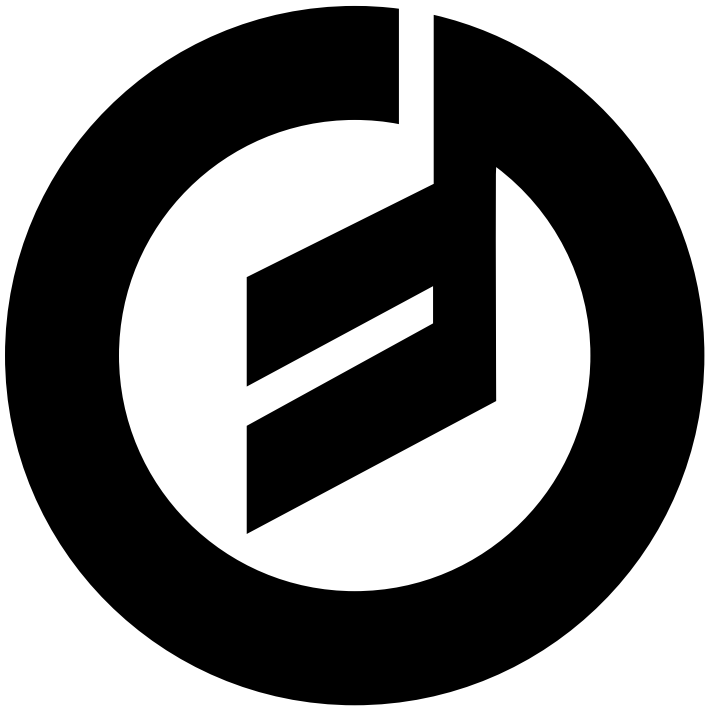


MUSE

FIRMWARE 1.2.0

Release Notes

HIGHLIGHTS

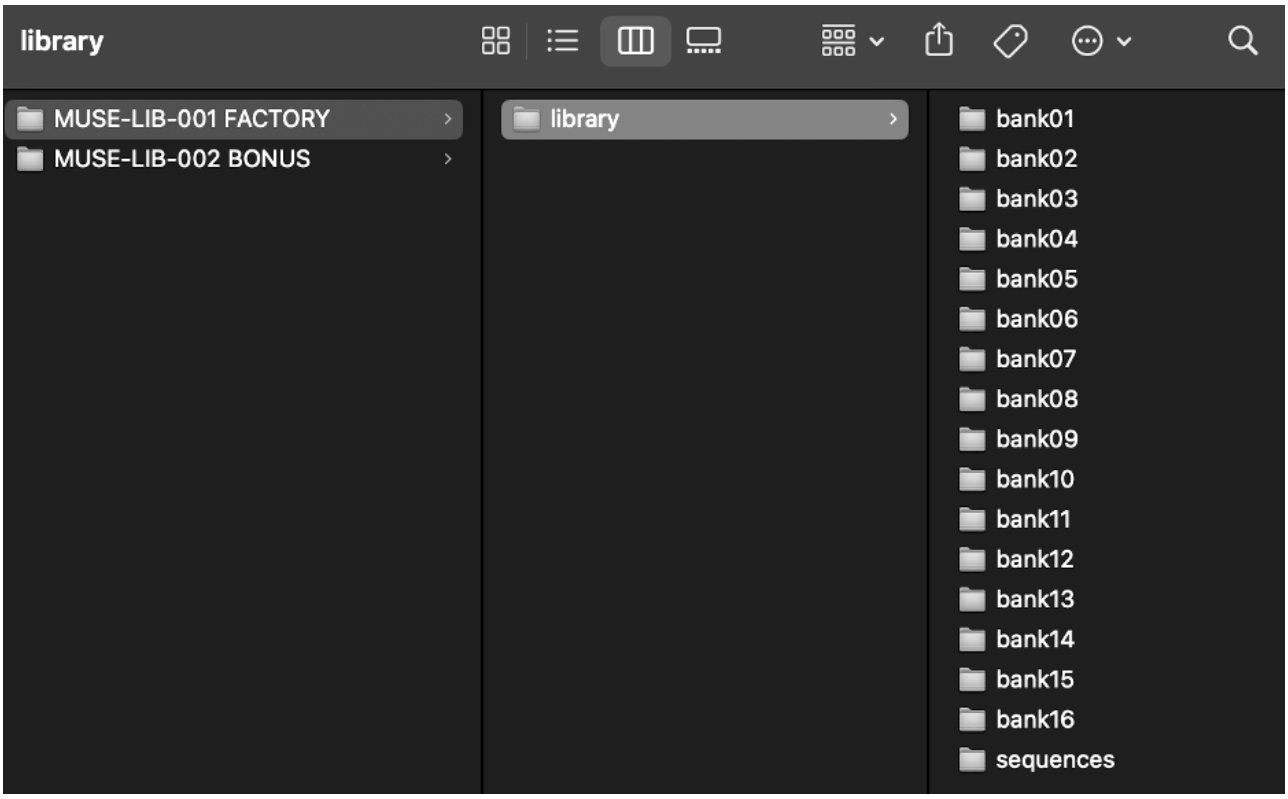
Firmware update v1.2.0 for Muse adds the ability to save multiple different key maps for use with the KEY mode of the CHORD module. With KEY mode the CHORD module allows you to index up to an eight note chord on to any of Muse's 61 keys, letting you store 61 unique chords across the keyboard. Key maps you create will now be saved in the CHORD module (persisting after power cycling) and via the MORE menu you can switch between eight different key mappings.

