

# SideTrack Manual

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# Introduction



SideTrack is a mostly Sample Based Sampler which features 2 sampler engines that support some standard & unique modes. Each Sample Oscillator supports Unison with up to 9 voices with detune & spread parameters. It can load WAVs, AIF, Octatrack Sample Chains/CUE Meta WAVs. It can read embedded loop data in WAVs as well as root note info. WAVs can be drag n dropped or loaded via the Sample Browsers.

When SideTrack is first run it will create a Directory at 'Documents/Homegrown Sounds/SideTrack' All of the settings, themes, presets and some samples are installed here. Deleting or renaming this folder will force the next run to recreate it if you ever need to restore back to the factory default.

The settings file contains all of the global settings such as current theme information.

SideTrack is fully resizable via corner dragging.

# Oscillators

The Oscillator Section controls all parameters related to sample playback. When a WAV is loaded and 'AUTO' is enabled, it will choose the most appropriate mode for the sample. Samples can be Drag n Dropped or loaded via the Sample Panel Browsers.



The Parameters at the top are as follows:

- **AUTO** - When enabled this will switch to the most appropriate mode based on what Meta Data is found and the size of the file.
- **XFADE** - This enables offline crossfading the loaded WAV using the selected Loop Selection for seamless looping.
- **LOOP** - This will Loop the Loop Selection, disabling this will play back the sample as a One-Shot.
- **<>** - This will Reverse the Sample Data.
- **W** - This will load a random WAV from the same folder as the currently loaded WAV if others exist.
- **< & >** - This will load the previous or next WAV.

The different Wave Modes allow different playback methods:

## Poly Mode

This mode as shown above is the standard method of polyphonically playing a chromatic sample across the keyboard. If AUTO is enabled and the WAV has an embedded Loop it will be used. Usually when embedded loop data is found, the audio is already seamlessly looped and so Xfade will be disabled when AUTO is enabled.



NOTE: Loop Start/Length & Xfade are offline parameters and not designed for automation, all processing is done in the background on the working copy of the WAV.

- **START** - This knob controls the Start Parameter which decides the Note On playback position. This parameter is a Modulation destination in the Modulation Matrix.
- **LOOP START** - This represents the Loop Start position which will be used when loop End is reached. It is a percentage position of the loaded WAV.
- **LOOP SIZE** - This parameter is a percentage position of the area between the Loop Start position & the end of the file.

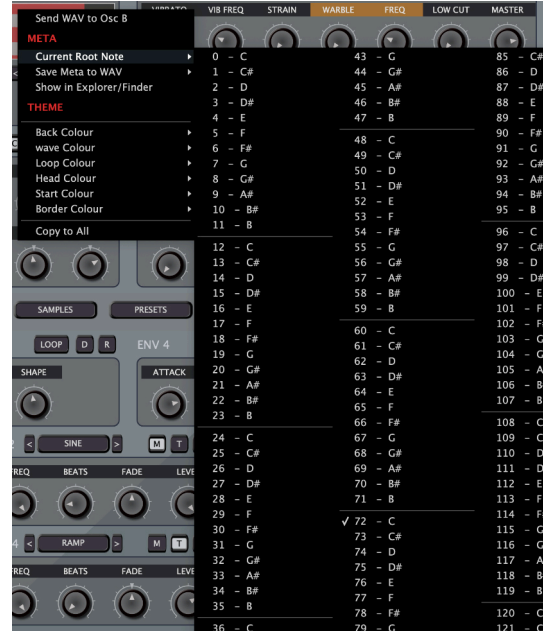
- **XFADE** - This parameter is the percentage of the front portion of the WAV before the loop point which will be used for cross fading.

## Set Sample Root Note

Right Clicking on the Sample Display Brings up a set of options one of which includes setting the Root Note used by the loaded sample (in Poly/Cycle Modes).

This information is read from WAVs that have it embedded and if none is found, 60 will be used.

The 'Save Meta to WAV' menu has some export options:

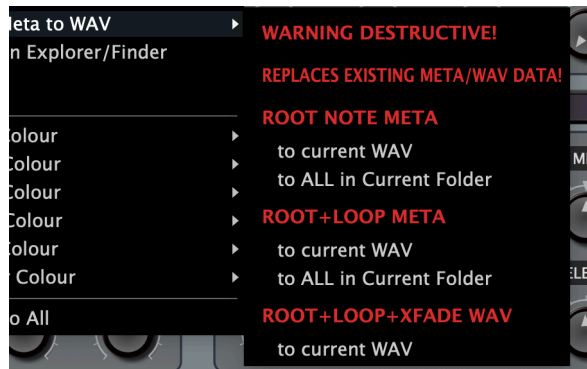


## ROOT NOTE META

This will update the Root Note information to the WAV including a semitone offset if used. The latter is handy for single cycle ways that aren't quite in tune. If you have a full folder of these at the same number of samples then the 'to All in the Current Folder' option can set all WAVs in a batch operation.

## ROOT + LOOP META

This will save the root info & also save the loop start and end markers. Note that this does not touch the WAV audio data at all and so the loop markers don't use the xFade Data, so in that sense its really most useful for setting full WAV loop points for single cycle files or looped WAVs etc so that they will automatically loop in programs that read that data. This also has a save to all option.



## ROOT=LOOP+XFADE WAV

This option will do the above but also save the xFaded WAV data, making it a handy utility for embedding xFaded loops in WAVs!

## Cycle Mode



Cycle Mode is designed for small Samples under/equal to 2048 samples to be used as an Oscillator. It provides Pulse Width & Pulse Width Modulation which is a common technique used in Synthesis. Pulse Width is basically a percentage knob for the sample and any data beyond that percentage is silent instead of playing the sample data. It's a good parameter to modulate and it is a destination in the Mod Matrix. There is also a direct Routing knob for LFO1 for quickly adding some Modulation.

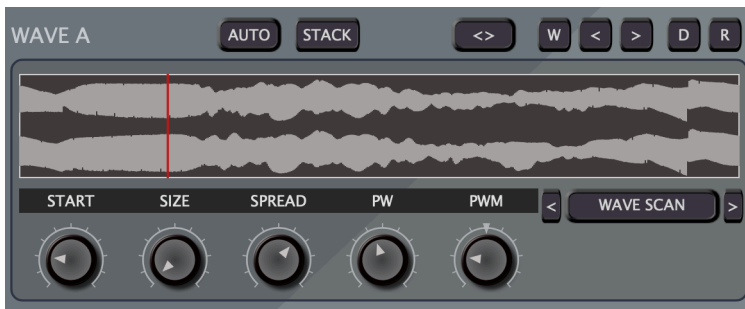
## LOFI 4 Oscillator Mode



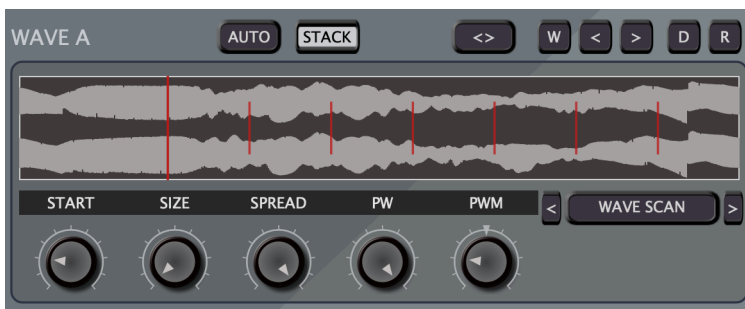
This Mode is in the style of classic Roland synth Oscillators using a Triangle, Saw, Square and Sine Sub. The first 3 have Start Phase offsets and there is a Pulse Width for the Square. Like in other modes there is also a shortcut to the Modulation Matrix LFO1 → PulseWidth.

