

Building Your Own Keyboard with Free Software

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SeaGL 2019



Who am I?

- **2012** Software developer
- **2013** First mech keeb
- **2018** Rabbit hole
- PDXKBC
 - Aug 2018 attend
 - Feb 2019 organizer
- **2019** Japanese TV



● Overview

- Why?
- Keyboard bodies
 - case, plate, PCB
- Keyswitches
- Keycaps
- Hardware freedom
- Soldering
- Software freedom with QMK
- Questions



? Why?

- Comfort
- Customization
- Fashion
- Fun
- My keebs ↗





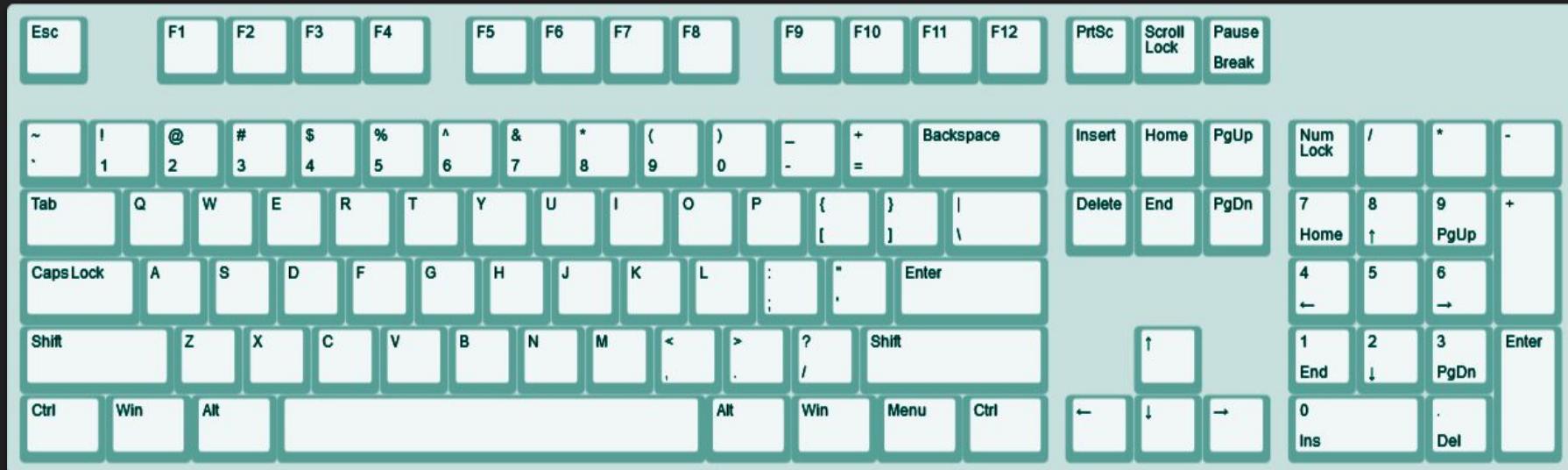
Keyboard bodies - case, plate, PCB

- Size (full, TKL, 75%, 65%, 60%, 40%)
- Shape (split, ortho)
- Sound
- Wired or wireless
- LEDs or not





Keyboard bodies: full size (100%)





Keyboard bodies - tenkeyless (TKL)





