
QUNEO FIRMWARE TROUBLESHOOTING

WHAT IS THIS DOCUMENT?

This document exists to help users identify, understand, and solve problems that can come up when dealing with firmware updates on QuNeo. If you are having troubles updating your QuNeo's firmware, are experiencing odd behavior after an update, or just want to know more, then this is the document for you.

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PROBLEMS THAT CAN HAPPEN

This section contains a number of problems, along with their causes and solutions that you may potentially run into while updating firmware on your QuNeo.

STUCK IN BOOTLOADER MODE (BLUE LIGHT ON)

WHAT'S THE DEAL?

If your QuNeo is not responding at all and the blue Mode Button light is on then your QuNeo is stuck in what is called “bootloader mode”. The details of what this is are not necessary to know, but it essentially means your QuNeo thinks it's waiting for a firmware update to happen and will not do anything until it receives one.

CAUSES

This typically only happens if the QuNeo is turned on and off very rapidly in a short period of time – often a symptom of a bad micro-USB cable (you may want to check out the [“Touchy USB Connection”](#) section if this is the case). There can be other things that cause the QuNeo to get stuck in bootloader mode, but they are far rarer and much more random to truly pinpoint the exact cause.

SOLUTION

Update your firmware! The simplest way to do this is to:

- Plug in your QuNeo to your computer
- Open up the QuNeo Editor
- Go up the the “Hardware” menu and select “Update Firmware”
- The firmware update process should begin and continue to completion
- To be safe, update all of your presets by clicking the “Update All” button (bottom-right corner of the editor)

If you're having troubles updating the firmware from QuNeo Editor, please refer to the [“Manually Updating Firmware”](#) section of this document.

NOTES

In this case it is ok if the QuNeo Editor displays “None” in the bottom-left corner (indicating that there is no QuNeo currently connected). Since the QuNeo believes it's waiting to receive firmware, there is nothing there to say

“Hey! I’m a QuNeo and connected!” The firmware update should still proceed without issue.

TOUCHY USB CONNECTION

WHAT’S UP WITH THIS?

If your QuNeo is powering on and off with just the slightest touch of the USB cable, or the QuNeo itself, then you likely have a less than stellar cable. It may seem that it’s the USB port on the QuNeo causing this, but it really is much more likely to be the cable’s fault. We have yet to see a QuNeo with a faulty USB port (though not to say that this is impossible).

SOLUTION

Replace your USB cable!

If you received a faulty cable with your QuNeo, please submit a support ticket to KMI tech support (<http://www.keithmcmillen.com/support/>) and we can get you a replacement. Or if you’d rather not wait and would like to just go out and get one yourself, most retail stores carry micro-USB cables these days – they’re often located in the cell phone area.

NOTES

A bad USB cable can be the cause of a number of issues with the QuNeo. Check out the “[Try A New Micro-USB Cable](#)” section for some more info.

QUNEO DOESN’T DO ANYTHING AFTER A FIRMWARE UPDATE

ABOUT

Sometimes after updating the firmware on your QuNeo it will appear to not be doing anything, even if it was working without issue just before updating. Not everything will light up properly, not everything will be outputting MIDI (or absolutely incorrect MIDI), and you’ll just generally see very weird behavior.

CAUSES

This is typically caused by updating the firmware on your QuNeo and then not updating the presets. When moving between QuNeo firmware versions the structure for presets will sometimes change (as we add/remove/modify features), so not all firmwares are compatible with presets from other

versions. The result of incompatible firmware and presets is a QuNeo that is not behaving properly, or at all.

SOLUTION

Update your presets!

It is best practice to get in the habit of updating your presets immediately after you update your firmware. To do this, simply click the “Update All” button in the QuNeo Editor while your QuNeo is connected (make sure it says “QuNeo” in the bottom-left corner of the editor, not “None”). Once the update is done your QuNeo should be back to normal.

