

VIAL Config - for Q20 Hackberry Keyboard

XQTR // <https://cp737.net> // 2025

What is this?

This is a VIAL configuration file, to upload to a Hackberry Q20 keyboard, from ZitaoTech

- [Github Page](#)
- [Tindie - Keyboard](#)
- [Tindie - Hackberry Pi Q20](#)
- [Elecrow - Hackberry Pi Q20](#)

This configuration is opted for use in a Terminal/Text environment mainly and less for a GUI (XFCE). Thus keyboard macros/combinations are used, having in mind that this config will be used in a terminal environment.

The hard thing using a Q20 keyboard for use in a Linux environment, is to remember where each key/character is, mostly for the special characters. So this config, tries to mimic/ressemble a normal QWERTY keyboard, as a mnemonic code, to make it easy to remember keys and combinations.

Also, it's built with TMUX in mind, which is a must have in a terminal environment, so some keys, use specific key combinations for TMUX.

How to activate?

To update your device with this VIAL file, first download the [VIAL application](#). Install it, run the application and then connect your device (Q20 keyboard or Hackberry Pi Zero) with your computer, while turned on. Toggle the left red button, on a HBPI zero, down to activate the keyboard. From the File menu, load the configuration. You should be able to use it as configured.

Layers

The device/keyboard, has three layers. Layer 0 is the one you use just pressing a button. To use Layer 1, you must hold the SYM key and then press another button. To use Layer 2, hold the right SHIFT (Up Arrow) key and press a key.

Each layer mapping is presented in the PDF you find in this page.

Mnemonics

Layer 1 is used mostly to insert SHIFTEd characters, with some exceptions. Layer 2 is used for Cursor Movement, Mouse Wheel and Quick Actions

Layer 0 - Normal Mode

Each key, inserts the main character on the key.

The exception is the *key, which inserts a character*. The character is inserted with SHIFT+ Layer1 + 4. Pressing SHIFT with the same key, will insert a Pipe(|). So to remember, the \$ key has become actually the | key of a QWERTY keyboard.

- Action 1 : Left Click
- Action 2 : TMUX Key Bind / CTRL+B
- Action 3 : ESC
- Action 4 : TAB
- ALT : Pressing ALT once, will hold the key and wait for another key to press
- SHIFT : Pressing SHIFT once, will hold the key and wait for another key to press
- CTRL : Pressing CTRL once, will hold the key and wait for another key to press

You can press CTRL or ALT once and then press another key, just with one finger. This way, you can press key combinations like CTRL+C easily with one finger. You can easily press ALT once and then tap + hold S/4 to actually press an ALT+F4 shortcut ;)

Layer 0 - Double Tap

While in normal mode, if you double tap a key, it will insert the character that is written above the main character of the key. For example, double tap A to insert an asterisk * character.

- Action 1 : Right Click
- Action 3 : DEL key
- Action 4 : None - So it can be easy to press TAB multiple times
- SHIFT + DOUBLE TAP a number key, inserts the character above a number key in a QWERTY keyboard, as seen below.

```
!@#$%^&* ( )  
1234567890
```

- Double Tap the SHIFT key, enables CAPS LOCK

Layer 0 - Tap + HOLD

Taping once and holding the key, will insert another character, see the list below:

- Q : Inserts ~ (to remember Q and A, act as the left/top key in a QWERTY keyboard)
- A : Inserts `
- Number Keys - Each key with a number, acts as an F key. So tapping and holding W/1 will actually press F1, E/2 presses F2, R/3 is F3 etc and 0 is F10.

Layer 0 - Normal



Layer 1

Pressing the SYM / MO(1) key activates Layer 1. Hold and press a key...

CTRL+SHIFT+C / Copy

CTRL+SHIFT+V / Paste



Layer 1

To activate layer 1, hold the SYM key and then press another key. This layer, mostly works to insert the character above the main key character of the keyboard. So SYM+W will insert 1 or SYM+A will insert an asterisk. Of course there are some exceptions.

