VEIRA

MODULAR SYNTHESIZER

VEIRA System 1

User Manual

A patchable modular synthesizer in a walnut cabinet: three rows of black modules, big knobs and cables you drag from jack to jack, in the spirit of the 1970s modular systems.



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Welcome

Thank you for choosing **VEIRA System 1**. It is a patchable modular synthesizer: three rows of modules in a walnut cabinet, black panels with cream silkscreen, big knobs, and cables you drag from jack to jack. It is an original design in the spirit of the 1970s modular systems, and it plays as an instrument in your DAW.

Nothing is wired for you except a simple starting voice: you decide where every signal goes. A cable can carry sound or control, at audio rate, anywhere, including back into itself. That makes System 1 a place to learn how synthesis works, and a place to find sounds no fixed synthesizer makes.

What makes it different

- **Real patching.** Drag a cable from any output to any input. One output feeds as many inputs as you like; feedback loops are allowed.
- **It plays with no cables.** Behind the panel, normals connect a complete voice, so Init already plays. Every cable you add changes one connection.
- **True polyphony.** Up to eight voices, each the whole patch, with its own filters, folder and envelopes.
- **A full system of modules:** three VCOs with hard sync and audio-rate FM, noise, two LFOs, slew, mults, a mixer, a ring modulator, a wavefolder, a 24 dB ladder filter, a state-variable filter, two VCAs, three attenuverters, two envelopes, an eight-step sequencer and an output stage with tape-style drive and a bucket-brigade delay.
- **Every knob is a parameter.** 72 knobs and switches, all automatable. The cables are the patch, saved with your session and in presets.
- **46 factory patches** in 9 folders, each with a note on what it does, levelled to play at about the same loudness.

How this manual is organised. *Getting started* installs and activates the plugin. *The panel at a glance* names the parts of the cabinet. *How a modular synthesizer works* is a short primer, and *Patching* explains the cables and the normals. One chapter per row describes every module. *Voices and the output* covers polyphony, the output stage and the delay. *Presets*, *Recipes*, *Specifications* and *Troubleshooting* close the manual.

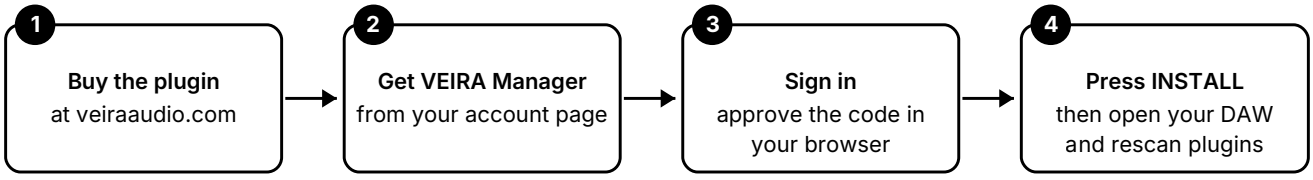
Getting started

What you need

macOS	macOS 11 Big Sur or later. Native on Apple silicon and Intel Macs (universal).
Windows	Windows 10 or 11, 64-bit.
Plugin formats	VST3 (macOS and Windows), Audio Units (macOS), and a standalone app. Pro Tools (AAX) versions arrive once they are signed for Pro Tools.
Hosts	Any DAW that loads VST3 or Audio Units: Logic Pro, Cubase, Nuendo, Ableton Live, Studio One, Reaper, FL Studio, Bitwig and others.
Account	A VEIRA account at veiraaudio.com, and the free **VEIRA Manager** app.
Internet	Needed to install and to refresh the licence. The plugin itself never goes online.

Install with VEIRA Manager

VEIRA plugins are not downloaded from the website one by one. You install them with **VEIRA Manager**, the free VEIRA app that installs, updates and activates everything you own. Its own manual covers it in full; the short version is:



One account works on up to three computers. Updates are free for life.

FIGURE 1 From purchase to first sound in four steps.

1. **Buy** VEIRA System 1 at **veiraaudio.com**. It's a one-time purchase: you own it for good, with free updates.
2. **Download VEIRA Manager** from your account page (or veiraaudio.com/manager) and install it.
3. **Sign in.** VEIRA Manager shows a short code and opens your browser; confirm the code there. Your password is never typed into the app.
4. Find VEIRA System 1 in the list and press INSTALL. When it says SHOW, it's installed. Open your DAW and let it rescan its plugins.

After installing, VEIRA System 1 appears in your DAW under the manufacturer **VEIRA** (in Logic Pro: Audio Units ▸ VEIRA ▸ VEIRA System 1).

Activation and the licence

VEIRA Manager keeps a licence on your computer that the plugins check. It is refreshed every time VEIRA Manager opens and stays valid for 30 days offline, so you can work without internet as long as you open VEIRA Manager now and then.

Without a valid licence, VEIRA System 1 still loads and works, but **its sound fades out for 1.5 seconds every 30 seconds**, and a strip along the bottom of its window says why (for example, *NOT ACTIVATED ON THIS COMPUTER. SIGN IN WITH VEIRA MANAGER.*). Clicking the strip opens your account page.

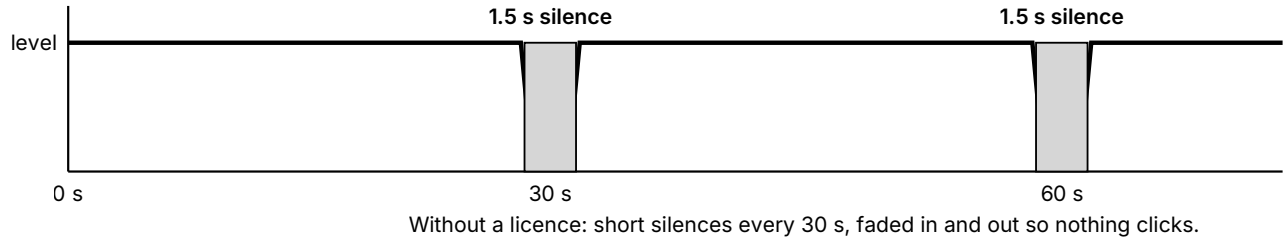


FIGURE 2 What an unlicensed copy does. With a valid licence the audio is never touched.

