

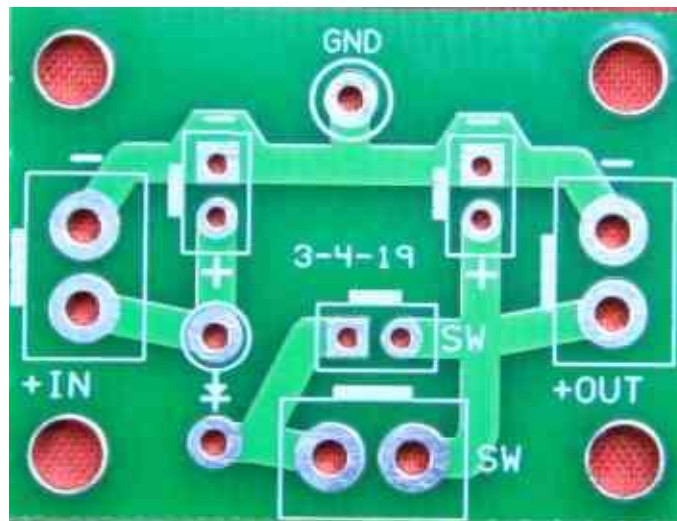
# Switched Power Adapter Construction Manual

From the Triumvirate Skonk Worx, [www.w0eb.com](http://www.w0eb.com)

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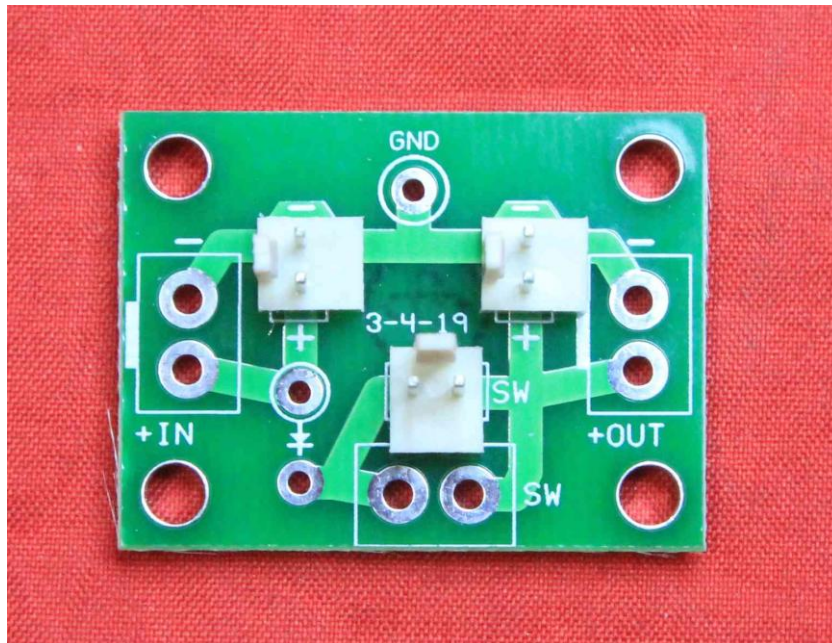


Switch Adapter bare PC board shown slightly larger than actual size.

