

# MOOG SUB 37 - FIRMWARE UPDATE 1.1.0

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## What You Will Need

- A computer
- A program for sending MIDI Sysex data to your Sub 37. We recommend MIDI-OX for Windows, or SysEx Librarian for Macintosh.

## Download & Install the Sysex Software (if you do not already have it installed)

WINDOWS: <http://www.midiox.com/zip/midioxse.exe>

MAC OSX: <http://www.snoize.com/SysExLibrarian/>

## BEFORE YOU UPDATE YOUR FIRMWARE

Make sure the power and USB connection to your Sub 37 is secure and cannot be unplugged by accident, for instance by a roommate or the family dog, before you start the update process. Both of these examples have actually happened, so please be careful.

## Common Problems

### THE FIRMWARE UPDATE CANNOT BE INSTALLED VIA DIN MIDI.

Sub 37 firmware updates can only be performed through the USB port.

### THE DISPLAY IS BLANK AND/OR ALL OF THE LEDS ARE LIT.

The firmware on your Sub 37 has not been updated correctly. Repeat the update procedure. Note that nothing will appear on the display until the panel firmware update is complete.

# UPDATE INSTRUCTIONS FOR WINDOWS

1. Connect a USB cable from the Sub 37 directly to your computer. *(Avoid using a USB hub if possible, as many USB hubs do not work reliably and can cause the update to fail.)*

2. Turn on your Sub 37.

3. If you have not already done so, unzip the sub37\_1\_1\_0\_manual\_install.zip file.

## UPDATE INSTRUCTIONS FOR WINDOWS:

*(Skip to the next section for Mac OSX instructions)*

4. Launch the MidiOx application. Click on the Options menu and choose Midi Devices. Select Moog Sub 37 in both the Midi Inputs and Midi Outputs panes, then click OK.

5. Click the View menu and choose SysEx. This will open the SysEx View and Scratchpad window. In the SysEx View and Scratchpad window, click the Sysex menu and choose Configure. In the Configure window, set the Low Level Output Buffers as follows:

Size = 64 Bytes

Num = 1024.

Under "Output Timing" make sure that "Auto-adjust Buffer Delays if necessary" is NOT checked, and set Delay Between Buffers = 60 Milliseconds. Click OK to close the Configure window.

6. In the SysEx View window, click File and choose Send Sysex File. A file chooser window will open. Navigate to the location where you unzipped the Sub37\_1\_1\_0\_manual\_install.zip file, select the file sub37\_1\_1\_0\_step1.syx and click Open. This will send the Step 1 file to the Sub 37. After a pause, the red MIDI LED on the Sub 37 will blink slowly three times. Then it will stop blinking, and the ARP RATE LED will begin blinking about once per second. The display may also read "FIRMWARE UPDATE: Flash Erased - Ready for Code."

*NOTE: If the display remains blank, but the ARP RATE LED is blinking, you may still Proceed. The display will remain blank, but the firmware update will still work.*

7. Refresh the Sub 37 USB connection to MIDI-OX: click Options, choose MIDI Devices, make sure Moog Sub 37 is still selected for MIDI Input and Output, and click OK.

8. In the MidiOx SysEx View window, click File and choose Send Sysex File. Select the file named sub37\_1\_1\_0\_step2.syx, and click Open. This will send the Step 2 file to the Sub 37. The MIDI LED will blink red as the Sub 37 receives data. The display may also read Flash Erased - Getting buffers, with the Page number increasing in the display. The file sending process may take 10 to 15 minutes to complete.

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# UPDATE INSTRUCTIONS FOR WINDOWS (continued)

9. When the transmission is complete, the Sub 37 will restart itself with the new firmware.

*NOTE: If the display was blank in the preceding steps, it will remain blank until the update process is completed. Keep going...*

10. Refresh the Sub 37 USB connection to MIDI-OX again: click Options, choose MIDI Devices, make sure Moog Sub 37 is still selected for MIDI Input and Output, and click OK.

11. In the MidiOx SysEx View window, click File and choose Send Sysex File. Select the file named sub37\_1\_1\_0\_step3.syx and click Open. The Sub 37 will briefly show a message, and then go blank. Then the ARP RATE LED will blink rapidly.

*NOTE: If the firmware update process failed on a previous attempt, the ARP RATE LED will still blink, but the display may remain blank, and all the lights may be lit.*

12. In the MidiOx SysEx View window, click File and choose Send Sysex File. Select the file named sub37\_1\_1\_0\_step4.syx, and click Open. You should see the MIDI LED flashing red on the Sub 37. The file sending process may take more than 15 minutes to complete.

When the transmission is complete, your Sub 37 will restart itself using the new firmware.

You can check the firmware version number by powering on your Sub 37 while holding CURSOR, or by going to the last page of the GLOBALS menu.

**FINISHED**

# UPDATE INSTRUCTIONS FOR MAC OSX

1. Connect a USB cable from the Sub 37 directly to your computer. *(Avoid using a USB hub if possible, as many USB hubs do not work reliably and can cause the update to fail.)*

2. Turn on your Sub 37.

3. If you have not already done so, unzip the sub37\_1\_1\_0.zip file.

## UPDATE INSTRUCTIONS FOR MAC OSX:

4. Launch the SysEx Librarian application. Click the "Destination" pull-down menu at the top of the SysEx Librarian window, and select Moog Sub 37.

5. Click the SysEx Librarian menu and choose Preferences. On the Preferences page, click the Transmit Speed tab. Set the Speed for Moog Sub 37 to 50%. 'X' out of the Preferences window.

