INSTRUMENT DOCUMENTATION / ENGLISH EDITION

# PSynth3

## User Manual

Synthesis, Vector Core, modulation and effects

WINDOWS x64 / STANDALONE + VST3




HOME / INSTRUMENT OVERVIEW

HOME RECORDS
LABEL & SOUND LAB

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# Your First Sound

From opening the instrument to saving your first patch




**Fig. 01** The on-screen keyboard in PERFORM. Use it to check the audio path.

PSynth3 combines four oscillators (A-D), two filters, per-note and global modulation, and an effects rack. The standalone application runs on its own. The VST3 plug-in receives notes and automation from your DAW and recalls its state when you reopen the project.

1. Launch PSynth3 or open its editor on an instrument track in your DAW. Start at a comfortable monitoring level.
2. Click the preset name in the header. Choose **Factory**, find a sound under **Keys** or **Pad**, and load it from the list. **Play** in the browser plays a test phrase.
3. Close the browser and go to **PERFORM → VOICE / KEYBOARD**. Click a key to check the audio path, then play your controller or start a MIDI clip in your DAW.
4. Return to **HOME**. Move the **Vector Core** point and listen for changes in the selected layer. In **PERFORM → MACROS / MIDI**, try one of the named macros. Its function depends on the preset.
5. Click **SAVE** to save a copy to **User**. Give it a name and choose a bank. If you are using the plug-in, save the DAW project as well.

## When to start with INIT

A factory preset gets you playing quickly. **INIT** gives you a starting point for building a sound from scratch. Save the current patch first. After initializing, add sources, modulation and effects one at a time so you can hear what each stage contributes.

> If the on-screen keyboard works and your controller is silent, check the MIDI input and channel. If both are silent, start with the license status, audio output, Master level and output meter.

# Windows Installation

Standalone and VST3 setup, including audio and MIDI ports

Use the Windows x64 installer from the official product page. Save your projects and close your VST3 hosts before installing. The installer lets you choose the application folder and a separate VST3 folder. The standard location is **C:\Program Files\Common Files\VST3**. Keep the complete **PSynth3.vst3** bundle and its internal folders together.

## Standalone

1. Launch **PSynth3** from the Start menu. Audio device settings are in the standalone application's menu. If the title bar is hidden, restore it with **OPTIONS** → **Window** → **Show title bar**.
2. In Audio/MIDI Settings, select a driver and an active output. Choose a sample rate and buffer size that your device supports. Enable the MIDI input ports you intend to use.
3. Play an on-screen key and watch the meter beside **MASTER**. If you hear clicks or crackles, increase the buffer size before changing the sound.

## VST3 in a DAW project

1. In your DAW settings, check that the chosen VST3 folder is scanned. Refresh the instrument list.
2. Add **PSynth3** to an instrument track. Set its MIDI input, enable monitoring or arm the track, and select its audio output.
3. Record a few notes and save the project. Reopen it and check the sound and any custom wavetable dependencies.

> To move the installation, run the standard uninstaller first, then install to the new folder. Two copies in scanned VST3 folders can make it difficult to tell which version your host loaded.

**Official downloads**

# Account, Trial and Activation

OPTIONS → License / activation

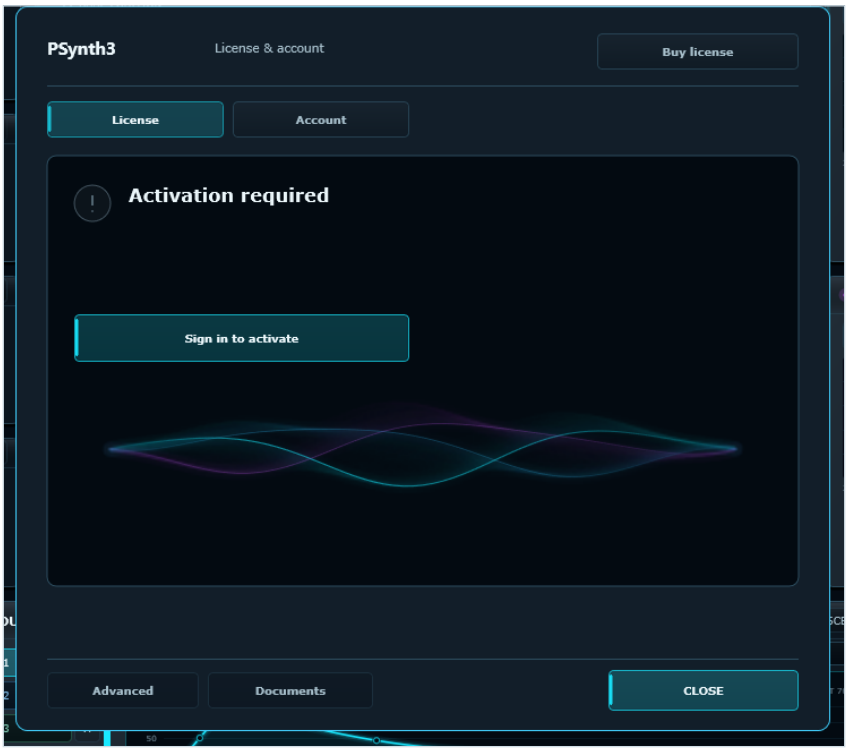



**Fig. 02** The license panel before sign-in. Account opens the sign-in flow, and Advanced contains offline tools.

Open the license panel from **OPTIONS** or click the activation notice in the header if audio is disabled. The panel shows your account session and audio access. For a first installation, follow the online steps or use the offline procedure on the next page.

## Sign in and start a trial

1. In **Account** → **Sign in**, enter the email address for your Home Records Label account and select **Send code**. Enter the eight-digit code you receive and click **Login**. To register, select **Create account**.
2. Select **Start 3-day trial** if your account is eligible. The panel displays the trial status and remaining time. After the trial expires, use your purchased license to restore audio.
3. On your own computer, you can select **Remember me on this computer**. On a shared workstation, sign out when you finish.

## Purchases and device activations

Use the email address associated with your purchase. If you need to add a PS3R code, select **Add purchase code** and **Activate**. Check the local activation status and test the on-screen keyboard. If the purchase does not appear, check the address on the purchase confirmation.

> The sign-in code is single-use. When contacting support, include the application version, the status shown in the panel and a short description of the issue. Keep the code and license file private.

# Offline Use and Changing Computers

Transfer an activation request and its response

Use **Offline activation on this computer** to activate a computer without internet access using a second device. The request is tied to the destination computer, so begin on the machine where you will use the instrument.

1. On the destination computer, choose **Offline activation on this computer** → **Create request** and save the request.
2. Transfer it to a computer with internet access. Sign in to the account that holds the license. In the offline panel, use **Load request** and **Save activation file** if those actions are available for your license.
3. On the destination computer, choose **Import activation file** and select the file you received. Confirm that the status is active.

## Move to a different workstation

Open the device list in your account and compare the device names and activation status. Release the workstation you are replacing, then activate the new computer. If you no longer have access to the old machine, use device management in your account or contact Home Records Label support.

In the application, use **Deactivate this computer** to release the current device. **Account** → **Manage account on the website** opens the portal. **Documents** opens the product documents.

## If the connection drops

The local activation lets you continue working for as long as it remains valid. A pending verification message describes the connection to the server. Check the audio status separately and review the panel again once the connection returns.

Use **Advanced** → **Recovery** → **Import recovery file** to load a recovery file supplied by Home Records Label. Use **Import activation file** for a standard offline response.

> Signing out, deactivating a device and uninstalling the application are separate operations. Use the appropriate command in the account panel when handing over a workstation.

# Editor Overview

Nine workspaces and their view selectors




**Fig. 03** HOME. Header, workspace navigation, quick sound controls and status bar.

- **1 · Header.** Click the preset name to open the library. The header also contains Save, history, comparison, **OPTIONS**, the version and updates button, and **MASTER** with its meter.
- **2 · Navigation. HOME**, **SOURCES**, **MOD**, **FILTERS**, **VECTOR**, **FX**, **ARP/SEQ**, **PERFORM**, **OUTPUT**. Use the arrows to step through views. The secondary buttons open tools within the current workspace.
- **3 · Workspace.** On HOME, you can quickly edit sources, Vector Core, filters, modulation, and macros or FX. Detail buttons open the relevant editor.
- **4 · Footer.** DSP and voice status, **MIDI LEARN**, **MIDI CLEAR** and window scaling. Click the DSP indicator to open performance options.

> Control names match the English interface. Screenshots show isolated documentation patches; the updated workspaces use the native PSynth3 interface. Values, active modules and colors vary with the sound and skin.

# Controls and Appearance

Editing, base values and display preferences

- **Knobs and sliders.** Drag to edit; hold **Shift** for fine adjustment. Use the numeric value for exact entry. The main pointer, outer arc and fader handle follow the saved base value. A separate inner indicator shows the applied value after modulation or scenes; releasing the mouse does not switch the main pointer to that value.
- **Undo / Redo.** Step through tracked edits using the header or **OPTIONS**. The DAW has its own history.
- **Language. OPTIONS → Language** saves a preference; otherwise the system language is used, with English as fallback. The installer remembers its own language.
- **Skins.** The default **Spectral** uses a restrained blue-to-lilac control palette. FX families and modulation sources retain their own identifying colours. **Protytype** restores the previous cyan appearance and control style without changing the panel layout or audio.
- **Logo and feedback.** The complete numeral 3 has one colour at a time and changes smoothly through its palette. Visual feedback settings control animation quality; disabling decorative movement does not disable audio modulation.
- **Scaling. Fit to Screen** scales the complete interface. **A+ / Text size** adjusts text independently.

## The standalone window

Use **OPTIONS → Window** for the title bar, Minimize or Close. With the title bar hidden, an empty area of the header moves the window.

## Vector Break

Right-click the logo and choose **Take a little break**. Close the game to return to the instrument.

# Preset Browser

Factory sounds, user banks and sorting




**Fig. 04** The expanded browser. Results are on the left, preset details on the right and audition controls along the bottom.

- **1 · Filters.** Choose a source and narrow the results using criteria such as **Bank**, **Type** and search. **Reset Filters** clears the selection criteria. **TYPE** opens a wide, multi-column checkbox panel. Choose several types to include any of them. Available categories follow the bank and other filters; empty categories are omitted.
- **2 · List.** Click a sound and check the active preset name in the header. **Type A-Z** sorts by type, then by name within each type. **Name A-Z** sorts by name. **Recents** keeps the most recent entries first.
- **3 · Details.** The category, description, author, bank and dependency information help you choose a sound. **Favorites** lets you return to marked presets.
- **4 · Audition. Dock Left** or **Dock Right** reveals part of the editor, including Vector Core. **Expand** restores the full browser. Sorting also works when docked.

> The **Factory** collection contains 440 sounds in 20 categories. **User** is empty on a fresh installation. Your patches and separately installed packs belong to a separate library.

# Auditioning Presets

Play, Auto Play, Auto Next and Vector audition

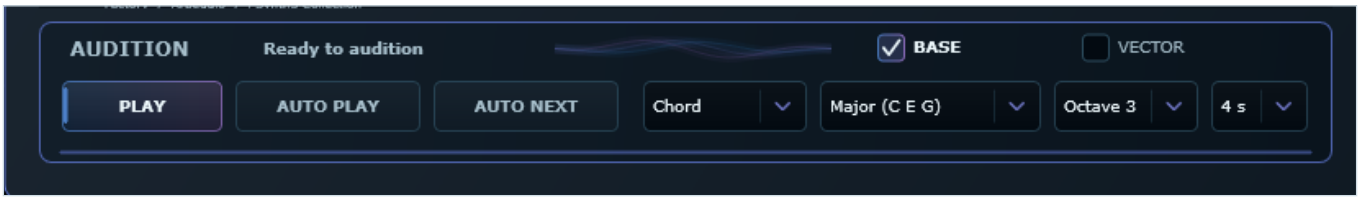



**Fig. 05** Audition strip. Choose the mode, phrase, register and duration.

**Play** starts or stops audition playback. **Auto Play** starts when you click a row, including a second click on the same row. **Auto Next** moves through the current results. Turn off the automatic modes when you want to browse quietly.

- **1 Note** plays a single note. **Chord** plays the selected notes together. **F#m** plays C#, F# and A in the selected register.
- **3 Notes** plays notes in sequence. **2 Octaves** and **3 Octaves** repeat the motif across octaves. **Melody** offers rhythmic phrases. Choose a variation, starting octave and audition length.
- **BASE** plays the saved sound. **VECTOR** adds a temporary XY path through Tone, Effects and Custom, bypassing the Sources crossfade. You can hear both passes in sequence. During the Vector pass, Custom depth rises from 0% to 100%.

### Compare two bass sounds in the same register

Choose **1 Note**, use the same octave and set a short duration. Compare the attack and body of each sound. Increase the duration to hear the release and FX tails. For pads, switch to **Chord** to hear how the filters and space respond to several notes at once.

> Audition uses the instrument's signal path. Active ARP, envelopes, effects and preset levels all shape what you hear. Stop the audition before recording your performance.

