

# How To: Final Solution to compatible Bluetooth for Hackintoshes

This guide will help you install an Apple Bluetooth module in your PC.

A frustration with most hackintosh builders/users, is finding a fully compatible Bluetooth dongle to use with Apple's popular Bluetooth accessories such as the Magic Mouse, wireless keyboard and the Magic Trackpad. Most Bluetooth dongles are compatible up to a point, and usually work as a temporary solution, and may even need a legacy Kext file to work. Often these dongles are hard to find, change from version to version or are expensive \$40+ USD is not uncommon.

I always knew the best solution was to use an internal Apple Bluetooth module, and they are relatively inexpensive on Ebay for a used one. Ranging from \$3 USD to \$30 USD. There are a couple caveats to using the internal module such as you can't just hook it up to a usb port and get it to work. These modules run on 3.3v DC and although most modern PCs have a 3.3V DC line from the power supply, it usually is not a constant 3.3v. If the PC goes to sleep, you loose that 3.3v (I can't confirm this works this way on all motherboards or power supplies, but it does on my Gigabyte GA-EX58-UD5). The solution is to drop the 5v from a USB header (or external connector) to 3.3v. I am no electronics guru, so I wanted a solution I could just buy and not have to custom build.

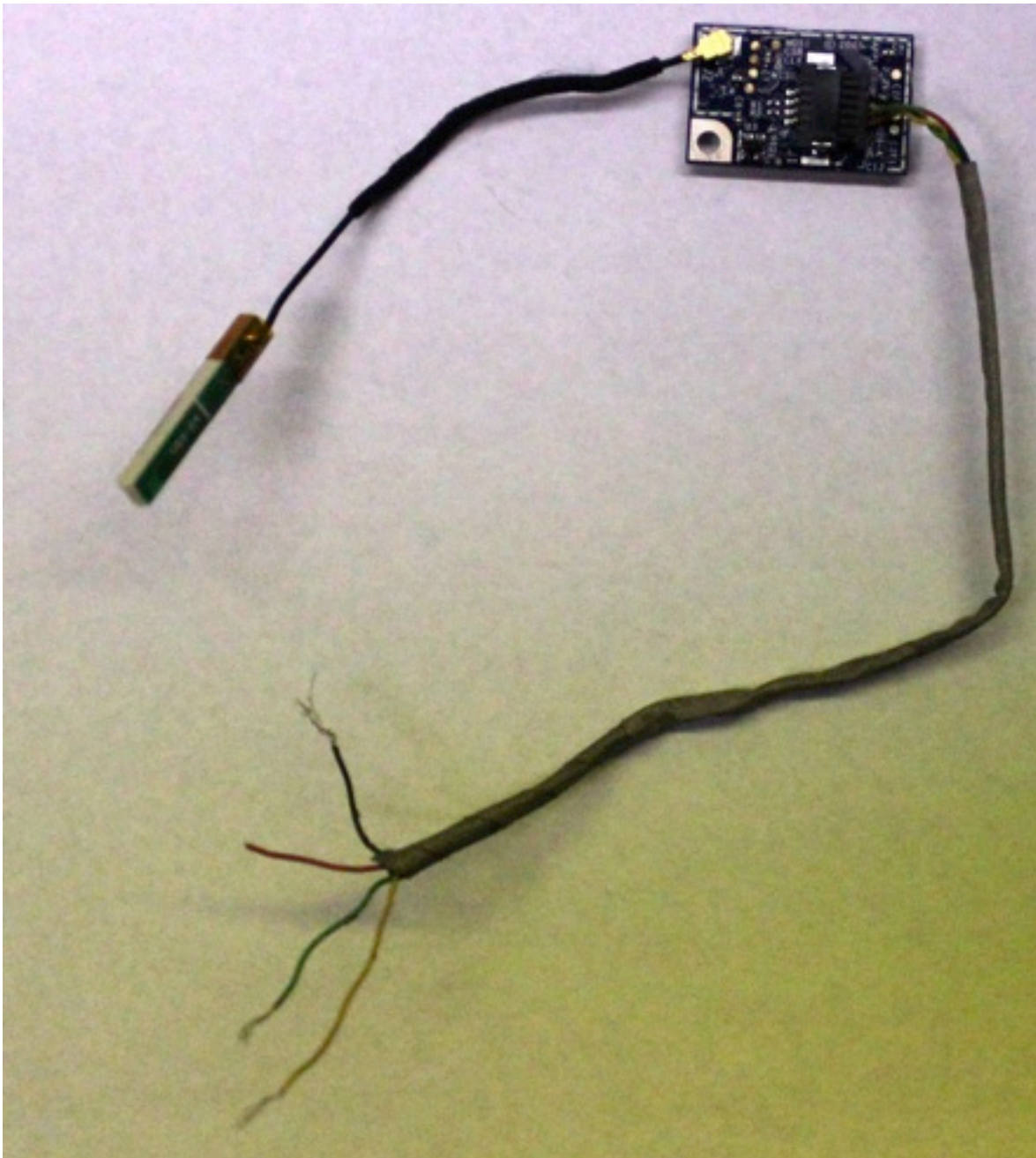
I tried one 5v to 3.3v converter, but was disappointed when I tested it and found out the minimum input voltage was 7v to get 3.3v back out (the manufacturer did not say this on their web site). Determined to get this working, I searched on and off for a 5v to 3.3v DC converter that was easy to use and inexpensive. I finally found what I was looking for on Ebay (see link in parts list below). And now I am happy to report that I have an Apple Bluetooth module working VERY well in my "Mac Pro" Hackintosh.

