

USER MANUAL

Create your sound. Explore every layer.



VERSION 1.0

Four layers. Wavetable and sample sources. Independent patterns, expressive modulation and three effects chains.

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Apex was previously named Elevate. Existing presets remain compatible. Screenshots show Apex with example sounds and settings.

Contents

Click a section title or use the PDF bookmarks. Screenshots show example settings.

GETTING STARTED

Sound design, in plain English	3
Your first sound	4
Finding your way around	5
Browser & sound library	6
Saving presets & banks	7

SOUND DESIGN

The four layers	8
Wavetable oscillator	9
Wavetable examples	10
Unison	11
Unison modes	12
Warp & waveform character	13
Harmonics editor	14
Wavetable Designer	15
Drawing & editing Line sources	16
Keyframes & source motion	17
Designer output, save & export	18
Process & musical randomise	19
Samples & SoundFonts	20
Sample loop editor	21
Keyboard splits	22
Frequency Splitter	23
Layer filters	24
Main Filter	25
Creative filter colours	26
Amplitude & voicing	27

PATTERNS

Sequencer basics	28
Note editing & chord tool	29

PATTERNS

Pattern settings & layers	30
Arpeggiator	31
Chords	32

MODULATION

LFOs & the modulation dock	33
Random modulators	34
Modulation envelopes	35
Matrix & assignments	36
Macros, ranges & Aux	37

MIXING

Mixer	38
Routing & gain staging	39

EFFECTS

Working with the FX rack	40
Limiter	41
Phaser	42
Chorus	43
Delay	44
Reverb	45
Impulse Reverb	46
Distortion	47
Equalizer	48
Stereo Shaper	49
Dynamics	50
Trance Gate	51
Filter effect	52

REFERENCE

Master, MIDI & settings	53
Three practical patches	54
Troubleshooting & CPU	55
Terms & quick reference	56

Sound design, in plain English

Sound design simply means choosing and changing a sound. Start with one layer and follow these four ideas; you can explore the advanced controls later.



APEX / GETTING STARTED / SOUND DESIGN, IN PLAIN ENGLISH

1. Choose what makes the sound

A source is the starting sound. An oscillator generates a repeating wave; a sample plays a recording. Pitch is how high or low the note is. Tone, sometimes called timbre, is its character: a piano and a synth can play the same pitch but sound different.

2. Shape its brightness

A filter removes or emphasises parts of the tone. Low frequencies give bass and body; high frequencies give brightness. A low-pass filter reduces high frequencies. Lower its Cutoff to soften a sound; raise it to let more brightness through.

3. Shape how notes behave

An envelope is a change over time. The AMP envelope controls loudness: a short Attack starts quickly, while a long Attack fades in. Release is the fade after you let go. A filter envelope changes brightness instead of loudness.

4. Add movement and space

An LFO repeats a control movement, such as a gentle pulse. Effects add things like echo (Delay) or room sound (Reverb). Dry means the original audio; wet means the effected audio. Mix usually balances the two. Add a little and compare before adding more.

WORKFLOW NOTE

Listen at a comfortable level. Hold a note, change one control and hear the difference. Undo is useful for comparisons; save any version you want to keep.

Your first sound

You do not need to understand every control to begin. Load a ready-made sound, change one thing, then save your own version.



APEX / GETTING STARTED / YOUR FIRST SOUND

1. Load and listen

Open Apex as an instrument in your music-making program (your DAW). Select its track and play your keyboard or the on-screen keys. Init is a simple starting sound, not an empty instrument: it uses one saw oscillator with no sequenced phrase.

2 Explore a preset

Click Browser, select a bank or category, and click a sound. Play a few notes, then try the six macros. Click Browser again to return to the previous page, or choose Sound directly.

3. Make one simple change

Click Init and keep Layer A selected. Try a different waveform, then listen while changing one control. For a softer start, increase Attack in the AMP section. For a fade after releasing the key, increase Release. Compare before adding more layers or effects.

4 Save your work

Use Save and choose a clear name and destination. Save before changing sounds if you want to keep the edit. The top undo/redo arrows help recover edits, but a saved preset or DAW project is your permanent copy.

WORKFLOW NOTE

If there is no sound, try Init and the on-screen keyboard first. The troubleshooting page gives a short signal-path check.

Finding your way around

Think of the top tabs as different jobs: choose a sound, shape it, write notes, add movement and finish the mix. Start on Sound; explore the others when you need them.



APEX / GETTING STARTED / FINDING YOUR WAY AROUND

The seven workspaces

Browser finds sounds. Sound edits the selected layer and main envelopes. Sequence contains the sequencer and arpeggiator. Chords builds note stacks. Matrix manages modulation. Mixer handles levels and routing. Effects edits the three FX chains.

Layer colours

A is amber, B green, C blue and D coral. Layer-coloured section titles identify controls for the selected layer. Main Filter, AMP and Master controls affect a broader part of the instrument.

Everyday gestures

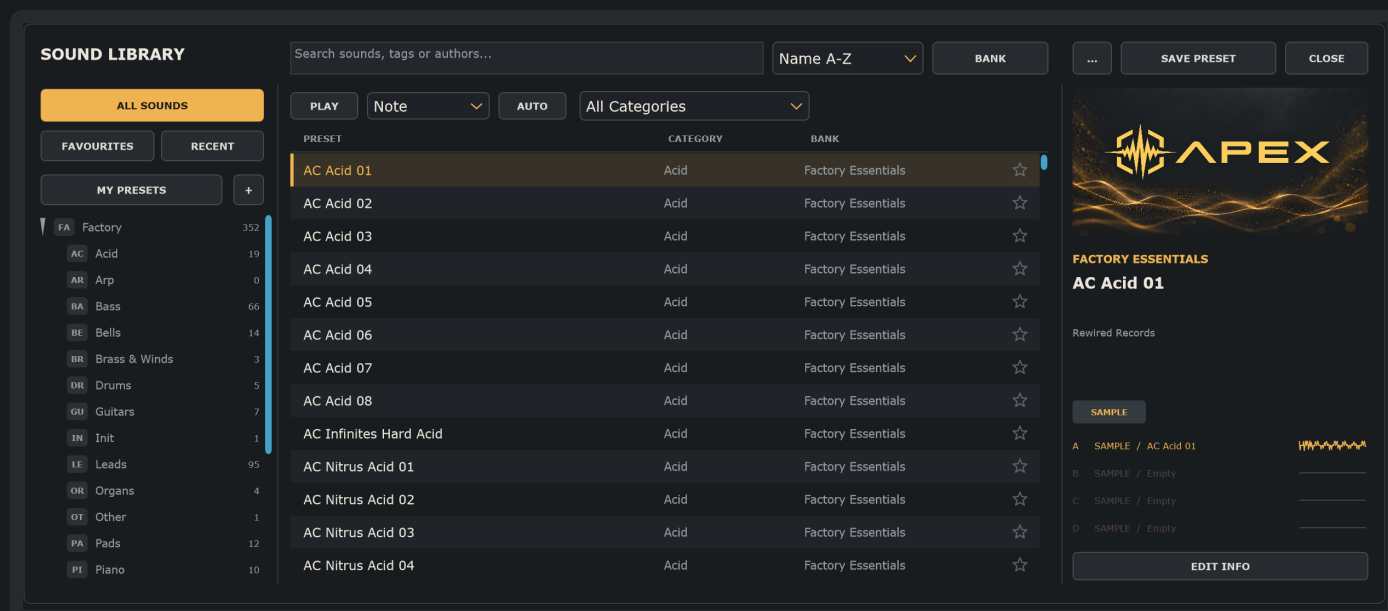
Drag a knob to change its value; Ctrl or Shift gives finer adjustment on supported knobs. Double-click a value to enter an exact number. Right-click a supported control for assignments and MIDI Learn. Menus and editors usually close with Escape, their close button or an outside click.

Live displays

Waveforms, modulation markers and meters help explain what is happening. A knob normally shows its stored base value; modulation moves the live marker around it. Brief envelope peaks may be held visually so fast movement remains visible.

Browser & sound library

The Browser is your sound collection. A preset is a saved instrument setup; loading one is the quickest way to find inspiration without building a sound from scratch.



APEX / GETTING STARTED / BROWSER & SOUND LIBRARY

Find a sound

Choose All Sounds, Favourites or Recent, then browse by bank or category. The larger preset list keeps more sounds visible. Search matches names, categories, banks, authors and character tags; use several words to narrow the results.

Audition

Click a preset to load it. Use the star to favourite it and Up/Down to move through sounds. Note, Chord and Pattern choose the browser audition style; Play starts the preview and Auto auditions sounds as you load them. Closing Browser stops its audition.

Organise

Use the sort menu to change the list order. Hover over the bank artwork to reveal its upload icon and recommended dimensions: 1024 x 512 px (2:1). Edit Info also includes an artwork preview and upload control. The browser remembers its location when the editor is reopened.

Editing while browsing

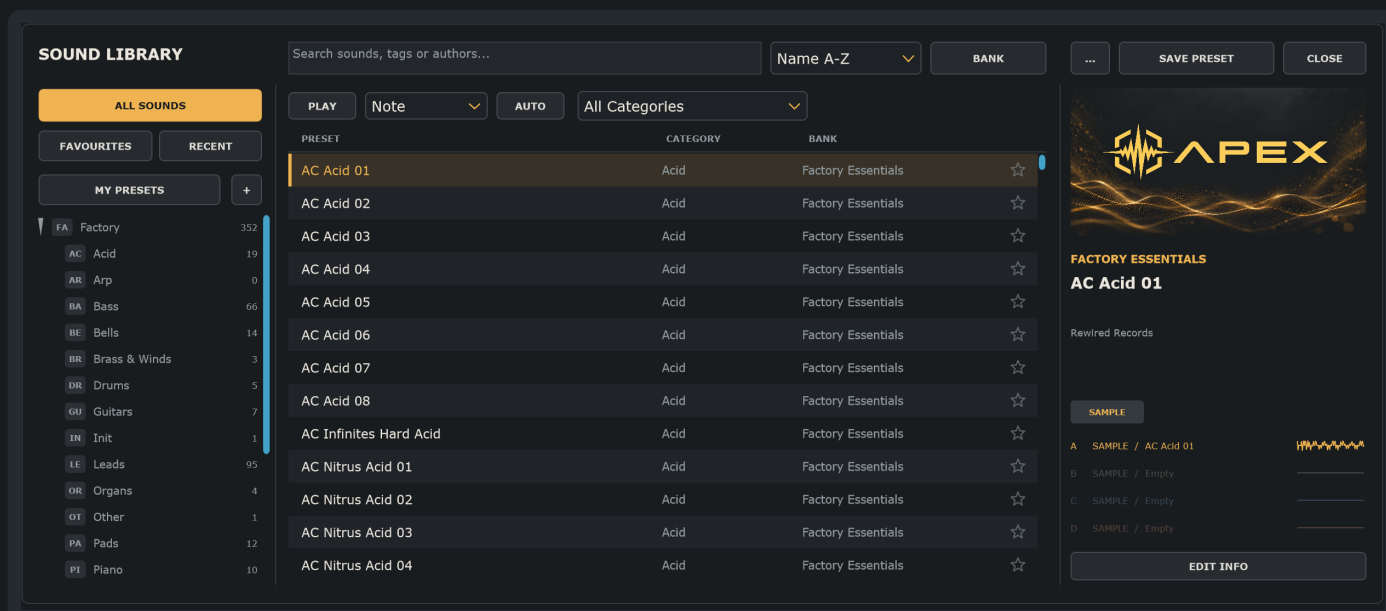
The modulation dock remains usable. Open an LFO, Random or envelope editor, adjust its movement and return to the browser without losing your browsing position. Factory sounds include the EV Samples WAV collection in Acid, Bass, Organs and Voices; each sound also has a factory preset.

WORKFLOW NOTE

Switch off Lock Patterns when auditioning the patterns authored into different presets.

Saving presets & banks

A preset remembers a sound you have made. A bank groups several presets for a project or collection; save your edits before switching sounds.



APEX / GETTING STARTED / SAVING PRESETS & BANKS

Save one sound

Use Save for the current sound; use the header menu's save options to make a separate copy. Enter the intended name before confirming. Names can include a sharp sign (#). Save after editing layers, modulation, patterns or effects so those settings travel with the sound.

Build a bank

Choose Bank > New Folder, then Save Preset in that folder. Right-click it > Bank Details to set its name, author and description. Edit Info edits preset details and shared bank/folder artwork. Uploads there are saved with Apply; Cancel discards them. Select presets from one bank/folder to edit artwork together.

Move and export

Right-click a stored preset to Copy, select another bank/category and Paste. Bank > Export .apexbank exports the stored sounds in the chosen bank, including sounds hidden by the current search. Save current edits before exporting.