# Saving, Transferring and Relinking

User sounds, WAV dependencies and project recall

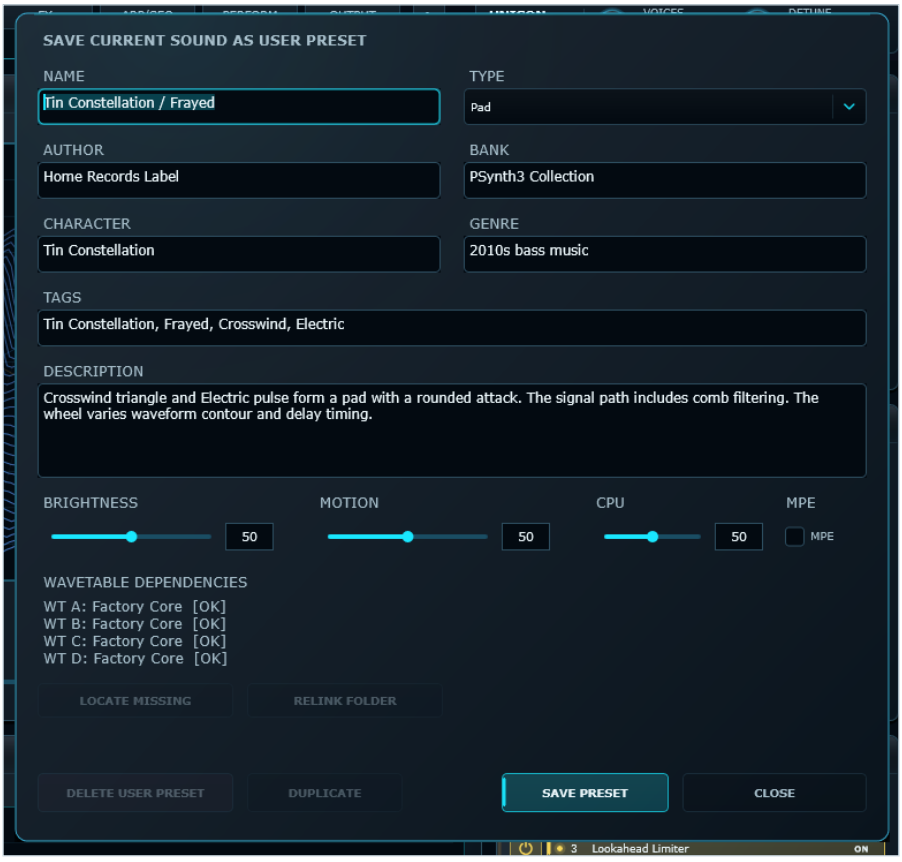



**Fig. 06** The Save Preset panel. Metadata helps you find your own presets later.

- **SAVE / Save As.** Save the current sound to **User**. Enter a name and bank. Add a category, author, description, tags and other filter attributes as needed. Saving a Factory sound creates a separate User preset.
- **Managing presets.** The browser lets you edit User preset metadata, duplicate presets and delete them. Confirm the bank and name before deleting a file.
- **Portable presets. OPTIONS → Export current preset with wavetables...** creates a ZIP with the current state and its custom wavetables. **Import portable preset pack...** places a copy in the selected User bank. Load it from the library after importing.
- **Missing dependencies.** If a custom WAV is unavailable, select the correct file with the relinking tool and check each associated WT position. Files with the same name can contain different waves.

## What to keep when moving to another computer

A DAW project stores the plug-in instance. A **.psynth3preset** file lets you reuse the sound, and a portable ZIP bundles its dependencies. Keep the original WAV files and their **.psynth3wt** frame settings. After transferring, open a copy of the project and check the sound.

# A/B, Random and Mutate

Controlled variations on a single preset

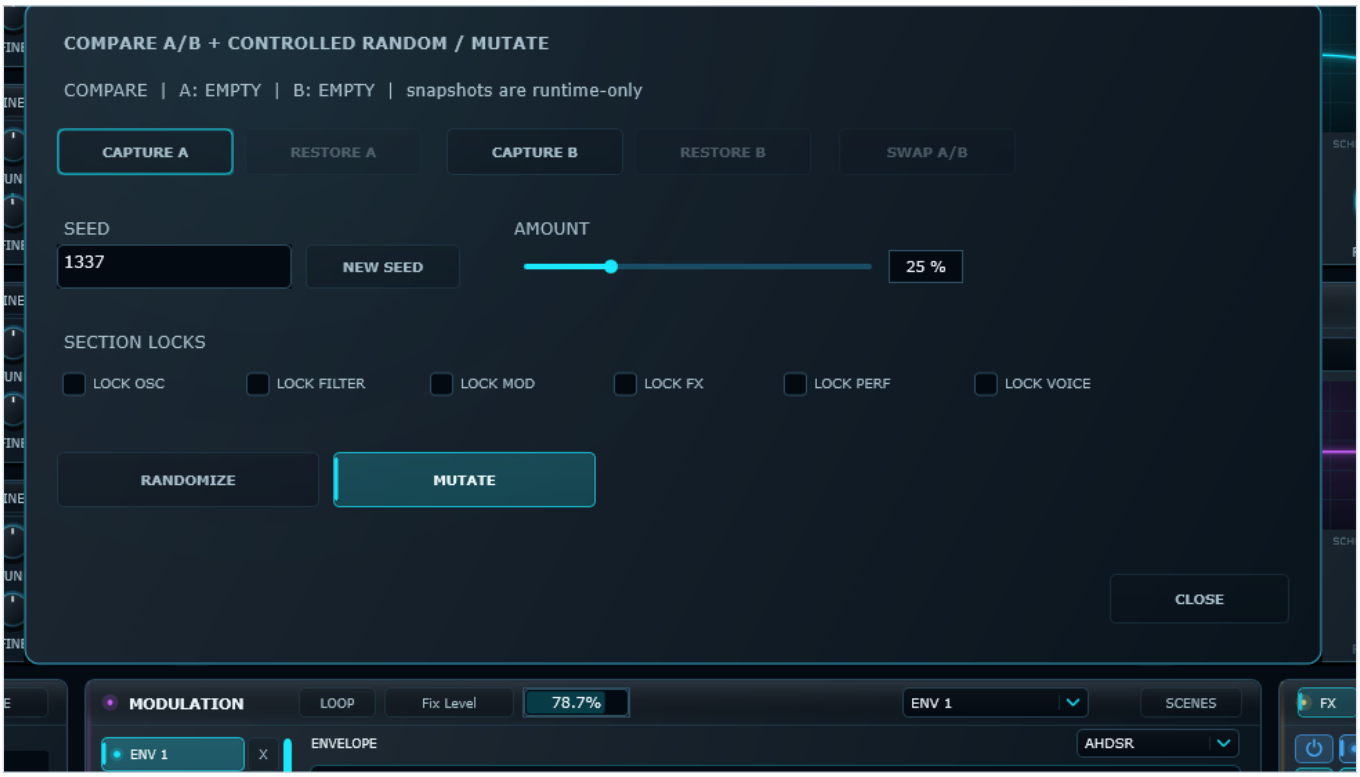



**Fig. 07** The sound comparison window, with A/B slots, section locks and variation controls.

1. Open **A/B** or choose **OPTIONS → Compare A/B + Random / Mutate**. Capture the current sound in slot **A**.
2. Edit the parameters yourself or set **Amount**, **Seed** and the section locks. **Mutate** stays closer to the current settings. **Random** explores a wider range.
3. Capture the result in **B**. Recall A and B while playing the same note or phrase. **Swap** exchanges the captured versions.
4. Save the preferred version to **User**. A/B slots serve as temporary session memory.

## Keep the sound recognizable

Lock the oscillators if you want to preserve the tuning and wavetables while changing the movement. Start with a small **Amount**. Discrete choices such as the LFO waveform and warp mode change in steps. See **Output and Maintenance** for performance and preset-loading locks.

# Preset Generator

Create and compare three playable sounds

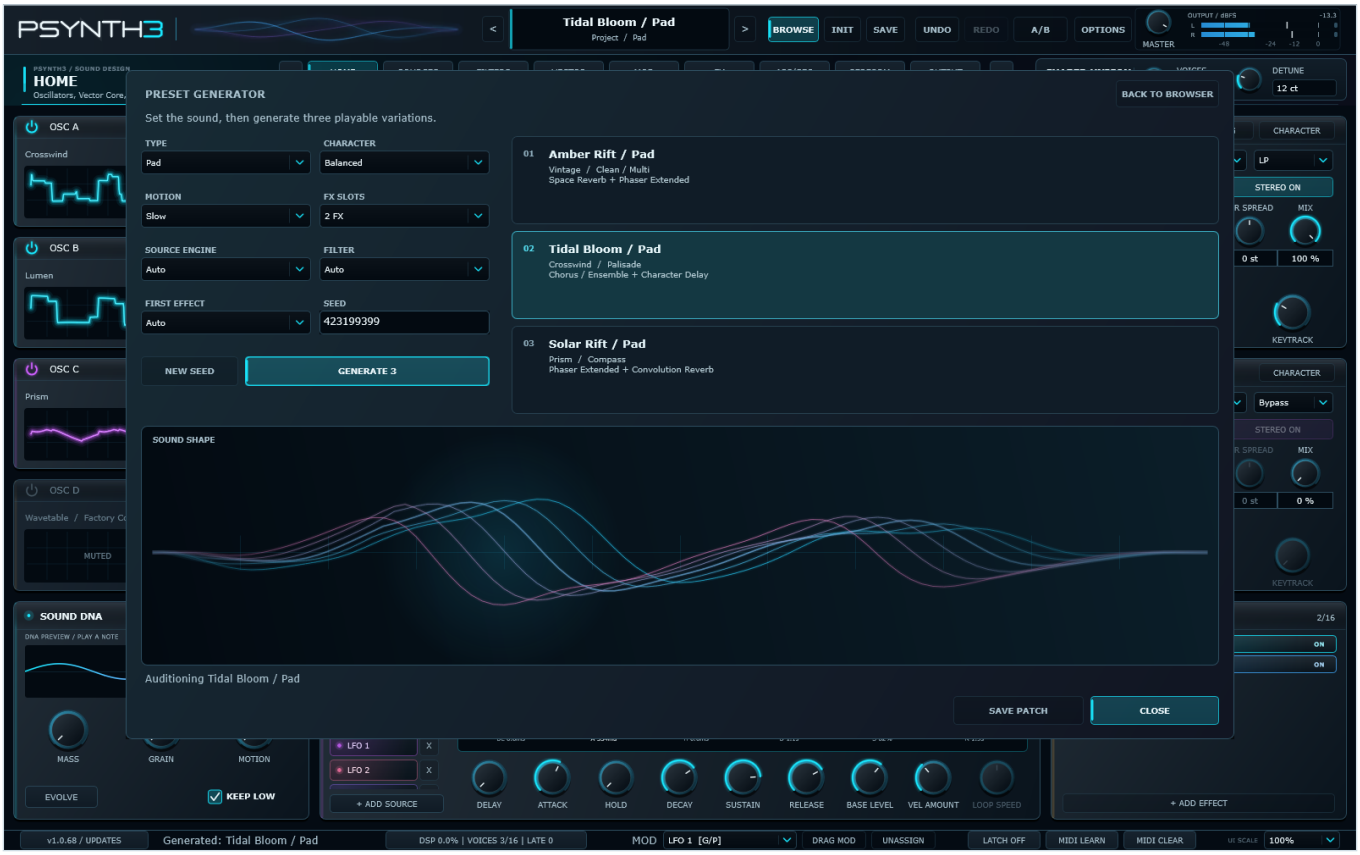



**Fig. 08** PRESET GENERATOR. Choose the recipe on the left, then select a variation to hear it.

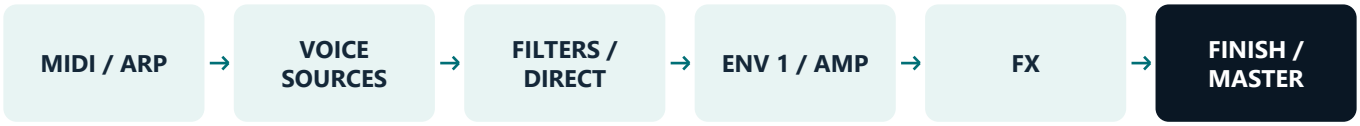
- Open **BROWSE** → **PRESET GENERATOR**. Set the type, character and motion. Leave source, filter and first effect on **Auto** for variety, or choose exact options. Select up to **8 FX**.
- Choose from **13 synthesis engines** or sampled **Instruments**. The generator offers **19 filter setups**, including Low / High SVF, Diffuser, Phase +, Phase -, Phase High 6, Band / Notch and Feedback Drive.
- Use **GENERATE 3** to get three patches. **NEW SEED** changes the starting point; the same seed and settings reproduce the same set.
- Select a variation to audition it. The previous audition stops when you switch. The **Sound Shape** animation reflects the current variation.
- **SAVE PATCH** writes to User. **CLOSE** returns to the synth with the selected patch loaded. **BACK TO BROWSER** returns to the preset list.

> **Randomize** and **Mutate** remain available separately for altering the current patch.

# Signal Flow

From a MIDI event to the master output

Notes from the keyboard, DAW or **ARP/SEQ** generators create voices. Each voice combines the active oscillators A-D and the Sub/Noise layers. Tuning, unison, warp, Nebula and Vector shape the signal at the source. A voice can feed the two filters or take the direct path.




**ENV 1 / AMP** sets how long a voice remains audible. The shared **FX** rack processes the sum of all voices. **FINISH** shapes tone, dynamics and stereo width, and **MASTER** sets the output level. Reverb and delay tails can continue after the voice envelope closes.

## Two scopes for modulation

**Poly** works independently per voice, as with velocity or a note-triggered filter envelope. **Global** uses a shared signal, as with a macro controlling the rack. The matrix checks source and destination compatibility. A global effect remains shared across notes even when you use per-note modulation elsewhere in the patch.

## Where does the signal drop?

1. Check the source **LEVEL**, its enable switch and its Vector weight. Isolate one clearly audible oscillator for the test.
2. Make sure the filter receiving that oscillator passes its signal. Check routing in **FILTERS** and the **ENV 1** level.
3. Bypass any suspect slots. Check the FX mix, **FINISH**, **MASTER** and the output meter. Restore the sections one at a time.

> Several views can edit the same parameter. For example, Master on OUTPUT and Master in the header are linked.

# HOME and Voice / Keyboard

Quick sound controls and audition notes




**Fig. 09** HOME. Sources, Vector Core, filters, modulation and the effect rack share one overview.

- **HOME** provides quick source levels and tuning, Vector Core, both filters, Sound DNA, modulation and effect or macro access. Detail buttons open the corresponding workspace.
- **SOURCES** → **ENGINE / DETAILS** edits all four source cards. Each card has its own engine, saved controls and tuning; selecting a card does not mute the others.
- **PERFORM** → **VOICE / KEYBOARD** contains the playable keyboard and voice settings. Enable **LATCH** to keep audition notes held while working on other pages.
- Changing a synthesis engine or assigning an instrument keeps a held latch note active. Use **RELEASE**, disable Latch or use Panic to stop owned notes. A source's own decay can still make the sound fade.

> Keyboard Latch is temporary audition state. Save your preset and DAW project for the sound; use a MIDI clip for the musical performance.

