

# Solar USB 2.0

Guide and directions on how to make the Solar USB 2.0 Kit.

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## INTRODUCTION

The Solar USB 2.0 Kit is a great way to create a simple solar powered USB charger. The project requires a bit of simple soldering, but can easily be completed by someone who has never soldered before.

• The printable PDF has some updates to reflect the new USB circuit that we're using.

### **TOOLS:**

- Soldering Iron (1)
- Wire Strippers (1)
- Phillips Screwdriver (1)

PARTS:Solar USB 2.0 Kit (1)

#### Step 1 — Strip Wires



• Strip the ends of all wires. This includes the battery holder.

#### Step 2 — Solder The Diode



- Solder the diode to the + (Positive) solder point on the Solar Cell.
- Note: The Diode has a black bar on one side. That side goes to the wire, non black bar side to the Solar Cell.
- Twist one end of your red wire around the other side of the diode. Solder into place.
- Snip off excess parts of the Diode legs.

#### Step 3 — Thread Wire



 Thread the wire through the "Top" laser cut wood part.

#### Step 4 — Solder The Switch



- Twist the Red wire from the solar cell together with the Red wire from the battery holder.
- Solder both wires to the middle pin on the switch.
- Solder your other piece of Red wire to either of the outside legs.

#### Step 5 — Solder the USB Circuit



• Solder the Red wire coming off the switch to the Positive terminal on the USB Circuit.

#### Step 6 — Solder the Solar Cell



- Solder your Black wire to the Negative side of the solar cell.
- Thread it through the "Top" wooden piece.

#### Step 7 — Twist The Black Wires



• Twist the Black wire from the Solar Cell together with the Black Wire from the Battery Holder.

#### Step 8 — Solar The USB Circuit



• Solder the two black wires to the Negative terminal on the USB Circuit.

#### Step 9 — Clean Up The USB Circuit



- Move the small white switch so that it is closest to the black wire.
- Snip off the White and Red LEDs. (They're useless in this project.)

#### Step 10 — Build The Body



- Using a screw driver, assemble the body.
- Use double sided tape to hold down the USB circuit and battery holder.
- Close up the box and secure the solar cell to the top using tape.

#### Step 11 — Troubleshooting



- The batteries included in the kit may be dead. Use a wall charger to quickly charge them up.
- Or use some regular AAs for a quick test, though NEVER try to solar charge regular AA batteries.
- Check out the diagrams in this step if you're worried you missed something.
- The solar cell on this charger is weak and it may take a couple of days to charge up your internal batteries all the way.