Import and portability

Import a .apexbank from Bank, or drop it into Browser. User-imported sample and wavetable data travel with saved presets and banks; factory sounds use Apex's installed sample library. A DAW project also recalls the instrument state. When sharing, test the result on a machine that cannot access your original source folders.

WORKFLOW NOTE

Hover over artwork and click the upload icon, or right-click a folder > Bank Artwork. Browser uploads save immediately. Recommended: 1024 x 512 px (2:1), PNG or JPEG, under 8 MB. Larger images reduce to 1024 px on the longest side; other ratios crop to fill.

The four layers

Layers are sounds you can play together from the same keyboard. Use one for simplicity, or combine complementary parts, such as a warm body and a bright attack.



APEX / SOUND DESIGN / THE FOUR LAYERS

Select and balance

Click the layer header to select it; the source selector switches Sample/Oscillator. The sound name and arrows browse sources. The header fader, Sound level and Mixer fader share the same layer gain, extending down to -100 dB before the fully silent -infinity position.

Mute, solo and FX

M mutes the layer; S solos it for listening. FX enables that layer's rack routing. Turning FX off bypasses the rack effects while retaining its enabled filters and final gain. Choose a specific FX destination in Mixer or the Effects routing popup.

Independent control

Layers retain separate source settings, pitch, pan, key range, Frequency Splitter and layer filter. A layer can follow the Main pattern, play live MIDI or use its own sequence/arp. Empty sample layers are silent until a source is selected.

Layer actions

Use the layer context menu for the available copy, paste and lock actions. A locked layer can be retained while exploring other sounds. The dice button randomises layers; save a useful result before continuing.

WORKFLOW NOTE

Add layers because they contribute a useful role: for example bass, attack, body and air. Extra active layers also add processing cost.

Wavetable oscillator

An oscillator creates a repeating vibration that you hear as a note. A wavetable stores different wave shapes; moving between them changes the tone without writing a new melody.



APEX / SOUND DESIGN / WAVETABLE OSCILLATOR

Choose a tone

Select Wavetable and choose a waveform or table. A frame is one wave shape; think of a multi-frame table as a flipbook of tones. WT Pos chooses where you are in that book. Hold a note and turn it slowly. A single-frame table has no different frames to move through.

Tune and place it

OCT moves by octaves; NOTE by semitones (one piano-key step); FINE by cents (100 per semitone). LEVEL sets volume and PAN moves left/right. PHASE sets where a wave starts; FREE varies that start on each note. Leave PHASE and INVERT alone initially; they are optional shaping tools.

Make it thicker

VOICES adds copies for each note. DETUNE makes small pitch differences between them; BLEND balances the centre and outer voices. STEREO spreads them left/right. Try three voices with a little detune, then compare with one. Lower Level if the thicker version is also louder.

Read the display

Click the waveform background to switch between a flat 2D wave and a 3D table; the pencil opens its editor. Adjust Voices, Detune or Blend to see voice bars temporarily. Left/right position means pitch, not stereo position; taller bars mean louder copies.

WORKFLOW NOTE

Start with modest unison counts. Detuned stacks on several layers multiply the work for every held note.

Wavetable examples

Six raw waveforms from the factory library, from simple cycles to complex harmonic shapes. Each screenshot shows one cycle at the stated WT Position, with no live Warp or effects applied.

CV Sine

Classic Variations | WT Position 0%



A smooth, rounded cycle for a simple starting tone.

CV Saw

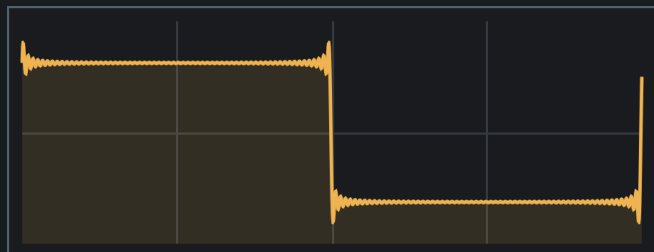
Classic Variations | WT Position 0%



A falling ramp with a sharp reset, rich in harmonics.

CV Square

Classic Variations | WT Position 0%



Broad, flat plateaus give a hollow square-wave character.

FM Glass

Digital & FM | WT Position 50%



Additional ripples create a more intricate glassy tone.

Vowel Sweep

Vocal & Choir | WT Position 50%



A complex cycle with the library table's vocal character.

DG Comb Crusher

Digital & FM | WT Position 72%



Dense peaks and notches produce an aggressive digital texture.

Find these sounds

Open the waveform menu and choose the named table from its factory category. These are raw library frames; their shapes do not require a Designer recipe or live Warp.

Explore the frames

Move WT Position to hear other frames. The pictures show the stated positions, not every shape in each table. Use the pencil to inspect and edit harmonics.

Compare at similar volume: a more complex-looking cycle is not automatically louder or better for your sound.

Unison

Unison plays several copies of an oscillator for each note. Slight pitch differences make a thicker, wider sound; use it for lush pads and leads, or keep one voice for a focused bass.

1. Single voice

1 voice | Detune 0% | Blend 100%



One oscillator; there are no side voices to mix in.

2. Zero-detune stack

7 voices | Detune 0% | Blend 100%



All seven voices overlap at the same pitch.

3. Tight spread

7 voices | Detune 20% | Blend 35%



Low detune, with quieter outer voices.

4. Wider spread

7 voices | Detune 75% | Blend 35%



Same count and mix; the pitch offsets are wider.

5. More unison mix

7 voices | Detune 75% | Blend 100%



Same pitch positions; the outer bars grow taller.

6. Dense stack

16 voices | Detune 75% | Blend 100%



More voices fill the same overall pitch spread.

Read the display

Adjust Voices, Detune or Blend to reveal the bars. Position shows pitch; height shows relative level. The view zooms with detune, so use PITCH SPREAD for the exact range in cents.

Mode and stereo

The pencil by Voices selects a Unison mode. The next page compares all six. Motion adds fast, smooth pitch shimmer to Super; faint bar areas show its possible range. Detune sets spread and Motion depth. STEREO sets left/right spread; bars show pitch, not pan.

More voices raise CPU use per played note. Start with 4-7, then increase only when needed.

Unison modes

Choose a Unison mode with the pencil beside Voices. These six displays use the same seven voices, 65% Detune and 75% Blend, so the different voice layouts are easier to compare.

Normal

7 voices | Detune 65% | Blend 75%



Even pitch steps around the played note.

Super

7 voices | Detune 65% | Blend 75%



Curved spacing for the familiar supersaw stack.

Cluster

7 voices | Detune 65% | Blend 75%



Voices gather near a few pitch positions.

Edge

7 voices | Detune 65% | Blend 75%



More voices sit toward the outer pitch edges.

Scatter

7 voices | Detune 65% | Blend 75%



Uneven spacing breaks up regular voice pairs.

Motion

7 voices | Detune 65% | Blend 75%



Super spacing plus fast, independent pitch shimmer.

Read the pictures

Each line represents one voice's base pitch. The pale areas in Motion show where the side voices can move; they do not show their positions at a particular instant. The display zooms with Detune, so compare the PITCH SPREAD number for the exact base range.

Choose by character

Normal gives regular width; Super keeps a dense, familiar stack. Cluster has grouped beating, Edge emphasizes the extremes, and Scatter makes the beating less regular. Motion gives Super an animated, fuzzy shimmer while keeping the played note centred.

Switch modes while holding a note to hear the difference. Detune controls both the base spread and Motion depth; Blend changes the relative voice levels.

Warp & waveform character

Warp reshapes the oscillator's wave, changing a smooth tone into something brighter, rougher or more complex. Use it when a waveform needs more character before adding effects.



APEX / SOUND DESIGN / WARP & WAVEFORM CHARACTER

Start with folding

Choose Sine Fold under Fold & Digital and raise Warp slowly while holding a note. The change adds extra tone components, called harmonics, so a simple sound becomes richer. Wavefold has a more angular character; Crush adds a rough digital texture. Warp Off removes the transformation.

Other ways to reshape a wave

Phase contains Sync, Mirror and Bend. Sync adds bright harmonics; Mirror reflects the wave; Bend changes its timing and is neutral at 50%. Shape contains Tension and the editable Remap curve. These are alternative flavours, not steps you must apply in order.

FM, AM and Sine Fold

FM changes pitch very rapidly using another layer; AM changes volume using another layer. Their source choices A-D can make complex or metallic tones, so the other layer's tuning matters. Sine Fold needs no second layer: 0% is unchanged and 100% gives its strongest folding.

Live warp or a finished table?

Drag an envelope or LFO onto Warp for real-time movement. To bake a sweep into a wavetable, open the pencil, switch to Designer and use Transfer Live Warp. FM/AM depend on another live layer and cannot be transferred; Remap transfer is not supported.

WORKFLOW NOTE

For reference: Sine Fold maps 0-100% to a 1x-32x multiplier. Mirror uses a centred amount control but still reflects the source at 0%.

Harmonics editor

Harmonics builds a tone from individual partials. Open the waveform pencil, then choose HARMONICS in Designer. DESIGNER returns to your sources and keyframe lanes.



APEX / SOUND DESIGN / HARMONICS EDITOR

Build a tone from harmonics

The first harmonic is the note's basic frequency, called the fundamental. Higher harmonics add brightness and character. Start with a sine, then raise a few higher bars and listen. Phase changes the timing of each harmonic within the wave; leave it unchanged until you want to explore further.

Make several frames

A frame is one wave shape. In a harmonic table, use + Frame and Duplicate, change the new frame, then Create In-betweens for a smooth transition. Drag tiles to reorder them. The populated example shows eight related tones with changing upper harmonics.

Edit the intended Wave

HARMONICS edits the selected Wave at the current key position. From a Line, it opens an existing Wave; add one if none exists. To edit every rendered frame instead, choose ... > Flatten to frames. This bakes the Designer recipe and opens a normal harmonic table; Undo restores the recipe.

Name and save

Name the table, then Save to the Waveforms/Wavetables libraries or export WAV. Full-table saves keep the editable recipe in Apex metadata; other synths read the rendered audio. Single-cycle export is flattened. Hold a note and move WT Position to audition.

Wavetable Designer

Build an evolving table by combining Wave and Line sources, then shaping them with modifiers. Every source and modifier has its own row of keyframes on a shared WT Position timeline.



APEX / SOUND DESIGN / WAVETABLE DESIGNER

Add and balance sources

+ SOURCE adds a Wave, drawable Line or imported wavetable WAV. Use up to eight sources. New sources start at 100% Amount at both endpoint keys. Fresh Wave setups scan from the first to last source frame; reopening preserves your saved keys.

Shape each source

+ MODIFIER adds Wavefold, Sine fold, Spectral tilt, Bend, Tension, Mirror, Sync or Crush to the selected source. Select Output to process all sources combined. Each chain supports eight modifiers; their order changes the sound.

Manage the rows

Row checkboxes enable/bypass sources and modifiers. Triangles fold their lists. DELETE SOURCE / DELETE MODIFIER removes the selected row; source deletion includes its chain. Keep at least one source. Output stays at the bottom and cannot be deleted. Solo source isolates a source.

See what you are editing

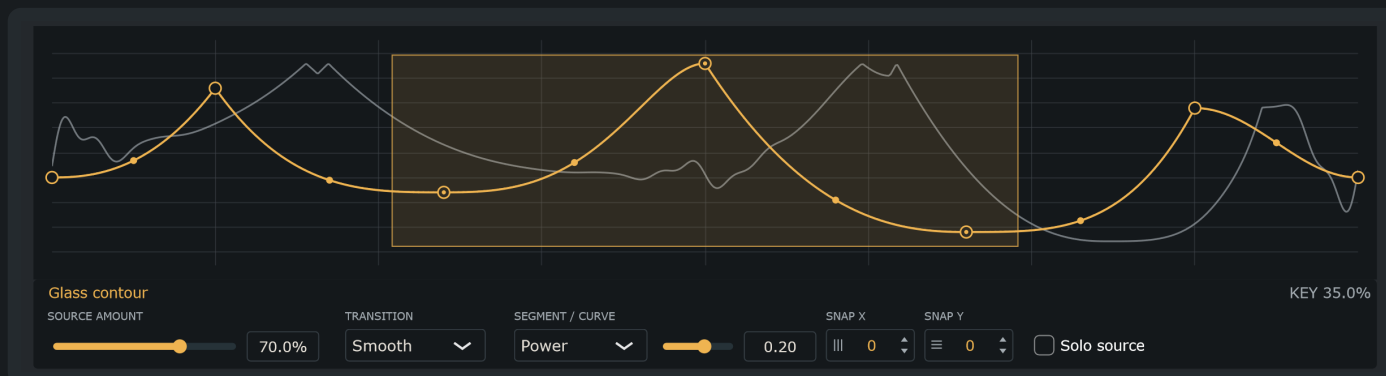
The waveform shows the selected source in amber and the combined result in grey. Line points stay editable. Selecting Output shows the final combined waveform. Scrub WT Position to audition; lane curves show Amount and diamonds mark key positions.

