

TAL-U-NO-LX

USER MANUAL



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TAL-U-NO-LX

Introduction

The TAL-U-NO-LX is a Virtual Analog software synthesizer plugin that supports all sample rates.

The synth was designed to emulate analog hardware as accurate as possible and brings the synth sound of the 80's back into your DAW. This synth does not use any samples.

It's tested and works within the most common audio hosts as *Ableton Live*, *Cubase*, *Logic Pro*, *Garage Band*, *Reaper* and *DSP-Quattro*. There is no standalone version available. Try the unregistered demo version to be sure that the plug-in works in your environment. The demo will play a noisy sound every minute.

Please use at your own risk. We take no responsibility for any damage caused by our VST, AU (Audio Unit) and AAX plug-ins.

Windows

Requirements:

- 64 bit sequencer software (VST 2.4, VST3 or AAX compatible)
- Windows 7 or newer

Installation:

- Download the file *install_TAL-J-8.zip* and unzip it.
- You can copy the plug-ins manually to your hosts VST directory or the VST3 version into the VST3 directory. The zip file contains all plug-ins. Our plug-ins do not require the installer.

VST3 Directory:

C:\Program Files\Common Files\VST3

AAX Directory:

C:\Program Files\Common Files\Avid\Audio\Plug-Ins

In hosts like Cubase, the plug-in may require a computer restart to appear in the host. Some hosts may also need a plug-in rescan.

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

-

Uninstall:

Just delete the plug-in file to uninstall it.

OS X

Requirements:

- OSX 10.9 or higher.
- 64 bit sequencer software (VST 2.4, VST3 or AAX compatible)

Installation:

- Download the *TAL-U-NO-LX-V2_installer.pkg*, unpack it and run the installer. The installer copies the plug-in to the right directory. It installs all available versions by default (VST, VST3, AU, AAX).

Uninstall:

Delete the plug-in. It's located in following directories:

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

In hosts like Cubase, the plug-in may require a computer restart to appear in the host. Some hosts may also need a plug-in rescan.

You maybe need a OSX restart for the Audio Unit.

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

Registration

In demo mode it's not possible to save or export presets and the plugin does not save its state within your host.

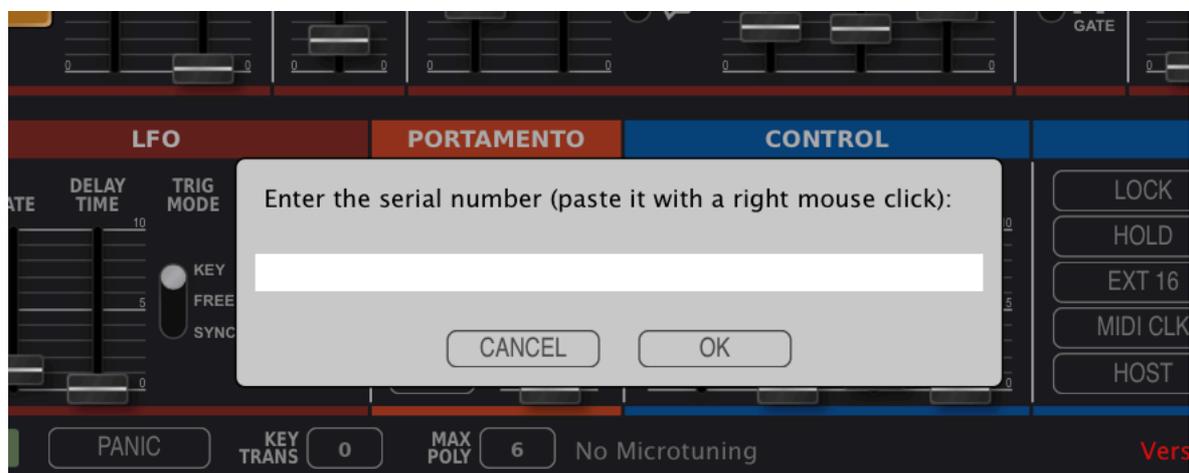
It's possible to use the plugin also when it's not registered. Only preset saving and loading is disabled and you lose the plugin settings if you close and re-open a host arrangement.

