

Nice69 Build Guide

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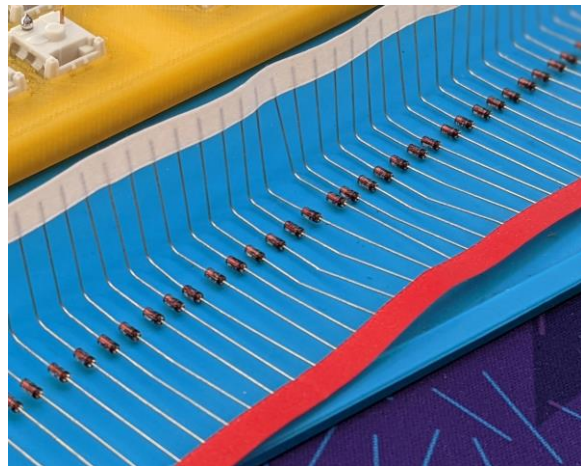
1. Included in the kit

The Nice69 kit includes most of the components you will need to handwire your own keyboard:

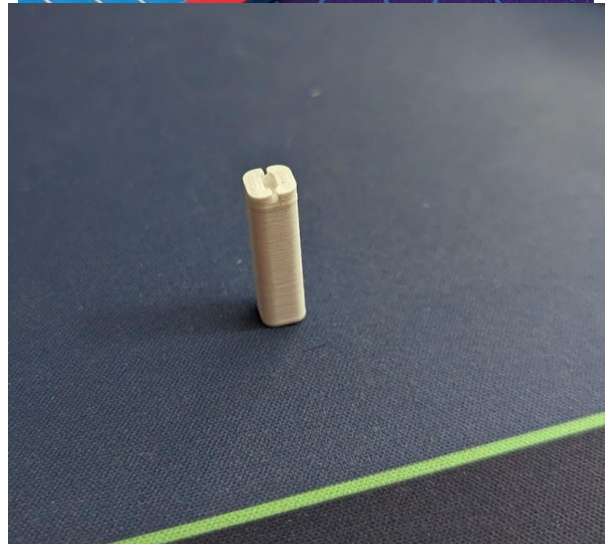
- 3D printed Nice69 Case



- 1n418 diodes (75)



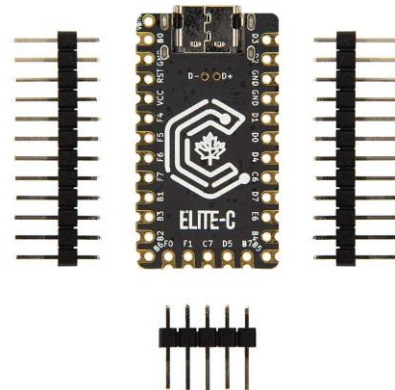
- "1N4148 diodes bending jig" –
color may vary, design by Fosc on
[Printables.com](https://www.printables.com)



- CA69 PCB (Nice69 v2)



- Elite-C microcontroller (*pre-flashed with Nice69 firmware*)



- Screws for case assembly (6x)
- Rubber bumpon feet (4x)

2. What you will need

While the Nice69 comes with most of what you'll need, there are a few things that you still need to complete the build:

- Stabilizers, **PCB mount!**
3x 2u, 1x 7u
- MX style key switches (*69 needed*)
- Keycaps (*7u spacebar needed for Nice69 bottom row*)
- Screwdriver, Phillips head
- Soldering iron
- Solder, flux core electrical solder (*thinner diameter*)

There are also a few things you may want to bring to the build to further customize and make your Nice69 build your own, such as:

- Soldering fan/fume extractor – safety first!
- Acoustic dampening/case foam – cheap and effective, a little bit of 1- or 2mm is my go-to.

3. Software you will need

There are a few programs that you will need to take advantage of the Nice69 firmware, and for any possible firmware updates that may be available.

- QMK Toolbox for flashing microcontrollers (just in case) - https://github.com/qmk/qmk_toolbox/releases
- Via for key testing, json modifications - <https://caniusevia.com/>
- Vial for Nice69 keymap customization - <https://get.vial.today/download/>
- QMK MSYS in case you want to try compiling your own firmware - <https://msys.qmk.fm/>

4. Installing stabilizers & diodes

Handwired case example below, but stabilizer placement is the same. The Nice69v2 upgrade the change to PCB-mounted stabilizers.



fig 4.1 Stabilizer positions circled in picture above

Each diode location on the board is marked with a white box outline pictured below.