WORKFLOW NOTE

Glass Horizon combines Spectral body and Glass contour, with source modifiers and a Wavefold on Output. Undo restores source, modifier and keyframe edits.

Drawing & editing Line sources

A Line source draws one repeating waveform. Place points for its main shape, then bend each segment independently. These shapes are stored at source keyframes.



APEX / SOUND DESIGN / DRAWING & EDITING LINE SOURCES

Points and individual curves

Double-click the waveform to add a point; drag a point to change phase and amplitude. Small handles sit on the line between points: drag one to bend that segment. Select a point to choose its outgoing Segment / Curve, including Power, Linear, Sine In/Out, Smooth and Hold.

Snap X and Y

Drag the orange SNAP X / SNAP Y values, use their arrows or wheel, or double-click to type. X divides one cycle; Y divides each unit of amplitude. Set either axis to 0 to disable that snap independently. Alt-drag temporarily bypasses snapping.

Select, move and delete

Drag empty space for a selection box. Shift-click selects/deselects points; Shift-drag adds to the box selection. Drag selected points together. Ctrl+A selects all and Escape clears selection. Delete/Backspace removes selected interior points; the two boundary points stay.

Nudge and flip

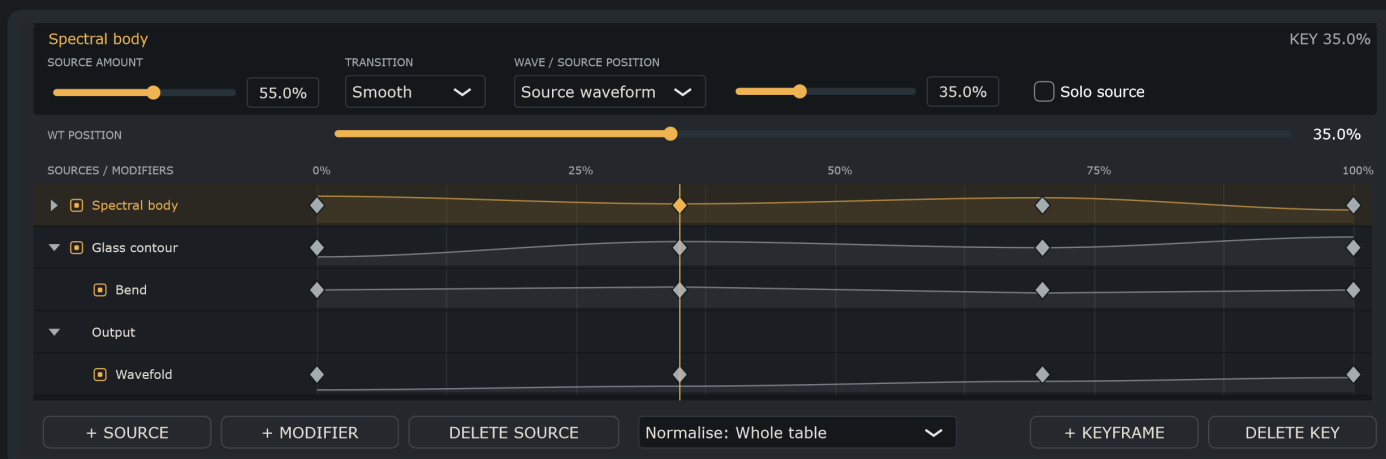
With the Line editor focused, arrow keys nudge by that axis's snap step, or 0.01 when snap is off. Points stop at neighbours and bounds. Right-click for Delete first, then Flip horizontally/vertically. Horizontal flip mirrors adjacent selected points and their curves; vertical flip inverts around zero.

WORKFLOW NOTE

Use Ctrl+A before a flip to transform the whole shape. Editing between source keys adds a key automatically; undo restores the whole edit.

Keyframes & source motion

Keyframes describe positions inside a wavetable, not beats in a song. Use them to change source level, waveform position, a Line shape or modifier strength as WT Position moves.



APEX / SOUND DESIGN / KEYFRAMES & SOURCE MOTION

Create and select keys

Select a source or modifier row. Use + KEYFRAME or double-click its lane. Click either half of a diamond to select it; drag horizontally to move it. WT Position, the playhead and inspector follow the grabbed key, including multi-key drags. Shift selects several keys. Endpoints stay fixed.

Amounts and transitions

Each lane graphs Amount from 0% at the bottom to 100% at the top. The line follows Linear, Smooth or Hold transitions. Source Amount controls its contribution; modifier Amount controls processing. Edit Amount in the inspector; diamond dragging only changes timing. A Wave key also stores its source-table position.

Automatic keys and deletion

Changing a value or Line shape between keys creates a key automatically. Each source/modifier row supports 64 keys. DELETE KEY removes an interior key; DELETE SOURCE / DELETE MODIFIER removes a complete row. Output itself has no keys; its modifiers do.

Build a useful sweep

Give the Wave source more level at the start and the Line more at the end. Add a modest modifier sweep and compare several WT positions. Use Whole table normalization to keep the intended source fades. Save an editable version before making large changes.

WORKFLOW NOTE

WT Position may interpolate between rendered frames. A keyframe and an audio frame are different: the recipe can use a few keys to generate a 128-frame table.

Designer output, save & export

Choose the output level behaviour, then save an editable table or export its audio. The Designer toolbar keeps EXPORT, SAVE and the options menu in the same view.



APEX / SOUND DESIGN / DESIGNER OUTPUT, SAVE & EXPORT

Choose frame count and level

The ... menu offers 16, 32, 64, 128 or 256 output frames. Normalise: Off keeps natural levels, with overload protection. Whole table uses one gain and preserves fades. Each frame brings every non-silent frame to full peak, removing level differences; silent frames remain silent.

Save and export

SAVE writes to Apex's Waveforms/Wavetables libraries. EXPORT writes a WAV to your PC. Full-table WAVs keep the editable sources, curves and keyframes in Apex metadata as well as the rendered audio. Single-cycle exports contain one flattened result frame.

Flatten to individual frames

Choose ... > Flatten to frames. Apex bakes all sources and modifiers at the chosen output frame count, then opens Harmonics with every rendered frame available to select and edit. Undo restores the complete Designer recipe. Save an editable version first if you want to keep both.

Transfer a live warp

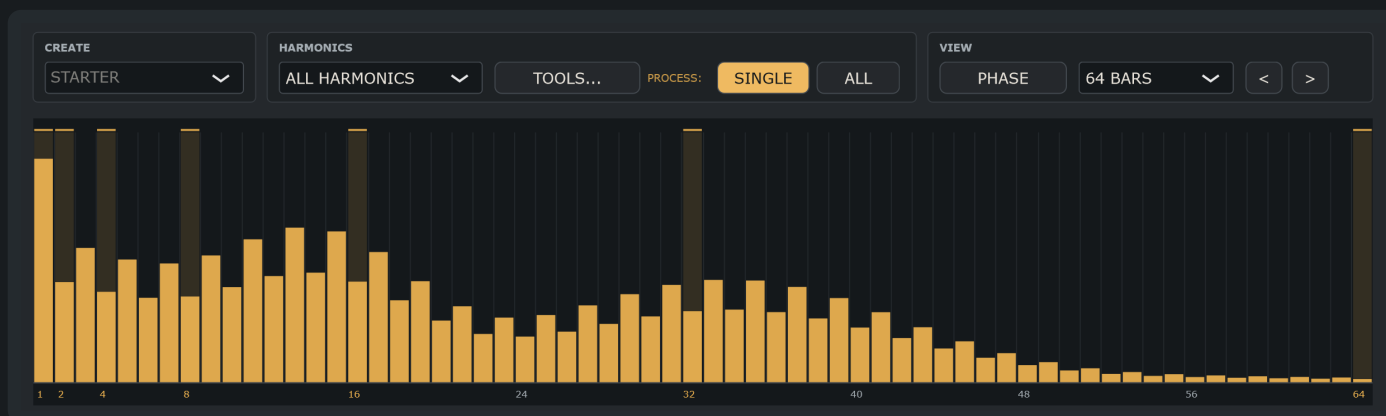
Choose ... > Transfer live warp for a supported warp. It creates a full 0-100% modifier sweep and disables that live warp in the same undo step. It does not copy only the current amount. Unsupported modes leave the sound unchanged.

WORKFLOW NOTE

Choose Whole table for fades; choose Each frame for consistent frame peaks. Crossfading different shapes can still change the peak between frames.

Process & musical randomise

Process changes the waveform itself. Use musical Randomise for a starting idea, or the other tools to tidy or roughen a tone without drawing every harmonic by hand.



APEX / SOUND DESIGN / PROCESS & MUSICAL RANDOMISE

Choose a family

Randomise offers Organ, Vowel, Bell, Bass, Pluck and Experimental, plus Vary current sound for gentler changes. Choose Current frame or Whole wavetable, set frame count and Variation, then Randomise again for another result. Whole-table generation creates related frames suitable for morphing.

Choose what will change

Current frame changes just your selection; Whole wavetable changes every frame. Normalise adjusts peak volume. The whole-table option keeps quieter frames quieter. Reverse turns the wave around; polarity invert flips it upside down. Zero-crossing alignment moves its starting point. Init creates silence, so use it only to start again.

Smooth or roughen it

A repeating wave can click if its end does not meet its start smoothly. Fade edges and Crossfade edges soften that join. Filter removes higher harmonics for a darker tone; Sample reduction adds stepped digital roughness. Use Undo to compare before keeping a change.

Give the tone a note shape

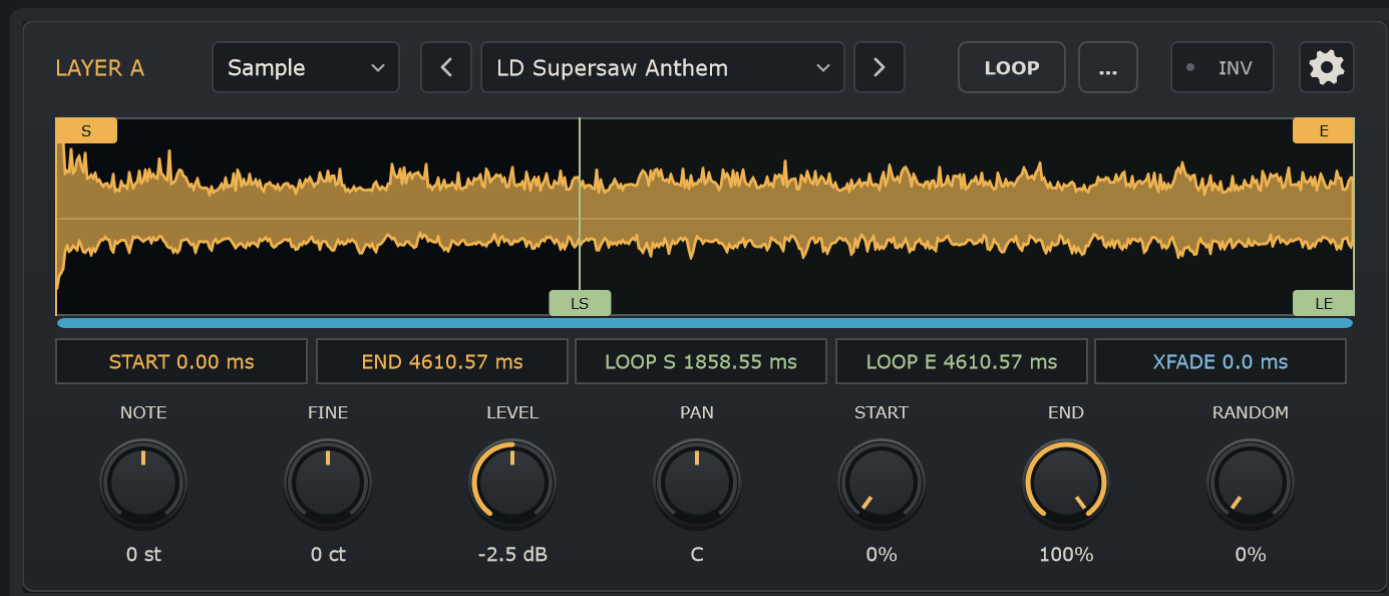
A bell-like waveform does not automatically fade like a bell. The AMP envelope controls that: try a quick Attack, some Decay and low Sustain. A vowel-like waveform changes character as you play higher notes. Test several notes and the full WT Position range before saving.

