



Please make note of the following changes and additions to the MF-108M Cluster Flux, which are not covered in the User's Manual.

New MIDI CC messages:

CC79 – Enable Mod Wheel to LFO Amount: Values 0-63 = Disabled, 64-127 = Enabled. Default setting is Enabled. This is a persistent setting; the current state is remembered on power-down. When Mod Wheel to LFO Amount is Enabled, Mod Wheel CC messages will scale the LFO Amount parameter from zero (Mod Wheel at minimum) to 100% of the current LFO Amount knob position (Mod Wheel at maximum). Physically moving the LFO Amount knob will override any Mod Wheel scaling and set the LFO Amount parameter to the knob position value. Mod Wheel uses CC# 1 (MSB) / CC# 33 (LSB).

CC80 – Pitch Bend Amount: MIDI Pitch Bend messages can now be used to “bend” the Delay Time up and down by a programmable musical interval. Default Pitch Bend Amount is 3 Semitones. CC80 values and associated Pitch Bend Amounts are as follows:

CC80 Value	Pitch Bend Amount	CC80 Value	Pitch Bend Amount
0-15	OFF	64-79	5 Semitones
16-31	2 Semitones	80-95	7 Semitones
32-47	3 Semitones	96-111	12 Semitones (1 Octave)
48-63	4 Semitones	112-127	24 Semitones (2 Octaves)

CC92 and CC93 - MIDI Tap Tempo: These CC messages allow you to tap a tempo into the Cluster Flux LFO using a remote MIDI controller. Handy for some devices like guitar multi-effects, which may not send MIDI clock but which allow you to map a MIDI CC to a foot switch. CC92 is Tap Tempo Latching, CC93 is Tap Tempo Momentary. Program your MIDI controller to use CC92 if the controller sends only one CC value on pressing its switch and does not send a CC on release (latching on/off behavior); program your MIDI controller to use CC93 if the controller sends one CC value when you press its switch and another CC value on release of the switch (momentary on/off behavior). The two Tap Tempo CCs behave the same as the Tap Tempo switch on the front panel; the only difference between the CCs is that CC92 counts every CC message of any value as a tap, where CC93 counts only values 64-127 as a tap.

Changes to the User's Manual:

CC71 – MIDI Clock Divisions: The following chart replaces the one on p.15 of the manual.

CC71 Value	Clock Division	CC71 Value	Clock Division
0-5	4 Whole Notes	64-69	1/2 Triplet
6-11	3 Whole Notes	70-75	1/4 Note
12-17	2 Whole Notes	76-81	Dotted 1/8
18-23	WH+Dotted 1/2	82-87	1/4 Triplet
24-29	Dotted Whole	88-93	1/8 Note
30-34	Whole + 1/4	94-98	Dotted 1/16
35-40	Whole Note	99-104	1/8 Triplet
41-46	Dotted 1/2	105-110	1/16 Note
47-52	Whole Triplet	111-116	1/16 Triplet
53-58	1/2 Note	117-122	1/32 Note
59-63	Dotted 1/4	123-127	1/32 Triplet