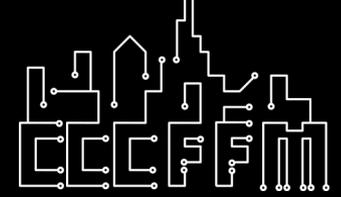


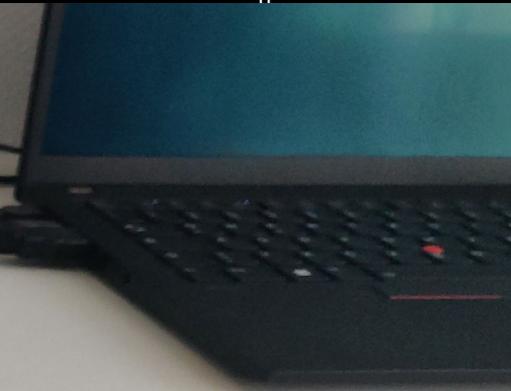
Tastaturen basteln





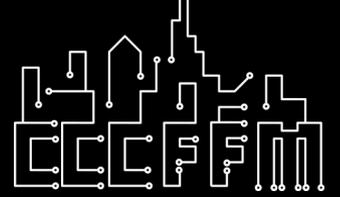
weeman

@weeman:ccc-ffm.de
weeman@ccc-ffm.de

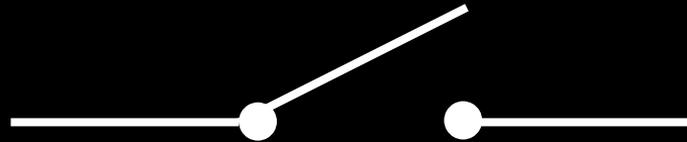


:set mo

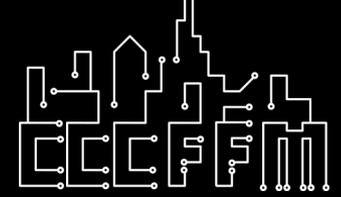
Wie funktioniert eine Tastatur?



- Eine Taste ist ein Schalter und schließt einen Stromkreis

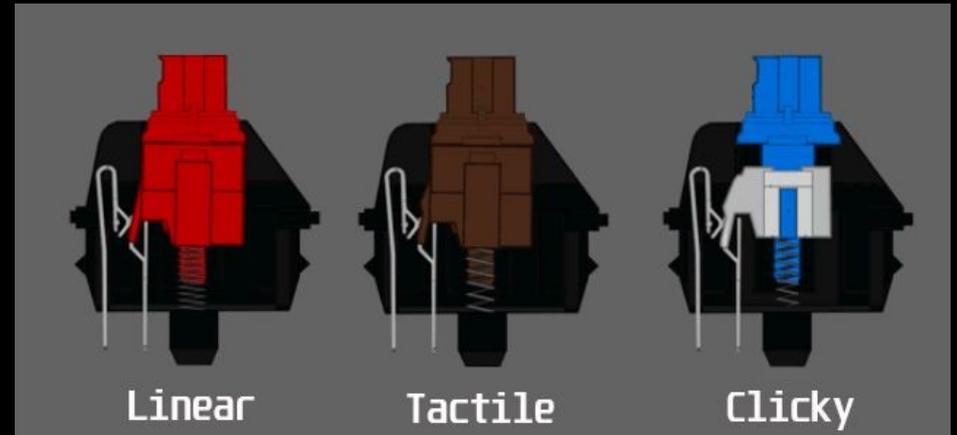
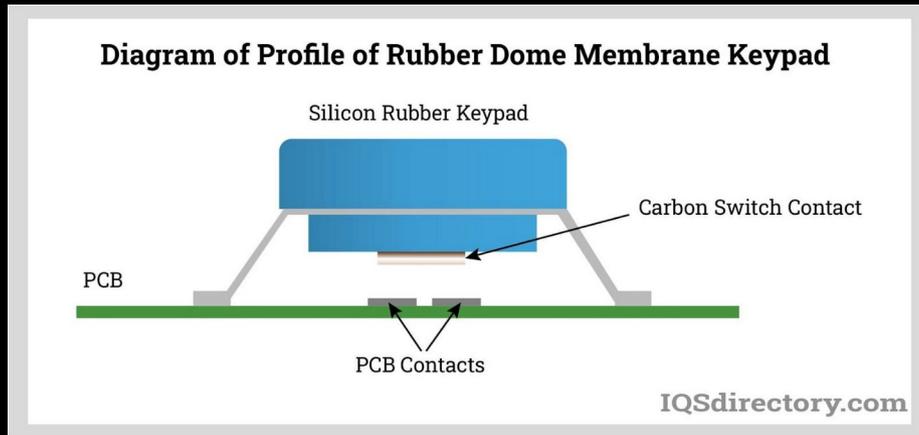


Schalter (Switches)