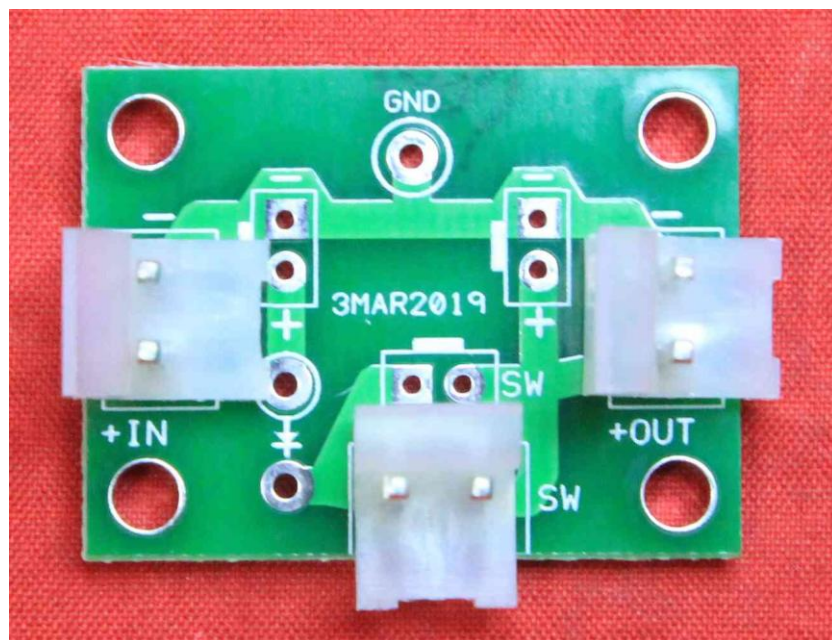
The adapter allows for power input, on/off switch and power output wiring to be conveniently connected on a common board and have the option of using plugs for quick connect/disconnect or permanently soldering wires to the PC board. An optional polarity protect diode is also provided for and can be jumpered out if not used. The traces are duplicated on the back side of the board and holes are plated through. This allows for heavier current handling if needed.

PC board pads for Molex or Molex style polarized pin plugs and jacks of either 2.56 or 3.54 millimeter spacing are included so that DC input power,

output power and the switch connections can be plugged and unplugged easily.



Completed Switch Adapter using the smaller 2.56 mm MOLEX pins, diode not yet jumpered.



Completed Switch Adapter using the larger 3.96 mm MOLEX pins, diode not yet jumpered.

This allows for convenient control panel on/off switching connections and makes them easy to remove and reconnect for trouble shooting without

having to unsolder/re-solder the wire connections. It also provides a convenient place to mount a “reverse polarity protection” diode in case one isn’t already provided for.

Construction:

P1-P3: Solder the Molex polarized male pin headers (whichever size you have chosen) to the appropriate pads on the PCB, making sure the polarizing tab is oriented to the side shown on the board silkscreen. Choose one or the other as they won’t both fit at the same time.

