

BITKIT

Bluetooth Setup Guide

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<http://craftymech.com>

About

This guide provides instructions for setting up the BITKIT wireless connection for Windows & Mac computers.

Most computers made after 2010 are likely to have built-in Bluetooth capability.

If your computer does not have Bluetooth, it can be added by purchasing an inexpensive USB dongle (\$6) from Amazon.com (<https://www.amazon.com/gp/product/B07G9TSDCG>)

REQUIREMENTS

- BITKIT w/Bluetooth PCB
- Windows 7+
- Mac OS X 10.10 (Mavericks) +



Why does the BITKIT have Bluetooth?

Bluetooth is a wireless protocol that when combined with the *BitKit Manager* software (Windows/Mac), makes it easy to update the BITKIT firmware, upload games, and download high scores. With Bluetooth, you don't need physical access to inside the cabinet.

What if my computer doesn't have Bluetooth capability?

Inexpensive Bluetooth USB adapters are available from Amazon.com for as low as \$6. (<https://www.amazon.com/gp/product/B07G9TSDCG>)

Do I have to setup the BITKIT Bluetooth connection every time I use the BitKit Manager software?

You should only need to go through the setup process once. After that, your operating system will remember the BITKIT Bluetooth connection.

Can I use a mobile device w/ Bluetooth to connect to the BitKit?

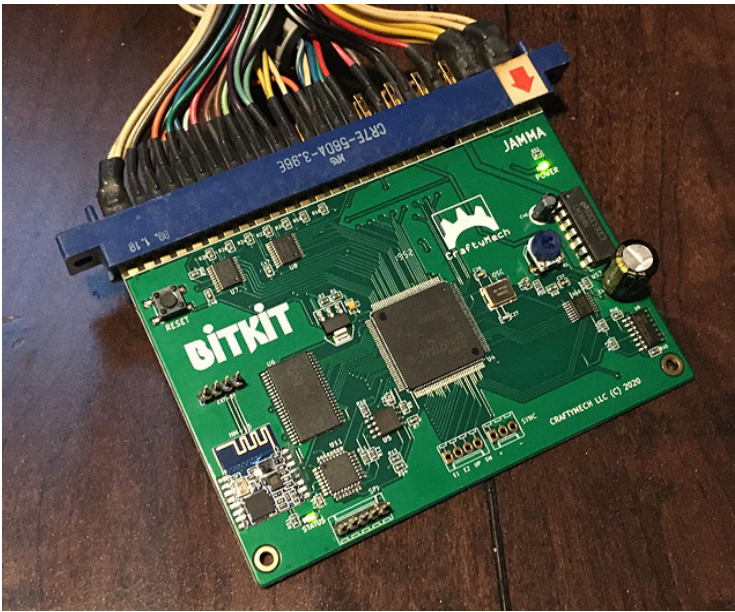
In the near future, YES! Mobile apps for iOS/Android are planned to allow downloading of high scores, uploading games, and even updating firmware.

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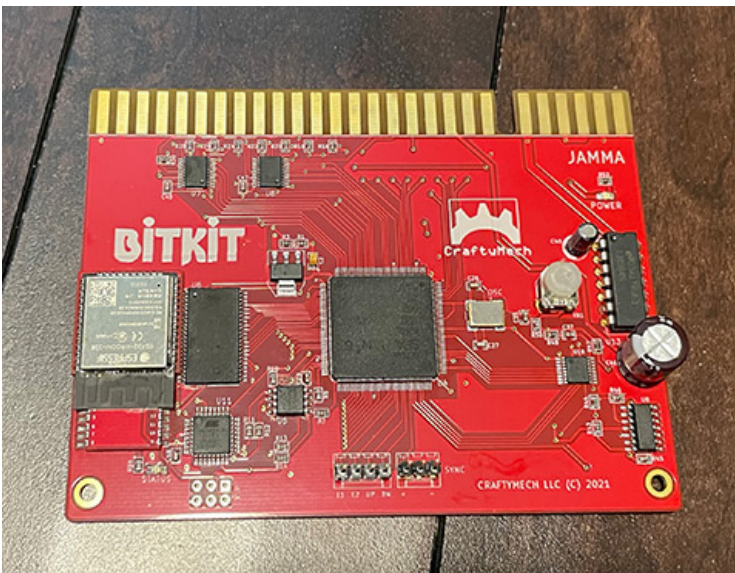
1: First Step!

Before you can setup the BITKIT Bluetooth connection on your computer, the BITKIT needs to be powered in your cabinet via the Jamma harness. Make sure the POWER LED in the upper-right corner of the pcb is illuminated. Check the photos below to identify your BITKIT model.



BITKIT pcb w/ HM-13

Bluetooth module. The STATUS LED will blink when ready to accept a Bluetooth connection.