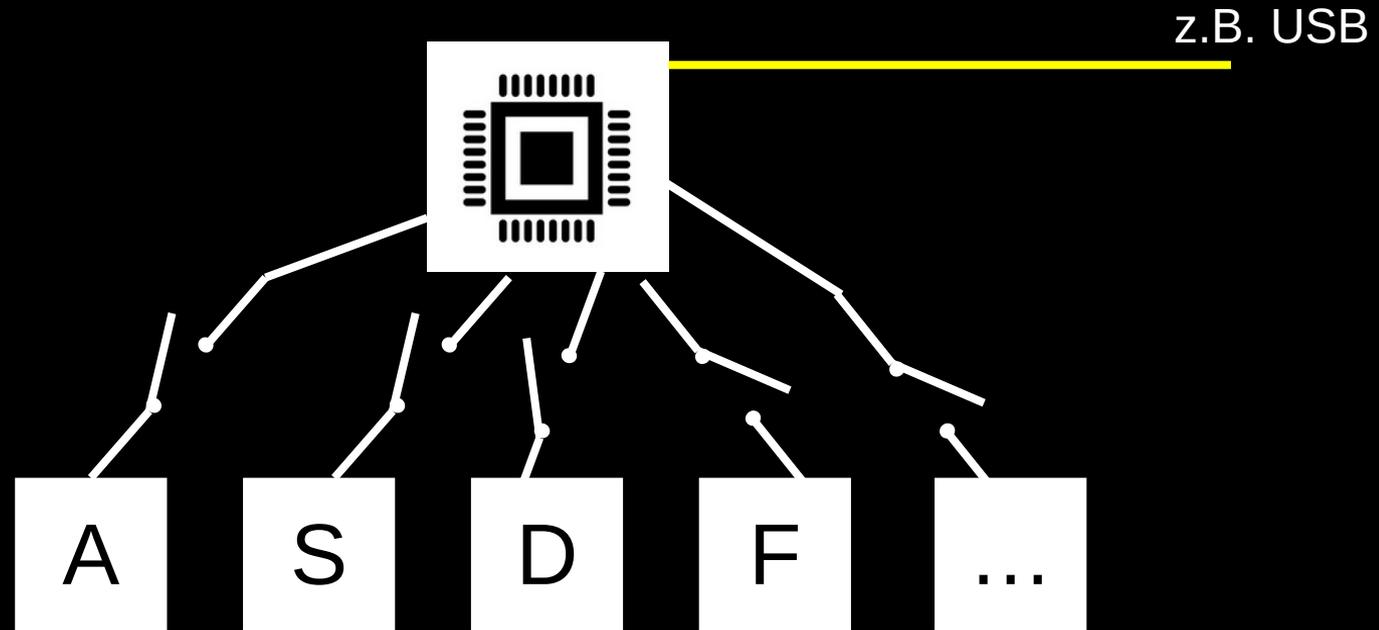
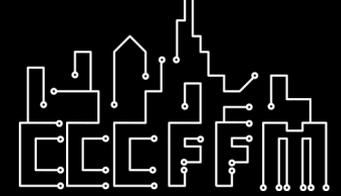
- Rubber dome

- Mechanisch

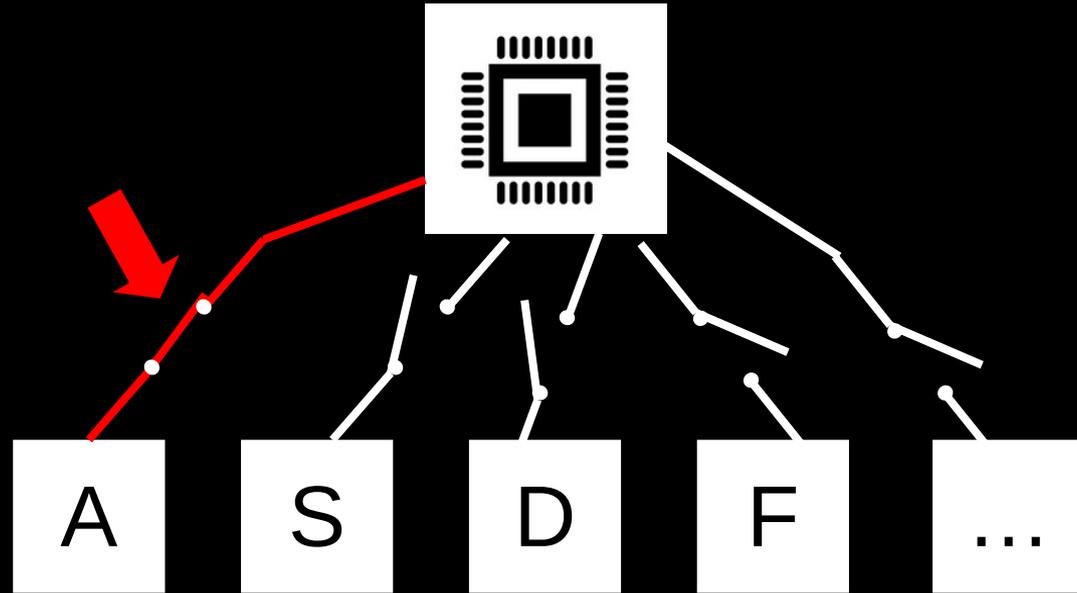
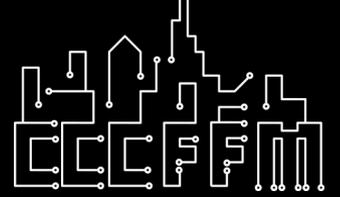


(gibt noch andere)