After registration, saving and loading presets will be enabled. Click on the preset name and *Register Plugin...* to register the plugin.



This opens the *Register Plugin* dialog. You have to paste the 64 digit serial number into the text field and press *OK*. The plugin is now registered if you entered the serial you received by an email.

Please use the right mouse button to paste the serial into the text field. A context menu should show up. If you haven't a right mouse button, you maybe have to press CTRL and the left mouse button.



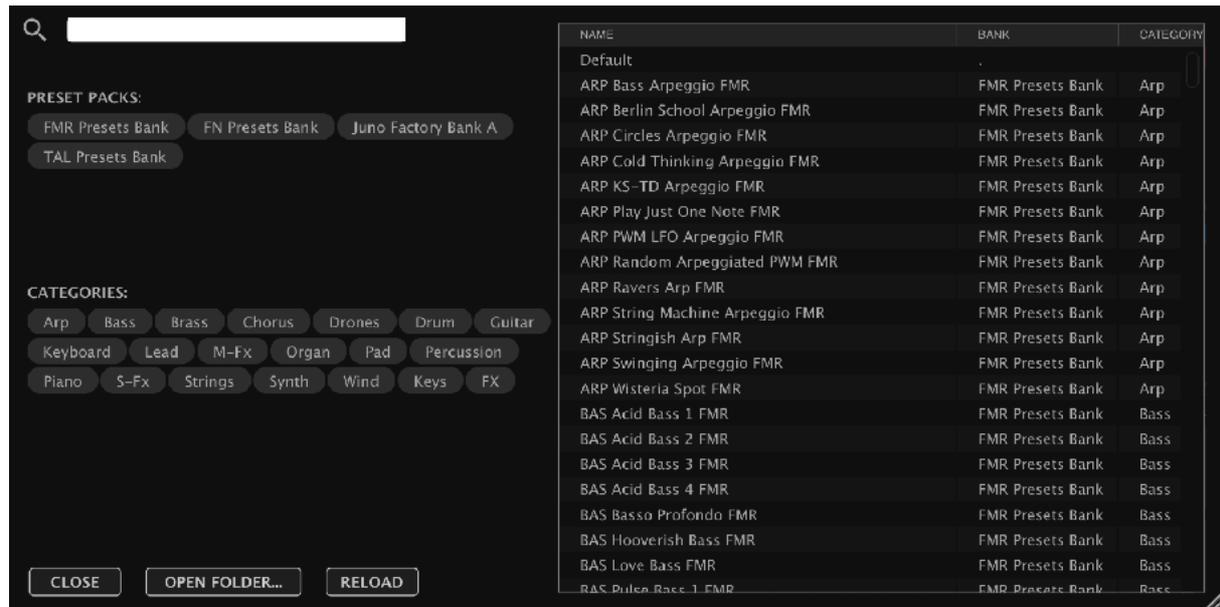
Preset Browser

The Preset Browser button is located at the top of the plug-in:



A click at the *File* Icon opens the plug-in preset browser.

The plug-in Preset Browser:



The preset files themselves don't contain any meta information which allows for fast browsing and simplicity. The Browser expects the following Folder Structure:

The root directories are named after Preset Pack or Library names and the sub folders in that directory are the categories.

You can then click at one or more CATEGORY or PRESET PACK name to filter the presets.

There is also a search box at the top for text search.

Menu

A click on the current preset name on the top opens the pop up menu. The menu contains important features to manage presets. The left and right arrows allow you to step through them or you can choose a specific preset directly in the menu. The preset system is file based. Windows and OSX presets are compatible.



Save / Load Preset...

Save and load presets from the file system with the native file browser of your operating system.

Microtuning

Loads *.tun files for a microtonal tuning of the current preset.

Save as Default Preset

Replaces the Default preset in the root preset folder. This preset loads when you create a new instance of the instrument. You can save your default MIDI Mappings within this preset.

Disable MIDI Prg Change

Disables MIDI Program Change events when enabled. MIDI Program Change is not supported in VST3.