Keyboard bodies - 75%





Keyboard bodies - 65%



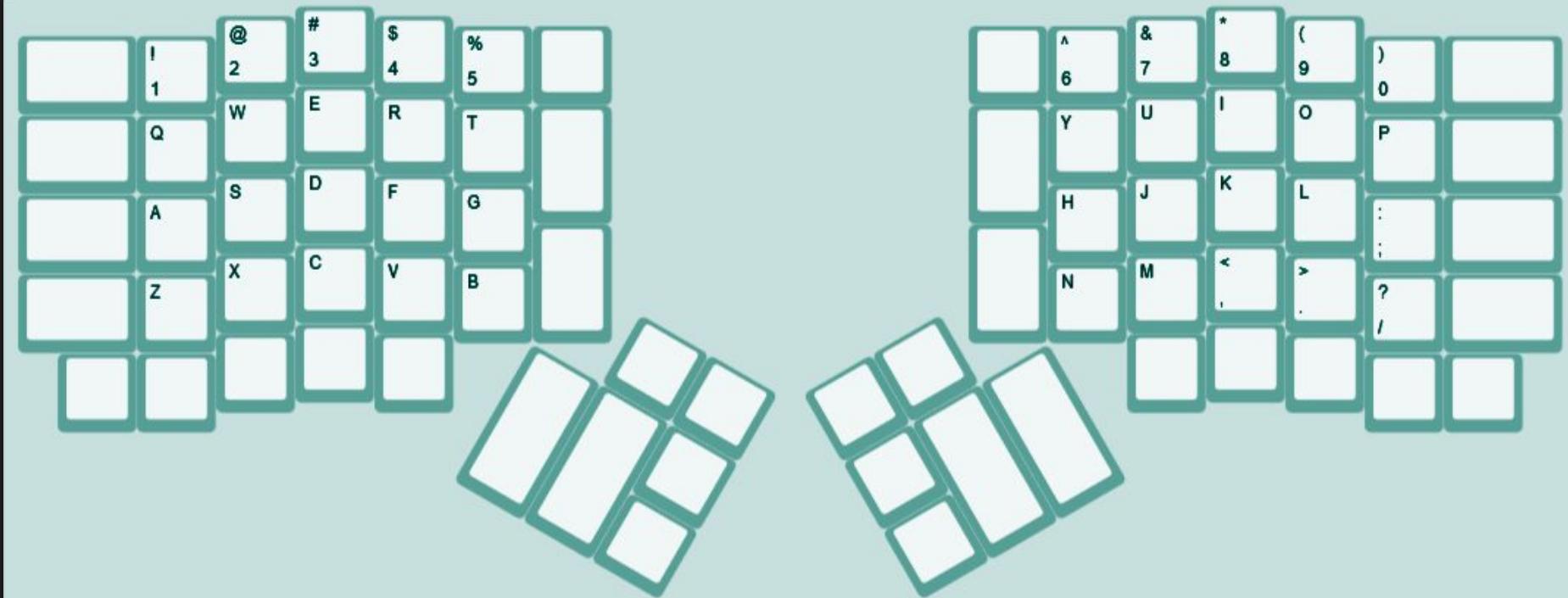


Keyboard bodies - 60%





Keyboard bodies - Ergodox (split)



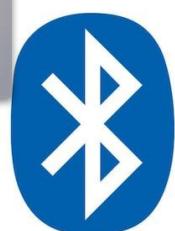


Keyboard bodies - Planck (40%)



⌨️ Keyboard bodies - misc.

- Plate
- Sound
- Bluetooth
- LEDs





Keystrokes

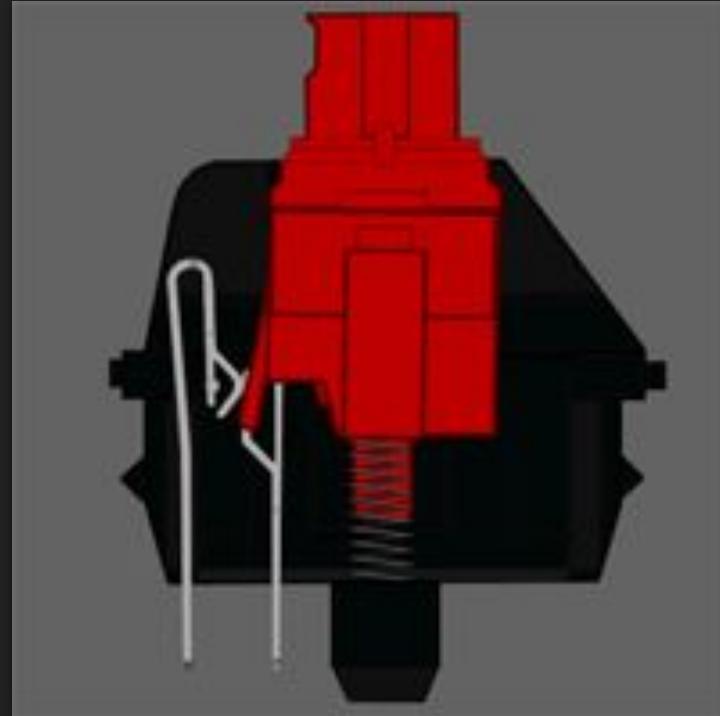
- Types: Linear, Tactile, Clicky
- Mounts: PCB, plate
- Brands: Cherry, Kailh, Gateron





