

Assembling the calculator - IN-16 / B-5870 / IN-17 - versions

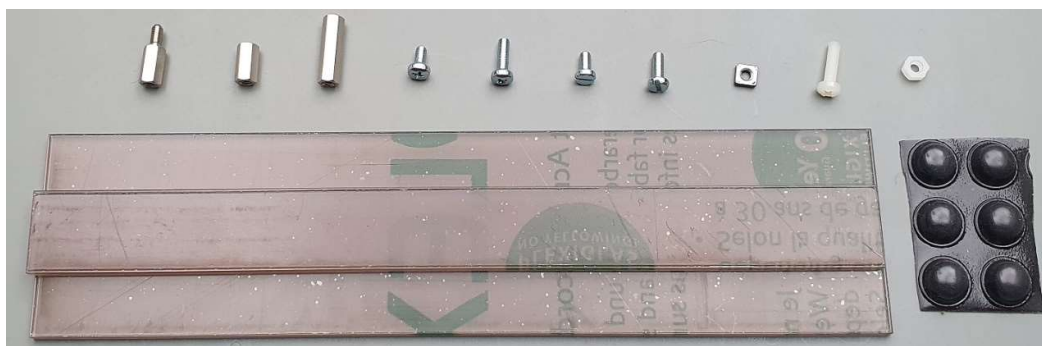
Things you will need

- Assembled boards
- High voltage power supply
- Keycaps
- Nixies soldered to the socket boards
- Connection Wires

ID	Qty	Wires	Mode	Comment
SWITCH	1	2	straight	
LED	1	3	straight	
KEYBOARD	1	5	straight	
DRIVER	1	6	straight	
TOHVPSU	3	1		
HV	1	1		IN-16, B-5870
HV	2	1		IN-17

- 3D printed case parts
- Additional parts

ID	Qty	Description	Comment
1	2	Standoff, 10mm, female/male	
2	10	Standoff, 10mm, M3, female/female	
3	3	Standoff, 16mm, M3, female/female	
4	4	Pan head screw, 6mm, M3	
5	11	Pan head screw, 10mm, M3	
6	21	Screw, 6mm, M3	
7	10	Screw, 8mm, M3	
8	20	Square nut, M3, 5.5 x 5.5 x 1.8mm, DIN562	
9	2	Plastic screw, 8mm, M3	IN-16 underlighting
10	2	Plastic nut, M3	IN-16 underlighting
	1	Piece of transparent acrylic 203mm x 50mm x 3mm, gray 7C22	IN-16, B-5870
	1	Piece of transparent acrylic 203mm x 20mm x 3mm, gray 7C22	IN-17
	6	Rubber foot	



Assembly

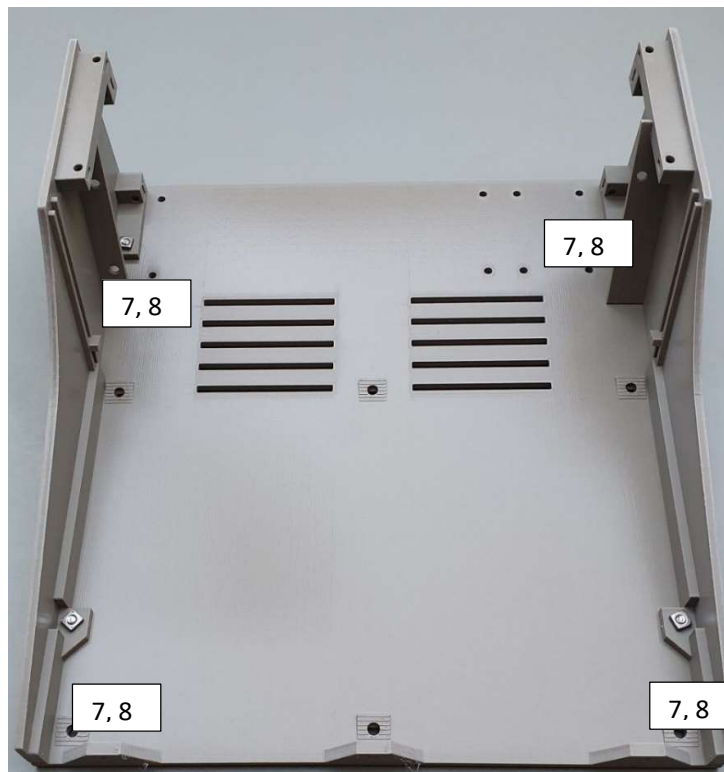
While assembling, leave the screws a little loose. At the end everything will be adjusted, and the screws tightened. Please don't over tighten the screws, it's PLA.

