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V3 / CODE V3 Comprehensive User Guide (Firmware 1.20+)

David
6 months ago · Updated

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This guide is for **V3** and **CODE V3** keyboards running 1.20+ firmware versions. That is all 87/88/104/105-key keyboards - both CODE backlit and non-backlit V3 keyboards.

You can check for the latest firmware available here: Keyboard Firmware Updates.

If you're not sure which version you have currently, please update to the latest version, then come back and find the user guide that corresponds to that version.

Contents

Setting up for the first time

1. Locate the Type-C USB cable included in the box
2. Gently twist the cable to roll it under the cable channel teeth

3. Plug the Type-C USB end firmly into the port on the bottom of the keyboard
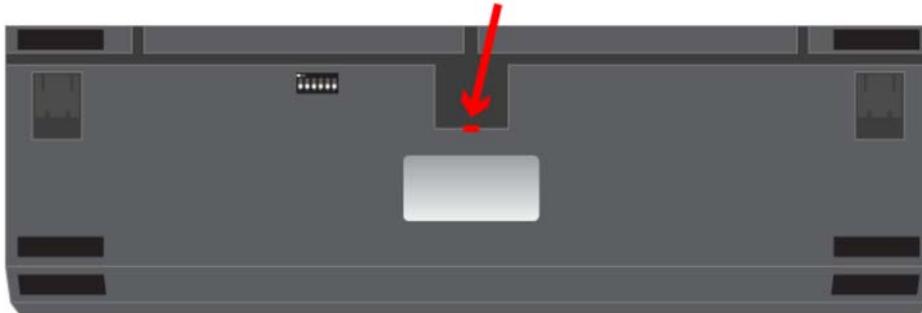

4. Plug the USB type-A port end into the port on your computer

Selecting your dipswitches

Warning: The dipswitch settings require a power cycle to initiate the new changes – it's a good habit to always unplug the keyboard when making changes to the dipswitch to ensure that the changes made are reinitialized and working properly.

1. Turn your keyboard over to locate the dipswitches
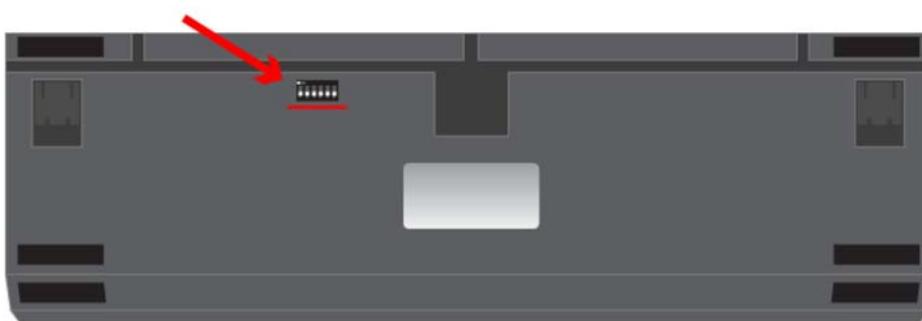

2. Use a pen or small screwdriver to flip the switches from off to on

What do these dipswitches do and why would you want to use them?

[The keyboard layout switches are SW1 and SW2]

- SW1 off, SW2 off – QWERTY Layout
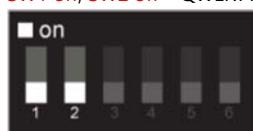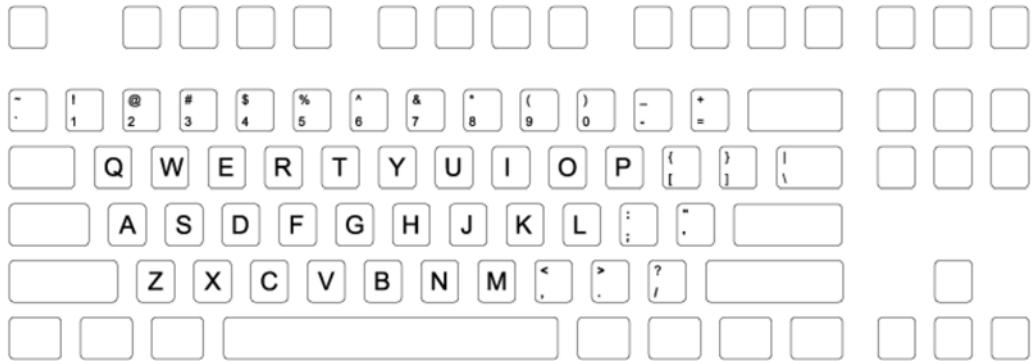
This is the default state of the keyboard, typing will be in QWERTY layout

- SW1 on, SW2 off – Mac Mode
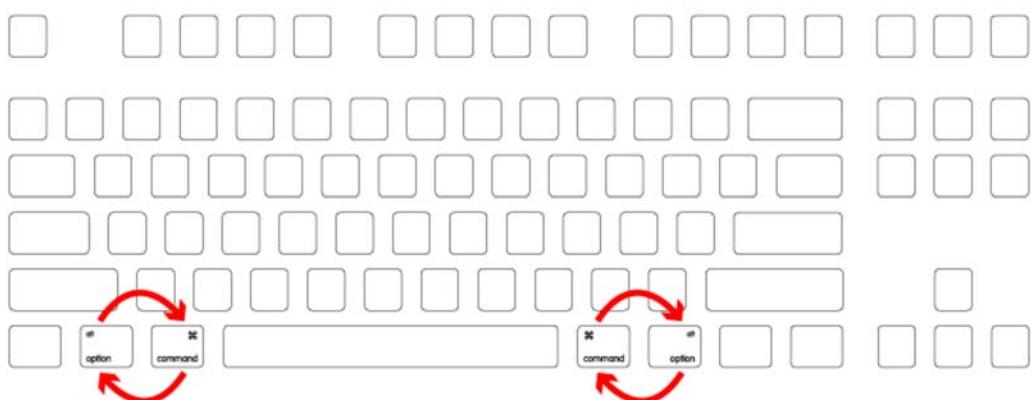
This will swap the option/command key mappings (alt/win on a PC) at a firmware level

