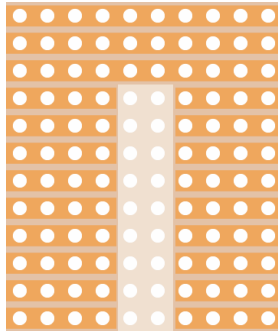


VGA TEST BOX

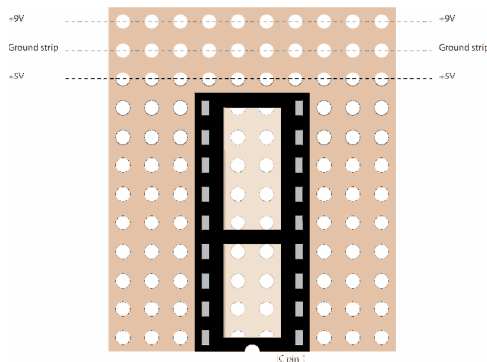
This article tells you how to solder the VGA test box kit.

Step 1 – solder components to the board



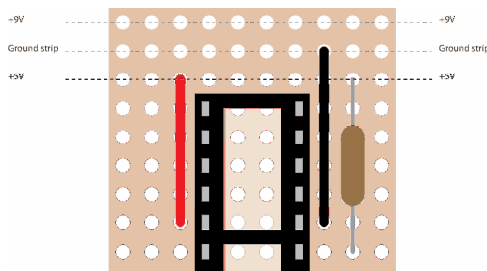
The board has on the copper side a strip in which the copper has been taken out.

Turn the board around.



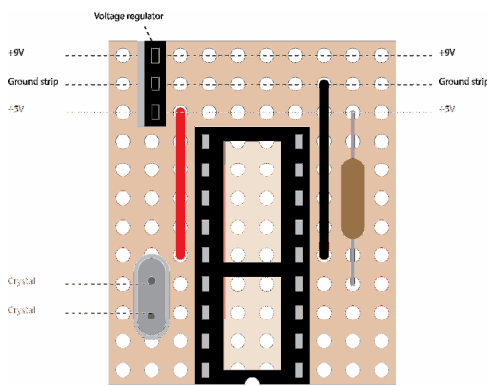
Place the IC socket on the board so that the pins fall exactly over the part where is no copper on the other side.

Turn the board around and solder the socket to the board.



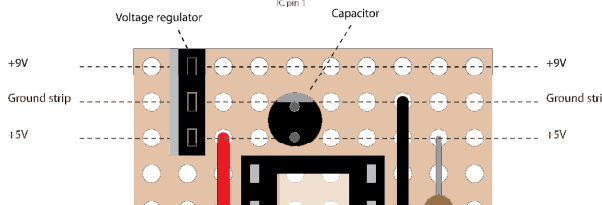
Strip a red wire and a black wire, and solder them on the board as indicated.

Place the resistor (direction does not matter) and solder it as indicated.

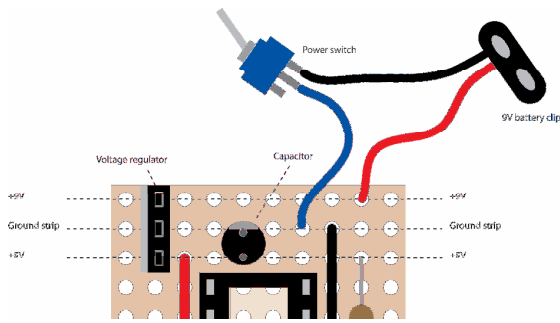


Place the crystal and solder it to the board. The direction does not matter.

Place the 7805 voltage-regulator and solder it to the top 3 strips of the board. Be sure to have the aluminum side of the component facing the right way! (in the picture: to the left)



Place the capacitor. On one side it has a grey stripe: place that side at the ground strip (the middle of the top 3 layers)



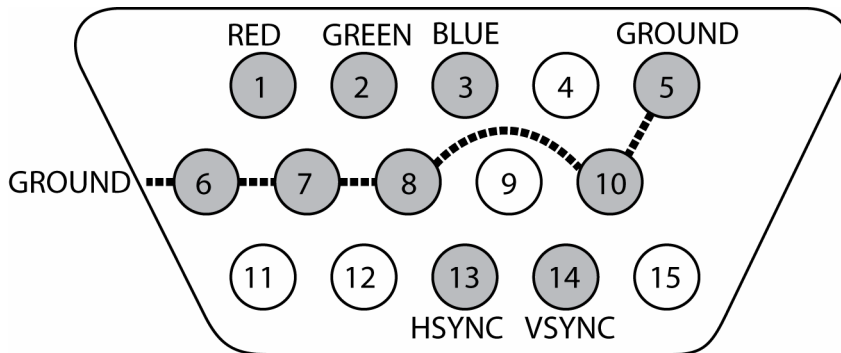
Strip a blue wire and solder it to the ground strip as well. For steadiness, the wire can go through the hole of the 7805 regulator.

Solder the other end of the wire to the middle pin of the switch.

Take the battery clip and solder the red wire to the top strip of the board. Solder the black wire to one of the other pins on the switch.

Step 2 – solder the VGA connector

Now it is time to connect wires to the VGA connector. The following schematic is seen from the *solder side* of the connector!