Mount the keycaps



Install the side panels

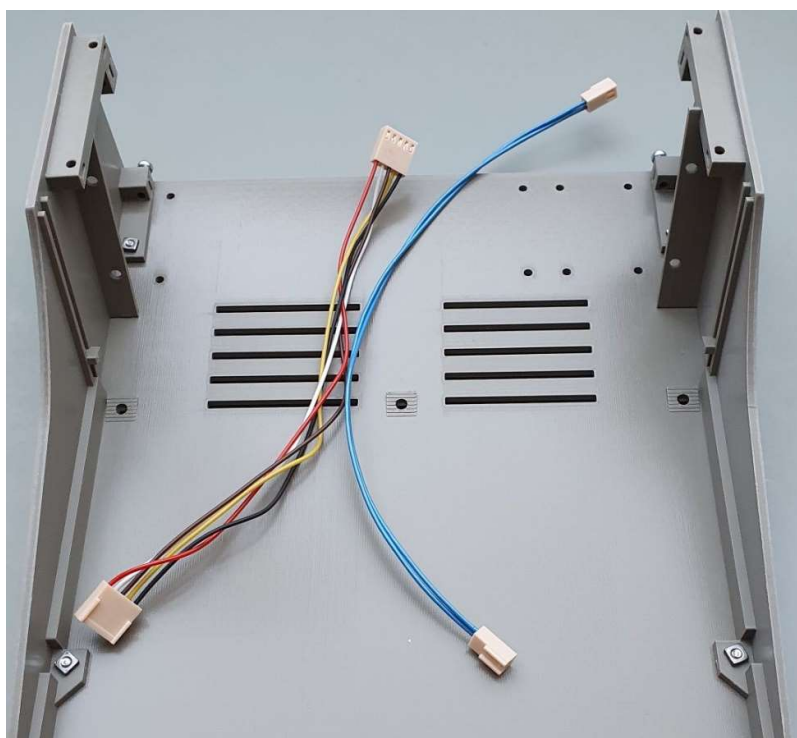
Make sure you install the correct side panels for your version.



Place and secure two nuts in advanced



Place the KEYBOARD and SWITCH cables



Install additional LED board (for the IN-16 version with underlighting only)