Additionally, the Volume Levels are available as Destinations in the Modulation Matrix.

## WaveScan Mode



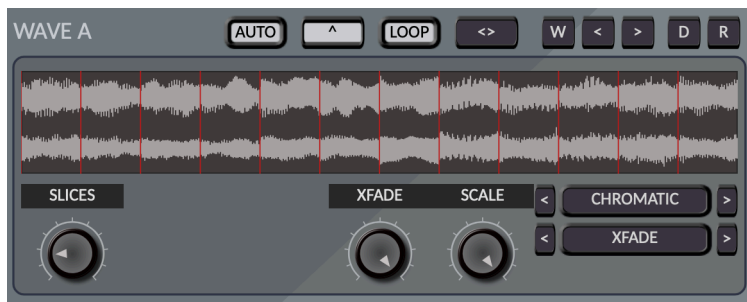
WaveScan Mode picks out small cycle waveforms from the loaded WAV for use as a single/multi cycle Oscillator. Additionally there is a Stack Mode Option which allows assigning additional loops which are assigned to the Unison Voices to form a stack of different waveforms. The unison Amount determines how many are used.



- **STACK** - Enables Stack Mode which uses additional loops assigned to the unison Voices.
- **START** - This is the position that the loop is pulled from indicated by the red marker.
- **SIZE** - The size of the loop between 32 and 4092 samples.
- **SPREAD** - Used by Stack Mode, this controls the distribution of the extra loops used for the stack.
- **PW** - The pulse Width of the waveform.
- **PWM** - A quick assignment to route LFO1 to the Pulse Width, although you can route any Mod matrix Input to PW in the Modulation Matrix.



## Chromatic Split Mode



As far as I know this is a unique mode to SideTrack. It basically divides the WAV into x number of Slices determined by the Slice knob. These are then used across the keyboard, so slice 1 will be played by C, slice 2 by C# etc... and they pitched into a standard chromatic instrument. Depending on the WAV this can lead to some unusual & complex instruments.

The ^ Button at the top when enabled will normalise each individual section, and in very quiet sections such as fade outs this can lead to some interesting noise, glitchiness for those sections.

The Scale knob reduces the size of the portion used to divide into slices.

This playback mode also has some interesting Envelope Modes which manipulate the Slices in various ways. In this image xFade is selected which will create a crossfade for each slice. See below for more details on these modes.

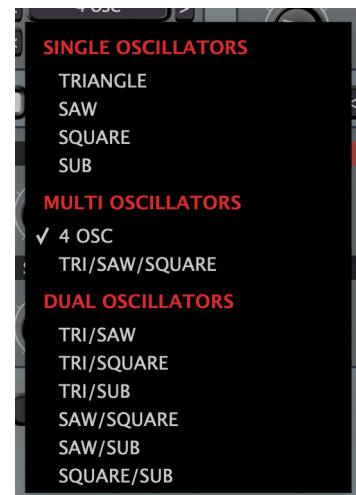
## LOFI Oscillator



This Oscillator is designed to fit with the ethos of the synth in its quest for broken nostalgic sound. It uses 4 Oscillators in the style of the classic Roland Oscillators to produce the tone, they are not band limited & so will produce aliasing in the higher notes, Sidetrack isn't an instrument chasing hi fidelity, in fact it encourages anything that can make the sound dirty.

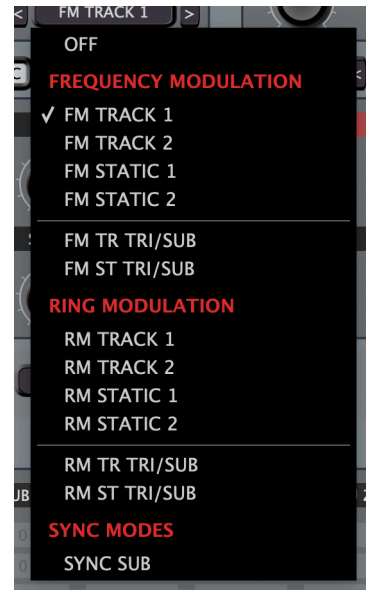
I have a Korg NTS-1 which is a test synth for custom Oscillators and I had a lot of fun with some of them, one especially was an Oscillator made to make Boards of Canada type tones. It was amazing how with 2 parameters it was able to produce a lot of variety. It was a bit of an inspiration here with the Mod Mode allow a similar way of picking out interesting & unexpected sounds via FM & RM modes.

- **TRI, SAW** - Triangle & SAW Oscillators with start phase controls.
- **SQUARE** - A standard Square with Pulse Width & Pulse Width Modulation via LFO1.
- **SUB** - A Sine Oscillator which is an Octave Lower than the rest for adding bass body.
- **LEVEL** - Overall Level of the Oscillator output.
- **Oscillator Modes** - This Menu allows selecting more or less any combination of the Oscillators from a single to the full 4.
- **Hidden SINE Oscillator** - Used for the Modulation Modes.
- **Modulation Modes** - These Modes activate the Mod Level & Mod Frequency Mode which can be used to manipulate the effect.
  - **FM TRACK** - This uses Frequency Modulation and uses Note Based tracking. The different Modes have different ranges. If **PURE** is enabled then the FM will directly multiply the oscillator, when Pure is disabled, the Mod Level is used to select the amount of Modulation and is added to 1.0 so that the original Oscillator is sort of grafted into the sound. Definitely the most interesting mode.
  - **FM STATIC** - The same as TRACK except there is no pitch tracking which leaves it open to using the Modulation Matrix to modulate the Frequency



for example, or it can give an interesting set of FM effects across the keys.