Keystrokes - Types

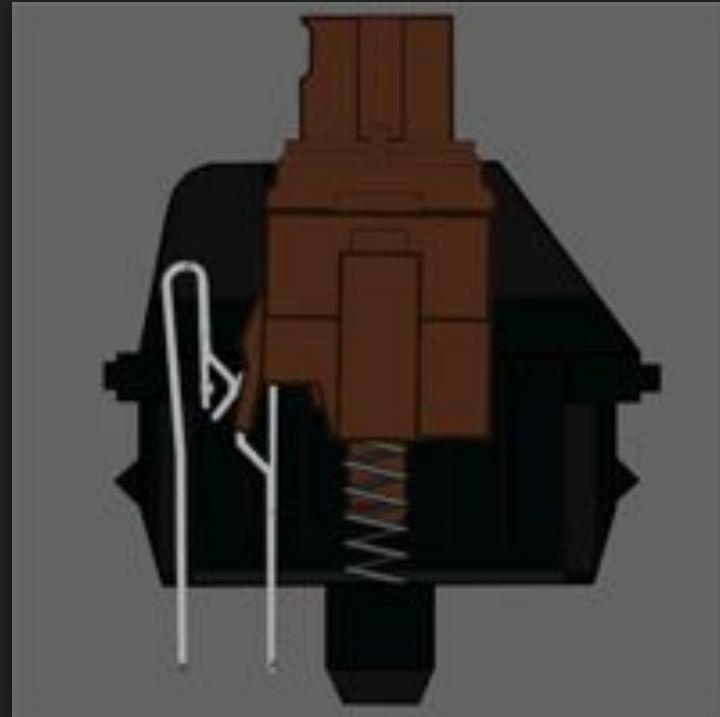
Linear





Keystrokes - Types

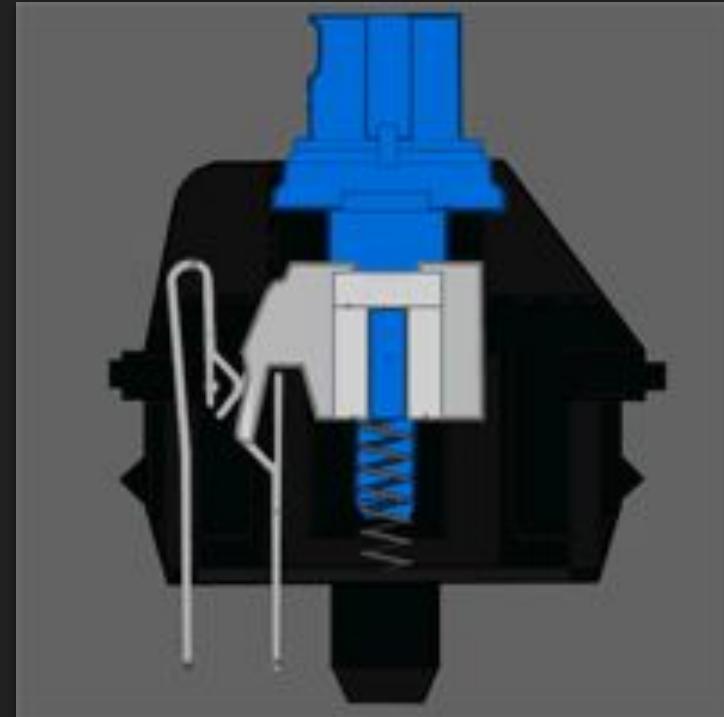
Tactile





Keystrokes - Types

Clicky





Keystrokes - Mounts

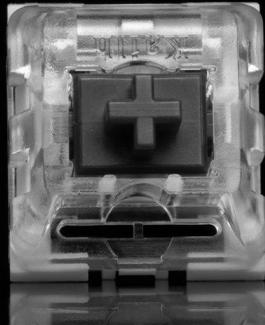
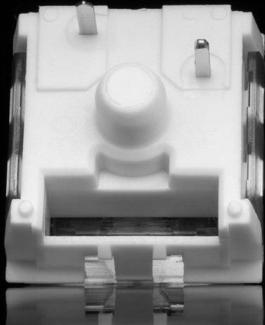
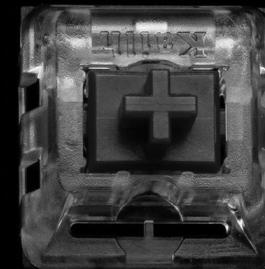
