# TAL-Sampler

**TAL Software GmbH 2022 ©**

# TAL-Sampler

# Introduction

The TAL-Sampler is a special sample-player plug-in that can create different vintage sounds even with high quality samples and is available as VST, Audio Unit, CLAP and AAX plug-in format. You can load and play your own samples in every common sample format (*.wav, *.aiff, *.aif, *.mp3, *.ogg, *.flac).
TAL-Sampler can play up to four independent layers. There is also a simple sfz import. SFZ files are treated like TAL-Sampler presets.
TAL-Sampler has a powerful modulation matrix and a high quality self-oscillating 24/12/6 dB low pass filter.
You can choose between different resampling-modes and adjust the quality to get the real vintage sound of different sampler inside your DAW.

It works within the most common audio hosts as *Ableton Live*, *Cubase*, *Logic Pro*, *Garage Band*, *Reaper* and *DSP-Quattro*. No standalone version is available.

# Installation

## Windows

**Requirements:**

- SSE 2 compatible processor (Pentium II or higher is required or an AMD equivalent)
- Windows 7 or higher.
- A VST 2.4, VST3, CLAP compatible host or Pro-Tools 3.6 or higher.

**Installation:**

- Download the file *install_TAL-Sampler.zip* and unzip it.

Install manually:

- You can copy the plug-in to your hosts VST directory. Our plug-ins do not require any installation.

Use installer:

- The zip contains an installer for the AAX and VST3 plug-in.

- Step through the wizard and choose the path where you want to install the plug-in. Please read the manual of your host to get more information where this directory is.

> **In hosts like Cubase, the plugin will show up after a restart. Some hosts need a plugin rescan.**
>
> **If you use Ableton Live and the plugin does not show up after a VST plugin rescan, try to disable and re-enable VST plugin support.**

**Uninstall:**

Just delete the plugin *.dll file to uninstall it.

## OS X

**Requirements:**                                                                                    5/24

- OSX 10.7 or higher.
- Intel Processor.
- AU (Audio Unit),VST 2.4, VST3 or CLAP compatible host or Pro-Tools 10.3.6 or higher.

**Installation:**
- Download the *TAL-Sampler-installer.pkg*, unpack it and run the installer. The installer copies the plugin to the right directory. It installs all available plug-in types by default.

**Uninstall:**
Delete the plugin. It's located in following directories:

*/Library/Audio/Plug-Ins/VST/*
*/Library/Audio/Plug-Ins/VST3/*
*/Library/Audio/Plug-Ins/Components/*

---

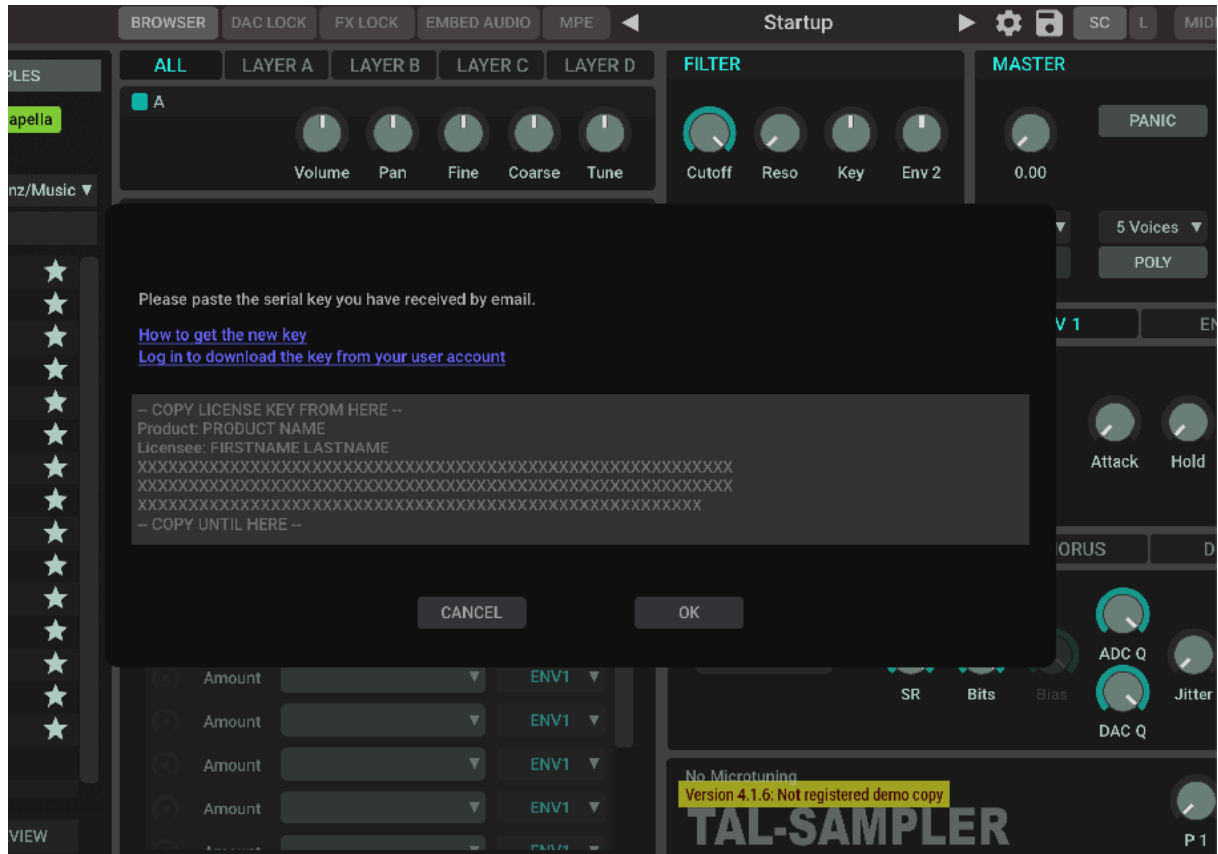**In hosts like Cubase, the plugin will show up after a restart. Some hosts need a plugin rescan.**