*You do not **need** to use Mac Mode on a Mac, you can also change these key mappings in **keyboard settings** in your operating system settings. Additionally you can also change this using the 3rd party app **Karabiner** (https://pqrs.org/osx/karabiner/)*

- SW1 off, SW2 on – Dvorak Mode
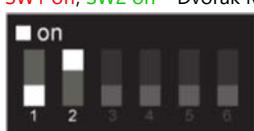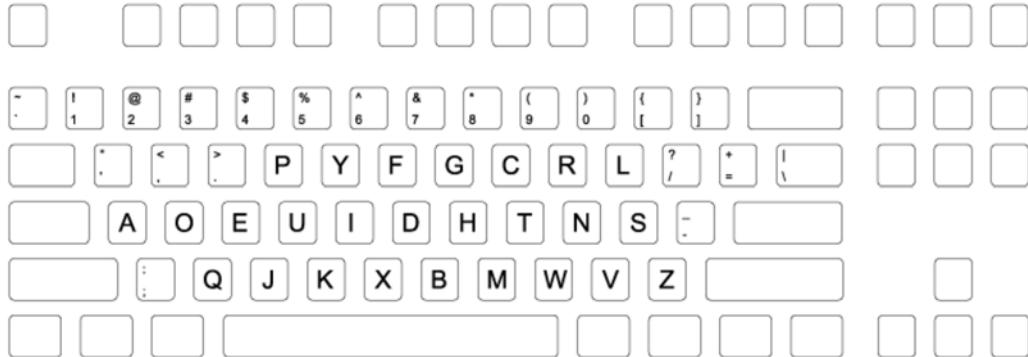
This will change
your key layout from QWERTY to Dvorak at a firmware level

What is Dvorak? You can read about it here; https://en.wikipedia.org/wiki/Dvorak_keyboard_layout

- SW1 on, SW2 on – Colemak Layout

This will change
your key layout from QWERTY to Colemak at a firmware level

What is Colemak? You can read about it here; https://en.wikipedia.org/wiki/Colemak

[The scroll lock switch is SW3]

- SW3 off – scroll lock LED indicator will display the state of the scroll lock, works just like a standard scroll lock key. *Scroll lock function is not native to Mac OSX.*
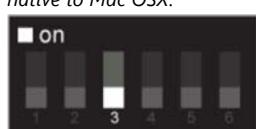
Scroll Lock LED will display Scroll Lock status

- SW3 on – The scroll lock LED indicator will display which virtual layer you are on.
  Note: when using this mode you cannot use scroll lock. Scroll lock function is not native to Mac OSX.
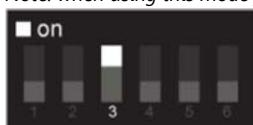
Scroll Lock LED will display virtual layer status
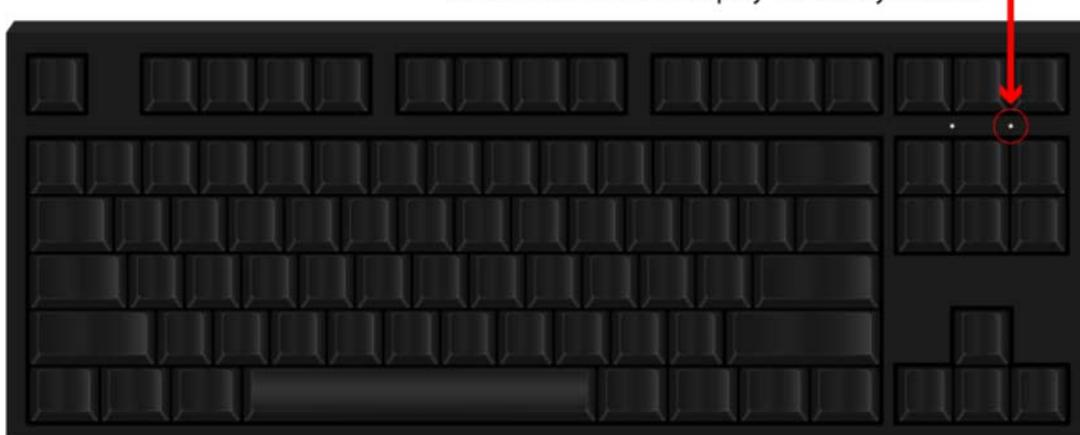
[The keyboard reset switch is SW4]

- SW4 off – Default state (not resetting)
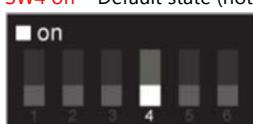
This is the default state of the keyboard, it is not in a state of resetting

- SW4 on – This performs a keyboard reset
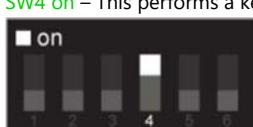
After setting SW4 to the "on" position and plugging the keyboard in, the keyboard will go through a reset process to wipe the memory

stored in the firmware. This will clear any and all macros or remaps set up when programming the keyboard and return it to its default state.

The reset process can be monitored by viewing the indicator LEDs, these LEDs will flash red, then change to solid blue, then change to solid green.

To perform a reset;

1. Unplug the keyboard
2. Turn the keyboard over and set dipswitch SW4 to the "on" position,
3. Plug the keyboard back in
4. Wait for the reset cycle to complete
   the LED indicators will flash red, then go solid blue then go green - **when they are green the reset is complete**
5. Unplug the keyboard again
6. Set SW4 back to the "off" position
7. Plug the keyboard back in

Note: you cannot use the keyboard when SW4 is set to the "on" position.