FIRMWARE AND LIBRARY UPDATE PROCEDURE

This download consists of a 'moog-muse-firmware.bin' file which contains the updated v.1.2.0 firmware as well as these release notes.

Register your instrument at moogmusic.com and navigate to the Presets area where, if you haven't already, you can find the MUSE-LIB-002 LAUNCH EXPANSION.zip file which contains the Launch Expansion library of patches and sequences for Muse. Download and unzip this file and you will find a 'library' folder inside, which will be used to load the Bonus library onto your Muse. You will also find the MUSE-LIB-001 FACTORY.zip file there, which contains the factory library of patches and can be downloaded as a backup.

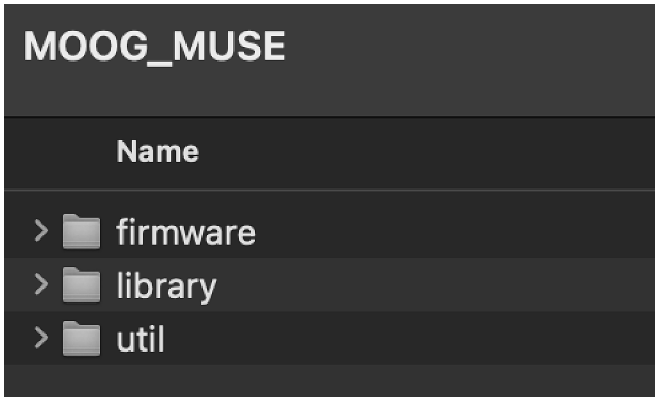
Muse contains 16 banks of 16 presets and its SEQUENCER contains 16 banks of 16 sequences. These all live in the 'library' folder on Muse's disk and can be accessed by connecting Muse to a computer via USB and entering DISK MODE. It's a good idea to make a folder on your computer to house all of your Muse preset libraries as well as backup any patches or sequences you create.



Firmware updates and patch/sequence library management are accomplished via DISK MODE.

To enter DISK MODE:

- Power off Muse.
- Connect your computer to the USB-B port on the rear of Muse.
- Hold down the SELECT encoder on Muse and continue holding it down while powering on Muse. You may release the SELECT encoder once the PROGRAMMER screen reads DISK MODE.

