Hook's Key Map Guide for the Macro Journal Rev 2 Using Vial

Ver. 1.1
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The Micro Journal Rev 2 is a product designed and produced by Un Kyu Lee and all protections apply. All mistakes are mine, not his.

This and any other guides are meant as quick references that make no assumption that the reader has ever done this before. That's because I am often the one in that position and I always find myself wishing I had a guide that did that. Now I will have ones I can point others to.

This guide is for making changes to the default keyboard mapping on the Micro Journal Rev 2 by Un Kyu Lee. This is just if you want to make changes to to the mapping. The default keyboard assignments are fine. **No one has to make these changes or ever use Vial to use the Rev 2**. However, if, like me, there are particular tweaks you personally prefer, this will guide you.

This document only covers key assignments (Key Map) There is nothing here about changing physical Key Caps.

To change your key map assignments you will need to download and install a program called Vial on your computer (not the Rev 2). I use the Windows version so my instructions are based on that. There is also a Mac and Linux version that I would not expect those to look any different, but I haven't tested them. To download Vial go to https://get.vial.today/ There is also a user manual there if you want to delve deeper into Vial's capabilities than I will here.

The only thing this guide will show you is how to make a few simple key assignments based on my experience changing my keyboard. That should enable you to figure out how to get what you want.

First, you should prepare for what you want to change, Here is a graphic of the default key map you have when you first receive your Rev 2.

You actually probably have two space keys instead of one space bar because it is hard to find a two-switch space bar in any key cap set. This graphic shows all the layers. You only have 48 keys, but there are 3 layers of key assignments, giving you a potential of 144 keys. You won't need all of them.

The characters in the middle of the keys above represent what is on the key cap and what you get when you tap the key and what you get when you hold shift and tap the key, The easiest place to illustrate this is the top row, where you normally expect numbers, but you have letters on the key caps. So tapping the keys will give you lower case letters and holding shift and tapping the key will give you upper case letters. You will see that there are numbers and symbols printed on the key map as well. Those are on different layers, To get the number 1, for instance, you press and hold the up arrow just to the right of the space bar and tap the "Q" key. To get an exclamation point, you press and hold the down arrow to the left of the space bar and tap "Q".

One other example, just to be clear. Let's take the last key in the second row. It shows a ' and " in the middle of the key. They are what should be printed on your key cap and, as on a normal keyboard, if you tap the key you get a single quote/ apostrophe and if you hold shift and tap the key you get a quote mark, The two other symbols on that Key Map are obtained by holding either the up arrow or down arrow while tapping that key.

For reasons that will become clear later, I will refer to the down arrow as L1 (for layer 1) and to the up arrow as L2 (layer 2).