[The Function switches are SW5 and SW6]

- SW5 off, SW6 off - This is the default state of the keyboard, Fn key is enabled - onboard media functions and lighting controls are enabled, virtual layers are disabled and programming is also disabled.

  Fn key enabled (+)
  Virtual Layers disabled (X)
  Pgm key disabled (X)

  Menu Key is mapped to Fn
  Right Ctrl is mapped to Right Ctrl

- SW5 on, SW6 off – Only Fn key and Virtual Layers are enabled - Onboard media functions and lighting controls are enabled, virtual layers are enabled but programming is disabled.

  Fn key enabled (+)
  Virtual Layers enabled (+)
  Pgm key disabled (X)

Menu Key is mapped to Fn
Right Ctrl is mapped to Right Ctrl
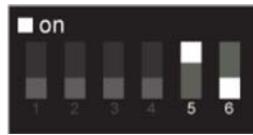
- SW5 off, SW6 on – All special functions are enabled - Onboard media functions and lighting controls are enabled, virtual layers are enabled and programming is enabled.

Fn key enabled (+)
Virtual Layers enabled (+)
Pgm key enabled (+)

Menu Key is mapped to Fn
Right Ctrl is mapped to Pgm
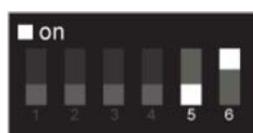
- SW5 on, SW6 on – All special functions are disabled - Onboard media functions and lighting controls are disabled, virtual layers are disabled and programming is disabled. This is as "basic" of a keyboard setup as you can get.

Fn key disabled (X)
Virtual Layers disabled (X)
Pgm key disabled (X)

Menu Key is mapped to Menu
Right Ctrl is mapped to Right Ctrl

Why turn the Fn key off?

This is useful when you prefer to have the Menu key present instead of the onboard functions. Maybe you do not need the onboard media and backlighting controls or don't use them, turning this switch on will gain you the use of the Menu key.

*Note: if you are in a situation where you want **both** the Fn functions and also the Menu key- you have a few options.*

You can move the Fn key (see instructions later on how to move the Fn and Pgm keys)- moving the Fn key location will allow the Menu key to be used

You can access the context menu function on Windows by pressing Shift+F10

Why turn the Pgm key off?

Turning off the Pgm key will restore the *Right Control* key functionality.

If you are done programming your keyboard and don't want to accidentally overwrite your macros or remaps, or if you do not have a use for the programming functions and want to lock yourself out of programming the keyboard accidentally.

Why turn the Virtual Layer keys off?

If you don't want to accidentally switch to a different virtual layer while you're using the keyboard and want to lock yourself out of this functionality.

Using the onboard Functions (Fn)

Note: To use the onboard functions of the keyboard you need to make sure the Fn key is enabled by setting the dipswitch SW5 "OFF". Please see above for more information about the dipswitches.

Media functions

- Fn + Insert = Play / Pause
- Fn + Home = Stop (this is not supported on Mac)
- Fn + Delete = Previous Track
- Fn + End = Next Track
- Fn + Page Up = Volume Up
- Fn + Page Down = Volume Down
- Fn + Pause = Mute
- Fn + F13 / Print Screen = Eject (Mac Mode only)

Backlighting functions

For backlit CODE models, this also enables lighting controls:

- Fn + F12 = Turns LED backlighting ON/OFF (CODE models only)
- Fn + F11 = Cycles through the 6 different brightness settings for backlighting (CODE models only)
- Fn + F10 = Cycles through the 8 different backlight timer sleep settings (CODE models only)

  - The backlights will flash for each setting change
  - 10 seconds - one flash
  - 30 seconds - two flashes
  - 1 minute - three flashes
  - 5 minutes - four flashes
  - 10 minutes - five flashes
  - 30 minutes - six flashes
  - 1 hour - seven flashes
  - Off - no flashes

Using the Virtual Layers (Fn + M, Fn + <, Fn + >, Fn + ?)

Note: To use the onboard functions of the keyboard you need to make sure the Fn key is enabled by setting the dipswitches SW5 and SW6 correctly

to allow the Fn key to be enabled. If you have SW3 "OFF" you will not be able to see the indicator for which layer you're on. Please see above for more information about the dipswitches. You can assign your own custom color for the layer indicator LEDs, please see below for more information about LED indicator programming.

What is a virtual layer?

Our V3 keyboards are programmable, so you can remap keys and also set up macros. You may want to set up these remaps or macros for certain applications you use frequently to speed up your workflow. By using virtual layers you can have up to 4 separate 'layers' of remaps and macros and easily toggle between them.

Usage scenario: You do a lot of work in Photoshop and have set up some macros and key remaps to accelerate your workflow in this application. Setting up these macros and remaps on Layer 2 will allow you to easily hotkey into Layer 2 (**Fn + <**) where all of your settings are stored on this layer. When you are finished or working in a different application you can easily hotkey to a different layer with specific programming there, or simply to a clean layer where you won't accidentally hit any macros. This is just one example, but you can use these virtual layers however you'd like.

Example: If you press **Fn + ?** it will take you to Layer 4, and the scroll lock indicator will turn green letting you know that.

Switching Layers

Scroll Lock LED indicator: not lit
Layer 1 (default) Hotkey Fn + m

Scroll Lock LED indicator: RED
Layer 2 Hotkey Fn + <

Scroll Lock LED indicator: BLUE
Layer 3 Hotkey Fn + >

Scroll Lock LED indicator: GREEN
Layer 4 Hotkey Fn + ?