- **Activating while your DAW is open** takes effect within about two minutes. You don't need to reload the plugin.
- **"Not activated on this computer"**: open VEIRA Manager and sign in.
- **"Expired"**: open VEIRA Manager while online; it renews the licence at once.
- **"Not included"**: the signed-in account doesn't own VEIRA System 1. Check that you're signed in with the account you bought it with.

Formats and where the files go

VEIRA Manager puts every format in the standard place, so you never need to copy files by hand:

Format	macOS	Windows
VST3	`~/Library/Audio/Plug-Ins/VST3` (just for me, the default) or `/Library/Audio/Plug-Ins/VST3` (all users)	`C:\Program Files\Common Files\VST3` (all users, the default) or `%LOCALAPPDATA%\Programs\Common\VST3`
Audio Units	`~/Library/Audio/Plug-Ins/Components` or `/Library/Audio/Plug-Ins/Components`	(Audio Units are macOS only)
Standalone	`~/Applications/VEIRA` or `/Applications/VEIRA`	`C:\Program Files\VEIRA` or `%LOCALAPPDATA%\Programs\VEIRA`

You choose *just for me* or *all users* in VEIRA Manager's install settings.

The standalone app runs VEIRA System 1 on its own, with your audio interface's input and output, which is handy for trying presets without a DAW.

The panel at a glance



FIGURE 3 VEIRA System 1 with a patch of cables: 1 the header with the preset browser, 2 row 1, the sources, 3 row 2, the shapers, 4 row 3, the envelopes, the sequencer and the output.

	Part	What it holds
1	Header	The preset browser, SAVE, and the version.
2	Row 1: sources	MIDI, VCO 1, VCO 2, VCO 3, NOISE, LFO 1, LFO 2, SLEW, MULT.
3	Row 2: shapers	MIXER, RING, FOLDER, VCF, SVF, VCA 1, VCA 2, ATTENUVERTERS.
4	Row 3: time and output	ENV 1, ENV 2, SEQUENCER, OUTPUT, VOICES.

Every module has its name at the top, its knobs in the middle and its jacks at the bottom. **Cream boxes are outputs; black jacks are inputs**, as the legend under VOICES reminds you.

Quick start: your first patch in three moves

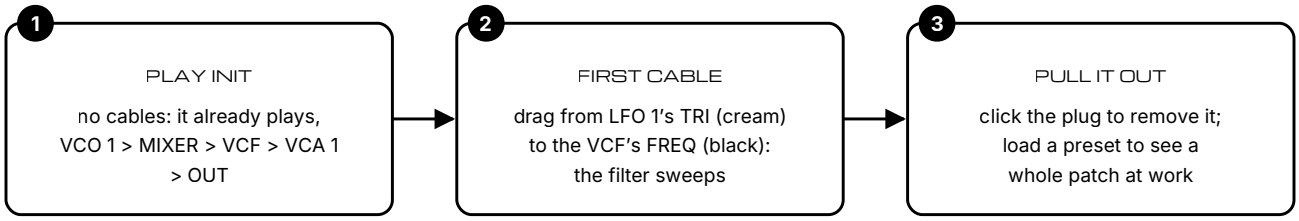


FIGURE 4 The quickest way in. Then try the presets: each one is a whole patch, knobs and cables, with a note.

Using the controls

Every VEIRA plugin is played like a piece of hardware. The same few parts appear on every panel:

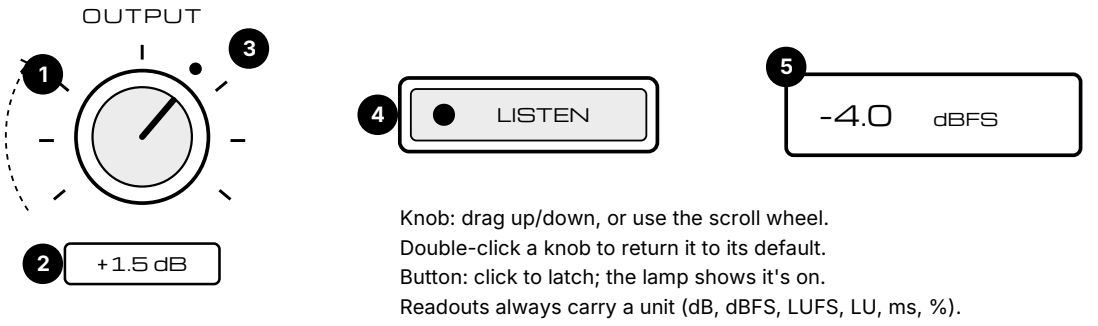


FIGURE 5 The parts you'll find on every VEIRA panel (the labels are examples).

- 1 **Knob.** Drag up to turn it clockwise, down to turn it back, or use your mouse wheel. **Double-click** returns it to its default. The engraved pointer and the small dot on the scale show where it's set.
- 2 **Value window.** The backlit window under each knob shows its exact value with its unit.
- 3 **Silkscreen label.** The control's name, as it appears in your DAW's automation list.
- 4 **Push button.** Click to switch on; the lamp lights and the cap sits lower in its bezel. Click again to switch off.
- 5 **Readout.** Live numbers update ten times a second so you can read them while the meters move. A value over 0 dBFS shows as a warning.

Tooltips: hover over any control or display for a short explanation. On displays, the tooltip depends on where you point.

Automation: every knob and button is a host parameter, so you can automate it in your DAW and control it from a MIDI controller or control surface that your DAW maps.

Units: VEIRA never shows a bare number. **dBFS** is level against digital full scale (0 dBFS is the loudest a digital signal can be); **dB** is a change in gain; **LUFS** is loudness as streaming services and broadcasters measure it; **LU** is a difference in loudness (1 LU = 1 dB).

On VEIRA System 1's panel the parts look a little different from the drawing above:

- **Knobs show their value printed beneath them** in cream (900 Hz, 40 %, -1 oct). Drag up and down or use the wheel; right-click a knob (Control-click on a Mac) to type a value; double-click for its default.
- **Switches:** the sequencer's RUN and SYNC are bat-handle toggles.
- **Lamps:** each LFO blinks at its rate, the sequencer lights the step it plays, VOICES lights a lamp per playing voice, and the output's PEAK lamp warns of overload.
- **Jacks and cables** are described in *Patching*. Hover any input to see what it hears with no cable (its normal).
- **Resize the window:** drag its bottom-right corner. It scales from 50 % to 150 % of its full size (1480 × 1300 points) and opens at 70 %. Your DAW saves the size with the session.