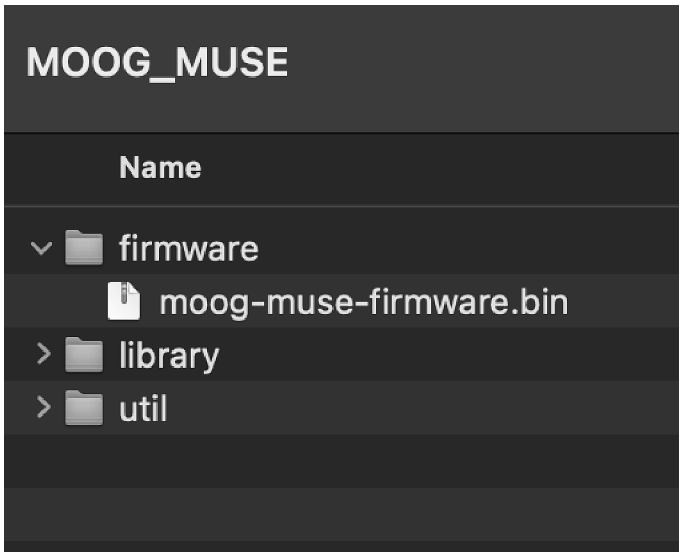


!!! NOTE: *Windows users may see a prompt that says "There is a problem with this drive, scan the drive now to fix it." Do* ***not*** *scan the drive as this may cause issues with your unit and will likely result in having to send it back for service. Either exit out of the pop-up prompt or wait a few moments and the message will go away on its own.*

Muse will now appear on your computer as an external disk named MOOG_MUSE.

Once in disk mode, you may open the MOOG_MUSE disk to view its contents.

- firmware contains the firmware binary file
- library contains data for all patches and all sequences
- util contains calibration data and should be ignored



To update the firmware of Muse, replace the 'moog-muse-firmware.bin' file in the 'firmware' folder in MOOG_MUSE with the 'moog-muse-firmware.bin' file found in this download. The 'firmware' folder MUST contain a single valid 'moog-muse-firmware.bin' file and nothing else for proper operation.

To update the library of Muse, replace the 'library' folder in MOOG_MUSE with the 'library' folder in the MUSE-LIB-002 LAUNCH EXPANSION.zip file found in the Preset downloads area of moogmusic.com. If prompted, do not 'merge' the directories – you want to replace the 'library' folder on MOOG_MUSE entirely with the Launch Expansion 'library' (this may take a few minutes). The library folder contains a folder for every patch bank of Muse. Within each bank folder is a separate folder for each patch - inside of which is the patch data for that bank and patch location. Only one patch can be in a patch folder at a time. Inside the sequences folder is a similar file structure for the banks and sequences in the SEQUENCER. You may move around patches/sequences, rename them, back them up on your computer, and transfer new patches from your computer to Muse using DISK MODE, but you must retain the file structure in the library folder.

Once the firmware file and/or library directory have been updated:

- Eject the MOOG_MUSE drive from your computer.

IMPORTANT: *Safely ejecting Muse is critical to ensure all pending operations are completed and that the firmware is fully updated.*

- The PROGRAMMER screen will now read DISK MODE SESSION ENDED.

You're done! You may now power off Muse, disconnect it from the computer, and power it on as normal to begin using the new firmware.

NEW FEATURES

CHORD

- Key maps added, allowing you to save up to 8 different chord mappings for KEY mode.
- KEY MAP item in MORE menu – selects between key maps 1 through 8.
- CLEAR CURRENT KEY MAP item in MORE menu – clears out the current key map (selected by the KEY MAP item above) when selected.
- MIDI PANIC soft button in the MIDI menu sends Note Off messages to all voices and SEQ and ARP, sends All Notes Off message to KEYBOARD MIDI OUT CHANNEL via USB/DIN and All Controllers Off message to KEYBOARD MIDI OUT CHANNEL and LHC MIDI OUT CHANNEL via USB/DIN.

IMPROVEMENTS

- CLOCK More Menu - Change ARP and SEQ START/STOP language to avoid double-negatives.

BUG FIXES

- Pressing ENTER or SELECT on empty menu item will no longer cause crash.

PREVIOUS CHANGES

CLOCK

- In CLOCK MORE MENU, new option AUTO added to CLOCK SOURCE.
    - When in AUTO mode, Muse is able to automatically determine a clock source for the user based on certain conditions: If an external MIDI START signal is received at either the DIN or USB ports, MIDI clock will automatically be chosen for the user; if either the SEQUENCER's PLAY button or the ARPEGGIATOR's ON button are physically pressed while the system detects an external analog clock plugged into the CLOCK IN jack, ANALOG clock will automatically be chosen for the user; and finally if either the SEQUENCER's PLAY button or the ARPEGGIATOR's ON button are physically pressed while nothing is plugged into the CLOCK IN jack, INTERNAL clock will automatically be chosen for the user.