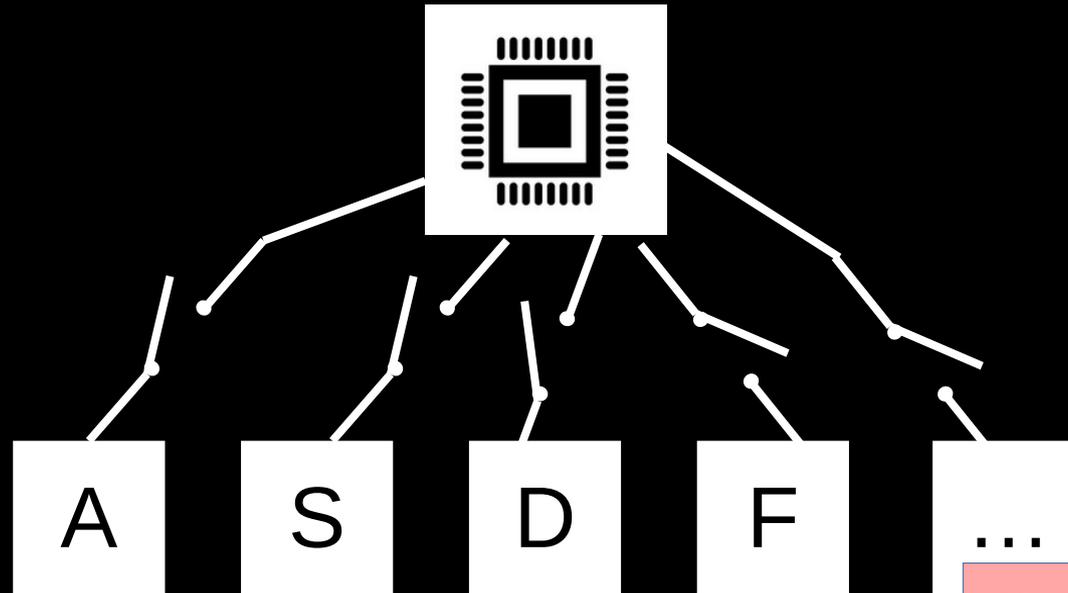
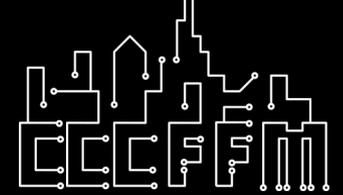
Tasten an Anschlüsse



Wie funktioniert eine Tastatur?

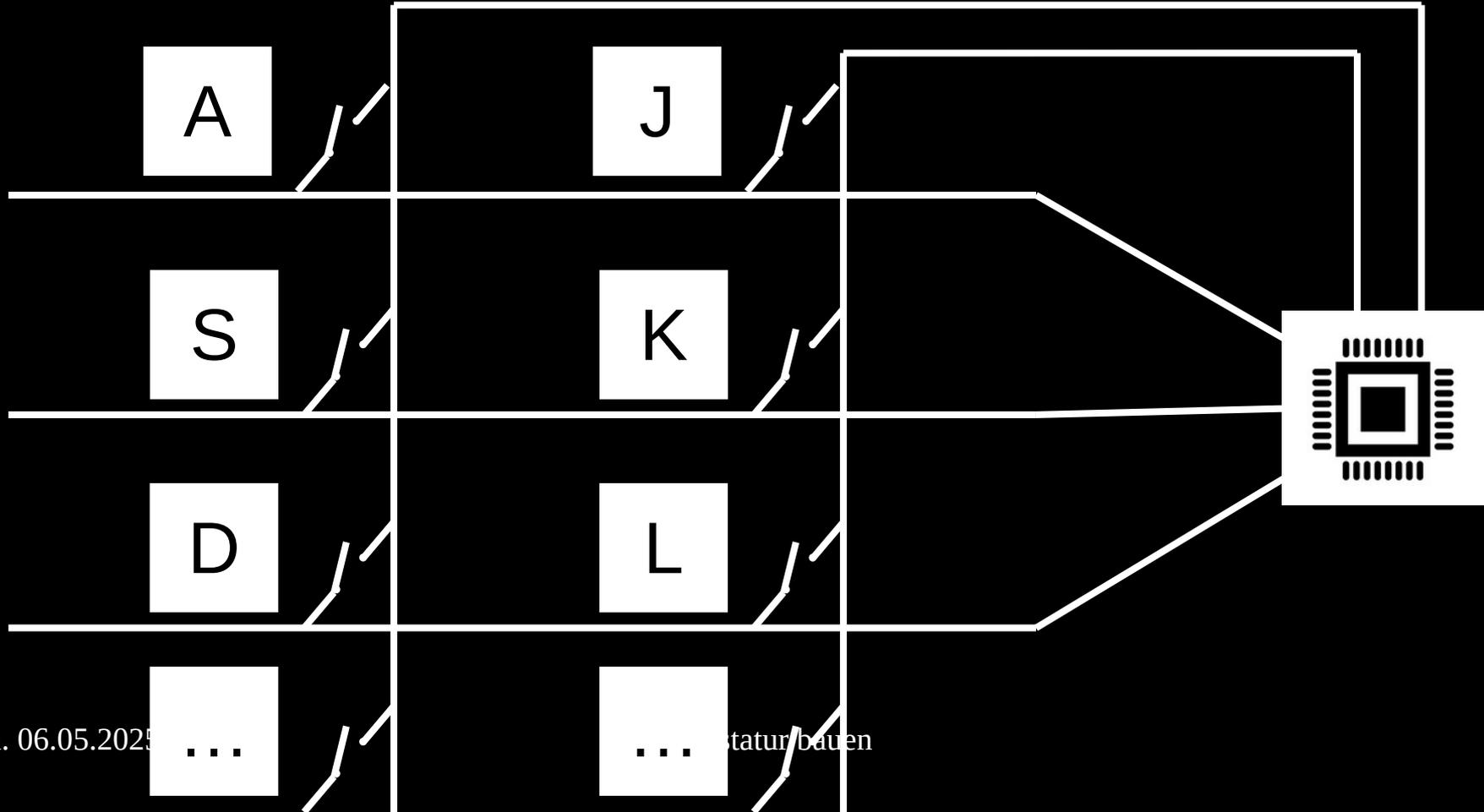
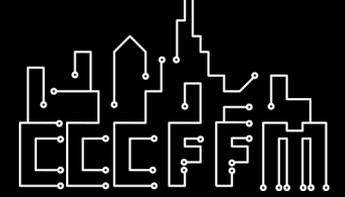