**You maybe need a OSX restart for the Audio Unit.**

**If you use Ableton Live and the plugin does not show up after a VST plugin rescan, try to disable and re-enable VST plugin support.**

---

## Registration

You need to buy and register the plug-in to disable the demo mode that fades in a noisy sound every minute.
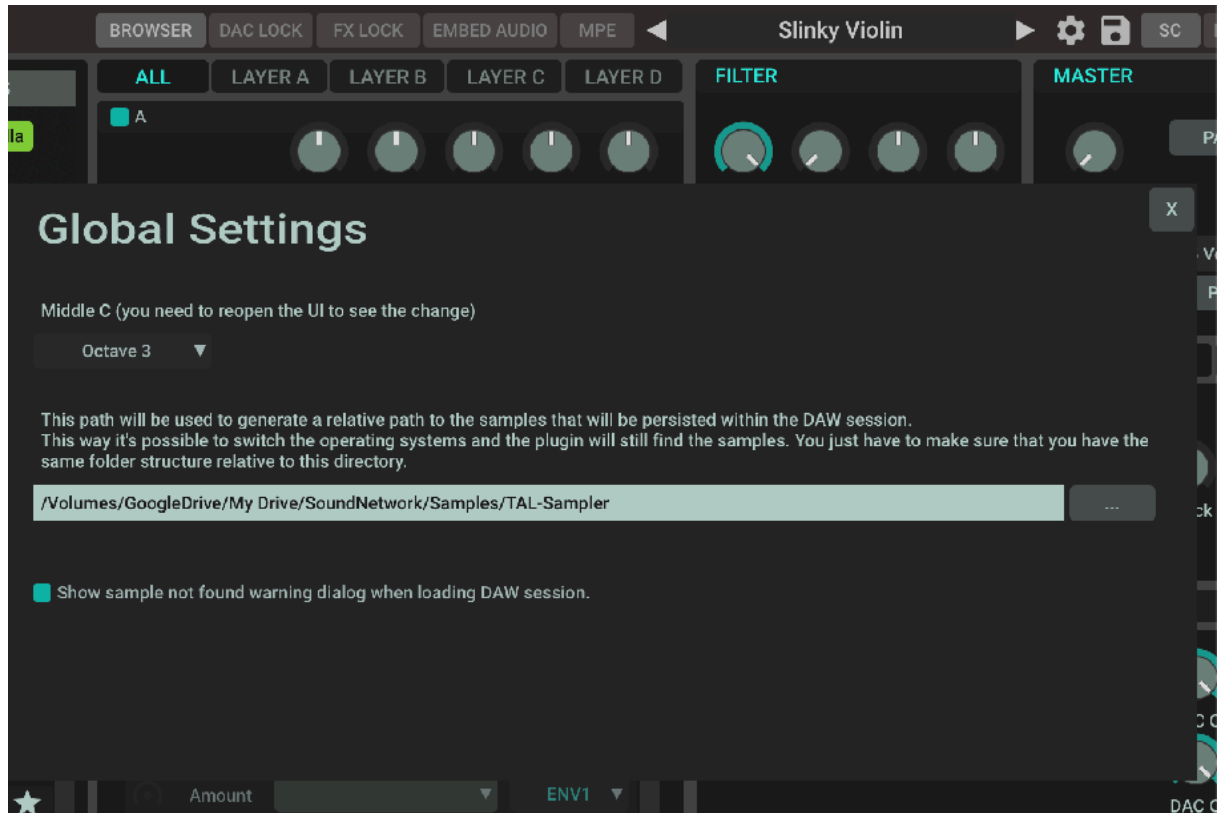
The plug-in shows a dialog when you open the UI. You can paste the serial with one click a click into the serial field:



