LOAD + PLAY

LP-303

It squelches, it slides, it snaps.



An acid bass in the spirit of the TB-303: diode filter, accent and slide, and a built-in 16-step sequencer locked to your host. Folds away to play over MIDI.

USER MANUAL VERSION 1.0.0 FREE AND OPEN SOURCE

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1 Introduction

A free, open-source acid bass in the spirit of the TB-303: one oscillator, the squelching diode filter, the accent and slide that make acid lines, and a built-in 16-step sequencer locked to your host. Fold the sequencer away to play it from a keyboard or your MIDI tracks.

LP-303 is a single voice, like the silver box that invented acid house: one oscillator, one resonant filter, one amp, and all the character in the way you play it. A tied note glides into the next, an accented note snaps and goes "wow", and the built-in sequencer strings both together over sixteen steps.

The sound

- **Oscillator**: sawtooth or slightly tilted square, band-limited wavetables (no aliasing), ±12 semitone tuning.
- **Filter**: 4-pole diode low-pass whose slope sounds like a 3-pole, saturating between stages and computed with 4x oversampling. Resonance right up to the edge of whistling, without ever breaking up.
- **Accent**: more level, more bite, the shortest filter decay, and a cutoff kick that builds up from one accent to the next, stronger as resonance rises.
- **Slide**: pitch glide between two tied notes, without retriggering the envelopes, from 20 to 500 ms.
- **Drive**: optional soft, asymmetric saturation at constant level.

The sequencer

- **8 patterns of 16 steps**, each with its own length (1 to 16 steps). For every step: note, octave up or down, accent, slide, or rest.
- A piano-roll style grid: click, drag to paint, and see the slides linking the notes.
- Locked to your host's tempo and position: loops, jumps and mid-bar starts stay in place. Swing up to 75 %.
- While playing, a key transposes the pattern. CLEAR, RANDOM (a random acid pattern), COPY and PASTE.
- HIDE SEQ folds the sequencer away when you play LP-303 over MIDI: the window keeps only the sound and the keyboard.

And also

- Natural keyboard playing: legato = slide, velocity of 100 or more = accent.
- MIDI file player: drop a .mid onto the window to hear it.
- 10 factory sounds and 8 factory patterns written for LP-303.

In your DAW

Add LP-303 to an instrument track. Two ways to play it:

- **With its sequencer**: switch RUN on, then start playback. The pattern follows the host's tempo

and position; loops and jumps back to the start put it back in place. A MIDI track sending notes during playback transposes the pattern (C3 in Cubase's naming = no transposition).

- **Over MIDI**: leave RUN off and click HIDE SEQ. Write your lines in your host's note editor: overlap two notes for a slide, raise the velocity to 100 or more for an accent.

The patterns, the selected pattern and the sequencer state (shown or folded) are saved with the project. TUNE, CUTOFF, RESONANCE, ENV MOD, DECAY, ACCENT… every control can be automated.

2 Installation

- **macOS**: copy `LP-303.component`, `.vst3`, `.clap`, `.lv2` into `~/Library/Audio/Plug-Ins/` (Components, VST3, CLAP, LV2 folders) and drag `LP-303.app` to Applications. The software is not signed with Apple: on first launch, right-click → Open.
- **Windows**: copy `LP-303.vst3` to `C:\Program Files\Common Files\VST3` and `LP-303.clap` to `C:\Program Files\Common Files\CLAP`. If SmartScreen shows up: More info → Run anyway.
- **Linux**: copy the plugins to `~/.vst3`, `~/.clap` and `~/.lv2`.

Then restart your music software: LP-303 shows up under "Load & Play".

3 The interface



At the top, on the brushed metal, the sound: oscillator, filter, accent, slide, drive and volume. Below, the 16-step sequencer and its note grid. HIDE SEQ folds the sequencer away when LP-303 is played over MIDI from your host.

1 Sounds and sequencer



Ten factory sounds, stepped through with the arrows. HIDE SEQ folds the sequencer away: the window keeps only the sound and the keyboard, SHOW SEQ brings it back. The choice is saved with the project.

Nothing to set here: this part shows what the plugin is doing.