- **Fn + M** = Layer 1 (Default) (No LED lit)
- **Fn + <** = Layer 2 (RED LED indicator)

- **Fn + >** = Layer 3 (BLUE LED indicator)
- **Fn + ?** = Layer 4 (GREEN LED indicator)

Programming the LED indicator colors

Note: To program the LED indicators of the keyboard you need to make sure the Fn key is enabled by setting the dipswitch SW5 "OFF", and also making sure that the Pgm key is also enabled via SW6 "ON". Please see above for more information about the dipswitches.

Caps Lock, Scroll Lock and Num Lock

Note: 87 and 88 keyboards do not have a numpad so there is no Num Lock indicator. By default the Scroll Lock indicator is set to show the state of scroll lock - if you'd like to display which virtual layer you're on please set SW3 to "ON". There is no Scroll Lock nor Num Lock function in Mac OS so it will not work. Please see above for more information about the dipswitches.
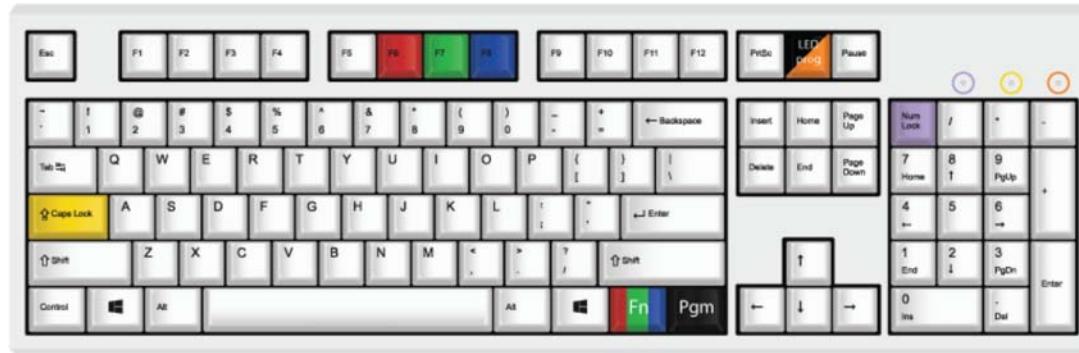
1. Make sure Fn and Pgm keys are enabled (see above for dipswitch information)
2. Enter LED indicator programming mode

    Press **Pgm + Scroll Lock** keys *(Black keys - The LED indicators will flash green confirming)*
3. Press the key of the corresponding indicator that you want to change

    For example if you want to change the color of the Caps Lock indicator, you will press the Caps Lock key (the indicator chosen will light up confirming) *(Yellow, Orange and Lavender keys)*
4. Adjust the color *(Red, green and blue keys)*

    Press **Fn + F6** repeatedly to cycle through 9 brightness settings of Red

    Press **Fn + F7** repeatedly to cycle through 9 brightness settings of Green

    Press **Fn + F8** repeatedly to cycle through 9 brightness settings of Blue

    Using different brightness to blend colors together to achieve your desired color;

    For example Red 9, Green 0, Blue 9 will get you purple.
5. Press **Pgm** to save the color *(Black key)*
6. Repeat steps 3 and 4 for the other indicators or press **Pgm + Scroll Lock** to exit the LED programming mode *(Black keys)*

Virtual Layer Indicators

Note: By default the Scroll Lock indicator is set to show the state of scroll lock - if you'd like to display which virtual layer you're on please set SW3 to "ON". There is no Scroll Lock function in Mac OS so it will not work. Please see above for more information about the dipswitches.
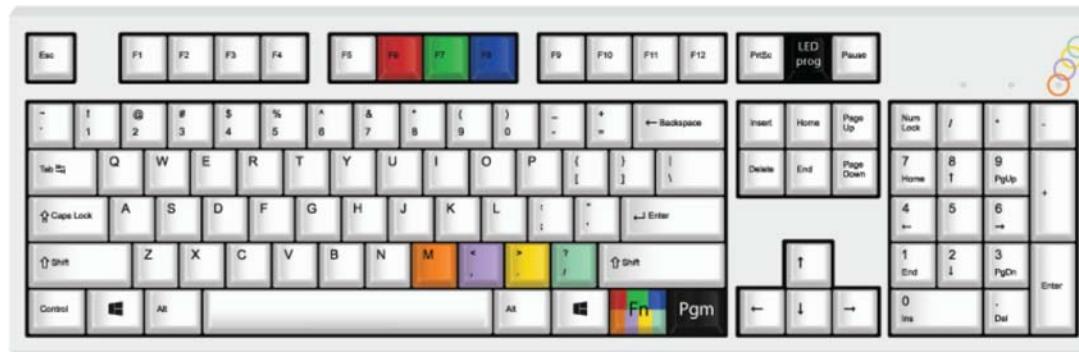
1. Make sure Fn and Pgm keys are enabled (see above for dipswitch information)
2. Enter LED indicator programming mode
   Press **Pgm + Scroll Lock** keys *(Black keys - The LED indicators will flash green confirming)*
3. Press the key combo of the corresponding Layer key that you want to change
   Fn + m for Layer 1 *(Orange key)*
   Fn + < for Layer 2 *(Lavender key)*
   Fn + > for Layer 3 *(Yellow key)*
   Fn + ? for Layer 4 *(Mint key)*
4. Adjust the color *(Red, blue and green keys)*
   Press **Fn + F6** repeatedly to cycle through 9 brightness settings of Red
   Press **Fn + F7** repeatedly to cycle through 9 brightness settings of Green
   Press **Fn + F8** repeatedly to cycle through 9 brightness settings of Blue
   Using different brightness to blend colors together to achieve your desired color;
   For example Red 9, Green 0, Blue 9 will get you purple.
5. Press **Pgm** to save the color *(Black key)*
6. Repeat steps 3 and 4 for the other indicators or press **Pgm + Scroll Lock** to exit the LED programming mode *(Black keys)*

Remapping Keys

Remapping keys allow you to map a key to a different location. This may be used for many reasons, one is that certain functions you use a lot might be more ergonomically comfortable to move closer to the home row (such as caps lock) or for utilizing a key not normally used often like Scroll Lock to do something more useful.