WORKFLOW NOTE

Randomise results are saved as waveform data. You do not need to reproduce the original random click when reopening the preset.

Samples & SoundFonts

A sample plays recorded audio instead of generating a waveform. Use samples for pianos, voices and other recorded textures; a SoundFont (SF2) can map many recordings across the keyboard.



APEX / SOUND DESIGN / SAMPLES & SOUNDFONTS

Choose or import

Select Sample, then use the sound menu and previous/next arrows. The factory list includes SoundFonts and WAVs; the EV Samples WAVs also appear as factory presets. Drop your own WAV or SF2 onto the layer's sound selector or display to import it. When offered an import choice, select sample playback rather than wavetable conversion.

Pitch and playback range

OCT, NOTE and FINE tune the source. START and END set the playback region. RANDOM varies note starts within the allowed region. LEVEL and PAN balance the source, and the layer retains its own filters, key range and FX destination.

What a SoundFont contains

An SF2 may use different recordings for low and high keys, or for soft and hard playing. These are called zones; velocity means how strongly a key is played. Its stored tuning and loops provide starting settings. The main waveform shows one representative zone; use the loop editor to inspect others.

Match recorded levels

Normalise in the sample menu adjusts the source's peak volume; it does not make every note equally loud. For SF2, choose one sample, all together (keeping their balance), or each independently. Reset restores imported levels. Edits apply to new notes and support Undo; save the preset to keep them without changing the original file.

WORKFLOW NOTE

An Empty sample layer produces no audio. Choose a source before diagnosing its envelopes or effects.

Sample loop editor

A loop repeats part of a recording while a note is held. Use it to turn a short sample into a sustained tone, or to change how its ending plays.



APEX / SOUND DESIGN / SAMPLE LOOP EDITOR

Embedded or custom

Embedded uses the source's loop information: imported WAVs automatically read valid forward loop points stored in the WAV, and SF2 zones use their own loops. Custom enables your own loop edits. Choose Loop Off, Forward, Reverse or Ping-Pong. Selecting looping for an unlooped sample creates a full-length custom loop as a starting point.

Set the boundaries

S/E mark playback Start/End; LS/LE mark Loop Start/End. Drag markers or double-click values to type milliseconds. XFADE smooths the seam without moving loop points or shortening its period. Choose linear or equal-power blending; Start is independent of Loop Start.

Zoom and audition

The wheel zooms around the pointer. Shift-wheel or dragging empty waveform space pans; FIT restores the full view. Use the preview key and SF2 zone selectors, Follow and Play to inspect the intended sample. The playhead follows the displayed sounding zone.

Release and advanced edits

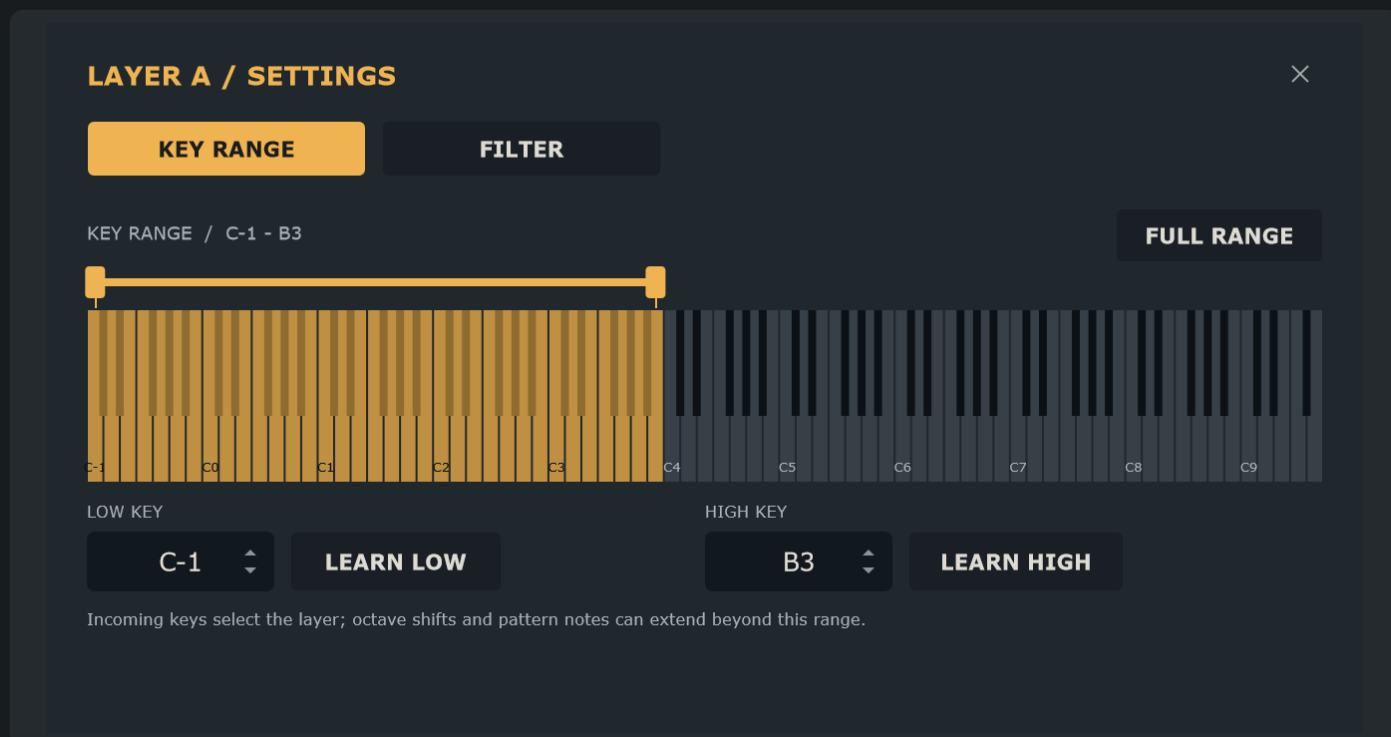
Loop through release keeps cycling while the amp fades. Exit loop / play tail lets playback progress towards the recorded end. The options menu includes zero-crossing snap, linked loop length, reset and proportional application to all zones. Alt-drag temporarily bypasses snapping.

WORKFLOW NOTE

The amp release still determines how much of a recorded tail is audible. Play a new note after changing loop points.

Keyboard splits

A split lets one part of the keyboard play one sound and another part play a different sound. Use it for a left-hand bass and right-hand lead in one preset.



APEX / SOUND DESIGN / KEYBOARD SPLITS

Set a range

Open the selected layer's settings gear and choose Key Range. Drag the keyboard's low/high boundary handles, or edit Low Key and High Key directly. The highlighted region is the layer's playable input range.

Learn from your keyboard

Use the low or high Learn control, then play the key that should become that boundary. Repeat for the other end. The display shows held keys to help you place a split. Reset a boundary or restore the full range when the split is no longer needed.

Bass and lead example

Give Layer A the lower range and Layer B the upper range. Set the bass to mono with suitable glide and keep the lead polyphonic if desired. Use Mixer to balance them and route the bass to No FX or a restrained chain.

What the range checks

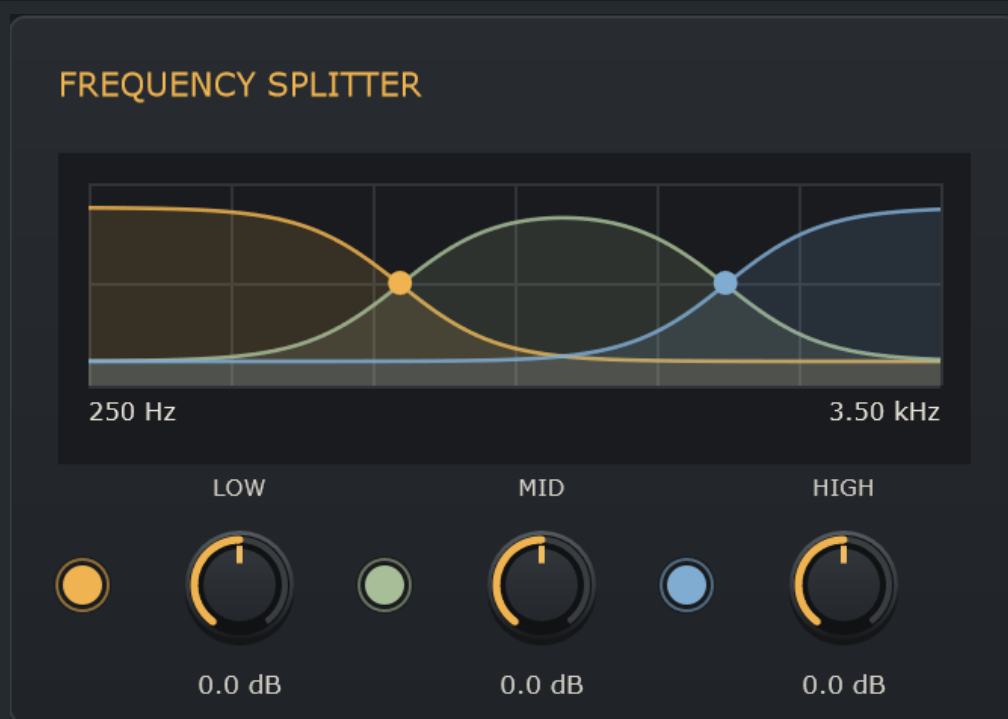
The split checks incoming keys. Octave shifts, chord output and pattern-generated notes can extend beyond that displayed input range. Adjacent ranges can touch without overlapping, or overlap deliberately for a layered transition.

WORKFLOW NOTE

A silent layer can simply be outside its key range. Check the incoming key before raising the layer's level.

Frequency Splitter

Think of this as three broad tone controls for one layer: bass, middle and treble. Use it to reduce muddiness, emphasise body or soften a bright layer.



APEX / SOUND DESIGN / FREQUENCY SPLITTER

Choose the three regions

The graph runs from low sounds on the left to high sounds on the right. Its two crossover points mark where Low, Mid and High meet. Drag them to choose which frequencies each volume knob affects. Hz and kHz measure frequency; 1 kHz means 1,000 Hz.

Balance the layer

Adjust each band's gain to emphasise body, presence or brightness. The band buttons mute individual bands; mute the other two to hear one band in isolation. Return the gains and band states to neutral when you want the original balance.

Automatic neutral behaviour

The splitter avoids unnecessary processing when its controls are neutral. There is no separate bypass button to manage. Changing a relevant gain or band state brings its processing into use.

Choose the right tool

Use the splitter for broad per-layer balance. Use a Layer Filter to shape the source on each note, or add Equalizer to an FX chain for a more focused frequency adjustment. The selected layer's colour in the section title confirms which layer you are changing.

WORKFLOW NOTE

For a wide lead with a solid centre, reduce unnecessary low content in the bright layer and keep the bass/body layer focused.

Layer filters

A layer filter changes the tone of one layer, separately for each played note. Use it for plucks that start bright and become softer without changing the other layers.



APEX / SOUND DESIGN / LAYER FILTERS

Start with low-pass

Choose LP 12 dB or LP 24 dB, then lower CUTOFF while holding a note: the layer becomes darker. RES (resonance) adds emphasis near the cutoff. ENV AMT makes the note's filter envelope move cutoff; negative amounts move the other way. KEY makes filtering follow played pitch.

Explore character later

The extra control depends on the model. WIDTH changes Notch's gap; SPREAD spaces Phaser's moving dips; DAMP softens Comb's ringing high end. VOWEL changes Formant's vocal colour. BITE and SCREAM add intensity to their models. Begin with low resonance and comfortable volume; Off bypasses this filter.