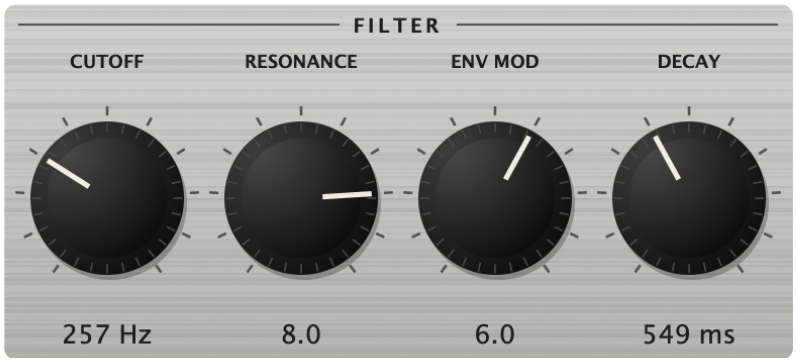
2 Oscillator



Sawtooth or square, tuned from -12 to +12 semitones. The square tilts slightly, like the original's. Band-limited wavetables: no aliasing, even up high.

CONTROL (AUTOMATION)	RANGE	DEFAULT
Waveform	Saw / Square	Saw
Tuning	-12.00 st … 12.00 st	0.00 st

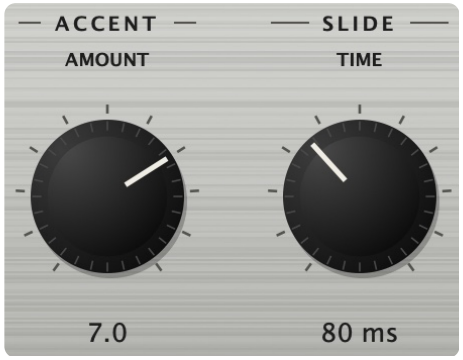
3 Filter



The diode low-pass, 4 poles that sound like 3, saturating between stages and computed at four times the output rate. CUTOFF from 60 Hz to 7.7 kHz, RESONANCE right up to the edge of whistling, ENV MOD and DECAY for the squelch.

CONTROL (AUTOMATION)	RANGE	DEFAULT
Cutoff	60 Hz … 7.68 kHz	328 Hz
Resonance	0.0 … 10.0	7.0
Env Mod	0.0 … 10.0	6.0
Decay	200 ms … 2.50 s	549 ms

4 Accent and slide



An accented note is louder, shorter and brighter, and each accent pushes the filter a little further: the “wow” of acid lines. Slide glides the pitch between two tied notes, from 20 to 500 ms.

CONTROL (AUTOMATION)	RANGE	DEFAULT
Accent	0.0 … 10.0	6.0
Slide Time	20 ms … 500 ms	80 ms

5 Drive and volume



DRIVE adds a soft, asymmetric saturation at constant level, from warmth to grime. At zero, it is switched off.

