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 (Osciallator 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 logarythmic (values –1 to –64) or positive logarythmic (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, **FilBold 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 inital 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 seperately 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.

SAV (save patch submenu)