# SOURCES / Engine & Details

Four independent oscillator cards and engine settings




**Fig. 10** SOURCES. The four columns are oscillators A-D, each with its own engine and settings.

- **1 · Source selection and power.** Work on card A, B, C or D. Source selection carries across the detail editor, table library and FM view. Turn off an oscillator to isolate the other layers.
- **2 · Engine / Base wave.** The engine determines the available waves and their shaping controls. Depending on the engine, **WAVE / WT POS** selects or shapes the wave position, or is unavailable.
- **3 · Tuning and mix. Coarse** is measured in semitones and **Fine** in cents. **Phase** sets the start phase. **Level** sets volume and **Pan** places the source in stereo. Slightly detune two sources to hear beating.
- **4 · Warp and engine controls. Bend + / Bend -** alter the phase curve, **Asym** adds asymmetry, **PWM** changes pulse width and **Fold** folds the waveform. **Amount** sets the intensity. Tone controls depend on the engine and active layers.

> Audition one card first, then bring in the others. When you switch engines, watch the level and see which knobs are available. Their labels and units reflect the selected engine.

# Oscillator Engine Reference

Choosing an engine for the sound you want

- **Wavetable.** Scans the frames in a bank. **Phase Bend** reshapes the phase curve, and **Formant Mix** adds a focused resonance that follows the note. Hold a note and sweep WT POS slowly.
- **Vintage.** Classic shapes with character and drift. **Sub Level** adds a lower octave, and **Pulse Blend** mixes in a separate pulse layer. Start with a saw for a pad or a pulse for a bass.
- **Hard Digital.** Pronounced harmonics and sharp digital contours. **Harmonic Stack** adds octave- and fifth-related layers, and **Phase Bend** reshapes the phase curve.
- **Electric.** Tones with a ringing component. **Formant** shifts the spectral emphasis, and **Ring Color** blends in a ring-modulated layer. For keys, combine Electric with a quieter basic waveform.
- **Voltage.** VCO shapes with drive and contour controls. Compare saw, pulse, triangle and sine on the same note.
- **Poly Circuit.** Two running oscillators with detuning, balance, feedback and a resonant return. Turn up **REGEN** for a stronger circuit response.
- **Reed / Ember.** Reed provides **Sub Level**, **Sub Range** and **Pulse Blend**. On Ember, use **Accent / Accent Decay** to shape the velocity response and try **Slide** with overlapping legato notes.
- **Crosswind / Foundry.** Crosswind combines **Second Tune**, **Ring** and **Sync** across two oscillators. Foundry sums three oscillators through **Mixer Drive**. Tune the second and third oscillators, then adjust **Layer Balance**.
- **Prism / Lumen. Stack Spread**, **Cross Mod** and **Table Blend** combine the layers in Prism. On Lumen, **Sub Level**, **Pulse Blend** and **Motion** shape a stable-clock waveform.
- **FM Operators.** Four operators and a choice of algorithms produce metallic attacks, bell tones and complex spectra. Edit the operators on their dedicated page.

## What carries over when you switch engines

Tuning and mix are shared by the oscillator card. Character controls belong to the selected engine's bank. Switch back to a previous engine to recall its settings. In modes with dependent signal paths, some knobs become available when you enable the relevant part of the circuit.

# Vector Table and Spectrum Table

Independent synthesis cores and paged DESIGN controls




**Fig. 11** Spectrum Table DESIGN. Labelled pages group the oscillator, modulation and stack controls.

**Vector Table** and **Spectrum Table** are separate source choices in **SOURCES → ENGINE / DETAILS**. They read waveform frames and synthesize notes in real time. The source waveform is not a recording of an entire finished preset.

- **Vector Table** provides its own table interpolation and warp path. Use the source's controls and DESIGN bank for the available phase and waveform transformations.
- **Spectrum Table** adds a separate operator, phase modulation, frequency modulation and fold structure. DESIGN pages separate related controls, including pitch, modulator, pulse width, phase, noise and stack settings.
- Select the intended core at the top of DESIGN. Retained settings for another core remain available when you return to it. Controls can be inactive when their circuit or sub-mode is disabled.
- Continuous DESIGN parameters can be modulation destinations. Choose a source in the footer, arm **DRAG MOD**, and click or drop on an available highlighted control. Choose Global for shared FX destinations.

> Changing the synthesis core deliberately changes the sound. Choose and save the intended engine before building a new patch around its wave shaping.

# Overtone and Spectrum Partials

Live partials, long level faders and sustained sound

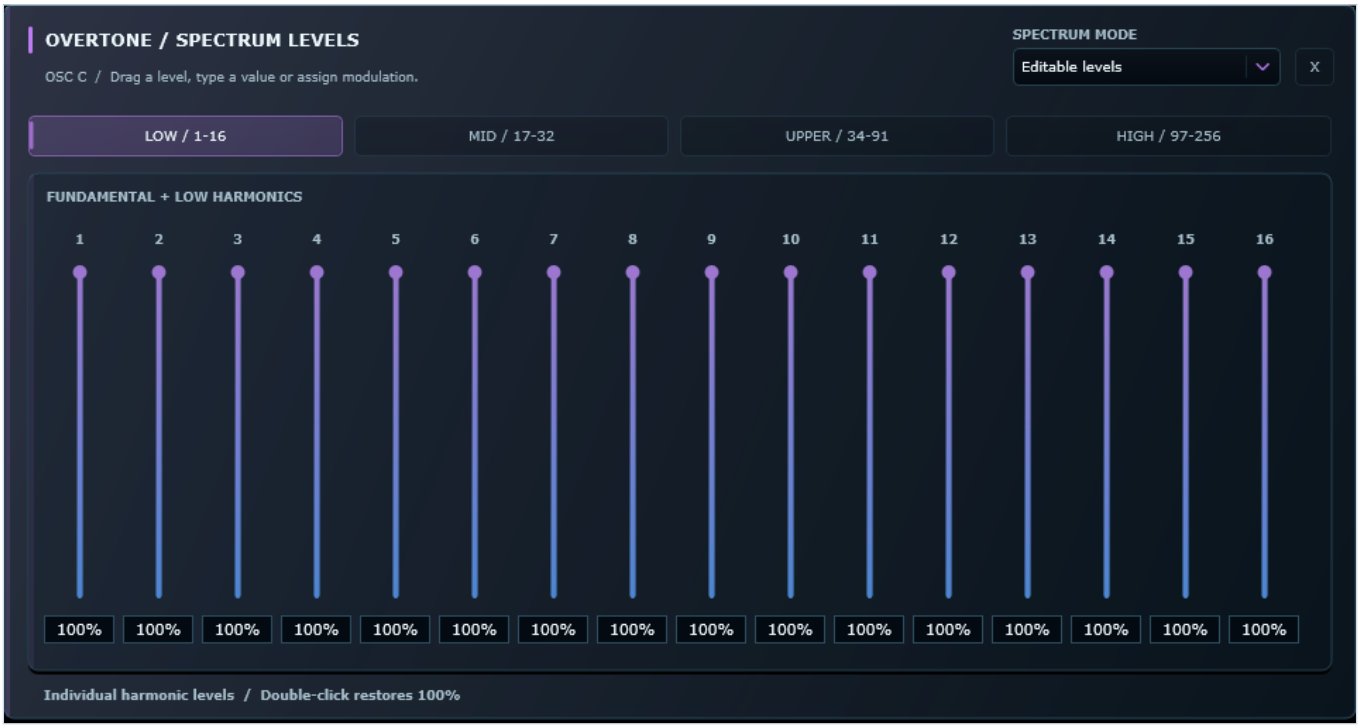



**Fig. 12** LEVELS. Four pages expose 16 long harmonic-level faders at a time.

- **Overtone** is a live additive oscillator bank. **Spacing** changes harmonic intervals; **Partials** sets the active sine count, and **Tilt** changes the spectral balance.
- **RING TIME = 0 / Sustain** keeps the source continuous under AMP control. A positive Ring Time creates an independent modal decay. AMP Sustain and ENV Loop do not restart that source decay.
- Open **LEVELS**, choose **Editable levels**, then use LOW, MID, UPPER or HIGH. The first 32 levels are individual harmonics; higher faders are anchors with interpolated levels between them. Formula mode uses the generated spectrum instead.
- **Spectrum Partials** selects a separate partial-synthesis core. Its paged DESIGN controls shape distribution, windowing, clusters, modulation and imaging. Labels group related settings.
- Use modulation on eligible harmonic levels or DESIGN controls to move the spectrum. A continuous base source and a modulation assignment are separate requirements.

> If a held sound fades unexpectedly, check Ring Time before changing AMP Sustain. Then check the source level, active filters and any amplitude modulation.

# FM Operators

Four operators, six algorithms and SHARED / OWN banks




**Fig. 13** FM OPERATORS. Oscillator and bank selection at the top, with four operator envelopes below.

- **1 · Oscillator and bank.** Enable FM for the selected oscillator A-D. **EDIT OSC** selects the bank to edit. **SHARED** links settings across oscillators. **OWN** gives each oscillator independent settings, initialized from the shared bank the first time it is enabled.
- **2 · Connections.** The algorithm determines which operators modulate others and which reach the output. **Index** sets the intensity of phase modulation. **Feedback 4** feeds operator 4 back into itself.
- **3 · Ratio / Level. Ratio** sets an operator's frequency relative to the note. **Level** sets its contribution as a carrier or modulator. Fractional ratios can produce inharmonic partials.
- **4 · Operator ADSR.** A short modulator decay can brighten the attack alone. Give **ENV 1 / AMP** enough release time to hear the operators fade out.

## Copy settings and modulate the index

**COPY SHARED > OWN** replaces and enables the selected oscillator's own bank. Use **Index Mod Source / Mod Depth** to vary the index with an LFO, envelope, macro or velocity. Start with a low index and raise it while holding the same note.

# Table Library and WAV Import

Banks, frames, auditioning and oscillator assignment




**Fig. 14** TABLE LIBRARY. Highlight complete frames, then use CREATE REGION to save them to User.

1. In **SOURCES** → **TABLE LIBRARY**, select **OSC A-D** as the target. Loading a table assigns it to that source. Use the **Wavetable** oscillator mode to scan it.
2. Choose a **Factory** or **User** table, inspect its frames and audition it. **WT POS** moves through the stored frames. Auditioning the table on its own lets you hear the source material before filtering and effects.
3. When importing WAV audio, check the detected frame length. For uneven material, set the start and end of the region and adjust the cycle length. Preview the result and listen for jumps at frame boundaries. Confirm the import and sweep WT POS.
4. Save a User preset or export a portable ZIP. Keep the original WAV and its frame settings if you plan to reopen the project on another computer.

> WAV import in this view builds a wavetable. A longer file can supply multiple frames. For an even sweep, choose a stable region with a recognizable period.

- To create a region, choose a table and set **START** and **END**. **CREATE REGION** copies the selected range to a new User WAV and selects it. For Factory tables, the highlighted range includes complete frames to preserve the waveform cycles.
- The source table and the currently assigned oscillator remain unchanged until you choose **ASSIGN**. **DELETE WAV** is available only for a selected User WAV.

# Factory and User Instruments

Click-to-play key and velocity zones

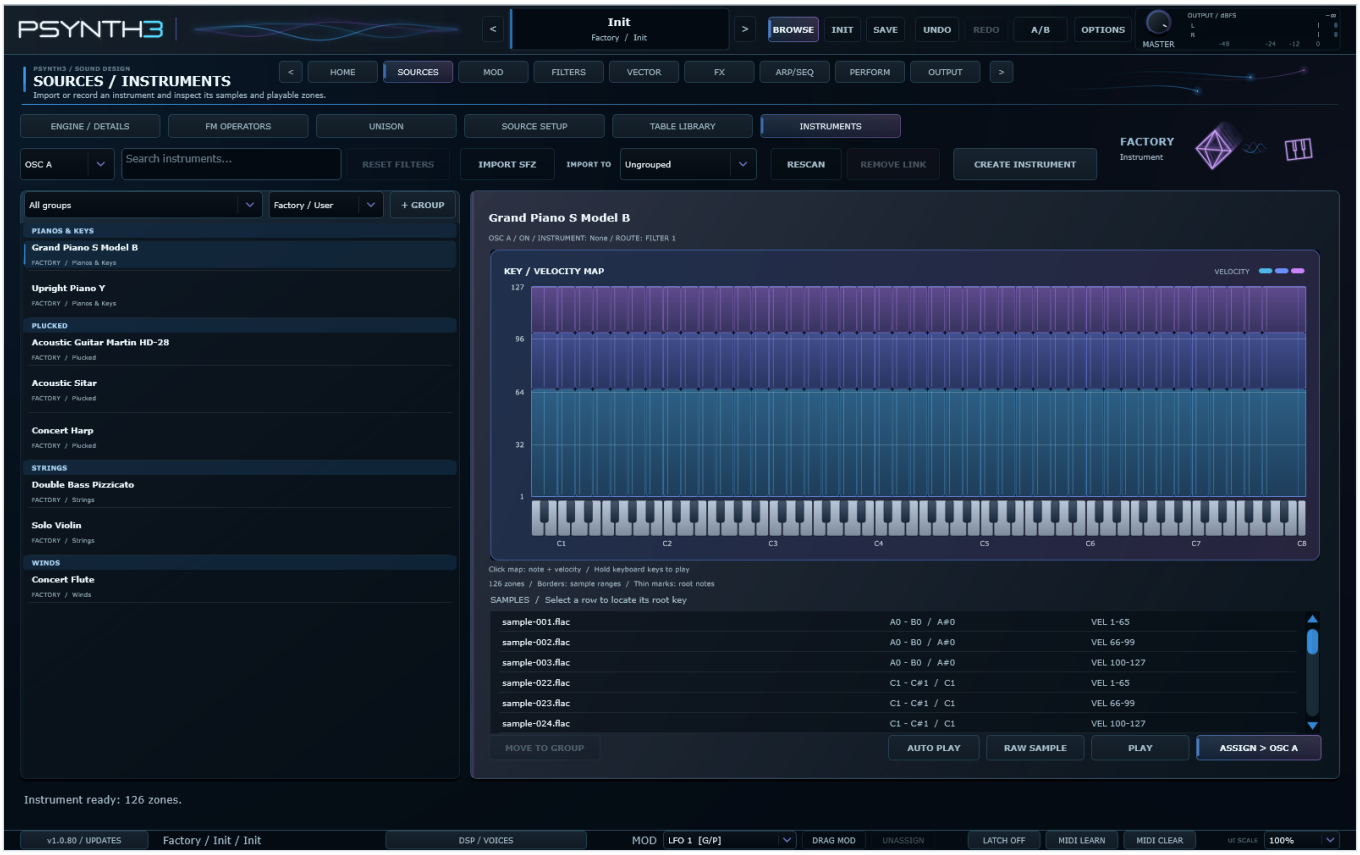



**Fig. 15** INSTRUMENTS. The key/velocity map and keyboard audition the selected library source.

- Open **SOURCES → INSTRUMENTS**, select OSC A-D, then filter by group and Factory/User. Choose an entry to inspect its sample zones.
- **Click the map** to audition the note and velocity at that position. Horizontal position chooses the key; vertical position chooses velocity. The on-screen keyboard provides another way to audition notes.
- **AUTO PLAY** auditions deliberate selections. **RAW SAMPLE** previews the selected sample; **PLAY PATCH** uses the current patch path. **ASSIGN** loads the instrument into the chosen oscillator.
- A held **LATCH** note survives assigning or changing the instrument source. A piano or plucked sample can still decay naturally; Latch does not make a non-looping sample sustain forever.
- **IMPORT SFZ** adds your own instrument. Factory contains eight sampled instruments; updates retain User content.

