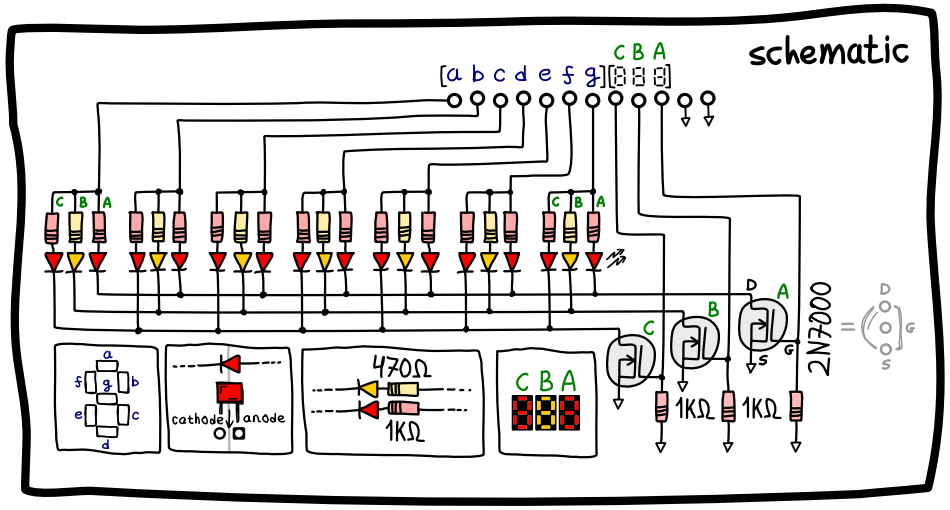
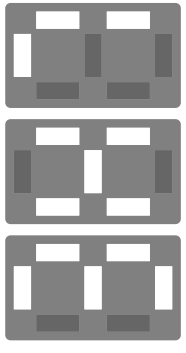
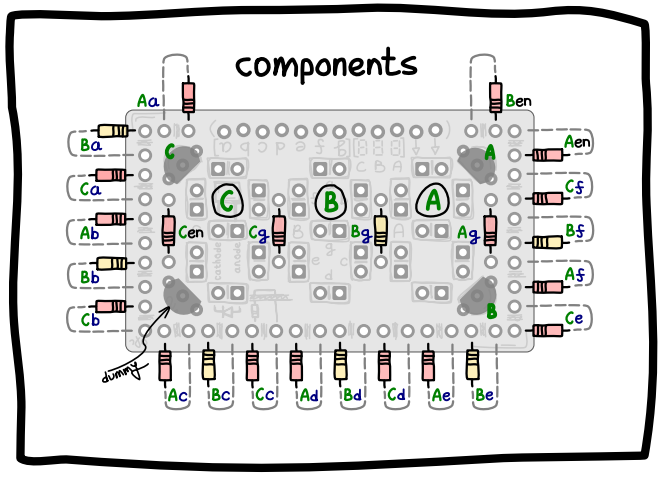
Start

