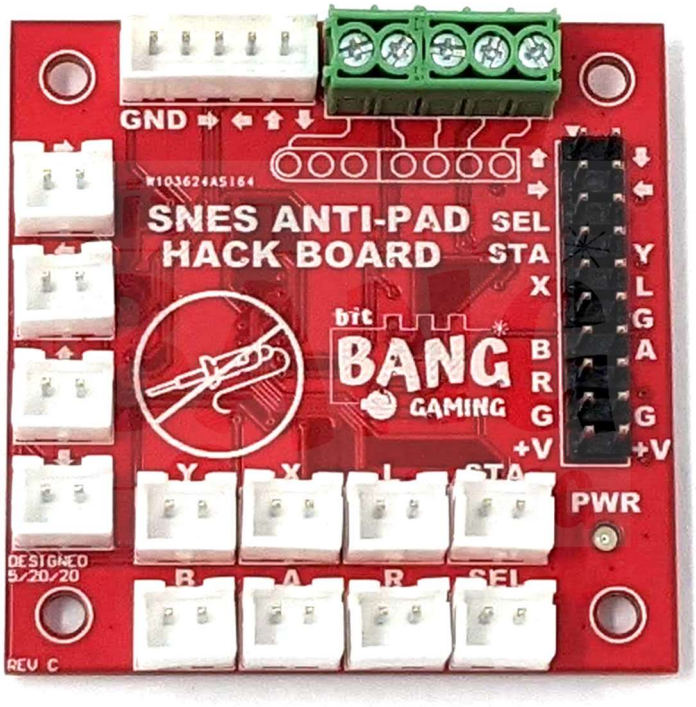
SNES Anti-Pad Hack Board



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Overview

Product Description:

Remember the pain of pad hacking your way to making an SNES controller? Remember the burned fingers, surprise smoke, and lifted traces? Or if you even got it together, connections broke shortly after playing some games? Not really a fun experience. This is where the SNES Anti-Pad Hack Board makes it fun again!

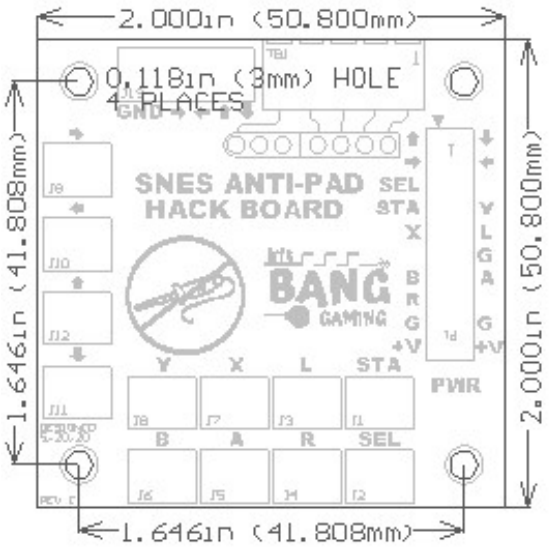
This board can give you some install choices:

1. Buttons can be accessed with 8 Japanese Spare 0.110" Harnesses or accessed from the 20-pin arcade stick header using the standard 20-pin arcade stick harness. Any arcade button will work.
2. Directional pad directions can be accessed with 4 American Spare 0.187" Harness or from the 5-pin joystick port or accessed from the 20-pin arcade stick header using the standard 20-pin arcade stick harness. Any arcade button or joystick will work.
3. If using a USB decoder, such as the Undamned USB decoder, connect the 20-pin arcade stick header from the Anti-Pad Hack Board and connect it to 20-pin arcade stick header to the USB decoder. Please note that this will almost always require external power. When connecting the two boards together, pay attention to the connection orientation. Please see the manual for details.
4. To mount, there are 4, 3mm holes on each corner. These can be used with screw or adhesive mounting feet.

If you need wiring accessories, we offer a kit version as well.

Once all the inputs are connected to the board, wire up a SNES controller cable plug to the terminal block as shown on the board's diagram. Take care on hooking up the correct wires. If hacking from an old SNES controller, you will need to use a multi-meter to figure out which wire is which. If you need help on this, you can always email us or join our Discord server for assistance!

Dimensions:



*Note: Board should be mounted so that bottom electronics to do not touch any surface.

How to Use: Most Common Way

Each connection port shows the input it controls. Pick the ports you would like to use and connect them to a button or joystick. Once the inputs are chosen, an SNES cable will need to be used. We also sell SNES cables and provide the pin-out.

However, if you are salvaging your own, you need need to figure out the wires using a multi-meter. Double check the color codes when doing this. There is reverse polarity protection on the board so nothing will fry. However, the data lines do not have protection so be careful!

Once everything is hooked up and checked over for proper installation, plugging the SNES cable into a SNES console will power up all the SNES Anti-Pad Hack Board circuitry and will behave exactly like a SNES controller. See illustration below.