BITKIT pcb w/ ESP32

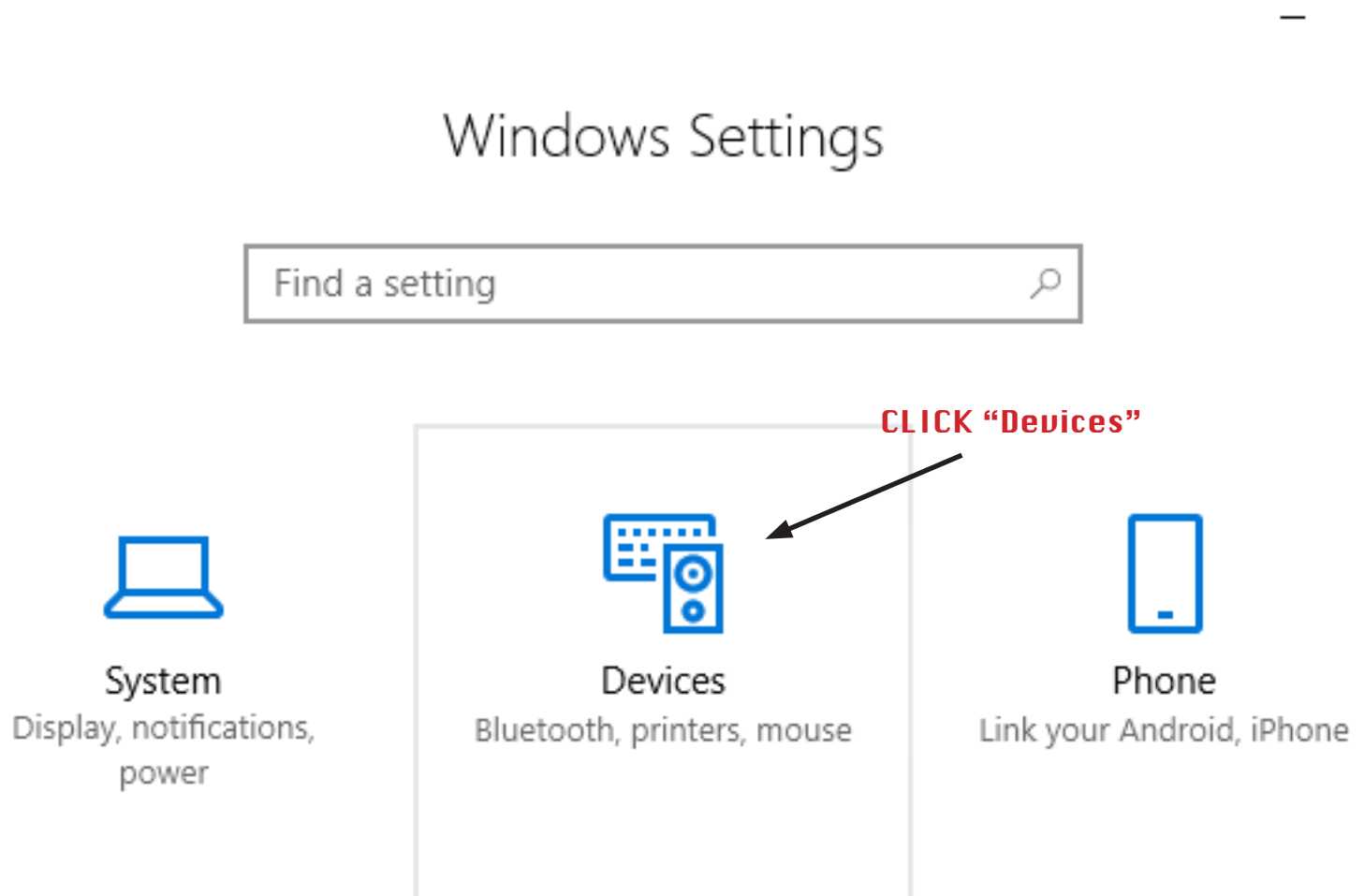
Bluetooth module. The STATUS LED will be solid green when ready to accept a Bluetooth connection.

2: Windows Setup

Bluetooth is supported by Windows 10 without any additional drivers or software. Earlier Windows versions also support Bluetooth, but the appearance of dialogs or prompts may be different.

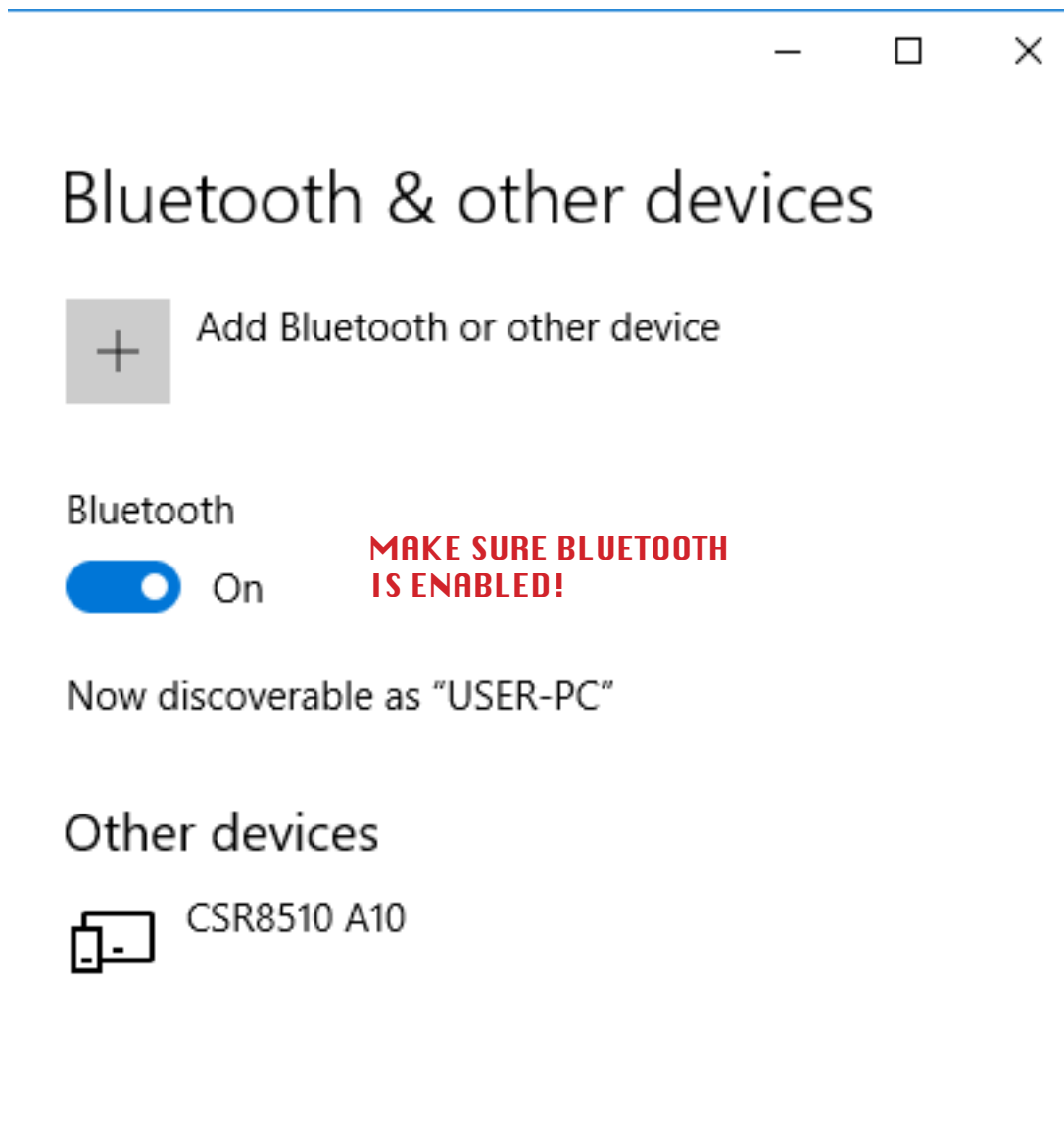
To get started, press the **Windows key + I** ( Win + I) or from the Start Menu choose “**Settings**”.