MIDI

- MIDI CC map implemented – see APPENDIX A at the end of this document.
- Sustain pedal will output on MIDI CC64.
    - If SUSTAIN PEDAL POLARITY in CV menu set to "CV", MIDI CC will not be output on CC64.
- Muse will now respond to incoming sustain pedal messages on MIDI CC64.
- Expression pedal connected to EXPRESSION IN will output on MIDI CC11. Voltages at EXPRESSION IN less than 0 V will not output MIDI CCs.
- Muse will now respond to incoming expression pedal messages on CC11. If an Expression pedal CC is received, the EXPRESSION mod map source will output that unipolar normalized CC value until the voltage at the EXPRESSION IN jack changes.

SYSTEM

- Boot status screen displays progress as Muse powers on.

IMPROVEMENTS

- Boot time reduced to around 50 seconds with the factory library.
- Save PATCH when PROGRAMMER focused on BANK, PATCH, MOD MAP, or ARP views.
- Save SEQUENCE when PROGRAMMER focused on SEQ or STEP views.
- MORE menu buttons go back on second press.
- Improvements in BANK/PATCH and SEQ/SEQ BANK user interface indications:
    - In BANK view, selecting a BANK that is different from the currently loaded PATCH's BANK with the 1-16 buttons will cause the selected BANK's 1-16 button to blink.
        - Likewise in SEQ BANK view.

    - In PATCH view if the selected BANK differs from the current loaded PATCH's BANK then BANK text blinks and no 1-16 buttons light.

        - Likewise in SEQ view.

- After receiving MIDI Stop message the ARPEGGIATOR can be re-enabled by toggling ARPEGGIATOR ON button off and back on.

    - ARPEGGIATOR ON button blinks after receiving a MIDI Stop message.

- Use SUSTAIN IN POLARITY to make SUSTAIN PEDAL MOD MAP source be in the range 0% to 100% for both closed and open pedal types.

- Change USB PID for Moog Muse as a MIDI device to 0x1e51 to go along with Windows USB driver "Install Moog Music Muse 1.0.1.exe". (It will still be 0x1e50 as a storage device).

- Change "MIDI function" to "Moog Muse" for Windows users that don't have the driver installed.

BUG FIXES

- Make dirty asterisk on PATCH screen show after performing operations like COPY, ARRANGEMENT, and PANEL disable.

- Fix bug where moving the VALUE encoder on a non-parameter MORE menu item would result in the previous parameter item updating.

- Fix bug with incorrect LOW CUT saved value text.

- Change strings from CLIP to OVERLOAD for slider popup, quick assign screen destination, and MOD MAP destination.

- Fix clicks in DIFFUSION DELAY multitap CHARACTER parameter near 100%.

APPENDIX A: MIDI CC

MIDI CC	MUSE CONTROL	RANGE
1	Mod Wheel	0-127
3	Mute	0-63 off/ 64-127 on
5	Glide Time	0-127
7	Timbre Volume	0-127
8	Low Cut	0-127
9	Pan Spread	0-127
10	Pan	0-127
11	Expression	0-127
12	LFO 1 Rate	0-127
13	LFO 1 Amount	0-127
14	LFO 1 Waveform	0-127 0-24: TRIANGLE 25-49: SAW 50-74: SQUARE 75-99: RANDOM 100-127: USER WAVE
15	LFO 2 Rate	0-127
16	LFO 2 Amount	0-127
17	LFO 2 Waveform	0-127 0-24: TRIANGLE 25-49: SAW 50-74: SQUARE 75-99: RANDOM 100-127: USER WAVE
18	Pitch LFO Rate	0-127
19	Pitch LFO Shape	0-127
20	Pitch LFO Amount	0-127
21	Pitch LFO OSC 1	0-63 off/ 64-127 on
22	Pitch LFO OSC 2	0-63 off/ 64-127 on
23	Pitch LFO Mod Osc	0-63 off/ 64-127 on
24	Pitch LFO Detune	0-63 off/ 64-127 on
25	Modulation Oscillator Frequency	0-127
26	Modulation Oscillator Audio	0-63 off/ 64-127 on
27	Modulation Oscillator KB Track	0-63 off/ 64-127 on
28	Modulation Oscillator Waveform	0-127 0-24: SINE 25-49: SAWTOOTH 50-74: RAMP 5-99: SQUARE 100-127: NOISE
29	Modulation Oscillator KB Reset	0-63 off/ 64-127 on
30	Modulation Oscillator Unipolar	0-63 off/ 64-127 on
31	Modulation Oscillator Pitch Amount	0-127
33	Modulation Oscillator Pitch OSC 1	0-127
34	Modulation Oscillator Pitch OSC 2	0-127
35	Modulation Oscillator PWM Amount	0-127
36	Modulation Oscillator PWM OSC 1	0-127
37	Modulation Oscillator PWM OSC 2	0-127