Wie funktioniert eine Tastatur?

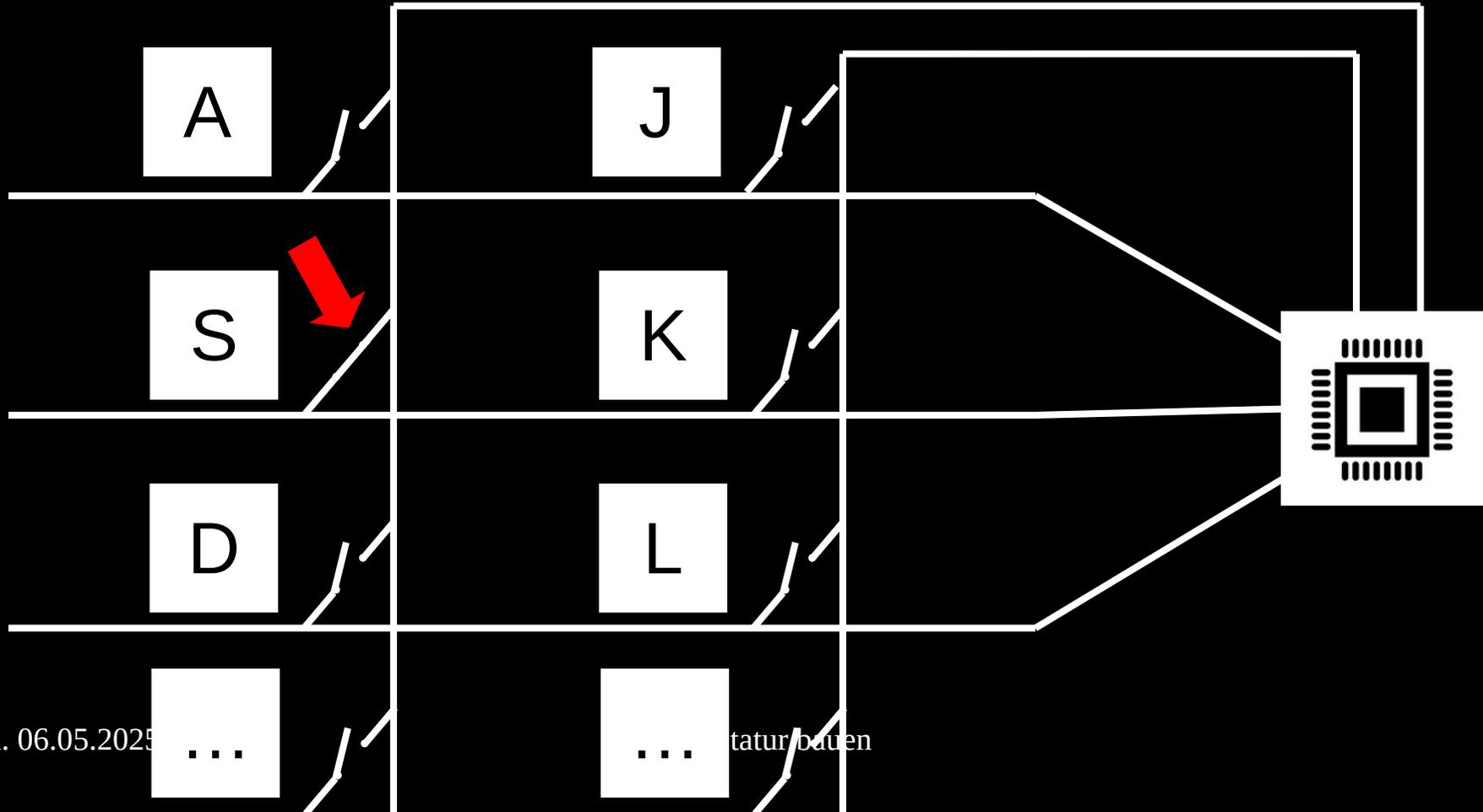
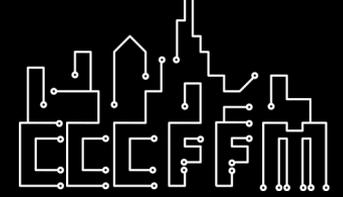