Select “**Devices**” as seen in the Settings window below.



From the Bluetooth Settings window, first make sure that Bluetooth is enabled.

Now click the  sign to **“Add Bluetooth or other device”**.



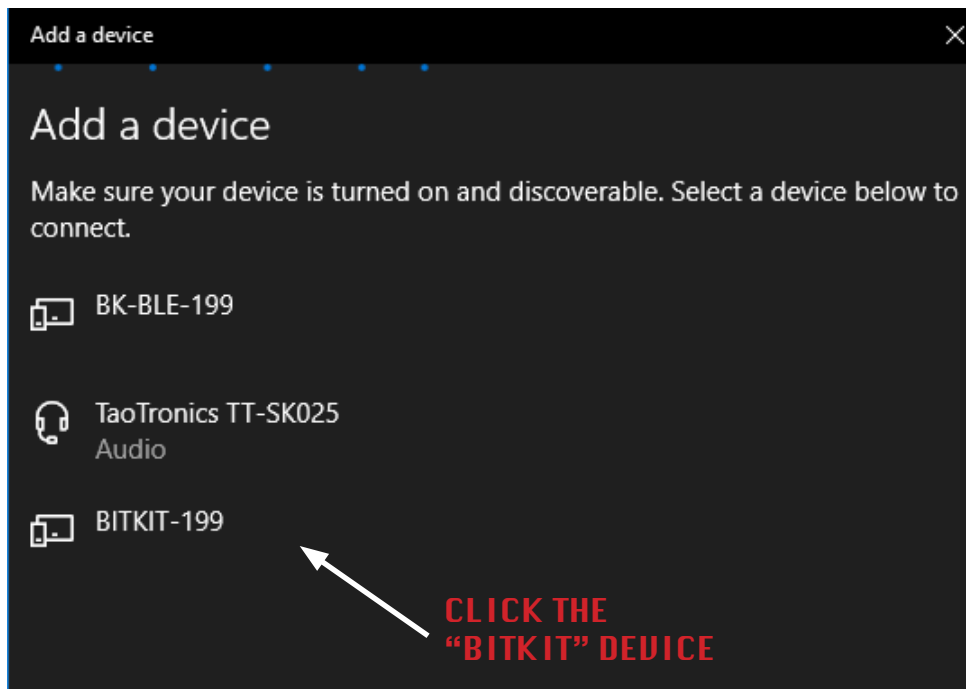
The “**Add a device**” dialog window will open. Wait for up to 30 seconds for Windows to scan for Bluetooth devices. Please note that the exact name will vary as each BITKIT has a unique device ID. Depending on your model of BITKIT (see page 5), do the following:

BitKit w/ HM-13 Bluetooth

Click the device labeled “**BITKIT-xxx**”. You will be asked for a PIN number, enter “**1234**” and click “**Connect**”. Do not select the device “*BK-BLE-xxx*” if it is found, that device entry is for iOS/Android mobile connections.

BitKit w/ ESP32 Bluetooth

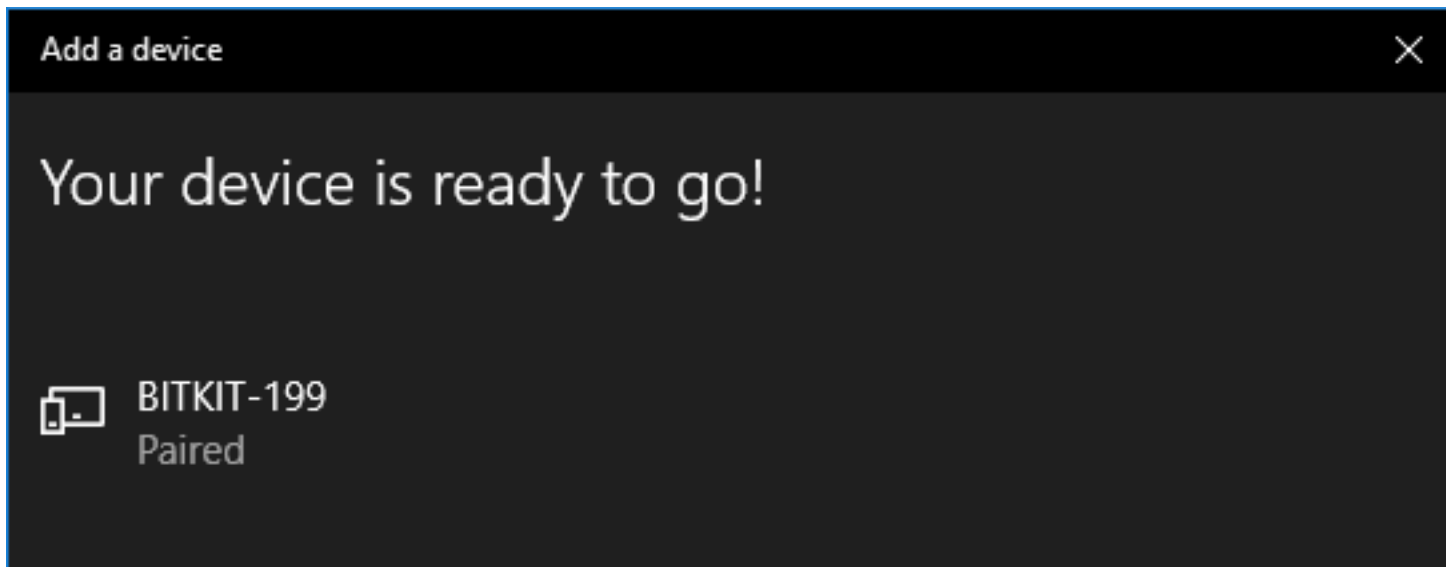
Look for the device labeled “**BK-BLE-xxx**” and click “**Connect**”. If there are two devices with the same name, connect to the first device listed. If you experience connection issues in Chapter 4 of this guide, return to the device settings, and pair to the second device instead.



If the BITKIT is not found, make sure the BITKIT is powered in your cabinet, and the POWER LED is green.