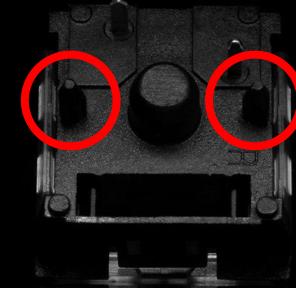


Plate mount



PCB mount



Keystrokes - Brands

- Cherry
 - Original
- Kailh
 - Unique new designs
- Gateron
 - The smoothest



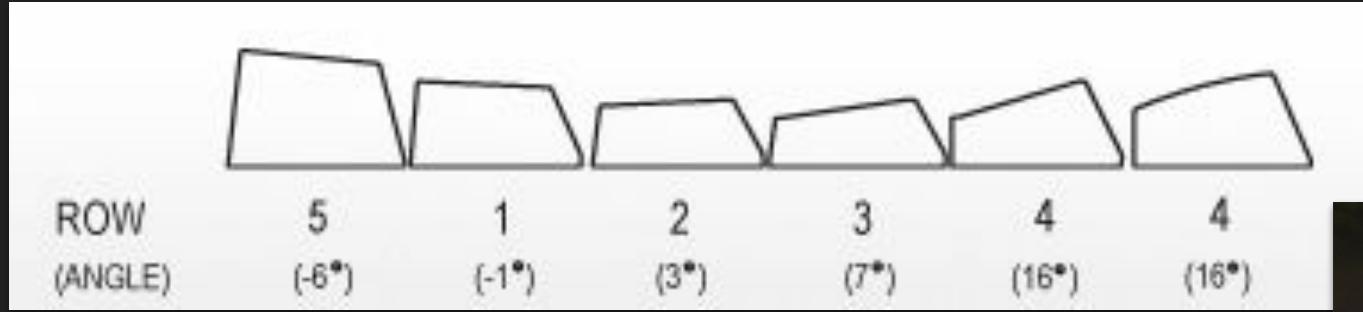
Keycaps

- Shapes (profiles)
 - Materials
 - How to buy





Keycaps - DCS, Cherry, OEM (cylindrical)