---

**You maybe restart the host after the registration to make sure that also other TAL-SAMPLER plug-in instances are registered.**

## Settings

A click on the gear symbol on top right near the preset name opens the setting dialog:
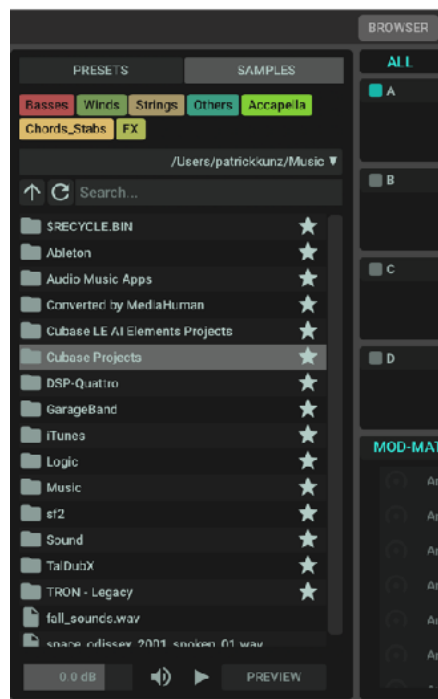


The path is required when working on different systems or operating systems.
TAL-Sampler automatically saves also the relative path to this location inside the DAW session. It will try to use this relative path when opening a DAW session as a fallback to the absolute path that can be different on different systems. It's important that this path points to a path near your samples.

# File Browser

The browser lets you load presets or samples, depending if PRESETS or SAMPLES is selected.

- Add favourite tags with a click on the star icon of a folder.
- A right-click on the new added favourite tag lets you change the color or delete it.
- A left-click on a favourite tag opens that folder.
- A double click on a list entry opens the folder or loads the preset or sample.
- Navigation with arrow keys is also possible.
- Right arrow key opens the folder or plays the sample.
- Right arrow key and SHIFT loads the sample.
- Left arrow key opens the parent folder.
- The UP-arrow icon also lets you open the parent folder.
- The drop-down box lets you select some predefined folders.
- Load a sample with drag and drop from the browser to the layer or mapping of your choice.



At the bottom of the browser you will find some sample preview options.

- Volume slider to set the preview volume.
- Speaker icon to enable preview when clicking on a sample.
- Play icon to play / stop a selected sample.
- PREVIEW button for in-place preview. Reverts to the original sample when you disable preview. Loads the new sample and disables preview when you drag and drop or double click on a sample.

## Save a Preset

You can use "Save as…" from the menu (click at the preset name on the top) or the floppy disk icon near the preset name on the top to save a preset with a new name. Use "Save" to overwrite the current preset.

**Make sure you save the file-preset on the same drive as the samples, because the paths inside the preset file are saved relatively! A good practice is to have the samples in a sub folder of the preset.**

You can choose "Copy Samples to Preset Directory" or "Save Preset and Samples to…" to move the samples to the preset. This can be helpful if you use samples from different drives and locations. You can copy the preset and the samples to another location or share them with other people.

# User Interface

TAL-Sampler has four layers and can play up to four samples simultaneously. Every layer is independent and has its own sampler engine.

## Layer Overview



The layer overview shows the activated layers with the red LED on the left. A click on the LED enable or disable the layer.

The view also contains the most used controls to have fast access to it. "Coarse" is a special-parameter. It can transpose the whole layer sample mapping +-24 halftones up or down.

> **Do not increase the volume of a layer if the sample is already normalized. This value is directly related to the filter input volume and maybe impacts the filter drive.**
>
> **Use the main volume knob to adjust the overall volume.**
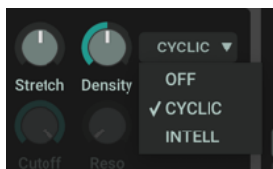
# TAL-Sampler

## Layer View



The Layer View shows the individual layer parameters. You will find settings like Volume, Tune (+- 24 halftones), Fine Tune (+- 1 halftone) and delay, where you can delay the sample start up to one second.

COPY / PASTE LAYER allows copying the layer mappings and paste it into another layer.
MIDI SELECT allows you to select the mapping you trigger by a MIDI note.

## Stretch Section



Stretch allows it to change the sample tempo without changing the pitch. It works in real-time without any pre-calculations.
After stretch is enabled, it plays the samples with the same length for all pitches (down to -1 octave). There are two vintage stretch modes available:

**CYCLIC:**
Akai style cyclic stretcher. The DENSITY knob controls the grain size.

**INTELL:**
Time stretch with correlation algorithm. Density changes the correlation windows.

**Stretch:**
Stretch allows it to change the tempo without affecting the pitch. You can make it infinitely slow (staying at the same position) up to twice the speed.

