

TAURUS III FIRMWARE UPDATE

FIRMWARE VERSION 2.00 -- 16 MAY 2012

NEW FEATURES

The **ADVANCED PRESET** menu now contains several new parameters which are saved per preset. New parameters include the following:

FILT SENS: Filter Velocity Sensitivity (-64... +64), maps note-on velocity to filter cutoff frequency.

VOL SENS: Volume Velocity Sensitivity (-64...+64), maps note-on velocity to volume EG amount.

RES SENS: Resonance Velocity Sensitivity (-64...+64), maps note-on velocity to filter resonance.

LFO KEY TRIG: LFO Key Trigger (OFF/ON), resets LFO cycle to zero on note-on if enabled.

XPOS OUT: MIDI Out Transpose (GLOBAL, -64...+64 semitones), Adds a programmable offset to outgoing MIDI notes. If **GLOBAL**, then the global MIDI Out Transpose value is used (which is set on the **MIDI SETUP** menu); any other **XPOS OUT** value overrides the global Transpose setting while this preset is active.

The three Velocity Sensitivity parameters work as follows: if the **SENS** value is set to zero, then note velocity has no effect on the associated parameter (Filter Cutoff, Volume, or Resonance). If the Sensitivity value is positive (+1...+64), then the behavior is that maximum velocity gives exactly the preset parameter value (Cutoff, Volume, or Resonance), while lower velocity sets a lower parameter value. If the Sensitivity value is negative (-1...-64) then the minimum note-on velocity gives exactly the preset parameter value, and higher velocity sets a lower parameter value.

For example, if **RES SENS** = +64, then a note with maximum velocity gives 100% of the amount of resonance as set by the Resonance parameter, a note with 50% velocity would set the Resonance to 50% of its programmed value. If the Resonance parameter itself is set to zero or very low, then little/no change would be possible due to velocity. You would want to set the parameter itself to a high value and then use the note velocity to scale it from minimum to your desired maximum. The minimum value set by velocity is lowest when the **SENS** value is +64 or -64, and the minimum value gets closer to the maximum value (and thus the amount of change due to velocity decreases) as the **SENS** value gets closer to zero.

The **MIDI SETUP** menu also contains some new global parameters. New parameters include the following:

MIDI TRANPOSE (IN, OUT) - Applies a global offset to MIDI notes in or out. Range -64 to +64.

MIDI FILTER (IN, OUT) - Filter certain MIDI messages from being sent or received.

IN: ALL (allows all messages), **NOTES+PCH/MW** (Allows only MIDI Notes, Pitch Bend and Mod Wheel messages, filter out all other MIDI CCs), **NOTES ONLY** (Allows only MIDI notes).

OUT: ALL (sends all messages), **ALL -VOLUME** (don't send CC7 from the Volume footwheel), **NOTES ONLY** (just the pedals send MIDI notes), **NONE** (no MIDI output at all).

MIDI SYNC START - Settings are **ANY CLOCK** or **START MSG**. If set to **ANY CLOCK**, then MIDI sync behavior will start as soon as any MIDI Clock messages are detected, if LFO or Arpeggiator clock source is set to MIDI. If set to **START MSG**, then the Taurus 3 will ignore MIDI Clock messages until a MIDI Start message is received.

MIDI SYNC STOP - Settings are **INTRNL CLK** (Internal Clock) or **DEAD STOP**. This setting controls what happens to the Arpeggiator if it is synced to MIDI Clock and the clock is interrupted or a MIDI Stop message is received. **INTRNL CLK** means that the arpeggiator will switch over to its internal clock on MIDI stop, and continue running at the same rate.

DEAD STOP means the arpeggiator will stop running on MIDI stop.

Note: If **SYNC START** is set to **START MSG** and **SYNC STOP** is set to **DEAD STOP**, then the arpeggiator will not run at all if its clock source is MIDI and there is no MIDI Clock / no MIDI Start message being sent to the Taurus 3. This could be useful for some performers who would like the arpeggiator not to run until they hit Start on a sequencer.

New MIDI Implementation:

All sound parameters now send and receive **MIDI CC** messages. The new MIDI implementation chart is appended at the end of this document.

Tweaks and Bug-Fixes:

LFO SYNC parameter disambiguation: Previously, LFO Sync had three options, **INTERNAL**, **MIDI**, and **KEY** sync. **INTERNAL** and **MIDI** refer to the clock source which sets the rate of the LFO, while **KEY** sync only reset the LFO cycle to zero on note-on event. Since these are two different things, in firmware v2.0 the **LFO SYNC** parameter has only two settings, **INTERNAL** and **MIDI**, while **LFO KEY TRIG** has become its own independent parameter which is set on the Advanced Preset menu. Older presets will be converted automatically to the new format.

FOOTSWITCH PGM MODE: the behavior of the Arpeggiator Tap Tempo function has been improved. Press and hold the **TRANPOSE/PGM** switch until its LED starts blinking rapidly; in this mode the **DECAY** footswitch acts as Arpeggiator Tap Tempo. Pressing the **DECAY** switch will turn on the arpeggiator, and tapping this switch three times sets tap tempo. The new behavior is that you can press and hold the **DECAY** switch for 2 seconds to turn off the arpeggiator. **NOTE:** *There is a 3-second timeout on the tap-tempo function; you must wait 3 seconds for timeout after tapping a tempo, or the next DECAY switch press will still be interpreted as a tempo tap (potentially with a very long tap interval).*

STUCK NOTE FIX: there was a low-level conflict which could cause the Taurus 3 to lock up or have a stuck note on rare occasions if playing the foot pedals whilst moving the control wheel; this has been fixed.