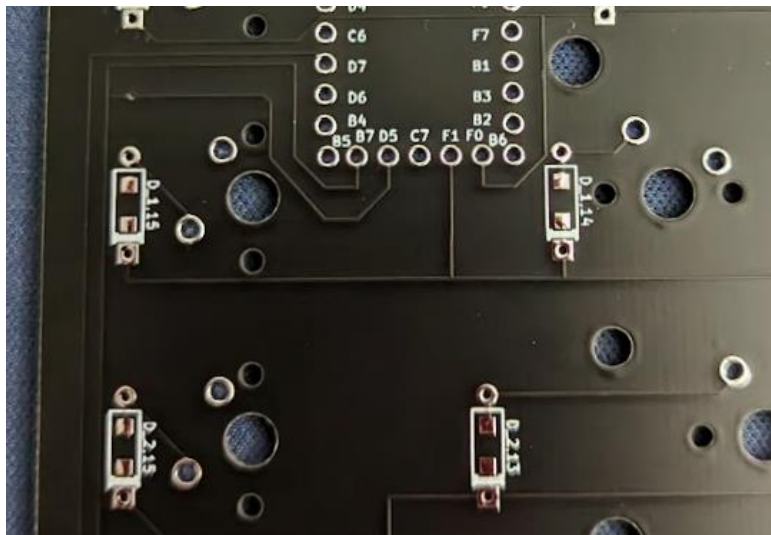


fig 4.2 Diode locations pictured

The included diode jig should help bend diodes to line up with the diode locations on the board. When installing the diodes, make sure that **all** the black bands are pointed in the same direction, **AWAY** from the switch pin pads

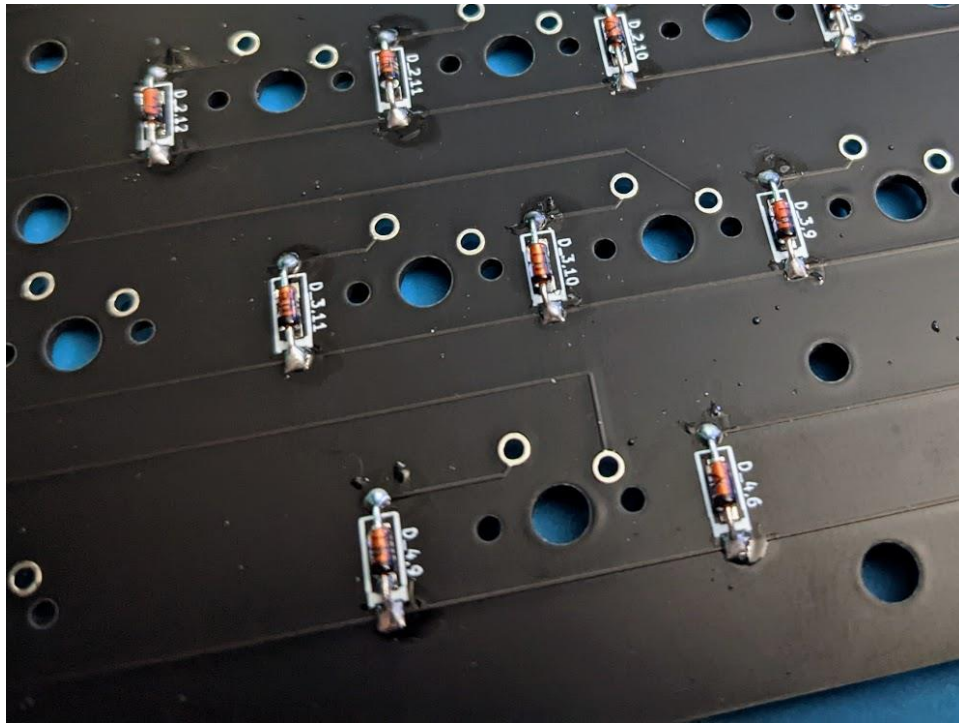


fig 4.2 Diodes oriented with all black bands pointing away from switch pins

5. Installing the Elite-C

The Elite-C location is marked on the bottom side of the PCB with labeled pin locations. The chip and LED side of the Elite-C should be pointed toward the bottom of the case