# Unison, FM/PM, Sub and Noise

Shared source controls

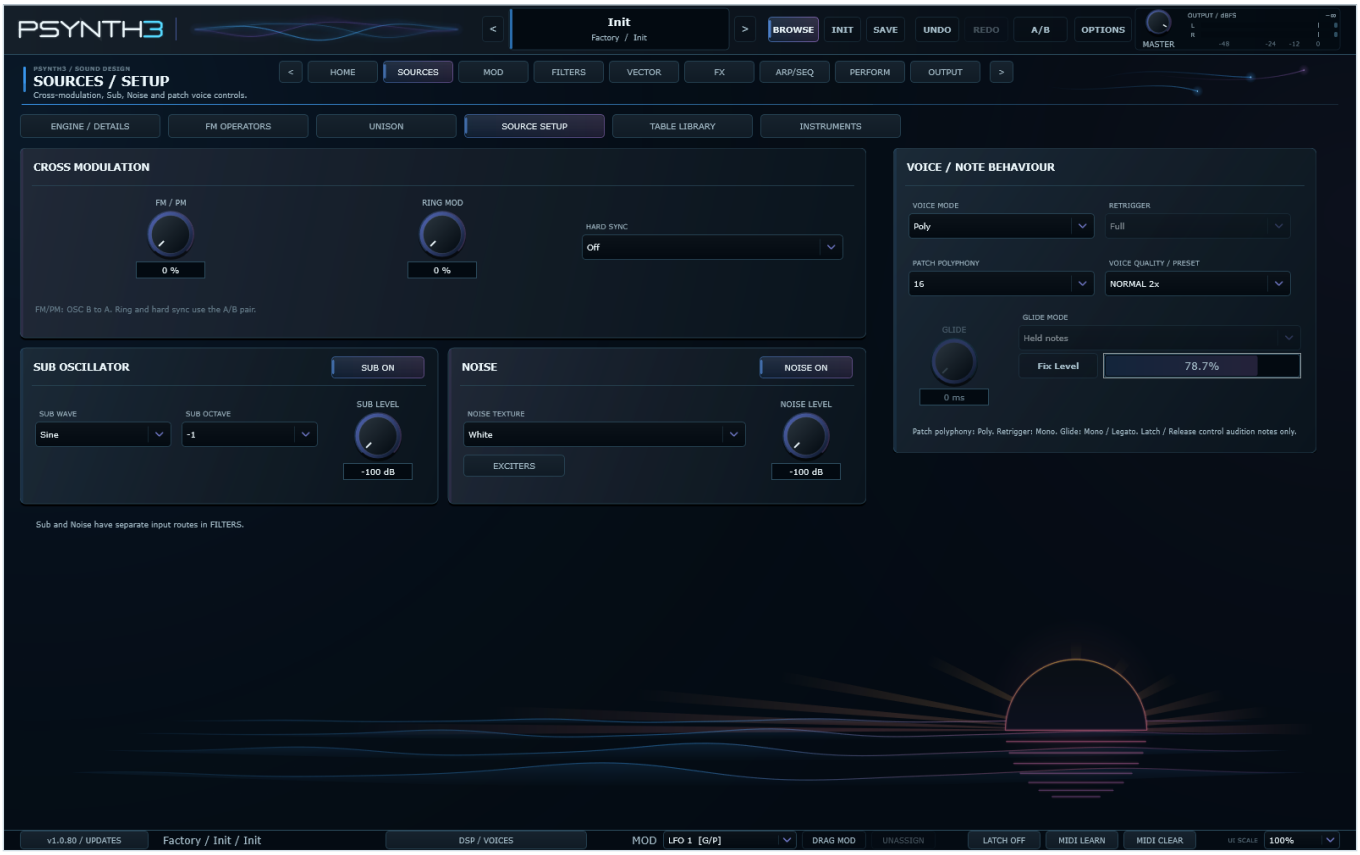



**Fig. 16** UNISON / SUB / NOISE. The sub and noise layers have independent switches and levels.

- **1 · Unison. Voices** duplicates the oscillator signal within each note. **Detune**, **Stereo Spread** and **Unison Curve** distribute pitch and pan. **Random Phase**, **Phase Spread**, **Random Detune** and **Random Pan** vary the copies.
- **2 · Cross Modulation. FM/PM** and **Ring Mod** act on the A/B pair. **Hard Sync** synchronizes the target oscillator to the preceding oscillator. The separate four-operator FM engine is available from **SOURCES**.
- **3 · Sub.** Enable the layer and set **Sub Wave** (sine or square), **Sub Octave** (-1 or -2) and level. A sine adds a clean foundation. A square adds more harmonics.
- **4 · Noise.** Enable the source and set **Noise Texture** and level. The choices are White, Pink, Brown, Blue, Violet, Air, Dark, Crackle, Geiger, Rain, Wind, Ocean, Digital, Radio and Steam.

> Polyphony counts simultaneous notes. Unison Voices counts copies within a note. Reducing the two settings affects density and DSP load in different ways.

# Dual Filters and Routing

FILTERS, parallel and serial paths, and the Direct signal




**Fig. 17** FILTERS. Two independent filter editors and a routing panel.

- **1-2 · Filters.** Each filter has its own model, response, frequency and resonance. **Bypass** passes the signal through. Choose a response supported by the model, such as LP, HP, BP or band reject.
- **3 · Inputs.** Assign each of A-D to **Filter 1**, **Filter 2**, **Both** or **Direct**. Check Sub, Noise and Ring routing when layering them under the filtered sound.
- **4 · Topology. Parallel** sums both branches. Serial routing lets you choose F1→F2 or F2→F1. **Strict Chain** passes the first filter's output to the second. **Legacy Inject** also keeps direct inputs. **Split** separates signals between branches.

## Listen to each filter on its own

Route one active oscillator to F1 only. Choose LP and sweep the cutoff. Switch the oscillator to F2 and repeat. Then choose **Both** and compare parallel and serial routing.

> **Routing** determines where the signal goes. **Character** determines how the selected circuit shapes it.

# Filter Character, Stereo and Cutoff

Filter models and how scenes affect them



**Fig. 18** Palisade and Compass. Two filter circuits can have independent advanced settings in the same instance.

## Controls and models

**Cutoff**, **Resonance** and slope set the filter response. **Mix** blends the filtered and direct signals. **Key Track** links cutoff to note pitch. **Drive** shapes the nonlinear response. Match levels before comparing.

- **Clean / Multi, Ladder, OTA 12 and State Variable.** Clean / Multi offers clean multimode filtering. Ladder has the character of a ladder circuit, OTA 12 uses a 12 dB/octave slope, and State Variable models nonlinear integrators.
- **Comb, Formant and Voltage LP.** In Comb, tune the comb and choose feedback polarity. In Formant, select two vowels and adjust **Vowel Morph** and **Formant Shift**. Voltage LP has a dedicated low-pass filter and **Heat**.
- **Palisade, Contour, Cinder, Compass and Prism.** Palisade offers **Low Body / Stage Color** and an additional high-pass stage. Contour has **Bias / Sag**, and Cinder has **Bite / AC Coupling**. Compass offers **Low Cut / Feedback Color** and three revisions. Prism has **Pre Clip / Post Drive**.
- Other filter setups include **Low / High SVF**, **Diffuser**, three **Phase** responses, **Band / Notch** and **Feedback Drive**. Use the filter setup in **Preset Generator** to start a patch with one of these responses.

## Stereo width at two stages

**STEREO** and **L/R SPREAD** separate the left and right cutoff frequencies within a filter. **F1 / F2 PAN** positions the two branches in Parallel/Split. After changing the width, check **OUTPUT → MONO MONITOR** and the correlation meter.

## SCENE / MANUAL

When a Tone or absolute Custom scene sets the cutoff, select **MANUAL** to take control from the current effective frequency. **SCENE** hands control back to the scene. In relative Custom mode, the base knob can move the reference point. If a control is dimmed, check bypass, the filter model and whether the scene controls it.

> A stereo sound can lose energy when summed to mono. This is especially audible with wide filter separation, unison and Haas effects.

# Sound DNA and Nebula Cloud

Tone shaping and a granular wavetable layer




**Fig. 19** HOME with Nebula open. The cloud controls occupy the Sound DNA panel.

**Sound DNA** groups three controls. **Mass** adds a sub foundation. **Grain** increases phase modulation of A by B and adds ring-modulated color. **Motion** slowly scans wavetable positions A-D. **Evolve** creates a new DNA variation. Select **Keep Low** to preserve Mass when using Evolve.

## The four Nebula controls

- **Amount** blends the oscillator with the cloud. At 0%, the cloud is bypassed.
- **Size** sets grain length. Short grains produce finer movement, while long grains stretch the texture.
- **Spread** varies grain tuning and pan. Lower settings keep the cloud centered.
- **Travel** spreads frame positions and scans them over the life of each grain, around the current WT POS.

The cloud follows the source's tuning, pan, Vector weights and routing. Sub and Noise remain independent layers. The audio quality setting changes processing density. The cloud keeps playing when its panel is hidden. To remove it from the sound, lower **Amount**.

# Vector Core and Visualizers

XY position, depth and signal displays




**Fig. 20** VECTOR → SCENES / SURFACE. The XY surface is on the left, with scene controls on the right.

- **1 · XY point.** Drag it toward A, B, C or D. In Sources, each corner corresponds to an oscillator's contribution. Moving to a corner with a disabled source can reduce the level.
- **2 · Morph / Depth.** Depth sets how strongly the selected layer affects the sound. At 0%, XY can move without an audible change from that layer.
- **3 · View.** Depending on the panel, choose **Surface**, **Orbit**, **Scope**, **Live Output** or **Vizer**. **Dream Wave** and **Terrain** are surface displays. The source and output previews help distinguish the oscillator waveform from the processed signal.
- **4 · Scenes.** Select a bank to edit Sources, Tone, Effects or Custom. Inactive layers stay inactive when you switch views.

> **Vizer** offers Colour organ, Waveform, Energy rings and Energy bars. **Spectral mist**, halos and cursor trails help you follow movement. **SPEED** in Live Output changes how fast the history scrolls.

# Sources and Tone Scenes

Four corners, layer points and Tone tuning




**Fig. 21** The Tone bank. Wave position, filter, tuning and Sculpt settings can vary from corner to corner.

1. Open **VECTOR → SCENES / SURFACE** and choose **Sources** or **Tone**. Enable the layer if it is inactive in the preset and set depth above zero.
2. Select a corner. Edit its values or use **Capture** to copy the patch's base settings. Capture stores those settings independently of the current LFO phase or envelope level.
3. Select a different corner and give it a different value. Move XY between the points and listen to the interpolation. **Go To** moves XY to the selected point.
4. Enable **Own XY** to store a separate position for that bank. **Reset Points** restores the point layout. Each bank can have its own depth, XY position and saved values.

## How Tone changes pitch and wave shape

Tone can set four independent tuning offsets. Moving XY interpolates the offset while preserving the intervals between oscillators. When **WAVE** changes, the sound follows the active engine, while inactive table positions remain in their banks. You can take over scene-controlled cutoff from the filter page.