Skaliert nicht, zu wenige Beinchen am Chip

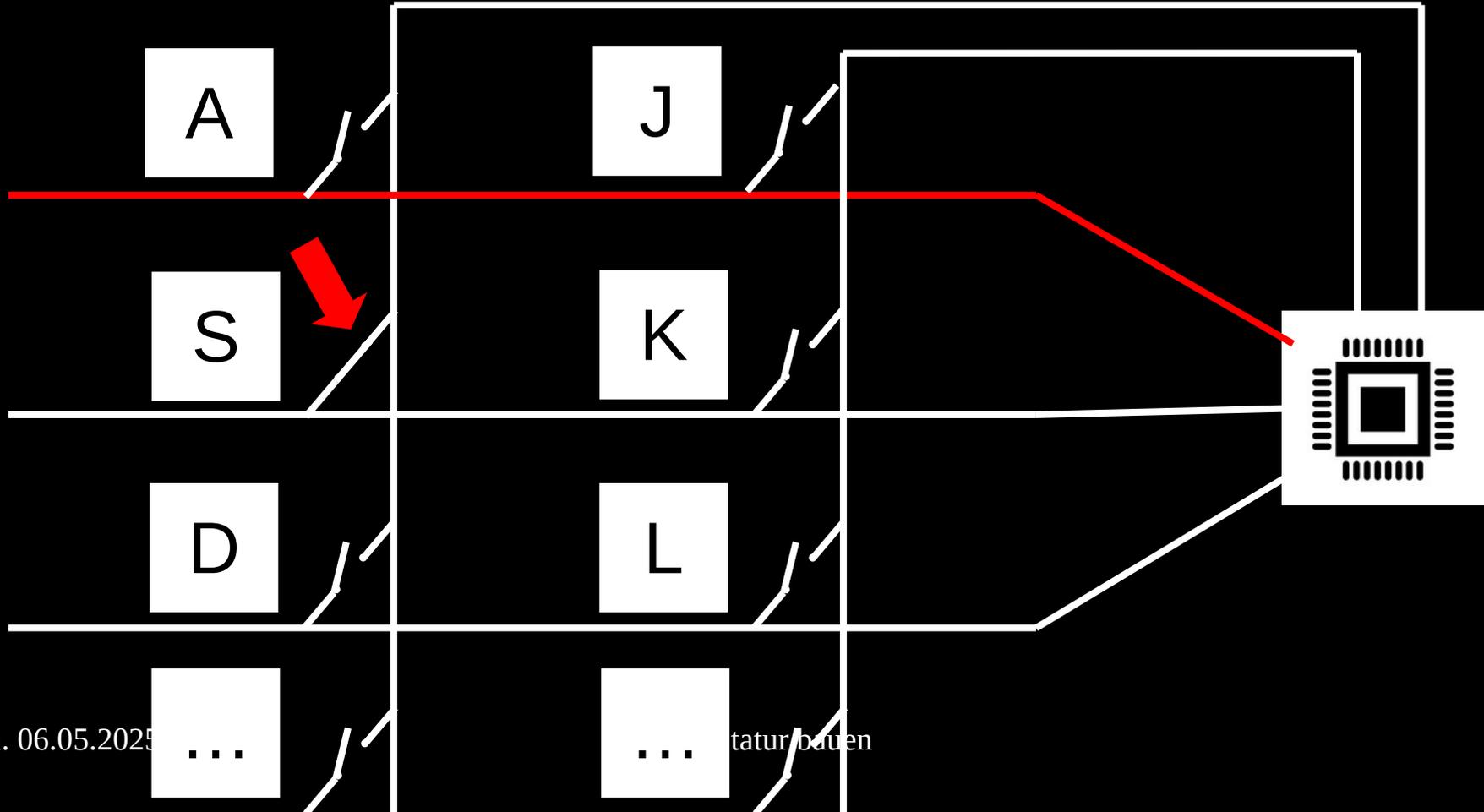
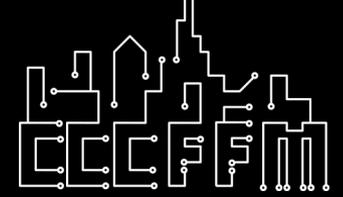
Tastenmatrix