APPENDIX A: MIDI CC *(Cont.)*

MIDI CC	MUSE CONTROL	RANGE
39	Modulation Oscillator Filter Amount	0-127
40	Modulation Oscillator Filter 1	0-127
41	Modulation Oscillator Filter 2	0-127
42	Modulation Oscillator VCA Amount	0-127
43	Modulation Oscillator VCA PAN	0-127
44	Oscillator 1 Octave	0-127 0-31: 16' 32-63: 8' 64-95: 4' 96-127: 2'
45	Oscillator 1 Frequency	0-127
46	Oscillator 1 Tri/Saw Mix	0-127
47	Oscillator 1 PW	0-127
48	Oscillator 1 Wave Mix	0-127
49	Oscillator 2 Octave	0-127 0-31: 16' 32-63: 8' 64-95: 4' 96-127: 2'
50	Oscillator 2 Frequency	0-127
51	Oscillator 2 Tri/Saw Mix	0-127
52	Oscillator 2 PW	0-127
53	Oscillator 2 Wave Mix	0-127
54	Oscillator 2>1 SYNC	0-63 off/ 64-127 on
55	Oscillator 2>1 FM	0-63 off/ 64-127 on
56	Oscillator 1>2 FM	0-63 off/ 64-127 on
57	FM Amount	0-127
58	Oscillator 1 Level	0-127
59	Oscillator 2 Level	0-127
60	Ring Mod Level	0-127
61	Modulation Oscillator Level	0-127
62	Noise Level	0-127
64	Sustain Pedal	0-63 off/ 64-127 on
65	Clipping Level	0-127
66	Filter 1 High Pass	0-127
67	Filter 1 Cutoff	0-127
68	Filter 1 Resonance	0-127
69	Filter 1 Envelope Amount	0-127
70	Filter 1 KB Tracking	0-127 0-42:OFF 43-84:HALF 85-127:FULL
71	Hold	0-63 off/ 64-127 on
72	Filter 2 Frequency	0-127
73	Filter 2 Resonance	0-127
75	Filter 2 Envelope Amount	0-127

APPENDIX A: MIDI CC *(Cont.)*

MIDI CC	MUSE CONTROL	RANGE
76	Filter 2 KB Tracking	0-127 0-42:OFF 43-84:HALF 85-127:FULL
77	Link Filters	0-63 off/ 64-127 on
78	Filters Order	0-127 0-42:SER 43-84:STR 85-127:PAR
79	Filter Env Attack	0-127
80	Filter Env Decay	0-127
81	Filter Env Sustain	0-127
82	Filter Env Release	0-127
83	Filter Env Loop	0-63 off/ 64-127 on
85	Filter Env Velocity	0-63 off/ 64-127 on
86	VCA Env Attack	0-127
87	VCA Env Decay	0-127
88	VCA Env Sustain	0-127
89	VCA Env Release	0-127
90	VCA Env Loop	0-63 off/ 64-127 on
91	VCA Env Velocity	0-63 off/ 64-127 on
92	Voice Detune	0-127
93	Delay Time Left	0-127
94	Delay Time Right	0-127
95	Link Delays	0-63 off/ 64-127 on
102	Delay Clock Sync	0-63 off/ 64-127 on
103	Delay Feedback	0-127
104	Delay Character	0-127
105	Delay Mix	0-127
106	Delay Timbre A	0-63 off/ 64-127 on
107	Delay Timbre B	0-63 off/ 64-127 on
108	Voice Unison	0-63 off/ 64-127 on
109	Voice Mono	0-63 off/ 64-127 on
110	Sequencer Clock Div	0-127
111	Arpeggiator Clock Div	0-127
112	Arpeggiator On/Off	0-63 off/ 64-127 on
113	Arpeggiator FW/BK	0-63 off/ 64-127 on
114	Arpeggiator Direction	0-127 0-42:ODR 43-84:PTN 85-127:RND
115	Arpeggiator Octave Range	0-127 0-31:1 32-63:2 64-95:3 96-127:4
116	Clock Tempo	0-127

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