## Layer Filter



You can enable the filter for specific layers with the A, B, C, D buttons. You can choose between different filter types.

- KEY sets how much the filter follows the KEY.
- Env2 is the envelope amount modulation by the second envelope.

## Sample and Loop Section



Displays the Start / End and loop Start / End of the currently selected mapping and lets you edit the values. You can also disable or enable the loop mode for the mapping.

The arrow keys allow stepping through the mappings of this layer. PLAY plays the sample of the currently selected mapping.

You can assign automation or MIDI mapping to the Start / End values, but it will be only active for the current selected and viewed layer mapping. Please not use this for automation.

Use the two arrows on the bottom to step through different samples in the directory of the currently loaded sample and replace the sample.
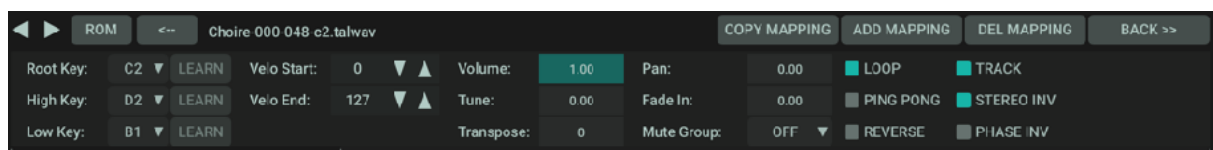
ROM lets you choose some basic built in ROM samples (SAW, SQAURE, SINE, NOISE)



## Mapping Editor

In the mapping-editor, you can map samples to different keys. Every layer has its own mapping and can only play one sample per voice. Every mapping can have its own velocity range and settings.

### Detail View



Access to all mapping specific settings:

**ROOT KEY:** The root key of the original sample.
**LOW KEY:** The lowest key that plays the sample.
**HIGH KEY:** The highest key that plays the sample.
**VOLUME:** Mapping volume.
**TUNE:** Mapping fine tuning up to +- 1 halftone.
**REVERSE:** Sample reverse mode.
**LOOP:** Enables and disables loop.
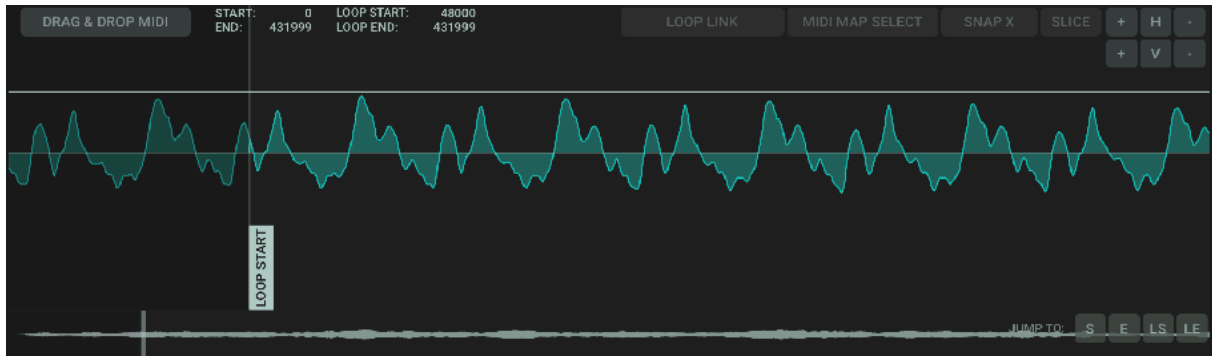**LOOP FADE:** Defines the cross fade size.
**LOAD:** Loads or replaces an audio sample. Use the arrow keys to step through the samples inside a folder.
**ROM:** Contains a few rom samples, most sampled from a hardware SH-101
**DELETE:** Deletes the current active mapping.
**VELO START / END:** Sets the velocity range of the current active mapping.
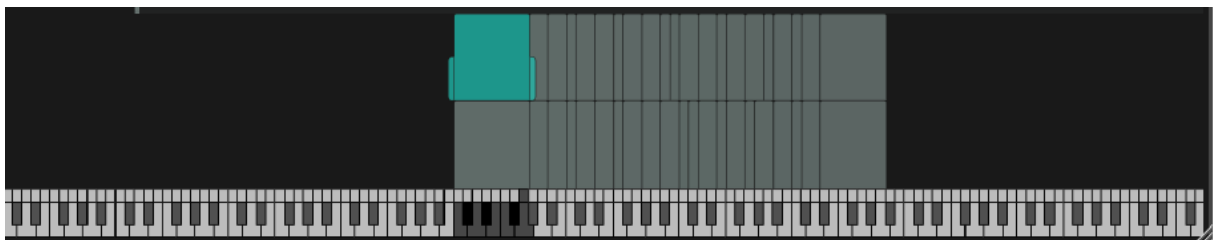
## Waveform View



The sample view shows the waveform, start, end, loop start, loop end and the fade in size. You can drag the positions with the mouse and zoom with the mouse wheel.