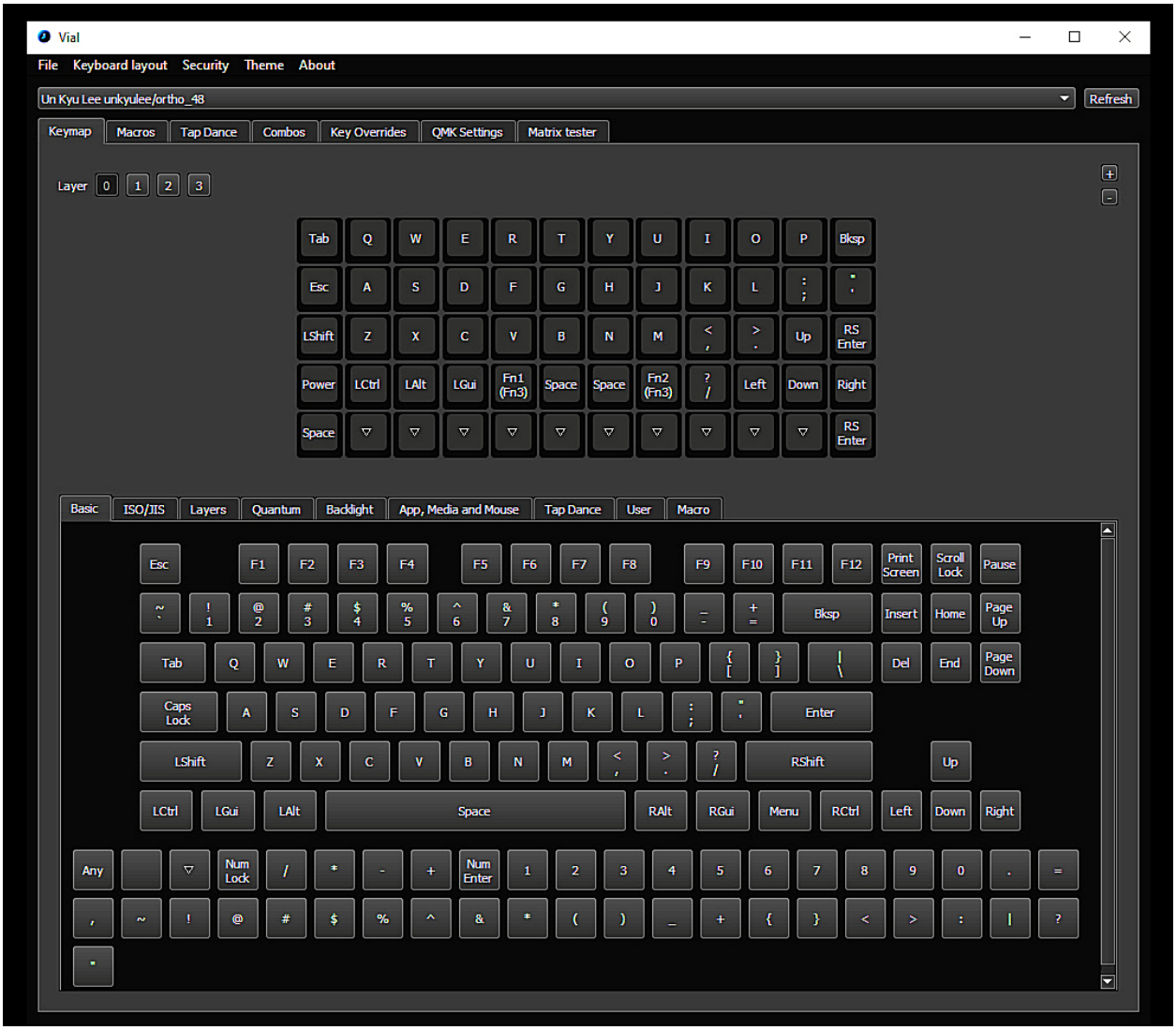
What you should do before you begin trying to change key assignments is to take the original Key Map and decide what changes you want to make. Start out small until you are confident about working with Vial. If you make only a couple of changes, it will be easy to switch them back if you aren't happy.

So, here is how to work with Vial to change your key assignments. I am assuming Vial is installed and you know which keys you want to change.

I'm going to first give you a limited tour of Vial and then I will lay out the steps for making your keyboard changes.

Vial

When you first launch Vial, you will likely see the following screen. This shows the main layer of the default key map (except I had already changed the config of the arrow keys and moved the question mark down) pictured at the top of the previous section.



This screen roughly divides into 2 halves. The top half is your keyboard, showing the key assignments. Just above that keyboard to the left are the tabs for different layers 0, 1, 2 and 3. I will show you the different layers when we get to my keyboard which I will use as an example because I don't have screen shots of the default key assignments on the other layers.

The bottom half is your source of key functions to assign. There are several tabs, This is the basic tab and it is all I'm going to show you because it has 95% of what you need.

Lets first look at the Key Map for your keyboard in the top half. First, notice there are 5 rows. However, your keyboard only has 4 rows, so ignore everything in that bottom row and don't put

any key assignments you intend to use there. By the way, an inverted triangle means the key does nothing. Also, you don't have to match the size of the key in the lower half to assign that key function.

There are a few special keys in Un Kyu's layout that you may not find in the Basic tab of the lower half of the screen. If you are looking to move or replace them, make sure you can find them on one of the other tabs before you replace them so you can move or get them back. That's the only reason for going to the other tabs right now. For instance, the keys for the up arrow and down arrow on either side of the two space keys—I don't know what the designation for those arrows mean on this key map and I certainly don't know how to recreate them. So, since I wanted to move them, I had to go hunting for the exact same keys and found them on the layers tab, which makes sense. As long as you can find the key designation in the lower half to click on, you are in business.

So now let me walk you through changing key functions and layers: There are two things you will most likely want to do. One is to replace a function with another function. The other to move a function to another location.

Replacing a key function is easy. You simply click on the key you want to replace on your key map on the top half. Then click the key function you want to replace it with on the bottom half. The reassignment on the Rev 2's keyboard is made instantly. You don't save. It is done. You also have no undo, except by reassigning the key the same way.

Moving a key function is the same basic instructions except you are involving more than one key. To move a function, it is the same as replace, Select the key in the top halfof your Key Map, where you want to move a function, then click on the function you want in the lower half. But now you have the previous key with the same function, so you probably want to replace that key's function, possibly with the function you eliminated in the first step.