Open the pencil

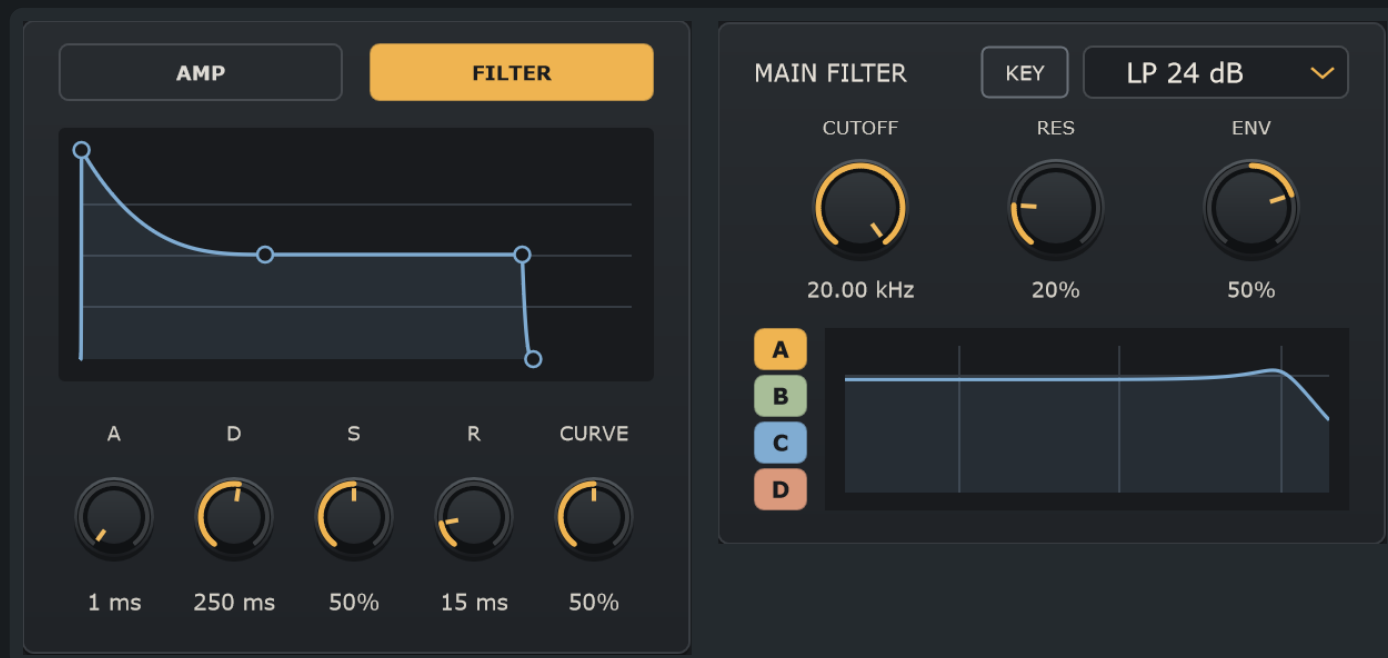
The settings popup exposes Attack, Decay, Sustain, Release and Curve for the selected layer's filter envelope. A short decay and low sustain make a bright pluck; slower attack produces a filter swell. The amplitude envelope must remain audible long enough to hear the filter release.

Independent articulation

New notes can open their layer filters while existing notes continue their own envelopes. Use this for clean polyphonic plucks or independent bass/lead parts. The separate Main Filter works on routed audio and is useful for broader shared movement.

Main Filter

The Main Filter changes the tone of whichever layers you send through it together. A low-pass filter is a useful first choice: it removes brightness while keeping the lower part of the sound.



APEX / SOUND DESIGN / MAIN FILTER

Cutoff and resonance

A low-pass (LP) filter keeps lower frequencies and reduces higher ones. CUTOFF is the boundary: lower it for a darker sound or raise it for more brightness. RES adds emphasis around that boundary. LP 24 dB removes highs more steeply than LP 12 dB; the number describes slope, not volume.

Try a simple sweep

Choose LP 24 dB and enable A beside the graph to include Layer A. Set ENV to zero and keep RES low. Hold a note, then move Cutoff from high to low. If nothing changes, check the routing buttons and try a bright waveform such as Saw.

Make each note open it

Select FILTER above the envelope graph. This envelope changes cutoff, not loudness. Raise ENV to hear its effect: quick Attack, short Decay and low Sustain give a bright start that softens. At ENV 0%, changing the filter envelope alone will not move cutoff.

Choose what passes through

A-D select the layers processed together. Use a Layer Filter for independent movement on each note. High-pass (HP) removes lows; band-pass (BP) keeps a middle region. The grouped menu also contains Peak, Notch, Formant, Comb/Phaser and driven Character models. Explore these after the basic sweep.

Creative filter colours

These filters go beyond simple bright/dark changes. Try them after learning low-pass filtering when you want hollow movement, ringing tones, vocal colours or an aggressive edge.



APEX / SOUND DESIGN / CREATIVE FILTER COLOURS

Notch: carve a moving gap

Notch removes a band rather than boosting it. CUTOFF positions the dip, WIDTH sets its span and RES sharpens it. A slow cutoff LFO on a bright pad adds movement without closing the whole top end.

Phaser: a hollow sweep

Phaser creates several dips in the tone that can move together for a hollow, swirling sound. SPREAD changes the spacing and RES strengthens the effect. Turn cutoff slowly or assign an LFO for automatic movement. Unlike the separate Phaser effect, this filter has no built-in LFO.

Comb -: ringing colour

Comb filtering mixes in a very short delayed signal, creating a repeating pattern of peaks and gaps. Comb - gives a different pattern from Comb. Try it for metallic or string-like plucks. Cutoff changes the tuning; DAMP softens the high-frequency ringing. High resonance can ring strongly.

Scream LP and BP: driven feedback

These low-pass and band-pass models combine resonant feedback with saturation. SCREAM changes the feedback tone and internal drive; RES adds feedback. Start quiet, sweep cutoff and add character gradually. Their tone depends on the incoming signal level.

WORKFLOW NOTE

The same model has the same controls in all three locations, but routing matters: Layer is per note; Main shares routed layers; a rack Filter receives its chain's audio.

Amplitude & voicing

Amplitude means loudness. The AMP envelope controls how a note starts, holds and fades; voicing controls whether notes overlap and whether pitch glides between them.



APEX / SOUND DESIGN / AMPLITUDE & VOICING

The four envelope stages

Attack: how quickly a note reaches full volume.

Decay: how long it takes to fall to the held level.

Sustain: that held level while the key stays down, not

a time. Release: the fade after you let go. Use the knobs or drag the graph; CURVE changes how each stage bends.

Common shapes

For a pluck, use a short attack, moderate decay and

low sustain. For a pad, increase attack and release.

For a held lead, use a quick attack and substantial

sustain. A very short amp release can hide the end of a sample or a filter-envelope release.

Mono, legato and glide

POLY allows overlapping notes; MONO plays one note at a time. Legato affects overlapping mono notes, continuing envelopes and sample playback rather than fully restarting each note. GLIDE sets pitch-transition time; ALWAYS enables glide beyond overlapping legato transitions.

Layer overrides

A layer's Sequence Settings > Layer tab can enable separate amplitude-envelope and voicing settings.

Otherwise it follows the main controls. These

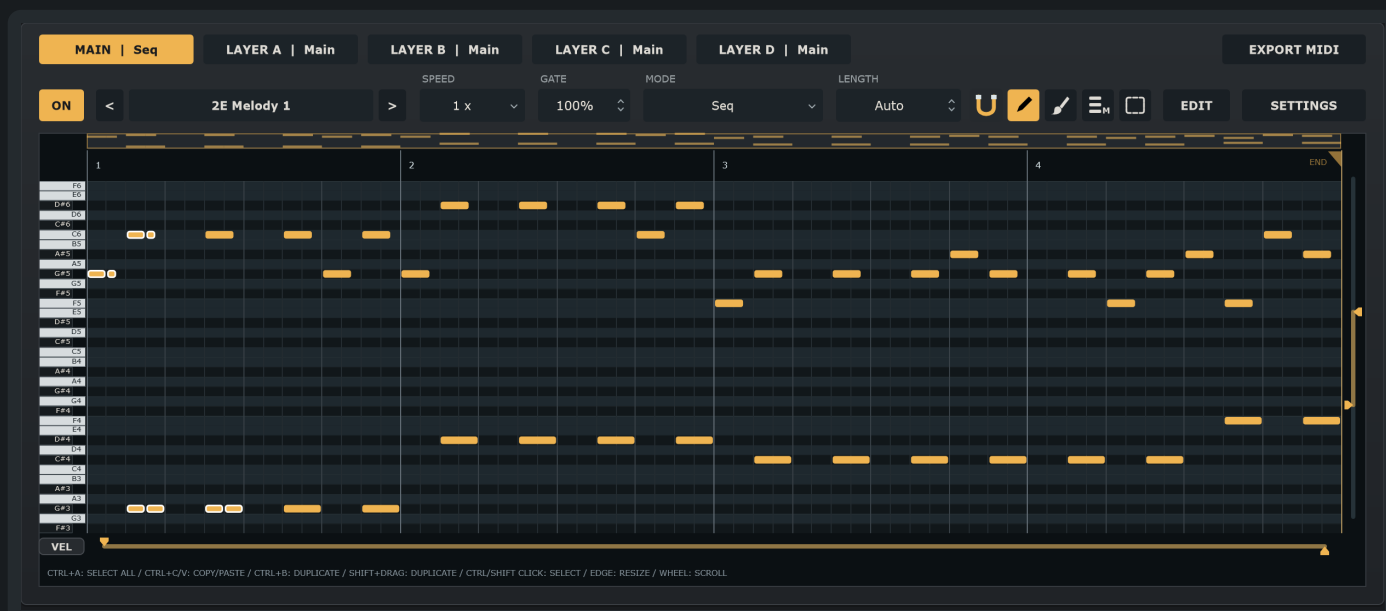
overrides are useful for a short bass and a sustained lead in the same preset.

WORKFLOW NOTE

Envelope controls use ms or seconds. Different AMP and FILTER release values are independent even when their curves look similar.

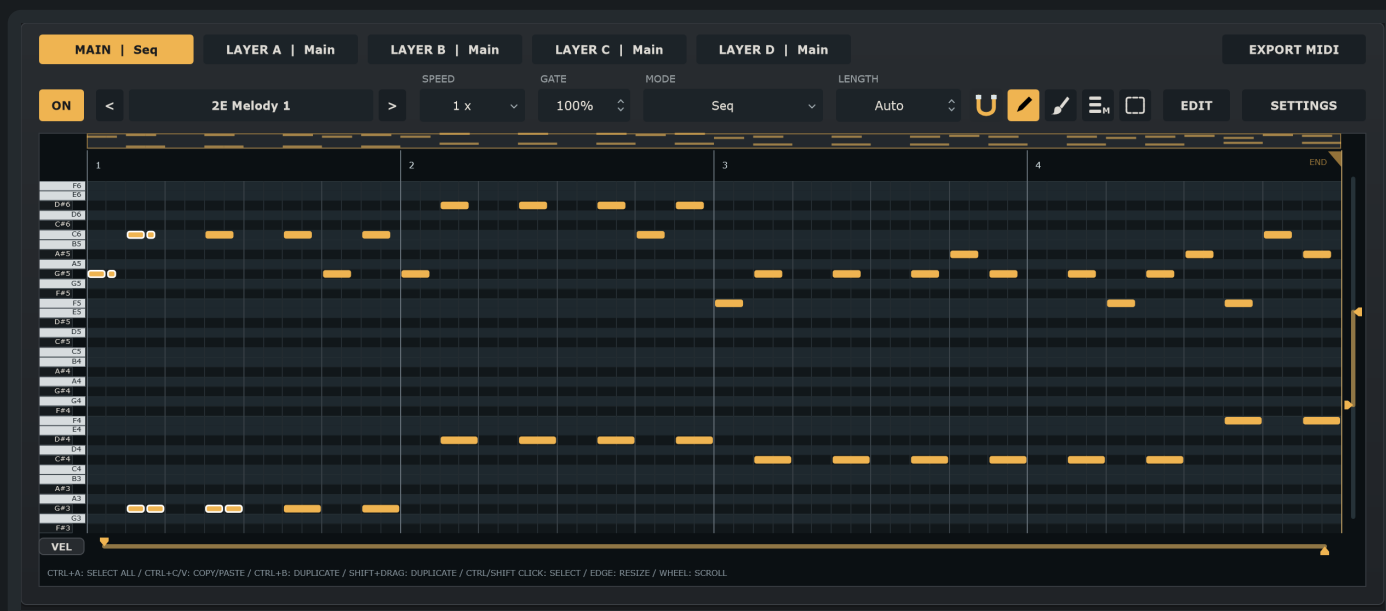
Sequencer basics

The sequencer plays a phrase of notes that you draw. Use it for repeating basslines or melodies when you want Apex to play a pattern rather than every note by hand.



Note editing & chord tool

The piano roll is a map of notes: left to right is time, and higher rows are higher pitches. Use its tools to correct a phrase or draw several chord notes at once.



APEX / PATTERNS / NOTE EDITING & CHORD TOOL

Selection and copying

Ctrl/Shift-click toggles notes; Ctrl-drag box-selects and Ctrl+Shift-drag adds. Ctrl+A selects all. Ctrl+C/X/V copies/cuts/pastes; Ctrl+B duplicates; Delete removes selected notes. Copy/Cut/Duplicate use all notes when none are selected. Paste starts at the visible grid start. Shift-drag duplicates while moving.

Move and transpose

Shift+Left/Right shifts by the time grid; Shift+Up/Down transposes semitones. Ctrl+Up/Down transposes octaves; Ctrl+Shift+Left/Right rotates the phrase. Edit > Quantize (Ctrl+Q) aligns starts and ends of selected notes, or all notes with no selection; time snap must be on. Ctrl+Z undoes; Ctrl+Shift+Z redoes.

