

MF-104M Beta Firmware 1.1.2

Update instructions 06.17.14



MF-104M firmware update instructions

- 1) Power on the MF-104M with both stomp switches held in. You should see a boot-up LED sequence (TIME LED blinks, then LEVEL LED blinks a few times. This shows boot-loader version number). When all the bottom-row LEDs light solid green you are now in boot-loader mode.
- 2) Connect MIDI out from a computer to the MF-104M.
 - a. Open the sysex-sending software of your choice. For Mac we recommend Sysex Librarian, for Windows we suggest MIDI-Ox; or Elektron has a free program for both platforms called C6).
 - b. Send the MF-104M the "erase firmware" sysex command (`_Erase_FW_MF104M_Cmd.syx`) which is included with this update. You will see the MF-104M Level LED blink yellow three times while the firmware is erased. When finished, Time, Level, and Bypass LEDs will all light green again, indicating a return to Bootloader mode.
- 3) Send the new firmware files (`MF104M_Firmware_v1_1_2-Beta.syx`) using your Sysex sending software. The Level LED will blink while the firmware is being transmitted. The MF-104M will reboot to normal operating mode when the update is complete.
- 4) Due to changes in this firmware your new install will require a factory restore and Potentiometer calibration and may require feedback to be adjusted.
 - a. To perform a factory restore, send `_Factory_Restore_MF104M_Cmd.syx` with your Sysex software.
 - b. To calibrate potentiometers follow these steps
 - i. Turn Time, Feedback, Rate, Amount, Output Level, Mix fully Counter Clock Wise (to the left)
 - ii. While holding down TAP TEMPO and BYPASS flip the time switch from short to long and back. All Leds will light RED.
 - iii. Press TAP Tempo to store this value. The Leds will change to ORANGE
 - iv. Turn Time, Feedback, Rate, Amount, Output Level, Mix fully Clock Wise (to the right)
 - v. Press TAP Tempo to store this value. The Leds will change to GREEN
 - vi. Press Bypass to exit Potentiometer Calibration Mode
 - c. If your new unit FEEDBACK knob has a different range of use you may require adjusting the VR1 trim-pot in the middle of the PCB to suite your taste. We recommend with the switch in Long, Time at 12:00 for self oscillation to just start with FEEDBACK at 3:00

If you have any questions or problems with this update contact Moog Customer Service at 828-251-0090 for assistance.

An MF-104M Manual addendum has been included with new and previously undocumented MIDI commands.

TIMELESS ELECTRONIC MUSICAL INSTRUMENTS



Changes in v1.1.2 VS 1.0.0. This is only a partial change log and includes fixes in previous beta versions.

- Time LED is always in sync with actual delay time, including modulation. This can be changed to the old behavior with a MIDI CC#95.
- Tap Tempo has been adjusted for more stability and bug fixes especially when used with extreme setting of Amount Modulation.
- Modulation has been improved to better handle modulation amounts that take the TIME out of the "Legal" range of time. Other Modulation bug fixes have been applied.
- Fixed problem with MIDI Time Code (MTC). MF-104 does not use MTC, it syncs to MIDI Clock messages (sometimes called MIDI Beat Clock). However, MTC messages were not being properly handled and ignored before this update.
- Improved range of LEVEL control
- Improved Tap Tempo behavior
- Improved handling of Feedback during Bypass switching
- Improvements in Auto Calibration that affect knob and CV positions.
- Improvements to short long switch behavior.
- Bug fixes around modulation, especially when using MIDI, Mod-wheel and Pitch-bend.
- Bug fixes around Midi Sync behavior and clock dividers.

Links to sysex software:

<http://www.midiox.com/zip/midioxse.exe> [windows]

<http://www.snoize.com/SysExLibrarian/SysExLibrarian.zip> [mac OSX]

http://www.elektron.se/sites/default/files/products/files/Elektron_C6_Windows_v1.5.zip

http://www.elektron.se/sites/default/files/products/files/Elektron_C6_OSX_v1.5.dmg

Sysex Tips and tricks

- 1) Make sure that whatever USB to MIDI converter that you are using has the most up to date drivers. Do not use the default Windows Class Compliant MIDI Drivers. Always install the manufacturer's recommended driver for the device you are using.
- 2) If having problems try a different Sysex handler such as C6. C6 is also usable on Mac and PC.
- 3) When using Sysex Librarian, do NOT have multiple .syx files highlighted when you hit Play, as sending things as batches may confuse the install.
- 4) Some people have had better luck with Sysex Librarian after failures by adjusting the transfer speed to about 25%.
- 5) For MIDI OX try adjusting the low level output buffers to 1024 bytes and Num=256 and check Auto-Adjust Buffer Delays if necessary.



FAQs

- 1) When increasing the modulation amount, there is a value from which the time "bumps".
 - This happens because the MF-104 tries to preserve the octave range of the Amount modulation even if it takes TIME out of the "Legal" Range. This can happen with high amounts of modulation or the TIME knob not near the center position. V1.1.2 and above will go slightly out of the TIME knob range but will adjust time to preserve the range if pushed further. To prevent this problem use less modulation or adjust the TIME knob to be more to the center of rotation.
- 2) The TIME LED does not match the tempo I have taped in when using Amount Modulation.
 - The TIME LED tracks the instantaneous time, which is affected by the LFO modulation. The modulation takes the time faster and slower than the tap tempo time. It is symmetrical around the tap tempo time. If you do not want the LED to show the modulation amount use a CC#95 as explained in the addendum to make it show the center time, or tapped time only.