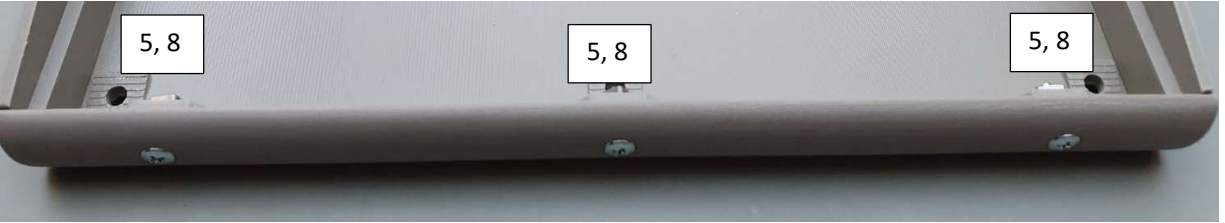


Also use the 3D printed spacers

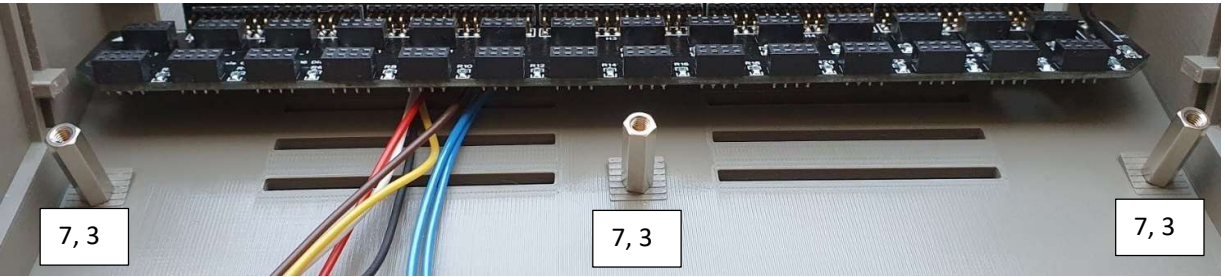
Install display and driver board



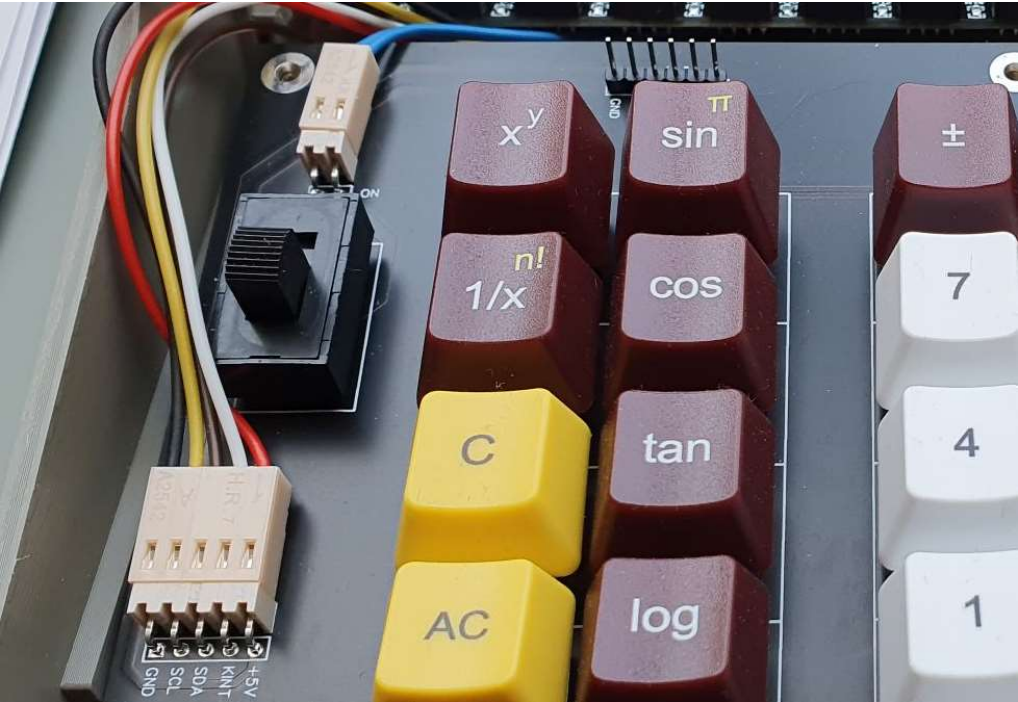
Install the front



Install the keyboard standoffs



Connect cables to the keyboard



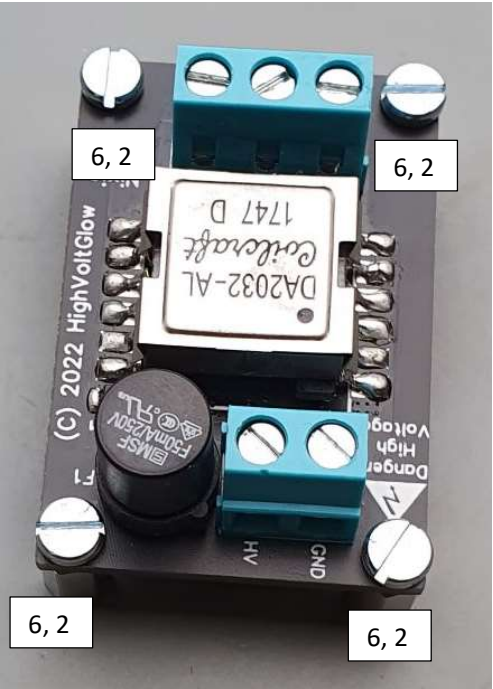
Secure the upper keyboard side



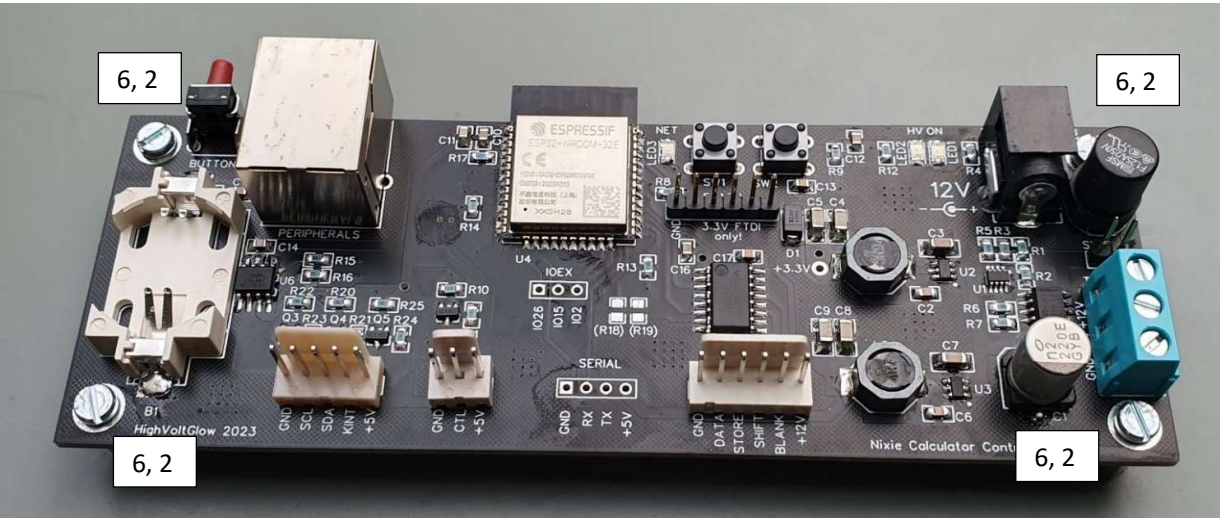
Secure the lower keyboard side



