

Table of Contents

- [1. Colemak](#)
- [2. JP](#)
- [3. Colemak-DH](#)
- [4. Wide keyboard](#)
- [5. Angle-mode](#)
- [6. Misc](#)

The keyboard layout that I use could be named Colemak-DH-wide-angle-jp if you were so inclined... basically there is a lot of different optimisations put into this keyboard layout as you will see below:

TL;DR: Here is at my keyboard layout on a standard ISO keyboard:



1 Colemak



The main difference with this keyboard is the fact that it is not qwerty, but Colemak. The reason for this is that qwerty is terribly inefficient as a keyboard layout. As you may be aware, qwerty was designed for typewriters so that frequently pressed bigrams would be spaced apart to reduce the typewriter arms from colliding and getting stuck. This layout has since stuck around as when computers were first created people were used to the qwerty layout and it has since become a standard for the English speaking world at least. So when I was learning to touch type I was of the opinion that I didn't want to spend all my time and effort learning something that was inefficient, and I might as well learn a better layout. There are numerous alternative keyboard layouts to qwerty that are used for typing in different languages such as qwertz, but they were still the same inefficient layout at heart, and I wouldn't be typing in those languages. The most popular optimised keyboard layout that most people have heard of is dvorak, this was basically designed by some guy by hand ages ago, and caught on a bit. The main design goal of dvorak is to type with alternating hands, and due to this all the vowels are over one side of the keyboard. I did initially try dvorak, but it wasn't for me. I thought that the optimisation of alternate hand

typing wasn't optimal and as such I looked for a different keyboard layout. This is when I came across colemak. Colemak was designed by a computer in the early 2000's and looked to be very nice. The design goal of colemak is to keep typing primarily to the home row of the keyboard, where your hands naturally sit. Additional, having your fingers roll was a design consideration, and I felt that to be a really nice motion. This resonated with me and I decided to give it a go. An additional reason for liking colemak was that at the time I used vim a lot, and the HJKL movement keys were easy to reach as they were all around one finger. To switch to this new keyboard layout I went completely cold turkey and didn't use qwerty at all just colemak. This was initially very difficult as my typing speed significantly decreased to a few words a minute, thinking back on it maybe switching whilst in the middle of my college assignments was maybe not the best idea... I created a picture of the keyboard layout showing the keys and what fingers pressed them and displayed that at the bottom of my screen constantly to learn it. After a few weeks I was able to type competently again and from there it's only got better.

2 JP



After using colemak for a while an issues became apparent, and that was that pressing keys like backspace and enter was causing my hand pain as I twisted my wrist and it ended up clicking whenever I did so, causing a lot of un-comfort for me. To solve this issues I purchased a JIS keyboard layout for my x220 laptop that I was using at that time. The reason for this was the 3 additional keys that the JIS keyboard had at the bottom, flanking the spacebar. With the addition of these keys I was able to map Escape, Backspace and Enter to them, allowing me to avoid the terrible twisting action I had to otherwise perform. I mapped the backspace key to the additional key to the left of the spacebar, with backspace and enter to the two keys to the right respectively. In addition to the addition keys that the JIS layout gave me I also adopted the placement of the non-alpha-numeric keys alongside as they seemed to be more sensible in my opinion. The placement of the ":" I felt was a lot nicer as I used the vim command line a lot, but also the "{" and "}" just seemed to also make a lot of sense, and over time I came to memorise these keys. Additionally, I felt the brackets were in a much nicer place as you could just reach up for them rather than reaching up and to the right, they were just easier to press. It was after this that I got my first proper keyboard, that being a HHKB JP type S.

3 Colemak-DH



After using Colemak for a few years I came to notice that the lateral movement of my right index finger to press “h” was really noticeable, and after long typing session, became sore. To overcome this issues I looked around for a new keyboard layout, to see if I could optimise it any more. The main keyboard layout that I found was Workman, this was created by an ex-colemak user who was in the exact same issue as me. I spent a lot of time looking at this layout and assessing if it would be worth moving over. One of the insights that this brought me was that just keeping typing to the home row was not actually optimal, as fingers are not designed to move to the side. Fingers are designed to curl and extend, so typing should be concentrated on the 8 home keys, then curling or extending fingers. However, even though it had the best intentions, I felt the hand-rolling optimisations were lost on workman and it just lost its magical touch even though the finger curling was something that made complete sense to me. This was when I found Colemak-DH, a modification to colemak that kept the design principles but still solved this lateral movement issue by reworking colemak to curl and extend rather than move laterally. This layout was exactly what I had been looking for, and moved only a few keys to necessitate it. I started to type with this layout, and to my surprise only took about a week to get back to normal speed with these modifications. This was mainly due to all the letters still being on the same fingers, just in different positions.

4 Wide keyboard



One of the modifications suggested alongside Colemak-DH was that of a wide keyboard layout. The idea is that the 8 home keys are just slightly further apart leading to a one key space between where your two hands are. To facilitate this keys from the right-hand side are placed in between the two halves of the keyboard. The main advantage to this is that your hands are more shoulder-width apart leading to your wrists not being as bent inwards. This was only a small change, but it felt a bit better when using and i could just relax more when typing.

5 Angle-mod



The final modification that I made to my keyboard is an angle-mod, it sounds complicated but its actually quite simple. On a ISO keyboard there is an additional key to the bottom left that usually contains "|", but instead of that key the "zxc..." keys could be moved over instead. This is one of the best ergonomic changes you can make with a keyboard in my opinion, it's really quite simple to adapt to and changes how your hands are positioned when typing to be more comfortable. All standard keyboards have a staggering to them that leaves "a" to be left and below of "q" and "z" left and below of "a", this staggering causes you to type with your hand at an angle. This angle is fine for you right hand as it approaches the keyboard from the right-hand side and actually lines up well with this staggering, but for the left hand it's a different story... If you want to keep your left-hand fingers extending and curling perfectly up and down then you will need to have your hand at the same angle as your right. But this means curving your wrist at about 45 degrees, which is really not comfortable. However, if you don't curve your wrist to extremely it means that you have to extend and curl your fingers sideways to reach the keys you want to; this is not optimal either. The solution comes from moving the left side bottom row of the keyboard across one key, now you can reach up and down normally without having to curl. It also makes sense as your left hand now approaches the keyboard from the left, rather than from the centre. This change made a lot of difference to me, and I urge you to try it.

6 Misc



Some final modifications I made to my keyboard layout were to move keys around to make writing LISP easier. This consists of two modifications, I swapped the "<" and ">" keys with the "(" and ")" keys making brackets far eiser to type. Secondly, I changed the ISO "]" key to contain "'" and "#" so that I didn't have to keep accessing them via the shift layer that they were in. Finally, I swapped the "{" and "}" keys to be not under shift but instead accessible normally, this make writing C a lot easier as they are used for pretty much every control structure.