When you are done with whatever changes you are making, close Vial and unplug your Rev 2 from the computer.

So here are the basic steps, from beginning to end, for making simple changes (replace function, move function) to your Key Map summarized for you. Then I will walk through a few examples using my Key Map and explain more about levels.

Procedure: Changing your Key Map.

1. Back up any writing on your Rev 2, This is just a precaution. Very little can go wrong here.

2, Shutdown the Rev 2 and click the power switch to off. Close the lid to insure you don't mistakenly use keys on the Rev 2 during this.

3. Connect the USB port on the side of the Rev 2 keyboard to your computer. You should not disconnect this cord for any reason before two minutes has passed (just to be safe). Connecting

the cable will cause the Rev 2 to boot. If the cable is disconnected during the boot cycle it could corrupt the SD card. Two minutes is probably more than you need to wait, but I'm being super-safe here.

4. Make your changes to either replace or move functions as detailed above. Click on the key you want to replace on your Key Map in the top half of the screen and then click on the function you want to replace it with in the bottom half of the screen. Repeat this for as many changes as you wish.

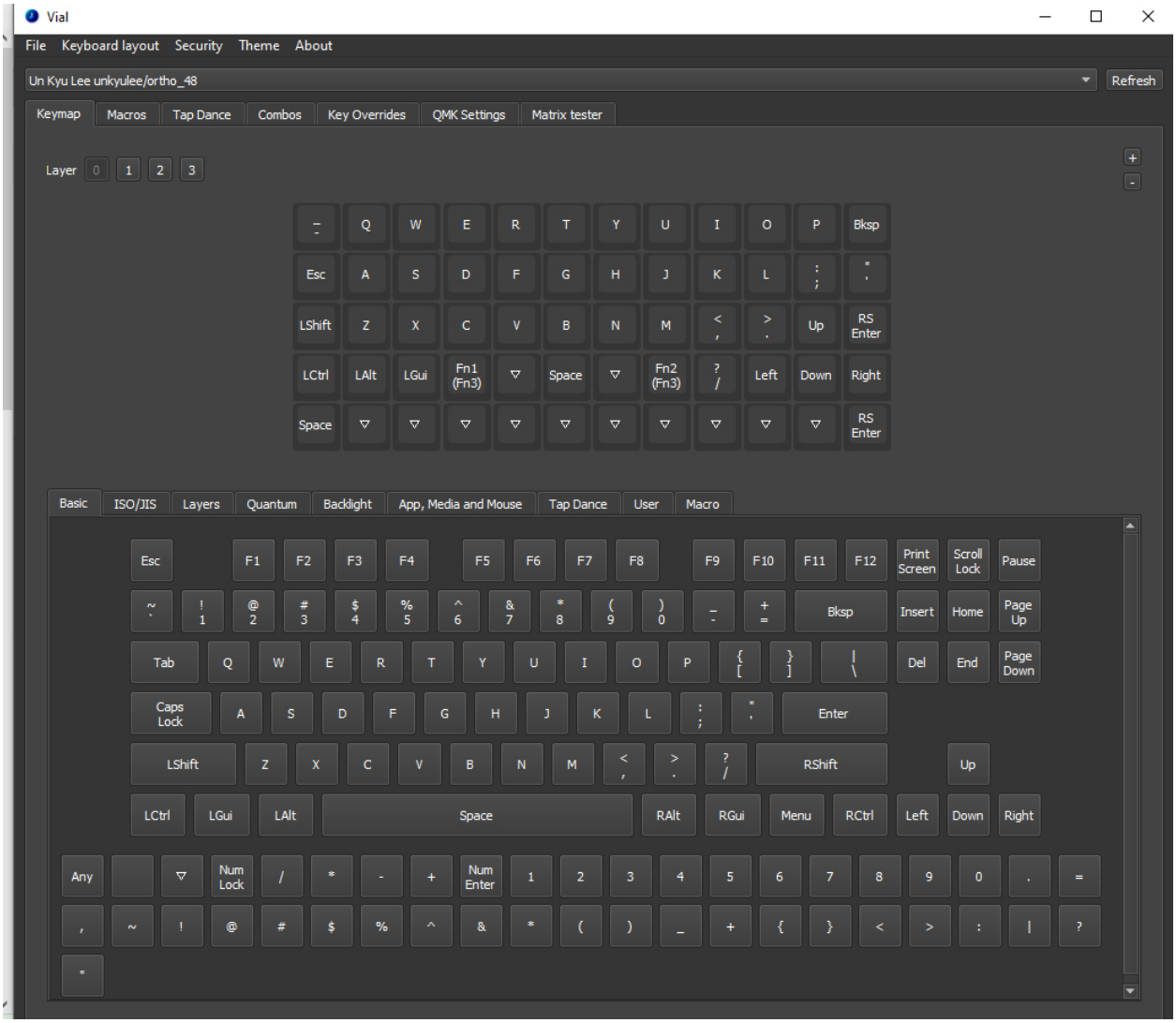
5. When you have completed all your changes, simply exit Vial on your computer and disconnect the USB cable that connects your Rev 2 to the computer. The Rev 2 will turn off, but you won't see that because the lid should be closed.

