USER MANUAL

_ACID V

ARTURIA

_The sound explorers

Special Thanks

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Thank you for purchasing Acid V!

This manual covers the features and operation of Arturia's **Acid V**, one of our many powerful virtual instruments.

Be sure to register your software as soon as possible! When you purchased Acid V, you were sent a serial number and an unlock code by e-mail. These are required during the online registration process.

Special Messages

Specifications Subject to Change:

The information contained in this manual is believed to be correct at the time of printing. However, Arturia reserves the right to change or modify any of the specifications without notice or obligation to update the hardware that has been purchased.

IMPORTANT:

The software, when used in combination with an amplifier, headphones or speakers, may be able to produce sound levels that could cause permanent hearing loss. DO NOT operate for long periods of time at a high level or at a level that is uncomfortable.

If you encounter any hearing loss or ringing in the ears, you should consult an audiologist.

EPILEPSY WARNING – Please Read Before Using Acid V

Some people are susceptible to epileptic seizures or loss of consciousness when exposed to certain flashing lights or light patterns in everyday life. This may happen even if the person has no medical history of epilepsy or has never had any epileptic seizures. If you or anyone in your family has ever had symptoms related to epilepsy (seizures or loss of consciousness) when exposed to flashing lights, consult your doctor prior to using this software.

Discontinue use and consult your doctor *immediately* if you experience any of the following symptoms while using this software: dizziness, blurred vision, eye or muscle twitches, loss of consciousness, disorientation, or any involuntary movement or convulsion.

Precautions to Take During Use

- Do not stand too close to the screen.
- Sit a good distance away from the screen.
- Avoid using if you are tired or have not had much sleep.
- Make sure that the room is well lit.
- Rest for at least 10 to 15 minutes per hour of use.

Introduction

Congratulations on your purchase of Arturia Acid V!

As with all of our products, we believe in offering the best of both worlds in a single package and letting you choose how you want to use it. You can choose to focus on the Hardware Panel and get an improved vintage hardware-like experience, or explore the Advanced Panel and discover sonic and performance possibilities that go well beyond the original synth's capabilities.

Here's to a beautiful blend of the old and the new – and the beautiful music you'll make with it!

Peace, love, and music,

The Arturia team

Be sure to visit the www.arturia.com website for information about all of our other great hardware and software instruments. They have become indispensable, inspiring tools for musicians around the world.

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1. WELCOME TO ACID V!

Arturia would like to thank you for purchasing our Acid V. It's a faithful recreation of the now legendary TB-303 Bass Line, an unassuming little bass synth and sequencer module that started out as a commercial flop, then rose to meteoric popularity in the hands of sound explorers in genres including acid, techno, and house.

As with all Arturia V Collection instruments, we start with meticulous attention to detail about the behavior of the hardware original all the way down to the circuit level. Then, we add features that make the instrument work and make sense in today's computer-based music production environments.

1.1. The Fall and Rise of the TB-303

The original TB-303. Image via Wikimedia Commons

In 1981, Japanese keyboard giant Roland wanted to produce a self-sequencing bass synthesizer that could replace a bass guitar player in a band. Given that the design lead was Tadao Kikumoto, who also designed the TR-909 drum machine, hopes were high.

However, its original target customers – singer-songwriters and bands – scratched their heads. Its monophonic analog oscillator produced either a sawtooth or square wave, fed into a 24dB-per-octave lowpass filter with very pronounced resonance. In other words, it sounded nothing like a bass guitar no matter how you set the controls. Instead, it produced a "squelchy," rubbery, almost nasal tone somewhere between a jaw harp (one can be heard in the beginning of "Join Together" by The Who) and a thinned-out Mini.

Also, the musicians at whom it was aimed found its pattern-based interface less than intuitive, with its constant need to toggle between play and write modes. It was also a non-starter for synth players of the era, who wanted polyphony and ever-growing sound libraries. So, the TB-303 lived its first commercial lifetime mainly in the bargain bins until it was discontinued in 1984.

Over the next ten years or so, a miracle happened. Electronic music producers *liked* its quirky tone and found that beginning in the late 1980s, they could purchase units for next to nothing. Sync input and CV/gate output meant they could sync it rhythmically with their drum machines. The emergence of acid, techno, and house styles (especially in the underground music scenes of Detroit and Chicago, among other places) saw the TB-303 used in ever more tracks. If you were on a dance floor anytime between, say, 1987 and 2000, hearing that squelchy squawk meant things were about to get *lit*.

Today, original TB-303 units in mint condition sometimes fetch upwards of US$3,000 on the used gear marketplace. Thus the TB-303 is now in the good company of many electric instruments that sounded nothing like what they were supposed to sound like (for example, the B-3 was meant to emulate a pipe organ; the tine electric piano, an acoustic piano) but found their own true voices because their true audiences found them.

1.2. Why a virtual 303?

One of the most practical benefits of going virtual is to avoid the increasing cost and scarcity of original hardware units. Plus, if you do find one, there's the inconvenience and complexity of getting it synced and working in a DAW-based production or performance setup. (You DAWless and Eurorack jocks for whom this is easy are a different story. Just go buy a RackBrute m'kay?)

Acid V displays the familiar chiclet-keyboard layout of the 303, but beneath is the Advanced View, which includes a highly intuitive sequencer/arpeggiator with up to 64 steps. From this panel you can place the accents, slides, and vibrato (separately for each step, of course) that were a hallmark of the 303 sound. You can browse, save, and load factory and user sequences, or import your own. A single click exports your sequence as MIDI data for further manipulation in your DAW. There's none of the jockeying between tracks and pattern on the original because the Slide, Accent, and Vibrato buttons on the main panel act as overrides, each adding its effect to the sequence.

Or, you can simply turn off the internal sequencer and record Acid V in External mode, as you would any other virtual instrument – the choice is yours.

Acid V gives you more fine-grained control of the 303 sound via expanded and "under the hood" controls such as bass boost, variable pulse width, and distortion using algorithms curated from our extensive FX Collection. Oh, and did we mention it has a sub-oscillator for bottom-end boom not possible on the original?

A collection of Presets from many of our best sound designers fully covers of every style of electronic music that made the sound of the 303 what it is today.

Of course, all the shiny new features in the world are second to the sound being absolutely authentic. As it turns out, we have a thing for that ...

1.3. Acid V Feature Summary

Among Acid V's sonic weaponry are such diverse elements as:

- Authentic 303 oscillator with sawtooth and pulse waveforms
- Faithful model of 303 diode ladder filter with cutoff and resonance
- Advanced voicing features such as bass boost, variable pulse width, accent attack, filter cutoff knob range, circuit noise, pitch tracking, and clipping level
- Sub-oscillator with pulse, saw, and sine wave options; three-octave range
- Built-in distortion module with 14 curated algorithms
- Vibrato with adjustable speed and depth
- Advanced sequencer/arpeggiator with:
    - Classic 303 slides, accents, and octaves, plus vibrato
    - Sequence generation and alteration in the Advanced View
    - Polymetric mode so your notes, accents, swings, vibrato, and even octaves can have independent sequence lengths
    - 64 steps maximum
    - External mode sequencing of Acid V in your DAW
    - Sequence import and export
    - Loads and loads of factory sequences and patterns
- Extensive Preset library
- Optional independent step length per track (polymetry) in sequencer/arpeggiator
- Sequencer on and off modes for 303-style pattern sequencing or conventional linear use within a DAW
- Dozens of sequencer presets with the ability to lock the sequencer to one preset as you change patches
- Four effects slots featuring a choice of 17 effects from our latest V Collection
- Effect categories include Spatial, Distortion, Dynamics, Modulation, and Filter/EQ
- Three advanced Modulators with intuitive workflow to create complex movements

1.4. Ten TB-303 tracks to check out

Need some inspiration? "Top ten" lists are always subjective, but here are ten tracks that cemented the TB-303 sound into history. Each should be easily searchable on streaming services such as Apple Music, Spotify, or YouTube Music.

Song	Artist	Notes
Rip It Up	Orange Juice	First track using the 303 to hit top ten in UK Singles chart
Acid Tracks	Phuture	From 1987; one of the seminal tracks of the emerging Chicago acid-house scene
Raga Bhairav	Charanjit Singh	Combined Indian Raga melodies with acid beats back in 1982!
Voodoo Ray	A Guy Called Gerald	The 303 is used more as a melody or top loop than a bass
What Time Is Love?	The KLF	Big 1990s rave sound from the masters of the genre
Breathe Deeper	Tame Impala	Synthpop from the mid-2000s, perfect example of the 303 renaissance
Try Again	Aaliyah	Great example of acid bass in hip-hop; produced by Timbaland
Da Funk	Daft Punk	Listen to the bridge starting at 2:38 for maximum acid-tude
In the Heat of the Night	Imagination	Smooth '80s funk makes the 303 sound almost like a fretless bass – its original purpose!
Everybody Needs a 303	Fatboy Slim	Thanks to Acid V, everybody can have one!

We know – we've probably left someone important out, so we're glad user manuals don't have comments sections! Now, let's get onto the business of having fun with Acid V.

2. ACTIVATION AND FIRST START

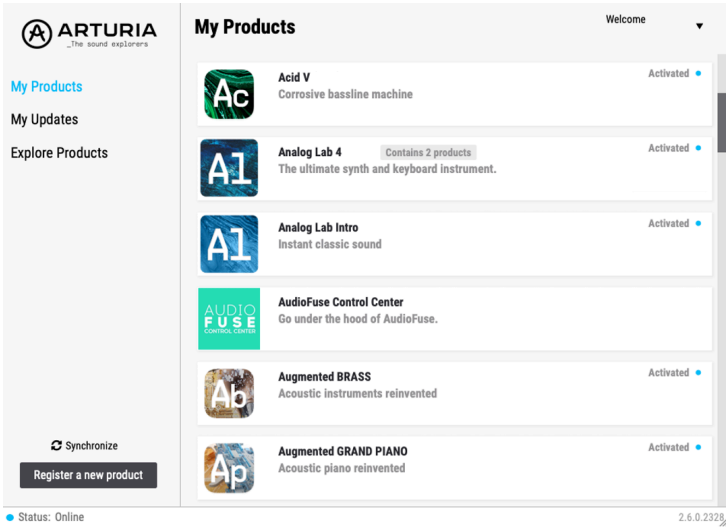
2.1. Register, Activate, and Install Acid V

Acid V works on computers equipped with Windows 8.1 or later and macOS 10.13 or later. You can use it as a standalone version or as a plug-in for your favorite DAW (Digital Audio Workstation), in Audio Units, AAX, VST2, or VST3 format.

Before you install or register the software, you'll need to create a My Arturia account here, using an email address and password of your choice: https://www.arturia.com/createanaccount/

While it's possible to handle registration, activation, and other tasks manually online, it's far simpler to download and use the Arturia Software Center app, which can be found here: https://www.arturia.com/support/downloads&manuals

You'll enter your email address and password to set up Arturia Software Center, which acts as a central location for all of your Arturia software registrations and activations. It also helps you install and update your software by keeping tabs on current versions.



Arturia Software Center

You can register, activate, and install your product inside Arturia Software Center by pressing the **Register a new product** button, and clicking the boxes to **Activate** and then **Install** your software. The registration process will require you to enter the serial number and the unlock code you received when you bought your software.

You can also do this online by logging into your account and then following the instructions here: http://www.arturia.com/register

Once you've registered, activated, and installed Acid V, it's time to get it to talk to your computer.

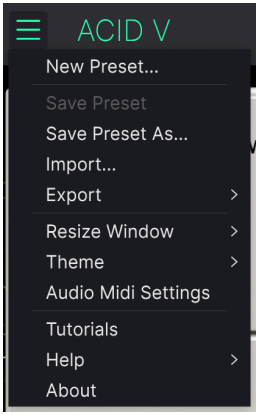
2.2. Initial setup for stand-alone use

If you would like to use Acid V in standalone mode, you will need to ensure that its MIDI input/output and audio outputs are being routed properly to and from the software. You'll generally only need to do this once, unless you change your MIDI controller or audio/MIDI interface. The setup process is the same on both Windows and macOS.

> ! This section only applies to those of you who plan to use Acid V in stand-alone mode. If you are only going to use Acid V as a plug-in inside a host DAW or other music software, you can safely ignore this section – your host music software handles these settings.

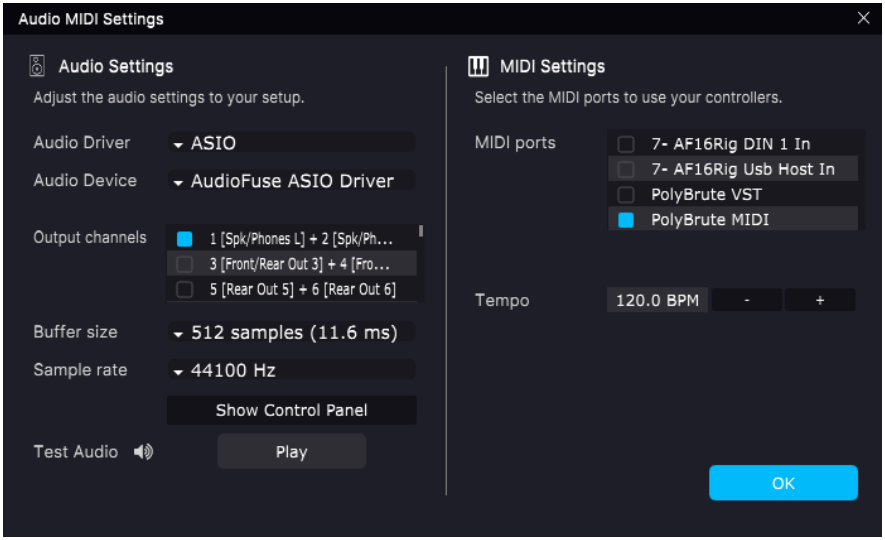
2.2.1. Audio and MIDI settings: Windows

At the top left of the Acid V application is a pull-down menu. It contains various setup options.



Acid V Main Menu

Click on **Audio Midi Settings** to open the following window. This works in the same way on both Windows and macOS, although the names of the devices available to you will depend on the hardware you are using. Remember, this option is only available (and needed) in the standalone version of Acid V.



Starting from the top, you have the following options:

- **Device** selects which audio driver and device will handle playback of Acid V. This can be your computer's internal driver, a generic ASIO driver, or an external soundcard or interface driver. The name of your hardware interface may appear in the field below, depending on your selection.
- **Output Channels** lets you select which of the available outputs will be used to route audio out. If you only have two outputs, this selection box will not be shown. If you have more than two, you can select a specific pair of outputs.
- **Input Channels** normally let you select inputs of a virtual instrument for routing and processing external audio. This is irrelevant in Acid V because it does not feature audio input.
- The **Buffer Size** menu lets you select the size of the audio buffer your computer uses to calculate sound. The latency in milliseconds is displayed after the buffer size setting.

> ! A smaller buffer means lower latency, i.e. a shorter delay between pressing a key and hearing the note, but loads your CPU more heavily and can cause pops or clicks. A larger buffer means a lower CPU load, as the computer has more time to think, but can result in a noticeable delay between playing a note and hearing it. A fast, modern computer should easily be able to operate at a buffer size of 256 or even 128 samples without clicks If you still get clicks, enlarge the buffer size until they stop.

- The **Sample Rate** menu lets you set the sample rate at which audio is sent out of the instrument.

> ! The options here will depend on what your audio device can support; nearly every device can operate at 44.1 kHz or 48 kHz, which will be perfectly fine for most applications. If you have a specific need to use a higher sample rate, up to 96 kHz, Acid V will happily support that.

- The **Show Control Panel** button will jump to the system control panel for whatever audio device is selected.

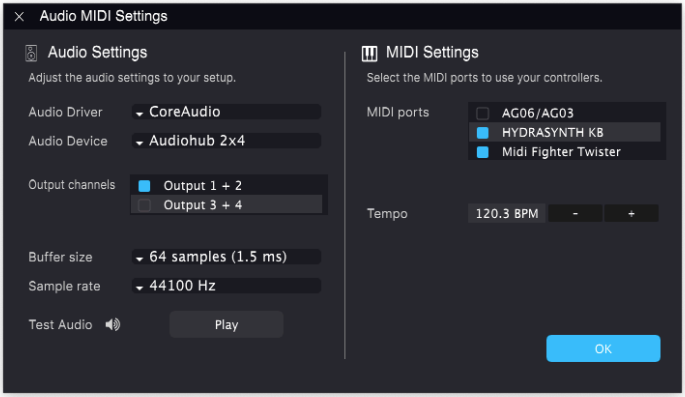
> ! Note that this button is only available in the Windows version.

- **Test Tone** sends a short test tone when you click the **Play** button, to help you troubleshoot audio issues. You can use this feature to confirm that the instrument is routed correctly through your audio interface and that audio is playing back where you expect to hear it (your speakers or headphones, for example).
- The **MIDI Devices** area will display any MIDI devices you have connected to your computer (if any). Click the check box to accept MIDI from the device(s) you want to use to control the instrument. You can select multiple MIDI devices at once with the checkboxes.

> ! In standalone mode, Acid V listens for all MIDI channels, so there's no need to specify a channel.

- **Tempo** sets a base tempo for features inside Acid V such as LFO and effects sync. When using Acid V as a plug-in, the instrument gets tempo information from your host software.

2.2.2. Audio and MIDI settings: macOS



Audio MIDI Settings for macOS

The menu for setting up audio and MIDI devices for macOS is accessed in the same way as for Windows, and the setup process is nearly identical. All options work the same way as described above in the Windows section. The only difference is that all macOS devices, including external audio interfaces, use the CoreAudio driver built into macOS to handle routing. In the second dropdown menu under **Device**, choose the audio device you wish to use.

2.2.3. Using Acid V as a plug-in

Acid V's interface looks the same in plug-in mode as in standalone mode.

Acid V comes in VST2, VST3, Audio Unit (AU), and AAX plug-in formats, for use in all major DAW software such as Ableton Live, Cubase, Logic, Pro Tools, Studio One, and more.

When using Acid V as a plug-in, all audio and MIDI device settings are handled by your host music software. Please refer to your host music software's documentation if you have any questions about loading or using plug-ins.

Note that when you load Acid V as a plug-in instrument inside your host software, its interface and settings work the same way as in standalone mode (see below), with a few small differences:

- Acid V will synchronize to your DAW's host tempo/BPM when sync is required
- You can automate numerous parameters using your DAW's automation system
- You can use more than one instance of Acid V in a DAW project
- You can run the outputs of Acid V through any additional audio effects available to your DAW, such as delay, chorus, filters, etc.
- You can route Acid V's audio outputs creatively inside your DAW, using the DAW's own audio routing system.

2.3. Playing Acid V for the first time

Now that you have Acid V up and running, let's take it for a quick test drive!

If you haven't done so already, launch Acid V as a plug-in or as a stand-alone instrument. If you have a MIDI controller set up, use it to play some notes on Acid V. You might first need to activate your MIDI controllers in the MIDI Settings (see above). You can also use your mouse to play the on-screen keyboard or use the keys of your computer keyboard. The large **Hold** button onscreen lets you remove your mouse from the screen or from a key and still keeps the sequence going.

The up and down arrows at the top of the instrument let you step through all of Acid V's available presets. Try playing a few, and when you find one that you like, try adjusting some of the other on-screen controls to see how they affect the sound.

Play with the controls, and don't worry – nothing is saved unless you specifically save a preset (described later in this User Guide), so there is no risk you'll mess up any of Acid V's factory presets.

