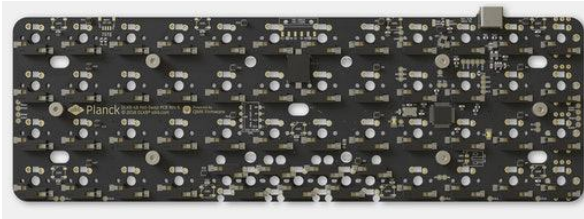
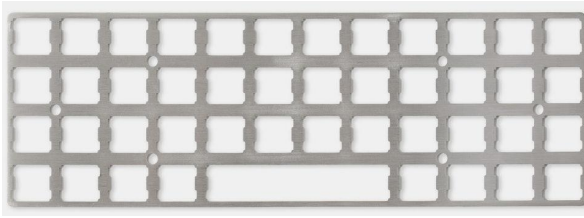
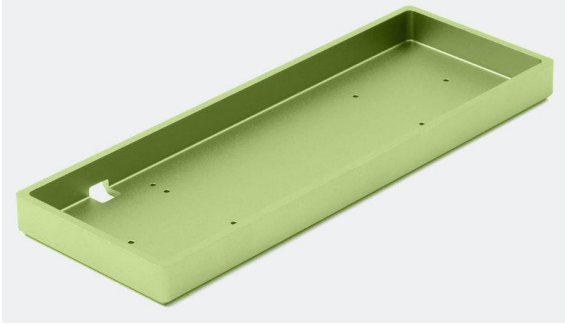





Assembling the Planck Keyboard

In this document, you will learn how to assemble a Planck ortholinear mechanical keyboard kit from Drop.com. You should read this document in full before assembling your keyboard to make sure you understand each step in full and how they flow together, but frankly it's not too difficult and nothing to sweat. General safety tips are just to be careful – avoid being forceful. You should be able to assemble the keyboard in under 20 minutes. Doing it at your desk, with plenty of room to work, is recommended. Without further ado, let's begin!

Materials

Part	Image
Planck Printed Circuit Board (PCB) (underside shown) Included with Drop Planck kit	 A photograph of the underside of a black printed circuit board (PCB) for the Planck keyboard. The board is populated with various electronic components, including integrated circuits, capacitors, and resistors. The layout is dense and organized, with components placed in a grid-like pattern.
Steel Plate Included with Drop Planck kit	 A photograph of a silver-colored metal steel plate. The plate is rectangular and features a grid of square cutouts, each corresponding to a key position on the keyboard. The cutouts are arranged in a 4x12 grid, with a slightly larger cutout at the bottom center for the spacebar.
Case Included with Drop Planck kit	 A photograph of a light green, rectangular keyboard case. The case is shown from a perspective view, highlighting its depth and the internal structure. It has a simple, clean design with a few small holes and a notch on the left side.

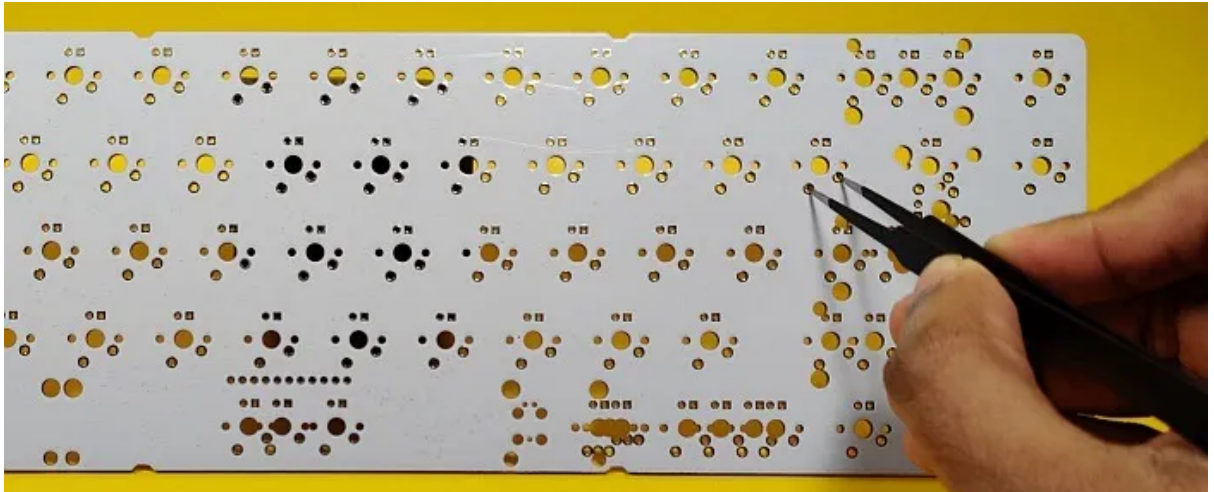
<p>UCB-A to C Cable Included with Drop Planck kit</p>	
<p>6 Phillips Screws Included with Drop Planck kit</p>	
<p>6 Brass Spacers Included with Drop Planck kit</p>	
<p>6 Nuts Included with Drop Planck kit</p>	
<p>4 Rubber Bumpers Included with Drop Planck kit</p>	
<p>Socket Wrench Included with Drop Planck kit</p>	
<p>Phillips Screwdriver Included with Drop Planck kit</p>	