How a modular synthesizer works

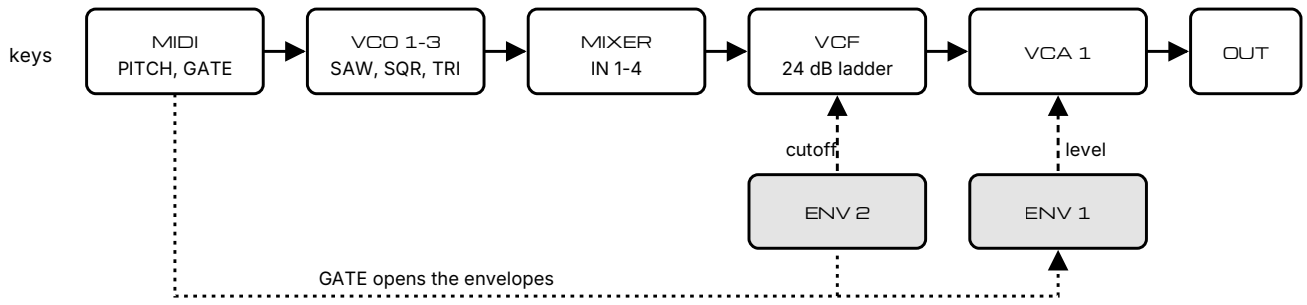
If you have patched a modular before, skip to *Patching*.

A fixed synthesizer wires its parts together for you: oscillator into filter into amplifier. A **modular** synthesizer leaves the wiring to you. Each module does one job, and cables connect them. There are three kinds of job:

- **Sources** make a signal: oscillators (VCOs) make tones, noise makes noise, LFOs make slow waves, envelopes make shapes in time, the sequencer makes a pattern of notes.
- **Shapers** change a signal: the mixer adds signals together, filters take frequencies away, the folder and the ring modulator add new ones, the VCAs change the level.
- **Control** tells a module what to do: a cable into an input marked FREQ, PITCH, CV or FM moves that parameter with another signal. An LFO into the filter's FREQ makes it sweep; an envelope into a VCA's CV shapes each note's level.

In System 1 every signal is the same kind: anything can go anywhere. An LFO can be heard, an oscillator can modulate a filter at audio rate, and a filter's output can feed back into an oscillator.

The normalled patch



The normalled patch (Init): what plays with no cable at all. Any cable you plug in replaces the normal at that input.

FIGURE 6 What System 1 plays with no cables: the classic subtractive voice.

With no cable in an input, the input hears its **normal**, a fixed connection behind the panel. The normals make a complete voice: MIDI pitch into all three VCOs; VCO 1's saw, VCO 2's square, VCO 3's triangle and the noise into the mixer's four inputs (heard at their mixer levels); the mixer into the VCF; the VCF into VCA 1, opened by ENV 1; ENV 2 on the VCF's cutoff; VCA 1 to the output; MIDI gate on both envelopes. The ring modulator hears VCO 1's and VCO 2's sines, the folder and the SVF hear the mixer, VCA 2's CV hears ENV 2, and the attenuverters hear a steady +1 (so their knobs are offsets).

Patching

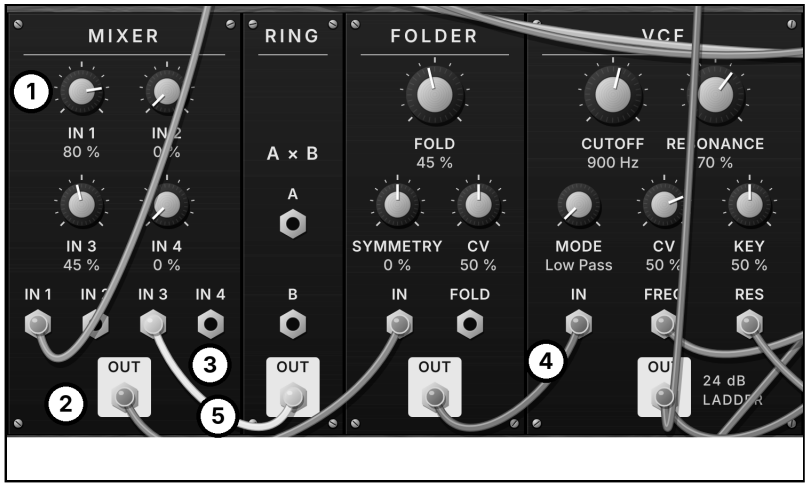


FIGURE 7 Part of row 2 with a patch: 1 a knob and its value, 2 an output (a cream box), 3 an empty input (a black jack), 4 a plug in an input, 5 a cable.



one output feeds any number of inputs

an input takes one cable: a new one replaces the old (dashed)

Grey boxes are outputs (cream on the panel); circles are inputs (black jacks). A cable can be drawn either way.

FIGURE 8 The two rules of patching.

- **Make a cable:** drag from an output (a cream box) to an input (a black jack). You can also start at an input and drag back to an output.
- **One output, many inputs.** Drag as many cables from one output as you like. The MULT module also splits one signal three ways, for tidy patches.
- **One input, one cable.** Plugging a new cable into an input replaces the one that was there.
- **Remove or move a cable:** click its plug in the input to pull it out, or drag the plug onto the panel or to another input.
- **Colours:** cables take seven colours in turn, and droop with their length.
- **Normals:** an empty input hears its normal; plugging in replaces it. Hover an input to see its normal.
- **Feedback is allowed.** An input fed from later in the chain hears the previous sample, so loops like a filter feeding its own oscillator's FM are stable and musical.

> **Tip:** pull a preset's cables out one by one to hear what each does.