We hope this chapter has gotten you off to a smooth start. Now that you're up and running, the rest of this guide will help you work your way through all of Acid V's features on a section-by-section basis. By the time you reach the end, we hope you'll understand all of Acid V's capabilities – and will be using this fantastic instrument to create equally fantastic music!

3. MAIN CONTROLS

From here you can control all key aspects of Acid V: its sound and selection of its pattern sequencing, arpeggiator, and external modes. You can also select sequences from the pattern browser and transpose them using the onscreen keyboard. Since the heart of the 303 is really its pattern capabilities, we should mention right here that you don't actually *program* patterns here. That task is performed in the Sequencer/Arpeggiator controls of the Advanced View [p.24]. Here, the main interface is for *playing* and tweaking your sounds.

3.1. Common behaviors

All Arturia virtual instruments share some common control behaviors to make editing sounds easier.

3.1.1. Value pop-ups

Move or hover on any control and a pop-up banner or "tool tip" will display its value.

3.1.2. Parameter descriptions

Operating or hovering on any control also displays its name and a brief description of its function in the left corner of the lower toolbar [p.72].

3.1.3. Fine adjustment

Hold the right mouse button or Control key while dragging on any knob to adjust it more slowly. This helps when you want to dial in precise values. On macOS, if your mouse is equipped with a wheel, you can hold the Command key, and use the wheel to fine-tune as well.

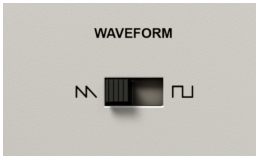
3.1.4. Double-click for default

Double-click on any knob to return it to its factory default setting.

3.2. Core Sound Controls

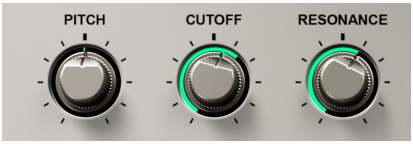
This is the main synth section of Acid V, replicating the monophonic sound engine of the TB-303.

3.2.1. Waveform



Simply a toggle switch, this selects a buzzy sawtooth wave or more hollow square wave. On the original hardware, this switch was found on the rear panel.

3.2.2. Pitch



This knob sets the base pitch of the oscillator. It's bipolar, and ranges from -12 to +12 semitones. At its default position of 12 o'clock, middle *A* = 440Hz.

3.2.3. Cutoff

This knob controls the cutoff frequency of the 24dB-per-octave resonant filter.

3.2.4. Resonance

We've modeled the original 303's resonance precisely, and Acid V can get very squelchy indeed! Turn this knob up to see what we mean.

3.2.5. Env Mod

The Env Mod knob adjusts the amount of envelope modulation applied to the filter cutoff by the Decay knob and Accents.

3.2.6. Decay

This adjusts the Decay of only the filter envelope.

3.2.7. Accent

You actually accent a note either by checking a box for its step in the sequencer [p.24] or via external MIDI velocity [p.77]. When a note is accented, two things happen: It gets louder, and the decay of the filter envelope becomes shorter, resulting a more pronounced fall-off. The Accent knob determines the degree to which both of these things happen.

3.2.8. About the 303 envelope

The envelope generators in the original TB-303 are actually so simple that they can confuse traditional synth players. There are two of them: one for volume and one for the filter, but the Decay and Env Mod knobs as described above only affected the filter envelope. The volume and filter envelope shapes were more or less simple gates, with no adjustable attack or release phases. With most synth bass sounds, the character and emotion comes from how fast the tone goes from being brighter to duller – more harmonics to fewer – or if that motion occurs at all. So, given that the original 303 was meant to be an inexpensive instrument, its manufacturer chose to focus envelope control on this "money shot" aspect of the sound. Thus, what the accent knob is adjusting is really two things at once: the level of the volume (VCA) envelope, and the decay time of the filter envelope.

3.3. Sub Oscillator

Users of the original TB-303, or any recent hardware or software emulation focused exclusively on originality, may have wished they could thicken up its low end. After all, the original said "Bass Line" right on the panel. Acid V's sub-oscillator grants this wish with three simple settings:

3.3.1. Octave

This knob adjusts whether the sub-oscillator pitch is the same as the main pitch, or one octave lower, or two.

3.3.2. Waveform

Acid V offers a choice of square, sawtooth, and sine waveforms for the sub-oscillator.

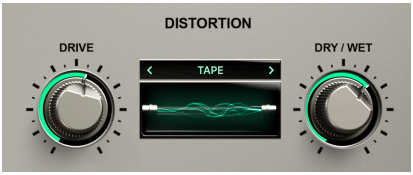
3.3.3. Volume

Turn it up! (Or down if you want a more original 303 character. We're not here to judge, just to give you what you want.)

3.4. Vibrato

Vibrato on a bass machine? Certainly – bass players use it, but usually in small doses on certain notes. Acid V's vibrato works similarly, applying only to notes in the Sequencer [p.24] whose steps have the Vibrato box checked. The **Speed** and **Amount** knobs control those aspects of the vibrato only for notes where it applies.

3.5. Distortion Section



Going far beyond the inherent dirtiness of the 303 sound, Acid V's distortion circuit employs a set of algorithms from our distinctive FX Collection, curated specifically to enhance the 303 sound.

3.5.1. Drive Knob

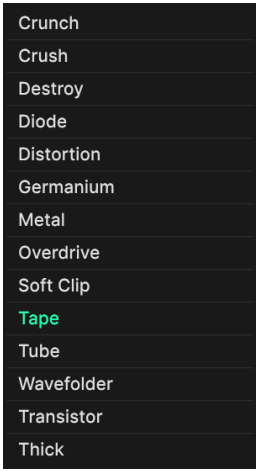
This sets the input or "pre-gain." In other words, how "hot" the incoming signal will drive the distortion effect.

3.5.2. Dry/Wet

Balances the undistorted and distorted sounds.

3.5.3. Distortion types

Select a distortion algorithm by browsing with the left and right arrows, or clicking on the algorithm name bar to bring up the following menu:



There is also an algorithm-based distortion effect in the Effects Section [p.44]. The two have slightly differing algorithm sets and may be used together – and it's worth noting that the effects-based distortion can get even more aggressive. We invite you to explore these distortion types for yourself and pick the ones that suit your music best – each is either a little or a lot different from the other!

3.6. The Pattern Panel

Here is where the real fun begins! This area resembles the chiclet keyboard on the original 303, but works somewhat differently. It's essentially a simplified version of a sequencer. Also easier, we hope, as you will not be creating patterns or arpeggiations here – again, that happens in the sequencer [p.24] – just deciding how they will be played.

3.6.1. Mode buttons and the keyboard

We should start with these because they determine how Acid V's pattern-pumping power behaves.

3.6.1.1. Seq mode

When this is selected, the underlying sequencer is active, and playing notes on the chiclet keys onscreen, or on a connected MIDI controller, transposes the musical key of the sequence.

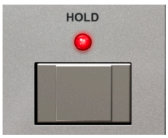
3.6.1.2. Arp mode

In Arpeggiator mode, the up-to-64-step sequencer becomes an arpeggiator (with the same maximum number of steps) with multiple note-order modes [p.34]. Now, playing one or more notes on your MIDI controller will determine the notes in the arpeggio.

3.6.1.3. Ext mode

External mode disables Acid V's own pattern capabilities if you want to sequence it in a DAW, trigger it from an external MIDI sequencer, or just plug in your MIDI controller and play it like a super-cool bass monosynth.

3.6.2. Hold button



This button essentially functions like a sustain pedal and frees your hands. In Seq and Arp modes, the pattern will continue to play after you press a key (onscreen or on a controller), and striking a new key will transpose it.

In Ext mode, the Hold button does not function, as we assume you'll use a hardware hold button or sustain pedal. However, if you have any of Advanced Views open, the pattern panel and hold button become obscured, so we put a duplicate hold button [p.73] in the lower toolbar so you can still keep your patterns running.

> ♪ Remember that Acid V is a monophonic-only synth with last-note priority.

3.6.3. Legato playing and note order

Acid V has particular behaviors when it comes to note play order when you're triggering it from an external keyboard (or pad device). Here's how to make them work for you.

3.6.3.1. Legato in Seq mode

In **Seq** mode, if you play a second key *legato* (before releasing the first key), the pattern keeps playing. The key will transpose but the pattern will *not* reset to its first step. (If you do not play legato, it will.)

Likewise, if you play a second note while holding the first, then release the second note, the pattern will momentarily shift to the second note's key without resetting to its first step.

If the Hold [p.21] is engaged, playing new keys (onscreen or on a controller) will keep the sequence going, transpose it, and not reset it to its first step, as above.

3.6.3.2. Legato in Arp mode

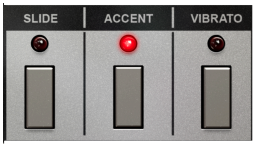
In **Arp** mode, playing legato will simply add new notes to the arpeggio, which will be heard according to the selected play order [p.34] mode.

Again, you can engage the Hold function to do this without needing to play legato.

3.6.3.3. Legato in Ext mode

Play legato in **Ext** mode, and the filter and volume envelopes will not retrigger. Also, a slight amount of portamento (glide) will be heard between notes. If you have a MIDI controller hooked up, keep a thumb on one key and then alternately play the key an octave up with your pinky finger to hear this in action.

3.6.4. Slide, Accent, and Vibrato



When a pattern is running in **Seq** or **Arp** modes, the red LEDs above these buttons will light when a step occurs that has slide, accent, and/or vibrato applied. Pressing any of the buttons acts as an *override*, that is, it applies slide, accent, or vibrato to all steps played as long as the button is held. Onscreen, these buttons have momentary (non-latched) behavior.

In **Ext** mode, pressing any of them simply applies that attribute to any notes you're playing.

3.6.5. Pattern info display

This little area shows a few useful tidbits of information, and can call up a browser where you can select sequencer patterns from factory and user banks – including ones you've imported.

In the lower row:

- The left number shows the step the pattern is at in real time
- The middle number displays the total number of steps in the pattern
- The icon on the right is either six dots (representing steps) in **Seq** mode or a tiny keyboard in **Arp** mode

3.6.5.1. Opening the sequence browser

In the upper row of the pattern display, you can change sequencer patterns using the left and right arrows. Clicking on the pattern name will open up the Sequence Browser [p.29], where you can do this in a more comprehensive, searchable way. Note that this will flip Acid V into the Sequencer/Arpeggiator page of the Advanced View, so you'll need to click the Advanced button [p.72] to return to the main view.

3.7. Advanced voice parameters

Clicking the "carat" button above the Acid V logo on the upper right side opens up a slide-out drawer of "under the hood" parameters that give you control over the sound that no original 303 owner could dream of – unless perhaps they were a circuit-bender and handy with a soldering iron. Left to right, these are:

3.7.1. Bass Boost

As its name implies, this boosts the bass range of the oscillator. You can combine this with the Sub-Oscillator [p.18] for fatness some listeners might confuse with a Mini!

3.7.2. PW

This stands for pulse width, and when the square waveform [p.16] is used, it varies the width of the waveform as on many popular analog synths. This creates a definite change in harmonic content and tone, but one that's subtler than sweeping a lowpass filter.

3.7.3. Accent Attack

On an original 303, you could not adjust the attack time of, well, much of anything. Here, Acid V allows you to vary the attack time of the filter envelope of notes that have accents.

3.7.4. Cutoff Range

This knob adjusts the range of the main Cutoff [p.17]. You can thus use it to "scale" the primary **Cutoff** knob's minimum and maximum frequencies, for subtler or more dramatic filter sweeps when you modulate the knob.

3.7.5. Pitch Tracking

Analog oscillators didn't turn input voltage into musical pitch with perfect accuracy. This setting introduces subtle variations in what pitch the oscillator plays in response to a given MIDI note. It's bipolar, and even at its extreme ends, this is not enough to create an "out of tune" sound – it just adds a touch more analog realism.

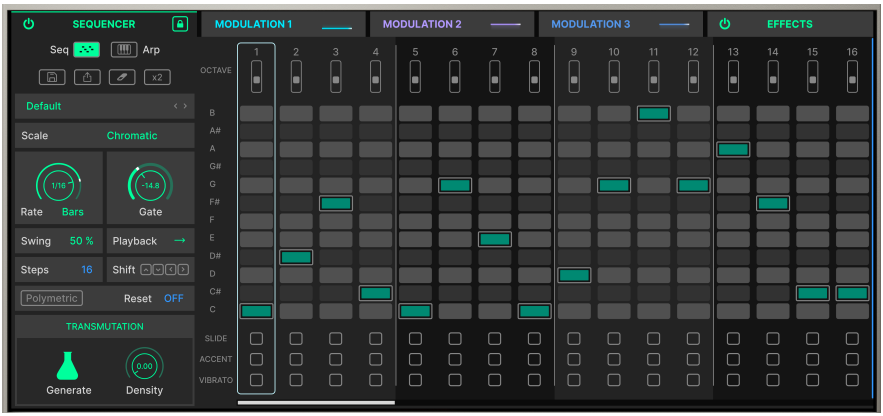
3.7.6. Noise Gain

Part of the 303's character was that it was not a perfectly clean sounding bass machine, so Acid V offers a setting to emulate noisy analog IC chips. Again, this is nothing as obvious as the white noise sources found on many analog synthesizers.

3.7.7. Clipper

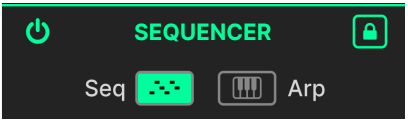
All 303s clip with the accent and master output knobs set at maximum. This allows you to more easily clip the output stage of Acid V if a dirty sound is desired. It's a separate feature from the other distortion [p.19] features and effects in Acid V.

4. ADVANCED VIEW PART 1 - SEQUENCER



At the heart of Acid V is a powerful 64-step sequencer and arpeggiator that dwarfs the capabilities of the original hardware, not to mention any modern emulation focused solely on vintage authenticity. Click the Advanced button [p.72] at the top right of the Upper Toolbar, then the green **Sequencer** tab, to get here.

4.1. Sequencer mode

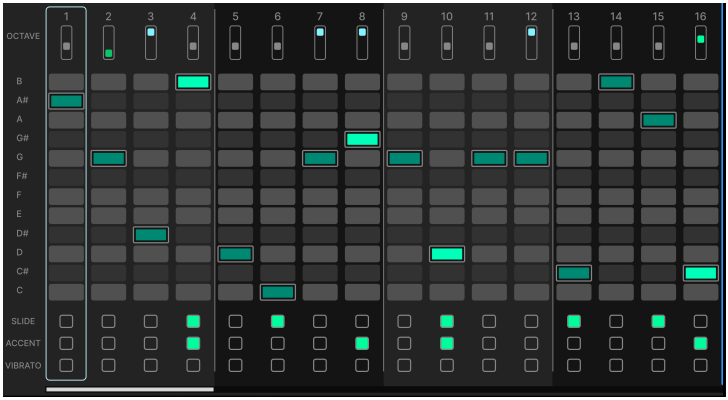


The **Seq** and **Arp** buttons at the top left of this area mirror those on the main panel, selecting the mode for the pattern generator. Also note the overall on/off button to the upper left, which disables the sequencer without deleting any information.

4.1.1. Sequencer lock

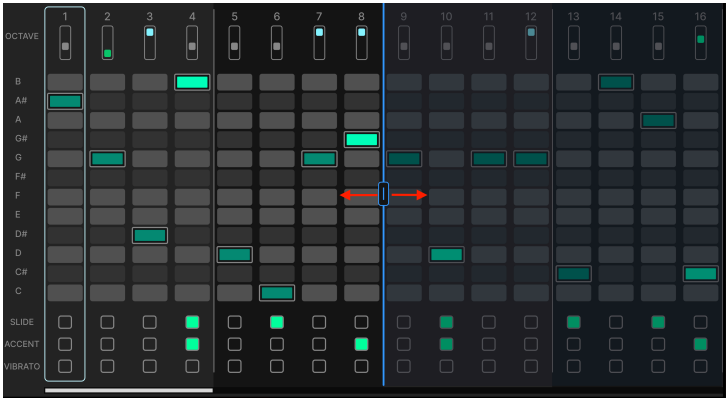
When the padlock icon appears locked, changing an overall Acid V Preset in the Preset Browser [p.84] does *not* change the sequencer pattern or other information. This applies to both Sequencer and Arpeggiator modes. So, if you have a pattern you like but want to browse sonic personalities for it, you can do so easily.

4.2. Creating or editing a sequence



We have carefully modeled the gating behavior, accents, slides, and other aspects of the original's sequencer, all of which are an indispensable part of its unique sound. However, we have made it easier to create patterns using an intuitive "piano roll" interface, where you can tweak almost everything graphically.

4.2.1. Setting the pattern length



Grab the vertical blue handle, which will usually be found at the right side of the window, and slide it back and forth to adjust the overall length of the pattern.

You can also set the maximum length directly in the Steps [p.32] field.

Also, don't miss the horizontal scroll bar along the bottom. It gives you access to the full 64 steps.

4.2.2. Adding and removing steps

The fact that Acid V is monophonic makes things somewhat simple here. Rows are steps, and notes ascend in a column.

- Click on any step's rectangle to add that note at that step. The rectangle will illuminate in green.
- Right-click to remove the note.
- "Draw" quick sequences by sweeping the mouse cursor across the grid.

4.2.3. Adjusting the octave

Acid V has a four-octave range for each step. Change the octave for a given step with the vertical slider at the top of the column.

> ♪ This can take a little getting used to compared to a conventional MIDI piano roll editor, because the same note in different octaves can appear in the same row. Suppose you wanted to create a simple pattern where the same note jumped up and down an octave in *C*. Simply click in as many Cs as you want – which will all appear in the same row – then use the octave sliders. Notice that the slider positions change color to indicate the selected octave.

4.2.4. Randomizers

Randomizers in Acid V are available for:

- notes
- octaves
- slide
- accent
- vibrato

4.2.4.1. Note randomizer

Hover over the note name column and it will turn into an icon that looks like gaming dice. Dragging up or down on this will increase or decrease the probability that a different note than the one set will be played as the sequence runs.

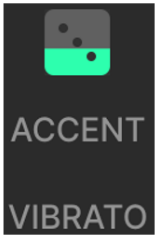
4.2.4.2. Octave randomizer

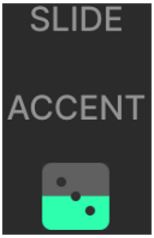
Likewise, hover over the word "Octave" above the note column to bring up its dice icon. This changes the probability that any note will sound at a different octave than the one set.

> ♪ Since you can randomize notes and octaves at the same time, in varying degrees, you can come up with some pretty crazy results and inspiring song starters.

4.2.4.3. Slide, Accent, and Vibrato randomizers

Finally, you can also roll the dice, and randomize the sequence slides, accents, and vibratos.

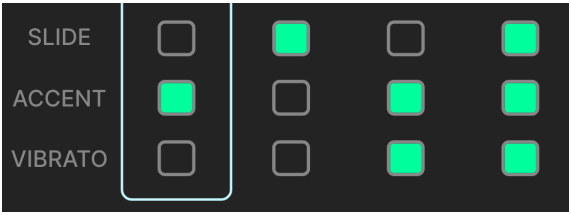




Indeed, by hovering each parameter, you'll unveil its randomizer, and you'll be able to increase or decrease its value. The higher the value, the higher the probability to have a slide, accent, or vibrato on the sequencer's steps.

If you are unfamiliar with these parameters, simply refer to the following section.