Two tweezers or paperclips	
48 Cherry MX-style mechanical switches	
48 Cherry MX-style keycaps Depicted keycaps are included as an optional add-on for the Drop Planck kit	

Steps

Testing the PCB

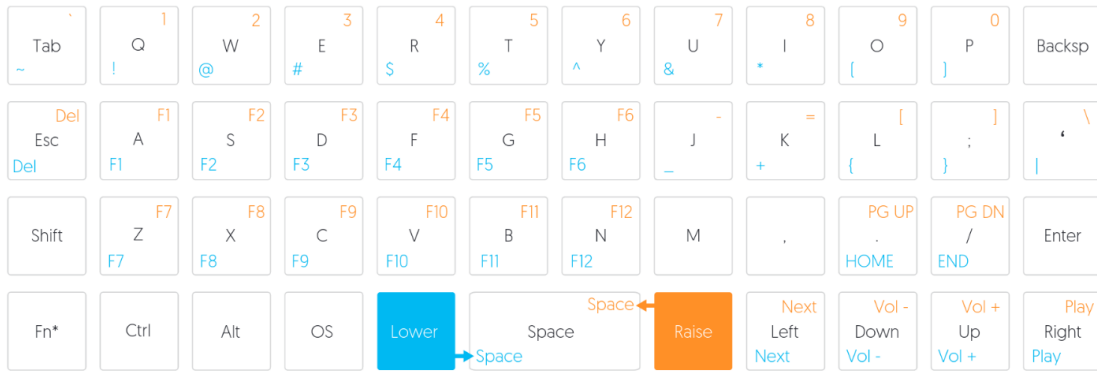
1. Lay out everything in front of you on a flat table.
2. Plug the PCB into a computer using the included USB-A to C Cable. You should hear a chiptune play from the included speaker on the PCB.
3. Navigate to keyboardtester.com/tester.html. You will see a diagram of a standard keyboard on the screen.
4. On the top layer of the PCB, there are pairs of black slits in circles. Connect each pair with your tweezers, one by one, and verify that the corresponding key lights up on the screen. For instance, connecting the second pair of slits on the second row from the top should trigger the 'A' key. If any key is faulty, you may need a replacement PCB.



Test the keyboard like this. Depicted is a different board; be sure to connect the paired black slits in your PCB.



The keyboardtester.com interface, with 'A', 'S', 'D', and 'F' having all been triggered.

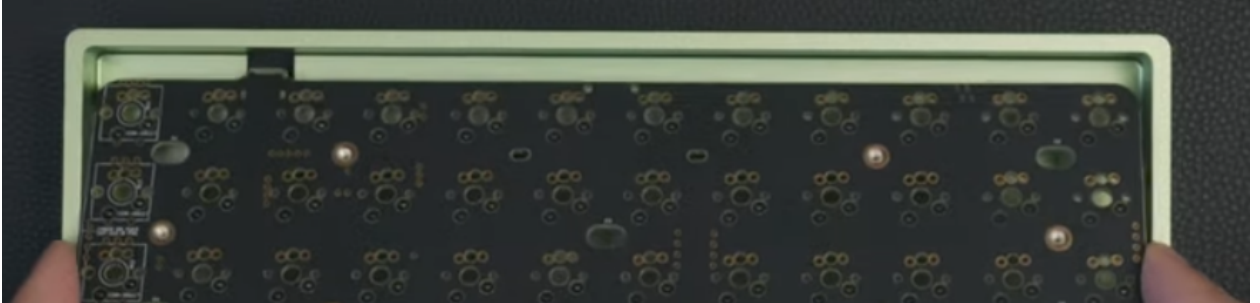


The default Planck keymap. You can test the symbols printed in black just by connecting the corresponding black slits. To test the lower (blue) and raise (orange) keys, trigger one of them and then another key, using two tweezers, and verify that the corresponding symbol on the second key is triggered.

5. Once you've finished testing the PCB, unplug it from the computer and continue below.

Assembling the Keyboard

1. Congrats! Your PCB works. Now you can start assembly. Lower the PCB into the case at an angle, as shown below. It should lay flat once released. The USB-C port on the PCB should be on the bottom side of the PCB and fit in the hole at the back of the case.



2. Flip the case and PCB upside down, holding them together. Insert the Phillips screws into the holes circled below, using your fingers and then the screwdriver for the last few twists. Be sure to screw them in evenly and consistently; overtightening one screw before the others may crack the PCB. Make sure the screwheads are flush with the case. Do not insert a screw into the uncircled hole; this provides access to the keyboard's reset button.