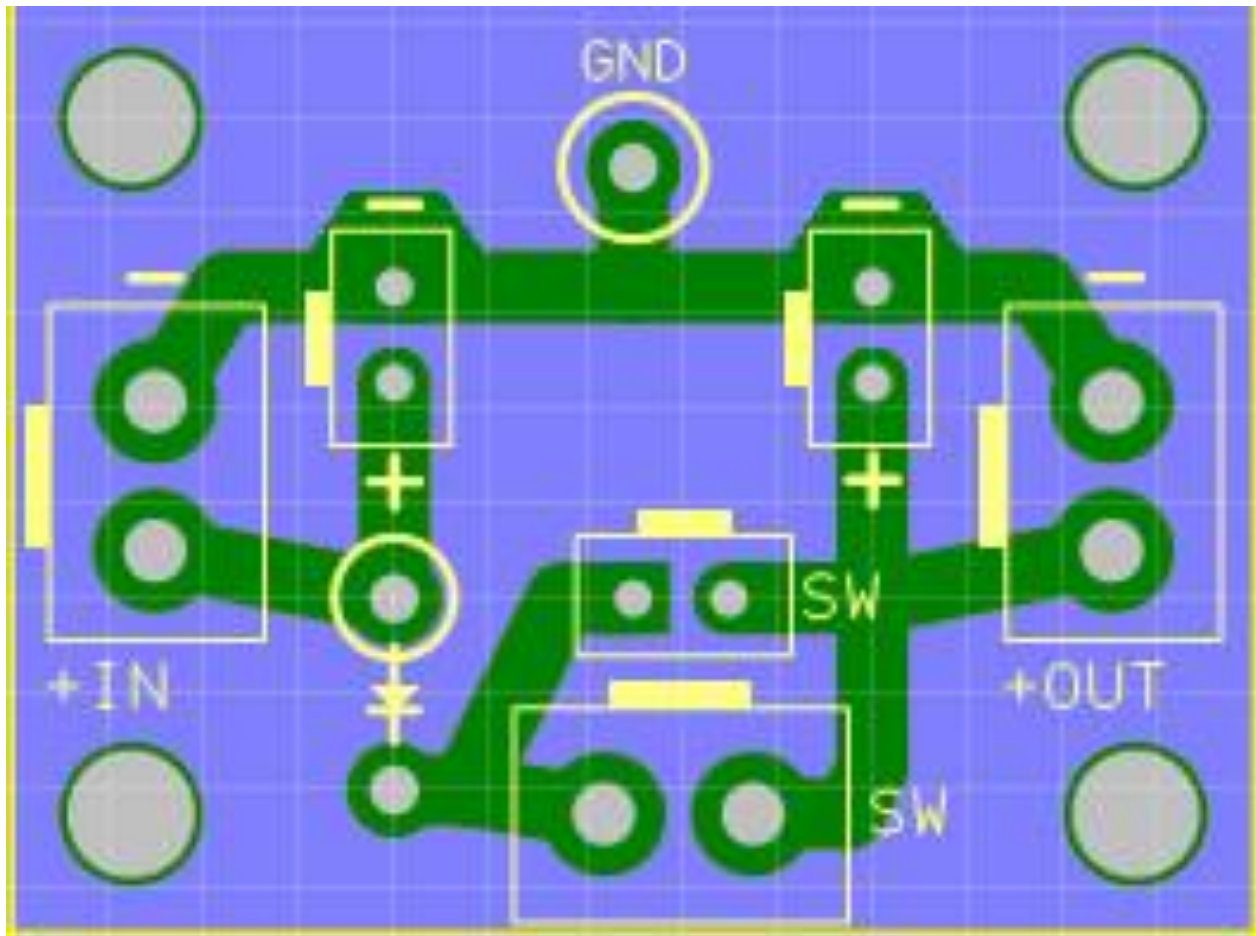
Solder one pin first and check to make sure the header is vertical and the base is flat against the board. If not, reheat the connection and re-seat the header. When you are satisfied, solder the other connection and check your work for shorts and proper solder joints.

D1: If installed, orient the diode vertically with the Anode (unbanded end) flush to the board inside the white circle shown. The Cathode (banded end) connects to the marked terminal next to the “switch” header. If you choose not to use the reverse polarity protection diode, solder a jumper across the diode’s pads on the PC board.

Check for bad solder connections and shorted pins and when you are satisfied they are all good, this completes the switch adapter board.

Jim, W0EB

PC Board layout (enlarged for clarity):



Top of the board is shown. The traces are duplicated on the underside to allow for greater current handling when the larger 3.96 mm connectors are used. Small solid white rectangles on the edges of the male header's silkscreen indicate the placement of the header's polarizing tab. For the power input and output headers, this makes the header's PIN 1 the negative or ground pin in keeping with most schematic conventions.