Disable MIDI output

MIDI output is disabled when enabled. Maybe required to avoid MIDI feedback loops.

Disable audio output

Disables the audio output when enabled. Useful when you only need the MIDI output, for example the Arpeggiator notes.

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Show Presets Folder...

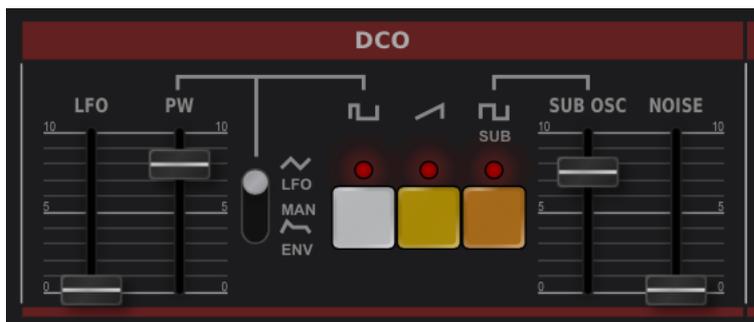
Opens the native file browser at the plug-ins preset location. This is the place where you can copy additional presets.

Restore original plug-in size

Reverts the plug-in to the original plug-in size.

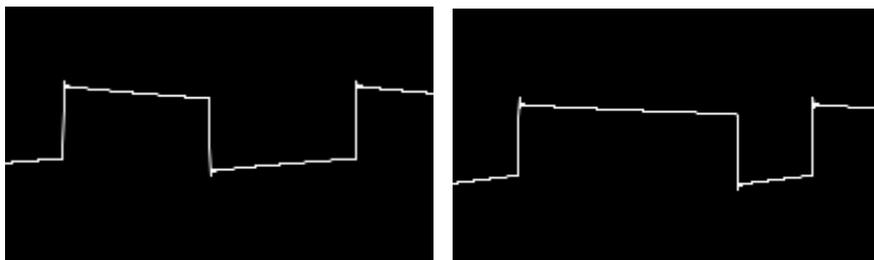
DCO

The U-NO-LX has one DCO (Digitally Controlled Oscillator). This means the oscillator is controlled by a digital clock. This makes sure that the oscillators pitch is stable. The DCO includes a pulse, saw and a rectangle sub oscillator.



Pulse

The pictures below show how the pulse waveform looks like. The left picture shows the pulse waveform without any modulation. The right one shows the same pulse with a modulated pulse width (manual PWM value set to 5).



There are three ways to modulate the PW:

LFO

Modulates the PW with the current LFO rate without any LFO delay. The PWM slider controls the modulation depth.

MAN

The PWN slider controls the PWM without automated modulation. At 0 the PW is 50%-50% (left picture above). At 5 the PW is 25%-75% (right picture).

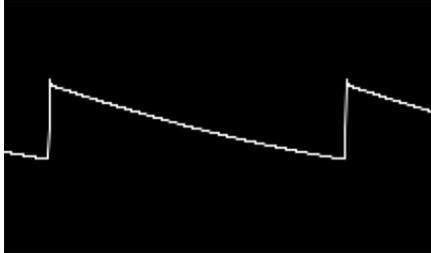
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ENV

The PW will be modulated with the current envelope settings. The PWM slider controls the PWM depth.

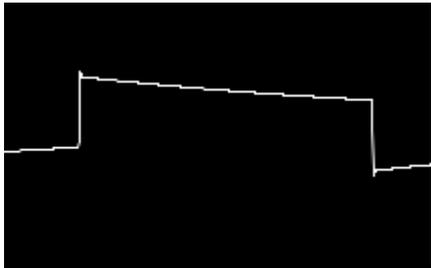
SAW

It's possible to enable and disable the saw.



SUB OSC

This oscillator has half the pitch as the others (one octave deeper). It's possible to enable and disable it. The sub oscillator also has its own volume slider.