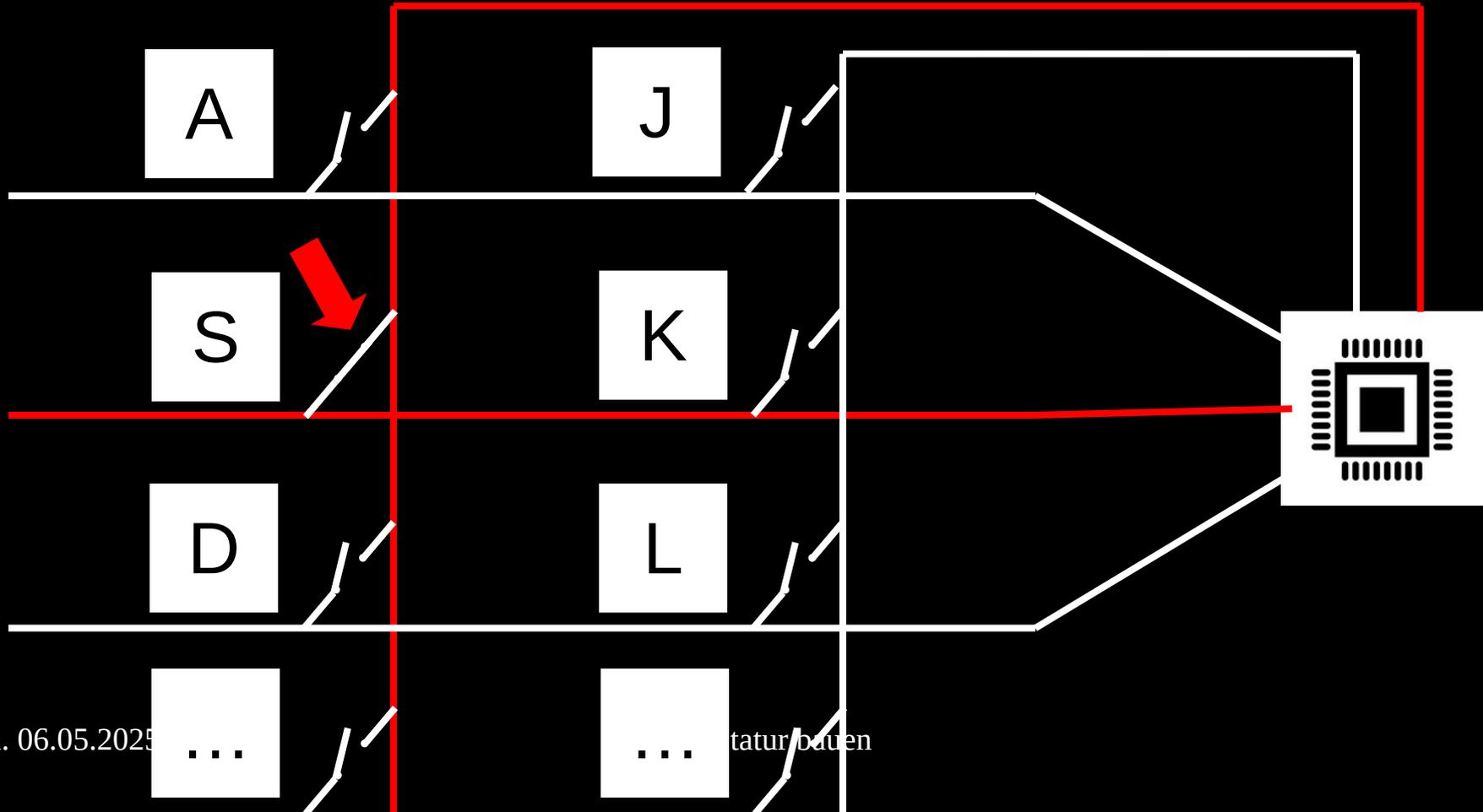
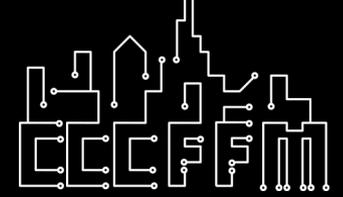
S wird gedrückt

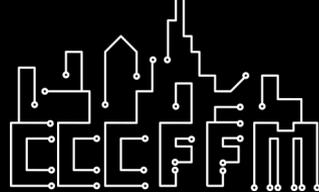


Scanning auf erster Zeile



Scanning auf zweiter Zeile

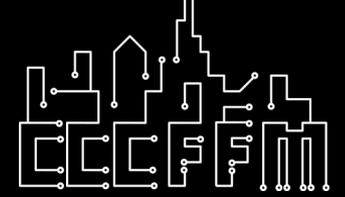




Warum?

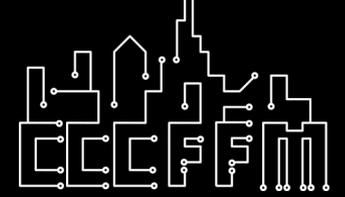
- 😊 Macht Spaß
- 👔 Maßgeschneiderte Tastatur
 - Optik
 - Tippeigenschaften
 - Klang
- 🔧 Gut reparierbar
- ? Dein Grund hier ;)

Was braucht's?



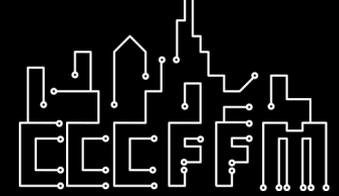
- Gehäuse (Case)
 - Ggf. Dämmmaterial
- Abdeckplatte (Plate)
 - Je nach Gehäuse
- Platine (PCB)
- Stabilisierer (Stabiliser)
- Schalter (Switches)
- Tastenkappen (Keycaps)

Gehäuse



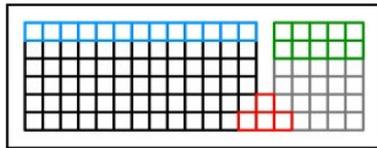
- Größe
- Material: Plastik oder Metall
- Layout: ISO oder ANSI
- Geeignet für Beleuchtung?
- Selber bauen (mal was mit Holz machen)?

Gehäuse



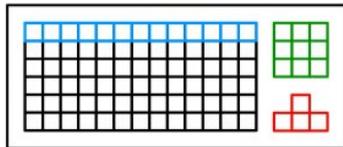
FULLSIZE

Cursor
F
Home
Num



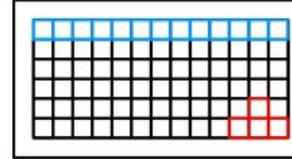
1800 COMPACT

Cursor
F
Home
Num



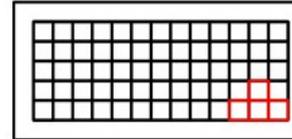
TENKEYLESS (TKL)

Cursor
F
Home
~~Num~~



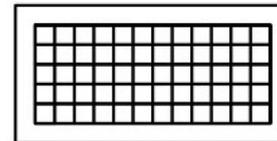
75 %

Cursor
F
~~Home~~
~~Num~~



65 %

Cursor
~~F~~
~~Home~~
~~Num~~



60 %

~~Cursor~~
~~F~~
~~Home~~
~~Num~~



40 %

(Cursor)
~~F~~
~~Home~~
~~Num~~

GMK x TGR 910 PC
GMK HineySeize + 900
BSUD Pure
TK AP
Alu Plate
MECHANI
COM



Di. C

Modern Ink
天竺/公竹

Handwritten notes on a small piece of paper, including 'GMK' and 'C355'.