Windows will connect to the BITKIT, and then finish setting up the Bluetooth connection. When finished, a new dialog will be shown indicating that the BITKIT is paired with your computer.

All done! Now you are ready to use the BITKIT Manager software to upload firmware/games and download your high scores.

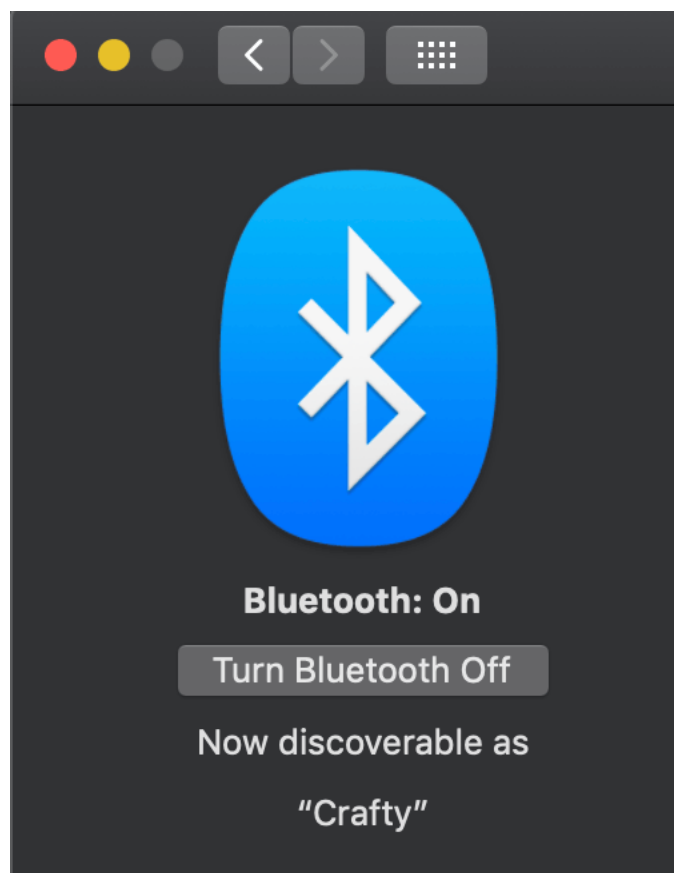


3: Mac Setup

Bluetooth is fully supported on all Mac computers without any additional software or drivers.

Click the Bluetooth icon in the menu bar (), and choose “**Open Bluetooth Preferences**”. Or from the Apple menu () choose “**System Preferences**”, and then click the “**Bluetooth**” icon in the Preferences window.

In the settings window, first make sure Bluetooth is enabled.



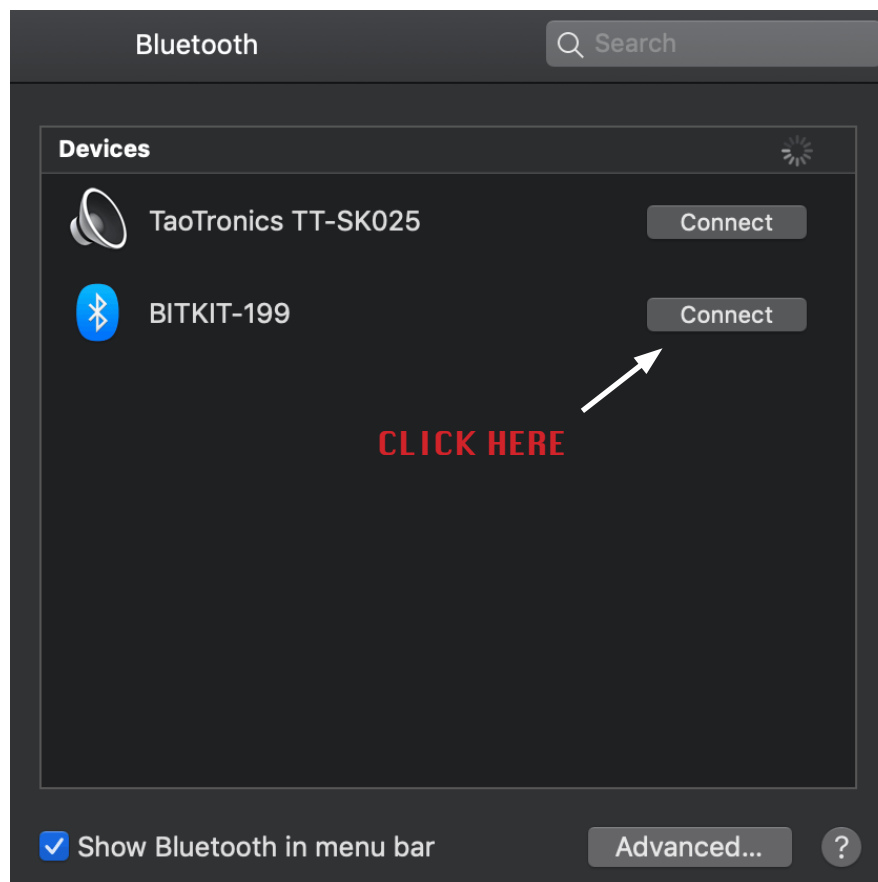
After a few moments, a list of detected Bluetooth devices will be displayed. The exact name will end in different numbers than the example below (each BITKIT has a unique device ID). Depending on your model of BITKIT (see page 5), do the following:

BitKit w/ HM-13 Bluetooth

Click the device labeled “**BITKIT-xxx**”. You will be asked for a PIN number, enter “**1234**” and click “**Connect**”.

BitKit w/ ESP32 Bluetooth

Look for the device labeled “**BK-BLE-xxx**” and click “**Connect**”. You will not be asked for a PIN number. All done! Proceed to Chapter 4: BitKit Manager.