- **FM TRI/SUB** - Tracked & static versions of FM which only target the Triangle & Sub Oscillator which means the unaltered SAW & SQUARE can be mixed into the signal.
- **RM TRACK** - Ring Modulation uses the Modulation LFO to multiply the Volume which gives that classic effect. This mode uses note Tracking and each mode uses a different scale & so the second Mode is quite slow and nice for undulating volumes.
- **RM STATIC** - Same as above but without the pitch tracking. With both modes, pure mode also works the same as with the FM Modes, so it is 1x rather than having a volume level to adjust the depth of the modulation.
- **RM TRI/SUB** - Tracked & static versions of RM which only target the Triangle & Sub Oscillator which means the unaltered SAW & SQUARE can be mixed into the signal.
- **SYNC SUB MODE** - This forces the Sub Oscillator to the same phase as the modulation LFO.
- **OSCILLATOR SYNC** - When Unison Sync is enabled (the Oscillator Section), the phase knobs are deactivated and a random starting phase is used by the Oscillators. Especially useful in Unison Mode as when they start at the same phase you get a distinctive sweep at the start as the pitches diverge, using random values eliminates that effect.



## IDX Split Mode



This is identical to Chromatic split mode except it has an index parameter which decides which slice is used by the next Note On. This is inspired by the Octatrack and is a great modulation source and available as Mod matrix destinations.

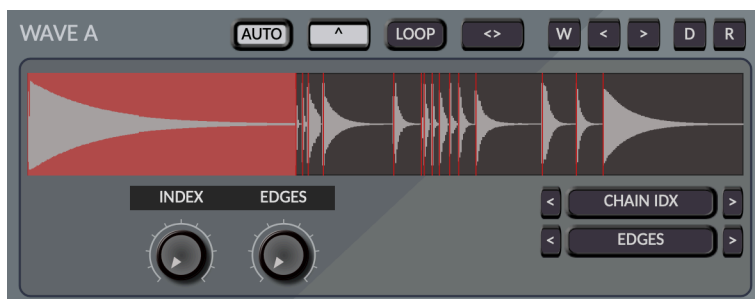
## Chain Map



Chain Map is for Octatrack Sample Chains or WAVs with slice CUE Meta data. In this mode the sample chain or sliced WAV is mapped across the keys like a Drum Kit starting at C1.

Note that if you hear some strange effects and you are not using Envelope Modes, it's probably the Unison settings, try setting Unison Amount to 1 which will provide standard slice playback. If you do want to use Unison, make sure Unison Sync is enabled to keep the percussive punch of drums.

## Chain IDX

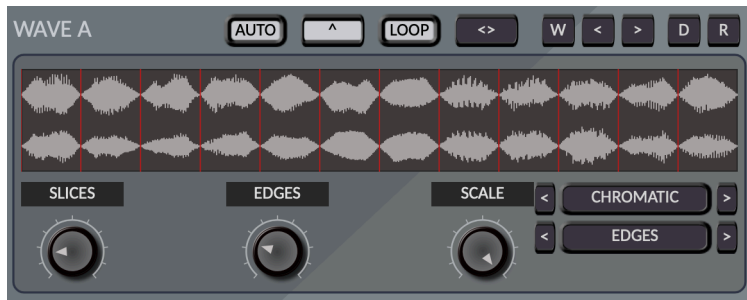


This mode is identical Chain Map except it uses an index parameter to decide which slice plays on the next Note on, which is a Mod Matrix destination.

## Envelope Modes

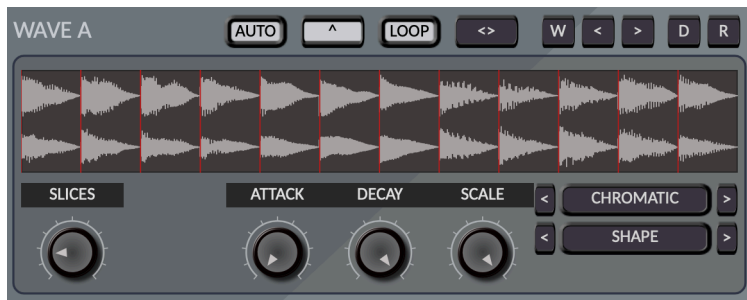
The Envelope Modes are about creating rhythmic or smoothing out the slices.

### Edges Mode



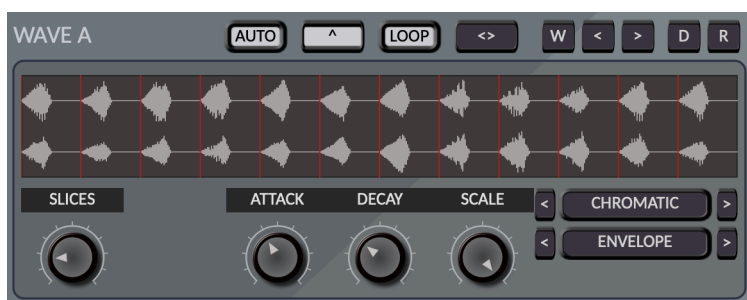
This mode does a fade in/fade out, so when used in a small way can prevent glitches at the loop crossover, but it can also be used in an extreme way to create a 50% fade in > 50% fade Out. The Edges knob decides the percentage of this.

### Shape Mode



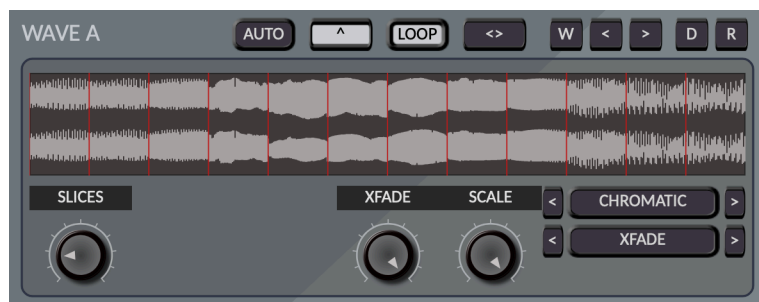
This Mode uses an Attack & Decay Parameter to create a rhythmic Fade in/out, the Attack knob is a percentage of the whole slice & the decay is a percentage of the remainder after the attack portion aiming for the fade out to fade to the end of the slice.

### Envelope Mode



This Mode is like Shape Mode, however the decay time fades out immediately so its great for making pulse like sounds.

## Xfade Mode



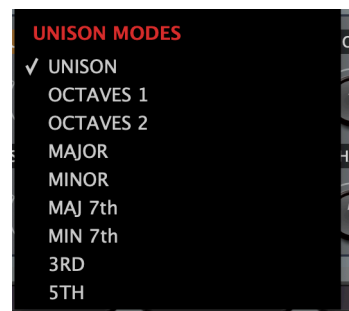
xFade Mode performs a crossfade on each of the slices so that each slice is a seamless loop. This is probably the most useful Envelope mode!