fig 5.1 Elite-C pin positions labeled on board

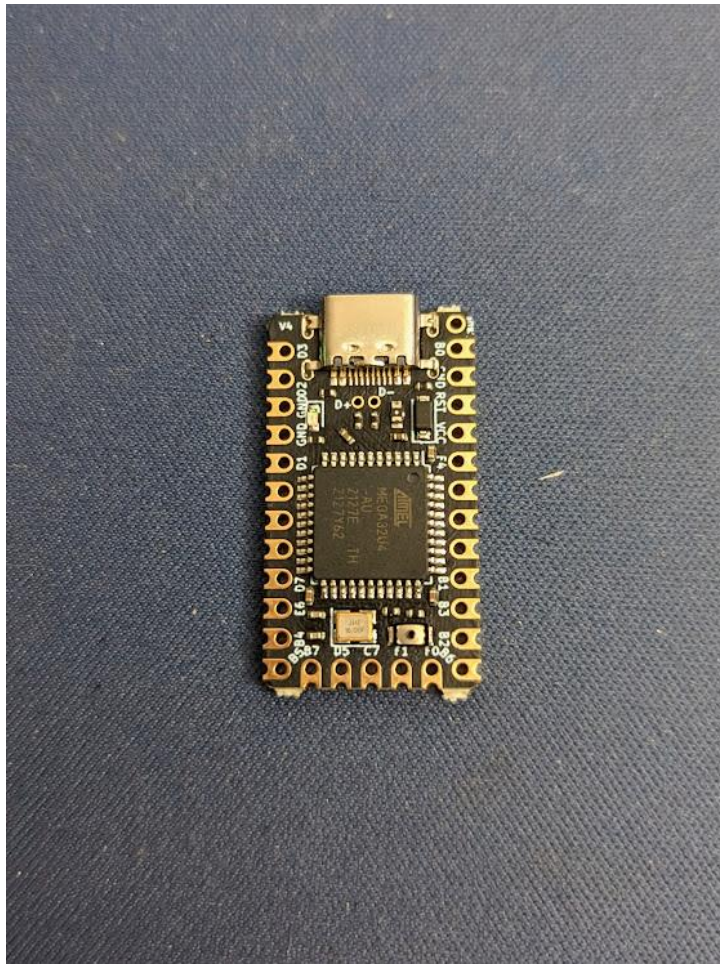


fig 5.2 Elite-C pin positions labeled on controller board

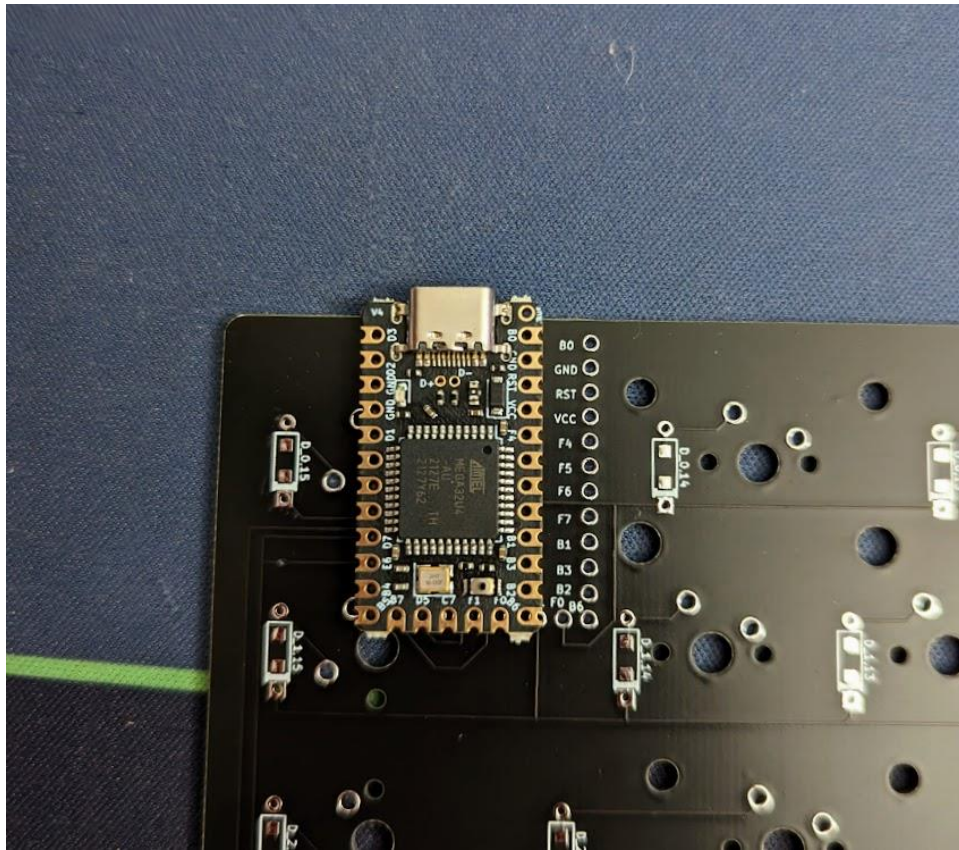


fig 5.3 Elite-C pin alignment against PCB

Solder the support pins into place with short ends into the Elite-C. Next, solder the Elite-C to the PCB with the spacers between the two component.