In this example we will be remapping our Caps Lock key to Esc. After remapping, when you press the Caps Lock key it will output Esc. Instead of having to reach high and to the left to hit the Esc key, now you can just hit the Caps Lock key.

Note: you can remap up to 64 keys per layer

1. Make sure Fn and Pgm keys are enabled (see above for dipswitch information)
2. Enter programming mode
   Press **Fn + Pgm** keys *(Black keys - The LED indicators will flash green confirming entrance)*
3. Press the trigger key you are wanting to remap *(Example: Caps Lock – orange key)*
   (indicator LED solid red to confirm trigger key acquired)
4. Press the target key you are wanting to assign to your trigger key *(Example: Esc – red key)*
   (indicator LED blink red once to confirm target key acquired)
5. Press **Pgm** to save the remap *(Black key)*
   (The LED indicator will flash green confirming save)
   Repeat steps 3, 4 and 5 for other keys you want to remap
   or
6. press **Fn + Pgm** to exit programming mode *(Black keys - The LED indicators will flash green confirming exit)*

Macro Programming

Macro programming allows you to set up automated functions. This may be used for many reasons; you may want to launch often used applications from a hotkey (such as notepad or calculator). You may want to create a hotkey to automatically type out often used words or phrases. You may want to set up a macro to expedite filling out forms from a hotkey. These are just a few of the things you can do with macros.

In this example we will be setting up a macro to create a shorthand way of typing the word "keyboard" with the hotkey of **Fn + K**. After this macro is created, when you press the key combo **Fn + K** the keyboard will output the word "keyboard".

Note: Each macro can hold up to 32 keys (not including timers) and you can use up to 64 macros per layer. Triggers can be single keys or a combo using the Fn key and 1 key (For example: "W" or "Fn + W"). Also there are certain keys that cannot be set as triggers: current Fn, Pgm, Shift, Layer swap keys, Media function keys and LED control keys.

1. Make sure Fn and Pgm keys are enabled *(see above for dipswitch information)*
2. Enter programming mode

   Press **Fn + Pgm** keys *(Black keys -The LED indicators will flash green confirming entrance)*
3. Press the trigger key (or keys) you are wanting to use as your hotkey *trigger (Example: **Fn + K** – lavender keys)*
   (indicator LED solid red to confirm trigger key acquired)
4. Press the target keys (string) you are wanting to assign to your trigger key *(Example: **keyboard** – orange keys)*
   (indicator LED blink red once to confirm target key acquired)
5. Press **Pgm** to save the macro *(black key)*
   (The LED indicator will flash green confirming save)
   Repeat steps 3, 4 and 5 for other keys you want to remap
   or press
6. **Fn + Pgm** to exit programming mode *(The LED indicators will flash green confirming exit)*

   Open notepad and test it out, press the combo **Fn + K,** it should type out the word "**keyboard**".

Using delay timers in your macros

You can program specific periods of time within your macros, this is useful as some macros you create will execute too quickly for your operating system to handle correctly. Let's go through another example of setting up a macro, this time we will use a delay timer function to have it be correctly interpreted by the OS.

In this example we will want to set up a hotkey combo of **Fn + N**, we want this hotkey to automatically run notepad.

There are many ways to open Notepad on Windows OS, one of them is by using the run dialogue box. If you hit the windows key + R it will bring up the *run* dialogue box, if you type in '*notepad*' and then hit enter it will open Notepad.

Since we can do this from our keyboard we can set up a macro to perform this action from one hotkey combo:

1. Make sure Fn and Pgm keys are enabled (see above for dipswitch information)
2. Enter programming mode
   Press **Fn + Pgm** keys *(Black keys - The LED indicators will flash green confirming entrance)*
3. Press the trigger keys you are wanting to use as your hotkey trigger
   *(Example: **Fn + N** – Sky blue keys)*
   (indicator LED solid red to confirm trigger key acquired)
4. Press the target string you are wanting to assign to your trigger key
   *(Example: "**[Windows key + R]** "notepad" **[enter key]**" – you would hit the windows key and "R" key, then type the word notepad then hit*
   the enter key – [Red keys] + [orange keys] + [green key])
   (indicator LED blink red after every character to confirm)
5. Press **Pgm** to save the macro
   (The LED indicator will flash green confirming save)
6. Press **Fn + Pgm** to exit programming mode *(The LED indicators will flash green confirming exit)*

Now, when you press **Fn + N** it will attempt to perform this macro, but it will not work consistently. This is because the macro is being sent too quickly for the OS to correctly interpret what is being input. It may work sometimes, but not consistently. We can fix this issue by adding a **delay timer** to our macro string.