**SNAP X:** Automatically snaps to zero crossings if you move the start, end, loop start or loop end position.
**PLAY:** Plays the current active mapping sample.
**SLICE:** Splits the sample at the mouse click position and creates a new mapping.

## Mapping View



The mapping view shows the mappings and the assigned keys per map. The vertical axis is the velocity range of the mapping.
You can move mappings with the mouse or change the key-range when you drag with the mouse on the left or right hand side of the mapping. You can also see and change the mapping root key when clicking on the rectangles on top of the keys.

You can select more than one mapping with the mouse or with the SHIFT + click.

**It's possible to drag and drop samples direct into the waveform or mapping view from file explorers, host audio file pools or cubase media bay.**

## Re-sampler Section



The re-sampler section allows it to change the way samples are re-sampled. There are five modes (DAC types) with a different sound, CPU usage and quality. Every sample that plays will be processed separately.

You do not need old 8 bit samples with a low sample rate to get the vintage sound. TAL-Sampler can down-sample high quality samples to a desired sample rate and bit depth with a high quality re-sampler in real-time.

Signal path of one playing sample:



**Linear**

Linear is the most simple and CPU efficient mode. It uses linear interpolation without any filtering. Most sample players use something like this to pitch samples.

You maybe use this if you want to save CPU for a sample that does not need any vintage character.

**Variable**

Variable is the most common mode with linear bit scaling. It has a variable sample rate and uses a high quality filter to re-sample the signal to the desired sample rate. After that it does poor sample hold to get desired pitch. It's possible to choose a sample rate between 8000 Hz up to 44100 Hz.

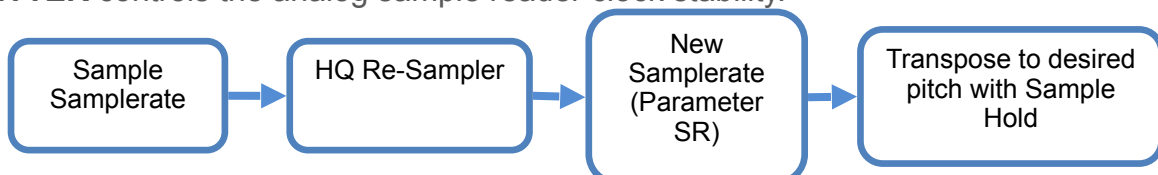**ADC Quality** sets the analog digital converter quality. A small value introduces low frequency aliasing.

**DAC Quality** sets the digital to analog converter quality. A low value introduces high frequency aliasing.

**HISS** boosts frequencies > 10kHz and makes the DAC artefacts more notable.
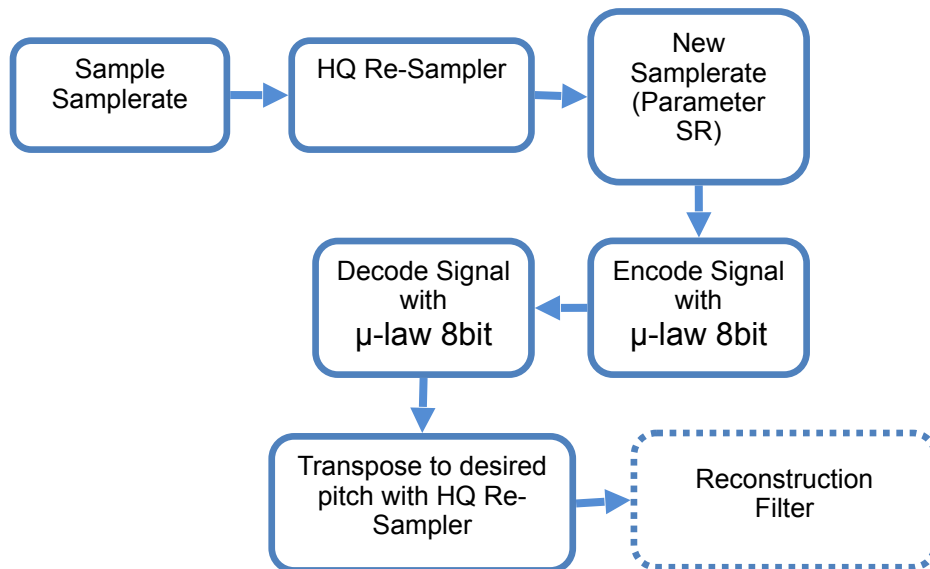
**SAT** adds some saturation to the voice.