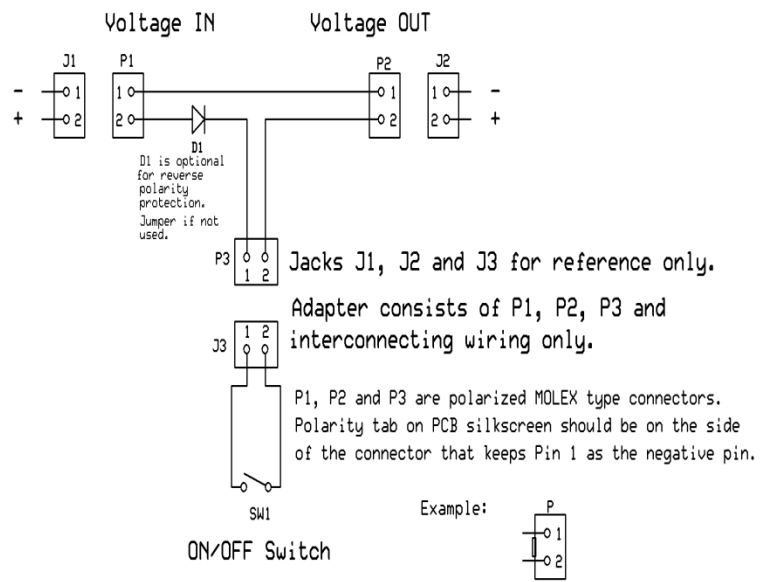
# Schematic:

## BOM

D1, Schottky Diode (amperage to suit max current to be drawn by unit being switched.)

P1,P2,P3 2 pin polarized Molex Male, either 2.56 or 3.96 mm pin spacing, user's choice.

J1,J2 J3 2 pin Molex Female to match spacing of P1, P2 and P3. Pads for both sizes are provided.



Triumvirate Skonk Worx

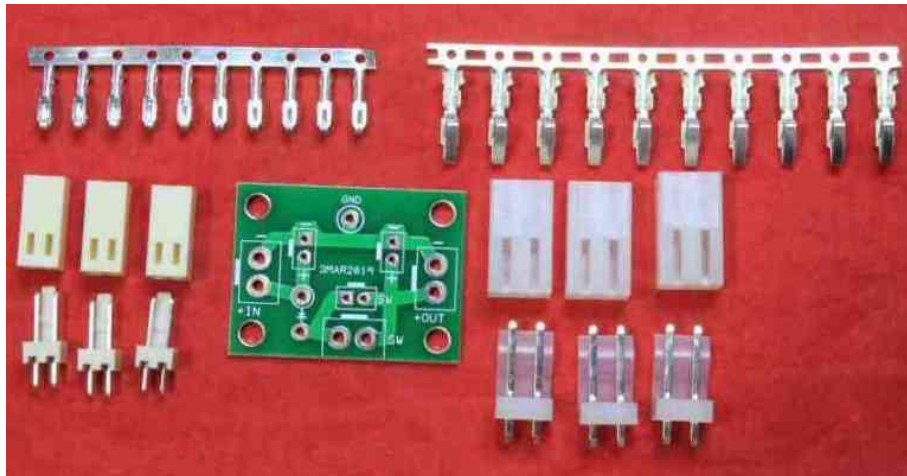
Switched Power Adapter

Jim Sheldon

Rev 1.1

03/03/2019

Sheet 1 of 1



Everything you get in the Switch Adapter Kit is shown in the above photograph.

### Parts List:

- |          |   |
|----------|---|
| D1       | Any low forward resistance diode (preferably Schottky) of sufficient current capacity for the device(s) being switched.                 |
| P1-P3    | Molex or Molex type polarized male pin header, 2.56 mm or 3.96 mm pin spacing. 2.56 mm Part# Tayda A-804, 3.96 mm Part# Tayda A-776.    |
| J1-J3    | Molex or Molex type female connector shell, either 2.56 mm or 3.96 mm pin spacing. 2.56 mm Part# Tayda A-826, 3.96 mm Part# Tayda A-794 |
| QTY 10   | Crimp terminals for 2.56 mm housing Part# Tayda A-837.  |
| QTY 10   | Crimp terminals for 3.96 mm housing Part# Tayda A-803.  |
| PC Board | (available from TSW, <a href="http://www.w0eb.com">www.w0eb.com</a> ).  |

Credits: Circuit Design, Jim Sheldon, W0EB TSW Project Coordinator  
 PCB Layout, Jim Giammanco, N5IB TSW PC Layout Engineer