# Oscillator Control Section



This Section has the main controls for each Oscillator:

- **SEMITONE** - Allows detuning the Oscillator in semitones between +-48
- **FINE** - Fine tuning of the Oscillator.
- **UNISON AMOUNT** - How many Unison Voices are used between 1 (none) and 9 voices. These are basically cloned voices that can be detuned in standard unison mode for supersaw type sounds, or one of the other modes available in the Modes menu.
- **DETUNE** - In Standard Unison Mode this decides how much each different unison voice is detuned.
- **SPREAD** - This spreads the unison voices across the stereo field.
- **NOISE** - This is a multi purpose white noise parameter, centre is none, to the right will add the noise, however to the left will multiply the noise by the waveform resulting in a more interesting noise sounds. Note there is also a Noise Source in the Mod Matrix which can be used to modulate any destination.
- **FILTER** - Central sends equally to both Filters, to the Left more to Filter 1 and to the right more to filter 2. Full values will send exclusively to either filter.
- **UNISON MODE** - As well as Unison, there are some other modes available such as Octave Modes, Major minor Chords etc... The Amount will add more notes in the series, however note that Detune doesn't do anything outside of Unison Mode.
- **UNISON SYNC** - All unison voices will start at the same start position instead of a slightly randomised position.
- **LINK** - When enabled this Parameter uses the Oscillator A Envelope for both Oscillators which makes life easier, however both Oscillator can have their own volume envelopes for more sophisticated sound design.



# Envelopes

This section will describe all of the envelopes in SideTrack which are identical. There are 2 dedicated Volume Envelopes, a dedicated Filter Envelope and 2 generic Envelopes for use via the Modulation Matrix.



The Envelopes area a bit different to what you are likely used to as they are part way towards being tempo locked LFOs, the Attack & Decay section can be looped.

The way it works is that the 'BEATS' parameter sets the amount of tempo locked beats that will form the maximum of the Attack & Decay knobs which are a percentage of this value. So for example if the Beats is set to 4 and attack is set to 100% attack will last for 4 beats and turning the Attack knob to the left will make it shorter. In loop mode this gets into audio rate modulation.

One thing which is a side effect of the Envelopes working this way is that when they are set to a high beat value, it will be harder to get a short attack/decay time, however the Shape parameter can help with this, turning it to the right will make the curve concave allowing sharper cuts. Turning to the left will make the shape convex.

The Volume & Filter Envelopes also have an additional Velocity parameter for making velocity affect the envelope level.

# Oscillator Master

This section deals with parameters that affect both Oscillators.



- **RATE** - This is basically like a tape speed parameter. The default Value is 1 and anything above will speed up the 'tape' going below 1 will slow down until zero is reached which is stop and negative values will reverse the playhead.
- **SPREAD** - Centre has both voices in the centre (although there is some panning in the unison spread. Moving the knob in either direction will pan each Oscillators in opposite directions.
- **OSC MIX** - This allows balancing volumes between the Oscillator outputs pre filter send. This can be modulated.
- **LEVEL** - The overall level of the Oscillators.



# Waveform Display

This Menu allows display the Waveforms & Oscillators in different configurations. Wave A & B will display either on in the Left half.



Dual will show both fully, hiding the Master & Filter section:



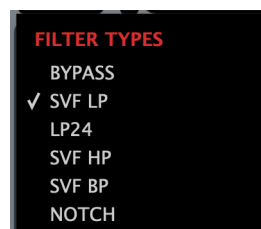
Dual F will show both Waveform sections but also show the filter:



# Filter Section

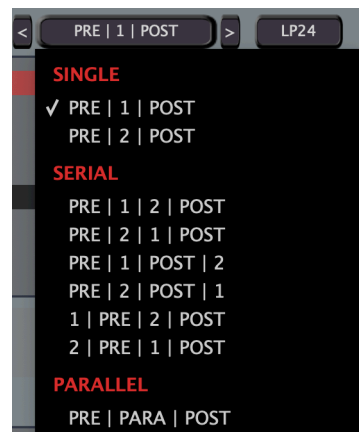


The Filter section consists of 2 Filters which can be run in series or parallel and some has some flexible routing modes. Each Oscillator in the Oscillator section can be routed to both/either filters.



- **FILTER TYPES** - There are 2 types of Low Pass with different characteristics, as well as a High Pass, Band Pass & Notch Filter.
- **ROUTING** - The Filter can be routed in any combination as well in Parallel.

If Parallel is selected, Each Oscillator can be hard mixed to each filter so effectively each will get its own filter. There is only a single dedicated Filter Envelope, however Envelopes 3 & 4 in the Modulation section can be routed through the Modulation Matrix.



- **CUTOFF, RESO & ENV AMT** - Each Filter has its own dedicated knobs for the Filter Cutoff, Resonance and Envelope Amount. The Envelope Amount is Bi-directional and so can be used as a negative modulation source.
- **MIX** - Allows Balancing the output Levels of both Filters.
- **LINK** - This enables linking the Cutoff Knobs so that both will change when Cutoff 1 is used and Cutoff 2 becomes an offset value.

# Master section



- **VIBRATO** - A dedicated Vibrato LFO, this controls the amount. If Wheel is enabled this will be the maximum amount and the wheel controls the percentage between 0 and this value. If Wheel is disabled then the Vibrato will be applied always.
- **VIBRATO FREQ** - The frequency of the Vibrato LFO.
- **STRAIN** - This parameter attempts to approximate the motor strain on mellotrons. The more voices that play the slower the motors get resulting in a pitch drop. A subtle setting can really add some character.
- **WARBLE** - A Random meandering LFO to give that slightly broken feeling.
- **WARBLE FREQ** - The frequency of the Warble.
- **LOW CUT** - Allows rolling off the Bass.
- **MASTER** - The Final Master volume of the output. Note that there is a brick wall limiter in the synth for situations when it gets too loud, if you hear fluctuations in the volume then it likely means you need to reduce the volume either with the Oscillator level or the master output.
- **BIT DEPTH** - This reduces the Bit Depth of the signal.
- **BIT DEPTH MIX** - The bit depth reduction is an extreme effect but very interesting in what it can add to the sound when breaking up. To make the most of it SideTrack has a mix parameter so that a more subtle amount of the effect can be added to the sound.
- **SATURATE** - Applies some mild drive to the signal, it can be placed at different locations in the Filter routing Option. It can pull out some nice harmonics in conjunction with Filter resonance.
- **DECIMATE AMT** - The mix Level of the Decimation Effect.
- **DECIMATE FREQ** - The Frequency of the Decimator.
- **PITCH BEND** - The amount of semitones the pitch bend will use.
- **POLYPHONY** - (top) Number of voices used by the Synth.

- **VOICE MODULATION ORDER** - This allows selecting the order of the voice modulation effects, Decimation, Bit Reduction and Saturation.

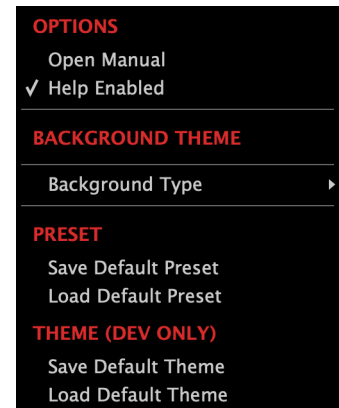
The Locations for the effects translate to a Pre Filter Position and a Post Filter Position where 'F' Represents the filter section. This covers all of the possible positions & orders the effects can be in. You can just use the inc/dec buttons to listen for a good combination. I find that the decimator is better Pre Filter unless you want an overt glitchiness.