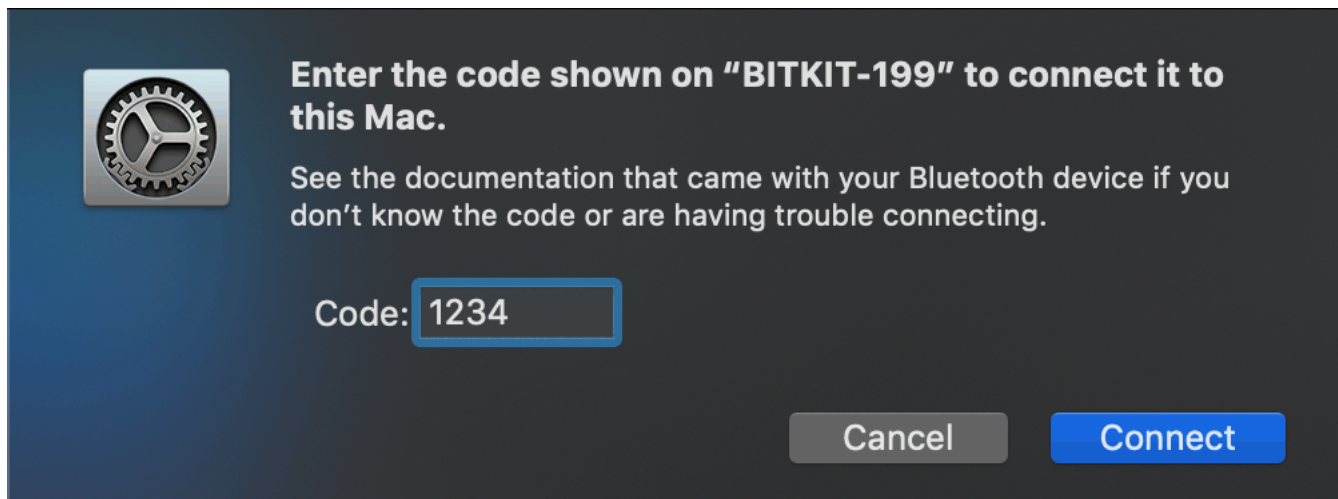
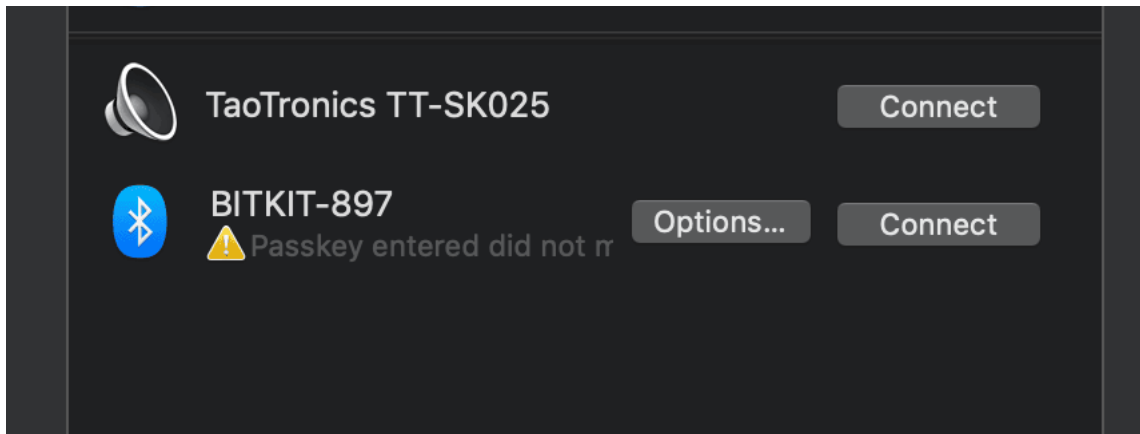
BitKit w/ HM-13 Bluetooth

If the PIN code dialog does not appear, look for a “Passkey” error message below “BITKIT-xxx”, and click the “Options” button.

When the PIN code dialog appears, enter “**1234**” and click “**Connect**”.

The PIN code dialog will close, and the Bluetooth settings window will show the BITKIT device status as “**Connected**”.

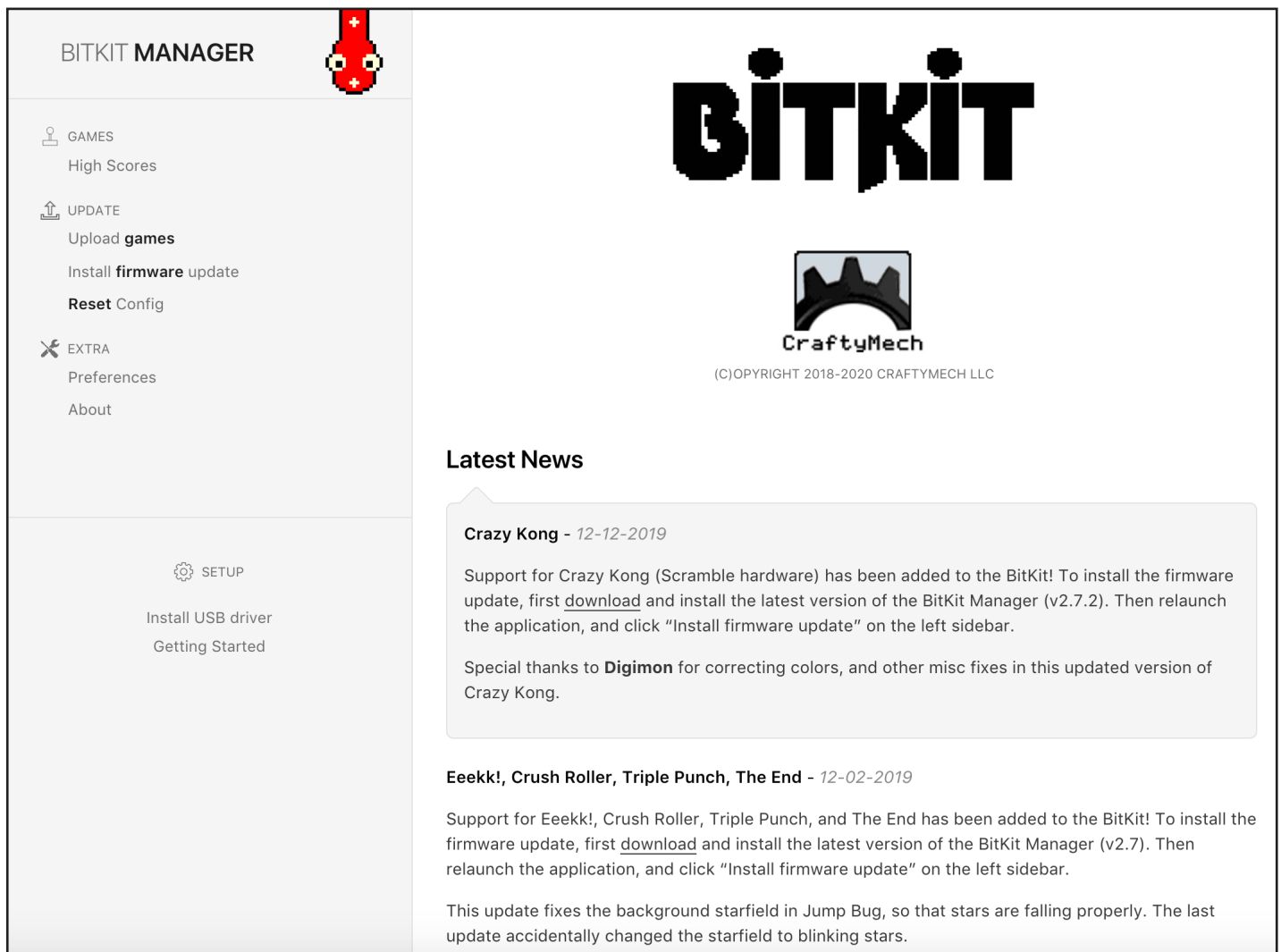
All done! Proceed to Chapter 4: BitKit Manager.



