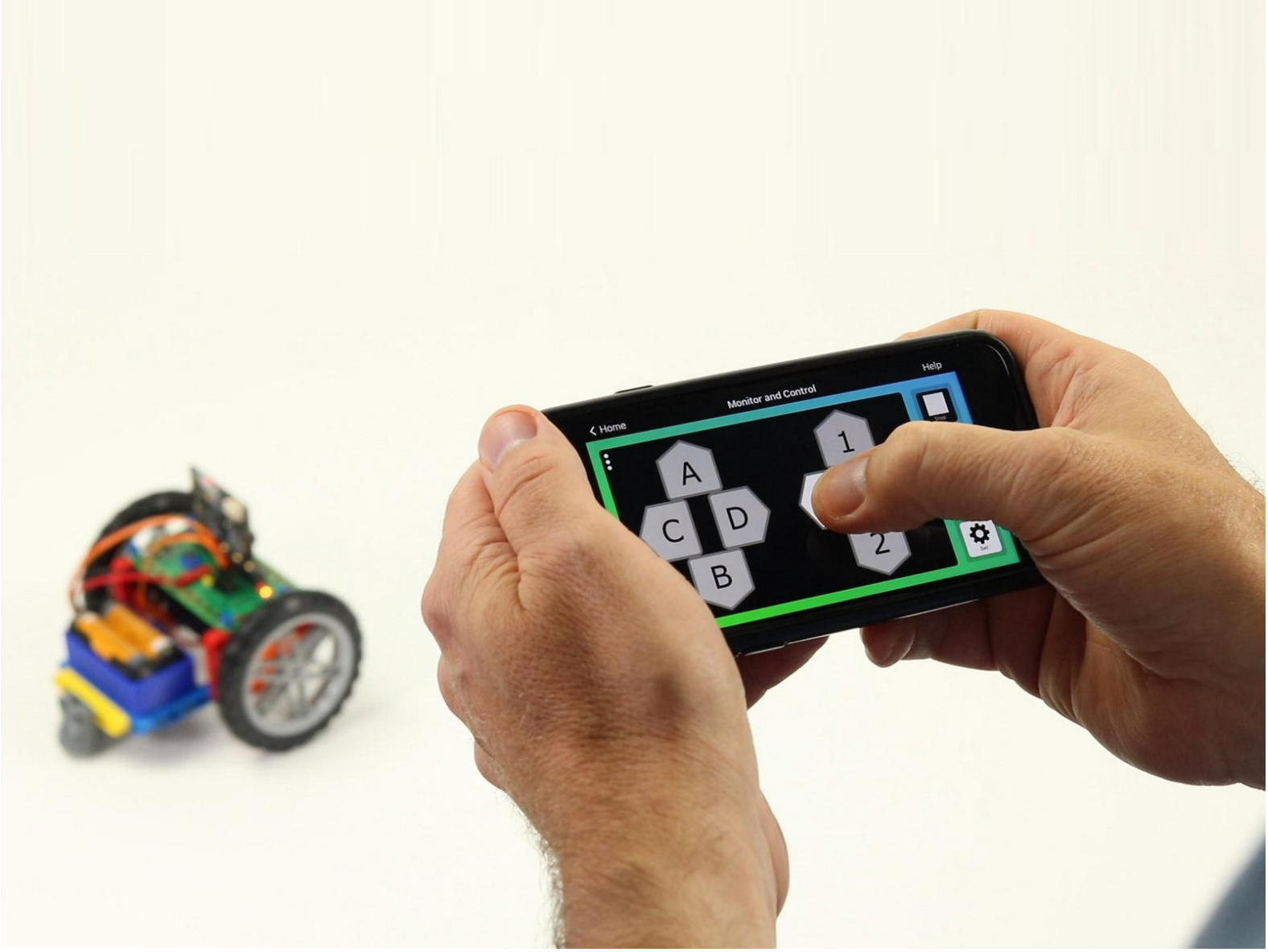

INTRODUCTION

Control your Tank using Bluetooth from a phone or tablet.

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

TOOLS:

- Computer (1)

PARTS:

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

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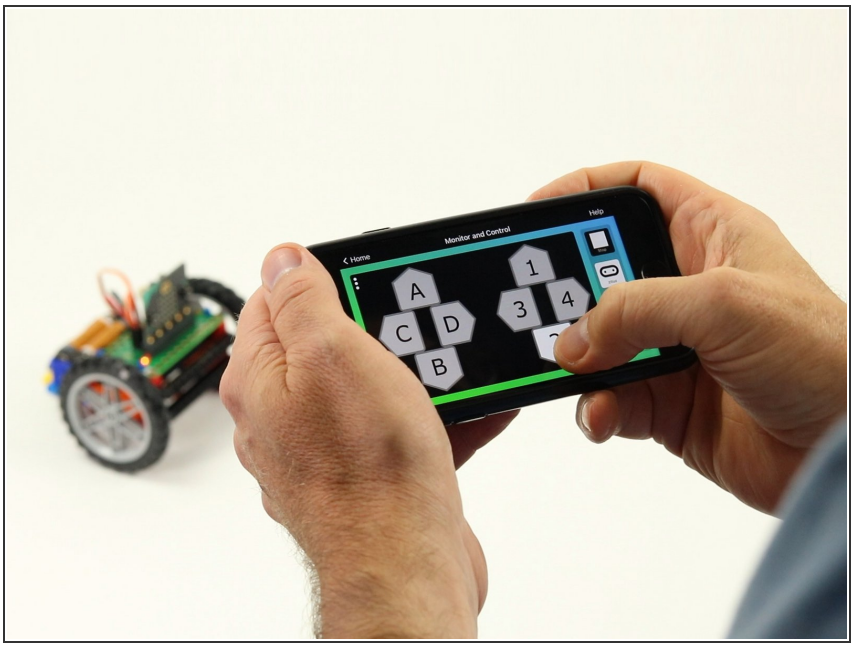
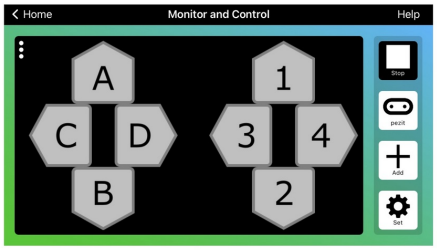
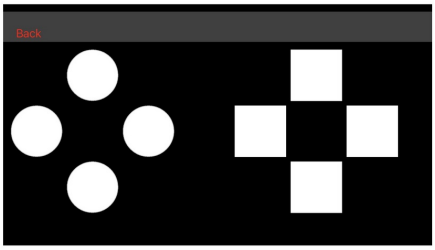
Step 1 — Bluetooth Control