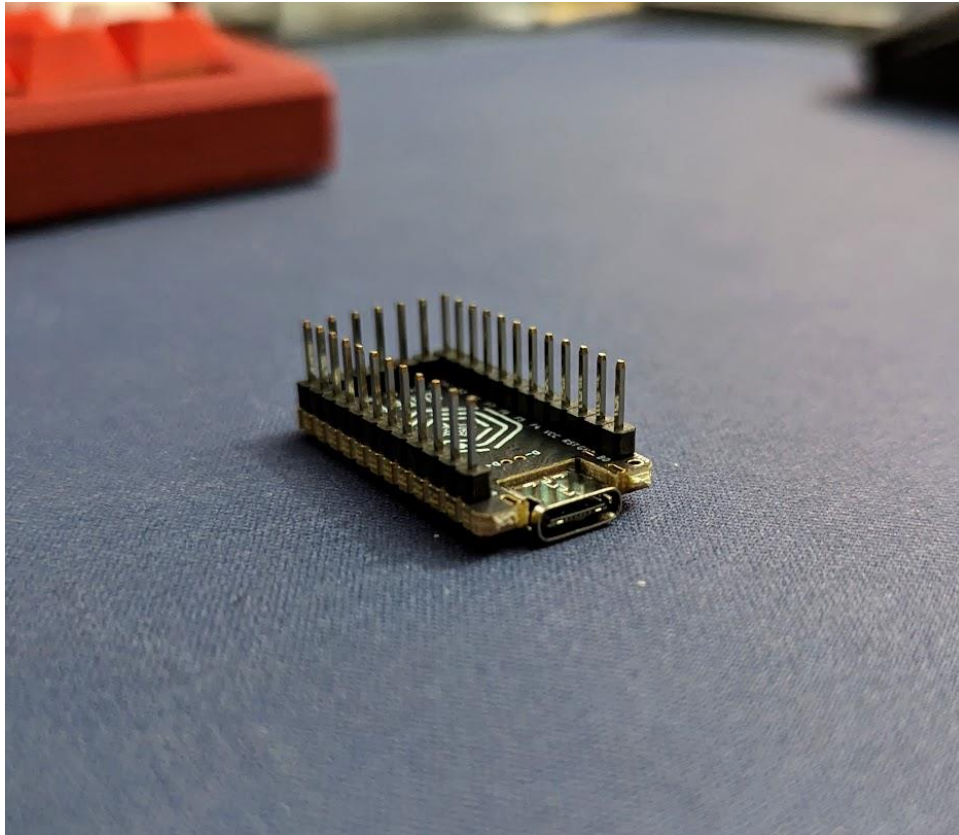


fig 5.3 Elite-C with support pins

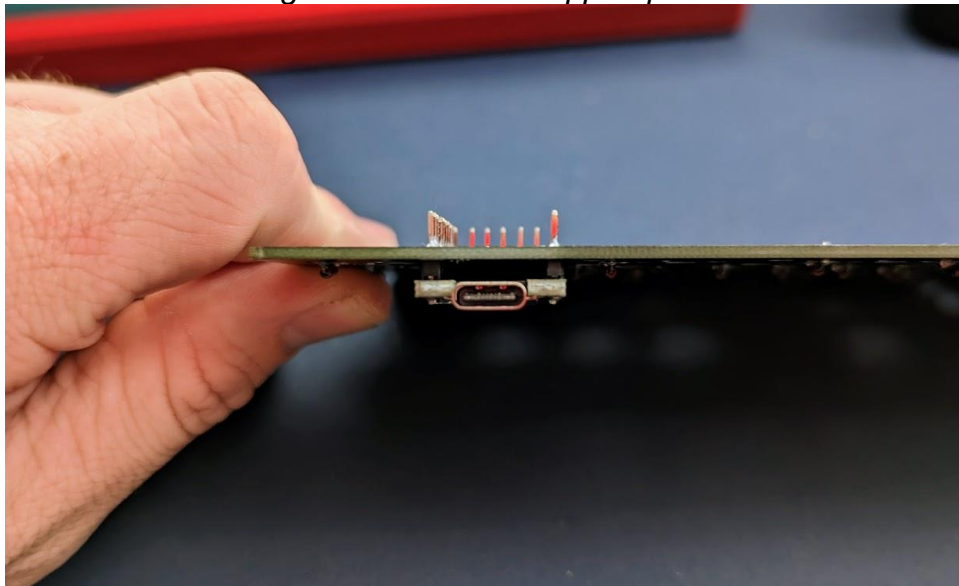


fig 5.4 Elite-C soldered into PCB

After soldering the Elite-C into position, trim the excess connector close to the PCB to avoid any interference with fitting and positioning switches into place.

6. Switches

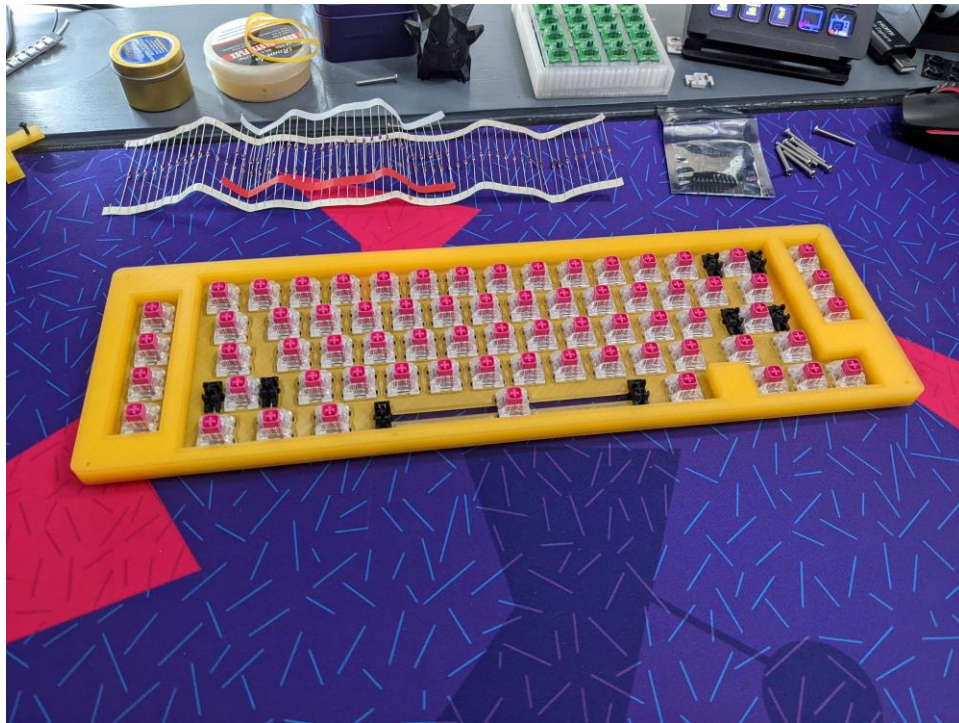


fig 6.1 (top) and fig 6.2 (bottom) Switches installed on integrated plate
**Note – Nice69 v2 uses plate-mounted stabilizers. Your build will look slightly different.*

After stabilizers, diodes, and the Elite-C are in place, switches can be installed. Switches click into position on the integrated plate, though you may need to push the plate from below to properly seat some switches.

**I still advise this approach after building a couple of the PCB prototypes. Install switches, then line up pins with the PCB for a quick and easier fit. Flexibility of the 3D Printed plate presents a challenge with switch*

placement since the material will bend before the switch clicks into place. Chopsticks or some separator between the PCB and motherboard can also help with this during switch installation.

After installing all switches, solder the pins into place and test your connections.