## Options

By Right Clicking on the background of the synth in a non occupied area you can bring up an options menu.

- **OPEN MANUAL** - Opens this manual.
- **BACKGROUND TYPE** - Allow selecting the svg used for the background of the entire synth.
- **SAVE/LOAD PRESET** - The default preset is used to store a state that forms the basis of the default buttons (once it is implemented).
- **SAVE/LOAD DEFAULT THEME** - Ignore this it is only useful for development reasons, just load/save themes via the Theme Preset Browser.



# FX Section

NOTE: The FX Section still has a fair bit of work to do, but it's fully functional.



## Modulator



The Modulator is a generic effect based around an LFO and some effect, currently there is a Chorus/Flanger & a Phaser. The LFO is the same used throughout SideTrack and is based around a Tempo Locked beat value which becomes the Max Frequency, the Frequency knob is the percentage of that value so it can be slowed down to zero.

- **MIX** - The mix between Wet & Dry signals.
- **FREQ/BPM** - The percentage speed between 0 and 100, 100 being defined by the BPM Value.
- **DEPTH** - The Depth of the Modulation.
- **CENTRE** - The Centre frequency of the Effect.
- **FEEDBACK** - The feedback level of the effect.

## Reverb



The Reverb can range from small to huge.

- **MIX** - The Mix between wet & Dry signal
- **DAMP** - How much the sound will dull.
- **SIZE** - Size of the Room
- **WIDTH** - The Stereo Width.
- **TIME** - The Scale of the Reverb, higher values will add a pre delay.

## Delay/Looper



The Delay is Tempo Based for the left delay time and has an offset from that value between 0.5 and 2.0 for the right delay time.

- **MIX** - The Mix between wet & Dry signal.
- **BEATS** - How many beats in length the delay is, it can be very very large!
- **OFFSET** - The Time offset for the right delay.
- **FEEDBACK** - The delay Feedback, when set to 100% it can be used as an infinite looper.
- **MOD** - The Modulation Amount. Note that it gets glitchy & degrading when using this in Looper Mode.
- **FREQUENCY** - The modulation Frequency.
- **BYPASS** - Useful when using it as a looper, enabling this will stop recording sound so you can play over the top of the looper.
- **CLEAR** - Clears the buffers instantly.
- **COMB** - The Comb Mode switches into very small delay times for some interesting flange type effects.

# Modulation



The Modulation Section has a collection of Modulation Sources available as inputs for the Modulation Matrix.

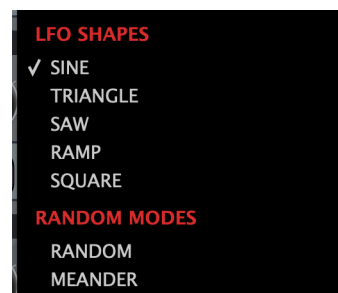
There are 2 envelopes, their function was described in an earlier section. There are also 4 LFOs.

## LFO



Each LFO is tempo Locked.

- **SHAPE** - Classic Shapes are available as well as Random and Meander, which is a linear line between randomised values.
- **MONO** - Each LFO can be set to per voice polyphonic or Monophonic. In monophonic, if reset is selected, the LFO will be reset whenever a Note On occurs after no notes are playing,.
- **T** - Trigger when enabled will reset the LFO with each Note On.
- **FREQ/BPM** - The BPM decides the maximum fastest speed of the LFO as a tempo clocked value, The Frequency knob is a percentage of that speed between 0 & 100%.
- **FADE** - This is a bi-directional control which will apply a simple envelope to the LFO Output, moving to the left will result in a Fade Out from max to zero, and to the right will cause a Fade in from zero to max.
- **LEVEL** - Overall level of the LFO output, this is a Modulation destination.



# Modulation Matrix

The screenshot shows the Modulation Matrix interface with the following data:

	CUT 1	CUT 2	RESO 1	RESO 2	VOL	OSC MIX	FIL MIX	NOISE 1	SAT	BIT RED	PITCH 1	PITCH 2
VELOCITY	0	0	0	0	0	0	0	0	0	0	0	0
KEY	50.01	0	0	0	0	0	0	0	0	0	0	0
MOD WHEEL	0	0	0	0	0	0	0	0	0	0	0	0
PITCH BEND	0	0	0	0	0	0	0	0	0	0	0	0
AFTERTOUCH	0	0	0	0	0	0	0	0	0	0	0	0
LFO 1	0	0	0	0	0	0	0	0	0	0	0	0
LFO 2	0	0	0	0	0	0	0	0	0	0	0	0
LFO 3	0	0	0	0	0	0	0	0	0	0	0	0
LFO 4	0	0	0	0	0	0	0	0	0	0	0	0
FILTER ENV	16.53	47.18	0	0	0	0	0	0	0	0	0	0
ENVELOPE 3	0	0	0	0	0	0	0	0	0	0	0	0
ENVELOPE 4	0	0	0	0	0	0	0	0	0	0	0	0
NOISE	0	0	0	0	0	0	0	0	0	0	0	0
CONSTANT	0	0	0	0	0	0	0	0	0	0	0	0

The Modulation Matrix is where most of the Modulation assignments happen, on the left is the list of sources and at the top are the destinations. It has a fixed design with hard routing. Double clicking a amount control will reset it, clicking an input header will set the whole row across all panels to zero, and likewise clicking a Destination Header will clear the column.

The destinations are displayed over 3 panels for a total of 48 destinations. Double clicking a matrix slot will reset it to zero, they are Bi-directional controls and so can send positive or negative amounts of each Modulation source.

## Sources

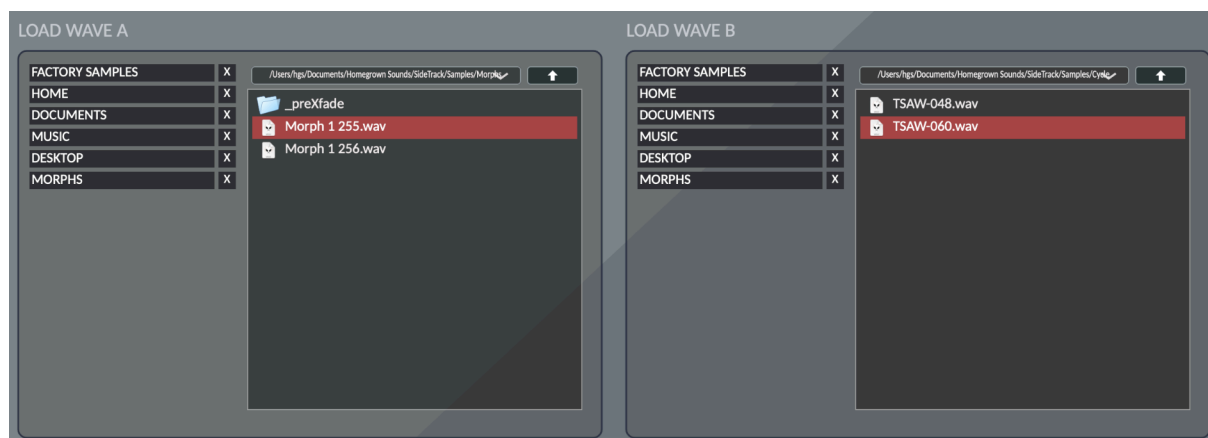
- **VELOCITY** - The Velocity of the Midi Note
- **KEY** - The key position centred at note 60, so keys lower than that will have a negative effect and keys above a positive effect. Not that 50% is the value for using for the Filter Cutoff to achieve semitone Resonance tuning.
- **MOD WHEEL** - The Modulation Wheel, also note that the Vibrato has a separate button to assign it to the Mod wheel.
- **PITCH BEND** - The pitch Bend value.
- **AFTERTOUCH** - This is both Channel Pressure & Polyphonic Aftertouch it will assign whichever are present.
- **LFO** - There are 4 LFOs on the Modulation Panel.
- **ENVELOPE** - There are 2 Envelopes on the Modulation Panel.
- **NOISE** - White Noise value that can add some interesting effects via modulation.
- **CONSTANT** - A constant value which can be useful as an offset.



