![Adafruit logo]

Bluefruit "BlueFoot" Wireless Foot Switch

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https://learn.adafruit.com/bluefruit-bluetooth-wireless-foot-pedal-switch

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Overview and Materials

This is a quick and easy project that will be speed your work on future projects. By combining an Adafruit BlueFruit EZ-Key with a foot switch, we end up with a wireless, hands-free scroll button. No need to put down that hot iron to see the next step in the tutorial. Just give the pedal a tap with your foot to scroll down the page.

Works with any operating system (Mac, Windows, Linux), tablet or phone (including iOS & Android)!

Would you rather have it jump to the next page instead of scroll? No problem. The BlueFoot can be configured to send any keycode you want. Program as many as 12 keycodes into the EZ-Key and use a jumper to quickly switch between them.

Materials:

- [Adafruit BlueFruit EZ-Key](http://adafru.it/1535) (http://adafru.it/1535)
- [Foot Switch](http://adafru.it/423) (http://adafru.it/423)
- [3xAAA Battery Holder with Switch](http://adafru.it/727) (http://adafru.it/727)
- [Female/Female jumper wires](http://adafru.it/266) (http://adafru.it/266)
- [Right Angle Headers](http://adafru.it/1540) (http://adafru.it/1540)
- Double Sided Foam Tape
- Thin rigid plastic sheet - cut to 1 3/4" x 2 3/4". (The prototype is built with 2mm styrene sheet (Plastruct #91106), but any thin rigid material will work.)
- [Rubber bumper feet](http://adafru.it/550) (http://adafru.it/550) (Optional)


Wiring and Assembly

Foot switch Disassembly:

The footswitch comes with a nice long flexible 3-conductor cable. But who wants a long wire on a wireless switch? So we'll start by cracking open the foot switch and removing the cable. You can put it in your spare parts bin to save for some other project.

Remove the two screws from the bottom of the foot switch. Remove the bottom plate - being careful to keep the bottom of the switch facing up.
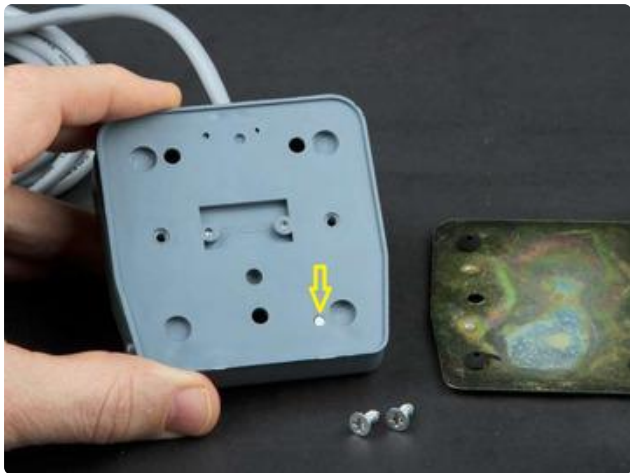
Locate and remove the small locking-pin near the front edge of the switch. It should fall out easily when you turn it over.

Push on the end of the hinge-pin with the tip of the screwdriver. While squeezing the foot switch, pull the hinge pin completely out.

Be sure to hold the two halves of the switch together as you remove the pin so that the spring does not pop out!
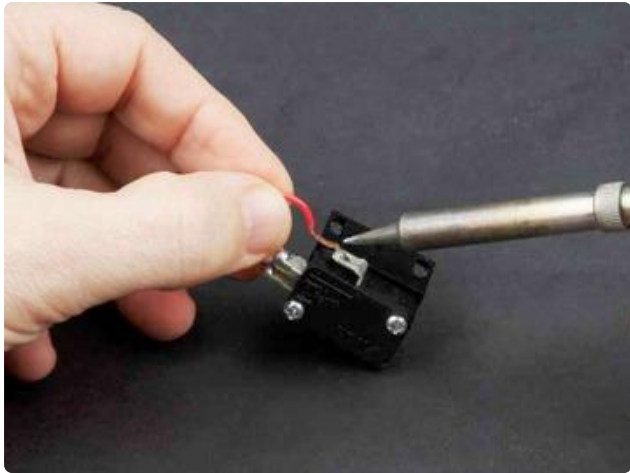
Carefully open the switch and remove the spring.