Row 1: sources

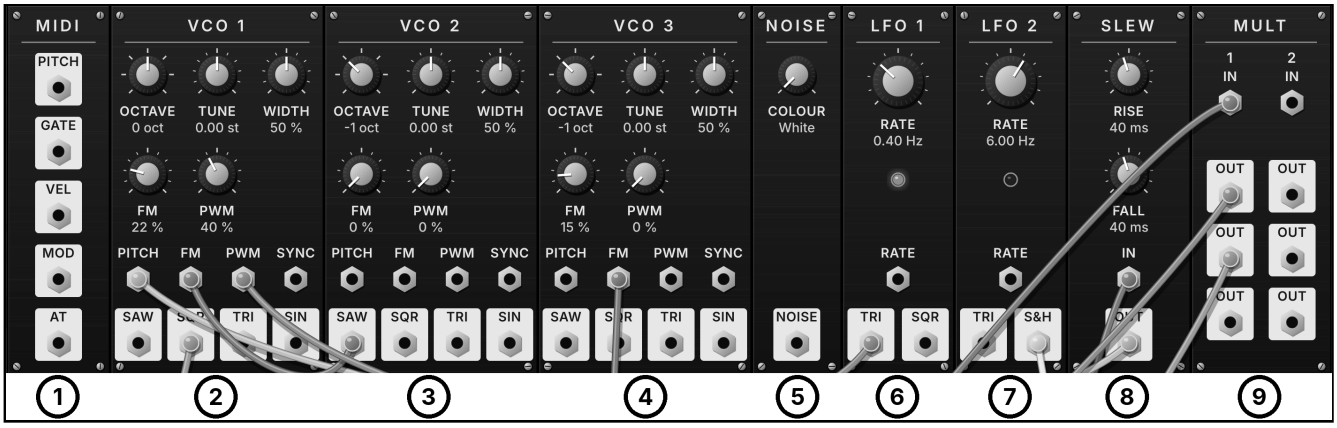
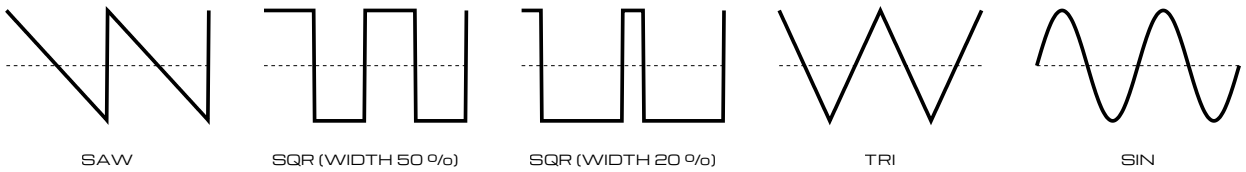


FIGURE 9 Row 1: 1 MIDI, 2 VCO 1, 3 VCO 2, 4 VCO 3, 5 NOISE, 6 LFO 1, 7 LFO 2, 8 SLEW and 9 MULT.

MIDI

The keyboard's way in. Its outputs: PITCH (1 V per octave, the VCOs' normal), GATE (on while a key is held, the envelopes' normal), VEL (velocity), MOD (the mod wheel) and AT (aftertouch). Patch VEL into a filter's FREQ or AT into a VCA's CV to play with touch.

VCO 1, VCO 2 and VCO 3



Each VCO has all four outputs at once. WIDTH sets the square's pulse width (5 to 95 %); PWM moves it.

FIGURE 10 The four outputs of every VCO, all available at once.

Control	Range	Default	What it does
OCTAVE	−3 to +3 oct	0 (VCO 3: −1)	Octave steps.
TUNE	−7 to +7 st	0.00 st	Fine and interval tuning.
WIDTH	5 to 95 %	50 %	The square's pulse width.
FM	0 to 100 %	0 %	Depth of the FM input.
PWM	0 to 100 %	0 %	Depth of the PWM input.

Inputs: PITCH (normalled to MIDI pitch), FM (frequency modulation, at audio rate), PWM (moves the pulse width) and SYNC (hard sync: the oscillator restarts at each cycle of the signal you patch in). Outputs: SAW, SQR, TRI and SIN.

- **Detune** two VCOs a few cents with TUNE for a thick, beating sound (*Leads* ▸ *Saw Lead*).
- **Hard sync:** patch VCO 2's SQR into VCO 1's SYNC and sweep VCO 1's pitch for the classic tearing sound (*Leads* ▸ *Sync Lead*).
- **FM:** patch one VCO's SIN into another's FM for bell and metallic tones (*Keys* ▸ *FM Tines*).
- **PWM:** an LFO into PWM gives the slow chorus of a moving pulse (*Pads* ▸ *PWM Pad*).

The oscillators run at four times the sample rate with band-limited waveforms, so even high notes stay clean (a saw at C7 aliases at −77 dB).

NOISE

COLOUR chooses **White** (bright, all frequencies equally) or **Pink** (darker, equal energy per octave). Use it for snares, hats, wind and breath (*Percussion* ▸ *Noise Snare*, *FX & Drones* ▸ *Night Wind*). It is the mixer's IN 4 normal.

LFO 1 and LFO 2

Control	Range	Default	What it does
RATE (LFO 1)	0.02 to 200 Hz	1 Hz	How fast.
RATE (LFO 2)	0.02 to 200 Hz	4 Hz	How fast.

LFO 1 has TRI and SQR outputs; LFO 2 has TRI and S&H (sample and hold: a new random value at each cycle). Each has a RATE input to modulate its speed, and a lamp that blinks with it. Up to 200 Hz they reach into audio rate, for growls and sidebands (*Experimental* ▸ *Audio Rate LFO*).

SLEW

RISE and FALL (1 ms to 5 s, default 50 ms) slow down how fast a signal can rise and fall. Put MIDI PITCH through it for glide (*Bass* ▸ *Glide Sub*), or smooth an LFO's random steps into gentle drifts (*FX & Drones* ▸ *Night Wind*).

MULT

Two passive multiples, each one IN copied to three OUTs. Any output can already feed many inputs; the mult keeps a patch tidy, and lets you see where a signal goes.

