

Marty the Robot

Raspberry Pi Hotspot Instructions

Marty is designed to work on your home or school/office WiFi, and make use of web based resources. Sometimes though, and especially at schools or shows, WiFi can be heavily regulated or unreliable.

For that reason, we provide a pre-configured Raspberry Pi which produces a WiFi hotspot for multiple Martys to connect to. It allows you to run Scratch, other programming languages, and our Remote Control & Set-up app without needing an internet connection.

WiFi network

Power-up the Raspberry Pi and after a small wait, it will create its own WiFi network:

SSID (WiFi network name): marty

Password: raspberry

(Note all *lower case*)

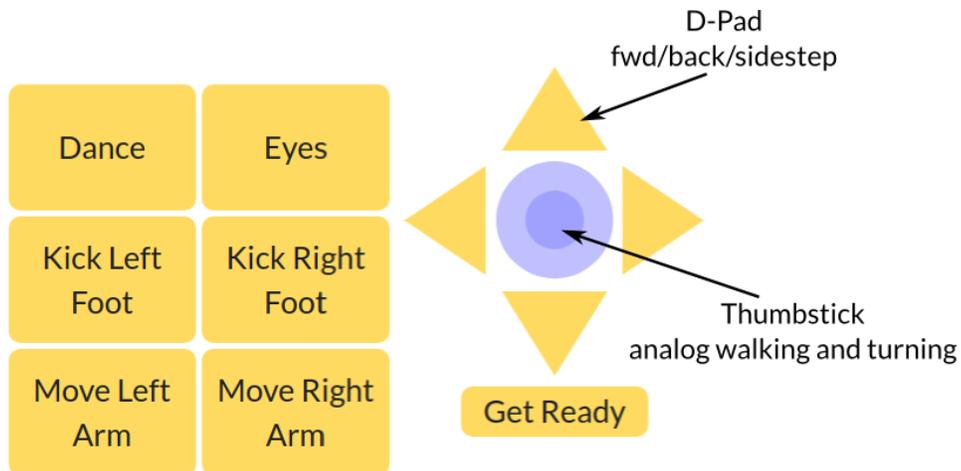
Turn on the Raspberry Pi and wait for the 'marty' network to appear before turning on your Martys

You will need to connect your Marty Robots and the controlling device (laptop, phone, etc.) to this network. Watch out for any confusion caused by the WiFi network name 'marty': Remember that this is the Raspberry Pi and not one of the robots.

Remote control

For simple control of your Martys there is a remote control application. While connected to the 'marty' hotspot, go to <http://172.24.1.1/rc>. This works best in Firefox on a phone, but should work on PC and tablets too.

Note: If you have access to an Android device (phone or tablet), you can use our dedicated Marty the Robot app which simplifies initial set-up and also provides a remote control function. (Available in Google Play Store - currently app is Android-only).



Scratch

To code Marty using Scratch, you will use the ScratchX platform which supports special Scratch *extensions*, these are required to communicate with Marty or other hardware.

Connect your computer to the “marty” hotspot and go to <http://172.24.1.1/martyScratch.html>
This page contains links to the Scratch interface and some demo scripts.

Important - enable Flash and pop-ups. To run Scratch, your browser settings need to allow the Flash plug-in.

If there’s a small “i” icon in the address bar, click it and make sure Flash and pop-ups are both set to “allow”.



Good!
Click "I Understand"



Bad!
Enable Flash and popups



Bad!
Enable Flash and popups



Ok!
Click to let Flash run

Calibration

If you need to calibrate a Marty, there is a version of the calibration script on the Pi too. Go to <http://172.24.1.1/calibration> when connected to the 'marty' hotspot.

Using the Raspberry Pi as the control device

The Raspberry Pi is a full computer, and can be used instead of a laptop etc. to program a Marty. You only need to plug in a screen, keyboard and mouse.

The username is "pi" and the password is "marty".

Using an iPad, phone or other tablet

You can use VNC viewer to program Marty from nearly any device. Download VNC viewer (<https://www.realvnc.com/en/connect/download/viewer/>) to your device (it's available as an app for iOS and Android).

- 1) Connect the phone or tablet to the "marty" hotspot
- 2) Open VNC Viewer and click the plus button to add a connection to Address: 172.24.1.1:1
 - a) Note the ":1" at the end of the address
- 3) You'll be prompted for a password, it's "raspberrypi"
- 4) You'll also be warned that the connection is not encrypted. That's ok.
- 5) When the connection is made you'll see a computer desktop - you're now controlling the Raspberry Pi that's also making the hotspot
- 6) Double click the "Scratch Offline" link to open the Scratch resources

Troubleshooting:

Scanner can't find Marty the Robot

1. Make sure that Marty and your device are both connected to the same "marty" network (probably from your Raspberry Pi).
2. Try turning Marty off and on again
3. Clear your browser's cache. Web search for instructions for your browser"
4. Make sure you only have one pi hotspot turned on
5. Try using our "Marty the Robot" app to scan for Martys. This is available for Android devices in the Google Play store. Alternatively an IP scanner like Angry IP scanner or Fing can be used to look for Marty on your network. When you've found the IP, it can be entered into the remote control, scratch, or calibration programs. For detailed instructions on using an IP scanner look here: <https://robotical.io/forum/thread/44.3u3myNb3xY8yjQIm8TQrHs7Ww1E>