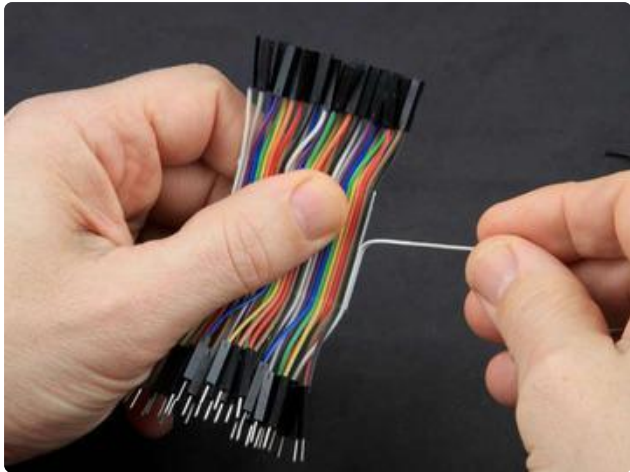Remove the cable-clamp and clip the wires to remove the cable.

Remove the switch and use a soldering iron to de-solder the old wires.

Wiring it up:

The switch and the battery get connected by a few short jumpers. We'll add a key-code selection header so that you can easily reconfigure the switch my moving the jumper.
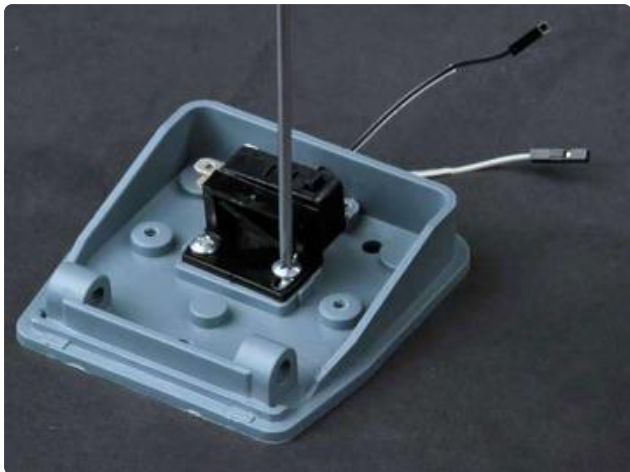
We'll use a jumper with a female connector on one end so that we can select the keycode. We need another jumper for the ground connection.
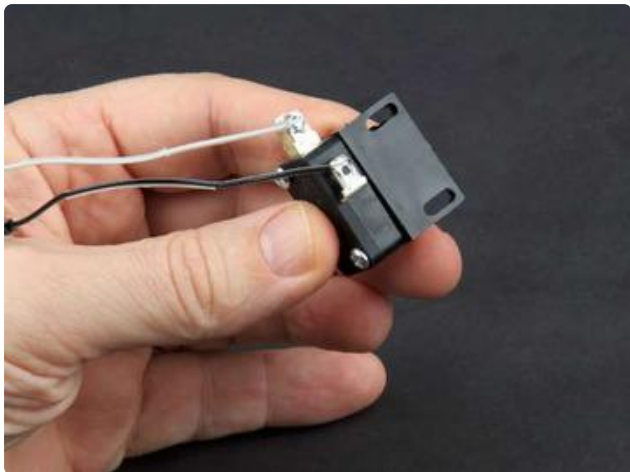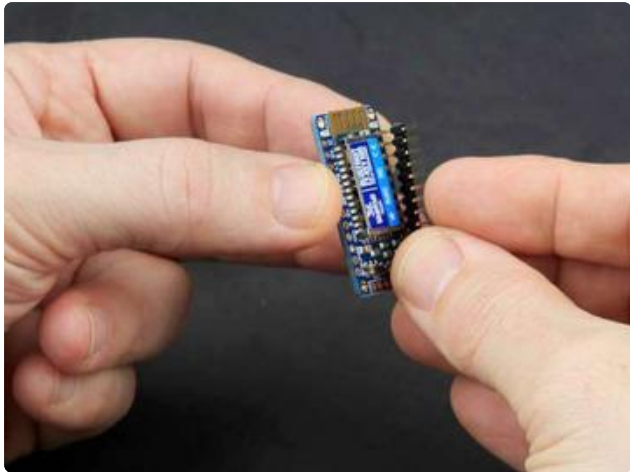
Separate two jumper wires from the ribbon. Clip the connectors from the male end and strip the ends of the wires.

Solder one wire to the terminal marked "NO" and the other wire to the terminal marked "C".
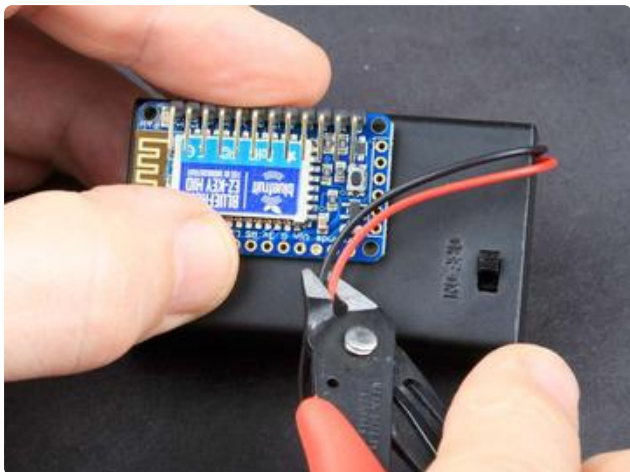
Feed the ends of the jumpers through the cable hole and re-install the switch.