NOISE

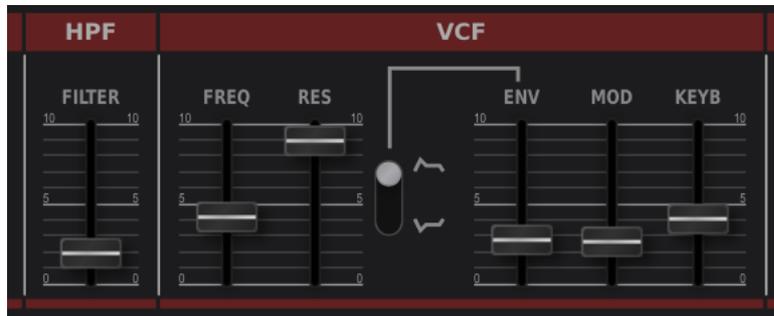
The noise slider controls the noise volume (white noise in this case).

LFO

The LFO slider controls the pitch modulation intensity up to a half octave.

VCF / HPF

The U-NO-LX has two different filters. A low pass VCF (Voltage Controlled Filter) and a one pole high pass filter.



HPF

The HPF (High Pass Filter) slider controls the intensity of the filter. This control is useful for removing unwanted low frequencies.

VCF

The VCF filter is the heart of the U-NO-LX. It's a resonance 24dB low pass filter that has the possibility for self-oscillation at maximal resonance and can also be used as an oscillator. The filter section has following controls:

FILTER

Controls the actual filter cut-off frequency. The filter range goes from 8Hz to ~40'000Hz if KEYB is set to zero.

RESONANCE

Control's the resonance intensity from zero up to ten (self-oscillation).

ENVELOP MODE SWITCH

This switch allows it to toggle between normal and inverted envelope mode.

ENV

Controls the intensity the envelope (ADSR) affects the filter cut-off.

MOD

Controls the intensity the LFO affects the filter cut-off.

KEYB

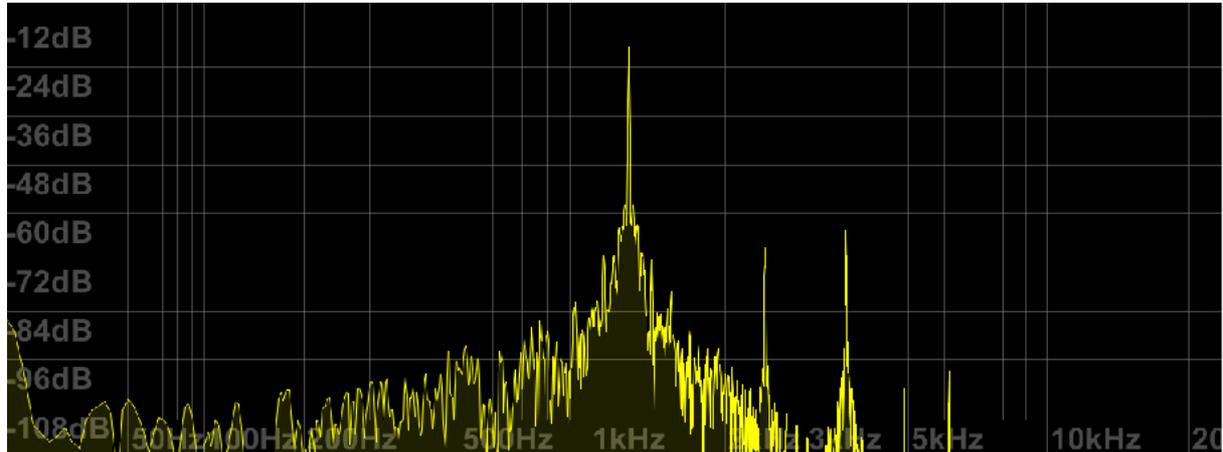
Keyboard control controls the intensity the filter follows the current key. This makes it also possible to play harmonic melodies at full resonance without any oscillator enabled.

An accurate zero feedback delay filter and 4x oversampling makes it possible to sweep the filter up to the maximal possible frequency (half sample rate)

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without any artefacts. The filter-cut-off frequency has a range up to $\sim 40'000\text{Hz}$. The sampling rate determines whether you can use the whole range. The filter cutoff has some inaccuracies like on a real analogue synth and is spread around the main peak. The two harmonic distortion peaks (even and odd) are also part of the Juno 60 filter.