# Effects and Custom Scenes

Morphing effects and assigning eight lanes

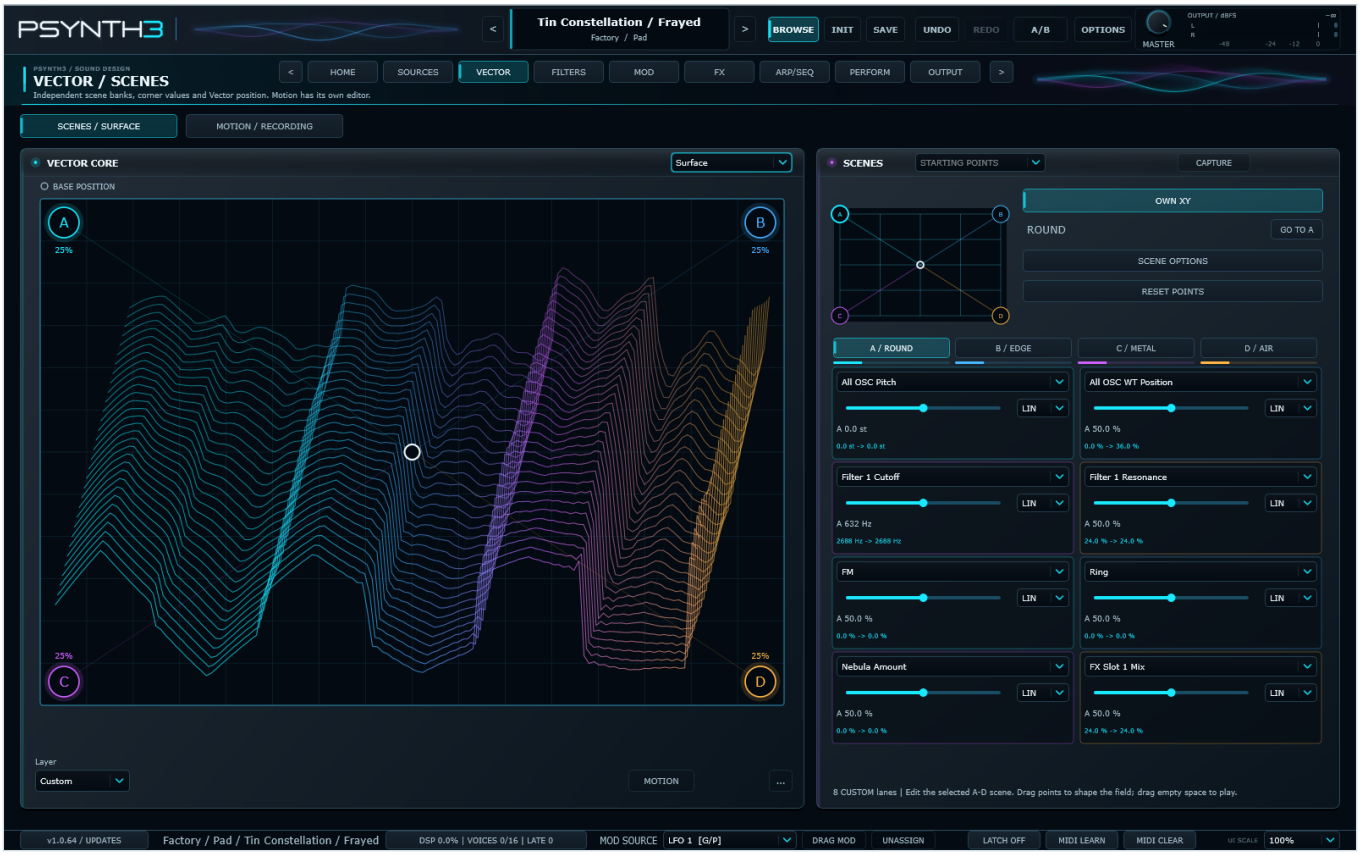



**Fig. 22** The Custom bank. Choose destinations, corner values and curves for individual lanes.

- **Effects.** Set different values for the active effects at each corner. Start with one wet parameter, such as the reverb level. Listen to the morph before adding changes in time, feedback or other effects.
- **Custom.** Assign up to eight destinations, choose A-D and set values for each lane. The lane curve shapes interpolation. Read the result fields to see what the scene is currently sending to the destination.
- **Relative / Absolute.** Relative Custom applies changes from scene A and the base settings. In Absolute mode, corner values can take over the parameter at full depth.
- **Starting Points / Power XY.** These load predefined Custom assignments and corner values. Save a copy of your own mapping before replacing all the lanes. **Enable Layers** lets you work with independent layers.

## Vector Sculpt

**Sharpen**, **Round**, **Flatten** and **Invert** sharpen, round, flatten or invert the waveform. **Amount** blends the transformation into the source signal, including Nebula. Assign Amount to a scene to change the shape as XY moves.

# Motion / Recording

Continuous paths, stepped motion and Atom




**Fig. 23** MOTION / RECORDING. Atom selected; interpolation and steps are below the pad.

- **Shape.** Orbit, Figure 8, Diamond, Random Smooth, Recorded, Square, Triangle, Horizontal, Vertical, Double Orbit, Butterfly, Rose, Zigzag and **Atom**. Atom follows three connected orbital loops. Motion offsets the base XY position.
- **Timing.** Use free Rate or tempo Sync, with Phase, Direction and Retrigger. **Depth X/Y** scales each axis; **Amount** scales both. **Edges** controls boundary behaviour.
- **Interpolation. Smooth** traverses the path continuously. **Stepped** holds discrete positions; **Steps per cycle** offers 4, 8, 12, 16, 24 or 32. This is temporal stepping, not an XY grid.
- **Record.** Choose Capture, press **RECORD**, draw or click, then **STOP**. Releasing the mouse keeps recording active. **PLAY** replays the path; **EDIT** refines it. **CLEAR** removes the recording. Interpolation and step count also apply to recorded paths and are recalled with the saved settings.
- **Playback and tools.** Loop, Ping Pong or One Shot; Start/End selects a range. Smooth, Rotate and Flip X/Y transform the recording; Return controls the return portion.

> **Copy / Paste / Save / Load** transfers a .psmotion path with its settings. A preset also keeps the sound and scenes. This records control movement, not audio.

# Recording Points and Gestures

Continuous capture or exact point jumps

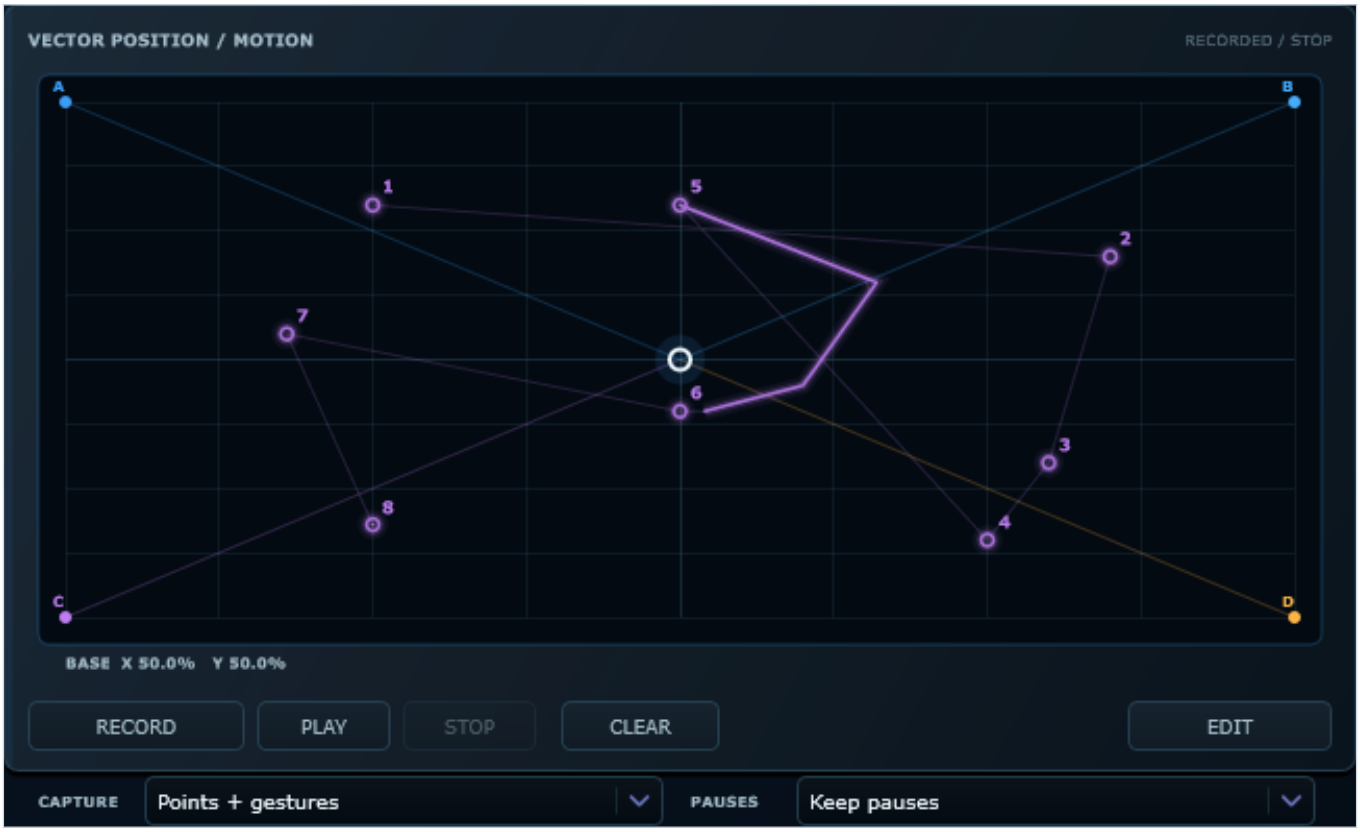



**Fig. 24** Clicked anchors are numbered. A drag following a point remains a continuous gesture.

1. Choose **Capture: Continuous** to join successive movements. Choose **Points + gestures** to jump to each clicked anchor, then follow its drag. Leave **Interpolation: Smooth** to retain those drags; Step deliberately holds all segments.
2. Press **RECORD**, then click or drag. Release, wait and begin another gesture: the take stays active. **STOP** commits it, with a maximum of 30 seconds. Escape cancels and keeps the previous recording.
3. Select **LOOP**, **PING PONG** or **ONE SHOT**, then **PLAY**. Point capture initially sets Return to zero for an immediate loop jump. Raise Return to blend the loop closure. **STOP** holds the current position.

> The recorder captures XY control data only. It never records audio. Capture is fixed for the current take; change it before arming the next recording.

# Pauses, Timing and Point Editing

Reversible gaps and the source timeline




**Fig. 25** Capture and Pauses selectors above the original X/Y timeline and Start/End range.

- **Keep pauses** reproduces the captured stationary holds and gaps, including time between separate clicks or drags.
- **Skip pauses** omits those waits without erasing the source. Isolated clicks use even 125 ms pulses at the captured speed so every point remains audible. Continuous drags retain their movement time.
- **Free Rate** scales the compact take. **Sync** fits it into the selected musical cycle. The playhead and scrubbing follow the chosen pause mode; the timeline retains the original source timing.

### Edit and reuse a take

1. Click **EDIT** and drag a pad handle to move its position. Drag a timeline marker to change its source time.
2. Shift-click the timeline to insert a point. Delete removes a selected interior marker. **Start/End** selects the playback range. Smooth, Rotate and Flip X/Y transform the route while retaining its source.
3. Presets, DAW projects and **Copy / Paste / Save / Load** retain jumps, gestures, Capture and Pauses. Older motion files still load. **CLEAR** removes a take; Undo restores it.

> Switching Keep / Skip is reversible and needs no new recording. Pauses are control holds, not muted audio: the sound continues at the held vector position.

# LFO 1-8

Waveform, timing, one-shot and scope




**Fig. 26** MOD → LFO. Four generators per page; page arrows reach LFO 5-8.

- **Sources.** Eight LFOs are available. HOME starts with four LFO shortcuts; **+ ADD SOURCE** adds more, up to LFO 8. Removing a shortcut does not erase a matrix route.
- **Waveform and timing.** Select the waveform, Rate or Sync/Division, Phase and Trigger. Skew changes the cycle balance where supported. Additional source-specific shaping is available through the labelled detail controls.
- **Loop / One Shot.** Loop repeats. One Shot runs one cycle and holds its end until retriggered. Delay postpones the start, Fade introduces the movement and Slew rounds abrupt changes.
- **Source level. SRC LEVEL** runs from -100% through zero to +100%. Zero silences the source; a negative value inverts its contribution. Route Amount remains a separate signed control.
- **Scope and polarity.** Poly runs per note; Global is shared. Bipolar moves around zero; Unipolar works in one direction. Shared rack effects need a compatible global source.

> Select the source in the footer or drag its handle to a highlighted destination. A running LFO changes a sound only when a route connects it to something.

# ENV 1-8 and Graph Editing

Delay, AHDSR, AD and looping




**Fig. 27** MOD → ENV. Four envelopes per page; the next page contains ENV 5-8.

- **Eight envelopes.** ENV 1 / AMP controls audible note level. ENV 2-8 are assignable modulation envelopes. HOME initially shows four envelope shortcuts; **+ ADD SOURCE** can add the remaining ones.
- **Stages.** Delay precedes Attack; Hold stays at the peak; Decay reaches Sustain; Release follows note-off. AD ends after Decay and does not hold Sustain.
- **Loop.** LOOP repeats the cycle, including Delay. AHDSR loops pass through the sustain level instead of holding there. Loop Speed scales timing; note-off ends the loop and starts release where applicable.
- **Base and velocity. BASE LEVEL** sets the source contribution, from -100% to +100%; **VEL AMOUNT** adds velocity response. Check the output range drawn on the graph. ENV 1 also controls audio amplitude, so a zero output can silence a note.
- **Graph editing.** Large handles edit stage time or level; small handles edit curves. Shift refines, Enter or double-click gives exact entry, and Escape cancels the current drag.

> A modulation envelope's long release is audible only while AMP keeps the voice alive. An independent source decay, such as Overtone Ring Time, can shorten the sound before AMP Sustain ends.

# MSEG 1-4

Custom multisegment envelopes and the point inspector




**Fig. 28** MOD → MSEG. Choose the generator, cycle mode and selected-point settings.

1. Select one of **four MSEGs**. HOME's **+ ADD SOURCE** can add the extra MSEG shortcuts. The source list remains available while editing MSEG.
2. Add or remove points, then drag them in time and level. Each shape supports up to **32 points**. Use the point inspector for exact values.
3. Select Smooth, Linear or Step segments. Curve shapes a smooth segment. Interior points stay between their neighbours.
4. Choose **One Shot**, **Loop** or **Envelope**. Loop uses loop boundaries. Envelope holds the Sustain point until note-off and uses per-note scope.
5. Set Free/Sync, duration or division, polarity, retrigger and a compatible scope, then assign a matrix route.

> MSEG is a modulation source. A stepped MSEG changes an assigned parameter; Vector Stepped mode instead holds positions along an XY motion path.