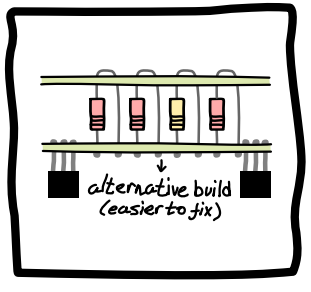


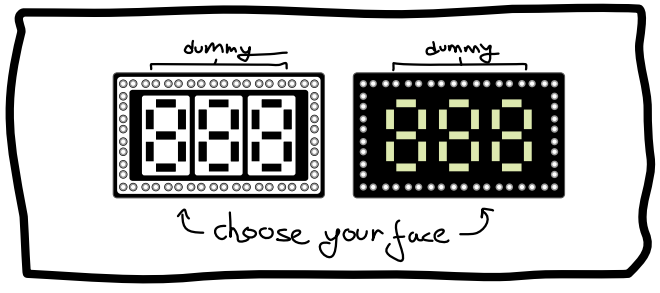


a seven segment soldering project

Start here:
boldport.com/3x7





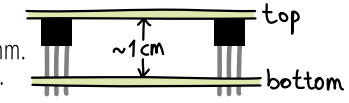


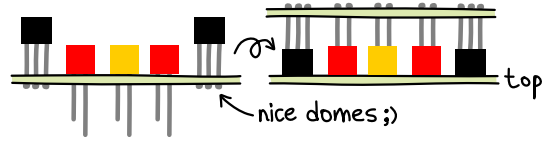
These FETs are sensitive things. Handle them with care:
To avoid static damage, be grounded and make sure that your equipment is grounded as well.
Avoid touching the pins and prolonged or excessive heating of the pins.
Test the FETs and LEDs on a breadboard before soldering and after soldering them on the board.
(it'll be very hard to fix if they are not working after soldering! There is one spare FET with the project.)

Gently snap the two boards apart and clean up the bits that remained on the boards.

Solder resistors marked Cen, Cg, Bg, and Ag on the component diagram.

Solder FETs A, B, and C to set the distance between the boards. We suggest 9 to 10 mm.
Solder using the 'Boldport style domes' to make the project more pleasant to handle.





Place the Ag, Bg, Cg, LEDs. Lay the top board on top of the FETs and flip. Carefully align LEDs with the rectangular seven-segment gaps and flush with the 'top' board while making sure that they are at about the same height as the FETs.

Now test the FETs again. Connect power to the 'g' header input and ground to one of the ground pins. Bridge 'Aen' using the spare 1KΩ resistor. Connect power to the rightmost '8' on the header. The LED should light up, and turn off when power is removed. Repeat with 'Ben' and the middle '8'. 'Cen' is already soldered so no bridging is necessary whilst testing.

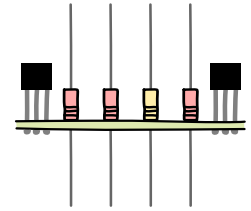
If the LEDs are dim or do not respond to the control, the corresponding FETs is damaged :=/

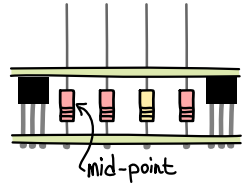
Solder the remaining LEDs. We suggest doing it three LEDs at a time, one for each digit.

Only solder the short/cathode leg of each LED. Flip and check position. If adjustment is required heat the soldered pad and adjust (by gently moving the long/anode leg). When you're happy with alignment, also solder the long leg.

Don't worry if it isn't perfect.

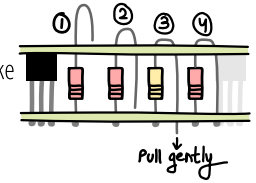
Place all the resistors on the circumference of the bottom board as indicated on the components diagram. Don't solder them yet.

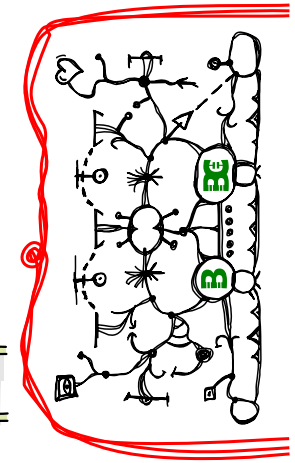




Place the top board inserting each resistor leg, one by one, through the corresponding hole.
For each resistor adjust the position to the mid point between the two boards. Solder the resistor leg at the bottom board.

Thread the wire through the adjacent hole. Gently pull on the leg to make a tight fit of the top board. Make sure that the board isn't warping.
Do that got all resistors before soldering. There's no need to solder anything on the top board.





Insert the header (soldering it is optional) and connect to a microcontroller board that can deliver at least 10mA per I/O.
Don't exceed 5V input without giving thought to the effects it might have on the driver and maximum LED current of 20mA.
Don't use on a conductive surface; this will create shorts.