First, put solder in all pins that are grey. Heat the pin a little and let a little solder flow into the pin. This will help you connecting the wires later more easily.

Then, create the “ground bridge” in the middle: strip a small piece of wire completely blank. Solder it to pin 5. Then, bend it so that it sticks to pin 10, and solder it tight. Then, bend it even further, creating a “bridge” over pin nr 9. Solder it to pins 8,7 and 6. Make sure it does not touch pin 9! Using a small plier will make this task more easy.

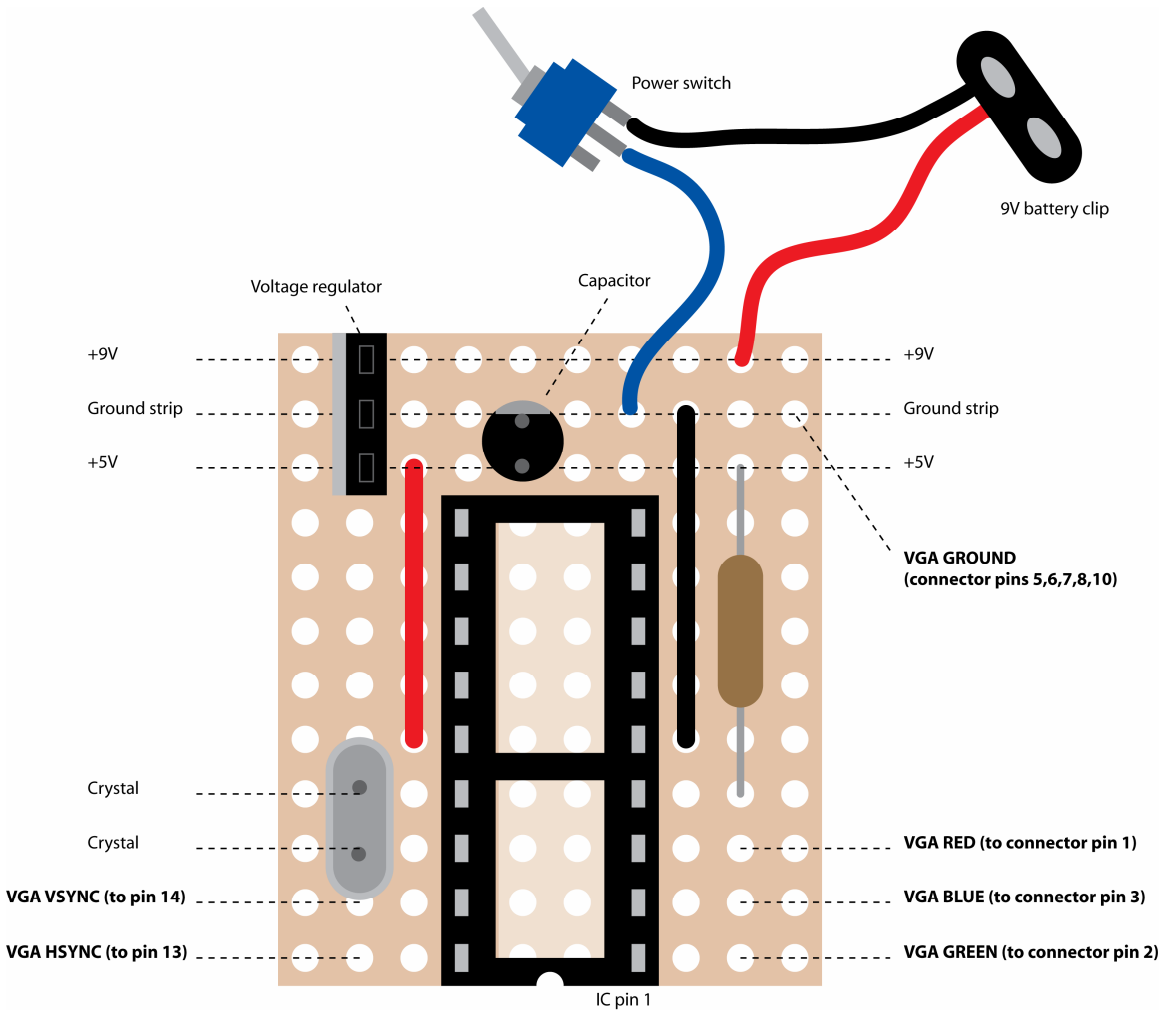
Next, strip 6 wires on 2 sides, about 6cm long each. Solder the wires to pins 1, 2, 3, 6, 13 and 14.

Step 3 – put it all together

Now it is time to make holes in the box. The hole for the switch is easy: just use a drill with the right diameter.

The hole for the connector requires some drilling and some filing. First make the big, trapezium-shaped hole. Make it precisely so tight that the connector fits well. Then, drill two little holes to the sides for the screws.

Put the vga connector with the soldered wires through the hole, and solder the wires to the board, as indicated in the schematic below.



Now it is time to program the microchip and put it into place. Make sure you put it the right way: it has a slight dent on one short side that should align with the dent in the IC socket (see picture).

Connect the battery, and put everything in the box. Tighten the screws of the connector and the screw of the switch. Close the lid.

Attach a VGA monitor. Press the switch – it works!