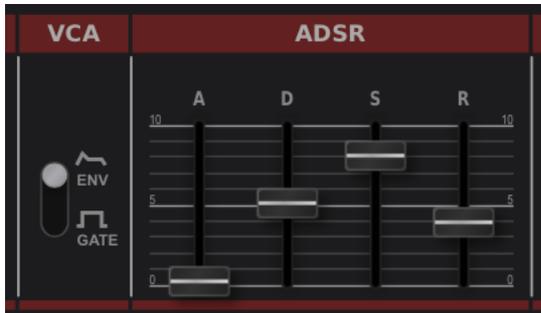
Self oscillating 24 dB filter spectrum:



Press shift while moving controls for more precise adjustment.

VCA / ADSR

The ADSR envelope controls the shape of the sound. It's possible to have very fast attack and decays that can be useful for organ or snappy bass sounds.



Following two components control the synths envelope:

VCA

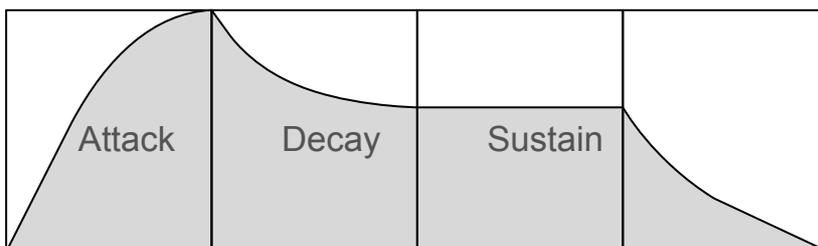
The VCA control switch makes it possible to switch between volume ENV and GATE mode. The volume will not be shaped when GATE is enabled. The ADSR directly affects the volume when ENV is switched on.

ADSR

Controls the volume envelope when VCA ENV mode is enabled and controls the filter envelope. The filter modulation intensity depends on the VCF ENV value.

The ADSR has following specification:

Attack time (1ms - 3 sec), Decay Time (2ms - 12 sec), Sustain level (0 - 100%), Release time (2ms - 12 sec).



LFO

The U-NO-LX LFO (Low Frequency Oscillator) can have a rate from 0.001 Hz up to 20 Hz and support different waveforms and trigger modes. It's possible to modulate the VCO pitch, PW and filter frequency.



RATE

Controls the LFO rate (0.001-20Hz)

DELAY TIME

Controls the delay time until the LFO fades in. This affects the VCO pitch and the filter modulation.

TRIG MODE

Set's the actual trigger mode.

KEY: Triggers the LFO to the note on event.

FREE: The LFO is free running and not triggered.

SYNC: The LFO is synced to the host BPM (1/16, 1/8, 1/4, 1/2, 1/1, 2/1 1/16T, 1/8T, 1/4T, 1/2T, 1/16., 1/8., 1/4., 1/2.)

SHAPE

It's possible to change the LFO waveform. Available waveforms are:

TRI (Triangle), REC (Rectangle), SAW, RND (Random)

MAN

If enabled, the LFO will be triggered by the LFO TRIG button and DELAY TIME controls the fade-in speed.

The VCO and VCF LFO modulation have to be triggered manually by the LFO TRG button if this feature is enabled.

MASTER

The master section controls the synth level, tuning and an octave switch.



LEVEL

Controls the synth main volume.

TUNING

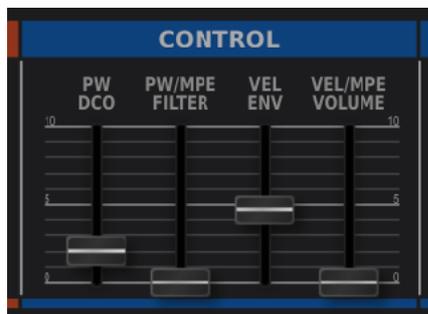
Goes from +1 to -1 and has a range of one semitone to each direction.

OCTAVE TRANSPOSE

Transposes the current octave. One octave in each direction.