# MOD MATRIX

64 routes, list filters and routing controls

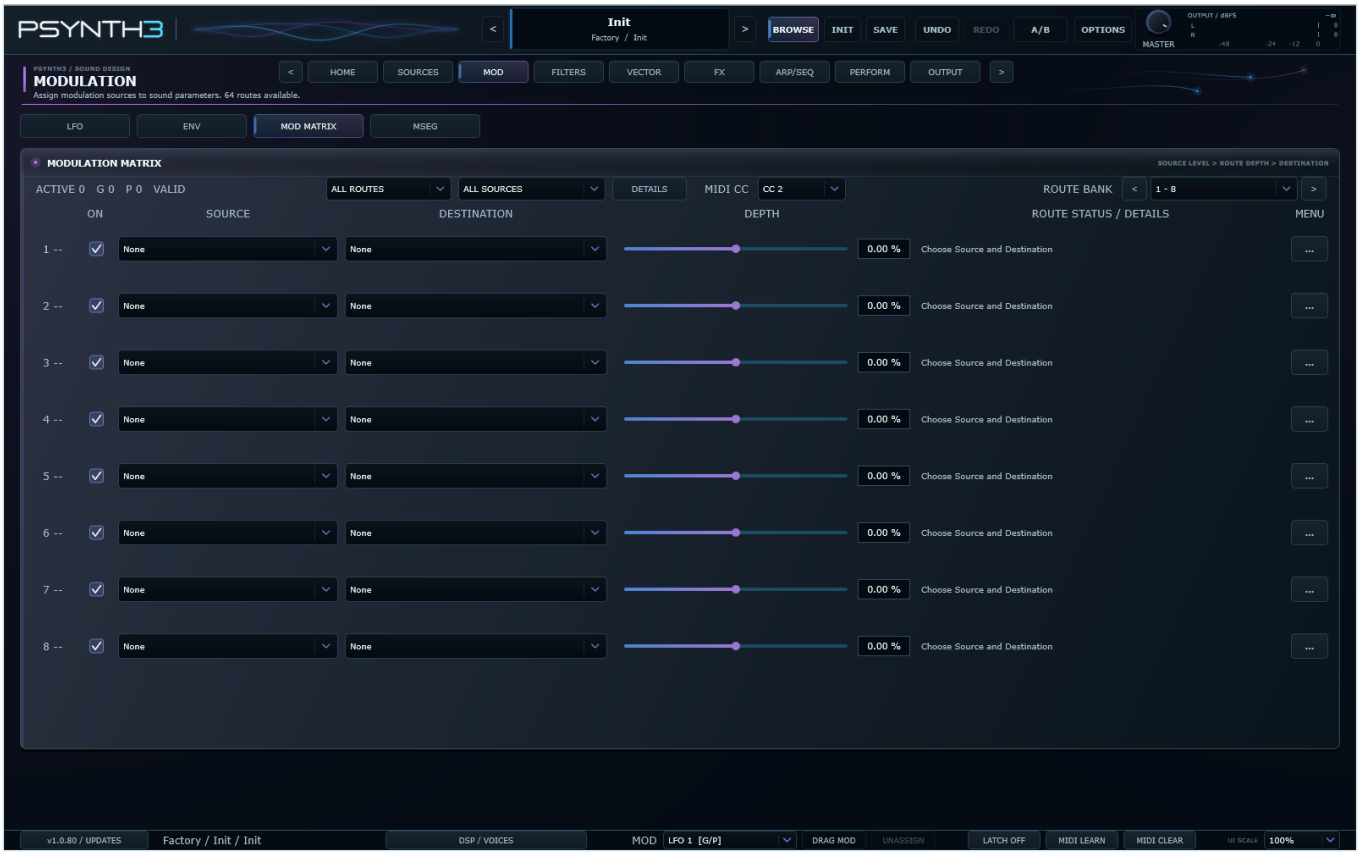



**Fig. 29** MOD MATRIX. Source and destination on the left, depth in the middle, and route options and status farther along the row.

- **1 · Source.** Choose ENV, LFO, MSEG, macro, velocity, wheel, aftertouch, MPE, random, note/key tracking or MIDI CC, among others. Sources differ in Poly/Global scope.
- **2 · Destination.** Choose a parameter from the list. List filters and route views help locate the rows in use. Check the row status if scopes conflict.
- **3 · Amount / Polarity.** Depth and sign set the range and direction. Contributions from multiple active routes combine at the destination. The knob still sets the base value.
- **4 · Details. Via** scales the route with another source. **Curve** shapes the response, and **Smoothing** slows abrupt changes. Use the row menu to copy, paste, duplicate or remove a route.

> If an existing route stops responding, check its enable switch, Amount, Via, source and destination compatibility, and whether the current algorithm or routing uses the destination.

# Assigning Modulation from HOME

Drag Mod, Ctrl and a Mod Wheel example

### Quick assignment

Drag a generator handle onto a control, or select **DRAG MOD** on HOME and click a highlighted destination. Hold **Ctrl** to assign one source to multiple destinations. Clicking an assigned destination with Ctrl can detach the route. **UNASSIGN** removes the selected connection. Use Undo if needed.

On HOME, **+ ADD SOURCE** adds shortcuts to generators; the X removes a shortcut. Pinning gives quick access to a source. Active routes and their settings determine what you hear.

### Exercise. Open a filter with the wheel

1. Select an active low-pass filter. Set the base cutoff low enough to hear it open.
2. In **MOD MATRIX**, add **Mod Wheel → Filter 1 Cutoff** with a positive amount. Lower the wheel, play a note and raise it slowly.
3. If the response is too sharp, reduce Amount or set Smoothing. If the cutoff stays put, make sure the oscillator feeds F1 and the cutoff is in the correct control mode.
4. Try **LFO 1 → Filter 1 Cutoff** with a small amount. Set **LFO 1 Amount** to zero and add **Mod Wheel → LFO 1 Amount** to bring in the pulsing motion with the wheel.

> Save two versions of the preset with different modulation settings. Hold a long note to hear the difference between moving the cutoff directly and changing the LFO depth.

# FX Rack and Slot Editing

Inserting, reordering and using MAIN / DETAIL / TONE




**Fig. 30** FX RACK. Select a slot to edit its named controls, input, output and mix.

- **1 · Chain.** Add an effect to a free position. The rack has 16 slots. Each row shows the position, effect, bypass state and branch assignment. Select the row to edit it. You can reorder and copy slots.
- **2 · Family and mode.** Choose an effect type and its **Mode**. **MAIN** shows the essential parameters. **DETAIL** and **TONE** show additional controls when the processor or mode provides them.
- **3 · Levels. Input**, **Output** and **Mix** set gain and the wet contribution. Bypass lets you compare the effect in the chain. Reset restores the current mode's starting settings.
- **4 · Metering.** Watch the signal in the meter section. Depending on the effect, the graph can show the EQ response, tap distribution or reverb settings.

> On HOME, choose **FX** in the performance section for quick rack access. After replacing an effect type, check which controls and modulation routes are available for that slot.

- The response shows the selected effect's settings even in silence. While you play, slot input and output drive the glow and mist. In **Tap Field**, watch the note flash travel through the stereo taps. Tap count, timing, spacing, taper and diffusion change the picture.

# Vector Effects and Spectrum Effects

Dedicated processor sets and family identities




**Fig. 31** FX. The selected mode determines its named controls and effect-family colour.

**Vector Effects** and **Spectrum Effects** provide additional independent processors inside the existing rack. Add the set, choose its mode, then use the mode's named controls. Existing rack processors remain available.

- Depending on the selected set and mode, processing includes distortion, filtering, EQ, modulation, delay, reverb, dynamics and stereo operations. A slot displays its actual processor name, such as Saturation or Resonant Filter.
- The row's colour identifies its processing family. Changing a mode can change that family; it does not imply that every mode in a set has the same signal path or parameters.
- Use **Input** for drive into the processor, **Output** for level compensation and **Mix** for dry/wet balance. Modulate supported parameters with a compatible global source.
- Slot assignments keep their slot identity when reordered. Recheck route meaning after changing a family or mode. A modulated Mix value is shown separately from the base pointer while editing.

> In Linear routing, placing a filter after a fold/distortion stage shapes the generated harmonics. Moving it before the shaper produces a different result.

# Linear, Parallel and Send/Return

Three routing modes, A/B branches and POST processing




**Fig. 32** SIGNAL FLOW. The diagram follows slot order and the A, B and POST assignments.

- **Linear.** A and B form one ordered main path. **POST** processes its output.
- **Parallel A/B.** Both branches receive the rack input. Their outputs are summed according to the A/B balance, then sent through POST.
- **Send/Return.** A is the insert path. **SEND** feeds its output to the wet B branch. **RETURN** sets the wet return level, and **DRY** sets the main path level. B runs fully wet in this mode and keeps its saved Mix setting for the other modes.

## Exercise. Put reverb on the return

1. Choose **Send/Return**. Place an EQ or drive in A and Space Reverb in B.
2. Start with a low **Send** and play a short phrase. Raise **Return** until you can hear the space clearly.
3. To control peaks across both paths together, place a limiter in **POST**. Check the output level.

> Splitting the signal affects the level of the sum. When adjusting the wet path, check the dry level, latency and mono compatibility.

# FX Files, A/B and Live Control

Processor presets, modulation, sync and HOLD




**Fig. 33** The slot's detail view. Available controls depend on the processor and mode.

- **PRESETS.** Load a starting point for a processor or the rack. Save an individual effect or the entire rack as a **.psfx** file. Save the instrument patch separately to User.
- **STORE A / A/B.** Compare two settings for the selected slot. **MATCH** compensates for differences in signal energy. Give it a moment to settle after switching.
- **Sync and quality.** In supported effect families, you can tie Time or Rate to a tempo division. Slot quality and synth quality are separate. More complex modes can increase DSP load or the latency reported to the host.
- **HOLD / FREEZE.** Play a signal before capturing it. Momentary mode stays active while held. **Latch** toggles the state. Assign a CC if you want to trigger capture from a controller.

> Use compatible Global sources for the shared rack. Check the destination name after changing an effect type. **Clear FX tails / holds** clears tails and HOLD states. **Panic** also stops notes.

# FX Reference. Space and Reflections

Space Reverb, Character Delay, Tap Field and Tuned Resonance




**Fig. 34** Space Reverb in Shimmer mode. Reverb, wet-band filtering and pitch controls.

## Space Reverb

**Room, Hall, Plate, Spring** cover a range of spaces, from short reflections to long, smooth tails. **Cave, Cosmic, Dual** create larger or more complex spaces. **Ducked** reduces reverb when the input is strong, **Distorted** colors the tail, and **Gated** cuts it according to the gate setting.

**Shimmer** adds pitch shifting and uses the input **HOLD**. **Reverse** creates a rising profile. Set **Decay / Size / Predelay** first, then adjust **Damping**, **Diffusion**, **Width** and **Low/High Cut** for the wet signal. The detail views offer reflection, modulation and tail-band controls.

## Character Delay

**Tape** and **BBD** color repeats, **Reverse** reverses sections of them, and **Multi-Tap** creates a series of reflections. **Modulated**, **Ducked**, **Band** and **Filter Pong** change movement, dynamics and frequency response. **Clean Echo** keeps the phrase clear, while **Diffuse Taps** blends repeats into a denser cloud.

Set **Time** or a tempo division, then **Feedback**, **Tone** and **Spread**. In **Detail**, check the modulation, diffusion and regeneration controls. In modes with **Feedback Bloom**, **Regen / Rise** set how the repeats build. Reduce Feedback if the repeats obscure the rhythm.

## Tap Field and Tuned Resonance

**Tap Field** creates a field of multiple reflections. **Free Spacing** lets you space them freely, and **Rhythmic Grid** aligns them to the beat. **Spacing / Taper / Swell / Chop** shape the timing and levels of successive taps.

**Tuned Resonance** excites four tuned lines. **Harmonic, Hollow, Dispersed** differ in distribution and response. Set **Root** and the **Voice 2-4** intervals, then **Resonance**, voice levels and **Damping**. A short impulse makes the pitch and tail length easy to hear.

# FX Reference. Movement and Stereo

Chorus, phaser, flanger, motion and stereo tools




**Fig. 35** Chorus / Ensemble. Tri Chorus with separate rate, depth and width controls.

## Chorus / Ensemble

**Multi Voice** uses several modulated copies, **Tri Chorus** distributes them across three phases, and **Dimension I-IV** offers four widening variations. Start with low **Depth** and **Mix**. **Rate**, base **Delay**, **Width** and voice count shape movement and spread.

## Phaser Extended and Flanger Extended

Phaser offers **2, 4, 8, 12, 16 Stages**. Adjust **Center** and **Depth** to distribute notches across the spectrum, then set **Feedback**. Flanger uses a very short modulated delay. **Classic**, **Through Zero** and **Negative** differ in how the delays cross, the phase and the feedback. Set **Delay**, **Depth** and **Rate** at a low monitoring level, since strong feedback can create sharp peaks.

## Motion / Ring

**Tremolo** modulates level, **Harmonic Tremolo** varies the response across bands, and **Auto Pan** moves the sound across the stereo field. **Vibrato** changes pitch. **Rotary** models rotation in separate bands, and **Auto Wah** moves a filter in response to the input. **Ring Mod** multiplies waveforms, while **Frequency Shifter** offsets partials by a fixed frequency. Choose the rate and waveform for the active mode.

## Stereo Tools

**Width** scales the stereo spread, **Haas** delays one side, **Doubler** adds a copy, and **Mono Bass** narrows the low end. **Mid / Side** adjusts the balance between the center and sides. **Polarity** changes channel polarity. Check the result with **MONO MONITOR** and the correlation meter.

# FX Reference. Pitch and Transformations

Pitch / Harmony, Granular / Glitch and Spectral / Formant

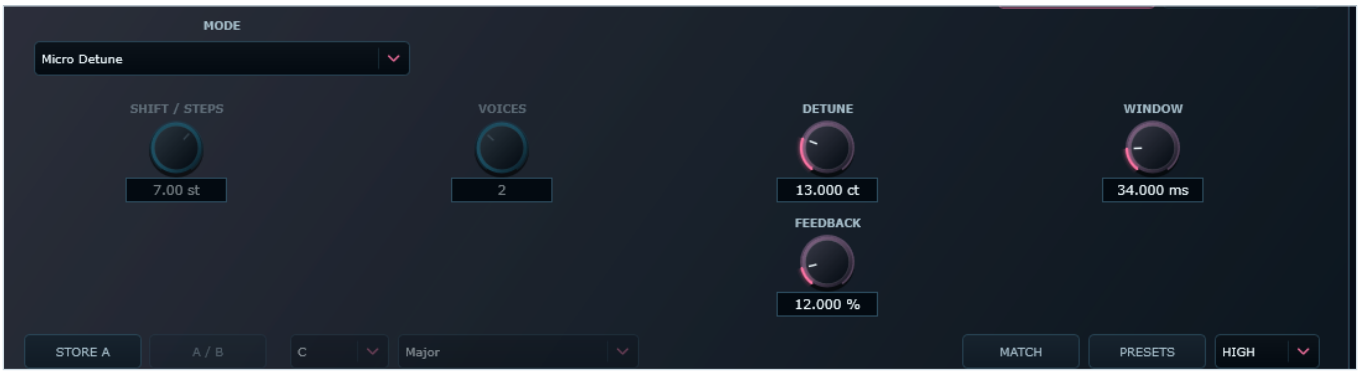



**Fig. 36** Pitch / Harmony in Micro Detune mode. Detune and analysis window controls.

## Pitch / Harmony

**Pitch Shift** moves pitch by an interval, **Chromatic Harmony** adds voices in semitones, and **Diatonic Harmony** follows the scale chosen with **Root / Scale**. Start with a single melodic line when using diatonic tracking. **Octaver** adds octaves, **Micro Detune** detunes copies, **Doubler** thickens the sound, and **Crystal Echo** combines pitch shifting with echo.