- You can control your Tank 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 GamePad (or "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 GamePad may look familiar if you've ever used a video game controller.
- The GamePad 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.

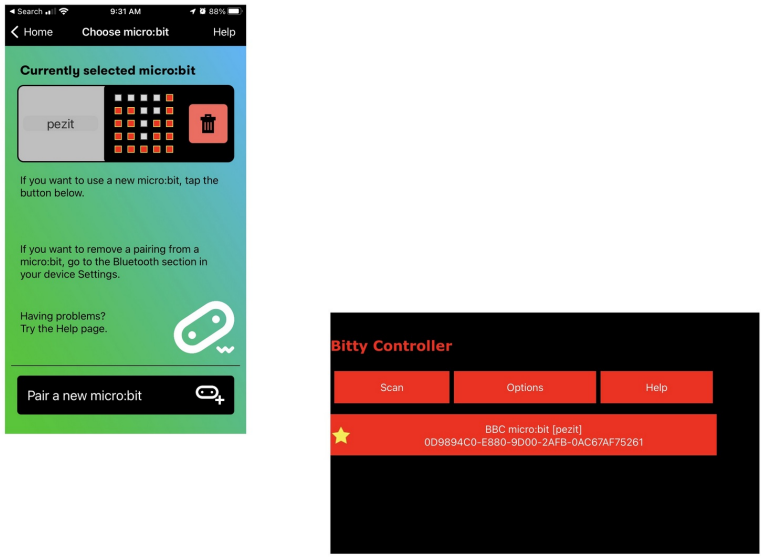
Step 3 — Load the Code

⚠ If you've never used a micro:bit before you'll want to check out this guide: [Bit Board V2 Setup and Use]

- We're going to load the following code for our **Tank Bluetooth** program: [https://makecode.microbit.org/_L9TVkqXcx...]

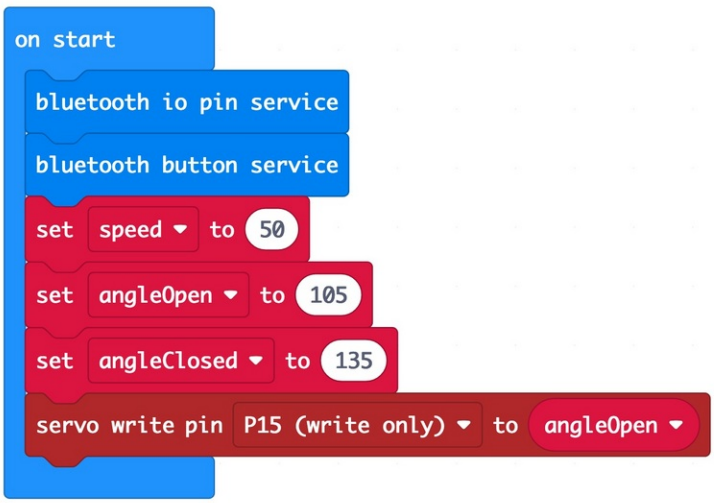
ⓘ Note: This code will work with either of the apps mentioned in Step 1.

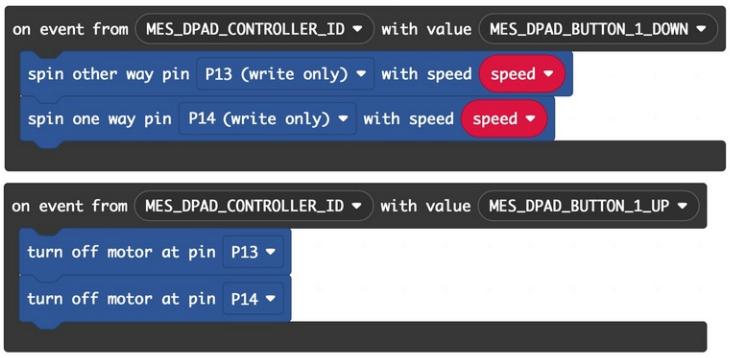
Step 4 — Pair with micro:bit



- You'll need to pair the phone or tablet with the micro:bit in your Tank.
- 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 Tank you can use the GamePad 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 Tank 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.