

## MIDIbox SID V1.7303b User Manual

### OSC (oscillator submenu)

**OSC** selects the oscillator(s). The parameters right to this item are displayed accordingly. If more than one oscillator is selected, only the values of the first will be displayed, but the values of all selected will be changed.

**WAV** selects the waveform of the oscillator(s). available waveforms: **OFF** (none), **TRI** (triangle), **SAW** (sawtooth), **T+S** (tri+saw), **PUL** (pulse), **P+T** (pulse+tri), **P+S** (pulse+saw), **SST** (?saw+square+tri?), **NOI** (white noise)

*Note: if a MOS 6581 is used, it is possible that on mixed waveforms the sound output is much lower or unhearable. This is due design bugs in the chip - the 8580 can handle mixed waveforms much better*

**S/R** selects oscillator synchronisation and/or Ringmodulation. available parameters: **—** (no Sync, no Ringmod), **SYN** (synchronisation with previous oscillator), **RIN** (Ringmodulation with previous oscillator), **R+S** (ringmodulation and Synchronisation with previous oscillator)

**Del** (Delay) Defines the time from ,key on' to the begining of attack Phase.

**Atk** (Attack) First stage of the SID Voice Envelope. Defines the attack time to max Volume.

*Note: attack time vary from 2ms to 8 seconds*

**Dec** (Decay) second stage of the SID Voice Envelope. Defines the time to sustain Volume.

*Note: decay time vary from 6 ms to 24 seconds*

**Sus** (Sustain) third stage of the SID Voice Envelope. Defines the sustain (Key hold) Volume.

**Rel** (Release) last stage of the SID Voice Envelope. Defines the time from ,key off' to min. Volume.

*Note: decay time vary from 6 ms - 24 seconds*

**PRn** (Pitch Range) Pitchrange in Number of Notes. Values: 0 to 127

**Trn** (Transpose) positive or negative semitone steps. E.g., +12 shifts the note by one octave up, -12 by one octave down.

**Fin** (Finetune) in ??? (positive or negative values)

**Por** (Portamento Rate) Defines the Time of Portamento.

**Arp** (Arpeggiator Rate) Defines the speed of Arpeggiator

*Note: if the Arp is synced to midi clock, value 34 = 1/4th, 82 = 1/8th, 106 = 1/16th, 118 = 1/32th, 124 = 1/64th*

**PW** (Pulsewidth) Defines the ratio of the Pulse waveform. 1% to 99% should be possible.

*Note: Value 64 correspond to square waveform*

**OPS** (Oscillator Phase synchronisation) synchronizes the phase of the oscillators.

*Note: Useful for percussive sounds*

## FIL (filter submenu)

**Chn** Channels which are assigned to the filter.

**Cut** (Cutoff Frequency) Values 0 to 127

*Note: Cutoff range = 30 Hz - 12 kHz*

**Res** (Resonance) Values 0 to 127

**KTr** Key Tracking. Values -64 to 63

**Mod** (Filter Mode) available values: L- (Lowpass) -B- (Bandpass) LB- (Low/Bandpass) -H (Highpass) L-H (Notch) -BH (Band/Highpass) LBH (Allpass)

*Note: 2 Pol Filter (12 dB/octave) for Low and Highpass. 1 Pol Filter (6 dB/octave) for Bandpass*

**Ext** activates filter also for the audio input

**3Of** disables the 3rd oscillator.

## LFO (LFO submenu)

**LFO** selects 1 of 6 LFOs

*Note: each second LFO now provides a Sample & Hold functionality when switched to random mode. LFO2, 4 and 5 hold the waveform of LFO1, 3 and 5 for each period run.*

*Example:*

- \* in the modulation matrix, enable LFO2 modulation for the Pitch of OSC1 → this is the S&H output*
- \* set LFO2 to random mode, Rate=70, Depth doesn't matter*
- \* set LFO1 to sine or random mode, and vary Rate and Depth*

**Wav** selects the LFO Waveform. Values: **off** (none) **Sin** (sine) **Tri** (Triangle) **Saw** (Sawtooth) **Pul** (Pulse) **Ran** (Random)

**Ana** (Analog) is available as additional waveform if ENABLE\_AIN\_LFO\_WAVEFORM is set to 1 in the setup\_\*.asm file

**Rte** LFO rate (speed) Values: 0 (LFO off), from 1 (0.001 Hz) to 127 (46.387 Hz)

**Dep** LFO depth (can be positive or negative)

**Syn** synchronization to note events. Values: **no** (unsynced) **Asn** (to assigned notes of the same channel) **All** (to all notes)

## ENV (envelope submenu)

**ENV** selects 1 of the 2 free assignable (mod matrix) envelopes

**Dep** (envelope) depth

**Atk** Attack

**Dec** Decay

**Sus** Sustain

**Rel** Release

*Note: The software implemented envelopes have a time range from 0,0008 seconds (1) to 27.05 seconds (127)*

**Cur** (envelope curve) changes the linear course (value 0) of envelope to negative logarithmic (values -1 to -64) or positive logarithmic (values 1 to 63) course.