Row 2: shapers

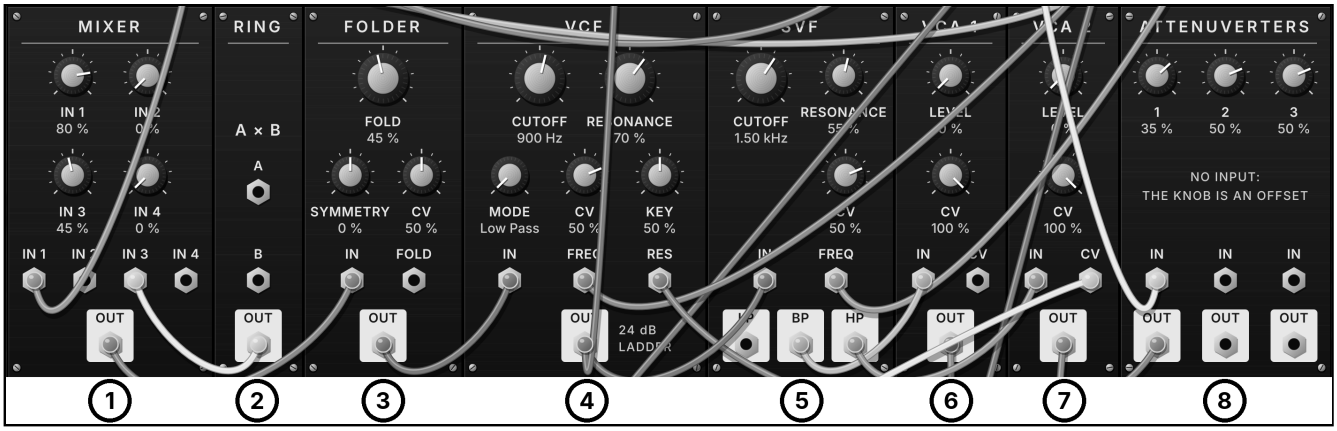


FIGURE 11 Row 2: 1 MIXER, 2 RING, 3 FOLDER, 4 VCF, 5 SVF, 6 VCA 1, 7 VCA 2 and 8 ATTENUVERTERS.

MIXER

Four inputs with a level each (IN 1 default 80 %, the others 0 %), one OUT. Normalled to VCO 1's saw, VCO 2's square, VCO 3's triangle and the noise, so turning up IN 2 to IN 4 brings in the other sources with no cables. Feed a filter's output back into IN 4 for a loop that howls (*Experimental* ▸ *Mixer Feedback*).

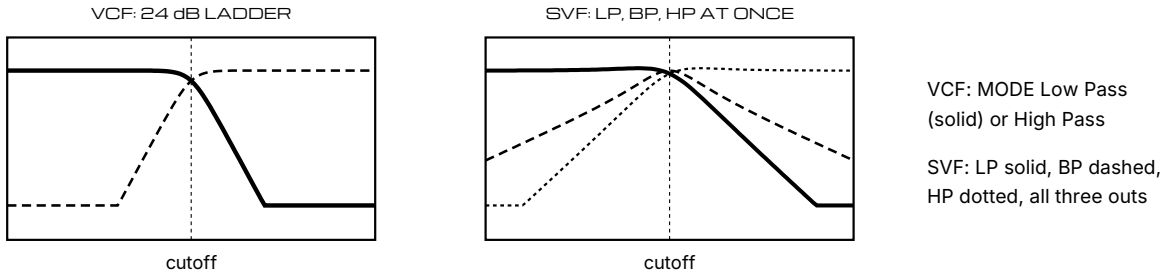
RING

A ring modulator: OUT is A × B. Two tones multiplied give their sum and difference frequencies: bells, metal and hollow sounds (*Keys* ▸ *Ring Bells*). Normalled to VCO 1's and VCO 2's sines. It also works as a VCA: multiply a sound by an envelope or by the mod wheel.

FOLDER

A sine wavefolder: the louder the signal, the more it folds back on itself, adding bright harmonics. FOLD (0 to 100 %, default 30 %) sets how far, SYMMETRY (−100 to +100 %) makes the folding uneven, and CV (default 50 %) sets the depth of the FOLD input. Its IN hears the mixer. An envelope into FOLD makes each note start bright and fold down (*Bass* ▸ *Fold Bass*).

VCF: the 24 dB ladder



The ladder rings by itself above about 95 % RESONANCE; at KEY 100 % its cutoff follows the keys.

FIGURE 12 The two filters.

Control	Range	Default	What it does
CUTOFF	20 Hz to 20 kHz	1.20 kHz	Where the filter cuts.
RESONANCE	0 to 110 %	20 %	Emphasis at the cutoff; above about 95 % it rings by itself.
MODE	Low Pass, High Pass	Low Pass	Which side it removes.
CV	−100 to +100 %	50 %	Depth of the FREQ input, either way.
KEY	0 to 100 %	50 %	How much the cutoff follows the keys (100 %: fully).

Inputs IN (the mixer), FREQ (ENV 2) and RES; output OUT. The ladder runs at twice the sample rate with a softly saturating input, so it growls when driven. Turn RESONANCE past 95 % with KEY at 100 % and it becomes a sine oscillator you can play (*Percussion* ▸ *Ping Tom*, *FX & Drones* ▸ *Self-Osc Drone*).

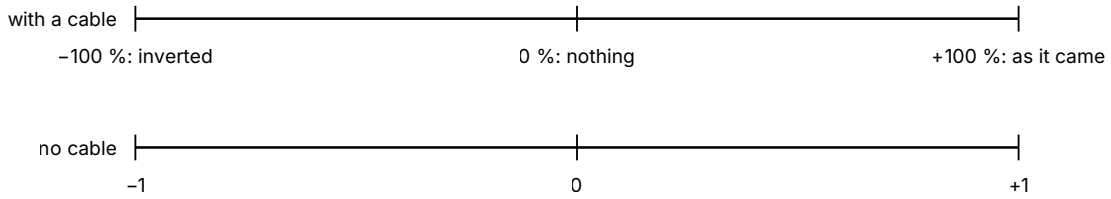
SVF: the state-variable filter

CUTOFF (20 Hz to 20 kHz, default 800 Hz), RESONANCE (0 to 100 %, default 30 %) and CV (−100 to +100 %, the FREQ input's depth). Three outputs at once: LP, BP and HP. Its IN hears the mixer. The band-pass makes formants, reeds and vowel-like sounds (*Leads* ▸ *Reed Lead*, *Pads* ▸ *Stereo Choir*).

VCA 1 and VCA 2

LEVEL (0 to 100 %, default 0 %) opens the amplifier with no CV, for drones; CV (default 100 %) sets the depth of the CV input. VCA 1 hears the VCF and is opened by ENV 1; VCA 2's CV hears ENV 2 and its IN is free, for a second voice path or a stereo patch.

ATTENUVERTERS



An ATTENUVERTER scales or inverts what comes in; with nothing patched, its knob is an offset from −1 to +1.

FIGURE 13 What an attenuverter does.

Three of them, each with a knob (−100 to +100 %, default 50 %), an IN and an OUT. With a cable in, the knob scales the signal, or inverts it below 0. With nothing patched, the knob is an **offset** from −1 to +1, as the panel says: a steady voltage to patch anywhere. *Bass* ▸ *Acid Ladder* scales velocity into the ladder's resonance this way.