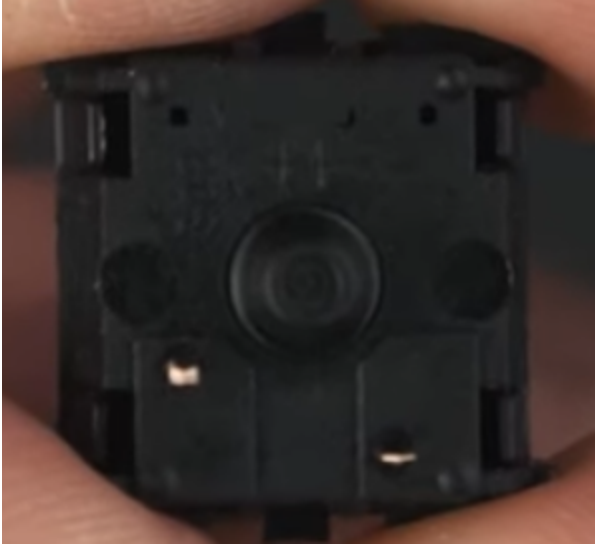
3. Flip the case back right side up. Screw the brass spacers onto the screws, first with your fingers, then using the socket wrench. As with the screws before, screw evenly and don't overtighten.



4. Next, you will place the steel plate on top of the PCB. First, take four of your switches and push them into the corners of the plate. It'll take a bit of force on your part to click everything in but it shouldn't be too harsh. The gold pins on the underside of each switch should be on the southern side so that they line up with the black slits on the PCB.



Note that the long rectangle is at the southern side of the plate. Not shown is that the gold pins on the switches are *also* at the southern side.



The underside of a switch, with gold pins at the southern side. Ensure they are straight and perpendicular to the switch. If they are not, use a different switch if you have extras; otherwise bend the pins slowly and carefully with your finger.

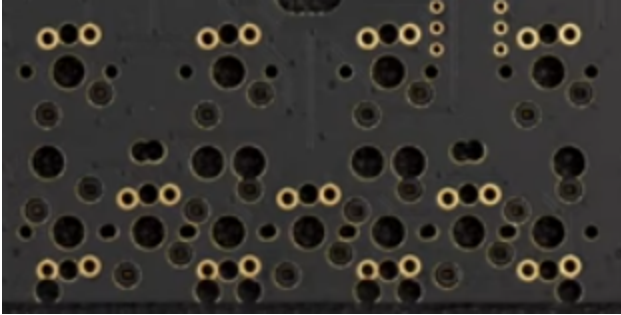
5. Now, place the steel plate on top of the PCB and push it into the PCB via the corners, pushing opposite corners at the same time. The gold pins on the switches will enter the black slits on the PCB.
6. Screw the nuts onto the screws on top of the steel plate. As always, use your fingers first, then the socket wrench, and don't overtighten!



The last two steps should look like this.

Finishing the Keyboard

1. You're almost done! Now you can put on the rest of your switches. Almost all of them will be inserted just as before, with gold pins at the southern side. Refer back to step 4 of the previous section for additional guidance.
2. The only exceptional switches will be at the bottom. Observe in the following picture how there are many spots for switches in the middle of the bottom row; this is to support slight alterations of the user's layout from what we will be using.



3. For these switches in the middle of the bottom row, insert them with the gold pins at the *northern* side into switch locations where the gold contacts are at the bottom and the black slits are at the top.
4. Once that's done, all of your switches are in! Ensure they are flush with the steel plate and test them again as in the first section with keyboardtester.com. Here, you won't use tweezers to test the keyboard, but can instead just press the corresponding keys. They'll light up just as they did before; if they don't, try making sure the switch is pushed in properly.
5. If that all works, take your keycaps and push them straight down onto the keys according to the icon on the key. For instance, the "A" keycap would go on the second key in the second row from the top.



Your keyboard may look something like this, with a complete grid layout and blank keycaps.

6. The final step is to apply the rubber bumpers to your keyboard. Peel them off the pad and apply them sticky side down to the bottom corners of your case. You should end up with something like this. If done successfully, your keyboard won't slide around on the desk when you are typing on it.



7. Congratulations! You have successfully assembled your Planck keyboard. That wasn't too hard, was it? Now get to using it! There's a bit of a learning curve to it, but with some time invested in practice, you should be a pro in no time.

Troubleshooting Tips

- Don't over tighten screws! This is the biggest rule to follow. Screw things in evenly, slowly, and with care. If something isn't aligning right or is bending, it's pretty likely an issue with your screws. Loosen them and try again.
- If your mechanical switch isn't going into the plate or PCB, inserting it at an angle and then pushing down on the higher end can help. Once the corners are in, the rest should go in much easier.

Glossary

- **Cherry MX Switch** a popular style of mechanical switch
- **Drop** formerly Massdrop, a manufacturer of popular mechanical keyboard products
- **Keymap** a layout of keys programmed into a keyboard
- **Mechanical Keyboard** a keyboard with mechanical switches as opposed to standard membrane switches
- **Mechanical Switch** a keyboard switch that triggers a keypress when a mechanical button is actuated
- **Membrane Switch** a keyboard switch on a membrane with printed electrical contacts that triggers a keypress a dome is pushed down, completing a circuit on the membrane
- **Ortholinear** a mechanical keyboard layout where keys are laid out in a grid
- **PCB** printed circuit board, contains most of the circuitry and drives the keyboard logic
- **Planck** a mechanical keyboard known for popularizing the ortholinear layout