That's it. The next time you boot up, you should have the changes on the Rev 2's keyboard. It really is that easy.

Some examples with a discussion of Layers.

When I first ventured into this, I had no idea what I was doing and had to do a lot of exploring. The user manual is helpful, but it doesn't really hold your hand. So I thought I would wrap up by giving a few examples of what I did. However, my main intent here is to discuss the Key Map layers and how those present themselves in Vial. You can change the Key Map for any of the layers, not just the main layer.

So, here is what I see when I open Vial, which has all the changes I ended up making:



Again, ignore the 5th row on my Key Map at the top, it doesn't exist on our keyboard.

This is the main layer on the keyboard, referred to in Vial as Level 0 (I will refer to it as L0). As with standard keyboards, the letter keys only have uppercase labels but it is assumed, correctly, that they will output lower case letters when you tap them and upper case when shift is held

while they are tapped. Punctuation keys, on the other hand, show both the tap and shift-tap characters, also standard to keyboards. The rest of the keys on L0 are specialized function keys of various sort, including the usual like Space, Delete and Enter.

Here are the changes I made, how I made them and a little of why I made them.

First I changed the navigation arrow keys from a linear formation to a D-Pad formation, simply because that is ingrained in me for navigation at this point. This only required exchanging functions of two keys. I replaced the "/?" key with the "UP" navigation function and replaced the "UP' function in the bottom row with the "/?" key.

Next I wanted a space bar that spanned 3 switches instead of individual small keys. However, there are no multi switch space bars that space the connecters properly for this ortholinear keyboard. So I wanted to simply remove the switches on either side of a single Space function key and have the other two functions do nothing. To do that, first a key function had to be eliminated from the bottom row to make room for the space bar spanning 3 switches instead of 2.

To create the space for my space bar. I chose to eliminate the power key in the far left on the bottom row. The power function does the same thing as your shutdown.sh script. The power key seemed redundant to me and sometimes I would accidentally hold it down while I was writing and boom! The Rev 2 turned off while I was writing. So I moved everything on the left side of the space bar over 1 slot (including the down arrow). I then assigned the SPACE function only to the middle switch of the three and assigned NO FUNCTION (the inverted triangle) on either side.

Finally, I replaced TAB with "-_" (dash /underline) as a dash is important to me to be able to quickly access when writing. I never use Tab as most publishers frown on using hard Tabs for indent and writing software is designed not to use it but use paragraph styles instead. And while tab can be used for other reasons in a GUI environment, I don't even use it on my Linux and Windows computers. I'm a writer, not a programmer.

Again, notice the up arrow and down arrow functions on the Key Map: "Fn1 /(Fn3)" and "Fn2 /(Fn3)" I don't know what that designation means (other than assuming Fn1 and Fn2 refer to the layers), which probably means I don't know how to create them. So, since I needed to move one of them, I had to make sure that function already existed somewhere on the lower half so I could reselect it. I found them on the layers tab, which, as I said before, makes sense.