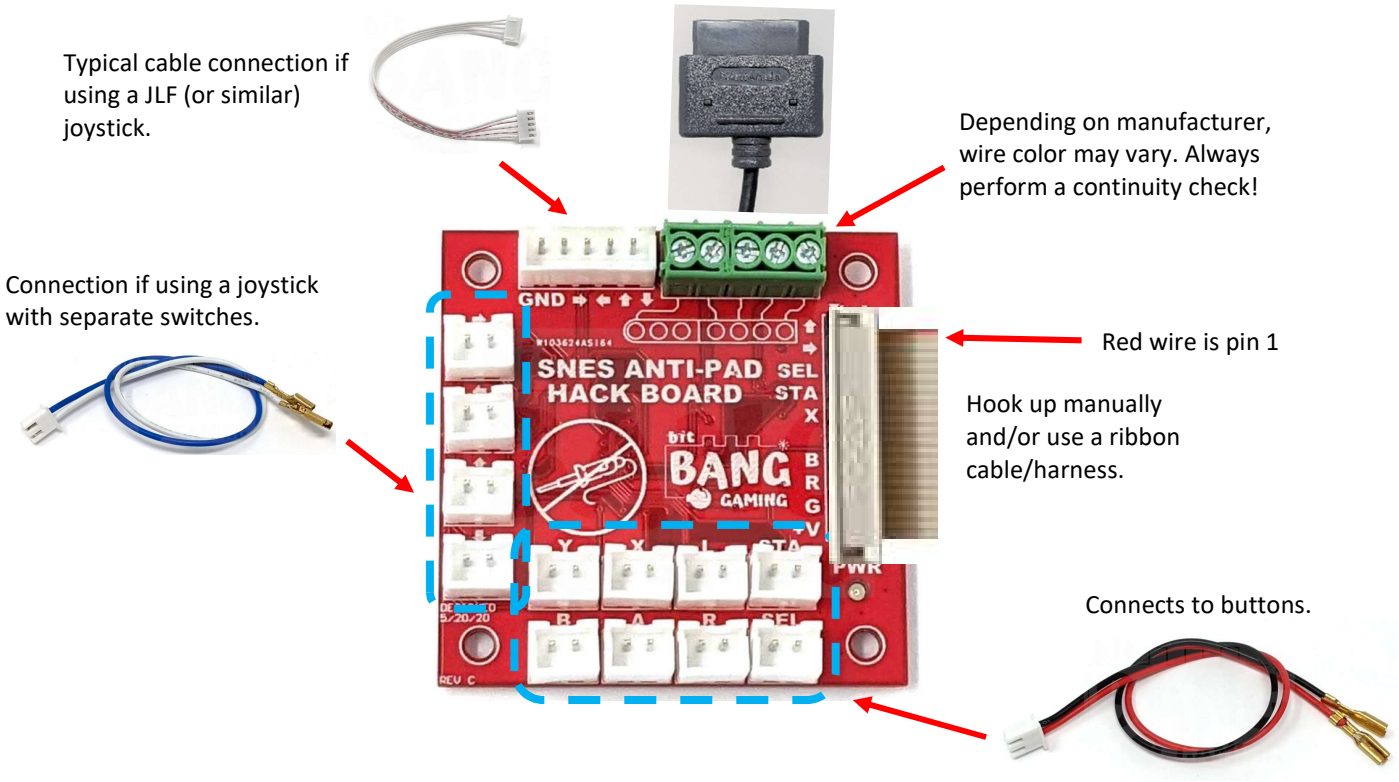
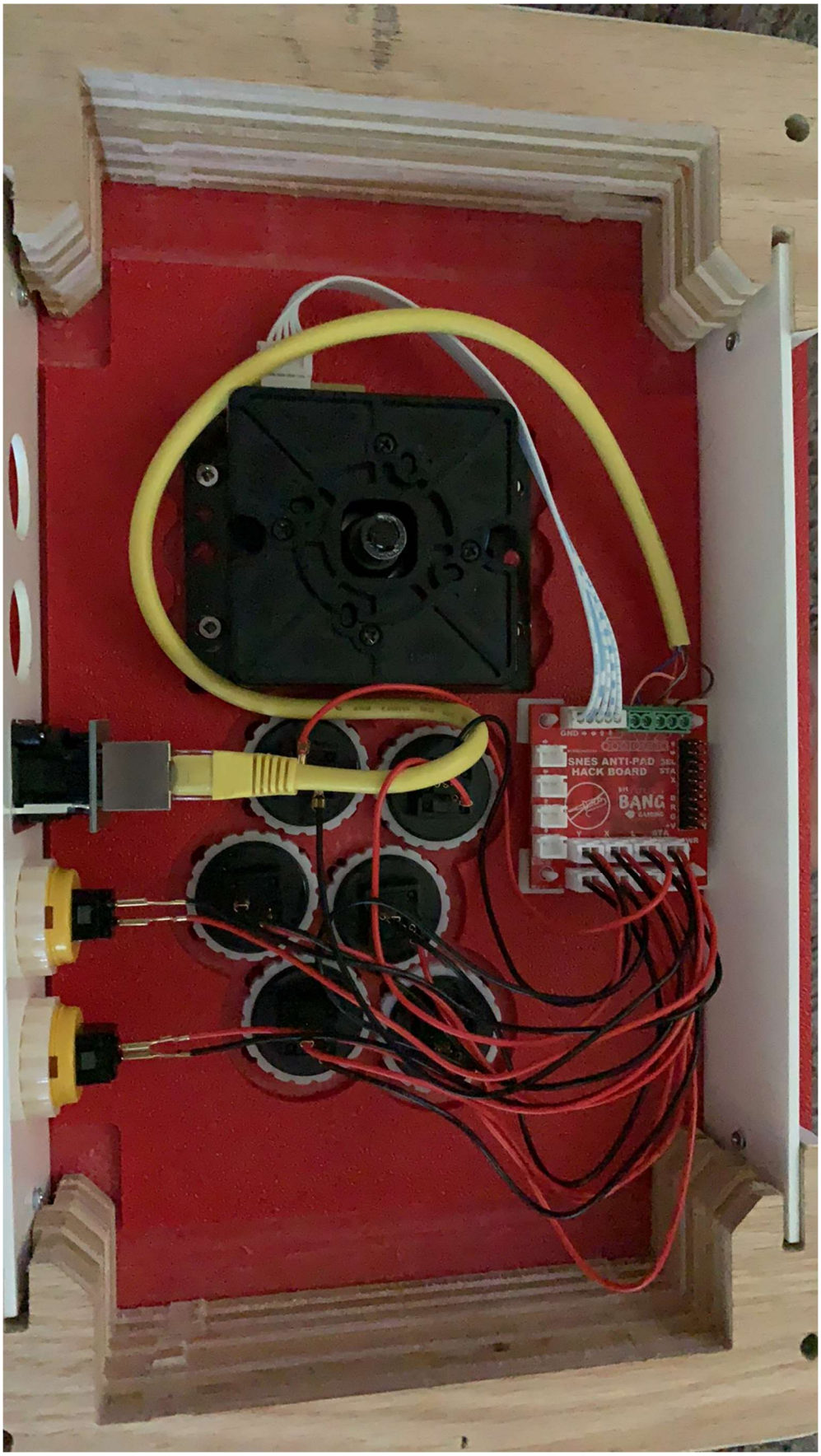