Install the HV PSU standoffs (may not apply to your model)



Install the controller standoffs



Connect the display HV wire(s) to HV power supply (could be different for your model)

For the IN-16 and B-5870 version only the HV wire is connected. For the IN-17 version you must also connect the ground wire.



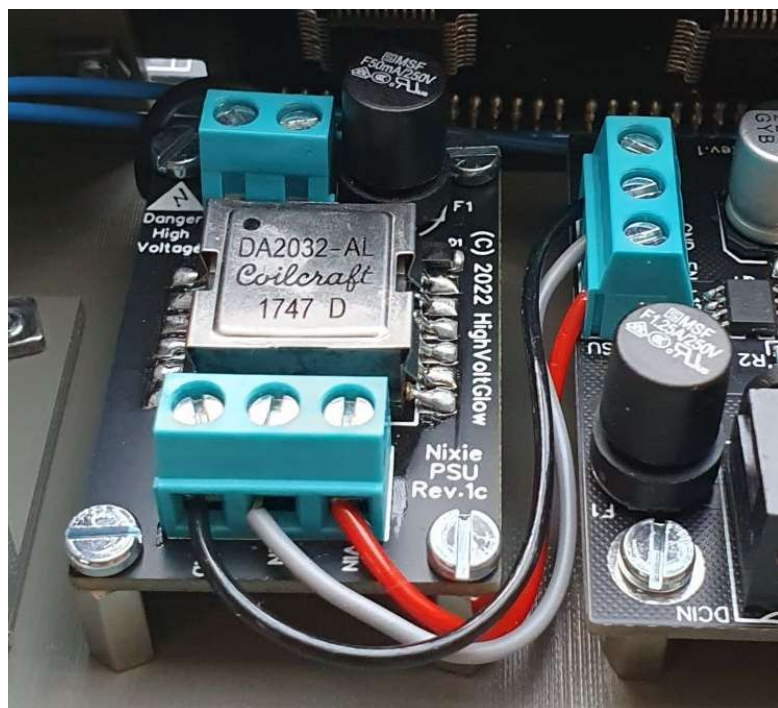
Secure the HV power supply (could be different for your model)



