

Constructional Project

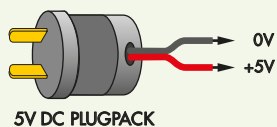


Fig.3: power can come from a 5V DC plugpack or from a USB supply (eg, a plugpack with a USB outlet). The diagram below shows how to connect a USB cable to the adaptor PCB.

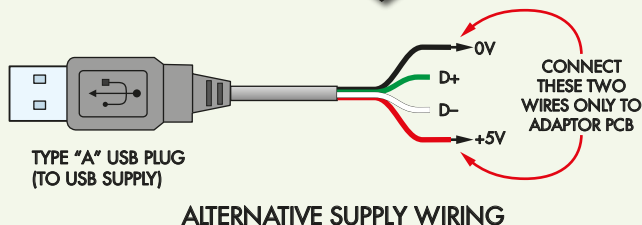
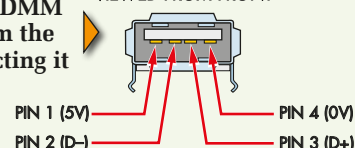


Fig.4: the pin connections from a type 'A' USB socket. Use a DMM to check the 5V output from the adaptor PCB before connecting it to an iPod.

USB TYPE A SOCKET VIEWED FROM FRONT



white and green data wires must be cut short and insulated so they can not short to each other or to any other parts. Table 2 shows the wire colours in a USB cable.

Alternatively, you can use a USB type 'A' line plug and connect this to the PCB via a length of light-duty figure-8 cable.

Checking output polarity

It's imperative that the output polarity from the adaptor is correct. This means that after connecting the *iPod Charger Adaptor* to a 5V supply, you should check the polarity at its USB output socket before connecting it to an iPod. In addition, if the incoming supply polarity is correct, then the indicator LED will be lit (provided it has been installed the right way around).

Table 2: USB cable colours			
Pin	Wire colour	Name	Function
1	Red	V _{CC}	+5V
2	White	D-	Data -
3	Green	D+	Data +
4	Black	GND	Ground

Fig.3 shows the pin connections as viewed from the front of the USB socket. Using a multimeter, check that pin 1 is at +5V and that pin 4 is 0V (both with respect to the 0V pad on the PCB).

When you are certain that the supply polarity (and voltage) is correct, the adaptor can be used with your iPod. You should be greeted by a charging indication when the iPod is plugged in. If charging does not take place or you get the 'charging

is not supported with this accessory' warning, check the iPod model that you have and check that the correct resistor values have been used for R1-R4.

Once everything is working, the resistors can be resoldered and the PCB covered in heatshrink tubing. If you do not have clear tubing, then used coloured heatshrink and cut a small slot in it for the LED to protrude through before shrinking the tubing down with a hot-air gun.

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