**Cas** (curve assign) assign the Cur values to the attack (A), decay (D) and/or release (R) phase of envelope

## MOD (modulations submenu)

**Mod** selects the modulation target: **O[123]P** OSC1/2/3 pitch, **O[123]W** OSC1/2/3 pulsewidth, **Fi****Bold Text** filter

With **E1**, **E2**, **L1**, **L2**, **L3**, **L4**, **L5**, **L6** the modulation sources (envelopes and LFOs) can be assigned to the selected targets.

## WT (wavetable submenu)

**Pos** selects wavetable entry. 32 steps available (0 to 31)

*Note: select the step position ,all' to modify the parameters of a whole track at once. this speeds up the initialisation of a new WT sequence*

**Mod** the mode (**Ply**: Play, **Jmp**: Jump, **End** end). **#1**, **#2** and **#3** are the parameters which are modified with every step. (to be defined detailed)

**Rte** the play rate (speed) of the wavetable,

**CC1-3** the CC values which are modified by the wavetable sequencer

*Note: since it's difficult to remember all available CC numbers, the CC parameter string will be displayed when you modify the number*

**P#** (WT Pattern Number) allows you to select a wavetable of another patch on-the-fly without delay. This means, that you have a quick access to up to 128 sequencer patterns!

## VMA (Velocity, Modulation, Aftertouch submenu)

**VCC** (Velocity CC) defines wich CC number would be modified by Velocity

**VIn** (Velocity initial value)

**VDp** (Velocity depth)

**MCC** (Modulation CC) defines wich CC number would be modified by Modulation

**MIn** (modulation initial value)

**MDp** (modulation depth)

**ACC** (aftertouch CC) defines wich CC number would be modified by Aftertouch

**AIn** (aftertouch initial value)

**ADp** (aftertouch depth)

## 303 (bassline mode submenu)

**POS** (position) select the position of a 32 step sequence

**Mod** (step mode) -Ply/Jmp/End), same as in WT menu

**S/G** (Slide/Gate flag) left hex digit of WT track 1

**Acc** (accent) right hex digit of WT track 1

**Nte** (note) played note (WT track 2)

**#3** (Number 3) Third WT track

**Rte** (rate) speed

**P#** (WT Pattern Number) allows you to select a wavetable of another patch on-the-fly without delay. This means, that you have a quick access to up to 128 sequencer patterns!

**Cut** (filter cutoff)

**Res** (filter resonance)

**Mod** (envelope 1 modulation depth)

**Dec** (envelope 1 decay)

See also [midibox\\_sid\\_tb303\\_mode](#)

## SEO (Sound engine options submenu)

**303** enables the 303 bassline mode if activated

**FIP** (Filter cutoff interpolation) enables the interpolation of filter output curve, in order to smooth modifications of the CC#46 cutoff value.

**E2P** Envelope 2 controls the portamento. enables it to realize a constant time glide/slide using envelope 2.

*Note: Best results can be achieved with Attack=rate, Decay/Sustain/Release=0, Curve > 32. This results into a shape which is similar to the charging/decharging curve of a capacitor. Try this with SusKey and Legato enabled.*

**E2V** Envelope 2 controls the main volume (4bit).

*Note: This possibility allows to replace the oscillator envelopes and helps to overcome the ADSR bug*

**GSA** (gate stays active) with this option on, the gate of the oscillators will not be cleared anymore if a MIDI note has been released.

*Note: This allows to control the amplitude envelope of a sound completely via filter or E2V modulation independent from the OSC ADSR release rate*

## CFG (configuration submenu)

**Chn** (MIDI channel)

**Dev** (device) slave pics can be selected here

**Bnk** (Bank) the BankStick (1 of up to 8) can be selected here

**Pat** (patch) patch number can be selected here

**Nam** (patch name)

**Vol** (main volume)

**Ply** (play mode)

Mono: all three voices are played with a single key. If multiple keys are pressed, the last pressed one will be played. Each new played key will retrigger the envelopes, LFOs (if Sync enabled) and Wavetable

Legato: similar to Mono mode, but envelopes/LFOs/Wavetable will only be triggered when no key was pressed before

Poly: each pressed key will be assigned to a free SID voice. Allows to play chords

**SuK** (sustain key) If enabled, portamento get's only active when at least two keys are pressed at the same time. Portamento will be bypassed when only a single note is pressed.

**Clk** (clock source for Wavetable+Arpeggios (W), LFO (L), ENV (E)) - W/L/E can be optionally clocked from an external MIDI clock master. Set the appr. flag in order to activate this function.

**S1L S1U S2L S2U S3L S3U** (Split Voice 1/2/3 Lower/Upper)

These entries allow to set lower and upper split points for the 3 SID voices in order to assign them to different (or overlapping) keyboard zones. This is the easiest way to play the voices separately over a single MIDI channel (e.g. a simple 1-voice bassline, synthline and fx line).

Note that the transpose function within the OSC menu can be used to shift the octave ranges.

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## SAV (save patch submenu)

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