CONTROL (AUTOMATION)	RANGE	DEFAULT
Drive	0.0 … 10.0	0.0
Volume	0.0 … 10.0	7.0

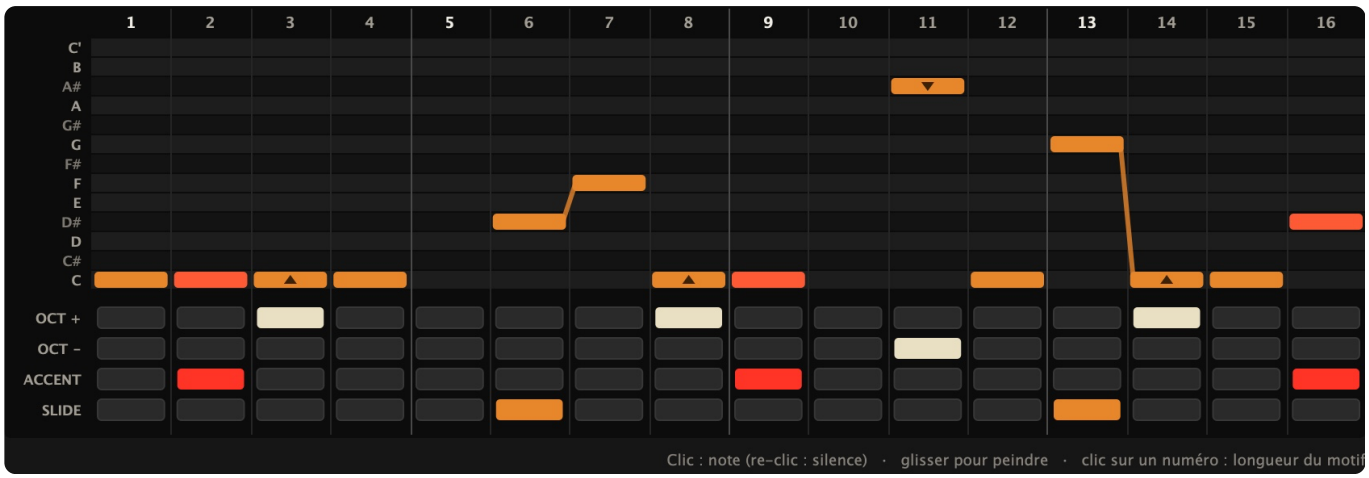
6 Sequencer



RUN follows your host's playback, or starts the internal clock in the standalone app. Eight patterns, each with its own length; a new pattern waits for the current one to finish. SWING, TEMPO, TRANSPOSE, plus CLEAR, RANDOM, COPY, PASTE.

CONTROL (AUTOMATION)	RANGE	DEFAULT
Sequencer On	Off / On	Off
Pattern	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8	1
Swing	50 % … 75 %	50 %
Tempo (without host)	40 BPM … 240 BPM	120 BPM
Transpose	-12 st … +12 st	0 st

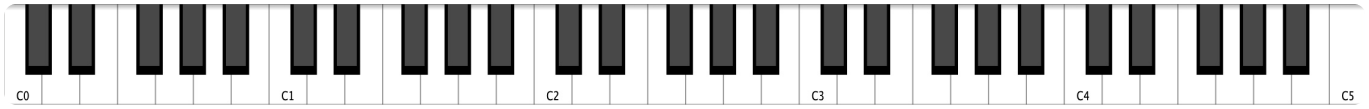
7 Step grid



Sixteen steps in columns, notes from C to C in rows: click to place a note, click again for a rest, drag to paint. Below, octave up or down, accent and slide for each step. Click a step number to set the pattern length.

Nothing to set here: this part shows what the plugin is doing.

8 Keyboard



Play LP-303 by hand: a tied note slides, a velocity of 100 or more gives an accent. While the sequencer runs, a key transposes the pattern. Drop a .mid file onto the window to hear it.

Nothing to set here: this part shows what the plugin is doing.

4 Factory sounds

Pick them from the menu at the top of the window, or from your host's preset menu.

1. Init
2. Classic Squelch
3. Rubber Square
4. Deep Sub
5. Screamer
6. Distorted Acid
7. Wah Tone
8. Plucky
9. Long Slide
10. Acid Lead

5 Specifications

Version	1.0.0
Price	Free
License	GNU AGPL v3 (open source)
Type	Monophonic acid bass with 16-step sequencer
Formats	AU, VST3, CLAP, LV2, standalone application
macOS	10.13 or later, Apple Silicon and Intel
Windows	10 / 11, 64-bit (VST3, CLAP, LV2, standalone)
Linux	x86-64 and ARM64, including Raspberry Pi 4/5
Processing	4x oversampling, any sample rate
Latency	6 samples
CPU load	≈ 1 % of one core (Apple Silicon Mac, 48 kHz)
Automatable parameters	15
Sequencer	8 patterns of 16 steps, locked to host tempo and playback, swing
MIDI	Notes and velocity (≥ 100 = accent), legato = slide, pitch bend, .mid files dropped onto the window

6 License and notices

LP-303 is free software, distributed at no cost under the GNU AGPL v3 license: you can use it in your tracks, commercial ones included, without owing anything. The full source code is published on GitHub; if you modify and redistribute it, your changes must stay under the same license. The software is provided as is, without warranty.

> TB-303 is a trademark of Roland Corporation, mentioned only to describe the sonic inspiration. Load & Play is not affiliated with or endorsed by Roland.

Website: https://alexlexlexlexlexlex.github.io/load-and-play/
Source code: https://github.com/alexlexlexlexlexlex/load-and-play