## Destinations

- **CUTOFF 1 & 2** - The Cutoff frequencies of the filters.
- **RESONANCE 1 & 2** - The Resonance of the Filters.
- **OSC VOLUME** - The Overall Volume of both Oscillators.
- **OSC MIX** - The Volume Mix between each Oscillator.
- **FILTER MIX** - The Volume Balance Mix between each Filter.
- **NOISE 1** - The Noise Amount value for Oscillator 1
- **SATURATION LEVEL** - The Saturation level.
- **BIT REDUCTION** - The Bit Depth Reduction.
- **PITCH 1 & 2** - The Raw Pitch of each oscillator.
- **START POS 1 & 2** - The sample position that new notes will use.
- **DETUNE 1 & 2** - The unison Detune parameter.
- **PULSE WIDTH 1 & 2** - The Pulse Width of samples in Cycle Wave Mode.
- **FILTER SEND 1 & 2** - The Filter Send Amount Knob for each oscillator.
- **LFO FREQUENCY 3, 4 & 1** - The Frequency Knob for each oscillator.
- **ENVELOPE TIME 1, 2, FILTER, 3 & 4** - The Scale value of each Envelope which affects the overall time of the Attack 7 Decay times.
- **LFO LEVEL 1, 3, 4** - The LFO level knobs.
- **DECIMATOR LEVEL & FREQUENCY** - Decimator Frequency is a great destination for getting radio signal detuning type effects.
- **LOFI OSCILLATOR LEVELS** - Triangle, Saw, Square & Sub are all destinations, allowing some complex modulation possibilities!
- **FM LEVEL & FREQUENCY** - The Lofi Oscillator Modulator Mode Level & Frequency Values.

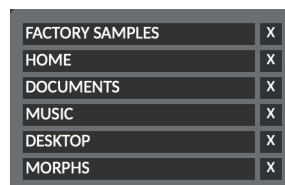
# Sample Browsers



Each Oscillator has a dedicated Browser found on the 'Sample' Panel. There are 2 side to it:

## Shortcuts

The shortcuts area is where you can create shortcut links to any folder on your computer. You can use the browser on the right to located a directory or file and simply drag across and a new shortcut will be created. You can also drag n drop from an external file browser such as Explorer/Finder.



Clicking on a shortcut will send the right hand browser to that location.

To remove a folder click on the 'X' button. Right click and select open in browser to open the location in Windows Explorer/Finder.

To re-order the shortcuts click one keeping the mouse button held and drag to a new position.

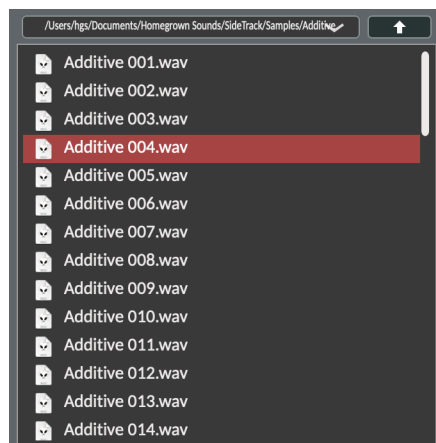
There is no limit to the amount you can have, a scroll bar will automatically appear when needed.

## Browser

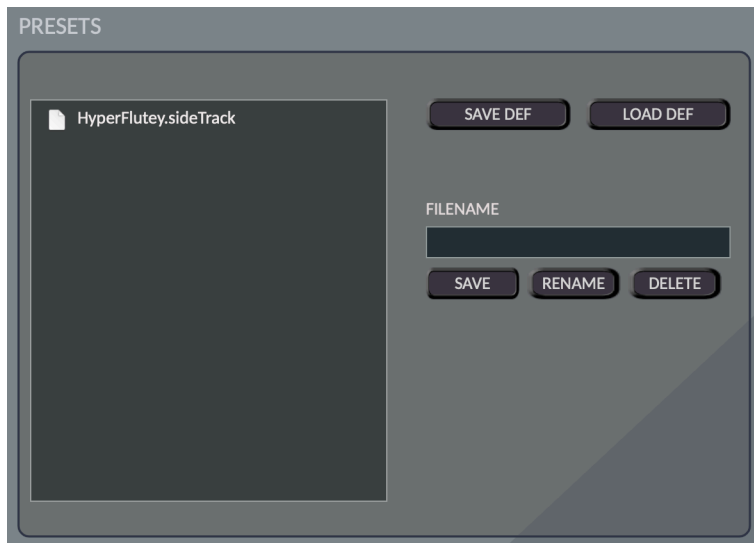
Clicking on a file will instantly load it to the appropriate sample oscillator.

Once a File is selected, you can use the Up/Down keys to traverse/load files.

The up Arrow will go up a Level and clicking on the down Arrow will bring up options for choosing other drives/common locations.



# Presets



Presets can be loaded & saved here. Note that there is still some work to do in this department on how sample paths are stored, whilst the presets will work fine on the machine they are saved on, relative paths haven't been fully implemented yet.