Row 3: time and output

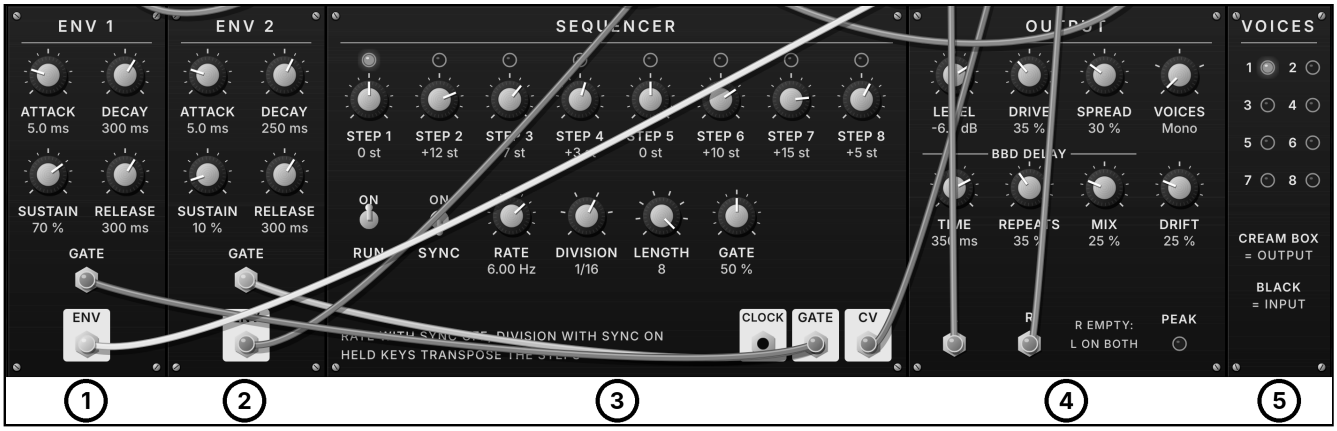
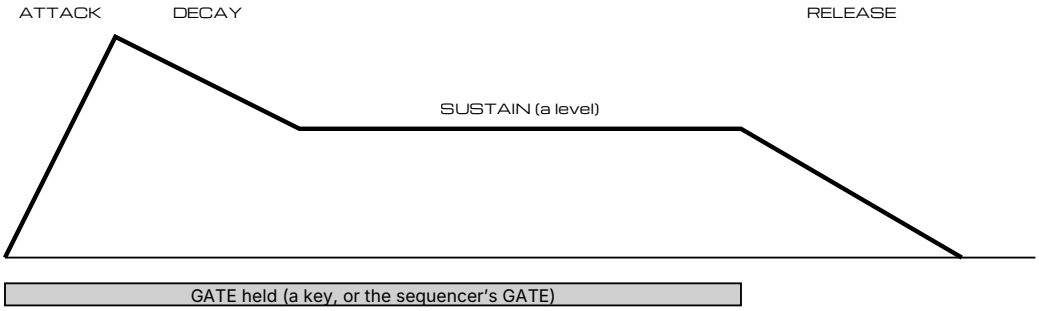


FIGURE 14 Row 3: 1 ENV 1, 2 ENV 2, 3 the SEQUENCER, 4 OUTPUT and 5 VOICES.

ENV 1 and ENV 2



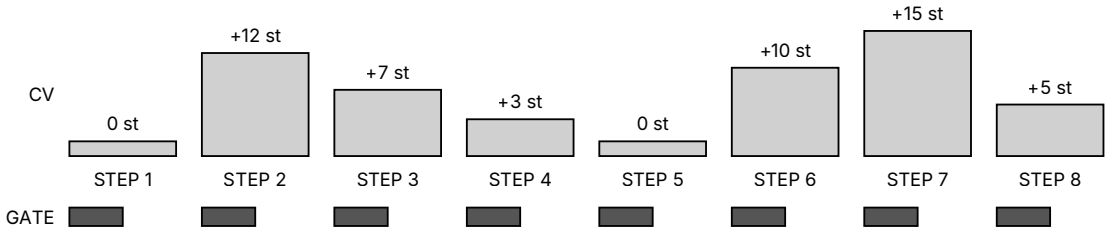
ENV 1 and ENV 2: times from 0.5 ms to 10 s, SUSTAIN 0 to 100 %. Each has its own GATE input.

FIGURE 15 An ADSR envelope.

Control	Range	Default (ENV 1 / ENV 2)
ATTACK	0.5 ms to 10 s	5 ms / 5 ms
DECAY	1 ms to 10 s	300 ms / 400 ms
SUSTAIN	0 to 100 %	70 % / 30 %
RELEASE	1 ms to 10 s	300 ms / 300 ms

Each envelope starts when its GATE input opens (MIDI gate by default) and outputs its shape at ENV. ENV 1 shapes VCA 1's level; ENV 2 moves the VCF's cutoff and VCA 2. Patch ENV 2 into a VCO's PITCH or FM for kicks and zaps (*Percussion* ▸ *Analog Kick*, *FX & Drones* ▸ *Laser Zap*), or patch the sequencer's GATE into the envelopes' GATE inputs.

SEQUENCER



Eight steps of ±24 semitones; LENGTH plays the first 1 to 8; GATE sets how long each note holds (here 50 %). SYNC on: DIVISION of the host's tempo (1/4 to 1/32, triplets); off: RATE. Held keys transpose the steps.

FIGURE 16 An example sequence.

Control	Range	Default
STEP 1 to STEP 8	−24 to +24 st	0 st
RUN	on / off	off
SYNC	on / off	on
RATE	0.5 to 20 Hz	4 Hz (with SYNC off)
DIVISION	1/4, 1/8, 1/8T, 1/16, 1/16T, 1/32	1/16 (with SYNC on)
LENGTH	1 to 8	8
GATE	5 to 95 %	50 %

Outputs: CLOCK, GATE and CV; a lamp lights each step as it plays. With SYNC on, it follows your DAW's tempo at the chosen DIVISION; with SYNC off, it runs at RATE. Patch CV into the VCOs' PITCH and GATE into the envelopes' GATE, and **held keys transpose the sequence** (C4 plays it as written). LENGTH shorter than 8 makes patterns that shift against the bar (*Sequences* ▸ *Five Step Pulse*). Start with *Sequences* ▸ *Berlin Steps*.