**Window** balances response speed and stability. In the Micro Detune and Doubler detail controls, adjust voice offset, delay, tone, balance and width.

## Granular / Glitch

**Granular Delay** scatters grains in time, **Stutter** repeats a segment, **Retrigger** restarts playback, and **Reverse** plays fragments backward. **Time Stretch** changes how the buffer is scanned, and **Buffer Freeze** holds the captured audio. Start with **Size**, **Density**, **Pitch** and **Spray**. **Speed** controls the playback rate in supported modes.

## Spectral / Formant

**Spectral Freeze** holds the captured spectrum. **Blur** softens its detail, **Tilt** redistributes energy, and **Hold** controls the freeze. **Formant Shift** moves the spectral envelope to change the tone without shifting every partial by the same interval. Compare settings on a voice, a pad or a sustained note with a rich spectrum.

# FX Reference. Saturation and Lo-Fi

Fuzz / Drive, Phase Reactor, Mlizer, Warmizer and Lo-Fi




**Fig. 37** Phase Reactor. Character and quality selectors and phase-shaping controls.

## Fuzz / Drive

**Fuzz** adds saturation, **Hard Clip** applies a hard amplitude limit, **Rectifier** changes the polarity of parts of the waveform, and **Multiband** processes bands independently. Set **Drive** and **Tone**, then adjust **Bias**, **Sag**, and the crossover and band levels where available.

## Phase Reactor

Shapes the phase and tone of the signal. **Twist**, **Body**, **Bite** and **Coupling** affect the color and response. **Keep Low** helps retain the low-end foundation. Hold a note rich in harmonics to hear the differences clearly.

## Mlizer and Warmizer

**Mlizer** adds a metallic, resonant character. Use **Metal**, **Tone**, **Attack** and **Raw** to shape the tone and transient response. **Warmizer** combines saturation with dynamic pressure. Adjust **Heat**, **Body**, **Pressure** and **Tone** for the input level. Match loudness before comparing.

## Lo-Fi

**Bitcrusher** reduces resolution. **Sample Reducer** lowers the effective sample rate. **Cassette**, **Vinyl** and **VHS** introduce different types of wear and instability. Start with a low mix, then add **Wow**, **Noise**, **Crackle** or **Dropout**, depending on the mode.

# FX Reference. EQ and Dynamics

EQ, Dynamics Tools, Compressor Extended, Lookahead Limiter




**Fig. 38** 4-Band Parametric EQ. Four bands and their active points on the graph.

## 4-Band Parametric EQ

Each of the four bell bands has its own **Frequency**, **Gain** and **Q**. Drag a point to change frequency and gain. Use the mouse wheel to adjust bandwidth. Compare with the band enabled and bypassed. A high Q can isolate a resonance. A wider band often sounds more natural for broad tonal changes.

## Dynamics Tools

**Gate** attenuates quiet signals, while **Expander** increases dynamic contrast. **Multiband Compressor** splits processing by crossover frequency. **Dynamic EQ** changes a band according to level, and **Transient Shaper** shapes attack and sustain. Set the threshold while playing at a typical input level.

## Compressor Extended

Choose **Peak** or **RMS** detection. The **Auto Release** variants adapt the release to the signal. **Threshold / Ratio** set the reduction, **Attack / Release** set its timing, and **Knee** softens the transition. **Makeup** restores level, and **Detector HP** reduces the influence of the lowest frequencies on the detector.

## Lookahead Limiter

**Threshold** determines how much of the signal is limited, **Ceiling** sets the output limit, and **Release** sets recovery speed. **Sample Peak** reacts to samples. **Inter-sample Peak** estimates peaks between samples using the processor's algorithm. Lookahead latency is reported to the host. Put the limiter in POST to cover all branches.

# ARP and Chord Memory

Patterns from held notes, with tempo, gate and swing




**Fig. 39** Upper ARP/SEQ panel. Arpeggiator, chord memory and global sequencer controls.

- **1 · ARP.** Enable the arpeggiator and hold a few notes. **Up, Down, Up/Down, Random, Order** determine playback order. **Rate** sets the tempo division, **Oct** sets the octave span, **Gate** sets note length, and **Swing** shifts the rhythm.
- **2 · CHORD.** Four saved intervals in semitones build a chord from the input note. **Transpose** shifts the entire chord. Try 0, 4, 7 and 12 for a major chord with an octave.
- **3 · SEQUENCER.** Edit the separate sequencer in the lower grid. Turn off SEQ to hear ARP on its own. Use **Tempo** in standalone mode. In a DAW, the host tempo takes priority when available.

## Play the pattern

Play a chord at **Rate 1/16** with a moderate Gate. Switch from Up to Order and play the notes in a different sequence. Then enable CHORD and try one key. In a DAW, record the input notes. The generators' behavior is saved with the plug-in state.

> If the preset audition plays a different riff from the selected phrase, check whether the preset has ARP or SEQ enabled.

# 32-Step Sequencer

Two pages, six step parameters and pattern banks




**Fig. 40** Lower ARP/SEQ panel. Steps, note parameters and the modulation lane.

1. Enable **SEQ** and set **Length** and **Rate**. Switch pages to see steps 1-16 or 17-32. Start with a short pattern and one input note.
2. Edit **Pitch**, **Velocity** and **Gate**. **Probability** sets the chance that an event is skipped, and **Ratchet** divides a step into repeats.
3. Set **Mod** for the steps you want to change. This lane drives **Macro 8**. **MOD TARGETS** opens the assignments, where you can add a filter or another compatible target. Existing Macro 8 routes respond as well.
4. Use **Copy / Paste**, **Clear**, **Random** or **Rotate** to create a variation. Store and recall patterns in eight banks, then save the state in a User preset or project.

> To distinguish a short Gate from a skipped event, set Probability to 100% and play the pattern again. Zero velocity or an active Fix Level can change what you hear.

# Macros and MIDI Learn

Eight performance controls, mapping and automation




**Fig. 41** PERFORM → MACROS / MIDI. Macros, assignments, ranges and MIDI.

- **1 · Macros.** Each of the eight macros can drive several routes at once. Names and colors are part of the preset. In the DAW, the parameters remain available as **Macro 1-8**.
- **2 · Edit Assignments.** Choose a macro, then an assignment. **Min**, **Max** and **Curve** set how the route responds. A Min above Max reverses the direction. **Show Selected in Matrix** opens the row. The macro's other routes stay active.
- **3 · MIDI Learn.** Assign a controller to a macro. The footer's general **MIDI LEARN** works with compatible knobs. Enter Learn mode, select a control and move a knob that sends CC. Green indicates assigned targets, while blue indicates available unassigned targets. Use **MIDI CLEAR** to remove mappings.

## DAW automation

Record macro movement in an automation lane to control it from the project. **LEARN MOD CC** in the matrix selects a general CC modulation source independently of macro mapping. Sustain and note-stop messages keep their dedicated functions.

> Instance mappings survive preset changes and are restored with the project. Save the project to recall the same mappings later.

# Keyboard, Voices and Expression

PERFORM → VOICE / KEYBOARD, MPE and Fix Level




**Fig. 42** VOICE / KEYBOARD. Voice parameters, keyboard, quick macros and performance setup.

- **1 · Voice Mode. Poly** plays several notes. **Mono** and **Legato** use one voice. **Glide** controls pitch transitions, and **Retrigger** sets the response to successive notes.
- **2 · Macros.** Shape the sound as you play. **Edit Macros** opens the assignments. Choose preset polyphony and quality settings that suit the project.
- **3 · Keyboard and LATCH.** Clicked notes can stay active until you click them again. **RELEASE** lets go of all held notes and leaves LATCH on. Ordinary MIDI input plays notes while held.
- **4 · MIDI and MPE.** The master channel is 1 for MPE Lower and 16 for Upper. Match the member channel count and bend range to your controller. Pressure and CC74 can work per note when the DAW passes them through.

> **Fix Level** replaces velocity with a value from 0 to 127 for playing and for the generators. Zero produces silent notes. Turn it off for a dynamic response. If Pitch Bend also drives a matrix route, that route can add to the usual pitch bend.

# Hardware XY Controller

Learn, calibration, range and Auto Depth

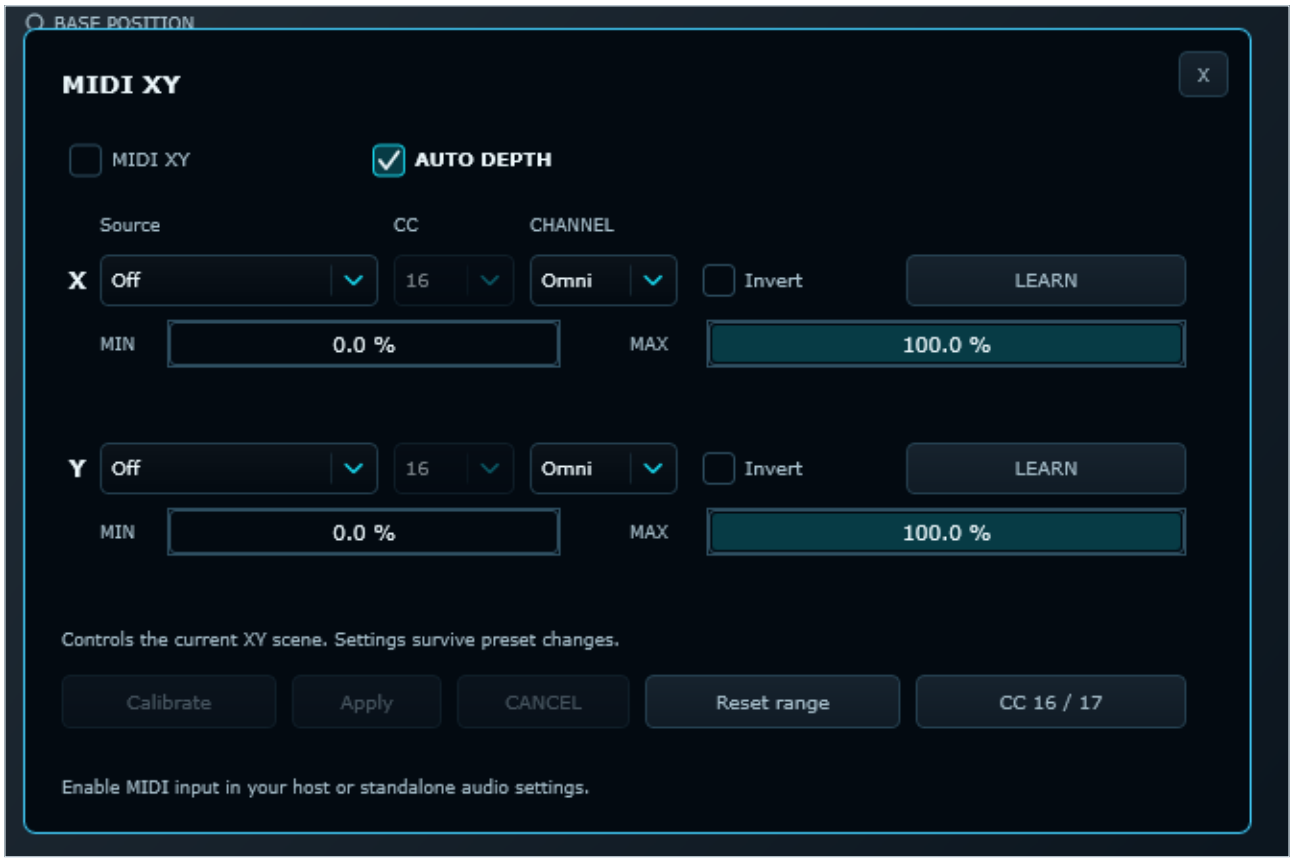



**Fig. 43** The MIDI XY panel. Each axis has its own assignment, channel and range.

1. Enable the device's MIDI port in standalone mode or route it to the PSynth3 track in your DAW. Make sure the host passes the message type and channel you are using.
2. Open **OPTIONS** → **MIDI XY**. Use **LEARN** for X and move the pad horizontally. Repeat for Y with a vertical movement. Use **CC 16 / 17** for a controller that sends those CC numbers.
3. If necessary, select **Calibrate**, sweep both axes through their full ranges and click **Apply**. Calibration measures the range of movement. Use **Invert** for a reversed axis or **Reset range** to restore the full range.
4. Return to **VECTOR**. Check that the movement comes in on the correct channel, MIDI XY is enabled, and the selected layer has enough depth to hear the gesture.

## Message types and Auto Depth

The axes accept standard CC, 14-bit CC pairs, Pitch Bend or Channel Pressure. The channel filter or Omni setting determines which messages are accepted. NRPN, RPN and SysEx are unsupported as axis inputs.

**Auto Depth** can raise the relevant depth when you deliberately move a learned axis. If the pad moves the point without changing the sound, choose a layer with different corner values or increase its Vector contribution.

# OUTPUT / FINISH

Final tone, level and mono monitoring




**Fig. 44** OUTPUT. Finish controls on the left, meters on the right and the final signal path along the bottom.

- **1 · Finish.** Enable **FINISH** to apply final tone shaping. **Body** and **Air** are broad shelves around 180 Hz and 6 kHz. **Density** adds soft parallel saturation.
- **2 · Width and mix. Width** scales the Mid/Side balance, with 100% neutral. **Mono Bass** narrows the low end, **Mix** blends the Finish path with the FX output, and **Trim** adjusts the level.
- **3 · Metering.** Check sample peaks in dBFS, RMS, correlation and the change in energy when summed to mono. **OVER** indicates samples above 0 dBFS. If the level is high, identify whether to adjust a source, the rack, Trim or Master.
- **4 · Master.** This is the same output control as in the header. **Gain Match** adjusts level gradually to aid comparison. Give it time to settle before judging the sound.

> **MONO MONITOR** provides temporary monitoring and turns off when you leave OUTPUT. Offline rendering bypasses it. Turn it off before a real-time stereo export.

- **AMP LEVEL** adjusts amplitude before the rack. **PATCH TRIM** is a saved per-preset gain after synthesis and effects; it works with Finish off and leaves filter/effect drive unchanged. Use it to balance patches, watch the output meter and save the preset.