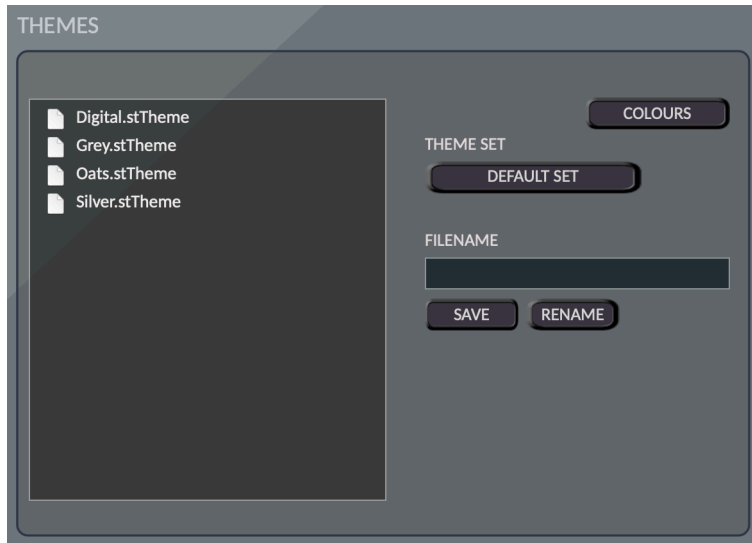
Also currently just references to the WAVs are stored currently but under the hood SideTrack can also save the WAVs to the data chunk and preset files. It needs further work to account for edge cases, and currently some functions/features rely on a physical file rather than a wav just stored in memory. But all of this is on the list of things to do.

The Presets location is within the documents SideTrack folder, currently there is no facility to create sub folders and so the front end is also work in progress.

To save a preset just enter the name & save, to load just double click the file in the browser.

The Default File is a preset file dedicated to being a standard default preset which will be used by the Default System once implemented. You can currently load the entire default file using the Load Default button and save the current state using the Save Default Button.

# Theme System



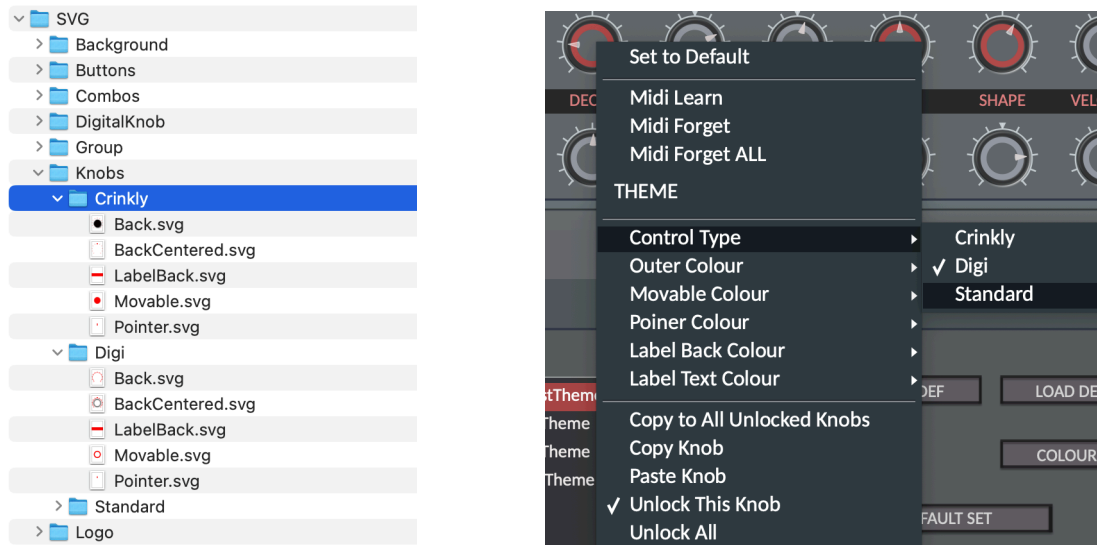
SideTrack uses an advanced theming system based on SVG vector assets & colours. All of the editing takes place in the front end via the context menu of each control type & the popup Colour Panel.

The Themes folder is located in:

“Documents/Homegrown Sounds/SideTrack/Themes”

At the top level is a Theme Set which contains all of the SVG assets and theme files that use them. There can be up to 99 of each control type, and this involves sometimes multiple SVGs that use red for a colour which can be replaced via the colour assignments.

To add an asset, the easiest way is to copy an existing folder, name it what you want and then replace the SVG files with your own keeping the names. When next loaded it will be visible in the control menu of that control type:



You can then select this knob asset to for any individual control of that type. In the case of the knob you can see there are several SVGs which represent the layers used to create the knob:

- **Back.svg** - This is the background vector and would typically have the outer part of the knob with the dial markings etc...
- **Back Centred.svg** - The same as background but for Centred knobs which generally have some kind of marker at 12 o'clock to show they are bi-directional.
- **Movable.svg** - This vector will be rotated when the knob is moved and is painted on top of the background.
- **Pointer.svg** - This is the actual pointer marker on the knob which is also rotated.
- **LabelBack.svg** - The background of the top label, generally just a red rectangle for recolouring in this case, but can be more complex.

If you open these SVGs in Affinity Designer or a vector editing program of your choice you will see that the sections which can be recoloured are in pure red. This colour is replaced and so its imperative that this colour is used otherwise recolouring wont work. You can use other layers of different colours in the SVG but they won't be recoloured.

Working with SVGs is pretty new to me and so I'm still learning myself. JUCE doesn't fully support the format & so it takes some experimentation to see what will load correctly. Simple files are fine and some of the FX work correctly. It was because of this that I split the knobs over a few SVGs as it makes it easier to work with.

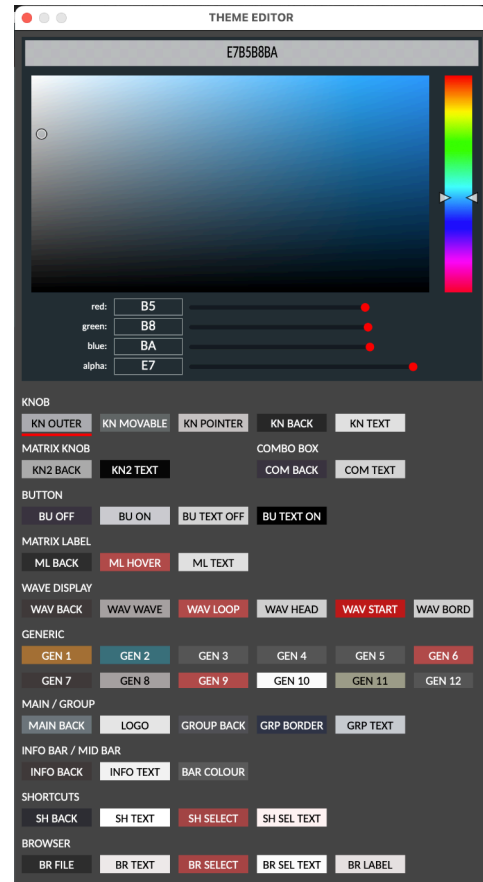
Hopefully this example gives enough to work with making new assets, I'd suggest sticking with the default theme set for now, I haven't done much testing with Theme sets quite yet.