Disclaimer: Don't blame me if you fry your computer. Always discharge any static electricity before touching ANY electronics component.

On with the tutorial....

List of parts you must have:

1. Apple Bluetooth module. It does not matter which one you get, as long as it is from a recent (Intel) iMac, Macbook, or Macbook Pro. I would stay away from the Mac Pro modules as they are slightly different and if they are older (pre 2009 I think) they don't have a little four pin connector and wire harness (they plug directly into the motherboard). Make sure that the module comes with the short wire harness and antenna (see pictures below).



- 
2. A USB Motherboard header cable. The one pictured below can have up to 2 usb devices wired to it. I had one laying around from an old computer.



- 
- 
3. A 5v to 3.3v DC converter. Picture and link below.

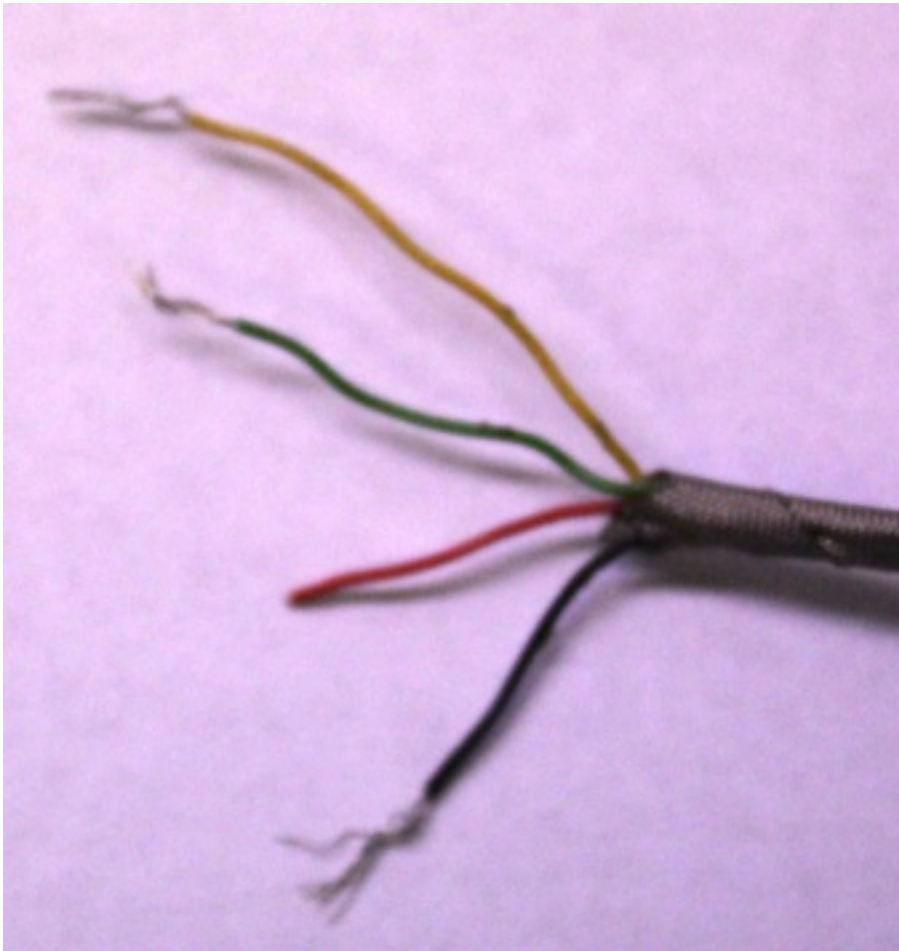
[http://cgi.ebay.com/DC-DC-Converter-Module-regulator-In-4-75-6V-Out-3-3V-/380319575804?pt=LH\\_DefaultDomain\\_0&hash=item588cd02efc#ht\\_2322wt\\_1242](http://cgi.ebay.com/DC-DC-Converter-Module-regulator-In-4-75-6V-Out-3-3V-/380319575804?pt=LH_DefaultDomain_0&hash=item588cd02efc#ht_2322wt_1242)



4. I would also recommend a soldering iron and some fine electronics solder and some black electrical tape.

## Procedures

1. Strip back the outer casing on the USB Header cable about 4 inches, then strip the individual wires about 1/4 to 1/2 inch. If you have a double USB header like shown above, you only need strip either the top or bottom set of 4 wires (Red, Black, Green, and White).
2. Strip back the outer casing on the power / data cable about 2 inches on the Bluetooth module and strip about 1/4 of an inch on the individual wires (Yellow, Green, Red and Black) as well.



3. Connect the Red wire of the USB header cable to the terminal marked 5V on the DC-DC converter. Secure the wire by tightening the top mounted screw on the terminal.
4. Connect the Black wire of the USB Header cable to the terminal marked GND (right next to the 5V terminal). Secure the wire by tightening the top mounted screw on the terminal.
5. Connect the Red wire of the Bluetooth Module cable to the terminal marked 3.3V on the DC-DC converter. Secure the wire by tightening the top mounted screw on the terminal.
6. Connect the Black wire of the Bluetooth Module cable to the terminal marked GND (right next to the 3.3V terminal). Secure the wire by tightening the top mounted screw on the terminal.