You will know that the presets were successfully updated if pad 1 on the QuNeo flashes once the progress bar completes (when using the “Update All” method). If you manually update each individual preset using the “Update Preset” button, then the corresponding pad will briefly flash (e.g, update preset 8 and pad 8 will flash).

FIRMWARE UPDATE FREEZES OR DOESN'T WORK

ABOUT

It is possible that when trying to update the firmware on your QuNeo the update process freezes and does not complete. This problem is pretty much exclusive to Windows machines, most often Windows 8.

Typical behavior is that the firmware update will begin, the mode button will light up blue on the QuNeo, but nothing else ever happens – it just kind of hangs there. It will seem like the only thing that can be done is to cancel the firmware update and try again.

CAUSES

Why this problem happens is more of a mystery than the other potential problems. Windows 8 users experience this the most, so there is likely something that the editor does that it doesn't like very much. You may also want to check and make sure that you don't [have a bad USB cable](#) – it may just be that the bad cable is disconnecting your QuNeo during the firmware update. You also might want to try plugging in your QuNeo after opening the editor, not before.

SOLUTION

If firmware updates are freezing on your machine it may help to try this:

- Connect the QuNeo and open the QuNeo Editor

- Begin the firmware update – either by the automatic prompt that pops up, or by going to the Hardware menu and selecting “Update Firmware”
- When the update begins and the progress bar appears, **disconnect the QuNeo** for a second or two and then **reconnect** it
- You should get a message that your firmware is out of date and needs an update – do so
- This time the update should go through without issue (to find out what a successful update looks like visit [this section](#))
- Once done, remember to update your presets ([why should you do this?](#))

Don't worry about unplugging your QuNeo while the firmware update is in progress – you're not going to hurt it and it will not be damaged.

GENERAL INFORMATION & SUGGESTIONS

This section contains potentially helpful information and suggestions regarding QuNeo, its firmware, and things to look for when troubleshooting.

HOW DO I KNOW IF MY FIRMWARE IS UP TO DATE?

Typically if the QuNeo Editor does not prompt you to update your firmware when a QuNeo is connected, then your firmware is up to date (for the version of the editor you are currently using). However, it is possible that the editor you are using is not the most recent version. If this is the case, then you are highly likely not using the most cutting edge firmware version. The firmware file is bundled within the QuNeo Editor, and new editor versions typically include new firmware.

It is important to use the most recent version – there may be new, useful features added; fixes for bugs in both the editor and firmware; more up to date presets/templates; etc.

- Check our website's downloads page for QuNeo: keithmcmillen.com/QuNeo/downloads/
- If the version up on our webpage is newer than the one you've been using, download it.
- Open up the newest QuNeo Editor and plug in your QuNeo (or vice-versa)
- If your QuNeo is plugged in, the editor will check to make sure the firmware on the device is compatible with the application. If the firmware is not compatible, an update prompt will appear.
- If no update prompt appears, go up to the "QuNeo Editor" menu (on Mac) or the "Help" menu (on Windows) and select "About QuNeo Editor". The window that appears will show the expected firmware version numbers and the firmware version currently on your QuNeo.
- If your QuNeo's firmware version does not match the expected firmware version, use the "Update Firmware" option of the "Hardware" menu of the editor and go through the firmware update process.
- Once the "expected firmware version" and the "found firmware version" match, you're up to date.

WHAT DOES A SUCCESSFUL UPDATE LOOK LIKE?