4.2.5. Slide, Accent, and Vibrato



Here is how you add the accents and slides that made the 303 famous, as well as the vibrato unique to Acid V. Across the bottom of the piano roll are three checkboxes: Slide, Accent, and Vibrato. Simply check one or more for the attributes you want on that step.

4.2.5.1. How accents work

Again, an accent [p.17] both increases the volume and shortens the filter envelope decay of the note played at a given step. Both of these are governed by knobs we covered in the chapter on the main panel [p.15].

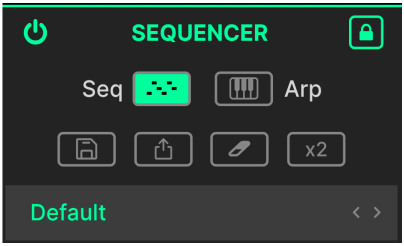
4.2.5.2. How slides work

A **slide** introduces a small amount of portamento, (pitch glide up or down), between the step it is applied to and the *previous* step. (If you place a slide on step 1 the pitch will glide from the final step in the pattern.)

4.2.5.3. How vibrato works

Vibrato in Acid V is intentionally subtle, without the extreme depth you might hear on a synth meant for leads. The speed and amount are controlled by the large knobs in the Vibrato [p.18] section of the main panel.

4.2.6. Sequence management



If you like the pattern you've created, you can save it by clicking the disk icon shown above, which will prompt you to save it as a user sequence with a dialogue box where you can type in a name:

4.2.6.1. Share sequence

The "share" icon to the disk icon's right exports your sequence as a MIDI file you can then drag-and-drop directly into your DAW by grabbing the little icon that is generated.

4.2.6.2. Clear sequence

Be careful with the eraser icon! It clears the entire sequence. Actually, if you accidentally clear a sequence, Acid V has extensive undo and history functions in the lower toolbar [p.72], so you can always go back in time.

4.2.6.3. Duplicate pattern

Click the **x2** icon if you want to "roll out" a series of notes quickly. This will duplicate the full length of the existing pattern and append it to the end. The overall sequence length will automatically double.

4.2.7. Sequence Browser

Below the sequence management icons is a field with the current pattern name and two arrows. You can browse patterns using the arrows, or click the name to open the Sequence Browser. Neither action will change the overall Acid V Preset.

Once inside the browser, you can choose factory or imported sequences directly by name. Click **OK** to load the sequence and exit the browser.

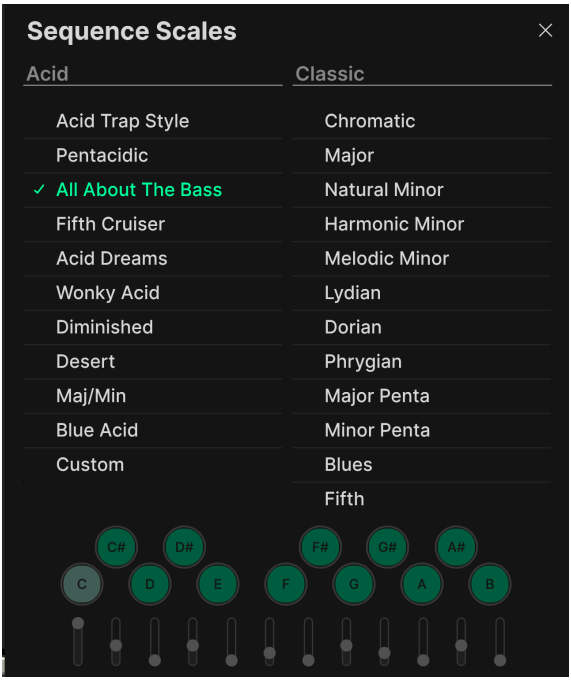
> ! You must have imported some sequences for the **Imported** button to be visible. It has a trash-can icon that will delete the entire bank.

Click the X at upper right to exit the browser without loading a new sequence.

4.2.7.1. Importing Sequences

You can import sequences by moving files in our proprietary format in the folder /Library/Arturia/Samples/Acid V/User/Sequencer/User. Our Sequence Scales [p.30], especially the "Acid" ones, can really make the most of imported sequences and, so to speak, 303-ify them.

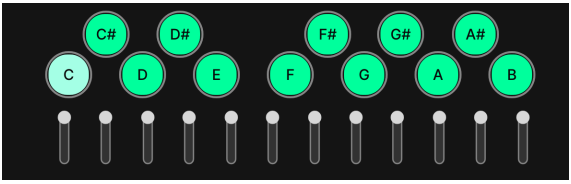
4.2.8. Sequence Scales



Click the **Scale** field towards the left of the Sequencer window to access options for scales. We've divided them into two categories: *Acid*, which are chromatic scales customized to invoke the classic 303 and the musical styles in which it was heard; and *Classic*, which are a range of the "usual suspects" of alternative scales according to music theory. These can restrict the notes the sequencer will play to only those that are part of the selected scale.

The graphic at the bottom of the Scales menu shows which notes are active for a given scale.

4.2.8.1. Custom scales

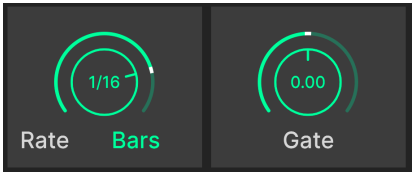


Click *Custom* and the graphic at the bottom of the Scales menu becomes adjustable. You may then click each note's icon to make it available or unavailable to the custom scale.

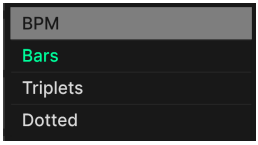
The sliders below the note icons add a random factor. Each one changes the probability that its note will be played at a given step when the note randomizer [p.26] is in use.

♪ Here's how to think of the relationship between these sliders and the dice icon seen when hovering over the note name column, which controls the overall note randomizer. That dice icon increases the odds that at any step, a different note is going to be played than the one you've chosen for the step. Then, in terms of what that alternate note is going to be, the sliders here give each note in the scale an advantage or disadvantage. It's like a prize drawing: The winning ticket is chosen blindly out of a hat, but you could guarantee a win by purchasing every available ticket, which is like raising a note's slider all the way. On the other hand, you can't win if you don't play, which is like lowering a note's slider all the way.

4.2.9. Rate and gate time



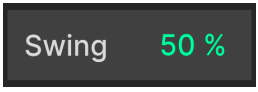
The **Rate** parameter sets the sequencer tempo. Click the green word below the knob to access tempo sync options:



- **BPM:** Absolute beats per minute, independently of your host/project tempo
- **Bars:** Either a division or a multiple of musical bars relative to your DAW tempo, with a "straight" feel
- **Triplet:** Like Bars, but three eighth-notes are played in the space of one quarter-note
- **Dotted:** Like Bars, with a pair of eighth-notes played as a dotted eighth then a sixteenth

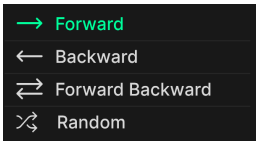
Gate time adjusts the window of time in which each step is allowed to "speak." In practice, this can sound like the step has more or less sustain.

4.2.10. Swing



Swing is often described as a "behind the beat" rhythmic feel, and Acid V has a range of 50 to 75 percent, which you change by dragging up or down on the number. Fifty percent is closest to a "straight" feel.

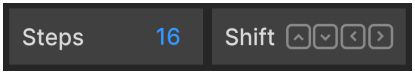
4.2.11. Note playback order



Acid V offers four options for note play order in **Seq** mode. Access them using the green arrow to the right of the "Playback" name field.

- **Forward:** Sequence plays from step 1 to its final step.
- **Backward:** Sequence plays from its final step back to step 1.
- **Forward Backward:** Sequence plays from step 1 to its final step, then reverses direction and plays back to step 1. This is an "exclusive" order, meaning that the first and final steps are not repeated.
- **Random:** Steps of the sequence play in random order.

4.2.12. Steps and Shift

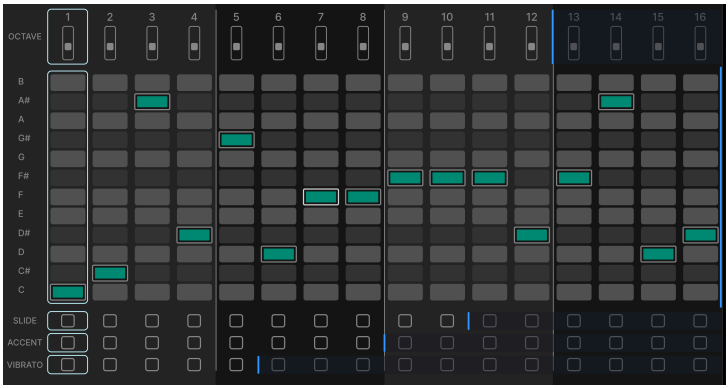


The **Steps** parameter simply mirrors the action of the vertical blue handle [p.25] for setting the pattern length.

The up and down arrows in the **Shift** section transpose the entire pattern up or down by one semitone for each click.

The left and right arrows do something more interesting we call *rotation*. They shift steps horizontally, by one step for each click. For example, clicking right in a 16-step sequence would turn step 1 into step 2, and so on, all the way until the final step becomes the new step 1.

4.2.13. Polymetric mode



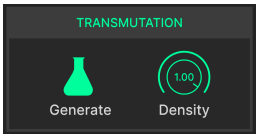
Click the **Polymetric** name field on the left side to enter Polymetric mode, and you will see something like the image above. Instead of one grab handle [p.25] to set the pattern length, there are now five separate ones for Octave, Notes, Slide, Accent, and Vibrato.

The positions of each of these handles means that the pattern will reset to step 1 at different times with respect to that handle's attribute (notes, accents, etc.). Effectively, this lets you mix things up so that a given step may sometimes play at a different octave, have or not have an accent, and so forth. This can be a powerful tool for making sequences more varied and less robotic.

4.2.13.1. Polymetric reset

Drag up or down in the **Reset** field to set the number of steps at which the pattern will "realign." This does not mean it starts over at step 1. It means that when the specified step is reached, the settings you originally made between a step's note, its octave, and whether it has an accent, slide, or vibrato will return to normal, i.e. what the onscreen controls show.

4.2.14. Transmutation



This final section in **Seq** mode makes two very interesting alterations.

> ♪ Try the Transmuter in conjunction with the Acid scales to get the best result.

4.2.14.1. Generate

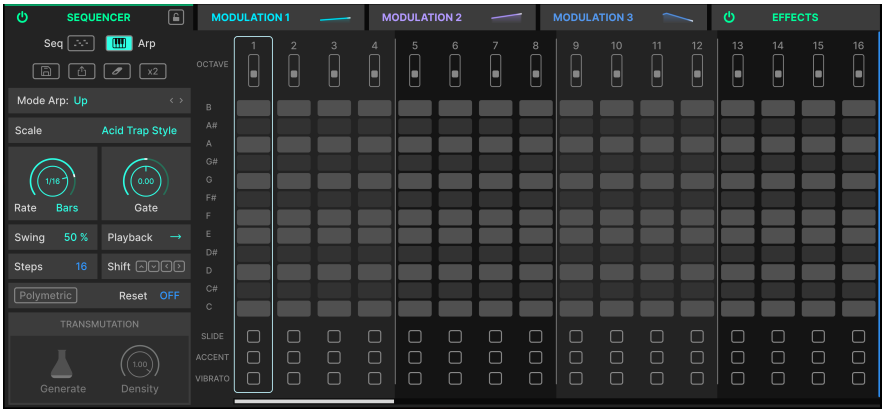
Clicking the "beaker" icon doesn't turn lead into gold, but performs some sonic alchemy. It simply changes everything up: notes at each step, octaves, and which steps get a slide, accent, and/or vibrato. You can click it to transform the existing sequence, then move the amount up or down to adjust the degree of generativity.

4.2.14.2. Density

Density works in the main sequencer interface and by selecting patterns from the Sequence Browser. The default value of this parameter is 1.00, at which all the steps in the pattern play. Reducing it thins out the sequence by muting steps. They're not deleted – turning it back up will restore them. With Density at minimum, the entire sequence is silent. Adjust density by first selecting a pattern from the sequence browser, then by raising or lowering the knob.

♪ One good use of the Density setting is for musical bridges or breaks where you want the bass line to be more sparse.

4.3. Arpeggiator mode

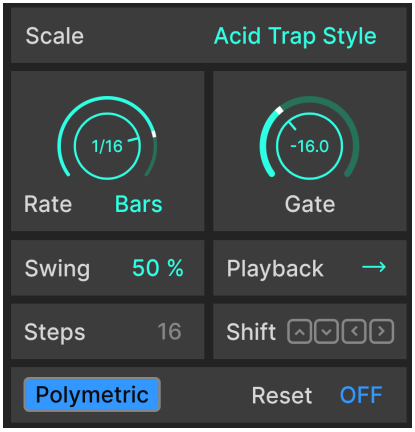


In Arpeggiator mode, the sequencer in Acid V turns into an advanced arpeggiator. What's the difference? Where the sequencer plays notes you specify for each step, the arpeggiator turns real-time note input from a connected MIDI controller into patterns that ascend, descend, or play in other orders you can set.

Said more simply, if you hold a chord on a keyboard, the Arpeggiator mode plays the notes of the chord as a pattern.

In Arpeggiator mode, the piano-roll note grid is greyed-out, but you can still set the octave, slide, accent, and vibrato for each step.

4.3.1. Controls in common with sequencer mode

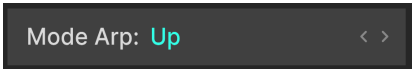


Many functions and settings are shared with **Seq** mode, so let's do a quick summary of those before proceeding to what's unique about **Arp** mode. The bullets below link back to the relevant sections about the sequencer. (There's no need to repeat all this information, as this chapter is getting long!)

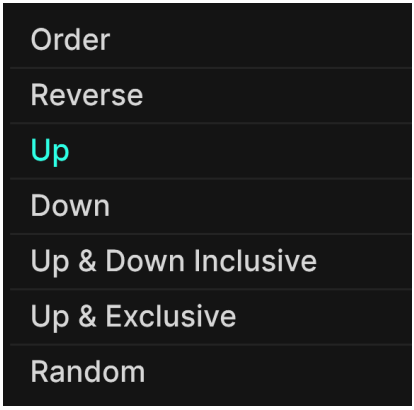
- Scales [p.30] including the custom scale
- Rate, tempo sync, and gate time [p.31]
- Swing [p.31]
- Playback order [p.32]
- Step length and Shift [p.32]
- Polymetric mode [p.32]

Note that the Transmutation [p.33] feature is unavailable in Arpeggiator mode.

4.3.2. Mode Arp setting



This corresponds to the "arpeggiator mode" setting found on many synthesizers. It controls note playback order in a different way from the playback setting mentioned above [p.32]. Namely, it relates the note order as heard to whatever you play on a keyboard controller. Clicking in the name field brings up the following menu:



- *Order:* Note order follows the order in which you pressed keys
- *Reverse:* Like Order, but the note order heard is the opposite of what you played
- *Up:* Note order ascends in pitch
- *Down:* Note order descends in pitch
- *Up & Down Inclusive:* Note order ascends and descends, with the highest and lowest notes repeated
- *Up & Down Exclusive:* Note order ascends and descends, with the highest and lowest notes *not* repeated
- *Random:* A random note order is generated based on played keys

♪ The Playback [p.32] setting applies on top of whatever note order is chosen here, allowing for creative possibilities. Setting both to *Random* is particularly interesting!

4.3.3. What about octave range?

Most arpeggiators have an overall setting for octave range, so you might have noticed the absence of one here. Remember that Acid V has a four-octave range for *each* step, and that this applies in **Arp** mode as well as **Seq** mode.

That's about all there is to Arpeggiator mode. Next, let's move on to exploring the highly flexible Modulators in Acid V!

5. ADVANCED VIEW PART 2 - MODULATORS

Modulators in Acid V are a very powerful means for applying variation to virtually any parameter in the instrument. If you are familiar with synths, you might be asking "What kinds of modulation sources are we talking about here? Envelopes or LFOs?" The answer is: both! You can program the Modulators to act in either way, and they go beyond what either a conventional LFO or an ADSR envelope can do, although they can certainly play those roles with ease. Acid V has three Modulators, which function identically.

Access the Modulators by first going into Advanced View [p.72] then clicking any of the Modulation tabs.

> ♪ Users of other Arturia instruments will know modulators by a different name: Functions. But this time around we wanted to make it sound less like you're in math class.

5.1. Assigning a Modulator

Before we get into how Modulators work, let's cover how to assign one to a destination in Acid V. On each one of the Modulation tabs, there is an animated thumbnail that displays the waveform or action of that Modulator. Click on this thumbnail and drag it to whatever you want to modulate, such as the vibrato speed, like so:

You can assign the same Modulator to multiple destinations or multiple Modulators to the same destination.

♪ Don't limit yourself to the main panel when it comes to modulation destinations. Many settings inside the Sequencer/Arpeggiator, Effects, and even the Modulators themselves (such as rate) are eligible targets.

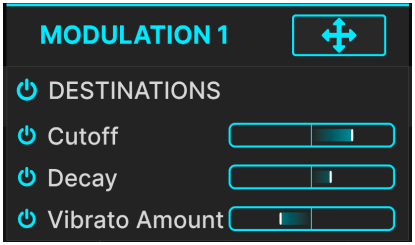
5.1.1. Modulation amounts

Once a Modulator is assigned, hovering over the destination knob shows a pop-up mini-knob, like this:

This controls the modulation amount for the destination, and it's bipolar, meaning that you can turn it to either side of 12 o'clock to set positive or negative values. An amount control for each Modulator assigned to the destination will appear, color-coded to match the Modulator tab. Here is what Modulators 1 and 2 assigned to filter cutoff would look like:

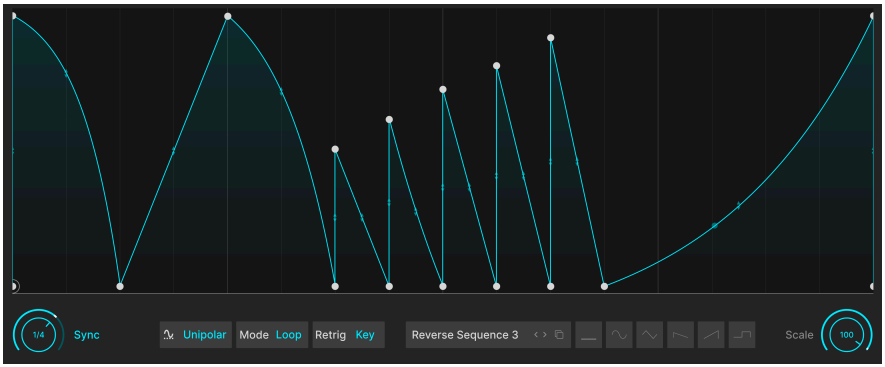
Operating or hovering on a mini-knob also shows a collar around the destination knob to indicate the modulation amount, matching its color:

You can also hover over the animated thumbnail on any Modulator tab to view its destinations, and control their amounts with horizontal sliders that mirror the action of the mini-knobs.