You can add delay timers of varying intervals by pressing:
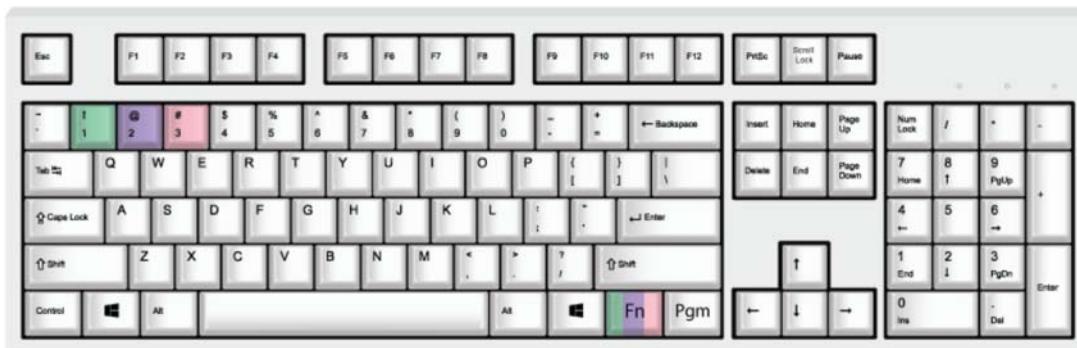
Fn + 1 to add 10 milliseconds of time (1/100th of a second) *(Mint key)*
Fn + 2 to add 100 milliseconds of time (1/10th of a second)*(Lavender key)*
Fn + 3 to add 1000 milliseconds of time (one second)*(Pink key)*

You can also **stack** delay timers. For example if you wanted to add 30 milliseconds of delay, you would hit **Fn + 1** three times in a row.

It looks like the error is happening because there is a tiny bit of lag when opening the run dialogue box, so part of the string 'notepad' is attempting to be inputted before the text field is ready to accept the input. Let's redo our macro and add a 10 millisecond delay timer after the **Windows key + R** segment of our macro string:

1. Make sure Fn and Pgm keys are enabled (see above for dipswitch information)
2. Enter programming mode
   Press **Fn + Pgm** keys *(Black keys - The LED indicators will flash green confirming entrance)*
3. Press the trigger keys you are wanting to use as your hotkey trigger
   *(Example: **Fn + N** – Sky blue keys)*
   (indicator LED solid red to confirm trigger key acquired)
4. Press the target string you are wanting to assign to your trigger key
   *(Example: "**[Windows key + R] [Fn + 2] "notepad" [enter key]**" – you would hit the Windows key and "R" key at the same time, then hit Fn + 2 at the same time, then type the word **notepad** then hit the enter key. – [Red keys] + [lavender keys]+ [orange keys] + [green key])*
   (indicator LED blinks red after every character to confirm)
5. Press **Pgm** to save the macro
   (The LED indicator will flash green confirming save)
6. Press **Fn + Pgm** to exit programming mode *(The LED indicators will flash green confirming exit)*

Now try the macro again by pressing **Fn + N** it should run Notepad every time you press it without any issues.

This is just one example of adding a delay timer, but you can use them at any point and multiple times within a macro string. If you can perform the action with your keyboard slowly but when you make the macro something doesn't quite seem to be working right or consistently, most likely it is because you need to add some delay between your actions. The amount of delay you need to use will depend on what you're trying to do, so some trial and error will be needed to figure that out.

Moving the Fn, Pgm, Layer Swap, Backlight Function keys

You can move the Fn key, Pgm key, Layer Swap and Backlight Function keys to a spot you find more useful or comfortable.

Warning: The firmware will not allow you to overwrite a position that is already populated. If you'd like to move one of these keys to another position that is already used, please move that used key first, then that will free up the space for the new key to be moved there.

*For example: Moving **Fn** to **F12**, this is already populated by a backlight function – please move F12 to a different location first, so then you can move Fn to F12*

The V3 and CODE models both have backlighting controls (F10, F11, F12), even though the V3 has no LEDs (You can actually install LEDs later and use them with these controls!)

Note: When the Fn and Pgm keys are enabled they also hide the original key position they are 'covering' so keep that in mind when moving these keys. This may also be a reason why you want to move them, by default the Fn key is in the "Menu" key position, you may have a use for the Menu key, and want to move it so you can have both the Fn key and Menu key at the same time.

1. Make sure Fn and Pgm keys are enabled (see above for dipswitch information)
2. Enter programming mode
   Press **Fn + Pgm** keys *(Black keys - The LED indicators will flash green confirming entrance)*
3. Press and hold the key you want to move for 5 seconds
   *(Example Fn: **Hold Fn for 5 seconds** – Red key)*
   *(Example Pgm: **Hold Pgm for 5 seconds** – Red key)*
   *(Example Layer Swap: **Hold M for 5 seconds** – Lavender key)*
   *(Example Backlighting Control: **Hold F10 for 5 seconds** – Mint key)*
   (indicator LED will flash red for 5 seconds then solid green)
4. Press the target key you are wanting to assign the Fn or Pgm key to
   *(Example: you want to move the **Fn** key to the **Pause** key, you will just press the **Pause** key now – Green Key)*
   (indicator LED will flash green to confirm)
5. You can now move the other key if desired
   or
6. Press **Fn + Pgm** to exit programming mode *(Black keys -The LED indicators will flash green confirming exit)*

Clearing macros

There are three ways to clear macros, on a key level, a layer level and a board level.

1. Clearing a key – you can clear a remap by simply remapping (overwriting) the trigger with the target or just creating a new macro from that trigger.

   Examples:
   - Remap: Clear your "S" key that is remapped to "D" by just remapping "S" to "S", now when you press "S" it will output "S" again, like it did by default.
   - Macro: Clear your macro "Fn + Q" by creating a macro "Fn+Q" to output "Fn" – which will essentially do nothing. Or by simply creating a new string that is triggered by "Fn+Q" that will overwrite your previous macro programming for this combination.

2. Clearing a layer –you can clear all remaps and macros from the layer you're currently on.

- **Hold the layer swap combo key for the layer you're on + Fn + Left Shift** for 5 seconds to clear, the LEDs will flash green to confirm it has been cleared (Example: you're on layer 4, Hold **Fn + ? + Left Shift** for 5 seconds to clear layer 4)
- *Note: you can only clear the layer you're currently on*

3. Clearing the entire board– resetting the keyboard will clear all remaps and macros from all layers

   To perform a reset;

1. Unplug the keyboard
2. Turn the keyboard over and set dipswitch SW4 to the "on" position,
3. Plug the keyboard back in
4. Wait for the reset cycle to complete
   the LED indicators will flash red, then go solid blue then go green - **when they are green the reset is complete**
5. Unplug the keyboard again
6. Set SW4 back to the "off" position
7. Plug the keyboard back in

Note: you cannot use the keyboard when SW4 is set to the "on" position.

