MarOS 1.2

Change Log (Features only):

MarOS1.2 – 11/10/2012

- Variable Gate Time – adjustable with CHAIN-PREV / CHAIN-NEXT in pattern play modes

- Automatic Variation – Runtime random variations of slides, accents, octaves - adjustable in USER-B mode with PREV/NEXT (Accent) - RUN/CHAIN (octaves) - DOWN/UP(slides) – You can see on the bank LED what is currently setup

- Re-activated USER-A / PAT.EDIT(MIDI) mode to have simple MIDI sync while editing

- KEYBOARD mode simplified to have more space for the things above

MarOS1.0.1 – 10/30/2012

– F#1 key to toggle MIDI-Start behaviour

– CHAIN-PREV → simplify pattern by looping parts of I

– CHAIN-NEXT → randomize slides

1) MIDI Sync Mode

By default, the xoxbox is in "classic-mode" - it starts playing when receiving a MIDI -start command. If you want to use the new MIDI-Sync mode the way it is meant (in a MIDI DAW environment), you should turn that mode off by pressing F#1 (Start-Mode-Key). Pressing it again, brings it back to classic mode. The description following relates to the box being not in classic-mode.

Normal Start/Stop Mode

Unlike before, the box does **not** start on a MIDI-Start command (classic mode off). Instead it play as long as any of the pattern-select-notes (C1,D1,E1,F1,G1,A1,B1,C2) or any note in the transposition range (C#2-B5) is held. When none of the notes are held, the box stops. It also still stops on MIDI-Stop commands.

Start/Stop in Latch Mode

When latch mode is engaged by pressing the Latch Key (D#1) it continues to play until either latch mode is turned off by pressing the Latch Key again, or until the Stop Key (C#1) is pressed. It also still stops on MIDI-Stop commands.

Pattern-Select-Notes

C1,D1,E1,F1,G1,A1,B1 and C2 select and/or start any of the 8 patterns in the currently selected bank. When pressed while running, the change is performed immediately.

Transposition Range

The notes C#2 to B5 transpose the playing pattern. For C3 there is no transposition. Changes here are also performed immediately. If a note falls out of the range of possible notes, it is moved back into the correct range by octave shifting.

Scale Correction Range

The notes C-2 to B0 can optionally be used to turn on and setup the automatic real time scale correction. If the correction is turned on, any note that is played is checked and – if not part of the selected scale – corrected to be in-scale.

C-2 to B-2 turn off the scale correction. C-1 to B-1 turn on the scale correction for Major scales using the according MIDI note as root key. C0 to B0 do the same for Minor scales.

Tips `n Tricks:

You should turn on "Send MIDI Clock when stopped" if your DAW supports this, to be able to play the box live with a MIDI keyboard while the DAW`s transport is stopped.

If you have the first note in your DAW right at the place where the playback starts, this often results in the box being a little late. Restart the playback in that case, or better: To get reliable result, shift the triggering MIDI track (or the notes) some millisecs "to the left" (Track Settings), so that the trigger always happens to arrive before the MIDI clock signal, and not randomly before/after. This may be not needed in DAW other than cubase, who knows.

2) Smart Randomizer and New Macro Functions

Concept

Unlike "taking off the batteries", software can do more than messing up the bits. In MarOS1.2 the randomizer creates (mostly) musically reasonable unique patterns. To achieve that, it randomly selects one of several different internal randomization setups. Such a setup could be described as, for example, *"All notes on, no slides, no rests, mostly root key"* or *"lots of rests, many non-root keys, lots of slides, some octaves"*.

The randomizer and macro functions are available in pattern edit mode only. To use it, the box **must be playing**! Press the chain button and hold it, then press any of the 13 note buttons or the accent, slide, rest, down, up, prev or next button.

All initial randomizations are processed with the 2nd lowest C as root key and are 16 steps long.

Additionally I added some non-random macro functions that help to adjust the newly created patterns to one`s needs.

The Functions / Buttons

- Note Button C ("***Chrom***"): Using one randomly selected setup, the box creates a new unique pattern in chromatic scale.