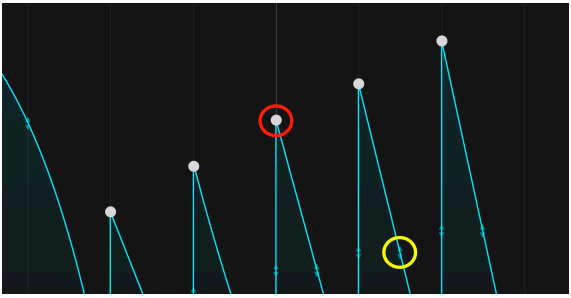
This is useful for when you have a Modulator assigned to several destinations and don't want to hunt around the interface to control them all. Notice also that each destination has its own on/off button. This lets you shut off modulation only to that destination, while retaining the modulation amount you've set in case you turn it back on later.

5.2. How Modulators work



As we said, Modulators in Acid V can work like envelopes, LFOs, or like a mad scientist combined both into a hybrid and gave it superpowers. Basically, they make it easier than ever to turn what you see on the graph into what you hear.

5.2.1. Breakpoints and grab handles



A breakpoint is circled in red; a grab handle in yellow

Modulators let you create any curve or shape of modulation you want beginning with two simple tools: *breakpoints* and *grab handles*. A *breakpoint* is a point in time at which the modulation changes direction. (Actually, it doesn't have to – you could use a breakpoint as a spot where, for example, the curve increases or decreases in steepness – but changing direction is usually what a breakpoint is for.)

Left-click on the graph to add a breakpoint. Right-click on the point to delete it.

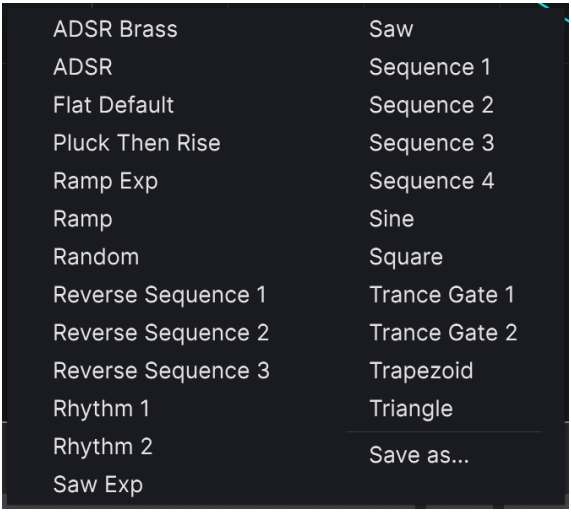
Between any two breakpoints is a *grab handle* that you can drag to change the shape or intensity of the curve between those two points. Leaving a handle in mid-position would create a more or less straight line between points. Dragging it as far as it will go in a direction generally creates a steep "knee" shape.

Between grab handles and breakpoints, any shape can be created, from a simple sine wave for an LFO to a conventional synth-style ADSR to extremely complex shapes.

5.2.2. Modulation presets

Access six basic Modulator waves with the buttons on the right, or browse all 18 options by clicking on the name field on the left

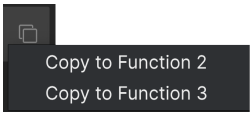
You can create and save your own Modulator shapes in Acid V, but you need not ever worry about it if you'd rather just get on to making music. Modulators offer 18 shape presets, six of which can be accessed by clicking the six buttons shown above. Or, browse the full menu with the left-right arrows, or by clicking on the name field, which will display this menu:



The full menu of Modulator presets

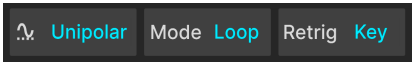
At the bottom of this menu is a "Save as" option. Click this to save a shape you've created (a dialogue pop-up will prompt you to name it), which can then be called up from within any overall Acid V Preset.

5.2.3. Modulation copy



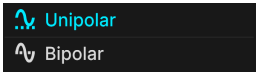
Clicking the icon that looks like two overlapping squares lets you copy all of the settings of the current Modulator to either of the other two.

5.2.4. Polarity, Mode, and Retrigger



Click any of these three fields to bring up its menu.

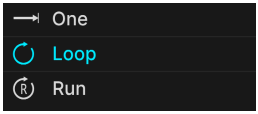
5.2.4.1. Polarity



Click on the **Unipolar/Bipolar** field to select the current Modulator's polarity.

- *Unipolar:* The Modulator sends only positive values and the graph has no center line
- *Bipolar:* The Modulator sends positive and negative values and the graph does have a center line

5.2.4.2. Mode

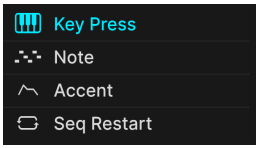


The **Mode** setting is an important one, because it selects whether the Modulator behaves more like an envelope or more like an LFO.

- *One:* The modulation shape plays through once, i.e. more like an envelope
- *Loop:* The modulation plays repeatedly and can retrigger from the start point based on a selectable event

- *Run:* The modulation plays repeatedly and only returns to the start point when it reaches the end

5.2.4.3. Retrigger

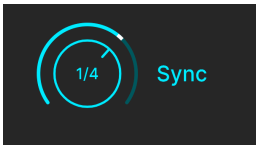


One-shot and Loop modes allow for the modulation to retrigger, that is, start over from its initial point, based on one of four events, which are selected from the above menu.

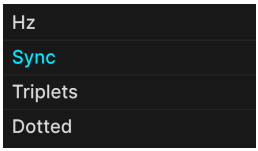
- *Key Press:* When an incoming MIDI note is received from a controller or a DAW
- *Note:* When the Sequencer/Arpeggiator plays a new note
- *Accent:* Like Note, but only on notes that have accents
- *Seq Restart:* When the Sequencer/Arpeggiator restarts from the beginning for any reason

> ♪ *Seq Restart* is a particularly cool option, since other things – such as whether you play legato – can restart the Sequencer from the beginning. This lets you lock a modulation's character to the musical statement you're making with the series of notes in the Sequencer.

5.2.5. Rate and tempo sync



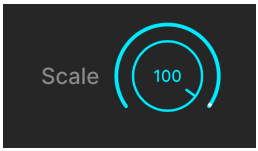
Of course, Modulators in Acid V sync to your project tempo – or not. The knob adjusts the rate. Click on the name field to bring up the options menu:



- *Hz:* Unsynced, the Modulator free-runs and the rate is expressed in Hertz
- *Bars:* Either a division or a multiple of musical bars relative to your DAW tempo, with a "straight" feel
- *Triplet:* Like Bars, but three eighth-notes are played in the space of one quarter-note

- *Dotted:* Like Bars, with a pair of eighth-notes played as a dotted eighth then a sixteenth

5.2.6. Scale



The final setting in the Modulator is **Scale**, which adjusts the output of the Modulator independently of any other amount settings, such as those involved with routing [p.38]. This is useful for setting an absolute "ceiling" on how intense the modulation can get, then using depths at individual destinations for further fine-tuning.

6. ADVANCED VIEW PART 3 - EFFECTS

Acid V includes a suite of powerful stereo effects curated from our latest V Collection of virtual instruments. You can use up to four effects at once, and each of the four effects slots offers a choice of 17 effect types. Enter Advanced View [p.72] then click the Effects tab to navigate here.

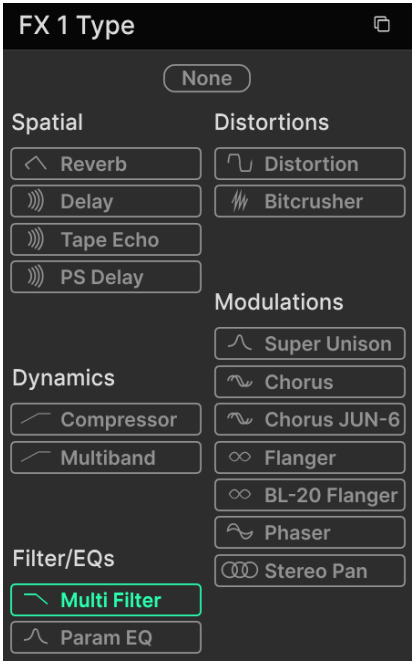
6.1. Effects routing

Acid V effects are routed serially

Effects routing in Acid V is "hard wired" as serial. The signal is first processed by the effect in the slot at far left, then simply moves from left to right. This makes sense, since Acid V a monophonic instrument and there's no possibility of different voices or simultaneous sounds needing to go through different effects. Plus, it keeps things simple. Just set up the effects chain you want, not unlike a guitar pedalboard.

There is a global on/off button on the Effects tab, plus individual on/off buttons for each of the slots. In all cases, these will disable the effect(s) without losing any of their settings. This is a great tool for comparing dry and wet sounds as you craft your tracks.

6.2. Selecting an effect



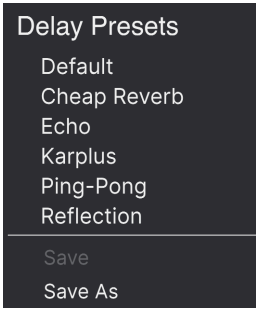
Acid V offers 17 effects in five categories

Click the name field at the top of any of the effects slots (you can also click any empty square that says "none" above it) to bring up the effects selection menu. The effects are divided into five categories to make choosing a little easier.

- *Spatial:* Reverb and delays
- *Dynamics:* Compressor and multi-band compressor
- *Filter/EQ:* Synth-style multi-filter and parametric EQ
- *Distortions:* Algorithmic distortion as well as bitcrusher
- *Modulations:* "Super Unison," choruses, flangers, phaser, and stereo panner

The full list of effect types [p.47] with descriptions of all their parameters is just below.

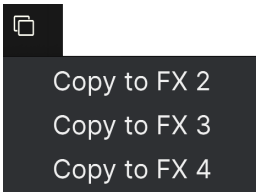
6.3. Effect presets



The factory presets for the Delay effect in Acid V

Each of the 17 effect types in Acid V comes with a handful of presets, though of course we encourage you to twist those knobs and create your own. That said, the presets can be great starting places, not to mention convenient for when you want to grab a quick sound, so please do explore them all. Notice the "Save as" option, which will bring up a dialogue box that prompts you to name and save any settings you like as your own FX preset. This may be then called up from within any overall Acid V Preset.

6.4. Effect copy



Click the "overlapping squares" icon at the top right of any of the slots' name fields to copy the effect you're working on to any of the other three slots. This brings over both the choice of effect and all the settings at the time you perform the copy operation.

6.5. Effect types

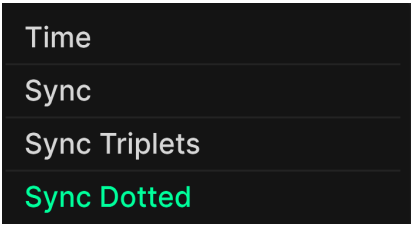
Now it's time to meet each effect type individually. In general, you can adjust at least some of the parameters that are also adjustable with knobs or sliders by clicking and dragging inside the effect's graphic visualizer. We will flag such settings with *(H)* for those you can drag horizontally and *(V)* for those you can drag vertically.

6.5.1. Dry/Wet slider

Every effect except for the Parametric EQ and Stereo Pan has a horizontal slider for **Dry/Wet mix**, i.e. how much pre-effect vs. post-effect signal you hear.

> ♪ Remember that due to the serial routing, a sound that's relatively dry with respect to one effect may still be carrying a lot of the previous one in the chain.

6.5.2. Effects tempo sync



The Spatial effects as well as every Modulation effect except Super Unison and Chorus have tempo-sync options for their time or rate parameter, accessed by clicking on the green word next to the parameter name below the knob. These should now be familiar from the sequencer and modulators, and are:

- Unsynced
- Sync
- Sync triplets
- Sync dotted

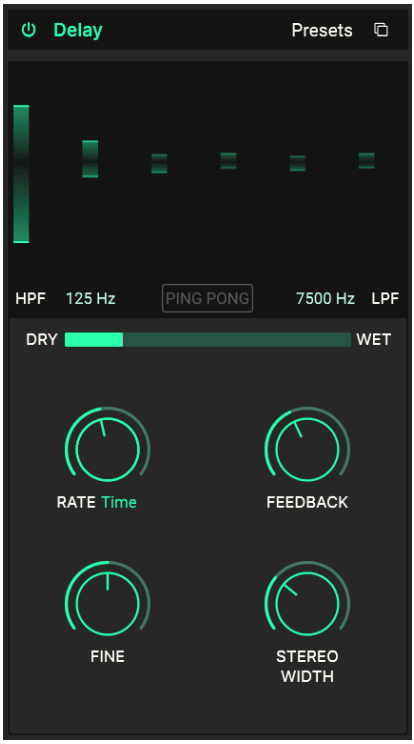
Now let's visit the effects in the order in which they appear on the effects menu.

6.5.3. Reverb

Reverb is the sound of a space – a recording studio, concert hall, stairwell, tiled bathroom, you name it. Reverb is often used as the final effect in a chain to put everything else that's going on into the same acoustic space, lending cohesiveness to the sound.

Control	Description
HPF	Reduces the high-frequency content before processing
LPF	Scoops out the low-frequency content before processing
Pre-delay	Sets the amount of time before the input signal is affected by the reverb
Decay (V)	Determines the length of time the reverb effect will last
Size (H)	Adjusts the size of the room: counter-clockwise is smaller, clockwise is larger
Damping	Controls the rate at which the high frequencies decay
MS Mix	Adjusts the reverb from mono to an increasingly wide stereo space

6.5.4. Delay



Delay is a generic term for any effect that makes a copy of an input sound and repeats it a short time later. There are three delay effects in Acid V, and this first one sounds good all around.

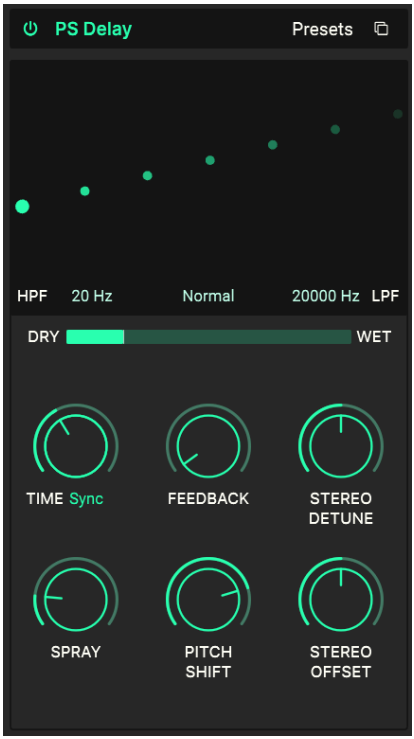
Control	Description
HPF	Higher values cause increased reduction of low-frequency content with each echo
LPF	Higher values cause increased reduction of high-frequency content with each echo
Rate (H)	Changes the length of the delay, with unsynced and tempo-sync options (sync, triplets, dotted)
Fine	Lets you fine-tune the delay time set by the Rate knob with +/- 30ms of delay time.
Feedback (V)	Adjusts how many times the delay will repeat
Stereo Width	Higher values increase the distance between the left and right iterations of the echoes
Ping Pong	Toggles alternating left/right echoes with exact rhythmic spacing

6.5.5. Tape Echo

Tape Echo is a type of delay characteristic of early tape-based delay machines such as the Maestro Echoplex and Roland Space Echo. Input sounds are recorded to a loop of tape with one or more playback heads to create the echoes. Because tape loops can be unstable and shift in pitch and timbre, they produce an effect that is warmer and less precise than a digital delay.

Control	Description
Input	Adjusts the incoming signal to achieve varying amounts of analog saturation.
Time (H)	Changes the length of the delay, with unsynced and tempo-sync options
Fine	Lets you fine-tune the delay time (set by the Time knob) with +/- 30ms of delay time.
Intensity (V)	Sets the feedback amount of the delayed signal.
Stereo Width	Higher values increase the distance between the left and right iterations of the echoes
Ping Pong	Toggles alternating left/right echoes with exact rhythmic spacing

6.5.6. PS Delay



PS stands for **pitch-shifting** delay, and is a classic effect popularized by the Eventide Harmonizer. It works like a conventional delay, but in addition to being fed back to create echoes, the delayed audio signals are subjected to a pitch shift, either up or down.

Control	Description
HPF	Controls the cutoff of a highpass filter that affects the delayed signal only
LPF	Controls the cutoff of a lowpass filter that affects the delayed signal only
Time (H)	Sets delay time, with unsynced and tempo-sync options
Feedback	Controls how much of the delayed signal feeds back into the effect to be delayed again.
Stereo Detune	Detunes the delayed signal relative to the incoming signal
Spray	Adds a scattering effect across the sound for each successive echo with slightly randomized echo times
Pitch Shift (V)	Adjusts the amount that the delayed signal is pitch-shifted relative to the incoming signal
Stereo Offset	Offsets the delayed signal in the stereo picture

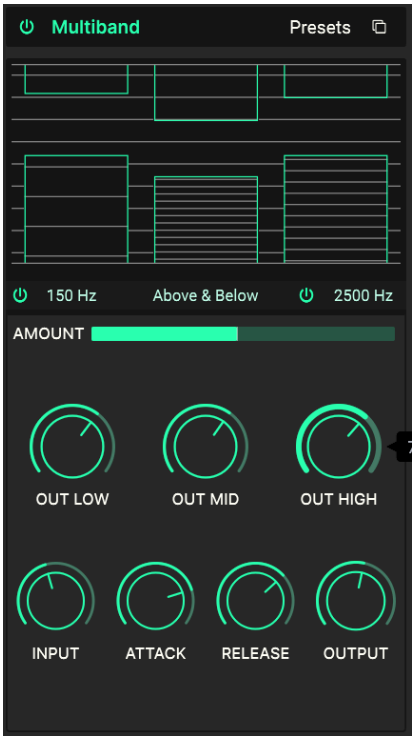
6.5.7. Compressor

A **Compressor** is used to control the dynamic range of a sound: it reduces the difference between the softest and loudest levels a sound can have. It does this based on reducing a gain by a certain amount (the ratio) once the audio releases a certain level (the threshold).

Control	Description
Makeup	Enables control of the output level to compensate for the gain reduction of the input
Threshold (H)	Sets the level where compression will begin
Ratio (V)	Determines the amount of compression to be applied once the threshold is reached
Output Gain	Use this to compensate for changes in volume if compression settings lower the output gain
Attack	Adjusts the speed with which the compression will be applied once the threshold is reached
Release	Sets the release curve of the compressor

♪ There's an old audio joke that's great for understanding compressors. Threshold is how loud your music has to be before your parents tell you turn it down. Ratio is how much you turn it down. Attack is how fast your parents react once it's too loud. Release is how soon you turn it back up once they're gone.

6.5.8. Multiband



A multiband compressor works like a series of regular compressors, but each one works on a separate range of frequencies (*band*). First used by mastering engineers to squeeze the maximum level out of recordings, these compressors are now used for subtle sculpting, sound design, special effects, and much more.

The multiband compressor is probably the most complex effect type in Acid V, first of all because there are things you can *only* adjust by dragging in the graphical visualizer. It can work on up to three frequency bands, and you can use the two on/off buttons below the visualizer to turn the lower and/or upper bands off. You can also drag up or down on the numbers below the visualizer to set the frequency crossover between the low and mid bands (left number) and mid and high bands (right number).

On top of all that, it's also an *expander*, which means it can raise the level of soft signals. The green bars with horizontal lines inside on the top are for compression; those below are for expansion.