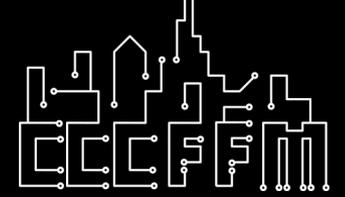
Strandgut
Housing found at the beach

TTC Benish White Silent
Ghk Noise

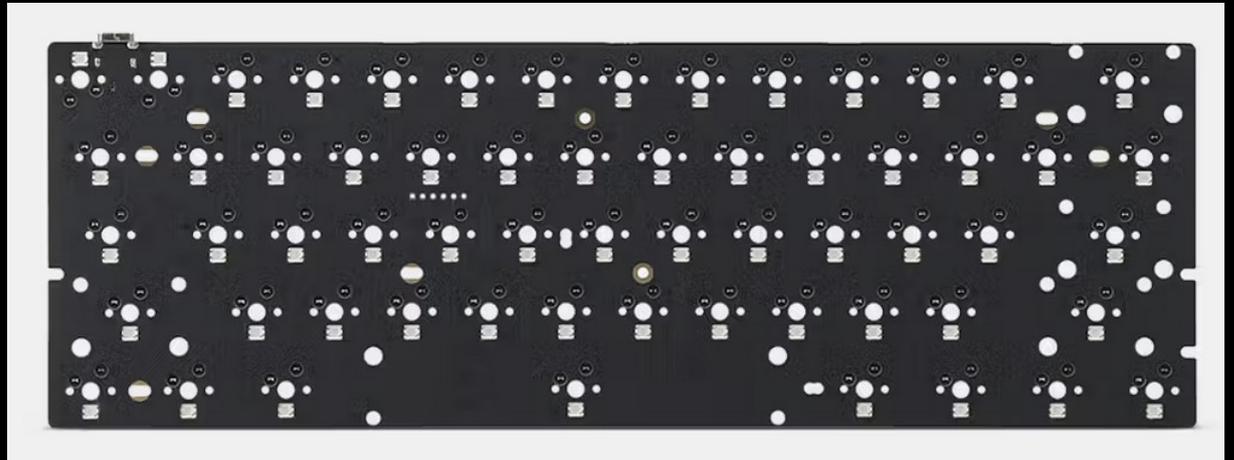
MECHANI
CON



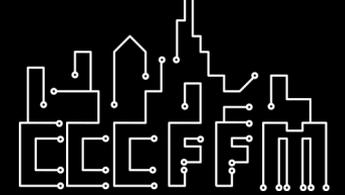
Platine



- Muss mit Gehäuse zusammenpassen
- Switches fest verlötet oder gesockelt (hot swap)



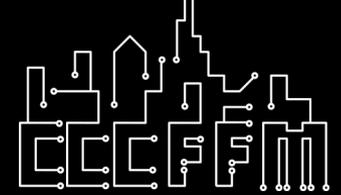
Switches



- Linear, taktil oder klickie
- Beleuchtet
- Auslösekraft
- 3 oder 5 Beinchen (Pins)
Muss zur Platine passen
- Richtige Anzahl besorgen

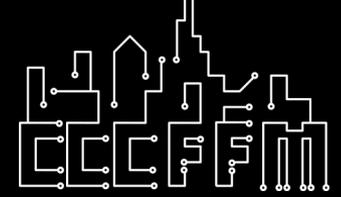


Switches



- Zu viel Auswahl?
- Zum Einstieg
 - Leise und linear: Cherry rot
 - Bissel spürbarer Widerstand: Cherry braun
Recht gefällig™
 - Schreibmaschine: Cherry blau

Stabilisierer



- Für große Tasten
 - z.B. Leer- Eingabetaste
- Damit sich die Tasten überall gut drücken lassen
- Schrauben oder klemmen
- Damits net klappert
 - Unterlage (Aufkleber)
 - Schmieren (oft so zu kaufen)



Tastenkappen

- Farbe
- Material
- Profil
- Ggf. ISO Kit (wenn nicht dabei)