DCS



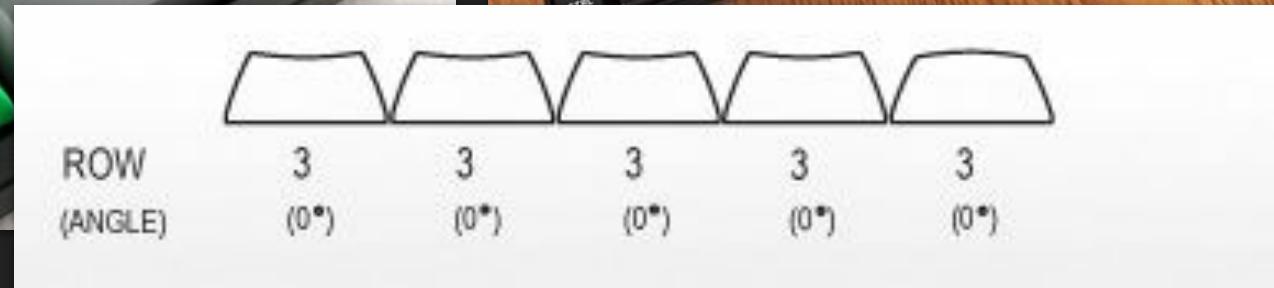
Cherry



OEM

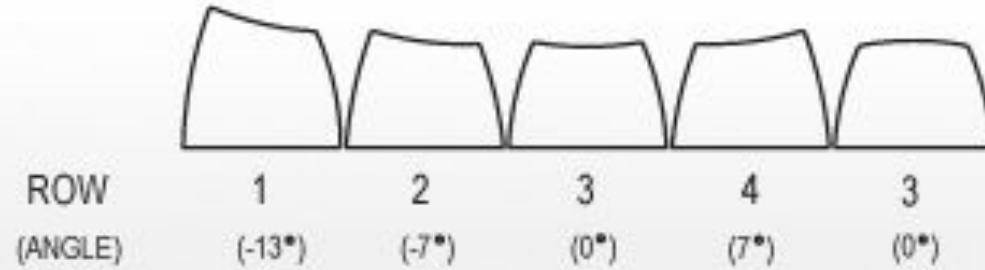
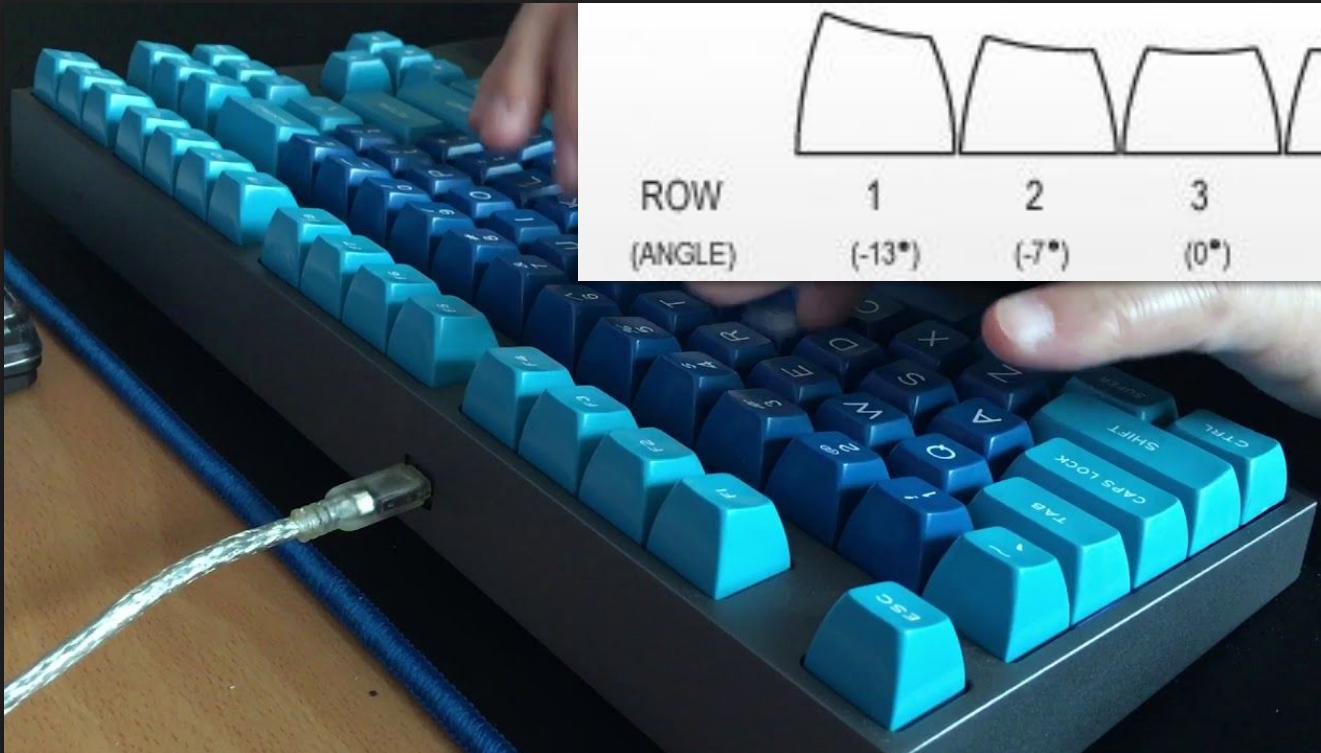