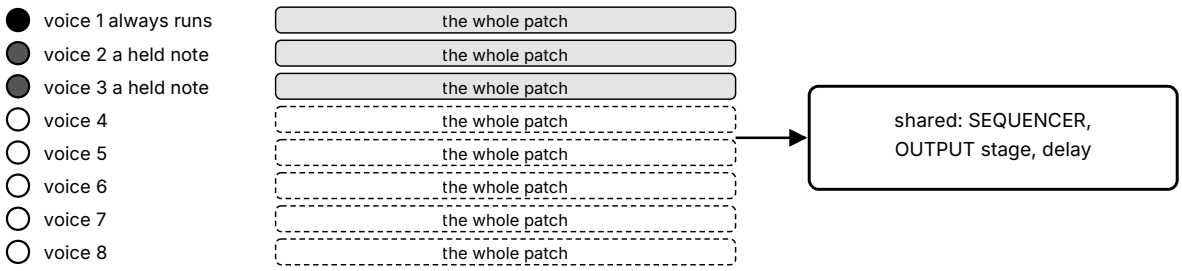
Voices and the output

OUTPUT

Control	Range	Default	What it does
LEVEL	−36 to +6 dB	−6 dB	The final level.
DRIVE	0 to 100 %	20 %	Tape-style saturation; 0 % is clean.
SPREAD	0 to 100 %	30 %	Spreads the voices across the stereo field.
VOICES	Mono, 2, 4, 6, 8	Mono	How many notes can play at once.
TIME	20 to 1000 ms	350 ms	The bucket-brigade delay's time.
REPEATS	0 to 95 %	35 %	How many echoes.
MIX	0 to 100 %	0 %	How much delay you hear.
DRIFT	0 to 100 %	25 %	A slow pitch wander and small differences between voices, like analog circuits.

Inputs L and R: L hears VCA 1; with R empty, L plays on both sides. Patch VCA 2 or a second filter into R for a stereo patch (*Pads* ▸ *Stereo Choir*). The PEAK lamp lights when the output overloads: lower LEVEL.

VOICES and polyphony



VOICES Mono, 2, 4, 6 or 8: each voice is the whole patch, so every note has its own filters, folder and envelopes.

FIGURE 17 How System 1 plays chords.

VOICES chooses **Mono** (the last note wins, legato) or 2, 4, 6 or 8 voices. Each voice is **the whole patch**: true polyphony, so every note of a chord has its own filter, folder, envelopes and feedback. Voice 1 always runs, like a powered-up modular, so drones and sequences play with no keys held; the other voices run while a note holds them and until they fall silent. The sequencer, the output stage and the delay are shared. The VOICES panel lights a lamp per playing voice. Eight voices of a patch using every module take about 20 % of one core; if your computer struggles, lower VOICES.

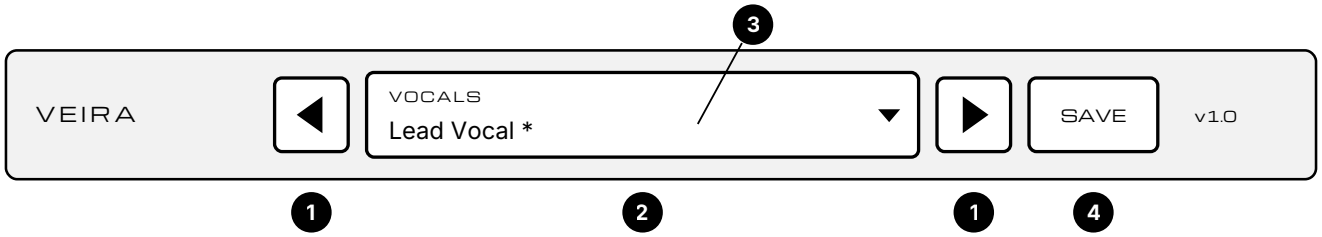
DRIFT gives each oscillator a slow wander and each voice small fixed differences in tuning and cutoff, so chords breathe. It is seeded, so a session renders the same each time.

Presets

VEIRA System 1 comes with **46 factory presets** in 9 folders. Each one is a starting point made for a real job. Load one close to what you need, then adjust the first control its note mentions.

The preset browser

The preset browser sits in the header, at the top of the window.



The header: logo and plugin name, then the preset browser, then the version.

FIGURE 18 The preset browser.

- 1 ◀ ▶ step to the previous or next preset, through every folder in order.
- 2 **The display** shows the folder (small, above) and the preset's name. Click it to open the preset menu. Hover over it to read the preset's note: what it's for and what to adjust first.
- 3 **An asterisk (*)** after the name means you've changed something since the preset loaded.
- 4 SAVE stores your current settings as a user preset.

The preset menu

Clicking the display opens a menu with:

- one submenu per **factory folder**, in the order shown below;
- **User Presets**, with your own presets in their folders;
- **Save...**, **Delete** (only for user presets: factory presets can't be deleted), **Rescan** (re-reads the user folder, if you copied presets in by hand) and **Show User Preset Folder** (opens it in Finder or Explorer).

Saving your own presets

1. Set VEIRA System 1 the way you like it.
2. Press SAVE. A dialog opens inside the plugin window.
3. Type a name, choose a folder or type a new folder name, and confirm.

Each user preset is one small .veirapreset file:

	Folder
macOS	~/Library/Audio/Presets/VEIRA/VEIRA System 1/<Folder>/
Windows	%APPDATA%\VEIRA\VEIRA System 1\Presets\<Folder>\

Copy these files to move your presets to another computer, or to back them up. Presets keep loading in future versions: any control added later simply starts at its default.

Presets in your DAW

The factory presets also appear in your DAW's own preset or program menu, named *Folder: Name* (for example *Vocals: Lead Vocal*). Whatever preset is selected is saved with your session and comes back when you reopen it, including the asterisk if you'd changed it.

The **Default ▸ Init** preset equals a fresh instance of the plugin: every control at its default.