**JITTER** controls the analog sample reader clock stability.

**AM 6070**

AM6070 is a classic 8bit mode. It uses the μ-law algorithm, used in PCM digital telecommunication systems to improve the quality and was also used in early samplers. It adds a noise floor to the sample, where low level signals have a better resolution than loud signals. You will find more information on Wikipedia.

TAL-SAMPLER offers a level knob that allows reducing the recording volume. All other parameters work the same like in the variable mode.

```
┌──────────────┐     ┌──────────────┐     ┌──────────────┐
│    Sample    │ →   │ HQ Re-Sampler│ →   │     New      │
│  Samplerate  │     │              │     │  Samplerate  │
│              │     │              │     │ (Parameter   │
│              │     │              │     │     SR)      │
└──────────────┘     └──────────────┘     └──────────────┘
                                                  ↓
┌──────────────┐     ┌──────────────┐
│ Decode Signal│     │ Encode Signal│
│     with     │ ←   │     with     │
│  μ-law 8bit  │     │  μ-law 8bit  │
└──────────────┘     └──────────────┘
       ↓
┌──────────────┐     ┌ ─ ─ ─ ─ ─ ─ ┐
│Transpose to  │       Reconstruction
│desired pitch │ →       Filter
│ with HQ Re-  │     
│   Sampler    │     └ ─ ─ ─ ─ ─ ─ ┘
└──────────────┘
```

**Emu II**

Emu II emulates the DAC of a popular hardware sampler from the 80's. This emulation also uses 8bit μ-law companding but uses also Differential Pulse Code Modulation with 8bit sample delta values. This way the sampler can have up to 14 bit dynamic range with 8bit data. It sounds especially good low notes but can sound bad if you pitch up the sample too much. There is also a background noise with a special character. You maybe set the sample rate to 27kHz :)

```
┌──────────────┐     ┌──────────────┐     ┌──────────────┐
│   Sample     │ ──► │ HQ Re-Sampler│ ──► │     New      │
│  Samplerate  │     │              │     │  Samplerate  │
│              │     │              │     │ (Parameter   │
│              │     │              │     │     SR)      │
└──────────────┘     └──────────────┘     └──────────────┘
                                                 │
                                                 ▼
┌──────────────┐     ┌──────────────────────────────────┐
│ Decode delta │ ◄── │ Extract delta and encode signal   │
│  value with  │     │            with                    │
│ μ-law 8bit   │     │         μ-law 8bit                 │
│ and sum      │     │                                    │
│ delta values │     │                                    │
└──────────────┘     └──────────────────────────────────┘
      │
      ▼
┌──────────────┐     ┌──────────────┐
│ Transpose to │ ──► │Reconstruction│
│ desired pitch│     │    Filter    │
│ with HQ Re-  │     │              │
│   Sampler    │     │              │
└──────────────┘     └──────────────┘
```

You can decrease the DAC volume to emulate a low volume recording with some more background noise. The Offset knob changes the μ-law table scaling of the encoded data to the decoder. You maybe have to tune this too if you want to emulate the hardware.

**Clean**

This mode has a subset of the variable-mode. It always uses the sample sample-rate.

**S1000**

This mode uses 8 point SINC interpolation, tuned after the popular S1000 vintage sampler.
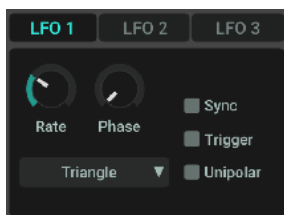
## Envelope Section

The envelope section provides one ENV1 (AMP) envelope, a ENV2 (VCF filter) envelope and a modulation envelope.
The envelopes are analog modelled but can be switched to a digital one if you choose DIGITAL / RC.
This way the envelope is digital and will be converted back to the analog domain using a RC component to get a smooth transition between the digital values.

## LFO Section

The LFO section offers three independent LFO's per voice with five different waveforms (Triangle, Saw, Rectangle, Random and Noise).

TRIG, triggers the LFO with note start.
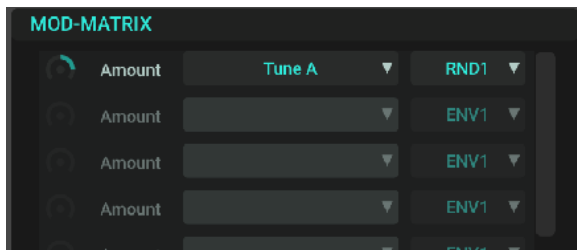SYNC, synchronises the tempo to the host tempo.
UP enables the unipolar mode where the LFO value is only positive.
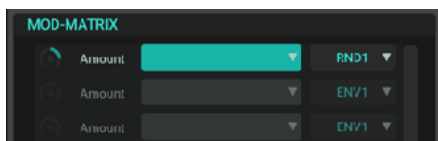
## Master Section

The master section offers the main parameters for the sampler.
You can set the number of voices and enable global volume velocity. Portamento is available in two modes (always or only when notes overlapping). There is a TIME switch for the portamento mode. In this mode, the portamento time is always the same for small or big portamento steps.
A master tune and volume knob is also available. ONE SHOT always plays the whole sample, also if you hit the key only for a short time.