4: BitKit Manager

The *BitKit Manager* software for Windows/Mac is used to manage & configure the BITKIT. You can update firmware, upload games, and download your high score to share online.


The latest version of the *BitKit Manager* can be found here:
<http://craftymech.com/downloads>




Connecting to the BITKIT (Windows)

Below is an example of what the “Connect” interface looks like, in this case on the **Install Firmware Update** page.


A drop-down will list **COM** ports that are available, and the BitKit Manager should auto-detect and select the correct port. If multiple **COM** ports are listed, but the BITKIT was not auto-detected, see this entry in the **Troubleshooting** section for instructions on indentifying the correct port.



 **Install firmware update**

Install a firmware update to the BitKit

If a firmware update is available, it will be listed below. To install a

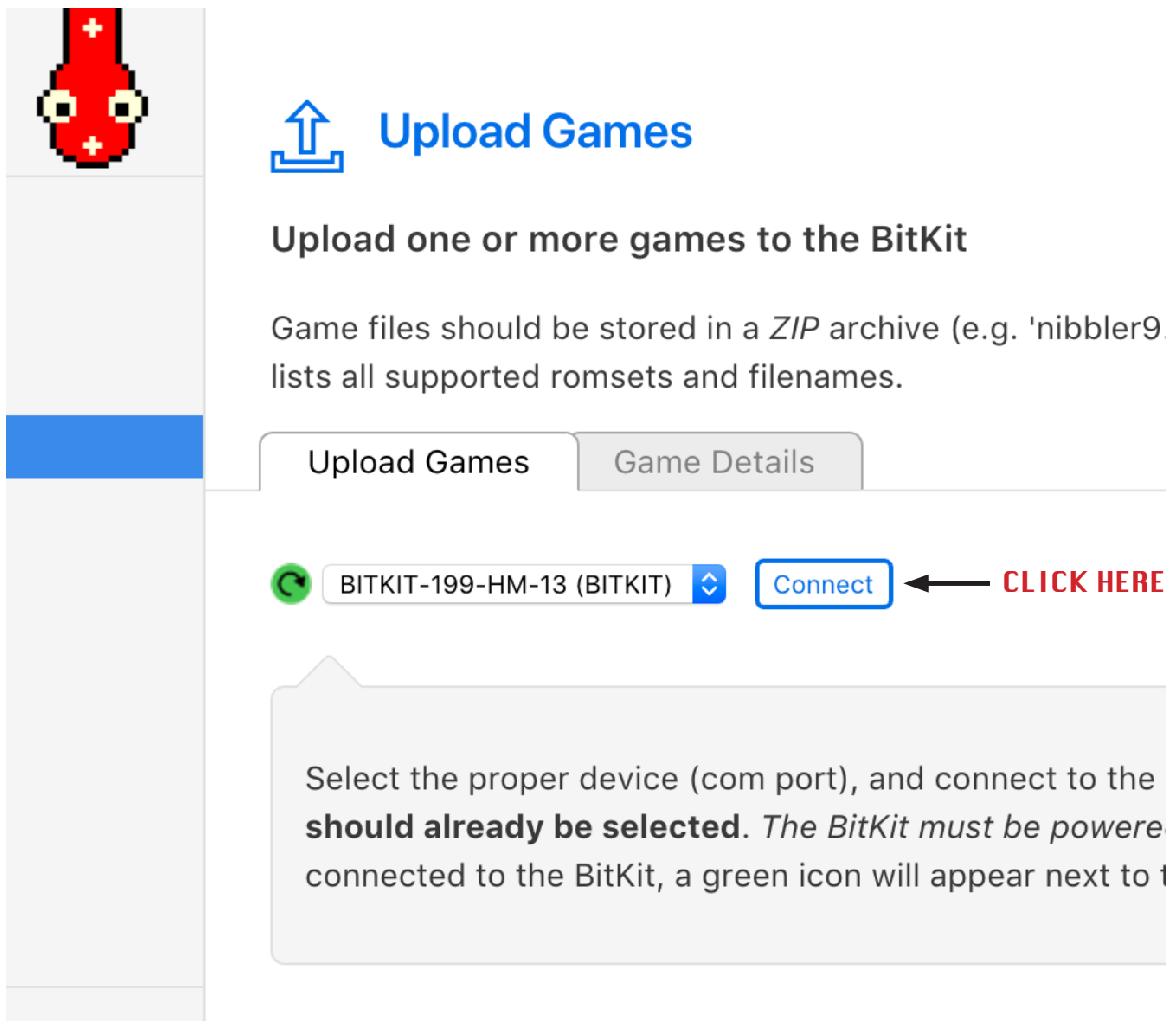
 COM4 (BITKIT) ▼ Connect ← **CLICK HERE**


Select the proper device (com port), and connect to the BitKit. **COM4 (BITKIT)** should already be selected. The BitKit must be powered via the BitKit, a green icon will appear next to the connect button.

Connecting to the BITKIT (Mac)

Below is an example of what the “**Connect**” interface looks like, in this case on the **Upload Games** page.

A drop-down will list **serial** ports that are available, and the BitKit Manager will auto-detect and select the correct port.