Keycaps - DSA (spherical)





Keycaps - SA (spherical)

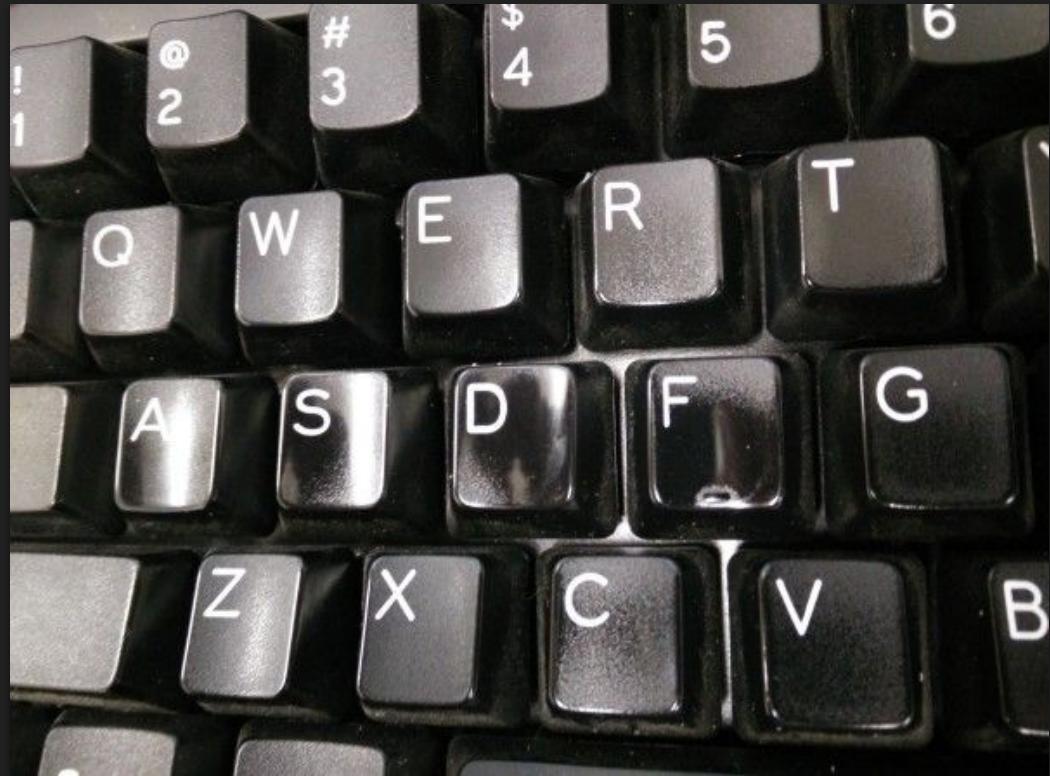
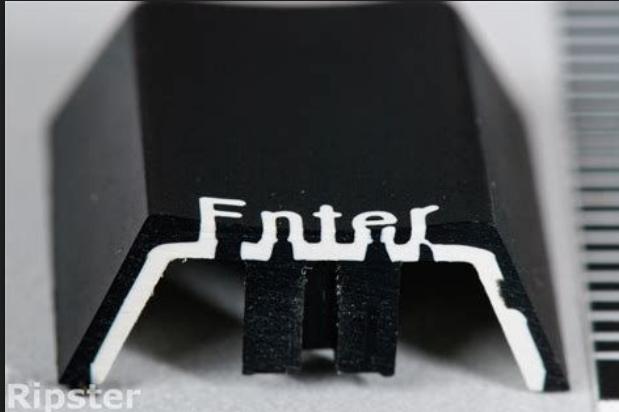