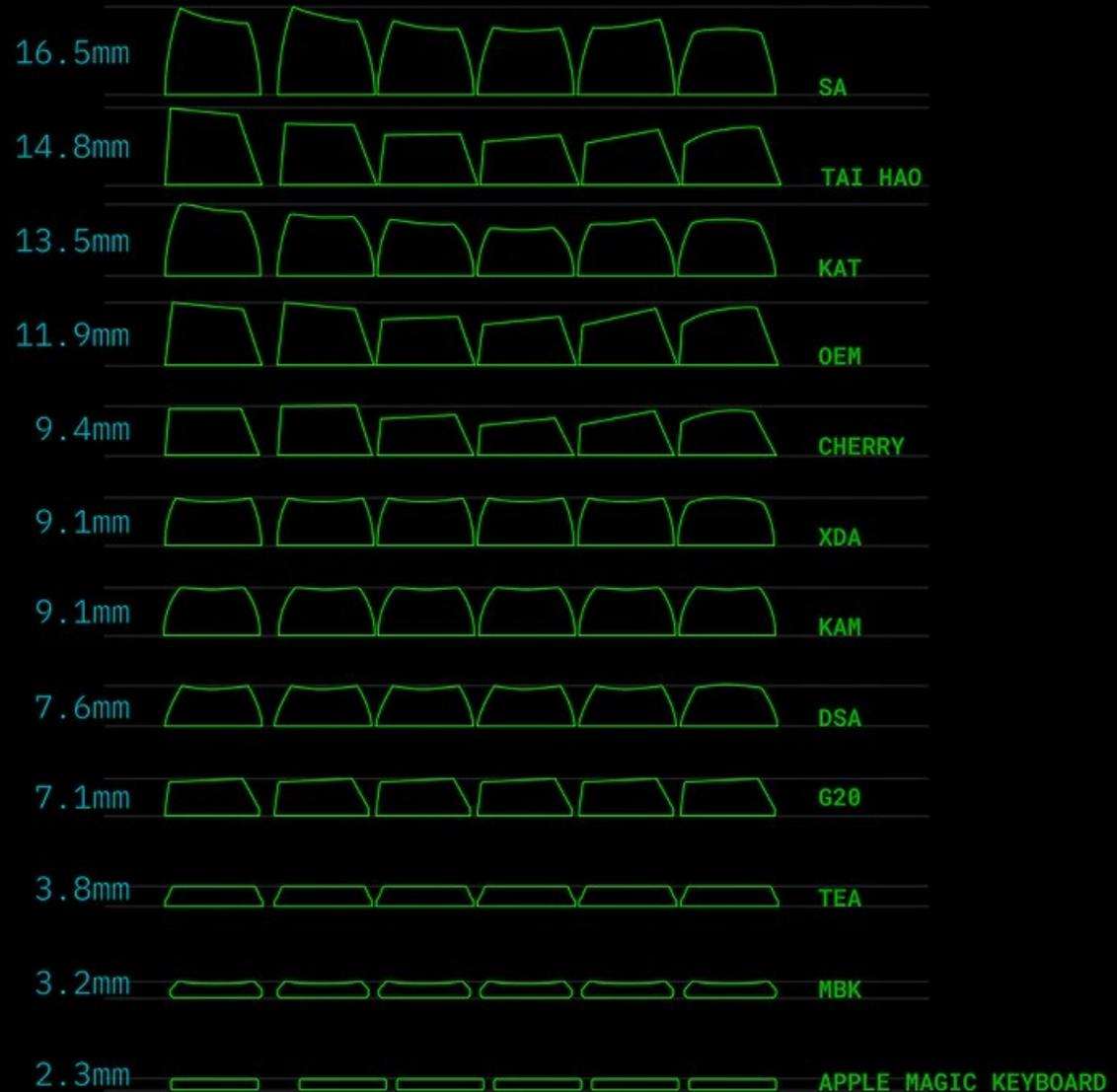
RETRO 100

Manufactured by PBTfan
General Base
Designed By Jr.Mars

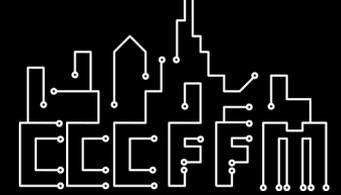


Profile

- Je nach Gefallen



Tastenkappen - Material



- ABS – Acrylnitril-Butadien-Styrol
 - Günstig(er)
 - Nutzen sich schneller ab
- PBT – Polybutylenterephthalat
 - Etwas teurer
 - Bessere Haltbarkeit

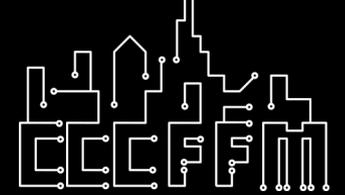


Weiter unten im Rabbit Hole



- Switches schmieren (luben)
- Wegen Klang
 - Tape Mod
 - Gehäuse füllen (Schaumstoff oder Beton 🤪)
- Mehr Gewicht
- Franken-Switches bauen

Wo bekomme ich das her?



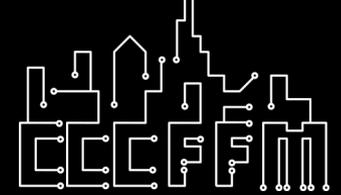
- Verfügbarkeit manchmal schwierig
 - Ist aber schon viel besser als früher
 - Exklusives Zeug oft als Sammelvorbestellung („Group buy“)
- In der EU kaufen (Zoll, Lieferung)
- Shop-Listen z.B. <https://mechanische-tastaturen.net/haendler/>
- Suchmaschine der Wahl benutzen

Und jetzt?



- Einkaufen
- Bauen wir dienstags und donnerstags zusammen unsere Tastaturen

Quellen



- <https://mechanicon.io/>
- <https://benedikt.io/2021/10/tastatur-groessen-u-ueberblick-fullsize-tenkeyless-tkl-75-40-prozent/>
- <https://geekboards.de/blogs/news/the-ultimate-2025-guide-to-keycap-profiles-types-comparisons-and-trends>
- <https://keygem.com/>