The factory folders

Folder	Presets
Default	Init, First Cable
Bass	Rubber Bass, Glide Sub, Acid Ladder, Fold Bass, Sync Growl, Ring Bass
Leads	Saw Lead, Square Whistle, Screaming Ladder, Fold Lead, Sync Lead, Reed Lead
Pads	Analog Strings, PWM Pad, Glass Pad, Dark Swell, Stereo Choir
Keys	FM Tines, Clav Pluck, Sine Organ, Poly Brass, Ring Bells
Percussion	Analog Kick, Noise Snare, Metal Hat, Ping Tom, Noise Clap
Sequences	Berlin Steps, Ladder Arp, Slewed Line, Sample Hold Bleeps, Five Step Pulse, Clocked Ring
FX & Drones	Feedback Choir, Self-Osc Drone, Night Wind, Laser Zap, Deep Space
Experimental	Chaos Loop, Audio Rate LFO, Folded Feedback, Ring Cascade, Generative Bleeps, Mixer Feedback

Patches, not just settings. Each preset is a whole patch, knobs and cables, with a note on what it does; hover the preset name to read it. Each one's LEVEL was set so its folder's phrase plays at about −16 LUFS, or as loud as peaks under −3 dBFS allow. Some patches play with no keys held (*Always on* in their notes): the drones, *Generative Bleeps* and the sequences. Your own presets save their cables too.

Recipes

A classic bass from Init

1. Load **Default ▸ Init**. Set [VOICES] to Mono.
2. Turn the mixer's [IN 2] up to bring in VCO 2's square, and set VCO 2's [OCTAVE] to −1.
3. Lower the VCF's [CUTOFF], raise [RESONANCE] a little, and shorten ENV 2's [DECAY] for a plucky bass.

Vibrato on the mod wheel

1. Patch LFO 2's [TRI] into the RING's [A], and MIDI [MOD] into the RING's [B].
2. Patch the RING's [OUT] into VCO 1's [FM] and set its [FM] knob to about 10 %. The wheel now brings in vibrato (*Leads ▸ Square Whistle* does this).

A filter that sweeps itself

1. Patch LFO 1's [TRI] into the VCF's [FREQ]; set LFO 1's [RATE] slow, around 0.2 Hz.
2. Raise [RESONANCE] towards 80 % and set the VCF's [CV] to taste; negative [CV] sweeps the other way.

A sequence that plays by itself

1. Load **Sequences ▸ Berlin Steps**, or patch the sequencer's [CV] into VCO 1's [PITCH] and its [GATE] into ENV 1's and ENV 2's [GATE] inputs.
2. Turn [RUN] on. Set the steps, [LENGTH] and [GATE]; hold a key to transpose.

A drone

1. Turn VCA 1's [LEVEL] up: it now sounds with no keys.
2. Patch LFO 2's [S&H] through the [SLEW] into the VCF's [FREQ] for slow, random movement, and add delay [MIX].

Polyphonic pads

1. Load **Pads ▸ Analog Strings**, set [VOICES] to 8 and raise [SPREAD] and [DRIFT].
2. Lengthen ENV 1's [ATTACK] and [RELEASE] for slow swells.

Specifications

Type	Patchable modular synthesizer (instrument), in the spirit of the 1970s modular systems
Modules	MIDI, VCO 1-3, NOISE, LFO 1-2, SLEW, MULT (2), MIXER, RING, FOLDER, VCF (24 dB ladder), SVF, VCA 1-2, ATTENUVERTERS (3), ENV 1-2, SEQUENCER, OUTPUT (drive, spread, bucket-brigade delay, drift), VOICES
Patching	Drag cables from outputs to inputs; one output to many inputs; one cable per input; normals behind every input; feedback allowed; all signals at audio rate
Voices	Mono (legato, last-note priority) or 2, 4, 6, 8, each the whole patch; voice 1 always runs
Oscillators	4x oversampled, band-limited (a C7 saw aliases at −77 dB); hard sync; audio-rate FM
Filters	24 dB ladder, low or high pass, self-oscillating above about 95 % resonance, 2x oversampled; state-variable with LP, BP and HP outputs
Envelopes	ADSR, 0.5 ms to 10 s
LFOs	0.02 to 200 Hz
Sequencer	8 steps of ±24 st, synced to the host (1/4 to 1/32, triplets) or free (0.5 to 20 Hz); held keys transpose
Parameters	72 knobs and switches, all automatable; the cables are saved with the session and in presets
Output	Stereo or mono; MIDI in; no audio input
Latency	None
CPU	About 20 % of one core for eight voices using every module (48 kHz)
Presets	46 factory patches in 9 folders, plus your own
Window	1480 × 1300 points; resizable from 50 % to 150 %, opens at 70 %, saved with the session
Formats	VST3, Audio Units (instrument), standalone; AAX once signed
Plugin ID	Manufacturer Veir, plugin Vsys

Troubleshooting and questions

The sound drops out for a moment every 30 seconds. The plugin isn't activated on this computer. Open VEIRA Manager and sign in; the strip at the bottom of the plugin's window says exactly what's wrong. See *Getting started* ▸ *Activation and the licence*.

I don't see VEIRA System 1 in my DAW. It is an instrument: look for it where your DAW lists software instruments (in Logic Pro, as an instrument on a software instrument track), under the manufacturer **VEIRA**. Make sure VEIRA Manager shows SHOW (installed) for it, then rescan plugins.

I hear nothing when I play. Check that the track receives MIDI, and that the patch reaches the output: something must reach OUTPUT's L input (VCA 1, by default), and VCA 1 must be opened by an envelope or by LEVEL. Load *Default* ▸ *Init* to start from a voice that plays.

It makes sound with no keys held. That is the patch: a VCA's LEVEL is up, a filter is ringing by itself, the sequencer is running, or the preset is a drone. Turn VCA LEVEL down, RESONANCE down or RUN off.

I patched a cable and the sound didn't change. The input may already have heard the same signal through its normal, or its depth knob (FM, PWM, CV) is at 0 %. Turn up the depth.

A chord sounds like one note. VOICES is set to Mono. Choose 2 to 8 voices.

The PEAK lamp lights. The output is overloading: lower LEVEL, or the resonance or feedback that is building up.

Does it add latency? No.

Do my sessions keep my patch? Yes. Every knob, every cable, the selected preset and the window size are saved with your session.

Contact: support@veiraaudio.com. Mention your computer (Mac or Windows and its version), your DAW and version, and what you see.



VEIRA System 1 · User Manual · Version 0.1.0

Support: **support@veiraaudio.com** · Web: **veiraaudio.com**

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