## Modulation Matrix Section

The MOD-MATRIX, allows it to modulate almost every parameter of TAL-SAMPLER. It's also possible to modulate the intensity of another MOD-MATRIX entry. You can have up to 10 modulations.

Click inside the empty combo box to *assign* a modulation destination. You can also click to one that already have an assignment and assign another one or delete it. You can also delete it with a right mouse click.

The destination field change the color to blue if you click on it. Now you can make a click at a knob on the sampler UI to assign it to the matrix. Use the amount knob to adjust the modulation amount. It can have a positive or negative value. Use shift if you want that the sampler snaps to semitones when you set a pitch modulation.

The combo box on the right shows the modulation source. You can click on it and choose a different source:

ENV = One of the AHDSR Envelopes
LFO = One of the LFO's
VEL = Velocity
AT = After-touch
PW = Pitch Wheel
MW = Mod-Wheel
ALT = Alternate when you press a new key
RND = A new random value if you press a new key
KEYB = Key Follow
1 = Value 1
P 1 to P 4 = Use the knobs in the control section to modulate the matrix with host automation or with a MIDI controller.
MPE T: MPE timbre
MPE P: MPE pressure

## Equalizer Section

The equaliser section includes a peak EQ. It allows reducing or boosting a specific frequency for a given bandwidth (Q).

## Reverb Section

The reverb section adds high quality vintage reverb to the output. It works great for long reverb times.

## Delay Section

The delay section is a bit more complex but also offers a lot of possibilities. It has the ability to create chorus or flanger effects with short delay times, but it can also create normal delay sounds.

**SYNC** synchronises the delay to the host tempo and directly affects the time knob.
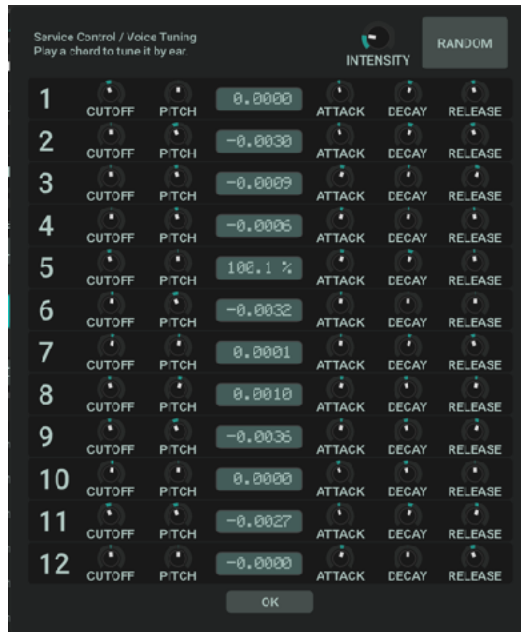
**OFFSET** controls the delay offset between the left and right audio channel up to 50%.

**SPREAD** controls the modulation offset of the stereo left and right channel up to 180 degree.

**DEPTH** and **RATE** control the intensity and the speed of the modulation.

**FDB** controls the signal feedback or the delay duration.

# Service Control



Click on the SC button at the top to open the service control dialog. It allows it to calibrate or detune parameters like cutoff, fine tune and envelope speed for each synth voice and adds analog behaviour to the digital sample engine.

# MIDI Learn



Assign a midi controller to every control of the synth. Do following steps to make a successful assignment:

1. Enable MIDI LEARN (top right corner)
2. Move a plug-in slider or push the button you want to control.
3. Move your hardware controller
4. Disable MIDI LEARN or do some more assignments.

**DELETE ML**
Deletes all midi learn assignments.

**LOCK**
Keeps the actual loaded MIDI mapping also if you loading another preset that has his own MIDI mapping.

## EMBED AUDIO

Saves the audio data inside the preset and finally in your hosts session file if you use it in a production. This can make your session file huge. It's not recommend to use that feature if you are using bigger samples that are a few megabytes big. You maybe notice that saving and loading sessions can be slow if you embed samples.

It's always better to keep the samples outside as audio data. On OSX you can use the */Users/Shared/* folder if you want to work on different OSX systems.
On windows you can use the same location outside the user directory to switch between different systems or map the same drive.