Enjoy the new features and improved performance.

Please email techsupport@moogmusic.com if you have any questions.

MIDI CONTROL CHANGE (CC) MESSAGES

TABLE 1

CC NUMBER	PARAMETER	VALUES
1(MSB), 33(LSB)	Mod Wheel	0-127(MSB), 0-16383(MSB, LSB)
3(MSB), 35(LSB)	LFO RATE	0-127(MSB), 0-16383(MSB, LSB)
4(MSB), 37(LSB)	Arp Clock Rate	0-127(MSB), 0-16383(MSB, LSB)
5(MSB), 37(LSB)	Glide Rate	0-127(MSB), 0-16383(MSB, LSB)
6(MSB), 38(LSB)	Filter LFO Amount	0-127(MSB), 0-16383(MSB, LSB)
7(MSB), 39(LSB)	Output Volume	0-127(MSB), 0-16383(MSB, LSB)
8(MSB), 40(LSB)	Pitch LFO Amount	0-127(MSB), 0-16383(MSB, LSB)
10(MSB), 42(LSB)	Osc. B Freq	0-127(MSB), 0-16383(MSB, LSB)
11(MSB), 43(LSB)	Osc. B Beat	0-127(MSB), 0-16383(MSB, LSB)
15(MSB), 47(LSB)	Mixer Value	0-127(MSB), 0-16383(MSB, LSB)
19(MSB), 51(LSB)	Filter Cutoff	0-127(MSB), 0-16383(MSB, LSB)
21(MSB), 53(LSB)	Filter Resonance	0-127(MSB), 0-16383(MSB, LSB)
23(MSB), 55(LSB)	Filter Attack Time	0-127(MSB), 0-16383(MSB, LSB)
24(MSB), 56(LSB)	Filter Decay Time	0-127(MSB), 0-16383(MSB, LSB)
27(MSB), 59(LSB)	Filter EG Amount	0-127(MSB), 0-16383(MSB, LSB)
28(MSB), 60(LSB)	Volume Attack Time	0-127(MSB), 0-16383(MSB, LSB)
29(MSB), 61(LSB)	Volume Decay Time	0-127(MSB), 0-16383(MSB, LSB)
30(MSB), 62(LSB)	Volume Sustain Level	0-127(MSB), 0-16383(MSB, LSB)
64	Note Latch On/Off	0-63 = Off, 64-127 = On
65	Glide On/Off	0-63 = Off, 64-127 = On
68	LFO Type	0-31 = Square, 32-63 = Triangle, 64-95 = Ramp, 96-127 = Saw
74	Oscillator Octave	0-41 = Low, 42-84 = Mid, 85-127 = High
79	Res. Velocity Sensitivity	0-127 = -64 to +63, MIDI Value 64 = Off
88	Decay On/Off	0-63 = Off, 64-127 = On
89	KB Octave Transpose	0-63 = Off, 64-127 = On (+1 Octave)
90	Arp On/Off	0-63 = Off, 64-127 = On
91	Arp Latch On/Off	0-63 = Off, 64-127 = On
92	Vol. Velocity Sensitivity	0-127 = -64 to +63. Midi value 64 = Off.
93	LFO Key Trigger On/Off	0-63 = Off, 64-127 = On
94	Legato Glide On/Off	0-63 = Off, 64-127 = On
102	LFO MIDI Sync On/Off	0-63 = Off, 64-127 = On
103	LFO Clock Division	See Table 3
107	Pitch Bend Up Amount	See Table 2
108	Pitch Bend Down Amount	See Table 2
110	Filter Velocity Sensitivity	0-127 = -64 to +63. Midi value 64 = Off

TABLE 1 (CONT.)

CC NUMBER	PARAMETER	VALUES
111	KB Priority	0-31 = Global, 32-63 = Low Note, 64-95 = High Note, 96-127 = Last Note.
112	EG Trigger Mode	0-31 = Global, 32-63 = Legato On, 64-95 = Legato Off, 96-127 = EG Reset.
114	Arp Clock Source	0-63 = Internal; 64-127 = MIDI.
115	Arp Clock Division	See Table 3.
116	Arp Octaves	0-17 = -2.1 Oct, 18-35 = -2 Oct, 36-53 = -1 Oct, 54-72 = 0 Oct, 73-90 = +1 Oct, 91-108 = +2 Oct, 109-127 = +2.1 Oct
117	Arp Pattern	0-41 = Loop, 42-84 = Back/Forth, 85-127 = Once.
118	Arp Order	0-31 = Up, 32-63 = Down, 64-95 = Order, 96-127 = Random.

TABLE 2

CC#107/108 Value	PITCH BEND AMOUNT
0-15	Off
16-31	2 Semitones
32-47	3 Semitones
48-63	4 Semitones
64-79	5 Semitones
80-95	7 Semitones
96-111	12 Semitones (1 Octave)
112-127	24 Semitones (2 Octaves)

TABLE 3

CC#71 VALUE	CLOCK DIVISION
0-5	4 Whole
6-11	3 Whole
12-17	2 Whole
18-23	Whole Dot
24-29	Whole
30-35	1/2 Dot
36-41	Whole Triplet
42-47	1/2
48-53	1/4 Dot
54-59	1/2 Triplet
60-66	1/4
67-72	1/8 Dot
73-78	1/4 Triplet
79-84	1/8
85-90	1/16 Dot
91-96	1/8 Triplet
97-102	1/16
103-108	1/16 Triplet
109-114	1/32
115-120	1/32 Triplet
121-127	1/64 Triplet