Also SA
R3 exists



Keycaps - Materials

- PBT vs ABS
- Texture and shine
- Double-shot vs dye-sub



💰 Keycaps - How to buy?

- PimpMyKeyboard.com
- NovelKeys.xyz
- TheKey.company
- KBDFans.com
- Group buy?

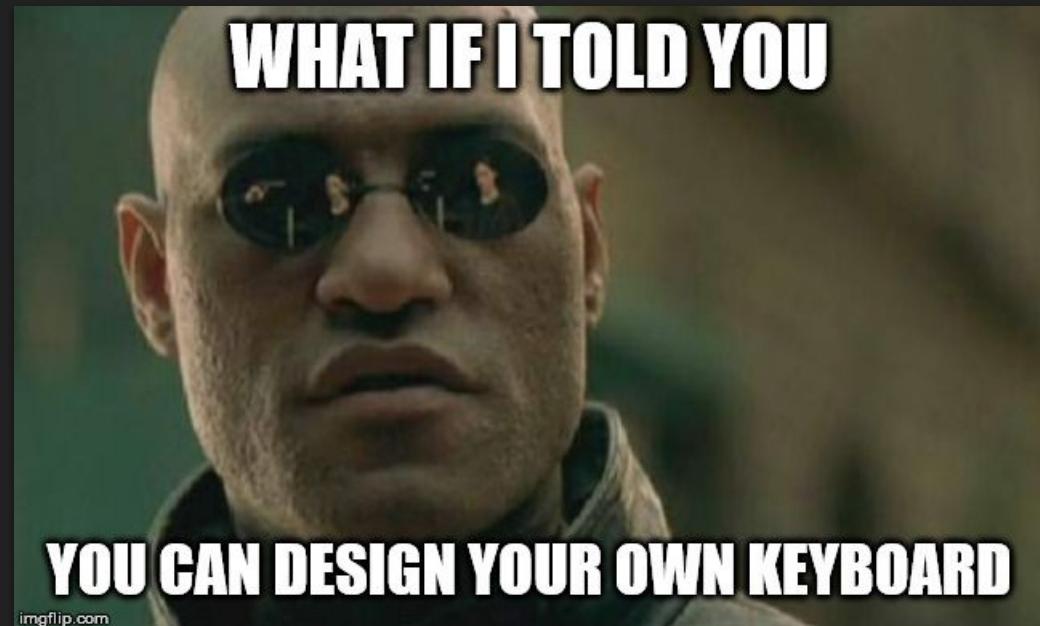
**estimated delivery:
9 months from today**