CONTROL

Controls the parameters that are affected by the pitch wheel and velocity intensity.



PW DCO

Controls the intensity how the pitch wheel affects the VCO pitch.

PW / MPE FILTER

Controls the intensity how the pitch wheel or MPE (when enabled) affects the VCF cutoff frequency.

VEL ENVELOPE

Controls how much the velocity affects the filter envelope intensity.

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VEL / MPE VOLUME

Controls how much the velocity or pressure in MPE (when enabled) affects the note volume.

PORTAMENTO

Controls the portamento-mode.



MODE

Portamento is disabled when set to OFF. Mode 1 enables portamento when notes are overlapped. Mode 2 enables portamento for every played note.

TIME BUTTON

Portamento time stays the same for different note offsets when enabled.

TIME SLIDER

Controls the portamento tempo (0 = fast, 10 = slow).

POLY

Portamento in polyphon mode.

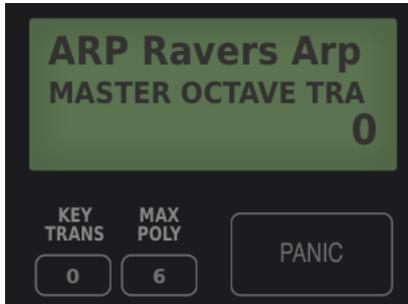
CHORUS

Enables chorus 1 or chorus 2. It's also possible to enable both chorus effects at the same time. This chorus has a warm characteristic and produces a wide stereo sound.



MAIN CONTROL

This section contains the main settings and a display that shows the actual slider values.



KEY TRANSPOSE

Allows it to transpose the keyboard (-24 to +24 semitones). Default setting is zero.

MAX POLY

Controls the number of voices (1 to 12 voices simultaneously). Limiting the number of voices allows it to save CPU especially in envelope mode with long release times.

SERVICE CONTROL (SC)

Use the SC button on the top to open this dialog. The service control dialog allows the user to detune the voices to simulate the detuning of the analog hardware devices. This is an important part if you want to get the lively sound of analog devices. Chords also glue better if the cutoff is detuned for each voice for example, instead of having the resonance peak exactly at the same position. The same is valid for the envelope and the pitch tuning. This setting is saved within the preset.



MIDI LEARN



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

1. Enable MIDI LEARN
2. Move a U-NO-LX slider or push the button you want to control.
3. Move your hardware controller
4. Disable MIDI LEARN or do some more assignments.

CLEAR

Deletes the MIDI mapping.

LOCK

Keeps the MIDI mapping also when changing to presets that have their own mappings.

LFO TRIG

Trigger the LFO manually if MAN in the LFO section is enabled. This is especially useful when this button is assigned to a midi controller. The button is only visible if you enabled the keyboard view. It's also possible to automate this button with host automation or MIDI Learn.

ARPEGGIATOR

The U-NO-LX includes a classic arpeggiator that support different playing and wide range of sync modes.



ON / OFF

Enables or disables the arpeggiator.

SYNC

Enables or disables the arpeggiator sync.

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MODE

Different arpeggiator modes (UP, UP & DOWN, DOWN).

RANGE

The arpeggiators octave range (1, 2 or 3 octaves).

TEMPO

The arpeggiator tempo. When synth is disabled the arpeggiator tempo has range from 1 up to 25Hz. In sync mode the tempo is synced to a source and can have following tempos: 1/8, 1/16, 1/32, 1/64. A label shows the current active tempo. An exception is EXT 16.

LOCK

Keeps the arpeggiator settings while changing the presets.

HOLD

Holds the current playing arpeggiator pattern.

EXT 16

Only active when sync is enabled. It allows syncing the arpeggiator with note-on events played on MIDI CHANNEL 16.

MIDI CLK

Only active when sync is enabled. Sync's the arpeggiator to an incoming MIDI CLOCK.

HOST

Only active when sync is enabled. Sync's the arpeggiator to the host internal time.

FX SECTION

The plug-in also has an additional delay and reverb effect built in. The LOCK button keeps the current effect settings also when changing presets.



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