About Keyboard Layers and Vial

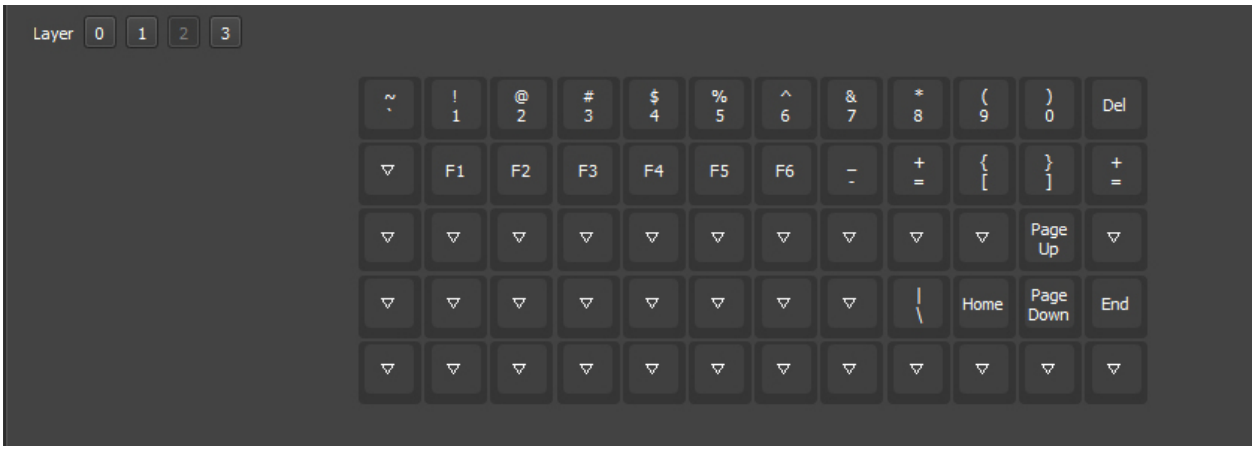
So there are 3 layers to your Key Map. There is the main layer, called Layer 0 in Vial, which includes what the keys output, as labeled, for both tap and shift tap. You can think of the arrows next to the Space bar as specialized shift keys to give you access to characters and functions on a different level. We have only looked at changes to L0, but you can also change things on the other levels.

The most important key assignments on these additional layers are the numbers and the symbols

you usually get on the number keys.

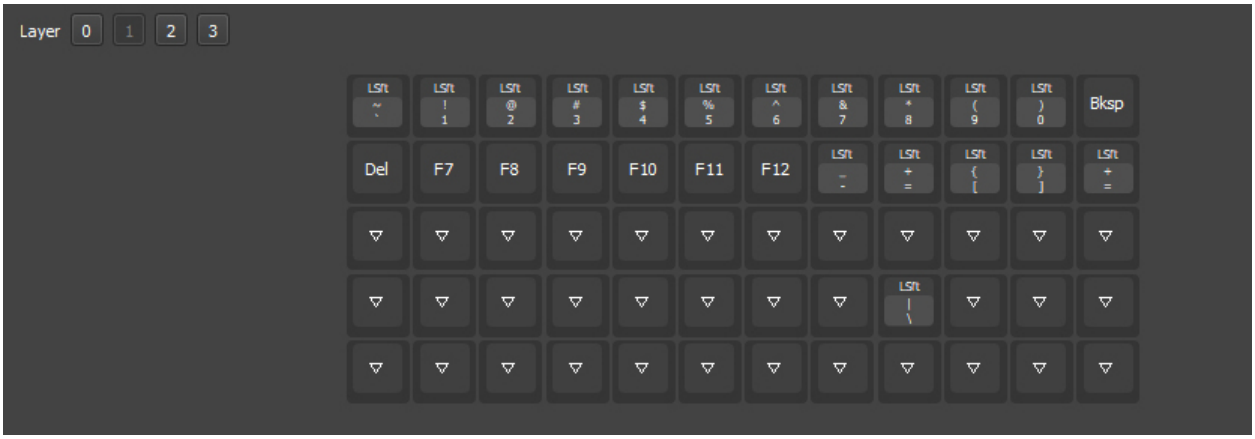
The Vial UI has small numbered tabs just to the upper left of your key map to select the different layers. They are numbered 0, 1,2,3. Layer 3, like row 5 on your keyboard, is not used.

Lets begin with Layer 2 (L2) which has the key assignments for the Up Arrow. Here's what I see in the top half when I switch to L2 in Vial.



As I say, the main thing are the number/symbol keys. Holding the UP Arrow and typing the Q key when you are using the Rev 2 will output the number 1. You can, if you want, do the very awkward thing of holding the up arrow key and holding shift and, while holding both tap Q and you will get "!", but you don't need to because the symbols are available with on L1 by holding the down arrow key. This layer also gives you delete instead of backspace, a few less frequently used punctuation keys and half of the F-keys which are used mostly for Linux, not writing. I cleaned some things up, so yours will look a bit different, but not the number keys which is what is important here.

Now here is Layer 1 (L1), which has the key assignments for the Down Arrow, Here's what I have in Vial.



Notice the odd designation of "LSt" on many of the keys, That simply means that tapping that

key while holding the down arrow will produce the shift-character on that key. So holding down the down arrow and hitting Q on your Rev 2 will output "!". This is another thing I haven't figured out how to set up, but they should all be set up for you. If I eventually figure it out I will add that information here. As I will with anything further I learn about Vial.

I hope this has been helpful. If you have any questions drop me a line at Hookstories gmail. I also welcome suggestions and additional information, and pointing out anything I got wrong or that wasn't worded clearly.