FREE

Hardware freedom

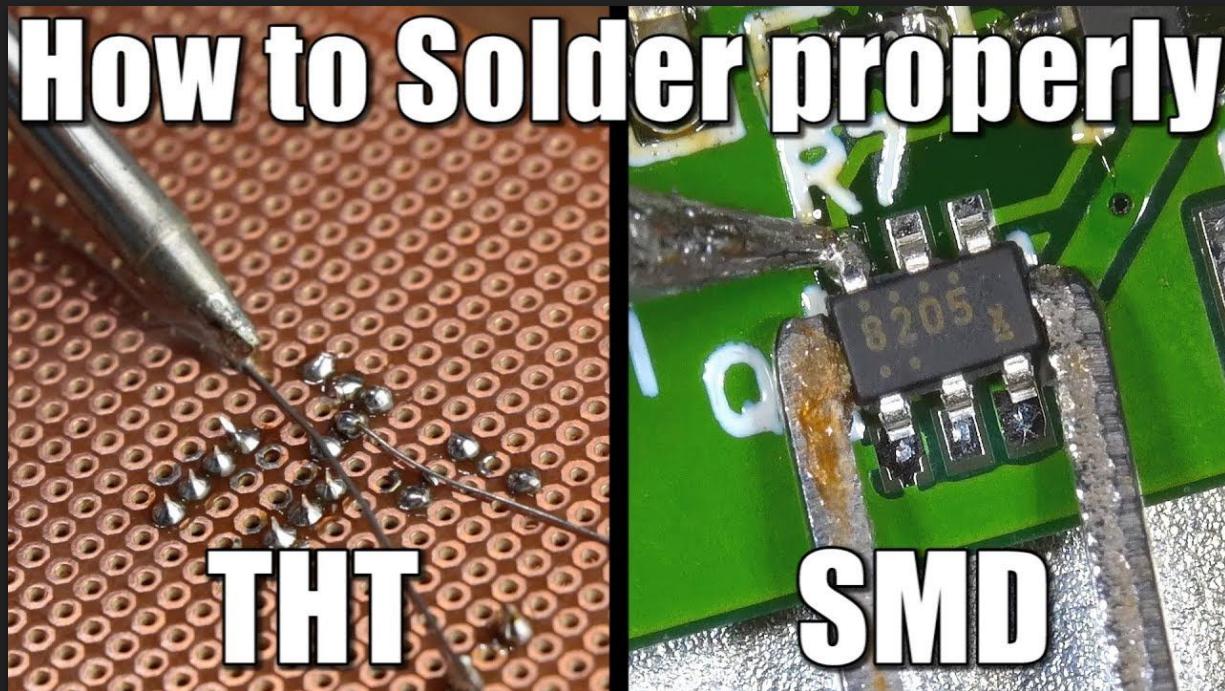
- Many choices
- Swap switches, keycaps
- Build your own
 - MIT licensed kits
- Design your own





Soldering

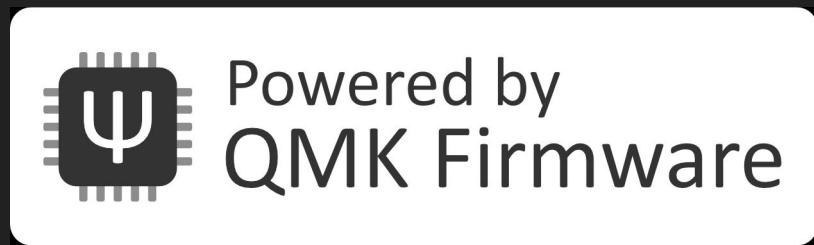
- YouTube tutorials
- Don't be scared
- Hacker space



FREE

Software freedom with QMK

- GPL2, GPL3, Modified BSD
- Supremely configurable
- Custom C code or web UI
- On GitHub





Next Steps

- Build/buy a keyboard



PDXKBC.com
Macro Pad Kit



ergodox-ez.com



Anne Pro 2 (Bluetooth)



Ducky Miya

? Questions

- mockbrian.com
 - I have blog posts about keyboards
- **@wavebeem** on Twitter
 - I post about keyboards, often with the hashtag **#keeb**
- pdxkbc.com
 - Macro pad links
 - Discord link

