

# MOOG SUBHARMONICON FIRMWARE UPDATE v1.1.1

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March 2022

## About Firmware Version 1.1.1

This is a minor update that builds upon the improvements made in Firmware v1.1.0. Details of Firmware v1.1.0, as well as instructions on how to update your firmware, can be found on the subsequent pages of this document. **If you have any questions or trouble with your update, please contact [techsupport@moogmusic.com](mailto:techsupport@moogmusic.com).**

### UPDATES AND IMPROVEMENTS FOUND IN v1.1.1:

- A bug discovered in Subharmonicon Firmware v1.1.0 caused MIDI clocking errors in certain situations. This issue has been resolved.
- After the release of Firmware v1.1.0, Subharmonicon would not respond to certain MIDI messages when configured for **MIDI Ch. ALL**. This issue has been resolved.
- This update also includes a bug fix that prevented Subharmonicon from booting with certain patch combinations.

# MOOG SUBHARMICON FIRMWARE UPDATE INSTRUCTIONS

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## TO UPDATE YOUR SUBHARMICON FIRMWARE, YOU WILL NEED:

- A computer with internet access.
- A SysEx handler such as [Bome SendSX](#) for Windows or [SysEX Librarian](#) for macOS.
- A USB-MIDI Cable or Interface with 5-Pin MIDI Output capable of sending SysEx files.
- The DIN MIDI-to-3.5mm adapter dongle included with your Subharmonicon.

**NOTE:** SysEx, or 'MIDI System Exclusive Messages,' are a type of MIDI message designed to transmit information about specific functions inside a piece of MIDI hardware. You will most commonly see SysEx files with the .syx file extension.

**NOTE:** Every SysEx program has slightly different terminology for loading, sending, and receiving SysEx files. We have tried to show all options for the programs listed above, but please familiarize yourself with your program before starting the update to avoid any confusion.

## UPDATE PROCEDURE:

1. Connect Subharmonicon to your computer using a USB-to-MIDI cable or via your MIDI-enabled interface.

**NOTE:** Avoid connecting through a USB hub, if possible, as many USB hubs do not work reliably and can cause the update to fail. Drag the following files from the *Subharmonicon\_Firmware\_v1\_1\_1* folder into your SysEx application's main window:

- *subharmonicon\_FIRMWARE\_INVALIDATE.syx*
- *subharmonicon\_FIRMWARE\_ERASE.syx*
- *Subharmonicon\_Firmware\_v1\_1\_1.syx*

2. Select your MIDI interface as your MIDI output device in the SysEx application.

**NOTE:** In *SysEx Librarian*, this is found in a drop-down menu at the top of the application window; in *Bome SendSX*, there is a MIDI OUT menu on the menu bar.

3. Send or Play *subharmonicon\_FIRMWARE\_INVALIDATE.syx* from your SysEx application to your Subharmonicon. You should see the Step 1 LED of Sequencer 1 blinking on/off; this means the unit is now in Boot-Loader Mode. The old firmware still needs to be erased.
4. Send or Play *subharmonicon\_FIRMWARE\_ERASE.syx* from your SysEx application to your Subharmonicon. You should see the Step 2 LED of Sequencer 1 blinking on/off; this means the old firmware has been successfully erased and the instrument is ready for new firmware.
5. Send or Play the new firmware file, *Subharmonicon\_Firmware\_v1\_1\_1.syx*. The Sequencer 2 LEDs will "fill up," lighting progressively from left to right to indicate that the firmware file is received. When the firmware upload is complete, the Step 3 LED of Sequencer 1 will blink a few times to indicate successful firmware installation.
6. Congratulations! Subharmonicon will reboot with its customary light show and is ready to use.

# MOOG SUBHARMONICON FIRMWARE UPDATE TROUBLESHOOTING

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## TROUBLESHOOTING:

- Verify that you have as direct a connection as possible to your computer; avoid USB hubs, MIDI Thru boxes, or other MIDI devices/instruments before connecting Subharmonicon.
- Check the preferences section of your SysEx program and look for transmit speed. If your SysEx program allows, adjust this down to 50%.
- Begin each attempt from the beginning by sending the **Invalidate** file. Only load and send one file at a time.
- Lastly, you may find it helpful to re-establish the connection to your SysEx handler before sending each file in the process. For example, load and send **Invalidate**, close and reopen your SysEx handler, load and send **Erase**, close and reopen your SysEx handler, then load and send the firmware file.

If you have any questions or trouble with your update, please contact [techsupport@moogmusic.com](mailto:techsupport@moogmusic.com).

# PREVIOUS RELEASE: MOOG SUBHARMONICON FIRMWARE UPDATE v1.1.0

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## About Firmware Version 1.1.0

This update contains new features, fixes, and improvements to existing behavior. These updates are detailed below.

### NEW FEATURES:

- **MIDI Pitch Bend**

- Subharmonicon now changes pitch in response to MIDI Pitch Bend messages.
- Previously, Subharmonicon did not respond to MIDI Pitch Bend.

- **Keyboard Note Priority—MIDI CC 91**

- You can now use MIDI CC 91 to set Low Note or Last Note priority on Subharmonicon. A single CC 91 message with any value in the ranges found in the table below will set the Note Priority parameter for Subharmonicon. This setting is remembered when the instrument is powered off.

Keyboard Priority	MIDI CC Value
Low Note Priority	0-42
High Note Priority	43-85
Last Note Priority (default)	86-127

- Previously, MIDI CC 91 had no effect.

**NOTE:** For more information on sending MIDI CCs, please see this article on our website:

<https://moogmusicsupport.zendesk.com/hc/en-us/articles/4573003514131-Sending-MIDI-CCs-to-Moog-Instruments>

- **MIDI Note Transpose**

- MIDI Notes sent to Subharmonicon via the MIDI jack will now transpose the pitch of the sequence while the sequence is running. This allows you to connect a MIDI keyboard or other MIDI-compatible device to transpose Subharmonicon live.
- Previously, MIDI notes received while a sequence was running would play directly over the notes in the sequence.

**NOTE:** You can still play Subharmonicon directly via MIDI when the sequencer is paused.

# PREVIOUS RELEASE: MOOG SUBHARMONICON FIRMWARE UPDATE v1.1.0

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## UPDATES AND IMPROVEMENTS:

- **Sequencer position and parameter settings remain when powered off.**
  - Subharmonicon now stores the knob position for all sequencer parameters when the instrument is powered off.
  - Previously, these settings were not always stored when the instrument was powered off.
- **Sequencer clock outputs are now in phase with the internal clock.**
  - The **SEQ 1 CLK** and **SEQ 2 CLK** outputs are now in step with the internal clock.
  - Previously, these outputs were delayed by one clock pulse relative to the internal clock.
- **TRIGGER behavior improvement.**
  - When the Envelope Generator is latched (**EG** button is blinking), the **TRIGGER** button and signals received at the **TRIGGER** input jack are ignored.
  - Previously, if these **TRIGGER** functions were activated while the **EG** was latched, the **EG** would trigger, overriding the latch function and not triggering again unless the **EG** was unlatched and turned on (**EG** button solid red).
- **Highest note is now a C.**
  - The highest pitch Subharmonicon will play in unquantized mode is now a C.
  - Previously, the highest note in unquantized mode was C#.