Cut a 12-pin section from the right-angle header strip and solder it to the holes marked 0-11.
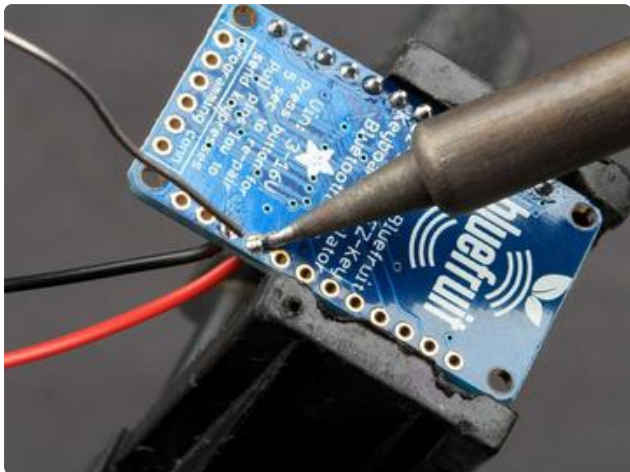
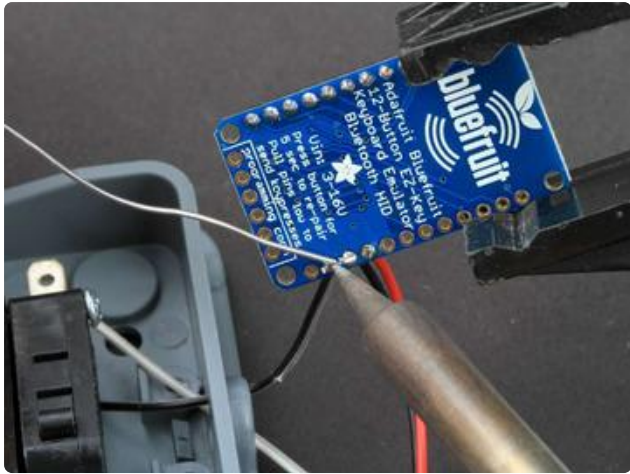Make sure to position the pins so that they angle toward the center of the EZ-Key!

Position the EZ-Key on top of the battery holder as shown. Measure and cut the wires so they are just long enough to reach the Vin and Gnd holes on the board.
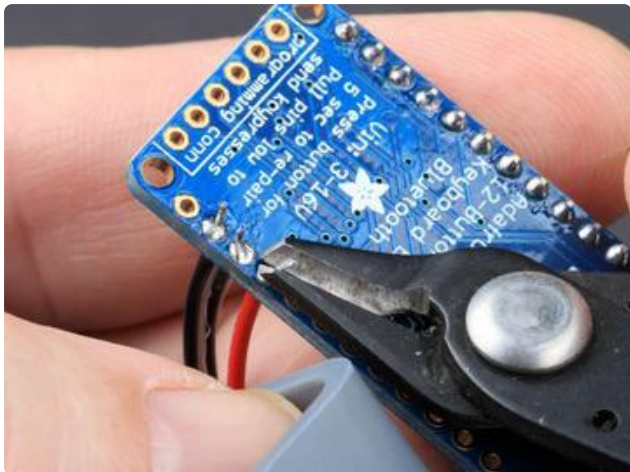
Strip the wires and solder them to the Vin and Gnd holes.

Solder one of the wires from the switch to one of the other Gnd holes, and clip the soldered wires close to the board.
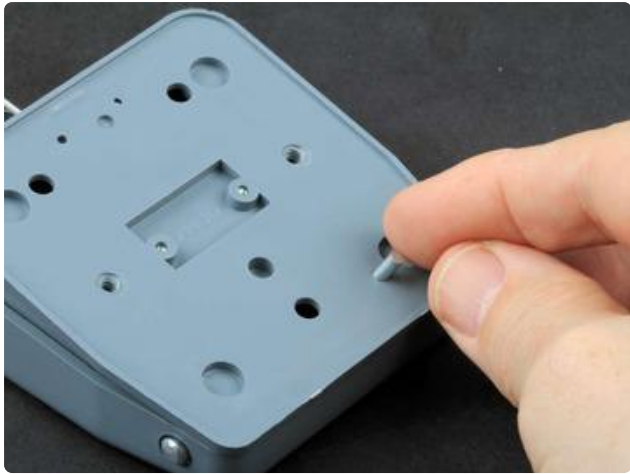
Position the spring between the two halves of the foot switch.