With all this in mind, here is the parameter rundown:

Control	Description
Threshold (V)	Drag the border of a green bar to adjust the point at which the compression (or expansion) starts working
Ratio (V)	Drag *inside* of a bar to adjust the amount of compression or expansion for that band. Increasing ratios are depicted by denser horizontal lines, until the inside bar turns green at maximum

Control	Description
Band On/ Off Icons	The high and/or low bands may be switched off, resulting in a 2- or 1-band compressor/ expander
Low-Mid Crossover	Drag on this field, located at lower left of the visualizer, to change the crossover point between the low and mid bands
Mid-High Crossover	Drag on this field, located at lower right of the visualizer, to change the crossover point between the mid and high bands
Out Low	Independent output level control for low band
Out Mid	Independent output level control for mid band
Out High	Independent output level control for high band
Input	Sets the overall input gain
Attack	Sets the time it takes for the compressor/expander to "grab" the signal once a threshold is reached
Release	Sets the time it takes for the compressor/expander to "let go" of the signal once the signal falls beneath the threshold
Output	Located at right, the main Output knob governs the overall makeup gain while preserving the difference in output between the bands

6.5.9. Multi Filter

Sometimes it's nice to have an extra filter handy for tweaking your tone before it gets to the output. The **Multi Filter** FX gives you five to choose from! Types include: lowpass (*LP*), highpass (*HP*), bandpass (*BP*), feedback comb filter (*CombFB*), and feed-forward comb filter (*CombFF*). The comb filters simulate the behavior of a flanger with two different tonal qualities – CombFB produces a series of evenly spaced peaks, and CombFF produces evenly-spaced notches.

Control	Description
Filter type	Drag up or down on the letters to the lower left of the visualizer to choose the filter type
Slope	Click a selection at the lower right of the visualizer to choose the filter steepness; these do not apply to the comb filters
Cutoff (H)	Adjusts the cutoff frequency of the filter
Resonance (V)	Sets the resonance of the filter, which is a peak of frequencies clustering near the cutoff

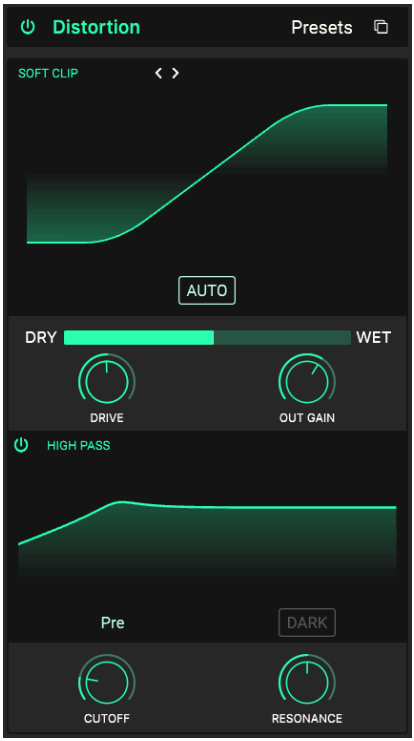
6.5.10. Param EQ

A **Parametric Equalizer** lets you sculpt tone very precisely, as opposed to the very broad tonal strokes you get from a synth filter or tone controls. It can be used to gently or surgically boost or cut certain frequencies to alter the overall sound or remove problem frequencies.

The EQ in Acid V has five bands, and you can adjust the frequency, gain (boost or cut), and Q (how wide the band is around the selected frequency) for each one. In fact, that ability to tweak the frequency and bandwidth is just what "parametric" means!

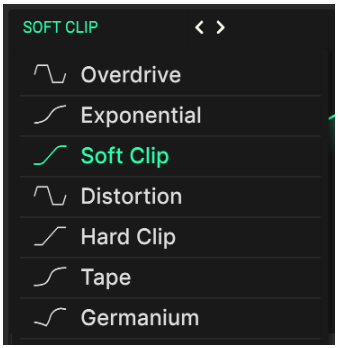
Control	Description
Band select	Click one of the points in the visualizer or one of the five buttons below to select the band the next controls listed will affect
Scale	Adjusts the overall impact of the EQ curve on your sound
Frequency (H)	Selects the center frequency of the current band
Gain (V)	Adjusts the boost or cut to the level of the current band
Q	Adjusts the width of the spectrum around the Frequency that is affected by the boost or cut

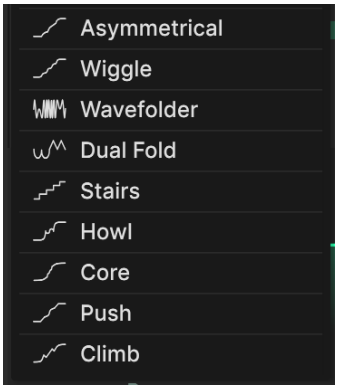
6.5.11. Distortion



Distortion offers the most algorithms of any Acid V effect. They're derived algorithms from our flagship distortion effect called Dist COLDFIRE. There are many different kinds of signal distortion, each with its unique sonic signature – and they can transform sounds in ways ranging from subtle warmth to an all-out audio thunderstorm! There's also a multi-mode filter that can be applied either before or after the distortion.

Click in the upper left of the visualizer to bring up the distortion types menu, which expands upon those from the distortion on the main panel.

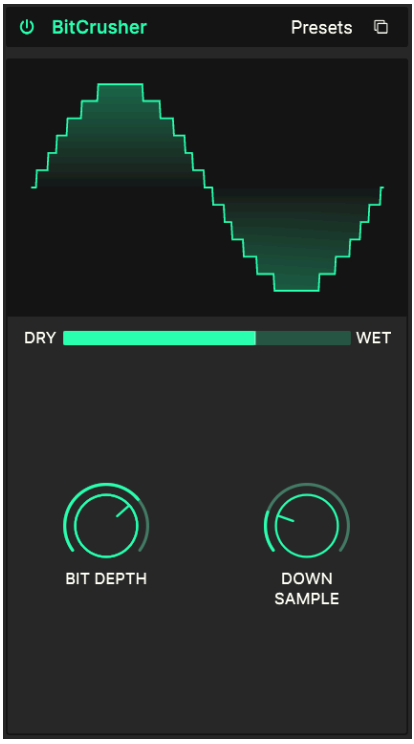




Rather than offering lengthy technical descriptions of what each algorithm does, we encourage you to explore the character of each for yourself.

Control	Description
Type select	As above
Drive (V)	Sets the distortion amount
Auto	Engages automatic gain compensation to avoid undesired loud peaks
Out Gain	Use this to compensate for increased output gain caused by the other settings
Filter on/off	Toggles integrated filter in or out
Filter menu	Pop-up selects lowpass, highpass, bandpass, or notch modes
Cutoff (H)	Adjusts cutoff/center frequency of integrated filter
Resonance (V)	Adjusts resonance of integrated filter
Pre/Post	Drag on field to place filter pre- or post-distortion
Dark	Click to adds a fixed low-pass filter post-distortion

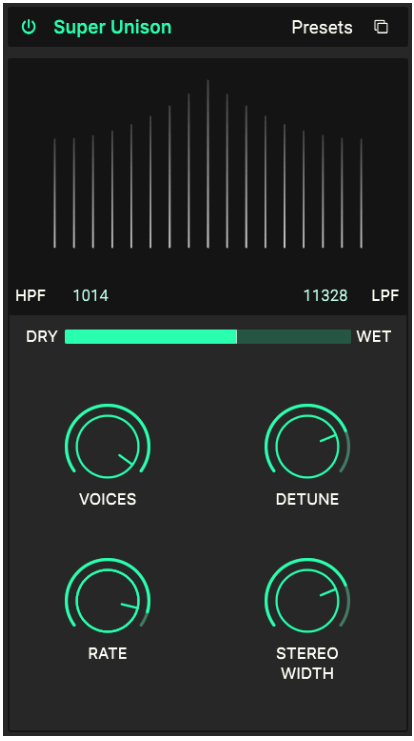
6.5.12. Bitcrusher



A **bitcrusher** does exactly what it sounds like: it crushes bits! Technically, it can reduce both the bit depth and the sample rate of the signal. Bit depth (e.g. 16-bit vs. 8-bit) deals with differences in volume; sample rate (e.g. 44,100 Hz, like a CD) deals with frequency response. When musicians talk about the "lo-fi" sound of vintage samplers, game consoles, or computers, they're talking about bitcrushing.

Control	Description
Bit Depth (V)	Reduces the number of bits used to render gradations in amplitude.
Downsample (H)	Divides the sample rate used to represent the signal.

6.5.13. Super Unison

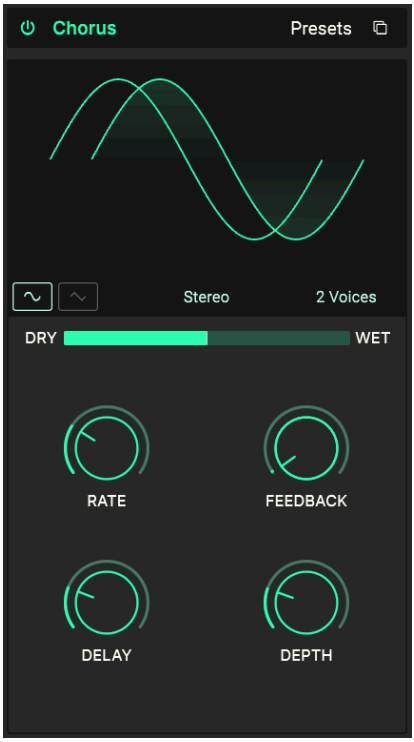


Not unlike a synth's Unison mode, this effect adds duplicates of the input signal to itself, with the option to detune them. The graphic indicates amount of detuning between the voices horizontally and volume of detuned voices vertically. The original signal is the tallest line in the center.

Control	Description
HPF	Controls the cutoff of a highpass filter that affects the processed signal only
LPF	Controls the cutoff of a lowpass filter that affects the processed signal only

Control	Description
Voices (H)	Sets the number of unison voices
Detune (V)	Determines the detuning amount
Rate	Adjusts the speed of modulation of all voices
Stereo Width	Adjusts the spread of the voices across the stereo picture

6.5.14. Chorus

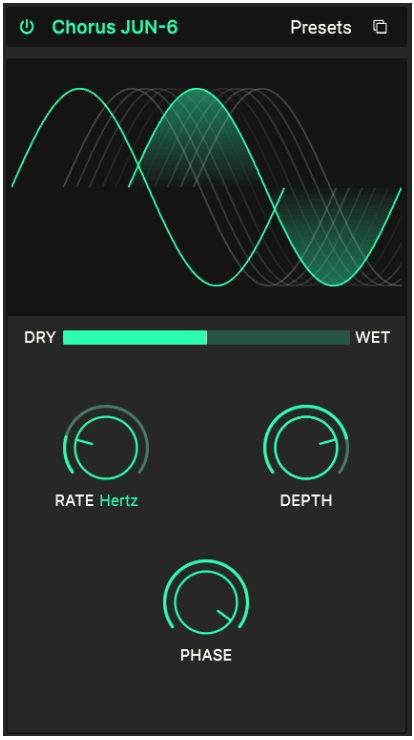


Chorus is an effect first developed in the mid-1970s by Roland for the Jazz Chorus amplifier and CE-1 pedal. In a chorus, the dry signal is mixed with one or more slightly delayed copies of itself (called *voices*), whose amount of delay is gently varied by an LFO to create a sense of thickness.

Control	Description
Waveform	Toggles modulation LFO between sine and sawtooth waveforms
Mono/Stereo	Drag to toggle mono or stereo operation

Control	Description
Voices	Selects the number of delay lines the chorus will use, with a different starting phase for each voice
Rate	Adjusts the speed of the chorus
Feedback (V)	Adjusts the amount of chorused signal that is fed back into the effect
Delay (H)	Sets the amount of delay applied to the input signal
Depth	Controls the intensity of the chorus

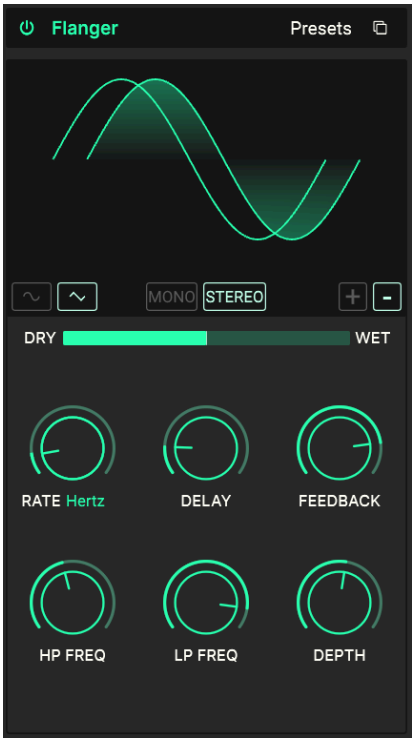
6.5.15. Chorus JUN-6



One of the most famous chorus effects is the one built into the Juno-6 synthesizer and its successors. This chorus is an accurate model of the original.

Control	Description
Rate (H)	The chorus rate, with unsynced and tempo-synced options
Depth (V)	The depth of the chorus effect in milliseconds
Phase	The phase of the chorused signal relative to the dry signal

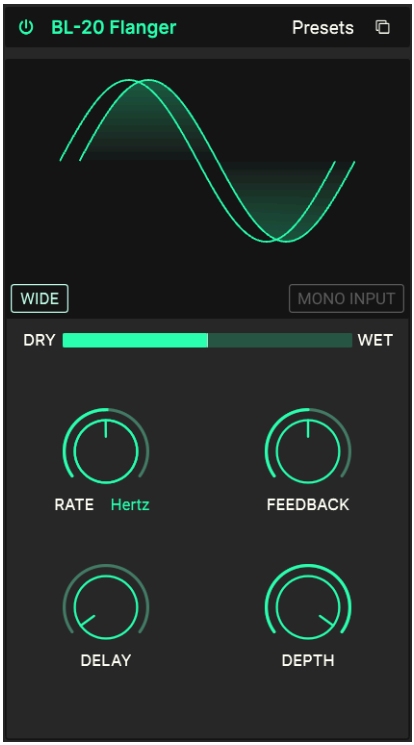
6.5.16. Flanger



The **Flanger** is the most intense of the time/modulation effects. It originally came from audio engineers gently pressing on the flange (rim) of a moving tape reel to slow down the playback a tiny bit. Combined with the original signal, this produces the signature "jet engine" effect.

Control	Description
Waveform	Toggles the modulation LFO between sine and triangle waveforms
Mono/Stereo	Click to select mono or stereo operation
+/-	Click to toggle flanger between additive and subtractive operation
Rate	Adjusts the rate of the flanger, with unsynced and tempo-synced options
Delay (H)	Adjusts the length of the delay, which changes the harmonic content
Feedback (V)	Adds feedback for a harsher or "ringing" sound. Maximum is 99% to avoid runaway feedback
LP Freq	Use this to define the amount of high-frequency content that will enter the flanger effect
HP Freq	This determines the amount of low-frequency content that the flanger effect will receive
Depth	Sets the modulation depth

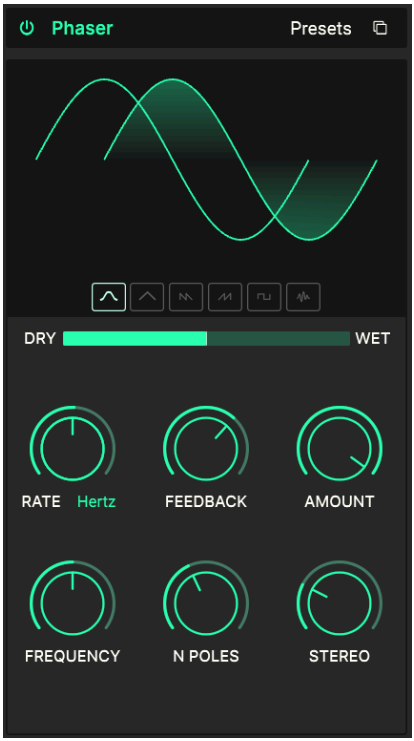
6.5.17. BL-20 Flanger



The **BL-20 Flanger** is based on the sound of Arturia's Flanger BL-20 plug-in, which is in turn based on the sound of the rare but beautiful-sounding Bel BF-20 hardware flanger from the 1970s.

Control	Description
Wide	Provides a wider stereo image by inverting the phase of the LFO modulating the right channel
Mono Input	When engaged, optimizes the flanger for processing a monaural signal
Rate	Adjusts the rate of the flanger, with unsynced and tempo-synced options
Delay (H)	Adjusts the audible depth of the flange effect
Feedback (V)	Adjusts the amount of effected signal feeding back into the flanger
Depth	Adjusts the depth of the LFO that modulates the delayed signal

6.5.18. Phaser

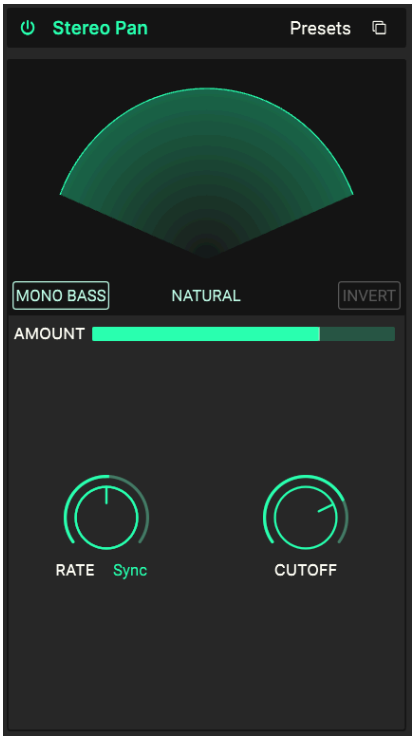


Fire phasers, Mr. Worf! Phase shifting splits the incoming signal, changes the phase of one side, and recombines it with the unaffected signal. Modulation of this signal via an LFO results in a notch-comb filter that sweeps through the frequency spectrum, causing that familiar "whooshing" sound. Some phaser pedals have just two or three knobs; the one in Acid V offers a lot of fine-grained control.

> ♪ Two iconic uses of the phaser are on analog strings by Gary Wright and Jean Michel Jarre, and on electric piano by Steely Dan.

Control	Description
Waveform	Sets the waveform for the internal LFO
Rate	Adjusts the rate of the phaser, with unsynced and tempo-synced options
Feedback (V)	Controls the amount of phased signal feeding back into the effect for a more resonant sound
Amount	Determines the depth of modulation by the LFO
Frequency (H)	Sets the harmonic center for the modulation effect
N Poles	Determines the steepness of the phaser's filter frequency response
Stereo	Gradually changes the phaser from mono to stereo output

6.5.19. Stereo Pan



Stereo Pan lets you automatically control and move the stereo position of the Acid V monophonic voice, to provide motion and breadth.

Control	Description
Amount (V)	Instead of a dry-wet slider, this sets the overall width of the panning
Mono Bass	When engaged, low frequencies will not be panned
Invert Button	Inverts the LFO output, thus changing the "direction" of panning
Rate	Adjusts the rate of the panning, with unsynced and tempo-synced options
Cutoff	Sets the frequency below which panning stops when Mono Bass is engaged

7. USER INTERFACE

This chapter covers everything that is not in the main panel and advanced views – all the utilitarian functions that make Acid V a joy to use in a modern music production environment.

The toolbars above and below the main panel [p.15] of Acid V contain a number of important functions for Preset selection, housekeeping, and other utility settings.

Then there's the side panel, where you make important global and MIDI settings, can use and create Macros [p.81] to control several settings with a single control movement, and explore Acid V via interactive tutorials.