All that's left is final case assembly. Be careful not to overtighten screws as the ends may extend past the threaded socket.

7. Customizing in Vial

Now that you have your Nice69 fully assembled and ready to go, you can have full control over customizing your layout! Anytime your Nice69 is connected to your computer, Vial will immediately recognize the keyboard. Any changes you make to the layout are instantly saved onto the microcontroller and stored for use. Even if you plug your keyboard into another computer, the layout you have configured will be stored on the keyboard!

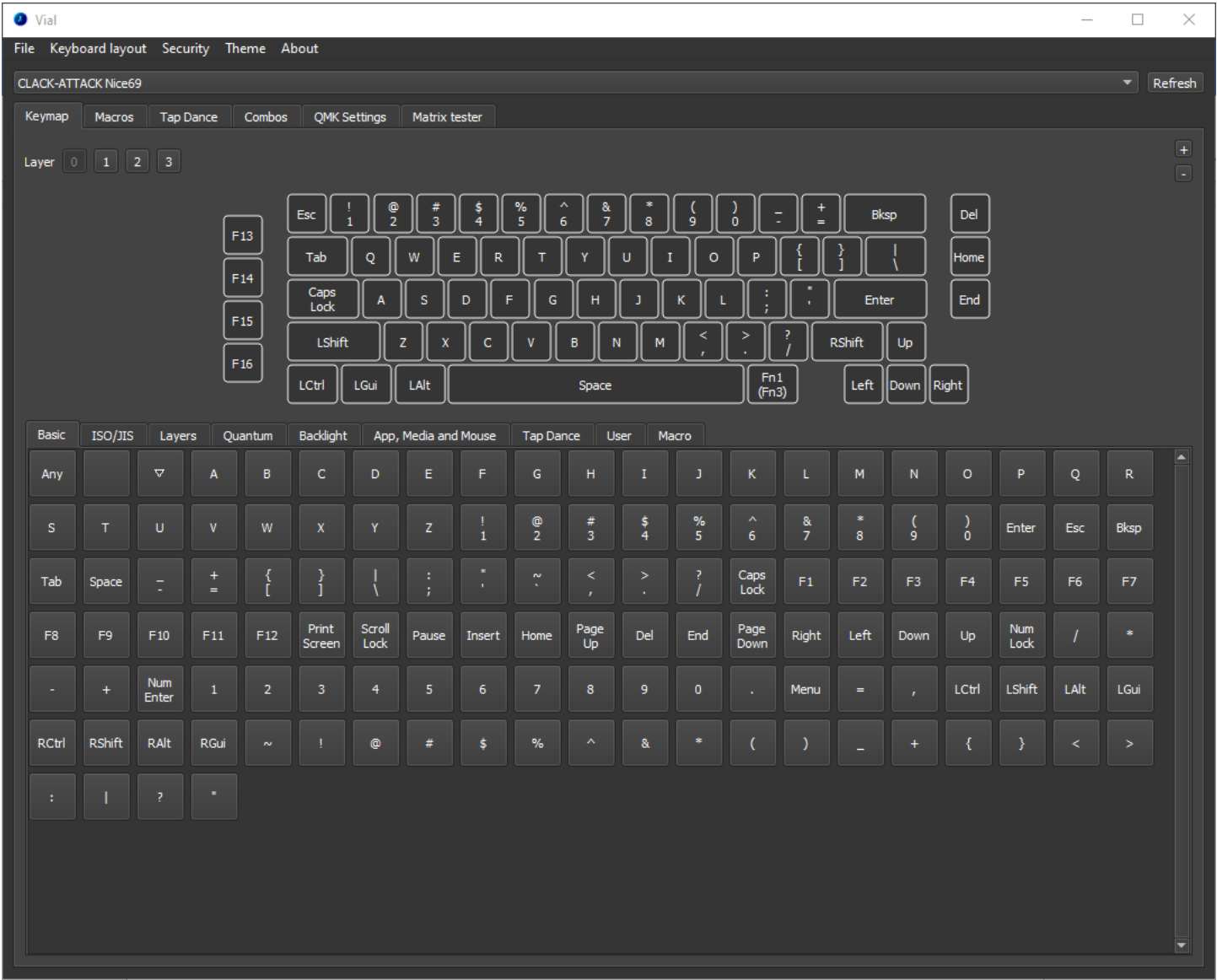


fig 7.1 the Nice69 recognized in Vial