# Performance / Options

Polyphony, live and export quality, locks and tails

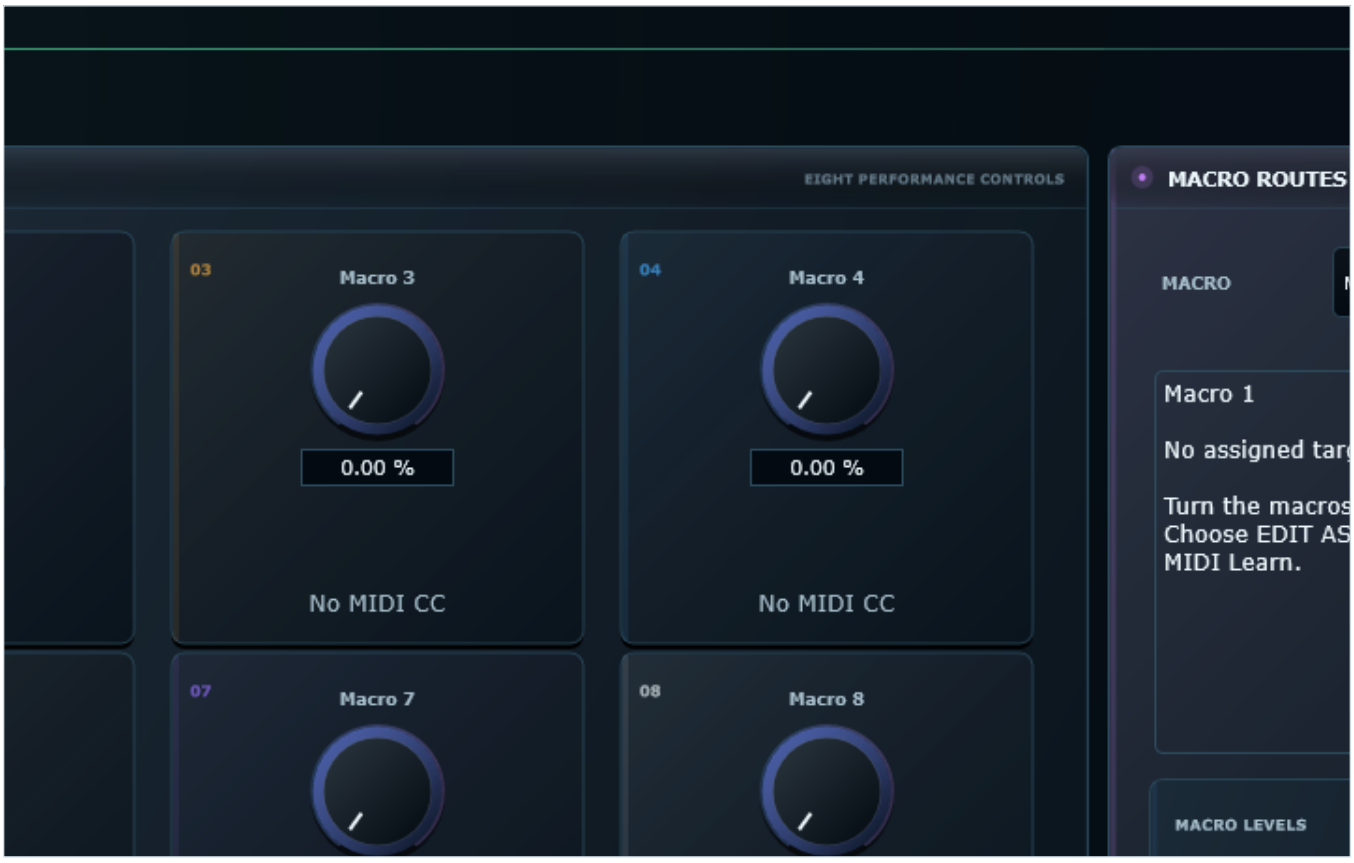



**Fig. 45** Performance options. DSP, PEAK, VOICES and LATE are shown above the quality policies and locks.

- **Polyphony / Limit Policy.** Choose 4, 8, 16, 32 or 64 voices. **Use preset limit** follows the preset. **Force** imposes an instance limit. Mono and Legato each use one voice.
- **Live Quality / Offline Export.** ECO 1x, NORMAL 2x and HIGH 4x set engine quality. The separate export policy applies when the host reports offline rendering. Real-time export uses the live settings.
- **Preset locks.** Lock Master, quality, polyphony, MIDI/MPE or the rack through preset changes, Init and A/B. Reopening a project restores its own settings. Modulation routes are part of the sound and can change while the rack is locked.
- **Preserve previous FX tails.** The previous rack can decay for up to 30 seconds. Another change replaces the older tail. Preserving a tail temporarily increases DSP load.

## Read the meters in context

**DSP** shows the share of the audio block's time budget in use, **PEAK** shows the highest measured share, **VOICES** shows active voices and their limit, and **LATE** counts blocks that ran over budget. **Reset Meters** clears the measurements. If you hear crackles, try a larger buffer or reduce polyphony, unison or demanding effects. Change one factor at a time.

# Updates, State and Diagnostics

Save your work, run the installer and export a report

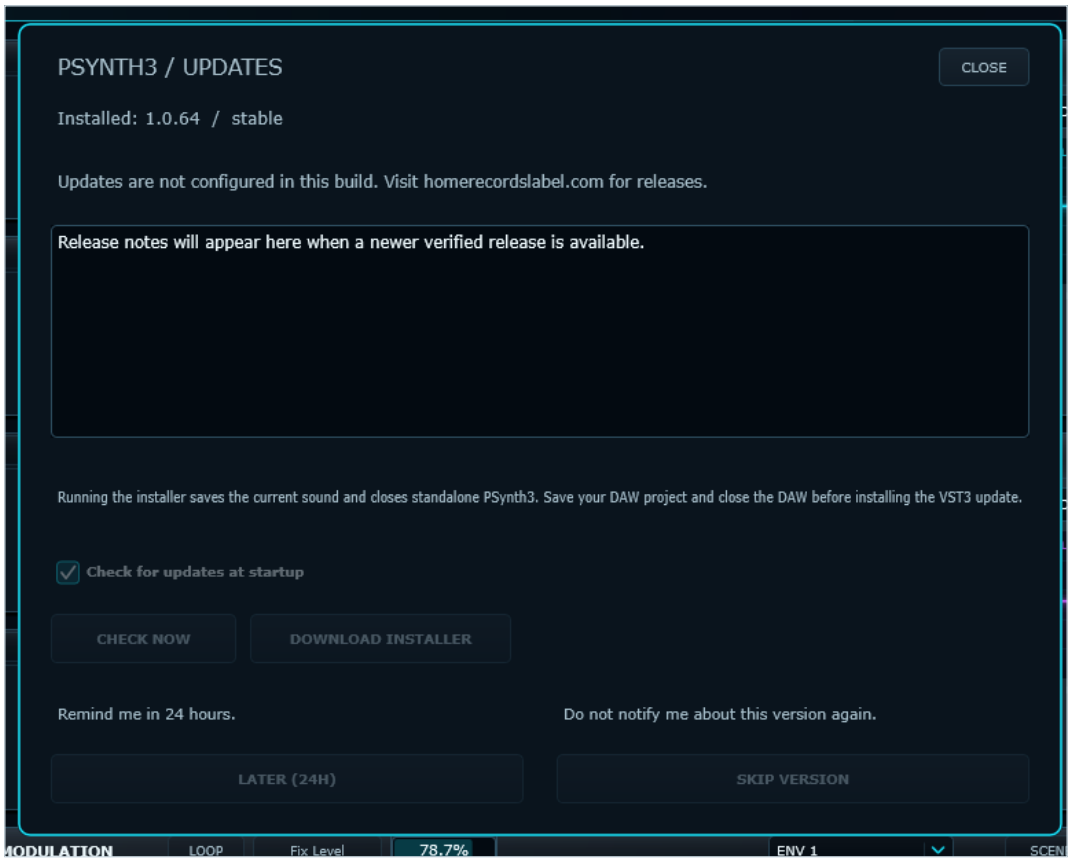



**Fig. 46** The UPDATES panel in the isolated documentation environment. In a release installation, the status reflects the update channel check.

1. Click the version button or choose **OPTIONS → Updates / installer**. **Check now** checks the channel. When an update appears, read the release note and choose **Download Installer**. **Later (24h)** defers the reminder, and **Skip Version** skips that release.
2. Once the installer is verified, select **Run installer** in standalone mode. The application saves a recovery state before closing gracefully. Save a User preset as well if you want to recall the sound independently of the standalone state.
3. For VST3, save the project, close the host and run the verified installer from the download folder or through **HRL Center**. The installer may ask you to close an application. Close your DAW manually. HRL Center stays open during installation.

## Support

**OPTIONS → Help / diagnostics** provides local logs and **Save Support ZIP**. Save and review the archive before sending it. Include the PSynth3 and Windows versions, the DAW name and brief steps to reproduce the issue. For audio problems, include the device, sample rate, buffer size and DSP readings.

**contact@homerecordslabel.com**

# Troubleshooting

Start with a short test using a simple preset

- **VST3 does not appear in the DAW.** Check that you installed the complete bundle and are using a 64-bit host. Check the scan path and the blocked plug-in list. Verify the folder in **installation.ini**, then rescan after installation.
- **The note appears, but there is no sound.** Check audio status in the license panel, **Fix Level**, enabled sources and **ENV 1 Amount / Vel Amount**. Follow the routing through to Master and the track output.
- **The on-screen keyboard works, but the controller is silent.** Enable the port in settings. Check track arming or monitoring and the MIDI channel. For MPE, match the zone and channels.
- **A filter, knob or effect does not respond.** Check bypass, routing, whether the control is available in the current mode and whether a scene has taken over the destination. In the matrix, read the scope and assignment status.
- **A custom wavetable is missing.** Find the original WAV and frame settings. Relink the file or import the portable preset.
- **Sound continues after releasing the notes.** Turn off LATCH or press RELEASE. If only the tail remains, use **Clear FX tails / holds**. To stop both notes and the rack, use **Panic**.
- **Crackles or noticeable lag.** Check LATE, raise the buffer size and reduce voices or unison. Check the number of active instances and effect latency. If the interface redraws slowly, lower Visual feedback quality separately.
- **The sound becomes weak in mono.** Check correlation and **MONO MONITOR**. Reduce Haas, stereo spread, filter separation or the level of a wide FX return.
- **The updater reports a file in use.** Save and close the host. If the standalone application stays open, save its state, close it manually and retry installation.

# Build a Bass from INIT

Sub layer, filter envelope and low-end control

1. Save the previous patch and load **INIT**. In **SOURCES**, leave one oscillator active. Try a Vintage saw with **Unison 1**.
2. Route the oscillator to **Filter 1**, choose LP and lower the cutoff. Add a little resonance. Play short notes in one register.
3. In **MOD** → **ENV**, select ENV 2. Set a fast Attack and short Decay. In the matrix, assign **ENV 2** → **Filter 1 Cutoff** with a small positive amount.
4. Enable **Sub** in **UNISON / SUB / NOISE**. Choose Sine and -1 octave. Balance the sub against the main oscillator and try it across several notes.
5. Go to **PERFORM** → **VOICE / KEYBOARD**. Compare Poly and Legato. In Legato, set a short Glide and play two overlapping notes.
6. Compare stereo and mono in **OUTPUT**. Apply a moderate amount of **Mono Bass** if needed. Save to User with a descriptive name.

### Performance variation

Add **Mod Wheel** → **LFO 1 Amount**, set the base Amount to 0 and route the LFO to the filter. Raise the wheel toward the end of a phrase to bring in the movement. Compare both versions in A/B.

# Vector Pad with a Recorded XY Phrase

Independent sources, scenes and motion recording

1. Start with INIT or a copy of a mellow preset. Choose two contrasting sources, such as Wavetable and Electric. Set both to roughly the same perceived loudness.
2. Give **ENV 1** a longer Attack and Release. Move XY between active corners in the **Sources** bank. Listen for what happens when you reach a corner with no active oscillator.
3. In the **Tone** bank, set a lower cutoff in one corner and a higher one in another. Set a separate Tone depth if you want its movement to be subtler than Sources.
4. In **MOTION / RECORDING**, choose **REC** and draw a slow arc. Stop the recording. Use **Smooth** to soften the motion and **Start / End** to keep the best section. Loop the result and compare Mirror and Clamp.
5. In FX, put reverb on branch B in **Send/Return**. Use a low Send and a medium Decay. To control the return as you play, use an Effects scene or a macro.
6. Save the preset and a separate **.psmotion** file. Open the Preset Browser, choose **Chord** and compare **BASE** with **VECTOR**. The motion stored in the patch shapes the patch itself. The temporary audition path lets you hear how its layers respond.

### Check the result in context

Record the same phrase twice. Keep the movement and effect tail for the first pass, then reduce both for the second. Compare the takes in the arrangement to judge how much space and release the part needs.

# Glossary and File Formats

A quick reference for terms used on screen

- **A/B.** Temporary comparison of two sound states, or a separate comparison pair within an FX slot.
- **CC / MPE.** A MIDI controller message and a standard for per-note expression, respectively. **MIDI Learn** assigns a controller, and Poly/Global scope determines where modulation applies.
- **Cutoff / Q.** A filter's cutoff frequency and a measure of bandwidth or sharpness, depending on the processor.
- **Drive / Mix / Wet.** The level driving a processor, the balance of original and processed signals, and the processed signal itself.
- **Envelope / LFO / MSEG.** A note-dependent contour, a periodic modulator and a curve drawn from segments.
- **Gate / Swing / Ratchet.** Event length, rhythmic offset and the subdivision of a step into repeats.
- **Headroom / dBFS.** The margin before the digital peak limit and the sample level scale relative to full scale.
- **Scene / Morph.** A corner that stores values and interpolation between saved points.
- **Unison / Voice Limit.** Oscillator copies within a note and the maximum number of simultaneous note voices.
- **.psynth3preset / ZIP.** An individual sound file and a portable package containing its dependencies.
- **WAV / .psynth3wt.** Wavetable source audio and the metadata for its frame settings.
- **.psmotion / .psfx.** A Vector path file and a saved effect or rack.

> Written for PSynth3 on Windows x64. The Tempest VSTi Classic and Modern Extensions manuals informed the chapter layout, captions and navigation. The feature descriptions come from PSynth3. The new FX, Table Library, Instruments and Preset Generator screens show example patches. Some unchanged controls are illustrated with earlier screenshots.