The Upper Toolbar includes:

- The Main Menu [p.67]
- The Preset Name Pane and Preset Browser [p.84] access button
- An overall output volume [p.18] knob
- The button to open the Advanced Views [p.72]
- A gear-shaped icon that opens the side panel [p.76]

The Lower Toolbar includes:

- The parameter description area [p.16] that shows info when you hover over any control
- A duplicate Hold button [p.21] for when you're in one of the Advanced Views and the main hold button is obscured
- Undo, Redo, and History [p.74]
- The CPU Meter [p.74] and Panic [p.75] functions
- Duplicate knobs for the Macros [p.75] in the side panel
- A corner grab handle [p.75] for resizing the Acid V window

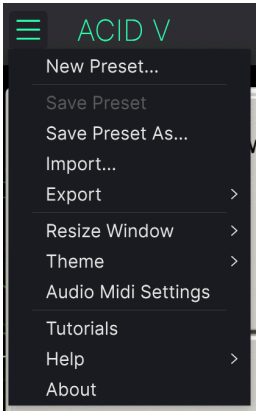
The side panel includes:

- Settings [p.76]
- MIDI [p.77]
- Macros [p.81]
- Tutorials [p.70]

7.1. Upper Toolbar

Let's start with the Upper Toolbar, covering its functions from left to right.

7.1.1. Main Menu



Clicking the "hamburger" icon (three horizontal lines) in the top left corner of the upper toolbar opens the Main Menu, a drop-down menu that lets you access a number of useful functions related to Preset management and more.

7.1.1.1. New Preset

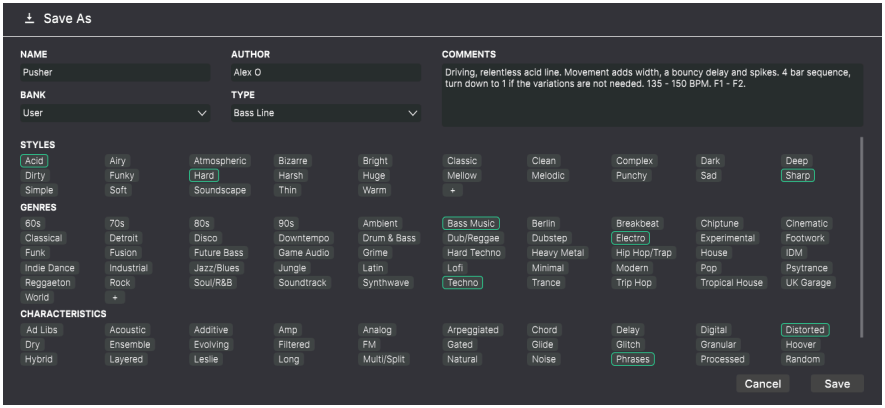
Creates a new Default Preset with initialized settings for all parameters.

7.1.1.2. Save Preset

Overwrites the current Preset with any changes you have made. This applies only to user presets, so this option is greyed-out for factory presets.

7.1.1.3. Save Preset As...

This option saves the current settings of Acid V under a new Preset name. Clicking this option reveals a window where you can name your Preset and enter more detailed information about it:



> ♪ The Bank, Author, and Type fields are all useful when searching for Presets in the Preset Browser [p.84]. All of the words in boxes you see below that are tags [p.86], which can further help refine searches in the Preset Browser.

7.1.1.4. Save as Opening Preset

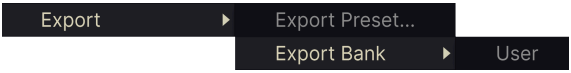
This menu item only appears if you're using Acid V in a DAW as plug-in. It saves the current Preset so that it is the default whenever you instantiate Acid V in an instrument track.

7.1.1.5. Import...

This command lets you import a Preset file or entire Bank stored on your computer. It opens a navigation window in your computer's OS to find the proper files.

7.1.1.6. Export...

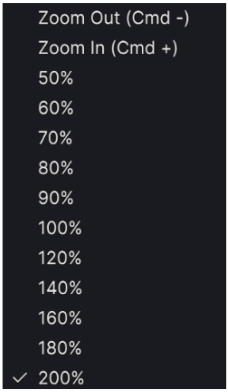
You can export Presets to your computer in two ways: as a single Preset, or as a Bank. In either case, an OS-level navigation window lets you specify where to save the file(s). Both individual Presets and Banks have the filename extension .3O3x.



- **Export Preset:** Exporting a single Preset is handy for sharing a preset with someone else. The saved preset can be reloaded using the **Import** menu option.

- **Export Bank:** This option exports an entire Bank of Presets, which is useful for backing up or sharing many Presets at once. Saved Banks can be reloaded using the **Import** menu option.

7.1.1.7. Resize Window



Acid V can be resized from 50% to 200% of its default size (100%) without any visual artifacts. On a smaller screen, such as a laptop, you may want to reduce the interface size so it doesn't dominate the display. On a larger screen or a second monitor, you can increase the size to get a better view of the controls and graphics.

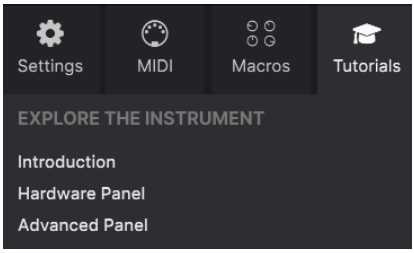
You can also do this using keyboard shortcuts: every time you press CTRL- (Windows) or CMD- (macOS), the window will shrink by one size increment, and every time you press CTRL+ (Windows) or CMD+ (macOS), the window will grow by one size increment.

In addition, you can click-drag the resize handle [p.75] at the right of the lower toolbar to make the Acid V window any size.

7.1.1.8. Audio MIDI Settings

These appear only if Acid V is working in stand-alone mode. Used as a plug-in, these are handled in the context of your DAW or host software. Refer to the chapter on Activation [p.9] for details on the settings for both Windows and macOS. They work in much the same way in stand-alone mode.

7.1.1.9. Tutorials



Acid V comes with interactive tutorials that walk you through different features of the plug-in. Clicking this option opens a pane on the right side of the window where the tutorials appear. Select one to access step-by-step descriptions that highlight the relevant controls and walk you through the process.

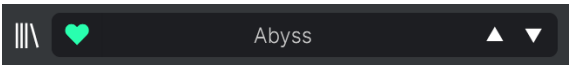
7.1.1.10. Help

Get more help by visiting links to this user manual and Frequently Asked Questions pages on Arturia's website. You will need an internet connection to access these pages.

7.1.1.11. About

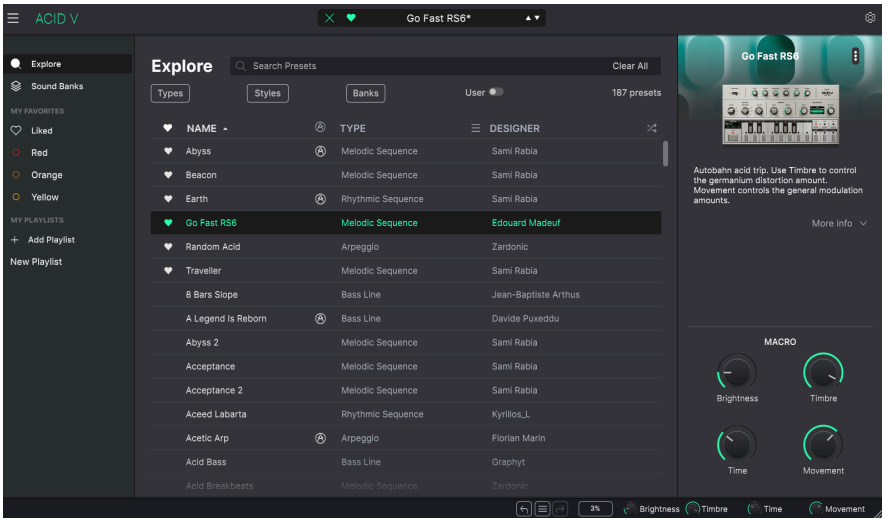
Here you can view the software version and developer credits. Click again anywhere on the screen (outside the About window but inside the plug-in) to make this pop-up window disappear.

7.1.2. Preset Browser access and Name Pane



The Preset Name Pane

Clicking the "books on a shelf" button opens the Preset Browser [p.84], which offers a myriad of ways to browse, sort, and organize Presets in Acid V.

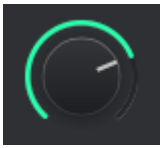


Clicking on the Preset name also opens up quick drop-down menus for selecting Presets outside of the Browser, as shown above. You can select to look at lists of Presets organized by Type, as shown above, or look at All Presets at once.

Everything you need to know about managing Presets is covered in detail in the next chapter [p.84]. This includes working with Favorites, which are tagged by clicking the heart icon.

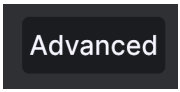
> Note: An asterisk just after the name in the Preset Name Pane (*) indicates that you've edited that Preset.

7.1.3. Output volume



This knob simply controls the main output level of Acid V.

7.1.4. Advanced Button



Near the upper right corner of the top toolbar is the **Advanced Button**. This changes the lower area of the main panel (where the onscreen keyboard normally is seen) into the views for the Sequencer, Modulators, and Effects.

7.1.5. Gear icon

This opens the side panel [p.76] where settings, Macros, and tutorials reside.

7.2. Lower Toolbar

Lower toolbar in Acid V

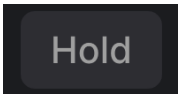
The Lower Toolbar of the Acid V interface can be thought of in terms of left and right halves. On the left is the Control Description display, and on the right are buttons for several useful utility functions.

7.2.1. Parameter descriptions

This Control Description pops up when you mouse over the Speed knob in the Main Panel

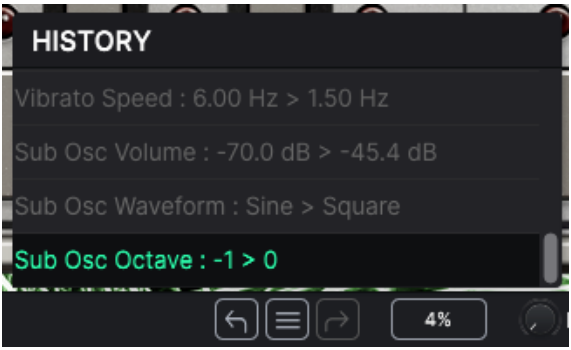
Operate or hover on any knob, button, icon, or other control, and a brief description of what it does appear in the lower left-hand corner. That's pretty much the only thing on the left side.

7.2.2. Hold duplicate



This only appears in advanced view, and conveniently duplicates the Hold [p.21] found on the main panel. You may wish to hold and unhold a running sequence while working on it or tweaking the Modulators and Effects. That's what this is for.

7.2.3. Undo, Redo, and History



When editing a virtual instrument, it's all too easy to overshoot the sweet spot for one or more controls, and then wonder how to get back to where you were. Like all Arturia plug-ins, Acid V offers comprehensive Undo, Redo, and History functions so that you always have a safe way back.

7.2.3.1. Undo

Click the left arrow to revert to the state before the most recent edit you made. You may click repeatedly to undo several edits in reverse time order.

7.2.3.2. Redo

Click the right arrow to redo the most recent edit you undid. If you have undone several, you may click repeatedly to redo them in forward time order.

7.2.3.3. History

Click the center "hamburger" (three lines) button to open the History window, as shown above. This provides a step-by-step account of every move you have made in Acid V. Clicking on an item in the list not only re-executes that move – it returns the plug-in to the overall state it was in when you first made that move.

7.2.4. CPU Meter

At far right is the **CPU Meter**, which displays the overall load Acid V is placing on your computer CPU. Since it deals only with this plug-in, it is not a substitute for the resource metering tools in your DAW.

7.2.4.1. Panic

Mousing over the CPU Meter accesses the PANIC function

Mouse over the CPU Meter, and it will display the word PANIC. Click to send an all-sounds-off command that silences any sound processed through Acid V. This is a momentary command, so sound will resume if your DAW is still playing.

In the event of serious runaway audio (say, from an unrelated delay effect that has gone into a feedback loop), stop your DAW playback and disable the plug-in causing the problem.

7.2.5. Macro controls

These controls can affect multiple parameters by turning just one of them, and mirror the actions of those found in the Macros [p.75] tab of the side panel. Factory Presets are pre-programmed with useful Macros.

7.2.6. Resize handle

Grab and drag the diagonal lines to the right of the Macro controls to resize the Acid V window. This lets you get achieve sizes in between increments in the Resize Window [p.69] menu if that better suits your screen layout.

7.2.7. Max View button

Sometimes, you may see the above button with two diagonal arrows appear over the resize handle. This happens when, for some reason, the window size is not displaying all of the controls of Acid V. Click it to restore a full view of the open controls.

7.3. The Side Panel

The gear-shaped icon at the top right of the Upper Toolbar opens the **Side Panel**, which in turn contains four tabs covering important subsystems that you won't have to access quickly when you're playing or editing sounds in Acid V:

• **Settings**: Global settings such as MIDI receive channels and accessibility options, and Preset settings such as accent velocity threshold and oscillator phase settings.

• **MIDI**: MIDI Learn functions for use with MIDI CC messages sent from a controller or DAW

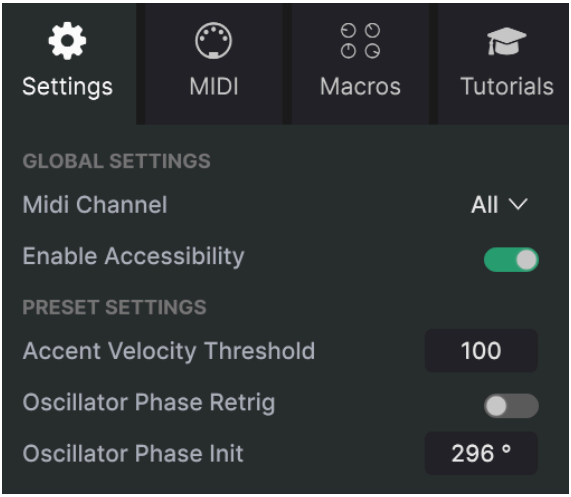
• **Macro**: Assignments for four Macros that control multiple parameters with a single knob twist

• **Tutorials**: In-app interactive tutorials, also accessible from the main menu

Let's look at them from left to right.

7.3.1. Settings Tab

This tab covers settings to control how a Preset responds to incoming MIDI.



The Side Panel's Settings tab

7.3.1.1. MIDI Channel

Selects the MIDI channel(s) on which Acid V will receive MIDI input. You can select a particular channel, or choose "All" for Omni Mode.

7.3.1.2. Enable Accessibility

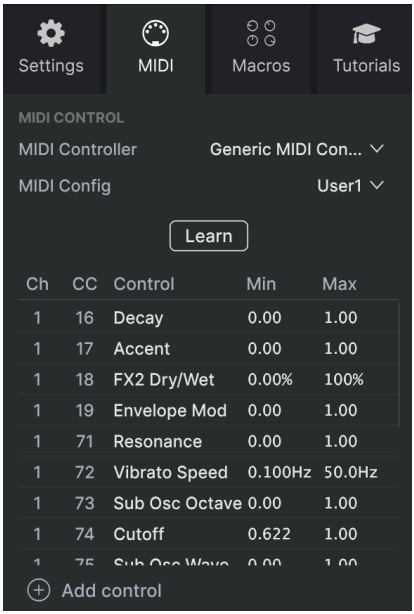
This gives your computer's system-level accessibility tools for differently abled persons access to Acid V.

7.3.1.3. Accent Velocity Threshold

In the chapter on the main panel, we talked about how an accent [p.17] can be triggered by checking a step's box in the sequencer *or* by MIDI velocity when Acid V is in **Ext** mode. This parameter sets that velocity. Drag on the number field to change it.

7.3.2. MIDI Tab

This is where Acid V may be placed in MIDI Learn mode. In this mode, all MIDI-assignable parameters on the Hardware Panel are highlighted and you can map physical controls on your MIDI controller to them. A typical example might be to map a real expression pedal to the Master Volume control, or a physical knob on the MIDI controller to the Frequency knob of the Filter section.



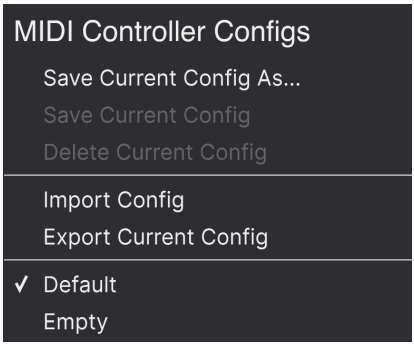
The Side Panel's MIDI tab

7.3.2.1. MIDI Controller menu

The MIDI Controller menu

At the top right of the MIDI tab is the **MIDI Controller** drop-down menu, where you can select templates for many Arturia MIDI controllers. These map physical controls to many "most wanted" parameters in Acid V for a plug-and-play experience. A Generic template is also provided for third-party MIDI controllers.

7.3.2.2. MIDI Config menu



The MIDI Config menu

The **MIDI Config** drop-down lets you manage different sets of MIDI maps for controlling Acid V from MIDI hardware. You can Save/Save As the current MIDI assignment setup, Delete it, Import a configuration file, or Export the currently active one.

This is a quick way to set up different hardware MIDI keyboards or controllers with Acid V, without having to build all the assignments from scratch each time you swap hardware.

For example, if you have multiple hardware controllers (small live keyboard, large studio keyboard, pad controller, etc.), you can create a profile for each of them, save them, and then quickly load them here. This saves you from having to redo the MIDI mapping assignments from scratch each time you swap hardware.

Two options in this menu are especially powerful:

- **Default:** Gives you a starting point with predetermined controller assignments.
- **Empty:** Removes the assignments of all controls.

7.3.2.3. Assigning and unassigning controls

When MIDI Learn is active, available parameters are purple and already-assigned parameters are red.

Click the **Learn** button in the MIDI tab to put Acid V into Learn mode. Controls available for assignment are purple. Controls that are already assigned are red, but can be reassigned if desired. The screenshot above shows the assigned and unassigned controls for Acid V's Default configuration.

Click any purple control and its name will appear in the list. Now, move a control or operate a switch on your MIDI controller. The corresponding control onscreen will turn red and the assigned MIDI CC number will appear in the list to the left of the parameter name.

To unassign a control onscreen, control-click or right-click it. Alternative methods of assignment are available in the MIDI Parameter Menu [p.80] described below.

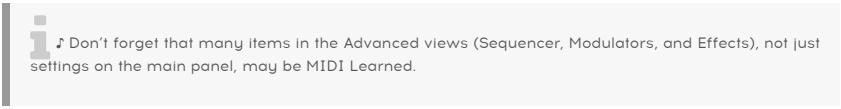
7.3.2.4. MIDI channel, CC, and min and max values

The first two columns in every MIDI assignment list the MIDI Channel (**Ch**) and MIDI Continuous Control Change number (**CC**) for the assignment. Up to 16 Channels are available on any MIDI stream, and the 127 possible MIDI Control Change numbers, while freely assignable, follow certain conventions on most instruments. For example, Modulation Wheel is almost always MIDI CC 1, Master Volume is CC 7, and Sustain Pedal is CC 64.

The **Min** and **Max** value columns for each parameter in the list let you scale the amount by which a parameter in Acid V changes in response to a physical control movement. For example, you may wish to limit the range of a filter sweep, even though you're probably going to turn the knob all the way during a live performance.

Drag up or down on a value to change it. Setting the maximum lower than the minimum reverses the polarity of the physical controller, i.e. turning it *up* will turn the assigned parameter *down*.