- Note Button C# ("***Pent***"): Same, but using pentatonic scale.
- Note Button D ("***Min***"): Same, but using minor scale.
- Note Button D# ("***Maj***"): Same, but using major scale.
- Note Button E ("***Dark***"): Same, but using a special scale, that I personally use sometimes.
- Note Button F ("***Re-Do***"): Imagine you have done some randomizations and finally got a pattern that is kind of what you`re looking for: Now by pressing Re-Do, you tell the box to use the same internal setup and the same scale as before, so you get more patterns of that kind. *Essential part of the randomizing workflow!*
- Note Button F# *("****Notes****"*): Keeps the pattern as is, but randomizes the note values (like F instead D#).
- Note Button G: ("***Pos***"): Keeps pattern as is, but randomly moves parts of it around. (Taken from sokkOS2.0)
- Note Button G#: ("***Acc***"): Keeps pattern as is, but randomizes accents.
- Note Button A: ("***Oct***"): Keeps pattern as is, but randomizes octaves shift. Press it several times to get the same pattern spread over several octaves.
- Note Button A# ("***Root***"): Keeps pattern as is, but shifts any note to be at root note, keeping octaves shifts.
- Note Button B ("***Oct –***"): Transposes the highest note of the pattern down one octave. Typically you will press this button a couple of times until you get what you want.
- Note Button C2: ("***Oct +***") Transposes the lowest note of the pattern up one octave. Typically you will press this button a couple of times until you get what you want.
- Rest Button ("***All Oct -***"): Transposes the entire pattern down one octave, keeping notes in the range of possible notes.
- Accent Button ("***All Oct +***"): Transposes the entire pattern up one octave, keeping notes in the range of possible notes.
- Slide Button ("***Default***"): Defaults the pattern to "*da-da-da-da-da-da...*". Whatever this could be needed for.
- **Down** Button: Transposes the entire pattern down one semi, keeping notes in the range of possible notes.
- **Up** Button: Transposes the entire pattern up one semi, keeping notes in the range of possible note.

- **Prev** Button ("**Loop**"): Simplifies the pattern by looping parts of it. There are currently 3 ways of looping, it randomly picks one of them.
- **Next** Button ("**Slide**"): Keeps pattern as is, but randomizes the slides.

I recommend putting some sticker(s) onto your box to find the functionalities easily.

3) New Swing

The swing in sokkOS2.0 offered 5 swing depths: 25%, 50% 75%, 100%, 125%. When synced to external DIN / MIDI Clock, only 50%, 100% and 125% were effectively working. This wasn`t exactly satisfying.

MarOS1.2 now offers 10 depths: 10%, 20%, 30%,...,90%, 100%. The usage is the same as before, you have to be in pattern play mode and press Prev/Next to step through the depths.

There is little bug about this when being in MIDI Sync Mode: To get the exactly right swing depth, you have to also setup the internal tempo correctly using the tempo encoder - it is ***not*** calculated from the MIDI Beat clock. Actually, this is not just a bug, as this way you can get any swing depth you want: For example: Swing Depth nominal: 30% - Song Tempo 120 bpm - X0xb0x internal tempo: 100bpm → Real Swing Depth = (120bpm/100bpm) x 30%=36 %.

If you have a high nominal depth while the internal tempo is way lower than the real tempo, you may run into a strange state with the swung events "overtaking" the next events (for depth>300%). In that case the universe may explode. Or something.

4) Variable Gate Time

By default, the box places NoteOffs right in the middle of the 1/16 notes. This is nice and groovy, but anyway: MarOS1.2 offers to change that. In pattern play mode, hold CHAIN and press PREV / NEXT to decrease/increase the gate length. Holding CHAIN and pressing both buttons PREV and NEXT brings it back to default – in case you`ve lost "where you are".

Try out patterns with many notes longer-than-1/16 notes – in this case the feature is able to transform the remaining 1/16 notes into funky ghost notes. Or do something else, I don`t exactly care.

Notice I wasn`t able to make the box play almost gapless when swing is set high – I know how to do that, but it`s a little tricky and needs more memory than I`m able to find in this *extremely* size-optimized code.

I`m trying to get the current gate length to be displayed and adjustable in conbox1.X.

5) Automatic (Runtime-) Variation

Unlike the randomizer, which helps creating pattern, this feature creates momentary variations while the box is playing. *This is the case for any mode.* To turn it on or adjust it, go to USER-B mode and press PREV/NEXT or RUN/CHAIN or DOWN/UP or DONE.

- **PREV / NEXT**: Decrease / Increase probability of the current step being changed to be an accent or no accent.

- **RUN / CHAIN**: Decrease / Increase probability of the current step being changed to an octave higher (if possible)

DOWN / UP: Decrease / Increase probability of the current step being changed to be a slide or no-slide.

For any adjustment you see the new probability on the bank LED. LED 1 means “turned off”; LED 16 means probabilty is 75%.

Low values are highly recommended. Slide variation can be nice but are pretty invasive...

I`m trying to get the current values to be displayed and adjustable in conbox1.X.