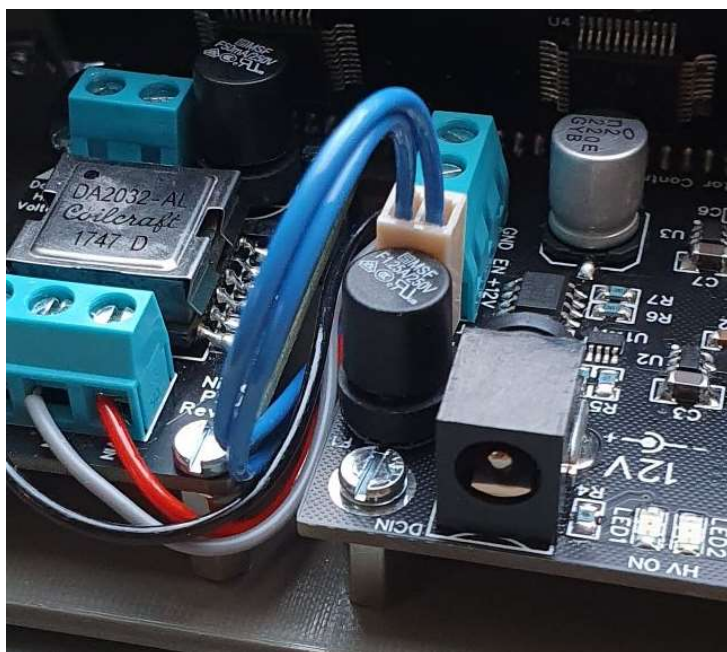
Secure the controller



Connect +12V, EN and GND from controller to the HV power supply (could be different for your model)



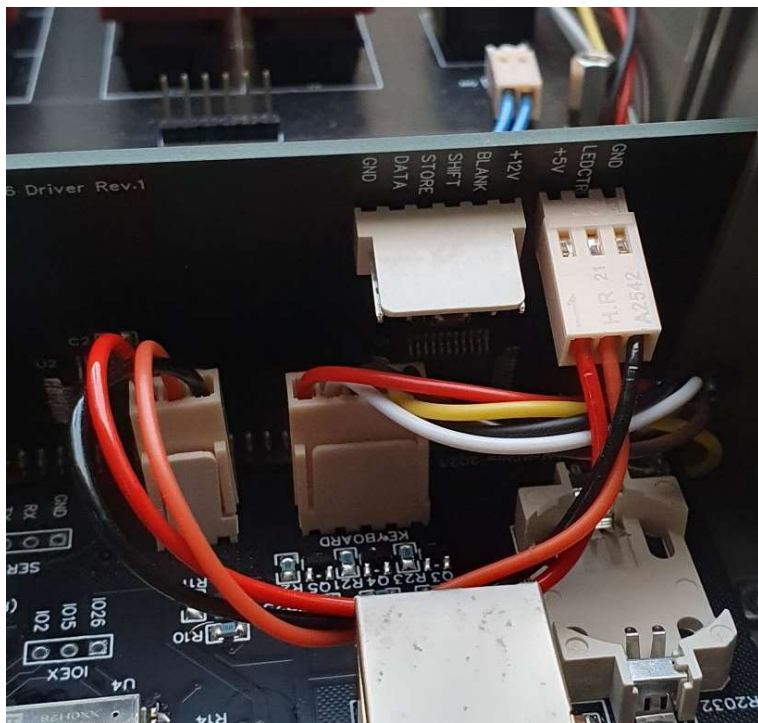
Connect the SWITCH wires to the controller



Connect the KEYBOARD wires to the controller



For the IN-16 version with underlighting connect the wires from the separate LED board to the controller.
For the other versions connect the wires between driver and controller board.