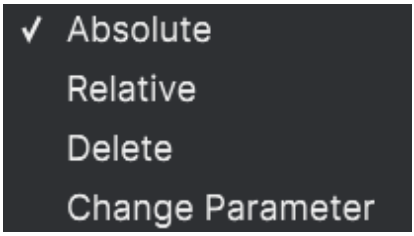
Switches that only have two positions (On/Off, etc.) would normally be assigned to buttons on your controller, but it's possible to toggle those with a fader or another control if you like.



♪ Don't forget that many items in the Advanced views (Sequencer, Modulators, and Effects), not just settings on the main panel, may be MIDI Learned.

7.3.2.5. MIDI Parameter Menu

Control-clicking or right-clicking on any item in the list - only the list, not the main interface - of assigned parameters brings up a convenient menu with the following options, which can be different for each parameter.



Right-clicking a parameter gives you these options

- **Absolute:** The assigned parameter in Acid V tracks the literal value your physical controller is sending out.
- **Relative:** The assigned parameter in Acid V will go up or down from its current value in response to physical controller movements. This is often useful when using endless 360-degree encoders that don't have physical motion limits.
- **Delete:** Removes the assignment and turns the corresponding onscreen control purple again.
- **Change Parameter:** Brings up a large sub-menu of every assignable parameter in Acid V. This lets you change the assignment of the current CC/physical control manually, and is useful when you know exactly the destination you're looking for.

7.3.2.6. Reserved MIDI CC numbers

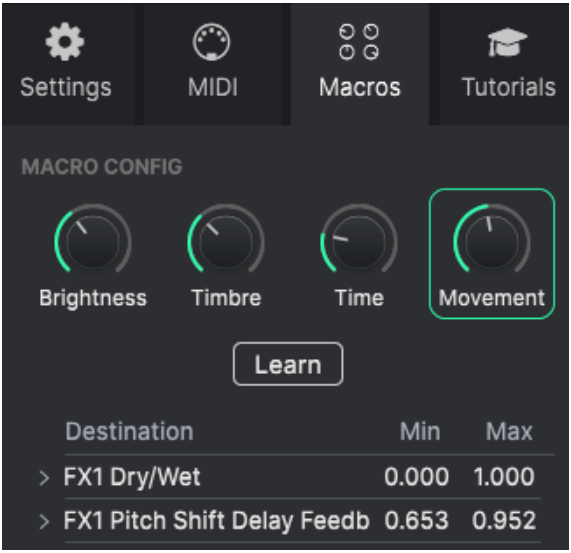
Certain MIDI Continuous Controller (CC) numbers are reserved and cannot be reassigned to other controls. These are:

- Pitch Bend
- Aftertouch (Channel Pressure)
- All Notes Off (CC #123)

All other MIDI CC numbers may be freely assigned to control any parameter in Acid V.

7.3.3. Macro Tab

This tab handles assignments for the four Macro knobs on the right side of the Lower Toolbar. You can assign multiple parameters to each one, then use MIDI Learn [p.77] to assign the Macro itself to a physical control if you want.



The Side Panel's Macro Tab

> Macros are saved at the Preset level.

7.3.3.1. Macro slots

Click one of the Macro knobs to select which Macros you want to work with. The default names are *Brightness*, *Timbre*, *Time*, and *Movement*, but you can rename them by double-clicking the name field. The knob above the name corresponds to the knob of the same name in the Lower Toolbar [p.75].

7.3.3.2. Making Macros

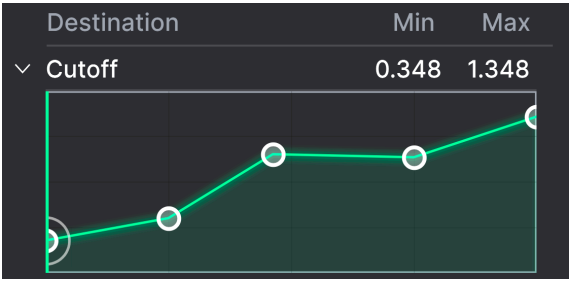
Click the **Learn** button in the Macro tab and you will see that the process works much like MIDI assignments – available destinations turn purple and ones already assigned turn red. Click on a purple control onscreen and its name will appear on the list.

To remove a parameter from the Macro, right-click its name in the list and select **Delete**. Parameters under Macro control have **Min** and **Max** values and may be scaled by dragging up or down directly on the number, just as is done with MIDI assignments. To reverse the polarity of a parameter (i.e. have it go down when you turn the Macro knob up and vice-versa), set the minimum value higher than the maximum.

> ♪ You can name and assign parameters as you like to Macros. Keep in mind, though, that clarity is usually better than cleverness when you're working on a track.

7.3.3.3. Macro curves

Beyond simple scaling, you can customize a curve that determines how each parameter under the Macro's control proceeds from its minimum to maximum value and back when you turn the Macro knob. Click the > icon next to the parameter name to open the curve window.

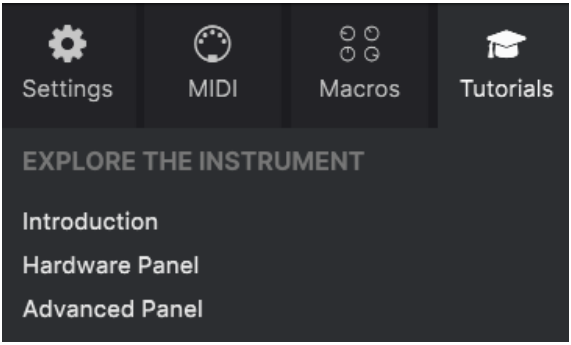


An example Macro curve for the filter cutoff

Making Macro curves is a lot like working with shapes in the Modulators. Click on the curve to add a breakpoint, represented by a small circle. You can then drag the point and the curve segments between it and its nearest neighbors will change accordingly. Right- or control-click on a point to remove it. The first and last breakpoints cannot be removed. (Note that unlike the Modulators, there are no grab handles between the breakpoints.)

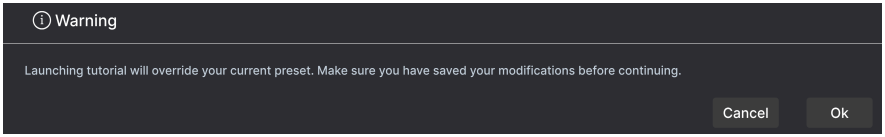
♪ A simple diagonal line would produce a linear curve, but the potential fun here is to make things non-linear.

7.3.4. Tutorials



In this tab, which can also be opened by selecting **Tutorials** from the Acid V main menu [p.67], you can click on titles for the individual chapters, which in turn will take you through different areas of Acid V in steps. The parts of the panel to focus on are highlighted as you go.

! If you're editing a Preset, make sure to save it before opening the Tutorials, because doing so will load a new Preset and overwrite your changes. The Tutorials also take over the Side Panel space when in use.



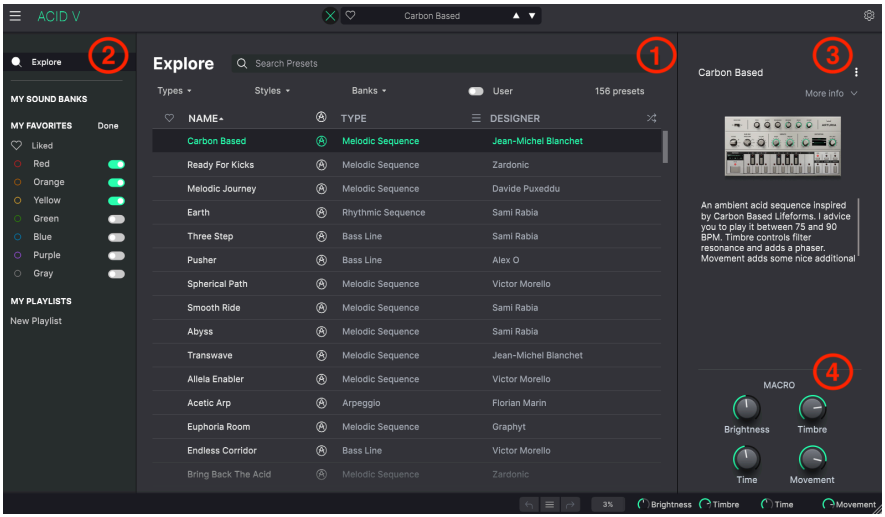
Warning pop-up when launching a tutorial

8. THE PRESET BROWSER

The Preset Browser is how you search, load, and manage sounds in Acid V. It has different views but they all access the same banks of Presets.

To access the search view, click the browser button (the icon looks a bit like books on a library shelf). To close the browser, click the Clear All that appears in its place.

The browser has four main areas:

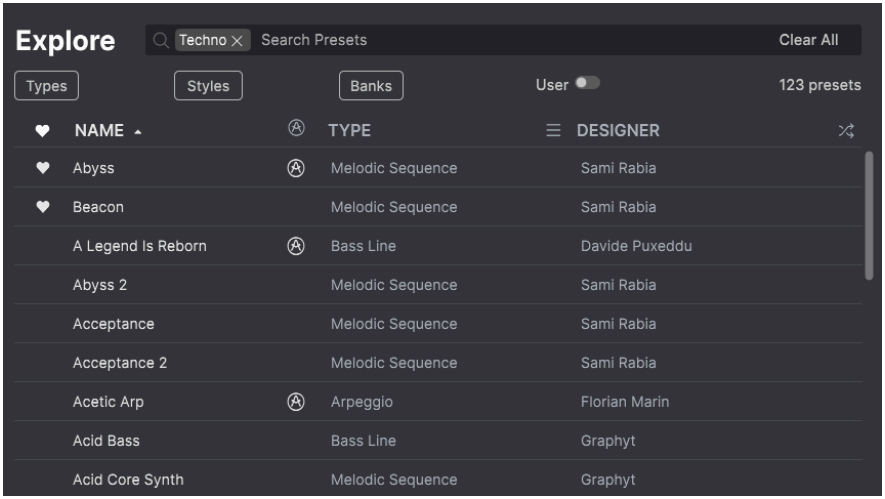


Number	Area	Description
1.	Search and Results [p.85]	Search Presets with text strings, and by tags for Type and Style.
2.	Sidebar [p.90]	Manage Banks, Favorites, and Playlists.
3.	Preset Info [p.92]	Summary of Bank and Tags, Designer name, and description info for current Preset.
4.	Macro Knobs [p.95]	Large size duplicates of Macro knobs in Lower Toolbar and the Macros tab.

8.1. Search and Results

Click on the Search field at the top and enter any search term. The browser will filter your search in two ways: First, by matching letters in the Preset name. Then, if your search term is close to that of a Type or Style [p.86] it will include results fitting those tags as well.

The Results list beneath shows all Presets that fit your search. Click the X icon at right to clear your search terms.

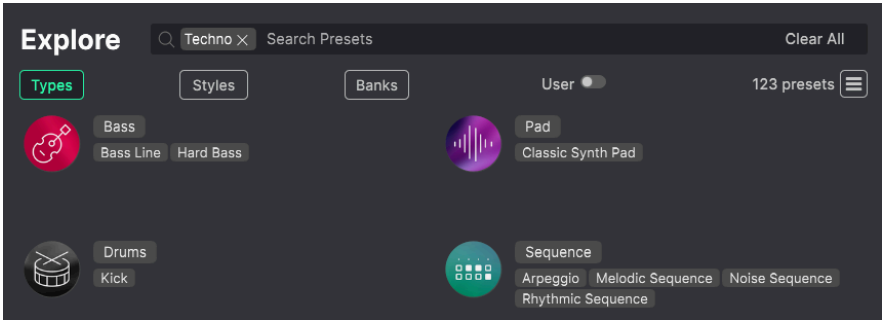


8.2. Using Tags as a Filter

You can narrow (and sometimes expand) your search using different tags. There are two kinds of tags: *Types* and *Styles*. You can filter by one, the other, or both. Our extensive range of MIDI controller keyboards also allows you to browse sounds directly from the MIDI keyboard.

8.2.1. Types

Types are categories of instruments and musical roles: bass, leads, strings, pads, organs, and more. With a clear search bar, click the **Types** button to bring up a list of types. Notice that each type also has several sub-types:



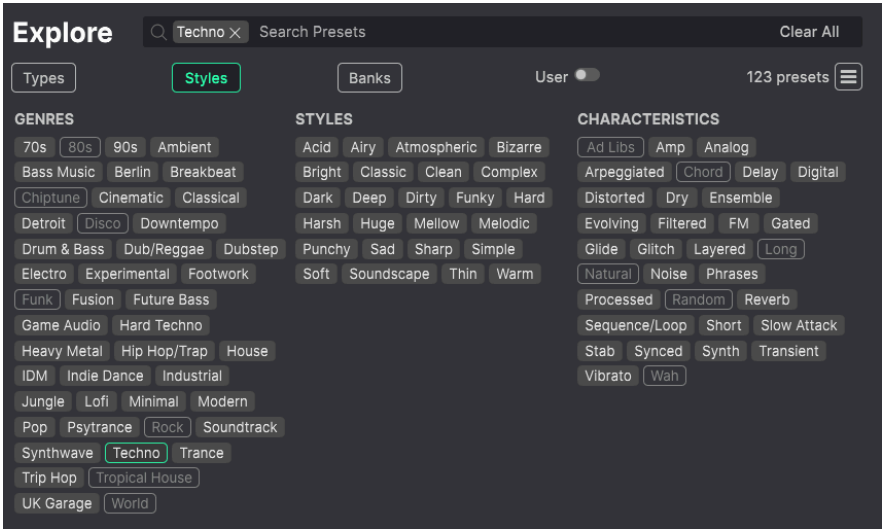
Click any one of them, and the results will show only Presets that match that tag. You can also select multiple Types using Cmd-click (macOS) or Ctrl-click (Windows). For example, if you aren't sure whether the Preset you're looking for was tagged with "Electro" or "Techno", select both to broaden the search.

Results columns can be inverted by clicking the arrow buttons to the right of their titles (Name, Type, Designer).

8.2.2. Styles

Styles refine your search according to further musical attributes. Accessed by the **Styles** button, this area has three further subdivisions:

- *Genres*: Identifiable musical genres such as decades, Trance, Techno, Synthwave, Disco, etc.
- *Styles*: General "vibe" such as Atmospheric, Dirty, Clean, Complex, Mellow, etc.
- *Characteristics*: Sonic attributes such as Analog, Evolving, Distorted, Dry, Rise, etc.



Click on any tag to select it. Click again (or right-click) on any selected tag to de-select it. Notice that when you select a tag, several other tags usually disappear. This is because the browser is narrowing your search by a process of elimination. De-select any tag to remove that criterion and widen the search without having to start all over again.

8.2.3. Banks

Next to the **Types** and **Styles** buttons is the **Banks** button, which lets you do your search (using all the methods above) within the factory bank or user banks.

8.3. Search Results window

Click the **Show Results** button if you cannot already see your list of results. Click the sort arrow to reverse the alphabetical order of any column.

8.3.1. Sorting the Preset Order

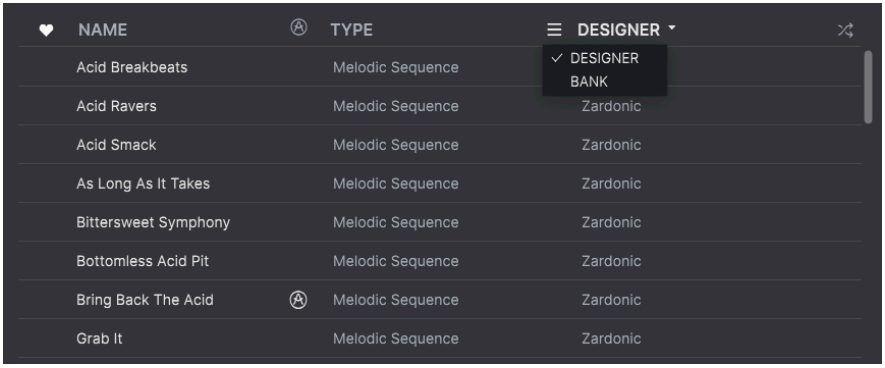
Click the **NAME** header in first column of the Results list to sort Presets in ascending or descending alphabetical order.

Click the **TYPE** header in the second column to do the same thing by Type.

Click the **Arturia logo** to the left of **TYPE** to bring factory-featured Presets to the top of the list. These will appear just under any Presets you have liked [p.89].

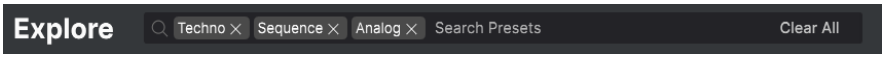
Click the **User** toggle switch to restrict your search to Presets in user banks.

The third column has two header options: **DESIGNER** and **BANK**. Click the icon with three lines to choose between the two. Then click either header name as with the other two columns to switch the alphabetical order.



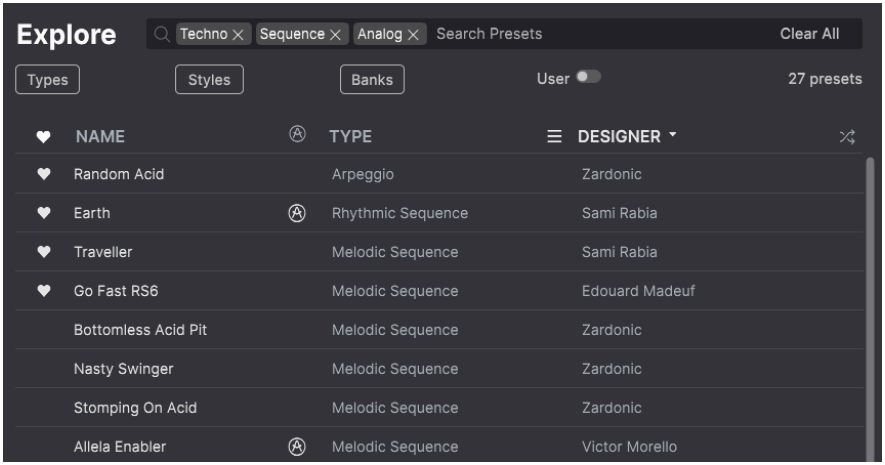
8.3.2. Clearing Tags

Just above the Types, Styles, and Banks buttons, you will see labels for all the active tags in a search. Click the X next to any one to remove it (and thus broaden the results). Click **CLEAR ALL** to remove all tags.



8.3.3. Liking Presets

As you explore and create Presets you can mark them as Liked by clicking the **heart** next to their names. Later, click on the heart icon to put all of your favorites at the top of the Results list.



8.3.3.1. Shuffle Presets

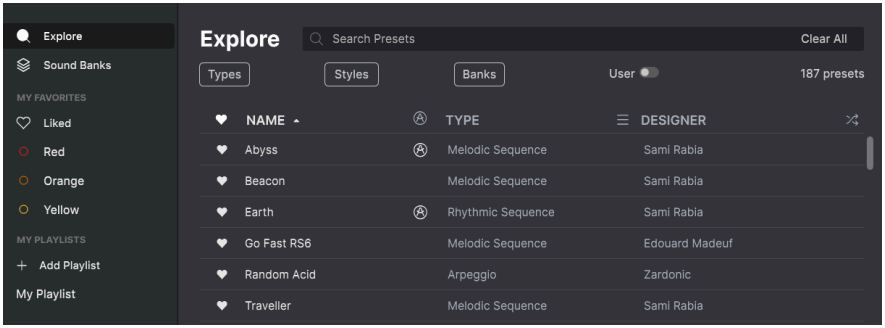
Clicking the "crossed arrows" button randomly reorders the Presets. This can be useful for finding something you like when your search results are a long list that takes time to scroll through – it might bring a killer Preset to the top.