Stamp a chord

Choose the chord tool after the brush. Click empty space and drag its duration. Wheel selects Major/Minor; right-click offers Sus 2/4, diminished, augmented, seventh and Add 9. Key Snap adjusts the root and can choose an in-scale third for Major/Minor. The fifth stays seven semitones, which may fall outside the scale.

Chop to the current snap

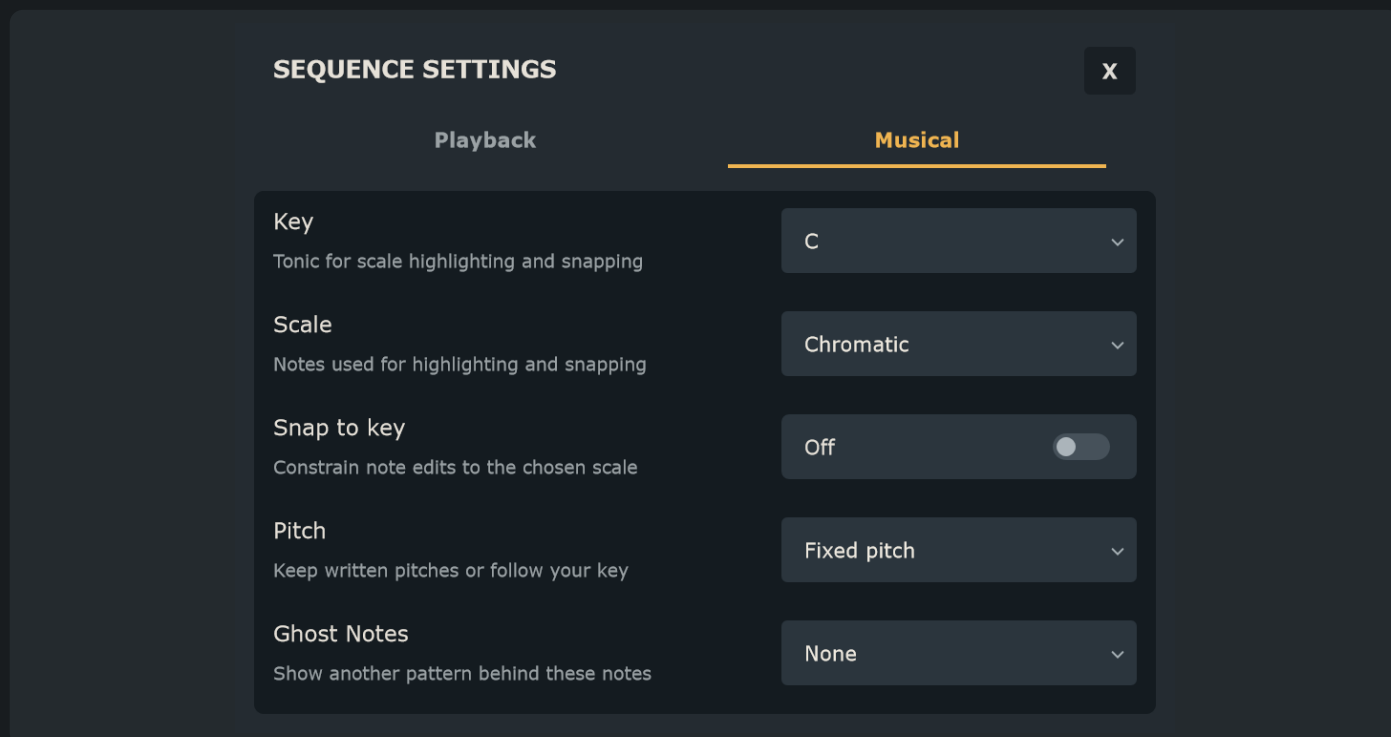
Select notes, choose a time snap and use Edit > Chop. Long notes become consecutive pieces of the snap length, keeping pitch and velocity; any shorter remainder stays at the end. Unselected notes stay unchanged. Chop needs a selection and is disabled when time snap is Off.

WORKFLOW NOTE

Chop keeps the original note span; Quantize aligns starts and ends to grid lines. Both support Undo. The chord tool's Ctrl-wheel scrolls vertically.

Pattern settings & layers

These settings decide when a pattern starts, how it repeats and which notes it uses. Start with one Main pattern; use per-layer patterns when different sounds need different parts.



APEX / PATTERNS / PATTERN SETTINGS & LAYERS

Playback

Start chooses DAW playback or Note trigger. Retrigger chooses First held note, Every note or Continue. Swing delays alternate steps. Latch continues after keys are released; Loop repeats at the pattern end. Switch Latch off or release latched notes when you want playback to stop.

Keep notes in a key

Key and Scale set the tonal centre; lighter rows mark in-scale notes. Snap to key constrains edits and generated notes. Fixed pitch keeps written pitches; Follow played key shifts them from the saved reference (C4 for new patterns). In Musical > Ghost Notes choose None, Main or Layer A-D. The chosen pattern appears faintly behind the current notes for alignment; it cannot be edited or played here.

Per-layer patterns

Follow Main receives Main's output. Live Input receives the played keys. Own Pattern uses this layer's sequence/arp and starts with an editable blank sequence. Changing routing retains the stored pattern. Main and the four layer tabs can therefore serve different parts of one preset.

Independent musical settings

A layer can follow Main's key/scale or enable Separate key / scale. The Layer tab also offers Separate amp envelope and Separate voicing. Each pattern keeps its own Ghost Notes choice. Lock Patterns retains pattern settings while browsing instrument presets; turn it off to hear a preset's authored pattern.

WORKFLOW NOTE

Snap to key leaves stored pitches unchanged. Time snap changes notes only when editing or quantizing.

Arpeggiator

An arpeggiator turns held notes into a repeating sequence. Hold a chord and it can play its notes one by one; use it for rolling melodies and rhythmic accompaniment.

The screenshot shows the APEX Arpeggiator interface with the following settings and data:

- MAIN | Arp** (selected)
- LAYER A | Main**, **LAYER B | Main**, **LAYER C | Main**, **LAYER D | Main**
- ON** (toggle)
- Uplifting Steps - variation** (pattern name)
- RATE**: 1/16
- GATE**: 65%
- MODE**: Up / Down
- LENGTH**: 16
- OCTAVES**: 2
- LANE**: ALL LANES
- SETTINGS** (button)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
NOTE	0	+7	+12	+3	+7	+10	+5	+7	0	-5	+3	+7	+10	+12	+7	+3
OCTAVE	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
VELOCITY	115	82	98	82	115	82	98	82	115	82	98	82	115	82	98	82
GATE	90%	68%	90%	68%	90%	68%	90%	68%	90%	68%	90%	68%	90%	68%	90%	68%
REPEATS	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	3
TIE / SLIDE	-	-	-	-	-	-	-	-	-	TIE	-	-	-	-	-	-

GUIDE: A Minor / KEY SNAP ON

PLAYING: E4

APEX / PATTERNS / ARPEGGIATOR

Choose an order

In Mode, choose Up, Down, Up / Down, Down / Up, Played Order, Random or Chord (Poly). Seq returns to the piano roll. Chord (Poly) plays the held chord at each active step; the other modes order the available notes.

Set the rhythm

Rate selects the synced step rate. Length sets the active steps; Octaves extends the note range. Gate scales note duration. Drag the up/down value controls for quick changes. Choose a pattern from the preset list, then customise its steps.

Edit expression

The Note lane adds -12 to +12 semitones to the pitches chosen by the arp mode. Octave adds a separate octave offset. Choose Velocity, Gate, Octave, Repeats, Tie / Slide or All Lanes below it. Active steps determine when notes play. Repeats subdivides a step; ties/slides change its connection to the next note.

Useful gestures

Drag across cells to draw values. Shift-drag makes a straight ramp in supported value lanes; Alt-click or Alt-drag resets cells. Settings > Musical contains key/scale snapping and Chord input. In-scale semitone backgrounds are lighter, and snapping also applies to generated pitches.

WORKFLOW NOTE

Shown: an edited Uplifting Steps preset in A minor, with All Lanes visible. Hold A, C and E to audition its pitch contour, rests and repeats; the highlighted column and PLAYING readout follow the generated notes.

Chords

This page lets one played key produce several notes together. Use a template to explore chord sounds without playing every note yourself, then adjust the added notes to taste.

The screenshot shows the APEX Chords interface. At the top, there's a 'CHORDS' section with a dropdown menu set to 'MINOR 9' and a 'ROOT' dropdown set to 'A3'. A yellow 'FOLLOW MIDI' button is next to it. Below this, the title 'A minor 9' is displayed, followed by the notes 'A3 / C4 / E4 / G4 / B4'. The main area is a piano roll with five lanes labeled 'CHORD', 'VOICE 1', 'VOICE 2', 'VOICE 3', and 'VOICE 4'. The 'CHORD' lane shows a piano roll with notes A3, C4, E4, G4, and B4. The 'VOICE 1' lane shows B4. The 'VOICE 2' lane shows E4 +7. The 'VOICE 3' lane shows G4 +10. The 'VOICE 4' lane shows B4 +14. To the right of the piano roll is a 'CHORD VOICES' section with four voice controls. Each voice has an 'ON/OFF' toggle, a 'PITCH' knob, and a 'VELOCITY' knob. The 'AUDITION' button is at the top right. At the bottom left, there's a note: 'Drag notes to change pitch. Scroll a note for semitone steps.' At the bottom right, there's a note: 'Voicing before layer tuning / arp'.

APEX / PATTERNS / CHORDS

Choose a template

MINOR 9 adds +3, +7, +10 and +14 semitones: an A3 root produces A3, C4, E4, G4 and B4. OFF disables the four extra voices and leaves Root only. The menu shows CUSTOM when your enabled voices and offsets no longer match a template.

Shape the voicing

Drag an added note up or down, or scroll over it for semitone steps. The row Pitch knob also moves one semitone per wheel step (-24 to +24). ON/OFF enables the voice and Velocity sets its strength. Each drag is one undo step. Notes at the same pitch stay separately selectable.

Set the root and audition

Follow MIDI tracks the last input key and retains it after release. Drag or scroll ROOT, or click the vertical keyboard, to choose a fixed preview root and turn Follow MIDI off. This changes the preview reference, not your saved intervals. Hold AUDITION to hear the voicing through layers using the Main pattern; release to stop.

Play with the arp

Enable Chord input in the arp Musical settings to use this voicing as its input. Generated arp notes do not move the preview root. This page is separate from the sequencer chord drawing tool. Check chord peaks and CPU use with your intended layers and unison settings before saving.

LFOs & the modulation dock

Modulation means changing a control automatically. An LFO is a repeating movement, like an invisible hand turning a knob; use one for pulsing volume, wobbling tone or gentle pitch vibrato.



APEX / MODULATION / LFOs & THE MODULATION DOCK

Make your first assignment

The dock contains LFO 1/3/RND 1, LFO 2/4/RND 2 and Env 1/3 and Env 2/4 tabs. Drag a source name onto a supported knob, such as filter cutoff. Begin with a small assignment amount and hold a note. RND sources provide less repetitive movement; see Random modulators.

How fast, and when?

RATE sets movement speed from 0.02 to 100 Hz with SYNC off. SYNC uses musical timings that follow the song tempo. Retrigger starts the shape again on note input; Free follows host phase when synced and playing. One-shot plays once. Fade In brings movement in gradually.

Draw a shape

Choose a standard shape or saved preset, then edit points and segment curves in the larger graph. Snap helps align points to the grid. Smooth softens abrupt transitions. Saved LFO shapes can be reused without copying their destination assignments.

Musical uses

Assign a slow LFO to WT Pos for evolving pads, a small amount to Fine for vibrato, or a synced shape to level for rhythmic movement. Sidechain-style shape presets create rhythmic ducking from modulation; they are not an external audio sidechain detector.

Random modulators

RND 1/2 create less repetitive movement. Unlike Random per note, which holds one value per note, these sources keep changing.



APEX / MODULATION / RANDOM MODULATORS

Start with a small movement

Select RND 1/2 beside the LFO tabs; drag a name to a control and set its depth. The pencil opens the editor. RATE spans 0.02-100 Hz, like a normal LFO. TEMPO SYNC uses note divisions. SMOOTH (0-2 s) starts at zero so fast movement stays audible.

Four styles

Sample & Hold jumps between values; Smooth Random glides, Perlin uses gradient noise and Chaos moves irregularly. For gritty pitch, choose a high free Rate, zero Smooth and modest Pitch or Fine depth. Added smoothing softens high-rate movement.