Upload Games

Upload one or more games to the BitKit

Game files should be stored in a *ZIP* archive (e.g. 'nibbler9' lists all supported romsets and filenames.)

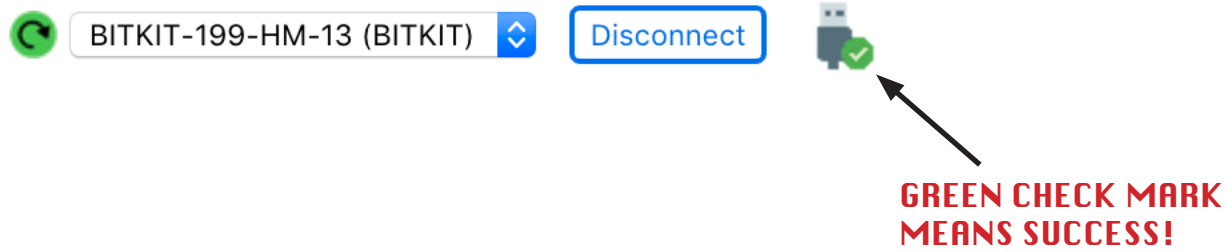
Upload Games Game Details

 BITKIT-199-HM-13 (BITKIT)  [Connect](#) ← **CLICK HERE**

Select the proper device (com port), and connect to the **should already be selected**. *The BitKit must be powered on.* Once connected to the BitKit, a green icon will appear next to the device name.

After clicking the “**Connect**” button, the BitKit Manager will attempt to establish the connection with the BITKIT.

You should see the interface update after a few seconds to indicate a successful connection.



If you receive an error message, first verify that the BITKIT is powered by the JAMMA harness. Move your computer closer to the BITKIT, and try again. If you still receive this error, refer to the Troubleshooting section of this setup guide.



Unable to connect to the BitKit. Move your computer closer to the BitKit. If you still receive this error, refer to the Troubleshooting section of the Blue

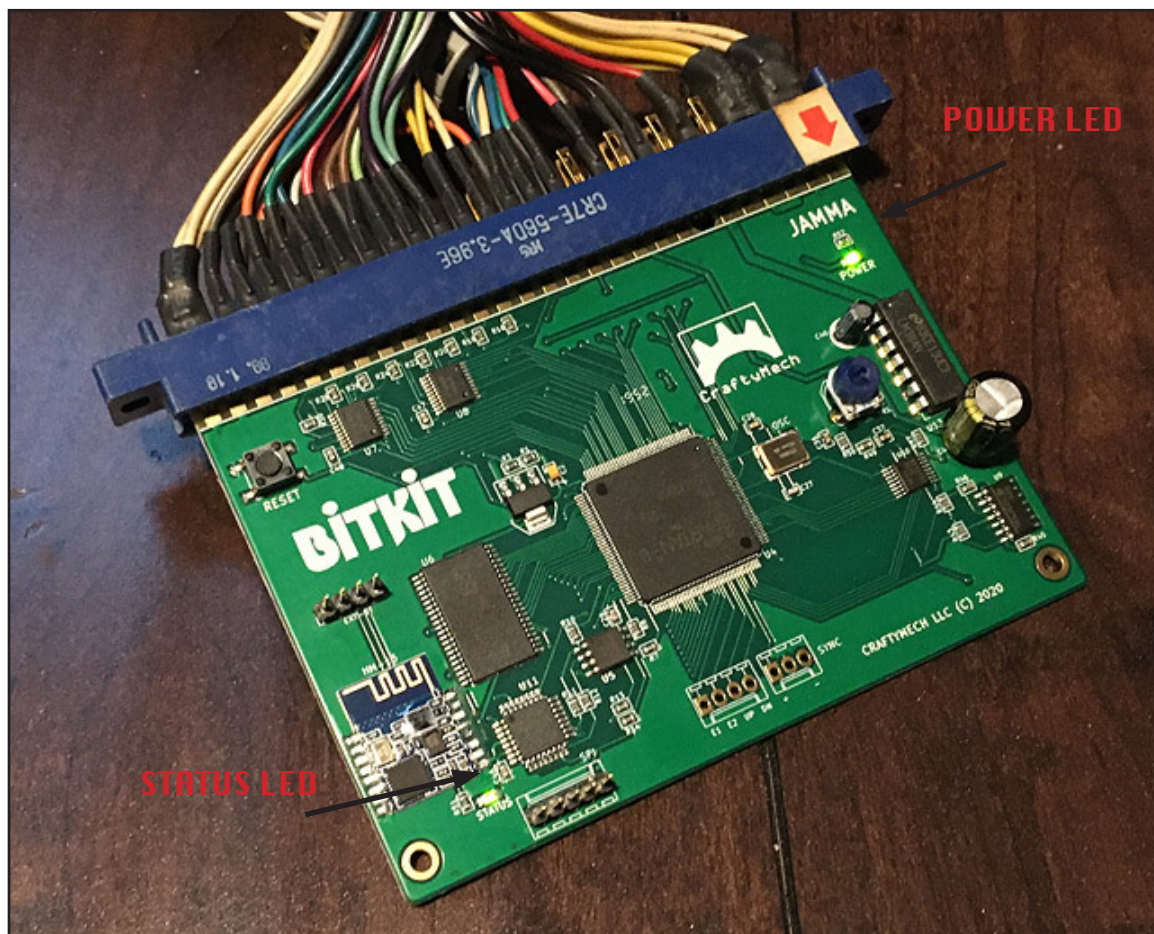
Select the proper device (com port), and connect to the BitKit. **In most cases, the correct device should already be selected.** *The BitKit must be powered via the JAMMA harness.* If the BitKit is connected to the BitKit, a green icon will appear next to the connect button.

5: Troubleshooting

Solutions to common Bluetooth connection issues are listed in this section.

Before reading further, make sure the **BITKIT is powered** by the JAMMA harness in your cabinet. The POWER LED should be lit, and the STATUS LED should be blinking (BITKIT w/ HM-13 Bluetooth) or solid green (BITKIT w/ ESP32 Bluetooth).

Make sure **Bluetooth is enabled** on your computer. Refer to the first steps of this guide for your operating system (Win/Mac) for how to check if Bluetooth is enabled.



The BITKIT is not detected as a Bluetooth device by your operating system.

