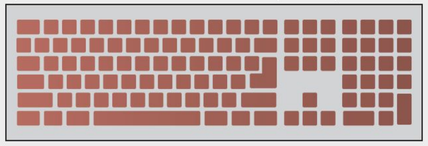
SupeRanked

CUSTOM MECHANICAL KEYBOARD INFOGRAPHIC

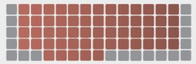
Version 3.0
Latest version available at superanked.com

1 Keyboard

Full size
Tenkeyless (TKL)
Compact



Split & Ergonomic
Separated in 2 modules, with different shapes and layouts.

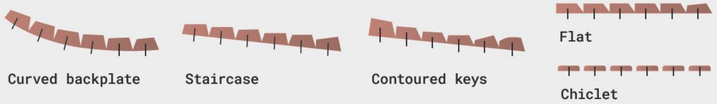


Ortho
The rows are straight and in line with each other, freedom of functionality/programmability.

Compact keyboards

This is a simplification. The presence and position of some modifiers may vary. Check carefully the keyboard layout you pick.

Keyboard profile

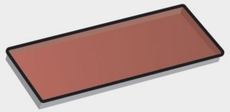


Modifiers compatibility

Standard bottom row
All bottom row modifiers are 1.25 wide.

Non-Standard bottom row
The bottom row modifiers vary in size.

2 Case



Common materials

2-Piece construction

Such a kit consists of a case and a PCB/Plate combo. PCB and plate are only counted as ONE piece since the plate is potentially optional.

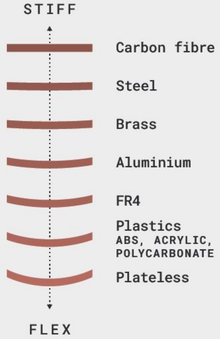
3-Piece construction

On top of the Two Piece construction content, these kits usually include a top frame for the case and is commonly held in place by screws through the bottom case.

3 Plate & PCB

Hard plate vs soft plate

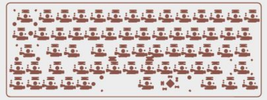
The main factor affecting typing feel is how hard the plate is during bottom out.



PCB

Regular PCB
With multiple solder points (plated through-holes) to accommodate alternate layouts.

Hot swap PCB
It allows to swap out the switch without having to solder or desolder anything.



4 Switches

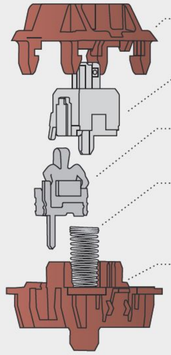
Types of switch

Linear switches
Move straight up and down. No tactile feedback or clicking noise. Rapid actuation.

Tactile switches
Provide a noticeable bump in the middle of travel to let the user feel the response of the operation.

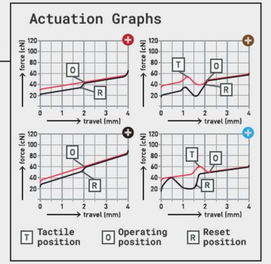
Clicky switches
Similar to tactile, but with a "click" sound when the key is activated.

Switch structure



- **Upper housing** Guides the switching slide precisely.
- **Stem** Creates the pre-travel and the keystroke feel.
- **Crosspoint contact** It makes the electrical contact that activates the switch.
- **Coil spring** Sets up the pressure needed to activate the switch and helps the switch moving back to original position.
- **Housing base** The inner part forms the mounting for the keyswitch's switching mechanism. The outer part is both the base and mounting surface for mechanical keyboards.

Cherry MX switches	Operating Force	Pre Travel	Total Travel
Red	45cN	2.0mm	4.0mm
Brown	55cN	2.0mm	4.0mm
Black	60cN	2.0mm	4.0mm
Blue	60cN	2.2mm	4.0mm



Technical characteristics

Operation force
How hard you have to press the key. It is measured in centinewton (cN) or gram-force (gf).

0–55 cN Light
55–75 cN Medium
75–95 cN Heavy
95+ cN Super Heavy

Activation point
When a keypress is recognized by the keyboard. It is measured in millimeters. It is also known as operating position or actuation point.

Reset position
The distance at which the key is deactivated when released.

Total travel distance
The distance your keycap travels until it hits the upper housing of the switch (the distance until you bottom out). It is measured in millimeters.

Tactile position
The point where you feel the bump on tactile and clicky switches. On linear switches, there's no tactile position.

5 Keycaps

Keycaps profile

Keycaps materials

ABS
Impact resistant, lightweight and durable. Uncoated ABS keycaps are prone to becoming shiny over time. Common due to low cost in manufacture.

PBT
A more chalky feel and higher resistance to key shine than ABS. Heavier than ABS. Less common due to higher cost.

POM
Similar properties to PBT with resistance to shine and heavier compared to ABS. Less common than PBT due to even higher cost of manufacture. Very smooth feel due to low coefficient of friction.

Keycaps printing

Double shot injection molding
This keycap type is produced when two layers of plastic are molded into each other. With this method, markings cannot be worn off and the characters can achieve high contrast.

Dye sublimation
Process where heat is used to impregnate a material with a dye. Dye sublimation requires that the dye must be darker than the material it is being used to dye.

Pad printing
Pads are dipped into ink, and then pressed onto the keycap to form a layer of ink on top of the keycap. This is flexible (i.e. various colors) but the ink is prone to wear.

Screen printing with UV coat
Also called as silk screen printing. The letters will be hollowed in a specially made woven mesh. When the paint is brushed, paint will fill the hollow parts and print letters on keycaps. It can also print various colors. A UV coating will be added on top of letters.

Laser ablation
The transparent plastic is covered in paint, and a laser burns off the paint to expose the transparent plastic in the shape of the character.

Laser etching
A laser is used to burn the required letters into the keycaps. This printing is mainly used for white keycaps, grey keycaps, or bamboo.