Playback and repeat

Global shares movement across notes; Per Voice gives notes their own motion. Shared effects always use global motion. Free continues between triggers; Retrigger restarts at note-on, respecting legato. Repeat Seed repeats the sequence on retrigger (per MIDI note in Per Voice); switch it off for variations. It is inactive in Free mode.

Seeds, starters and routing

Type a Seed or choose New Seed; presets save it. Starters include Analogue Drift, Trance Wander, Acid Steps, Restless Phaser, FM Instability, Slow Atmosphere and Pitch Grit. Pitch Grit sets 100 Hz unsmoothed Sample & Hold per voice. Starters change settings, not assignments. Both sources support Matrix routes and bipolar output.

WORKFLOW NOTE

Live Output shows generated motion; Per Voice follows the latest voice. Unrouted generators pause to save CPU.

Modulation envelopes

An envelope makes a control follow a shape when notes are played and released. Use one for a bright attack that softens, or a tone that gradually opens while you hold a key.



APEX / MODULATION / MODULATION ENVELOPES

Loudness is not the only use

The main AMP envelope controls loudness. Env 1-4 can control other knobs: drag a name onto the desired control. In ADSR mode, Attack rises, Decay falls to Sustain and Release follows key-up. For brightness changes, assign an envelope to filter cutoff and raise the assignment amount.

One-shot and Loop

Open the larger editor and choose One-shot or Loop. One-shot plays the entire shape and holds its final level while the key is held. Loop repeats while held. Both release from the current value on note-off, using Release and Release Curve.

Shape timing

Duration sets the shape length in seconds; SYNC selects musical timing instead. Edit nodes and segment curves, use Snap, choose a shape preset or use the editor's copy/paste and undo options. Save reusable shapes in the Envelope Shapes library.

A pluck example

Assign Env 1 to WT Pos or a filter cutoff. Use a fast attack, short decay and low sustain. Set a positive amount for a bright attack that settles. Use a negative amount when you want the reverse movement. The amplitude envelope determines how long the note remains audible.

Matrix & assignments

The Matrix is a list of automatic control movements. It tells you what is moving each knob and by how much, so you can understand or tidy a sound's behaviour.



APEX / MODULATION / MATRIX & ASSIGNMENTS

Read one row

Source means what causes the change, such as LFO 1 or Random 1. Destination means what it changes, such as Cutoff. Amount means how much. Create a row by dragging a source onto a knob or using + Add assignment. Random 1/2 are in the Random source category. Select a source to filter its routes.

Choose the movement range

Positive and negative Amount move in opposite directions. UNI (unipolar) moves one way from the knob's starting value; BI (bipolar) moves around it. Start with a small amount. A response curve changes how the movement develops. The enable dot temporarily bypasses the link without deleting it.

Assignment rings

A knob's coloured arc shows the selected range; its live marker shows movement. Drag the ring/depth handle to change depth, or click for the assignment popup. Shift gives finer adjustment. Right-click the knob to select among multiple routes or remove one.

Copy and maintain

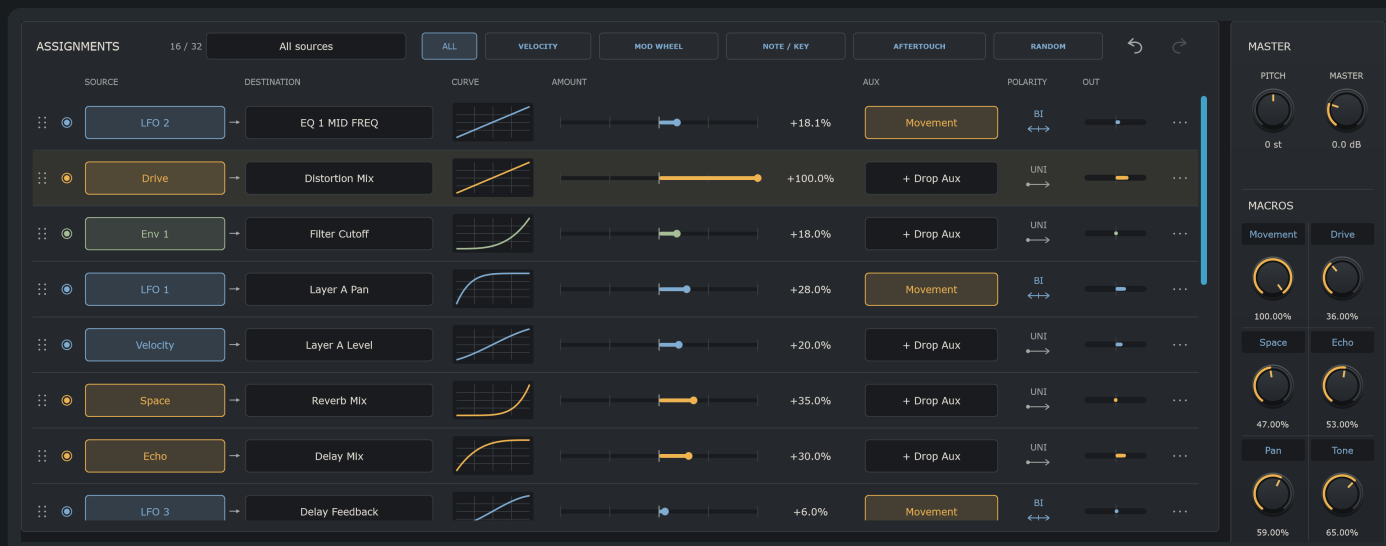
Copy assignment copies the routing settings. Right-click the target knob and choose Paste assignment to attach them there. Matrix menus also provide duplicate, delete and route actions. Undo/redo tracks route edits; choose descriptive source and macro names for a readable patch.

WORKFLOW NOTE

A route can exist but contribute nothing if its amount is zero, it is bypassed or its Aux source is closed.

Macros, ranges & Aux

A macro is one knob that can change several controls together. Use it to make a sound easy to perform, such as a single Brightness or Space control.



APEX / MODULATION / MACROS, RANGES & AUX

Six macros

Drag a macro name to a supported knob to assign it; one macro can control several destinations. Double-click the name to rename it. Right-click the name to see its attached destinations and remove individual assignments, including Aux connections. Other macros' assignments remain intact.

Limit the change

The range editor sets how far an assigned knob moves as you turn the macro. Use a useful portion of its travel, not necessarily the entire range. Start and End set the two limits; reversing them reverses the direction. Listen at both extremes so the macro cannot ruin the patch.

WORKFLOW NOTE

Live displays summarise activity. Per-note destinations can differ between sounding voices, even when one shared marker is shown.

Shape the response

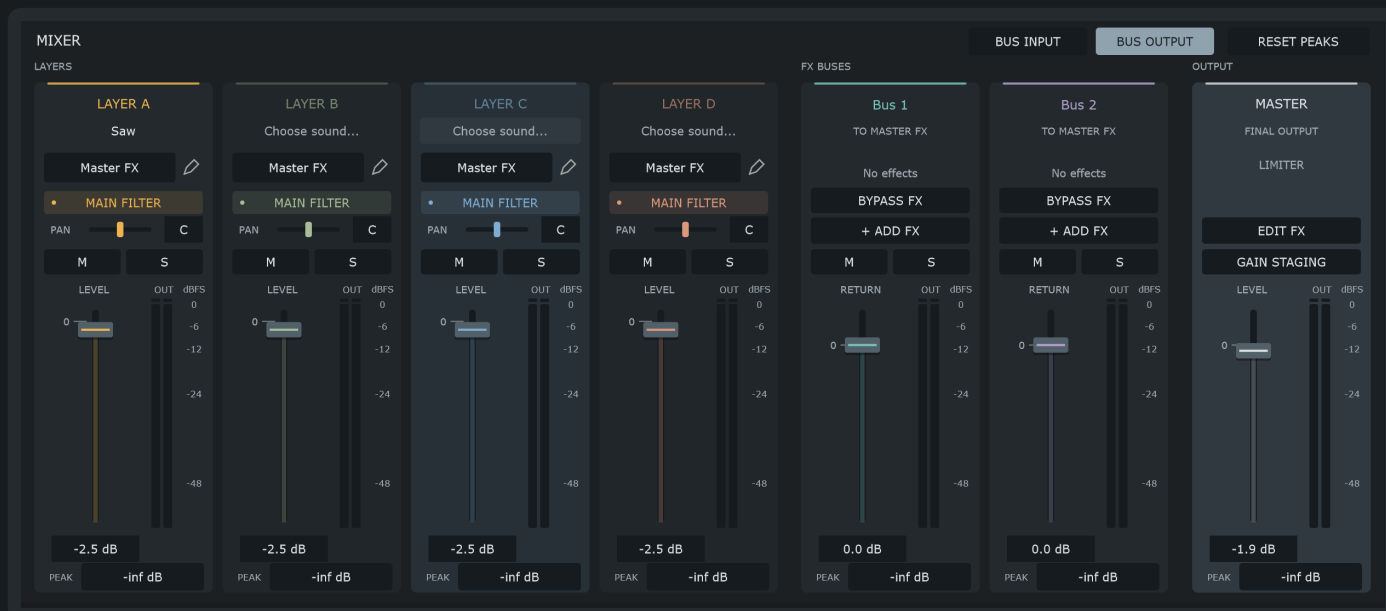
Use Linear, Ease In, Ease Out, S Curve, Steps or a Custom curve. The graph maps source movement to output movement. Invert source changes the input before the curve; negative amount reverses the contribution. Compare the full macro sweep, not just its midpoint.

Aux: optional extra control

Aux lets a second source turn an assignment's strength up or down. For example, an LFO can wiggle Fine tuning for vibrato, while Macro 1 as Aux controls how much vibrato you hear. At macro zero it is suppressed. Leave Aux unused while learning ordinary assignments.

Mixer

The Mixer balances all your sounds in one place. Use it when a layer is too loud, needs moving left or right, or should pass through different effects.



APEX / MIXING / MIXER

Layer strips

The source name opens its layer on Sound. Layer Level matches the Sound and header controls, reaching -100 dB before -infinity (silence). Mute/Solo help isolate parts. The routing summary and pencil open destination choices. Main Filter indicators show whether the layer uses that filter.

Choose a destination

Each layer selects No FX, Master FX, Bus 1 or Bus 2. No FX bypasses rack effects. Master FX feeds the master chain directly. Bus 1/2 processes the layer through that bus before its return joins Master FX. The current design selects one destination per layer.

Bus strips

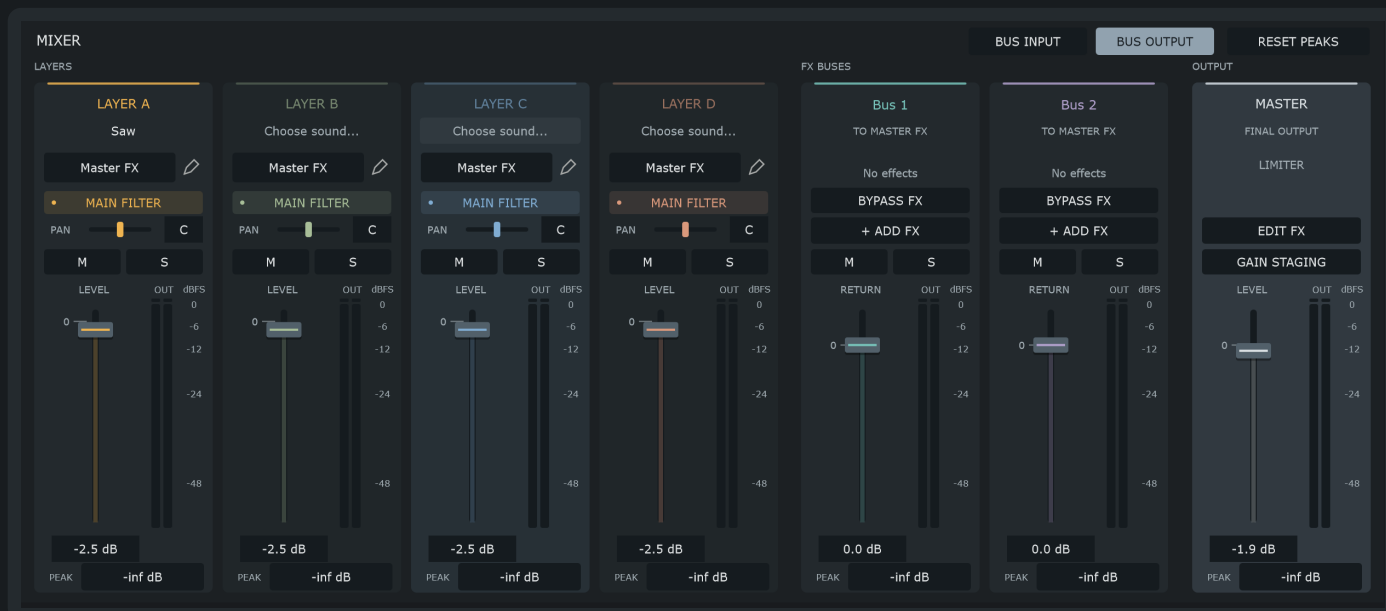
Bus faders control return level. Double-click a bus title to rename it; the name also appears on Effects. Click Edit FX or the chain summary to open that bus's rack. Muting a bus silences its return while its effects continue, preserving tails for unmute.