Insert the nixies

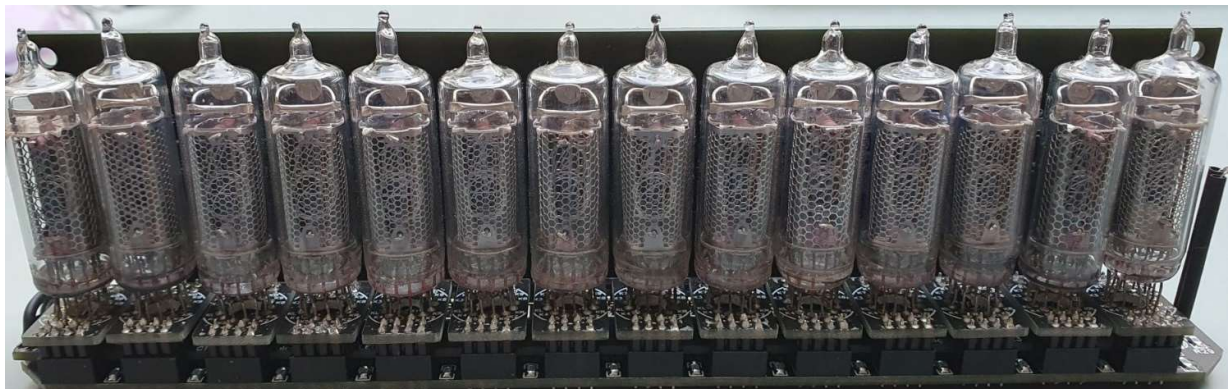
B-5870



IN-17



IN-16



Install the 3D printed socket cover (B-5870 version only)



Install the keyboard shield



Insert the acrylic panel

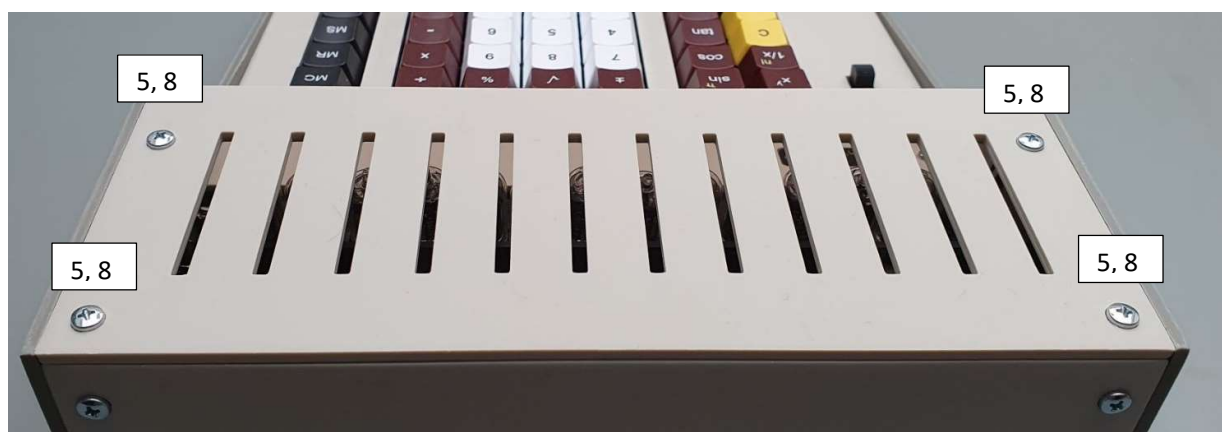
For the IN-17 version insert first the 3D printed “Nixie Calculator Case IN-17 Front Panel Bottom” part, then the 20mm acrylic and finally the “Nixie Calculator Case IN-17 Front Panel Top” 3D printed part. For the other versions just insert the 50mm acrylic part.



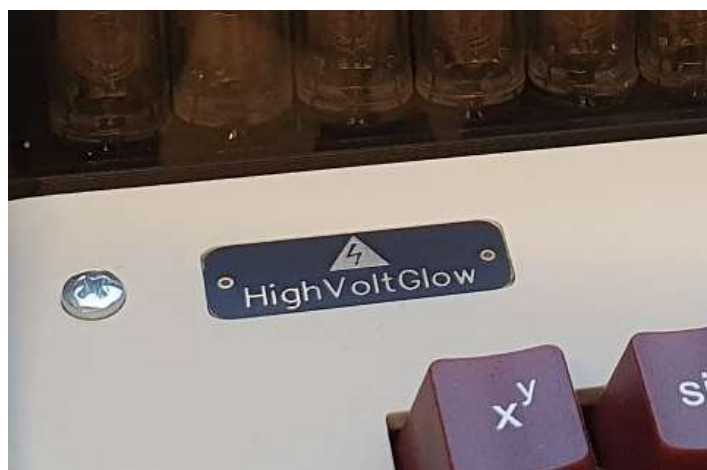
Install the back shield



Install the top shield



Glue the label board



Place the rubber feet



Final adjustments

Check that everything is square and carefully tighten the screws.