Press down on the top half of the switch to align the holes and insert the hinge pin. Make sure that the notch in the hinge pin is positioned to line up with the small locking pin you removed earlier.

Re-install the locking pin and replace the bottom cover.
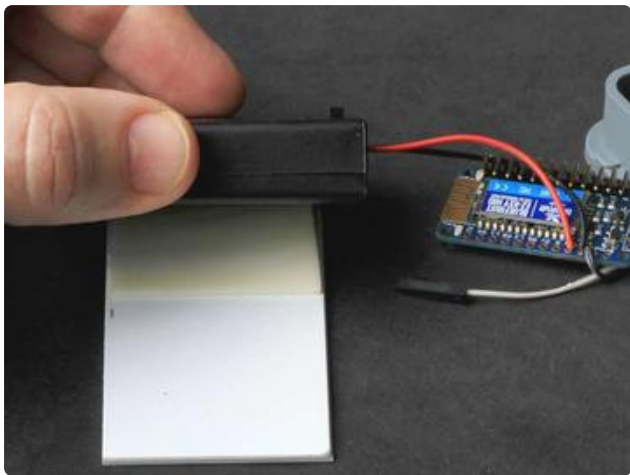

Final Assembly:

Now we'll put the foot switch back together and package the whole thing up into a nice compact unit.

Cut a piece of double-sided foam tape about as wide as the plastic plate (1 3/4") and stick to one end of the plate.
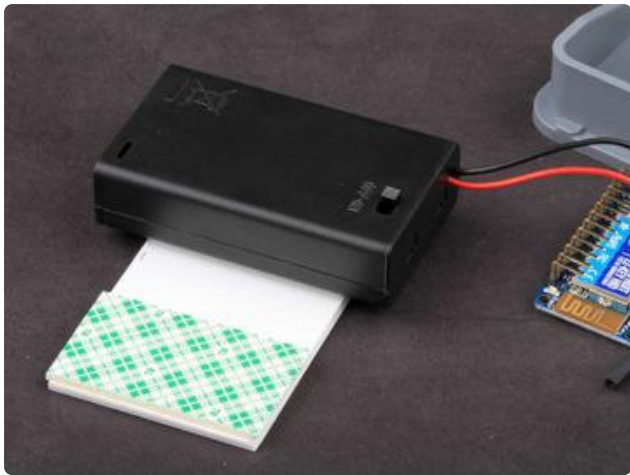

Remove the backing and attach the battery box.

Cut another piece of tape and attach to the other end of the plastic plate.

Position the plastic plate over the bottom of the switch and press firmly.

Cut another piece of tape to fit on the bottom side of the EZ-Key. Mount the EZ-Key to the top of the battery box. Keep to the left so you don't cover the ON/OFF switch.

Connect the jumper to pin #1 of the right-angle header. And you are ready to go!

(Optional step) - If you will be using this on a slippery surface, you may want to add some rubber bumper feet to the bottom of the plastic plate.

Use it!

Pairing with your computer:

Before you can use your BlueFoot, you will need to pair the EZ-Key to your computer. Follow the instructions in the BlueFruit EZ-Key Guide () for pairing.

BlueFruit EZ-Key Guide

Basic scrolling:

Make sure that the jumper is positioned on pin #1 of the EZ-Key. This will configure the EZ-Key to transmit the Down Arrow key code every time you step on the switch. Browse to your favorite DIY electronics website () and start building with both hands. See how easy it is to scroll through the tutorials while you solder away.

You can move the jumper to different pins to select different key-codes. The EZ-Key comes from the Adafruit Factory with the following key codes pre-programmed:

- #0 - Up Arrow
- #1 - Down Arrow
- #2 - Left Arrow
- #3 - Right Arrow
- #4 - Return
- #5 - Space
- #6 - the number '1'
- #7 - the number '2'
- #8 - lowercase 'w'
- #9 - lowercase 'a'
- #10 - lowercase 's'
- #11 - lowercase 'd'

Customize it!

Would you rather go page-by-page instead of scrolling? You can customize the EZ-Key key-codes to any keyboard key you like. You can program up to 12 keycodes - for pins #0 through #11 - and switch between them using the jumper. Refer to the EZ-Key Guide () for instructions on re-mapping the key-codes.

EZ-KEy Wireless Remapping

EZ-KEy Serial Remapping