



Mantis is a column-staggered unibody keyboard with the columns rotated inwards. The alternating shading of the keys in the diagram above highlights per-finger columns and four-key thumb clusters. Dark circles indicate the home keys for each digit.

The letter keys are mostly QWERTY but with one less key on each index finger. Therefore **J** and **B** are moved to the pinkies. The thumb home keys are **Space** (right) and **Shift** (left). To provide the same functionality as a normal 85% keyboard, there are two additional layers shown by coloured legends in the diagram:

- Black: Alpha layer for normal letters with a (nearly) QWERTY layout
- Green: Symbol layer with numbers and symbols
- Red: Function layer with function, navigation and editing keys

Symbol and Function layers are activated by holding **Sym** or **Fn** respectively, similar to how **Shift** works. **Fn+X** toggles an alternate Alpha layer based on Colemak-DH.

The blue legends in the diagram indicate modifiers: **Ctrl**, **Win/OS** (⌘), **Alt** (⌥), **Shift** (⇧), **AltGr**. They are usually activated by holding the key, rather than tapping it.

Modifiers and layers can be combined without contortions, within reason. Each thumb can only comfortably hold or tap one key at once. **AltGr** should not be needed while holding **Fn**. The Symbol layer works without **Shift** and it has a second **AltGr** key on the left index finger to use with symbols on the right thumb. **Alt** can work as a one-shot key. For example, if you need type **Alt+1**, you can tap **Alt**, then hold **Sym** and tap **1**.

You can easily customize your keymap with [Vial](#) without having to build and flash new firmware. The keymap is stored on the keyboard itself, so it works the same on any computer you connect it to. Some examples of the things you can do with Vial: Change the Alpha layouts, change the Symbol layer to a number pad instead of a number row, replace the alternate Alpha layer with a layer for macros and multimedia keys, define custom macros, try out home-row mods, ...