

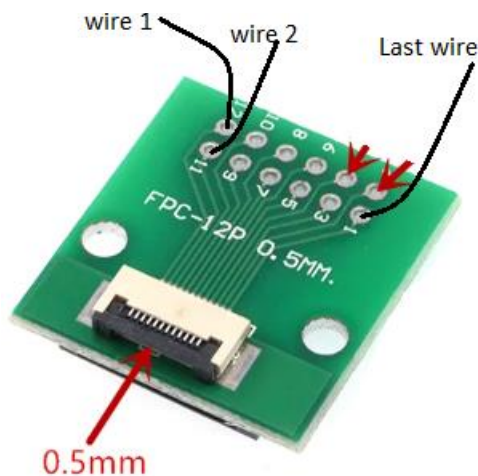
Breakout (Adapter) Board for Dual FPC Cables

The following procedure uses an AliExpress FPC adapter board along with a Teensy connector board to connect with dual FPC keyboard cables. The Teensy connector board can be from steps 3, 4, 6, or 7. One of the FPC cables will have top contacts and the other will have bottom contacts depending how the cable is flipped under the keyboard.

Build a Teensy connector board as shown in this Instructable but size the connector for the FPC cable that has top contacts.

Purchase an [FPC adapter board](#) from AliExpress that has the correct pin count and pitch for the FPC cable with bottom contacts. AliExpress sellers don't say which orientation their FPC connectors are but the more common has bottom contacts. Order it and check that it has bottom contacts before building the Teensy connector board.

Do not follow the pin numbering on the adapter board because it goes right to left. You need to add the jumpers starting on the far left pin and finish on the right pin as shown in the example board below.



Solder the jumper wires to the Teensy per the tables in step 14. Once you have all the jumpers installed per the table, proceed with the steps in the Instructable to create a key list text file, decode the key matrix manually or with Marcel's Python program, and modify a USB keyboard routine with the new key matrix.

The following example uses a Teensy 4.1 connector board from step 4 that has a 16 pin top contact FPC connector. This connector accepts a 16 pin FPC keyboard cable. The other FPC cable in this example has 8 pins with bottom contacts that go to an 8 pin FPC adapter board. 8 jumper wires need to be added from the adapter board to the Teensy. These jumper wires, starting from the far left of the adapter board will be for pins 17 thru 24. Per the table on the next page, pin 17 (wire 1) should be wired to Teensy I/O 15. Pin 18 (wire 2) should be wired to Teensy I/O 8. This pattern continues up to the last wire on pin 24 to Teensy I/O 24.

Example Teensy 4.1 Jumper Connections