## Colours

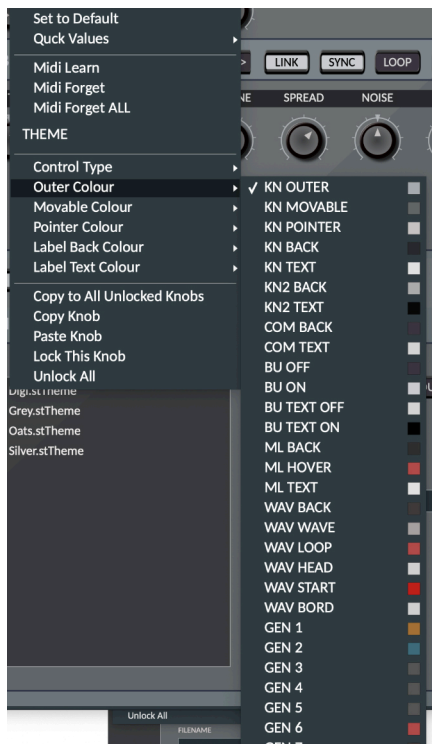
Each Control type has predefined colours assigned as can be seen on the right image of the colour chooser. This makes it easy to change the look of the theme.

Whilst this makes it easy to work with, these colours assignments can be changed via the controls right click menu. This means you can bring individuality to specific controls. There are 12 generic colours which can be used, however any of the colours can be assigned, so you could use a specific colour across different types of controls for example.

Note that the colours after the Generic Colours are not assignable, these are for more specific/Global areas.

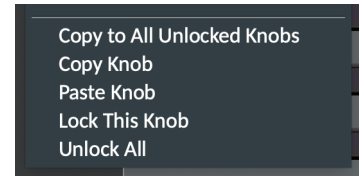


The Colours window is opened via the Presets/Themes/Colours button.



The rest of the Theme context options are as follows:

- **Copy to All Unlocked <CONTROL TYPE>** - This will copy all of the setting for this control to every other control that hasn't been locked.
- **Copy <CONTROL TYPE>** - This will copy the ID of the Control, so it is then available to be pasted by right clicking on any other control of the same type and choosing paste.
- **Paste <CONTROL TYPE>** - Pastes a previously copied control of the same type.
- **LOCK / UNLOCK** - When a control is locked, it will be excluded from the copy to all function, so this allows preserving the colours/asset types of specific controls which still being able to globally change the rest.
- **UNLOCK ALL** - This will unlock every locked control.



There are different control types which are currently, Knob, Button, ComboBox, Label, Mod Matrix Label and Mod Matrix knob. They all operate in the same way regarding themes except have their own type of asset.

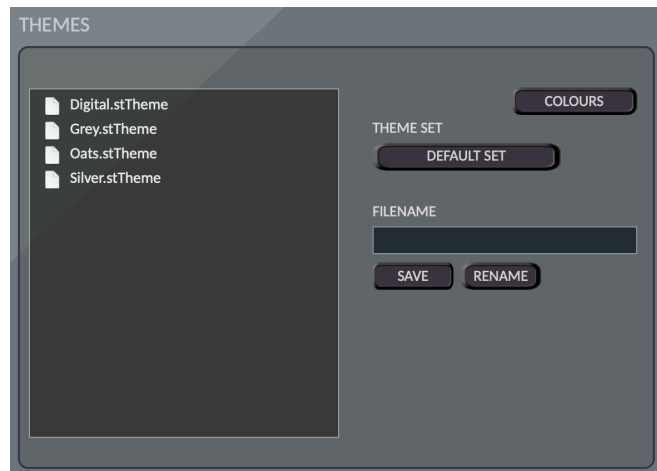
## Theme Saving/Loading

The themes themselves are saved in a Themes sub folder located in the current Theme Set folder.

To load a theme, simply double click it. Click once to perform rename or delete actions.

Edit the save name in the Filename box and click save to save to file, be aware that it will overwrite any existing file.

To Delete a file, right click and select delete.



To open the folder location in Finder/Explorer right click & show in explorer.

# Version History

- v0.6
  - **New Wave Mode: WaveScan** which picks out a single cycle Waveform from a large WAV with Size, PW & PWM. It also has Stack Mode which uses different loops for Unison Voices.
  - **New Wave Mode: Lofi 4 Osc.** This mode uses a Triangle, Saw, Square & Sine Sub Oscillator which are mixed to produce the sound. They are not band limited and so nice & dirty in the high registers. All but the Sub have start phase controls and the Square Wave supports Pulse Width/Modulation. Additionally the Volumes are destinations in the Modulation Matrix. There are various modes for different combinations, so for example it's possible to just have a SAW oscillator.
  - **Lofi Oscillator Mod Modes** - a Menu allows choosing a Modulation mode for the oscillators, there are various FM & RM Modes + a Sync Sub Mode.
  - **Decimator** - New Effect on the Synth Voice for degrading the sound, it has a Frequency & a Mix Amount like the Bit Reduction, both are also Modulation Matrix Destinations.
  - **New Post/Pre Voice FX Order** - Modes have been added to use Bit Reduction, Saturation & Decimation in any order and positioned pre/post filter. Previously the Filter Routing did a bit of this, but now it has been simplified and the FX order has its own setting in the global section.
  - **Modulation Matrix** - a fourth panel has been added for the newer Oscillator Volumes. NOTE Some slots are still unused, but they will eventually have targets.
  - **Modulation Matrix** - Constant has been added as a source which provides a convenient fixed offset amount.
  - **Modulation Matrix** - Further optimisation, uses significantly less CPU.
  - **Voice Stealing System** - implemented a way of voice stealing that should eliminate clicks.
  - **Envelopes** - Release is now decoupled from the Beats time and has a fixed maximum time.
  - Added Help Enable to the main background menu so that the menu help text that appears at the top can be disabled.
  - Filter Panel now disables unused controls in the different Filter Modes.
  - Detune is disabled when the non related Unison modes are selected.
  - Added Labels to the Combi Popup Menus to categorise the options.
  - Numerous Optimisations.
  - Changed the method used for play markers, to save a bit of CPU.



- Mod Matrix Labels now reset on double click instead of a single click.
- Polyphony Setting has been moved to a Combi Box rather than a knob.
- Modulation Matrix knobs now use a single theme setting.
- Improved GUI drawing efficiency.
- **Fix:** LFOs didn't affect Start Position correctly.
- **Fix:** Colour Panel Text was too small.
- **Fix:** Button/Combi Text moved up a bit.
- **Fix:** Theme Colours added for Popup Menus; Background, Text and Header. Factory Themes updated.
- **Fix:** Removed unused Colour IDs from popup Menus.
- **Fix:** Loop is now always used for Cycle & WaveScan modes.
- **Fix:** Pulse Width Improved when using Unison.
- **Fix:** Load WAV cycle now respects the Auto setting.
- **Fix:** BPM Labels renamed to BEATS.
- **Fix:** LFOs now re-trigger reliably in Global Mode.
- **Fix:** Right Click Quick Values on Knobs now sends to listeners correctly.
- **Fix:** Wave Display Play Markers no longer animate when the Oscillator is disabled.
- **Fix:** The Synth now responds correctly to a change in Samplerate.
- **Fix -** LFO reset mode now initialised correctly.
- v0.5 - Initial Release