Use as many of the sorting and filtering features as you need and you will find the exact sound you want every time.

8.4. Sidebar

The leftmost section of the Preset Browser determines what is displayed in the Search and Results [p.85] section.

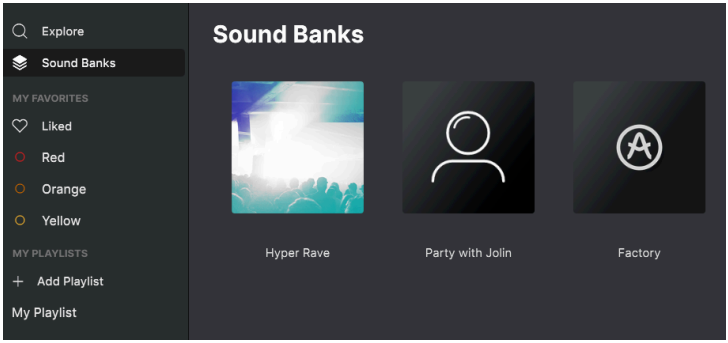
The topmost option is **Explore**:



The **Explore** section is the default, letting you search the current bank of Presets loaded into Acid V as we did in the previous section.

8.4.1. My Sound Banks

Clicking **My Sound Banks** brings up a window with all of the currently available Sound Banks, starting with the Factory bank. User banks appear next to it, and can be deleted, renamed, or exported by right-clicking them.

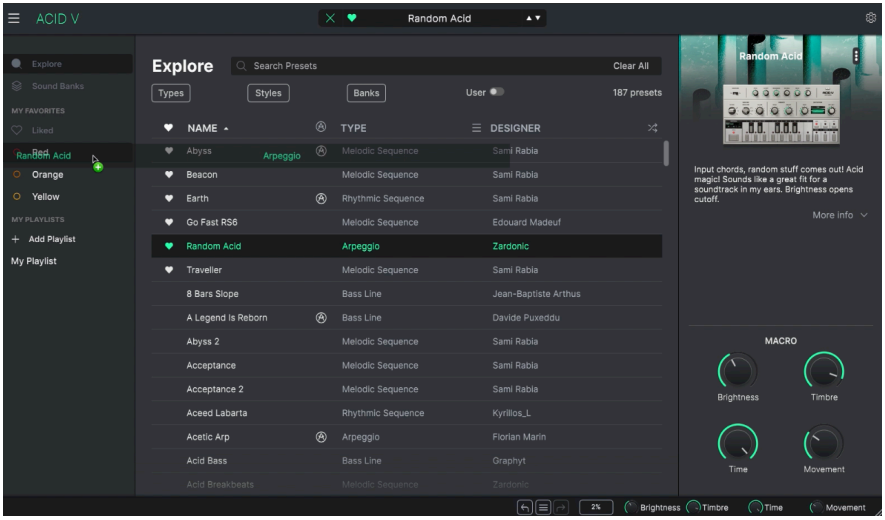


8.4.2. My Favorites

The middle part of the Sidebar has a menu called **My Favorites**, which allows you to color-code certain groups of Presets for easy access. It also includes the **Liked** group, so you can quickly find Presets you've marked with the heart icon.

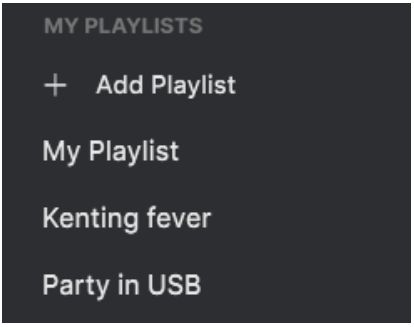
To decide which colors you'd like to display, hover over **My Favorites** and click **Edit**. Then use the toggle switches to select which colors you'd like to see or hide, and then click **Done**.

Please note that you can also rename these favorites into Bass, Leads, et cetera. Just right-click on the favorite and enter a new name.



To add Presets to a particular set of Favorites, simply drag-and-drop them over the appropriate color, or right-click the Preset name and select the color. Then click on the color itself to display your grouping.

8.4.3. My Playlists

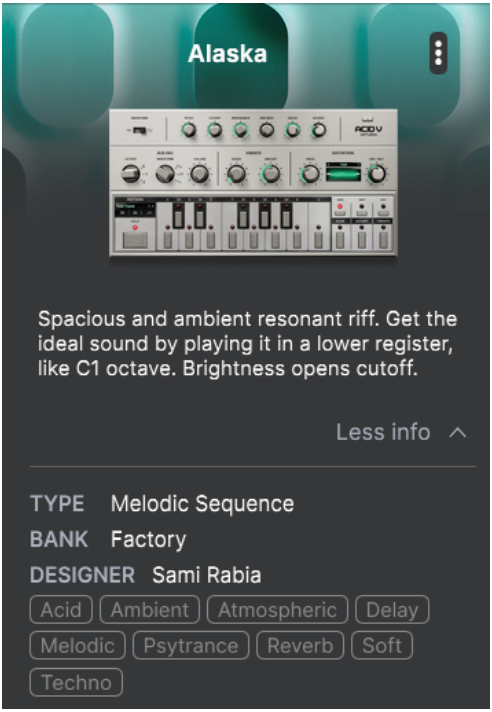


The bottom part of the sidebar displays any Playlists you have created or imported. Playlists are a very powerful management tool for set lists for gigs. Learn more about them in the Playlists section [p.95] below.

> ! If you don't see anything here, it is because you haven't created any Playlists yet. Head to the Playlists [p.95] section at the end of this chapter to find out how.

8.5. Preset Info Section

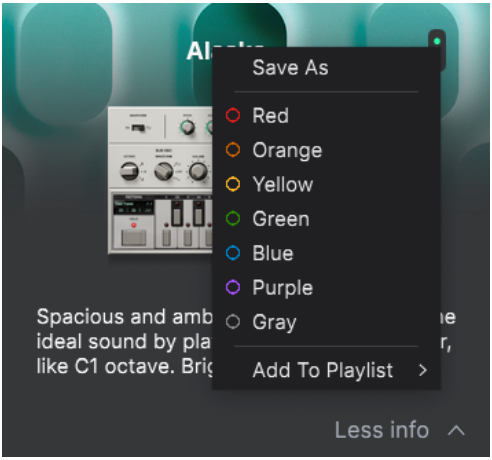
The right side of the browser window shows specific information about each Preset. The information for User Presets (but not Factory ones) may be changed here: Name, Type, Favorite, etc.



To make the desired changes, you can type in the text fields, use one of the pull-down menus to change the Bank or Type, and click the + sign to add or delete Styles.

Types and Styles changes you make here are reflected in searches. For example, if you remove the "Distorted" Style tag and then save that Preset, it will not show up in future searches for Distorted sounds.

Clicking on the three-dots icon at the top right pops up a menu with organizational options for the Preset.

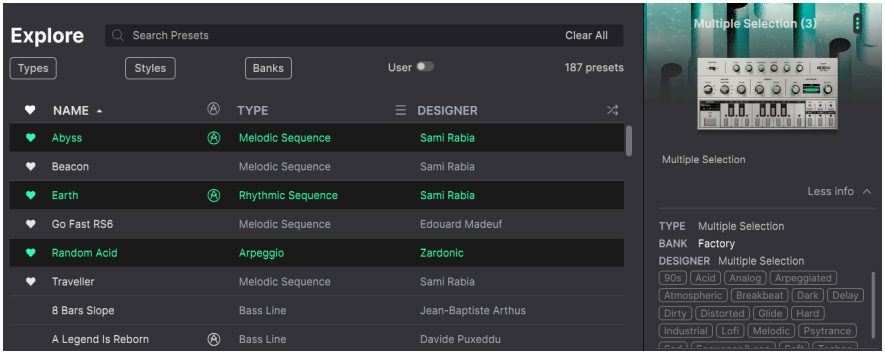


Options include *Save*, *Save As*, *Delete Preset*, and *Add to Playlist*, complete with an option to create a new Playlist. (You cannot overwrite or delete factory Presets, so the Save and Delete options may not appear.)

The dots with color icons allow you to add the Preset to a particular group of Favorites, which is described above.

8.5.1. Editing Info for Multiple Presets

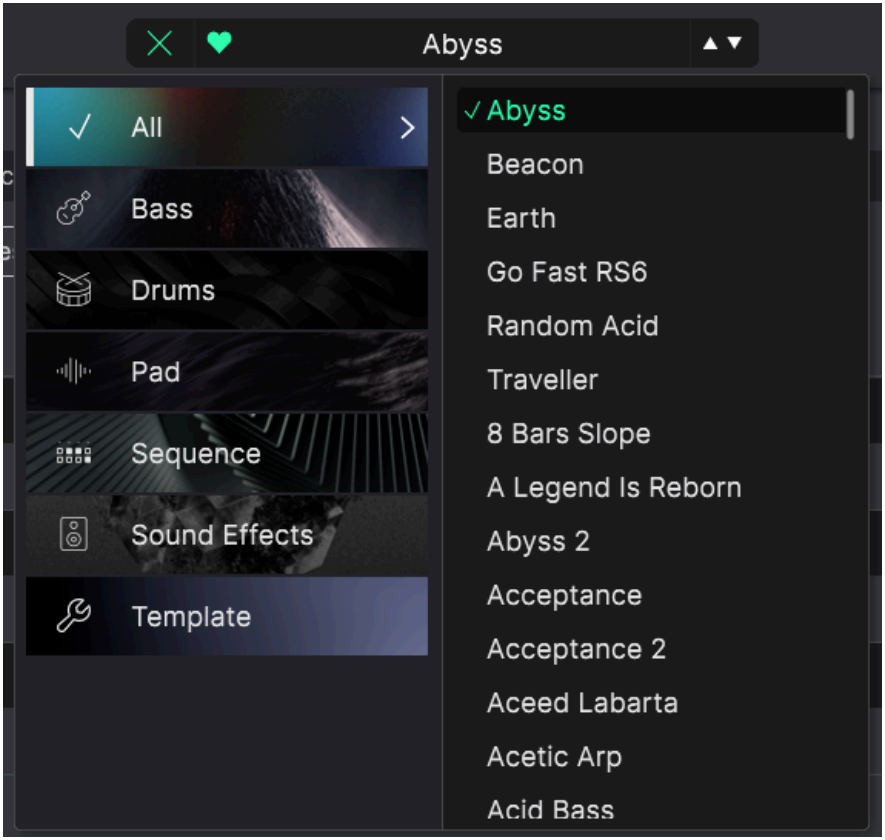
If you'd like to move several Presets to a different bank while preparing for a performance, or enter a single comment for several Presets at the same time, it's easy to do. Simply hold command (macOS) or ctrl (Windows) and click the names of the Presets you want to change in the Results list. Then enter the comments, change the Bank or Type, etc., and save the Preset.



> ♪ If you want to alter the information for a Factory Preset you must first use the *Save As* command to re-save it as a User Preset. After this the Info section will gain Edit and Delete buttons at the bottom of the window.

8.6. Preset Selection: Other Methods

Click on the Preset name in the center of the Upper Toolbar to bring up a drop-down menu. The first option in this menu is *All Presets*, and it brings up a submenu of literally every Preset in the current bank.



Below this are options that correspond to the Type tags. Each of these brings up a submenu of all Presets of its Type.

If you have an active search by Type and/or Style, the up/down arrows to the right of the Preset name will step through only the results that conform to your search.

However, *All Presets* in the drop-down menu always ignores those criteria. Likewise for the Type choices below the line – they always include all Presets within that Type.

8.7. Macro Knobs

These are simply larger duplicates of the Macro knobs in the Lower Toolbar and on the Macros tab. Move one and its partner moves with it.

Assigning parameters to Macros is covered in the Macro Tab [p.81] section of Chapter 7.

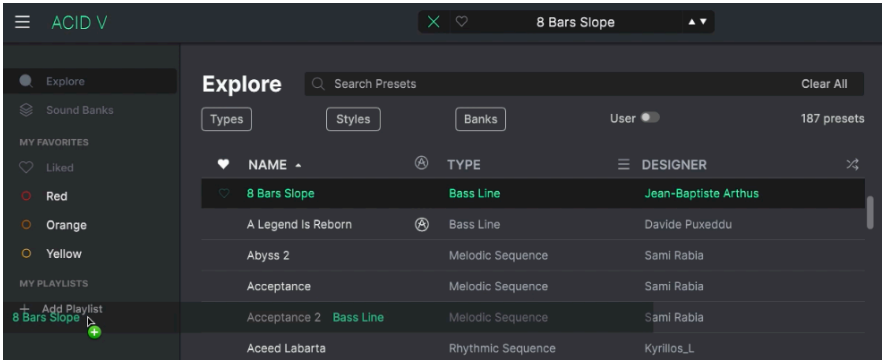
8.8. Playlists

Playlists are a way to collect Presets into different groups for different purposes, such as a set list for a particular performance or a batch of Presets related to a particular studio project. Within a Playlist, Presets can be reordered and grouped into Songs, a handy addition to a set list.

The subheading *My Playlists* appears under **My Favorites** in the Sidebar. However, when you first start using Acid V, you'll have no Playlists yet, and *My Playlists* won't be there yet. To make it appear, you'll have to create your first Playlist.

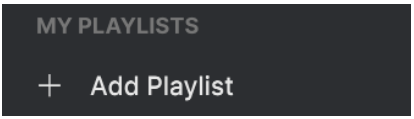
8.8.1. Create your first Playlist

To get started, drag any Preset to the Sidebar. The *My Playlists* heading will appear, along with a **+ New** icon. Drop the Preset onto the **+ New** icon, and you will then be given a pop-up to name your first Playlist. Once you've created one Playlist, the *My Playlists* heading will become a permanent part of the Sidebar.



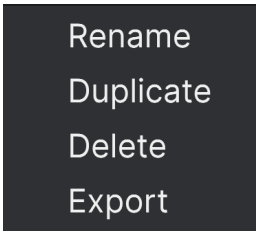
8.8.2. Add a Playlist

To add a Playlist, hover your mouse over the *My Playlists* heading and click the **+ New** icon when it appears.



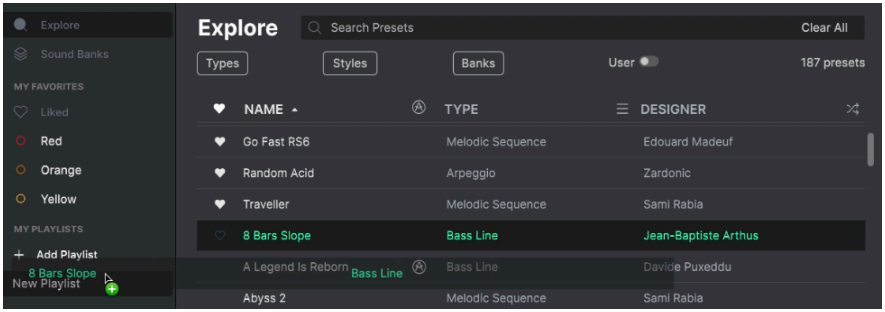
Give the Playlist a name and it will appear in the Playlists menu in the Sidebar.

Once you've created some Playlists, right-clicking on a Playlist name will pop up a set of options – you can *Rename*, *Delete*, or *Export* the Playlist to your computer, as a file with the ".aplst" extension.



8.8.3. Add a Preset

You can use all of the options in the Explore window to locate Presets for your Playlist. When you find a desired Preset, click-drag it onto the Playlist name.

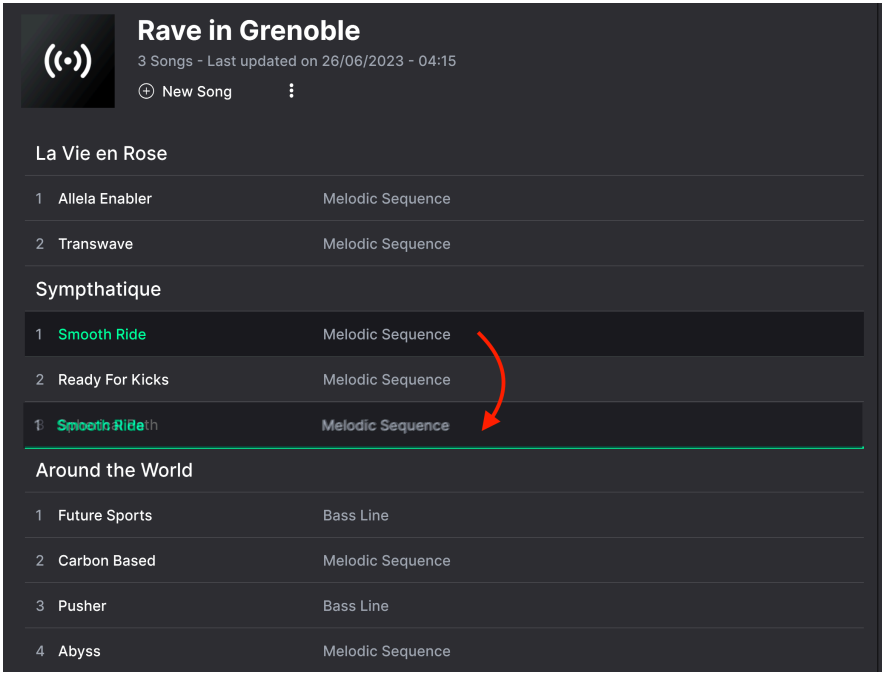


Dragging a preset to a Playlist

To view the contents of a Playlist, click on the Playlist name.

8.8.4. Re-order the Presets

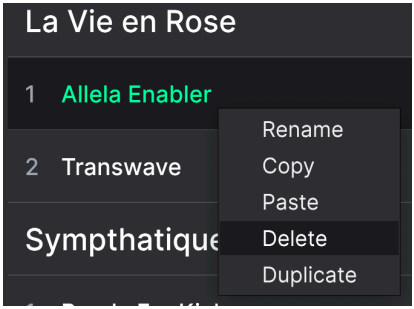
Presets may be reorganized within a Playlist. For example, to move a Preset from slot 3 to slot 4, drag and drop the Preset to the desired location.



This will move other Presets up in the list to accommodate the new location of the Preset you just moved. A bright green line will briefly appear at the "insert point."

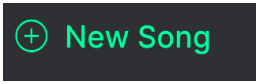
8.8.5. Remove a Preset

To delete a Preset from a playlist, select the Playlist, then right-click on the Presets name in the Results Pane to bring up a pop-up menu. This will only delete the Preset *from the Playlist*, not delete the Preset from the Acid V browser!



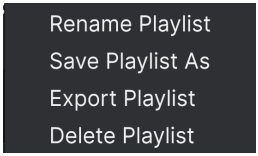
This menu also includes **Rename**, **Copy**, **Paste**, and **Duplicate** options. More management options are described below.

8.8.6. New Song and Playlist Management



The **New Song** button creates a new Song at the bottom of the Playlist. You can name it, then click and drag it to position it in the Playlist and add Presets to it in the desired order. You can have multiple songs in each Playlist, and if drag a song by its title, it brings all its Playlists with it – in order!

To access other Playlist management options, click on the three-dots icon next to the **New Song** button. This brings up a pull-down menu:



- **Rename Playlist**: Renames the current Playlist without making a copy.
- **Save Playlist As**: Creates a duplicate of the playlist with "Copy" appended to the name. You can change the name before saving.
- **Export Playlist**: Exports your Playlist to a location on your computer, with the filename extension "aplst."
- **Delete Playlist**: Deletes the current Playlist but does *not* delete any of the Presets in it.

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