Any confusion or errors in this manual please let us know by emailing us.

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Mike W.
2 years ago

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0
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⚙

I just read the whole manual. Just to confirm a few points, could you please answer/confirm the following?

1. If a remapping is done (say, Caps Lock to Ctrl), that will apply only to that particular layer (right?)—but

1b. if a special key is moved (say, moving the Pgm key functionality to where Caps Lock is), that will apply to all layers. Right?

2. If some remapping and/or macros are created for layer 1 (with switch 6 on and switch 5 off), then both switches 5 and 6 are set to off thereby disabling virtual layers functionality—any remappings AND any macros entered on layer 1 will still be available, right? (I recognize there may be a different answer for remappings vs. for macros.)

3. Same question as 2 but for the switch-5-on-switch-6-on case of the "basic setup." Does "basic setup" mean remappings don't apply? Or is it possible to program in some remappings (like Caps Lock to Ctrl) and then have them available in "basic mode"? What about macros?

4. Am I understanding right that accidentally hitting the ADJACENT keys for Pgm and Fn at the same time is enough to enter programming mode? (If I have switch 5 off and switch 6 on?)

4b. If I move the Pgm key to e.g. "PrtSc" is there any way to access the normal "PrtSc" functionality? (It seems not from my reading of the manual.)

4c. Assuming the answer to 4b is "no," this seems like quite a flaw. I would like to be able to program periodically without messing with

DIP switches, but I definitely don't want to *accidentally* enter programming mode. Is there any suggested simple workaround, or have I misunderstood something?

David
2 years ago

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Mike W. Hello 👾 !

1. Yes, remaps only apply to that specific layer

1b. Yes, the function key movements will apply to all layers

2. Yes, since layer 1 is default your remaps will still be applied, just remember when you turn these off, it also turns off the Fn key, so any macros you set to the Fn key will not be able to be triggered.

3. Basic setup just gives you the Fn key for media controls and backlight functions (no layer swap, no programming). You can't program anything with the basic setup because the PGM key is disabled.

4. Yes, if you have your PGM key enabled it is possible to accidentally enter programming mode.

4b. No, if you move a function key (such as PGM in your example) it will obfuscate the key input below it. Example: If you move your PGM key to Scroll Lock you will no longer be able to access Scroll Lock through the keyboard (you can still use the onscreen keyboard, or other methods to press keys beyond your keyboard input).

4c. If you have a better suggestion to how you want this set up, please let me know. Unfortunately we cannot make a state where you have the ability to program your keyboard, but then also not have you potentially accidentally enter programming mode, the way we have set that up is on the dipswitch.

Right now it's pretty flexible with the dipswitches, the ability to move function keys, etc. You will have to weigh how often you're making/messing with macros with how often you are accidentally hitting keys. Depending on that ratio one may be more suitable for you. If you're making a lot or complex macros my recommendation is to leave the PGM key off with the dipswitch until you are ready to make changes/additions to your macros.

If you're prone to accidentally hitting keys and still want to be able to program on the fly, my suggestion is to move your PGM far away from your Fn key. For a 104-key there are redundant keys on the numpad, pause is also a good choice that is not used by a lot of programs, scroll lock is also a good choice, a lot of F row keys, even the num lock key (unless you toggle that on/off a lot).

Our firmware can do a lot and is quite extensive in terms of programming options, but if you are an extensive power user requiring more than it can provide I would suggest looking into a software solution. Unless you are moving from computer to computer or absolutely need the macros stored on the keyboard, the free software tools available are going to make writing and managing complex macros much easier, without limitation. Adding to that functions and abilities that a firmware setup could never allot (such as mouse control). Check out AutoHotKey on Windows and Karabiner if you're on a Mac.

Hopefully I have answered your questions successfully and the suggestions I have provided are helpful. Thank you.

Mike W.
2 years ago · Edited

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Definitely helpful, and thanks for the point about question 2.

3. On question 3, I think my question was misunderstood. I wasn't talking about the default state with both DIP switches (5 and 6) off but with media controls accessible. I was talking about:

> SW5 on, SW6 on – All special functions are disabled - Onboard media functions and lighting controls are disabled, virtual layers are disabled and programming is disabled. This is as "basic" of a keyboard setup as you can get.

And, I know I can't program in the "basic" mode. The intent of question 3 was: if I do some remappings in programming mode and *then* change the DIP switches to enter basic mode (with even the media controls disabled)—will the remappings I programmed earlier still apply to keys pressed in basic mode? Just as a concrete example of this question, is it possible to have media controls disabled (switches 5 and 6 both on) but still have the Caps Lock key mapped to send "Esc"?

4c. The "pause" key for Pgm would seem to be an obvious choice, except that it's already used for "mute" in the media controls (and

even has its own label as such, on the CODE keyboard). So if I used Pause for Pgm, then "Fn + Pause" would activate programming mode instead of mute. (Undesirable.)

Next choice would be ScrLk, which I think I will use. However it seems from the above manual that that's already the key (Pgm + ScrLk) for reprogramming indicator lights, and it's not clear that there's any way to change that.

I probably won't reprogram indicator lights very often, but still it would be nice to move Pgm to the ScrLk key, and be *able* to have Pgm + right Ctrl activate indicator light reprogramming. In this ideal setup, I won't be able to access the normal ScrLk key functionality (I don't care), BUT the right Ctrl key will still work as normal (I use it a lot for e.g. Ctrl + arrows to switch "spaces" on a Mac), plus I'll be able to program indicator lights if I want, AND Fn+Pgm will be a lot harder to accidentally activate. (Two adjacent keys are easy to accidentally press any number of ways.)