# TAL-Sampler

# License

END-USER LICENSE AGREEMENT FOR TAL-U-NO_LX IMPORTANT PLEASE READ THE TERMS AND CONDITIONS OF THIS LICENSE AGREEMENT CAREFULLY BEFORE CONTINUING WITH THIS PROGRAM INSTALL: TAL - Togu Audio Line End-User License Agreement ("EULA") is a legal agreement between you (either an individual or a single entity) and TAL - Togu Audio Line. for the TAL - Togu Audio Line software product(s) identified above which may include associated software components, media, printed materials, and "online" or electronic documentation ("SOFTWARE PRODUCT"). By installing, copying, or otherwise using the SOFTWARE PRODUCT, you agree to be bound by the terms of this EULA. This license agreement represents the entire agreement concerning the program between you and TAL - Togu Audio Line, (referred to as "licenser"), and it supersedes any prior proposal, representation, or understanding between the parties. If you do not agree to the terms of this EULA, do not install or use the SOFTWARE PRODUCT.

The SOFTWARE PRODUCT is protected by copyright laws and international copyright treaties, as well as other intellectual property laws and treaties. The SOFTWARE PRODUCT is licensed, not sold.

**1. GRANT OF LICENSE.**
The SOFTWARE PRODUCT is licensed as follows:
**(a) Installation and Use.**
TAL - Togu Audio Line grants you the right to install and use copies of the SOFTWARE PRODUCT on your computer running a validly licensed copy of the operating system for which the SOFTWARE PRODUCT was designed [e.g., Windows 95, Windows NT, Windows 98, Windows 2000, Windows 2003, Windows XP, Windows ME, Windows Vista].
**(b) Backup Copies.**
You may also make copies of the SOFTWARE PRODUCT as may be necessary for backup and archival purposes.

**2. DESCRIPTION OF OTHER RIGHTS AND LIMITATIONS.**
**(a) Maintenance of Copyright Notices.**
You must not remove or alter any copyright notices on any and all copies of the SOFTWARE PRODUCT.
**(b) Distribution.**
You may not distribute registered copies of the SOFTWARE PRODUCT to third parties. Evaluation versions available for download from TAL - Togu Audio Line's websites may be freely distributed.
**(c) Prohibition on Reverse Engineering, Decompilation, and Disassembly.**
You may not reverse engineer, decompile, or disassemble the SOFTWARE PRODUCT, except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation.
**(d) Rental.**
You may not rent, lease, or lend the SOFTWARE PRODUCT.
**(e) Support Services.**

TAL - Togu Audio Line may provide you with support services related to the SOFTWARE PRODUCT ("Support Services"). Any supplemental software code provided to you as part of the Support Services shall be considered part of the SOFTWARE PRODUCT and subject to the terms and conditions of this EULA.
**(f) Compliance with Applicable Laws.**
You must comply with all applicable laws regarding use of the SOFTWARE PRODUCT.

### 3. TERMINATION
Without prejudice to any other rights, TAL - Togu Audio Line may terminate this EULA if you fail to comply with the terms and conditions of this EULA. In such event, you must destroy all copies of the SOFTWARE PRODUCT in your possession.

### 4. COPYRIGHT
All title, including but not limited to copyrights, in and to the SOFTWARE PRODUCT and any copies thereof are owned by TAL - Togu Audio Line or its suppliers. All title and intellectual property rights in and to the content which may be accessed through use of the SOFTWARE PRODUCT is the property of the respective content owner and may be protected by applicable copyright or other intellectual property laws and treaties. This EULA grants you no rights to use such content. All rights not expressly granted are reserved by TAL - Togu Audio Line.

### 5. NO WARRANTIES
TAL - Togu Audio Line expressly disclaims any warranty for the SOFTWARE PRODUCT. The SOFTWARE PRODUCT is provided 'As Is' without any express or implied warranty of any kind, including but not limited to any warranties of merchantability, noninfringement, or fitness of a particular purpose. TAL - Togu Audio Line does not warrant or assume responsibility for the accuracy or completeness of any information, text, graphics, links or other items contained within the SOFTWARE PRODUCT. TAL - Togu Audio Line makes no warranties respecting any harm that may be caused by the transmission of a computer virus, worm, time bomb, logic bomb, or other such computer program. TAL - Togu Audio Line further expressly disclaims any warranty or representation to Authorized Users or to any third party.

### 6. LIMITATION OF LIABILITY
In no event shall TAL - Togu Audio Line be liable for any damages (including, without limitation, lost profits, business interruption, or lost information) rising out of 'Authorized Users' use of or inability to use the SOFTWARE PRODUCT, even if TAL - Togu Audio Line has been advised of the possibility of such damages. In no event will TAL - Togu Audio Line be liable for loss of data or for indirect, special, incidental, consequential (including lost profit), or other damages based in contract, tort or otherwise. TAL - Togu Audio Line shall have no liability with respect to the content of the SOFTWARE PRODUCT or any part thereof, including but not limited to errors or omissions contained therein, libel, infringements of rights of publicity, privacy, trademark rights, business interruption, personal injury, loss of privacy, moral rights or the disclosure of confidential information.