It can certainly be helpful to know exactly what a successful firmware update looks like on the QuNeo. It can be difficult to know if something went wrong if you don't know what to look for. A successful firmware update will look something like this:

- The blue mode button on the QuNeo will light up
- As the update progress bar moves, the mode button will begin flashing, indicating that data is being loaded onto the QuNeo
- When the progress bar completes, the mode button LED will turn off
- The LEDs on the QuNeo will swipe across the board, similar to when the QuNeo is powered on
- A dialog box will pop up in the QuNeo Editor that says "Firmware Update Complete"

ALWAYS UPDATE PRESETS AFTER UPDATING FIRMWARE TO A NEW VERSION

As was briefly discussed in the "[QuNeo Doesn't Do Anything After A Firmware Update](#)" section, it is always advisable to update your presets after updating the firmware to a different version. The structure of preset files may change between different versions of the QuNeo Editor and firmware (as we add, remove, or modify features), which may lead to weird behaviors if you update the firmware but not the presets.

Some indicators that this has happened are:

- sensors not responding
- LEDs not lighting correctly (or at all)
- not everything is outputting MIDI
- odd MIDI messages being sent out
- generally odd behavior

Updating your presets from QuNeo Editor will typically solve this issue. Open the editor, connect your QuNeo (make sure the editor displays "QuNeo" in the bottom-left corner, not "None"), and hit the "Update All" button.

UNPLUG OTHER USB DEVICES

While having other USB devices plugged in at the same time as your QuNeo should not be an issue, there may be some rare cases where other devices may interfere with your ability to properly update the firmware on your board.

If you're having troubles updating your firmware or connecting to the editor (displays "None" in the bottom-left corner), you may want to try unplugging any other USB devices leaving just the QuNeo plugged in, then open up the QuNeo Editor and see if that helps. Once the firmware has updated you can plug everything back in.

If you have multiple devices plugged in, you might want to experiment and see if there is one particular device that is causing the problem. Then you'll know exactly which one to unplug if you need to update your firmware again.

TRY A NEW MICRO-USB CABLE

Many problems with updating firmware, and just general operation, can be caused by the often overlooked bad USB cable. It is always a good idea to have at least one backup cable (not just with QuNeo, but with anything) for troubleshooting purposes and other "emergencies".

Things to look for that can potentially be solved by a new cable:

- QuNeo turning on/off at the slightest touch
- QuNeo getting stuck in bootloader mode (blue mode button stuck on and not responding to anything)
- Firmware update not completing properly, or freezing
- QuNeo not connecting to QuNeo Editor

"HOTPLUGGING" ON WINDOWS

On Windows machines it is possible to experience some connectivity issues between QuNeo and the QuNeo Editor. This is true for Macs as well, but this issue is much more prevalent on computers running Windows operating systems.

If your QuNeo is plugged in but the QuNeo Editor is still displaying "None" in the bottom-left corner (meaning it can't find a QuNeo) after you open it, you should try reversing the steps. First, open the editor, *then* plug in the

QuNeo once the editor is open. In some cases you just need to find the proper order of operations to get things working right.

If this doesn't resolve the issue you may want to [try a new USB cable](#), make sure you don't have any other Audio/MIDI applications open at the same time as QuNeo Editor (Windows won't allow multiple applications to be connected to a class-compliant MIDI device simultaneously), or try [unplugging other USB devices](#).

DON'T SEND MIDI TO QUNEO DURING AN UPDATE

When performing a firmware update, it is *highly* recommended that you do not send MIDI to the QuNeo from another application (e.g. sending remote LED messages from Ableton Live to the QuNeo). If you do this, the update will likely fail.

Firmware on the QuNeo is transmitted via System Exclusive messages (SysEx), which are essentially just special MIDI messages. If you send other MIDI messages while the SysEx message is being transmitted things can get confused and go awry. You won't hurt your QuNeo if you do this, but you will have to stop sending MIDI to it and then restart the firmware update for it to complete successfully. It's also potentially possible to get [stuck in bootloader mode](#) when doing this.

Note: this problem is much more likely to occur on Mac OS than it is on Windows, as currently Windows does not allow more than one application to be connected to a class-compliant MIDI device (which the QuNeo is) simultaneously. Mac OS does not have this limitation, so you can be sending MIDI to the QuNeo from a number of sources while the editor is open and updating the firmware.