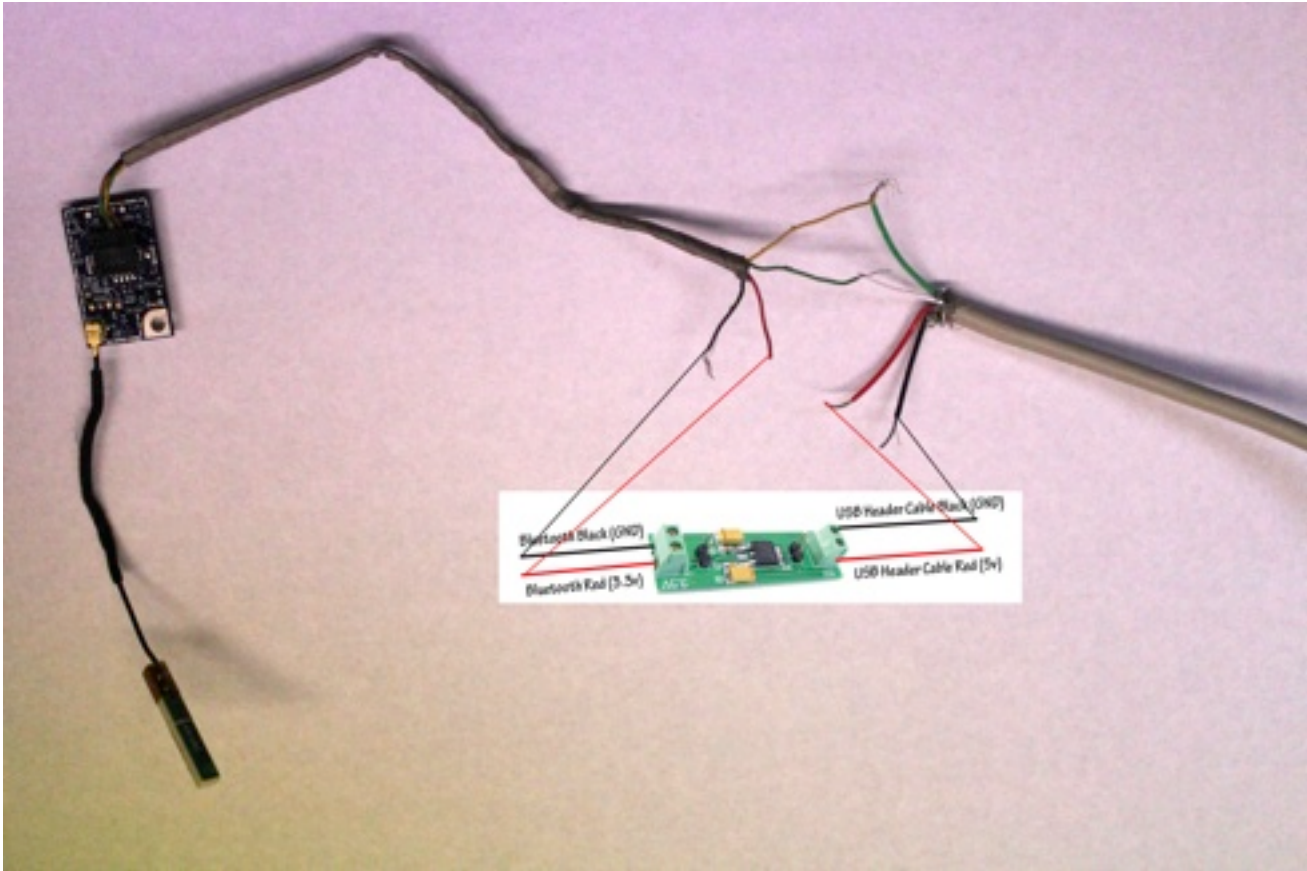
Diagram for steps 3 - 6



7. Connect the yellow wire from the Bluetooth Module cable to the green wire of the USB Header cable. I recommend soldering the two wires together.
8. Connect the green wire from the Bluetooth Module cable to the white wire on the USB header cable. I recommend soldering the two wires together.
9. Tape up any bare wires with electrical tape and either wrap the DC-DC converter with electrical tape or use one of those heat shrink tubes to cover up the bare electronics. You don't want to short anything out.



Final picture of connections



10. Connect the antenna to the Bluetooth module if it was disconnected. This should just snap in place.
11. Make sure your computer is off and unplugged. Connect the USB header cable to one of your motherboard USB Headers. Refer to your motherboard documentation for the correct orientation to ensure that the power, ground, data+ and data- are properly connected.
12. Turn your computer on and once it boots to OS X, you should have bluetooth up and running and ready to be paired with your favorite Apple Bluetooth accessory.

One thing to note, if you have your hackintosh in a Mac Pro aluminum case, then the antenna will not work with the side panel on. I ran into this problem and finally fixed it by attaching the antenna wire labeled "1" on the Wi-Fi antenna in the front bottom of the Mac Pro case. Once I did this, my bluetooth worked flawlessly with the side panel in place and the bluetooth is available immediately upon wake and startup with no mouse lag or dropped connections.