Image Source: Big Zam. Example Installation.



Advanced Installation: External Power With No USB Decoder

The board does not have to be powered by only the SNES console. You can add a battery and connect it to the +V and G terminals on the 20-pin connector. Though this configuration is not all that useful unless you were going to be making some sort of custom wireless controller. Connecting a battery to the +V terminal and connecting to a SNES console via the SNES cable will not cause any harm as the board will choose whichever one has the higher voltage. The SNES only expects +5V signals so only power it with a battery circuit that will supply this. If your battery is a higher voltage, step the voltage down from the battery with a DC to DC converter that outputs +5V.

Advanced Installation: External Power With a USB Decoder

SNES Over Current Caution:

If using the 20-pin connector with another type of board, for example the Undamned USB Decoder, it MUST be externally powered via a wall adapter or battery. For revision A and B boards, not doing so will result in damage of the SNES console. The SNES console cannot deliver a lot of current and therefore other boards like the Undamned USB Decoder might draw too much current from the SNES console and cause damage. For the latest revision C boards, it will protect the SNES console from drawing too much current. Therefore, having the SNES cable provide +5V and the external power source provide +5V is perfectly fine.

However, if you want to be absolutely sure that no damage occurs to the SNES console, simply do not connect the +5V line from the SNES console to the board, resulting in a zero chance of the console delivering any power. The SNES console and the external power source will be sharing grounds so the communication between the board and the console will still take place.

It is possible to defeat the protection so that the +V pins on the 20-pin connector will accept power or deliver power. This is how the revision A and B boards work by default. In revision C boards, it can only accept power. To have it accept or deliver power, apply a blob of solder to the J00 pads to connect them, and this will bypass the protection diode. **Only do this if you know for sure that the power you are drawing from the SNES console will not damage it**. At this moment, there does not seem to be a rule of thumb of how much current an SNES console port can supply. Therefore, powering

other boards and controllers from the 20-pin connector WITHOUT external power is performed at your own risk!

Other Notes:

There are no pads that should be shorted on the revision A or B boards. As mentioned before, revision C does have J00 to bypass the protection diode. There is also J0. **NEVER APPLY SOLDER HERE.** This is used for production and testing use only.

Questions?

If you have any questions please connect via Twitter (@BitBangGaming) or email (bitbanggaming@gmail.com).

Revisions

Revision	Date	Description	Initials
A	6/6/2020	Initial release	JC
B	4/27/2021	Complete makeover to incorporate revision C PCB.	JC