Second best setup would be to move Pgm to ScrLk and have indicator programming inaccessible, which I'll do if there's no way to move the Pgm+ScrLk functionality for indicator light programming. (That's a question by the way.) :)

Edit: Sorry for such a long comment! It comes from trying not to be ambiguous. :D

David
2 years ago

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Mike W.

Ok no problem,

3. Yes! Your remappings/macros will still remain even if the Fn and PGM keys are turned off, even if the layer keys and media keys are turned off as well.

4. I just gave you some examples of something I would do under the circumstances of having all the caveats that you were detailing. Under normal circumstances I would either be programming often enough to leave the PGM key enabled, or I wouldn't be and then turn it off with the dipswitch to avoid accidentally programming. We wanted to leave the programming toggle on the dipswitch because even with a different location it's still possible to accidentally enter into it, the only way to avoid this is to put it on the dipswitch.

You could swap PGM and Scroll Lock if you'd like, that may be a solution for you. If you move PGM to scroll lock position only then you will no longer be able to press scroll lock. You'll have to move scroll lock to a different location before moving the PGM key if you want both scroll lock and PGM functions at the same time.

It seems like you want to have everything accessible, but then also not have PGM and Fn next to one another. I would remap the PGM key further away and swap that key with the previous PGM location. The only other way to have what you want and not move anything but also make it so you can't accidentally program anything is to use the dipswitch.

I hope that answers your questions. Thank you.

Dylan
1 year ago · Edited

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It's been probably a year or more since I updated the firmware on my Code V3B, but this seems to work a lot better. I'm very happy with it so far.

One note, throughout this document there are reminders stating that SW3 was to be set to OFF in order to see the virtual layers. This is opposite of what the description at the top indicates, which is that SW3 has to be ON to see layers.

Here is an example: "*By default the Scroll Lock indicator is set to show you which virtual layer you're on, to change this to display the Scroll Lock state, set SW3 to "ON".*"

Other than this, the document was very helpful and I have my remaps working.

DXC
1 year ago

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For the macro timing keys, the text refers to them as Fn+1 through Fn+3, but the diagram shows them as Fn+F1 through Fn+F3. Which

is it? I'm thinking of adding legends for that to custom keycaps eventually...

DXC
1 year ago

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Also, can the macro layers bind the modifier keys? Specifically, I'd like to be able to have layer 2 map LGUI/RGUI to either nothing or LALT/RALT, to be able to mimic the "Windows key lockout" feature of my current keyboard.

David
1 year ago

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Hello @Dylan

Thank you, I have updated the SW3 errors where it was off (it was correct in the other areas such as the dipswitch graphics 👍)

David
1 year ago

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Hello @DXC

The text is correct, I will have to update the image to reflect that. It is number row keys (1, 2, 3) not the F-row. Thank you.

The remaps should only be present on the layer in which you changed them (including modifier remaps). If you change a mod on layer 1 but then switch to layer 2 this remap would not remain. You could set up a layer with OS lockout, and then toggle between layers 👍

Matt Wilkie
8 months ago

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1) Is it possible to move the key that's "underneath" Fn and Pgm? For example keep Fn and Pgm where they are, and move Menu to [Right-Win/Super]?

2) I've successfully moved Fn to Scroll-Lock, verified by the fact the now ScrLk+Pgm enters key programming mode, but now backlight controls don't work: ScrLk+f11 maximizes current application instead of changing light level.

David
8 months ago · Edited

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@Matt Wilkie,

1. Yes, you can. You'll have to temporarily move the Fn key to access it, but then you can move it back after you've remapped right win. (I just recreated this on my V3 and works as expected).

2. I have recreated this scenario and it's working as it should. Moving Fn to Scroll Lock, then using Scroll Lock + F11 changes brightness for me. Confirm Fn is actually moved by attempting volume control using Scroll Lock.

Mike W.
8 months ago

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There's a major mistake in the manual about DIP switch 3. Compare:

[The scroll lock switch is SW3]

- SW3 off – scroll lock LED indicator will display the state of the scroll lock, works just like a standard scroll lock key. *Scroll lock func-*

tion is not native to Mac OSX.

- SW3 on – The scroll lock LED indicator will display which virtual layer you are on.
  Note: when using this mode you cannot use scroll lock. Scroll lock function is not native to Mac OSX.

And then further on in the manual, under discussion of virtual layers:

If you have SW3 "ON" you will <u>not</u> be able to see the indicator for which layer you're on. Please see above for more information about the dipswitches.

My printed user manual that came with the keyboard says SW3 off = current layer LED and SW3 on = scroll lock LED, which turns out to be right by actual test but I had assumed was a typo because I was mostly relying on the more detailed online manual above.

David
7 months ago

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Thanks @Mike W.

I have updated the virtual layers section to reflect this change. Thank you!

Brandon
6 months ago

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Here's a note for anyone that uses Colemak, but prefers to have the caps lock key unchanged.

While the keyboard is in the QWERTY layout, remap the caps lock key to itself before flipping the dip switches to Colemak. This way, when you flip the dipswitches to the Colemak layout, the caps lock key will not be changed to a backspace key.

David
6 months ago

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Cool tip, thanks @Brandon

Mike W.
6 months ago

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Just reviewed your modifications about SW3 and the scroll lock indicator light. Previously the manual was inconsistent; now it is consistent but it's consistently wrong. :) On my keyboard, SW3 **off** = current virtual layer is shown by scroll lock indicator light; SW3 **on** = scroll lock indicator light shows actual scroll lock status.

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