- Action 1 : Page Up
- Action 2 : Page Down
- Action 3 : CTRL + SHIFT + C / Terminal Copy
- Action 4 : CTRL + SHIFT + V / Terminal Paste
- TrackPad Press : Middle Mouse Click
- T/Y: These keys are used to insert parenthesis when double tapped. In Layer 1, will insert brackets [,] and in Layer 2, will insert the { } characters. So, to easily remember, the T/Y (or parenthesis keys) are used to insert all sort of brackets, using layers.
- The \$ key, which in normal mode inserts the \ char, in layer 1 inserts a Pipe | (the | key of QWERTY keyb.)
- In Layer 1, press the WERSDFZXC keys to insert numbers
- Pressing SHIFT will insert a Comma
- Pressing CTRL will insert a dot... So to remember, this side of the keyboard, in Layer 1, is a numpad, with easy access to comma and dot, for inserting numbers more easy.
- NM keys : are used to insert the greater/less symbols <>. To remember, imagine that in a normal QWERTY keyboard, those symbols are the SHIFTed ones of the dot and comma characters, that are shown in the Q20 keyboard.

Layer 2

The keyboard/macros layer... This layer is used mostly to move the cursor and have quick access to key combinations.

- Action 1 : SHIFT + Page Up / Terminal Page Up
- Action 2 : SHIFT + Page Down / Terminal Page Down
- Action 3 : CTRL + B + [/ Termux, enter Copy Mode
- Action 4 : CTRL + B +] / Termux, Paste text
- WASD keys : to move cursor
- Q : Insert
- SHIFT : Delete
- E : Home
- X : End ... so the left part of the keyboard is used for cursor, plus the Insert/DEL/Home/End keys
- The RFC are used for Mouse Wheel Up/Down and click
- VBN are used for BackLight. Remember Layer 2 + B for Backlight and VN for decreasing/increasing brightness
- ENTER : Inserts "sudo reboot" text... it doesn't executes the command.

- BACKSPACE : Inserts "sudo shutdown now" text... it doesn't executes the command. So in case you press by accident these keys, they wont reboot/shutdown the device, unless you press the ENTER key. P : Holds the CTRL+ALT keys and waits for a keypress. This way, you can press a difficult shortcut like CTRL+ALT+DEL. So, to remember P/Backspace/ENTER, which is the rightmost key column, is for special shortcuts.

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Layer 2

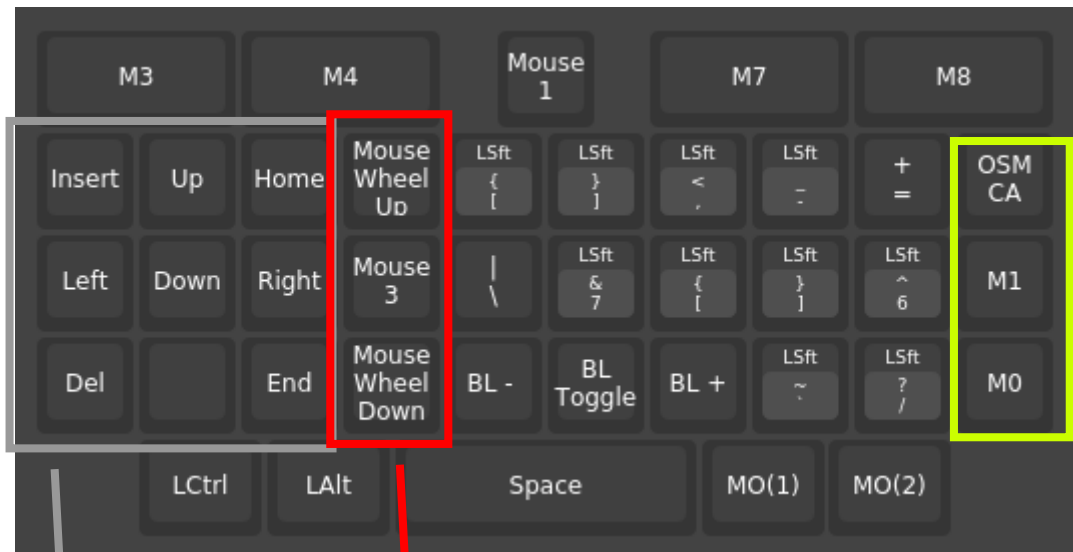
Pressing the MO(2) key activates Layer 2. Hold and press a key...

SHIFT+PageUp

Tmux Copy Mode

SHIFT+PageDown

Tmux Paste



Cursor Move

Mouse Wheel

M0 : Enters "sudo reboot" text

M1: Enters "sudo shutdown now" text

OSM-CA: Presses CTRL+ALT and waits for another key.
ex. DEL