IF THINGS ARE WORKING FINE, DON'T UPDATE RIGHT BEFORE YOUR SHOW

When there's a new update available it can be very tempting to get it and update as soon as you possibly can. While there's nothing wrong with this urge, if you happen to have a show coming up anytime soon (or today), it is generally advisable to hold off on updating until after your show has passed – or at least keep your old versions so you can go back if need be.

While we test everything to the best of our ability, there's no telling what bugs may be introduced to your setup – the preset you're using may have changed in a subtle way that you don't notice, there could be a nasty bug that just didn't get noticed, the new firmware may not like one of your other

devices, or it may respond to MIDI in a slightly different, perhaps undesirable, way. Even fixing a bug with an update can cause problems if you've already grown accustomed to the "buggy" behavior and developed the muscle memory around it.

Always give yourself time to test things out before changing your performance setup. Always. You will be much less stressed if you know what to expect from your gear and software. This is an extremely useful suggestion for pretty much anything performance related, not just QuNeo.

MANUALLY UPDATING FIRMWARE

Typically the QuNeo Editor will do just fine updating firmware on your board, but in some cases it may be necessary to manually update your firmware. To update your firmware...

MAC:

1. If you have not already, download and install SysEx Librarian from <http://snoize.com/SysExLibrarian/>
2. Download or locate the firmware file you would like to install, along with the "Enter Bootloader" sysex command file (zip files for your current version and past versions can be downloaded here: http://files.keithmcmillen.com/downloads/quneo/sysex_files/)
3. Plug in your QuNeo and open SysEx Librarian
4. Click "Add..." in the lower-left corner of the screen. When the browser window opens, navigate to the firmware file (generally named to the effect of "Quneo_Firmware_v1.2.17.syx") and hit "Open"
5. Repeat the previous step but navigate to the Enter Bootloader sysex file, typically named "enter_bootloader.syx"
6. Select QUNEO from the drop down menu labeled "Destination"
7. Now select the enter_bootloader.syx file in the main window of the SysEx Librarian application. Once selected it should become highlighted blue
8. Click the "Play" button in the top-left corner. A progress bar will very quickly appear and disappear, and the blue mode button on your QuNeo should light up solid. Your QuNeo is now in bootloader mode and ready to receive firmware.
9. The destination menu will have reset when your QuNeo went into bootloader mode, so reselect QUNEO in the drop down menu.

10. Select the firmware file you want to send to your QuNeo in the main window to SysEx Librarian.
11. Click the "Play" button to start sending the firmware. A progress bar will appear indicating how far along the update process is and the mode button on your QuNeo will begin flashing as the update progresses.
12. Once done, the LEDs on your QuNeo should swipe across the board as though it is powering on. Your firmware has been updated!

WINDOWS:

1. If you have not already, download and install SysEx Box from <http://miostools.midibox.org> (it's at the top of the page)
2. Download or locate the firmware file you would like to install, along with the "Enter Bootloader" sysex command file (zip files for your current version can be downloaded here: http://files.keithmcmillen.com/downloads/quneo/sysex_files/)
3. Plug in your QuNeo and open SysEx Box
4. Select QUNEO in the MIDI In and MIDI Out ports
5. Click "Open Sysex File". When the browser window opens, navigate to the enter bootloader file (typically named "enter_bootloader.syx") and click "Open"
6. Click the "Send Sysex" button – the blue mode button on your QuNeo should light up solid. Your QuNeo is now in bootloader mode and ready to receive firmware
7. Make sure the MIDI In and MIDI Out ports still say QuNeo
8. Click "Open Sysex File" again. This time select the firmware file you want to send to your QuNeo, then click "Open"
9. Click the "Send Sysex" button – the blue mode button on your QuNeo should start flashing. The firmware update will take a moment.
10. Once the update is complete the LEDs on your QuNeo should swipe across the board as though it is powering on. Your firmware has been updated!