When setting up the BITKIT Bluetooth connection, if your operating system does not display the BITKIT as a Bluetooth device (refer to the setup guide in this document for your operating system), try the following in order:

- Move your computer closer to the BITKIT cabinet. Some solid building materials (concrete, brick, metal) can block or interfere with the Bluetooth signal. Move to a location where there is not a solid wall between your computer and the BitKit.
- Move other Bluetooth enabled devices (phones, tablets, etc.) to another room temporarily.
- Bluetooth operates at 2.4GHz, which is also used by WiFi routers. If there is a WiFi router in the same proximity as the BitKit, try changing the broadcast channel on the router.
- If your computer/BitKit is near fluorescent lighting, turn that light source off and try again.

Despite being low-power (1 milliwatt), Bluetooth is rather resilient due to smart frequency switching built into the protocol. The Bluetooth module on the BITKIT is rated up to 100 meters, but 30 meters is a more likely practical limit.

WINDOWS CONNECTION ISSUES

The BitKit Manager didn't auto-detect the COM port that was added during setup.


The correct **COM** port should be labeled by the *BitKit Manager*, as seen in the screen clip below.



Select the proper device (com port), and connect to the BitKit. **COM4 (BITKIT)** should already be selected. The BitKit must be powered via the BitKit, a green icon will appear next to the connect button.

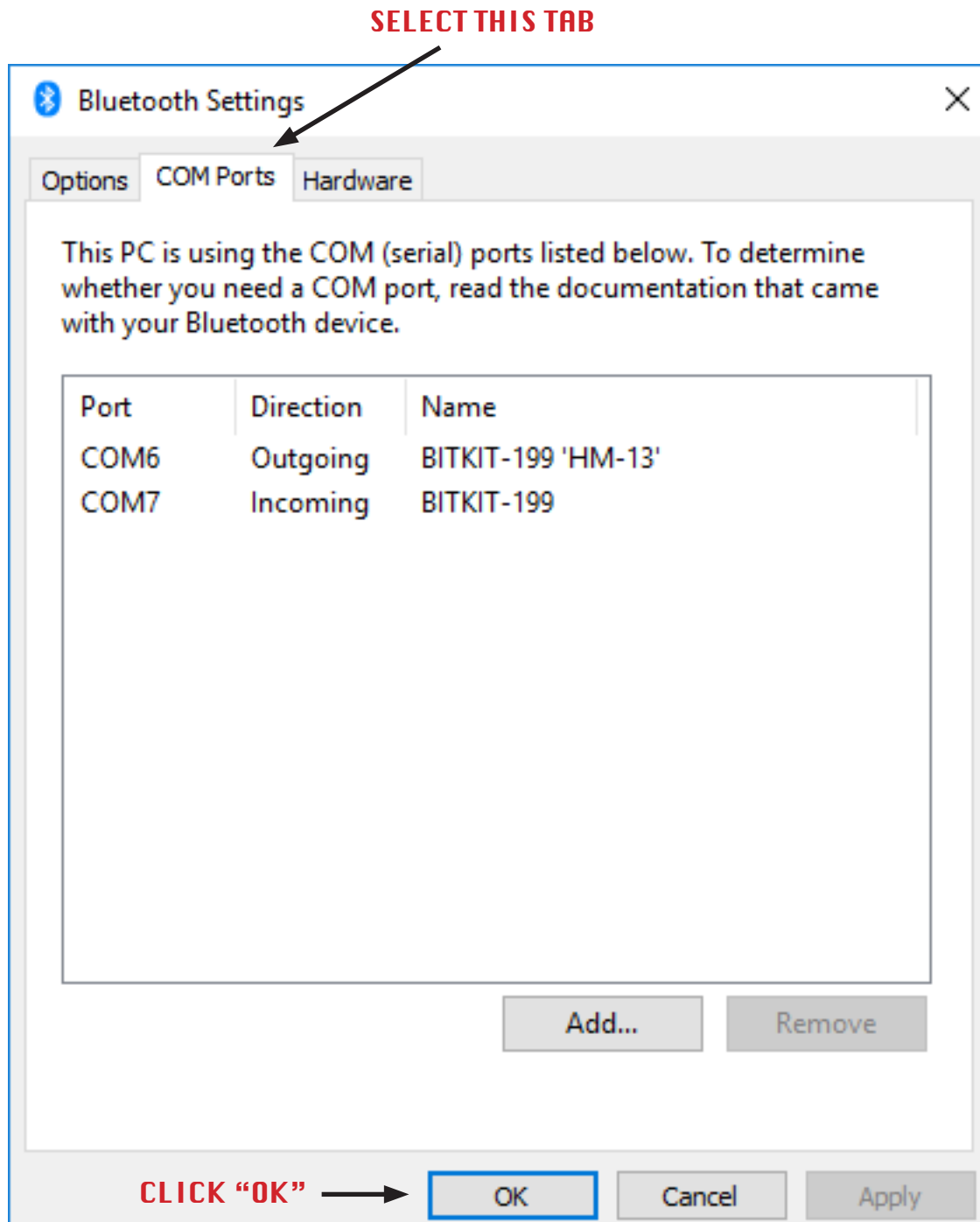
If the choices in the connection drop-down are only labeled as “COM3”, “COM4”, etc., then use the following instructions to determine which **COM** port to use.

First, bring up the Bluetooth settings dialog window.

*Reminder: You can bring up the Bluetooth settings dialog in Windows by pressing the **Windows key + I** ( Win + I) or from the Start Menu choose “**Settings**”. Then select “**Devices**” from the Settings dialog.*

From the Bluetooth settings dialog, scroll to the bottom of the window and click “**More Bluetooth options**”.

Select the “**COM Ports**” tab. Make a mental note of the **COM** port name for the “**outgoing**” direction. This is the **COM** port you will choose in the *BitKit Manager* software to connect to the BITKIT. In the example below, COM6 would be the correct port.



Now that the current COM port is known, we need to configure the *BitKit Manager* to always connect with Bluetooth. This step is needed because the *BitKit Manager* also supports the older USB connection type, and it failed to auto-detect that you want to connect with Bluetooth.

From the left-hand sidebar of the *BitKit Manager*, click “Preferences”. Then check the “**Always connect w/ Bluetooth**” option.

All done! Now you can connect to the BITKIT using **COM** port you noted in the previous step.