*NOTE: If you have any problems sending the update files, try setting the Speed to 25% and repeating the update process from the beginning. Cycle the power to the Sub 37 off and back on again before repeating the update process.*

6. At the bottom of the SysEx Librarian window, click the Add button. This will open a file chooser window. Navigate to the location where you unzipped the sub37\_1\_1\_0.zip file. Select all four sysex files (Sub35\_1\_1\_0\_step1, step2, step3, step4.syx) by holding Shift + clicking each file name, then click Open. This will add all four files to the SysEx Librarian Playlist.

7. In the Playlist (main area of the SysEx Librarian window), click on the file named sub37\_1\_1\_0\_step1.syx, and then click the Play button in the upper left. This will send the Step 1 file to the Sub 37. After a pause, the red MIDI LED on the Sub 37 will blink slowly three times. Then it will stop blinking, and the ARP RATE LED will begin blinking about once per second. The display may also read: "FIRMWARE UPDATE: Flash Erased - Ready for Code."

*NOTE: If the display remains blank, but the ARP RATE LED is blinking, you may still Proceed. The display will remain blank, but the firmware update will still work.*

8. Make sure that Moog Sub 37 is still selected as the Destination, at the top of the SysEx Librarian window; re-select it if necessary. Check this before sending each file.

9. In the Playlist, click on the file named sub37\_1\_1\_0\_step2.syx and then click the Play button. This will send the Step 2 file to the Sub 37. The MIDI LED will blink red as the Sub 37 receives data. The display may also read Flash Erased - Getting buffers, with the Page number increasing in the display. The file sending process may take 10 to 15 minutes to complete.

10. Make sure that Moog Sub 37 is still selected as the Destination, at the top of the SysEx Librarian window; re-select it if necessary. Check this before sending each file.

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## UPDATE INSTRUCTIONS FOR MAC OSX (continued)

11. In the Playlist, click on the file named sub37\_1\_1\_0\_step3.syx and then click the Play button. The Sub 37 will briefly show a message, and then go blank. Then the ARP RATE LED will blink rapidly.

*NOTE: : If the firmware update process failed on a previous attempt, the ARP RATE LED will still blink, but the display may remain blank, and all the lights may be lit.*

12. In the Playlist, click on the file named sub37\_1\_1\_0\_step4.syx and then click the Play button. You should see the MIDI LED flashing red on the Sub 37. The file sending process may take more than 15 minutes to complete.

When the transmission is complete, your Sub 37 will restart itself using the new firmware.

You can check the firmware version number by powering on your Sub 37 while holding CURSOR, or by going to the last page of the GLOBALS menu.

**FINISHED**

# MOOG SUB 37 - CHANGE LOG

## New in 1.1.0

- Sequencer Step Edit Mode
- Quick mapping of programmable Mod Destinations
- Sequences can now include Skipped Steps and Ratchet
- Swing for the Arpeggiator, Sequencer, & Synced LFOs.
- Sequencer Mod Destination
- Sequencer Mod Only
- CV Mapping
- Variance parameter for detuning of oscillators
- Fixed sequencer MIDI output now sends MIDI notes for both Pitch 2 & Pitch 1 when in Duo Mode.
- Fixed when LATCH is on, playing a key, changing KB OCTAVE and then playing the same key now updates the played octave correctly.
- Fixed Amp EG Latch ON no longer affects Filter EG.
- Fixed Preset Name now updates when you INIT the preset.
- Fixed Pitch Bend Up/Down changes now take effect when Local Control is OFF.
- Refer to Sub 37 Manual for complete list of changes in v1.1.0

## New in 1.0.7

- Fixed parameter mismatch when Master Volume set by MIDI (CC7)
- Mod buss CTRL4 (MIDI CC 2) value now updates correctly
- Improved Relative pot mode behavior when reversing direction
- Pot min/max values now reported correctly, fixes Pass-Thru pot mode

## New in 1.0.6

- Fixed MIDI Time Code handling (MTC is ignored).
- Fixed MIDI Output Filters - Panel, Wheels.

## New in 1.0.5

- Small improvement to main CPU startup routine.

## New in 1.0.4

- Added MIDI Clock/Start/Stop output (GLOBAL MENU 2.5: CLOCK OPTIONS)
- Panel Mode gets correct rotary switch positions
- Change in External Sync behavior: does not require MIDI Start message
- Fixed possible MIDI loop when Local Control turned off
- Fixed bug where Mod Wheel value didn't go completely to zero via external MIDI
- Velocity is now updated when re-playing an arp note which is already latched
- Fixed stuck notes via arpeggiator MIDI output
- Improved USB MIDI reliability
- Fixed NRPN output/response for Mod 1 & 2 PGM Destinations and Sources
- Fixed bug that could cause arpeggiator to freeze
- Output Mute button did not work under some circumstances; now always works.
- GLOBAL menu now shows both main & panel firmware version numbers.
- MIDI menu: POLY MAX number display was off by one (values are 1-16, was showing 0-15)

# MOOG SUB 37 - CHANGE LOG (continued)

## New in 1.0.3

- Fixed possible freeze during patch changes
- Fixed: after scrolling rapidly through presets, patch select LEDs could remain lit
- When exiting compare mode, patch edited status is correctly restored (asterisks reappear if necessary)

## New in 1.0.2

- Custom tuning selection
- Poly mode
- MIDI output filtering now includes keyboard and wheel options
- Arpeggiator and sequencer reliability improvements
- MIDI sync behavior fixes and improvements
- Numerous other user interface reliability improvements

## New in 1.0.1

- Arpeggiator rate knob responsiveness improved
- Tap tempo no longer requires SYNC to be on
- Arp and LFO rate knobs now give correct settings at maximum position
- LFO 2 Sync at max tempos and max clock divisions is now stable
- Pitch CV reliability improved
- Local Control: KNOBS is now Local Control: PANEL