Read the volume meters

The moving bars show audio level, not where a volume knob is set. A red overload indication means the signal is too high; turn it down at the stage causing it. On a dBFS meter, 0 is the digital ceiling, not silence. Negative readings are normal; leave space below that ceiling.

Routing & gain staging

Routing means choosing where audio goes. Gain staging means keeping sensible volume at each stage, so a loud layer or effect does not overload the next one.



APEX / MIXING / ROUTING & GAIN STAGING

Follow the signal

Sources are shaped by their layer controls and filters. Enabled Main Filter routing is separate from FX routing. Bus returns and layers routed directly to Master FX feed the master chain. No FX layers join the final output without passing through rack effects. Final gain affects the complete result.

Input and output are different

Input is audio entering an effect; output is audio leaving it. A hot input can change distortion or compression even if the final volume is low. Gain Staging exposes Master FX input trim and final Output Gain. The Input/Output meter switch compares the two FX buses; Master always shows final output.

Mute and solo

Layer mute/solo acts first. Bus solo isolates the selected bus returns and suppresses direct Master FX/No FX paths. Bus mute wins over solo. An existing Master FX reverb/delay tail can continue after the source feeding it is silenced.

A practical check

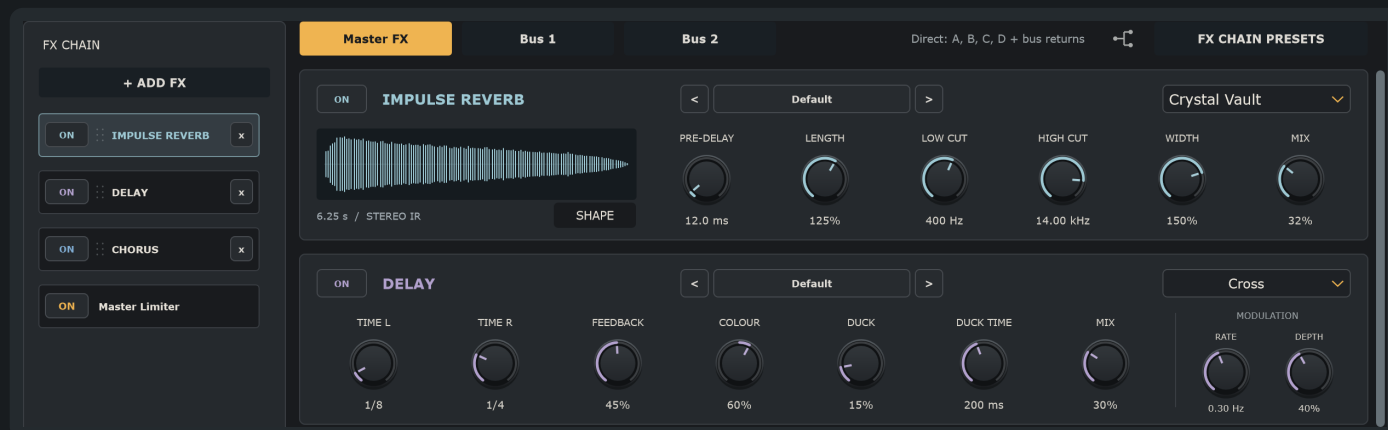
Play a full chord at the loudest intended velocity. Watch layer, bus and Master peaks. Reduce levels before a clipping stage, then use output gain for final matching. Compare effects at similar loudness and check bass/stereo changes in mono. Reset peaks and repeat.

WORKFLOW NOTE

Routing to No FX does not bypass enabled layer/main filters or the final output gain.

Working with the FX rack

Effects change a sound after it is generated, adding echoes, space, grit or movement. The rack is an ordered list of effects; start with one and listen to what it adds.



APEX / EFFECTS / WORKING WITH THE FX RACK

Add one effect

Choose Master FX, Bus 1 or Bus 2, then + Add FX. Master processes layers routed there plus bus returns; a bus lets selected layers have their own effects first. Select an effect to see its controls. Drag the left-list handle to reorder it: order changes the result.

Bypass and remove

Use ON to bypass an insert while retaining its settings. X removes it. Adding a fresh effect starts from its defaults. Up to three independent instances of each effect type can be used across the rack, each with separate settings.

Presets and routing

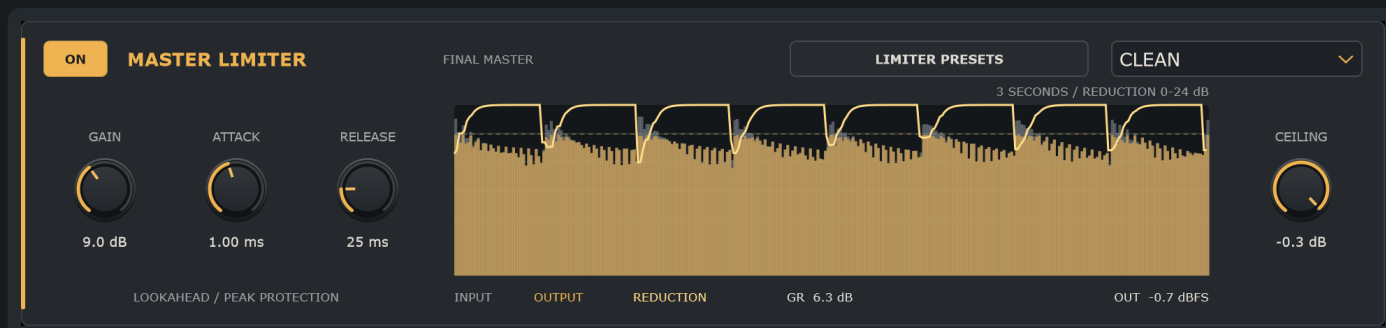
PRESET saves/loads one effect's settings. FX CHAIN PRESETS stores a chain for the selected bus. The routing icon opens the layer FX destinations. Use the Mixer when you want routing and level/meter information together.

Hear what it contributes

Use a low Mix where available, then compare ON and bypassed. Dry is the original sound; wet is the processed sound. Delay and Reverb leave a tail after a note ends. Put Trance Gate before them to let that tail ring, or after them to chop it too.

Limiter

The Limiter reduces peaks as you raise the input level. This enabled Master Limiter shows a complete three-second history of rhythmic stereo audio, with real gain reduction.



APEX / EFFECTS / LIMITER

Gain and ceiling

GAIN drives the limiter; CEILING sets its output target. Defaults are +3 dB Gain and -0.3 dB Ceiling. This example uses +9 dB Gain to make limiting easy to see. The output need not reach the ceiling on every peak; the detector leaves a small safety margin.

Read the display

Grey bars show input, amber bars show output, and the pale line shows gain reduction over three seconds. The reduction line moves down as more gain is removed, using the 0-24 dB scale. GR is the current reduction and OUT is the current output peak.

Attack, release and style

ATTACK controls how limiting begins ahead of a peak; fixed lookahead provides peak protection. RELEASE controls recovery. Defaults are 1 ms Attack and 25 ms Release. Clean gives smooth recovery; Punch recovers more quickly for rhythmic sounds.

Master and insert limiters

Master Limiter is the dedicated final stage, with an ON/OFF button and no drag handle or remove button. Add a separate Limiter to Master FX or a bus to control peaks at that rack position. Later effects can raise peaks again, so check the final output.

WORKFLOW NOTE

Shown: actual processing of a rhythmic stereo chord signal, with the full time window populated. Raise Gain gradually and listen for softened attacks or pumping.

Phaser

A phaser adds a moving, swirling 'whoosh' to a sound. Use a slow sweep to bring a held pad to life, or a stronger setting for a hollow, animated lead.



APEX / EFFECTS / PHASER

Set the movement

RATE is how quickly the sweep moves; DEPTH is how far it moves. FREQUENCY places the sweep higher or lower in the tone. Start slow and shallow. More stages (2, 4, 6 or 8) make a more complex pattern of dips in the sound.

Character and balance

FEEDBACK strengthens the resonant movement. WIDTH controls the stereo spread of the effect. MIX blends the processed and original signals. Use the bypass button to compare at the same apparent level.

Try it

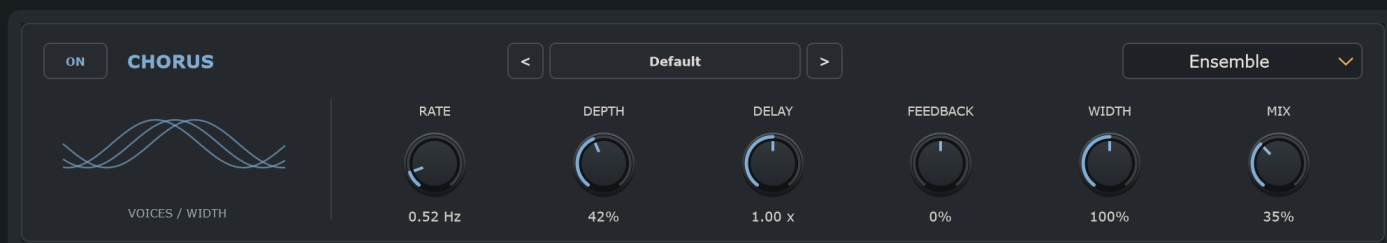
For a slow pad sweep, start with a low Rate, moderate Depth and restrained Feedback. For a more pronounced bass or lead texture, increase stages and Depth, then automate or modulate the amount slowly.

Listen for

Strong feedback can emphasise narrow frequencies. Check a range of notes and reduce the input or mix if peaks become excessive. A phaser creates colour through phase interaction, so mono checking is useful when using a wide setting.

Chorus

Chorus blends slightly changing copies with the original sound, making it seem thicker or wider. Use a small amount on keys or pads when one plain tone feels too narrow.



APEX / EFFECTS / CHORUS

Rate, depth and delay

RATE controls modulation speed; DEPTH sets its movement. DELAY changes the short-delay character. Choose Classic, Ensemble or Dimension for a different chorus arrangement, then refine these controls while holding a note.

Keep the original clear

MIX balances the original with the chorus. Too much can blur a note's sharp beginning, called its attack or transient. WIDTH changes left/right spread; FEEDBACK feeds some effected sound back in for a stronger colour. Start with low feedback and raise Mix slowly.

Try it

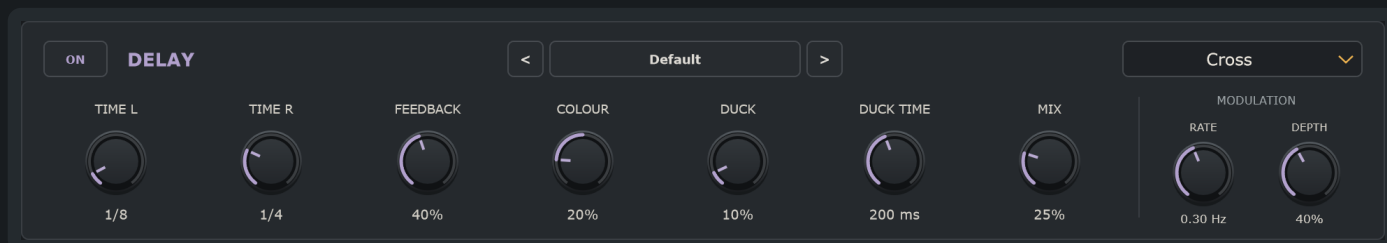
Use a slow Rate and modest Depth for electric piano or a warm pad. A wider setting can expand a narrow oscillator source without requiring a large unison stack. Keep the bass foundation centred with layer routing or Stereo Shaper.

Save a useful preset

Level-match the bypassed sound, test chords and save a module preset once the balance works. A chorus preset stores this effect's settings; use FX Chain Presets when the result depends on several inserts together.

Delay

Delay makes echoes of your notes. Use it to fill the gaps in a melody or add a rhythm that answers what you play.



APEX / EFFECTS / DELAY

Left and right time

The left and right timing controls set the repeat spacing for each channel. Choose straight, dotted (D) or triplet (T) divisions; triplets include 1/16T, 1/8T, 1/4T, 1/2T and 1/1T. Modes are Mono, Stereo, Ping Pong and Cross. The default is Cross with 1/8 on the left and 1/4 on the right. Different divisions widen the rhythm; matching them centres it.

Feedback and colour

FEEDBACK determines how much repeat signal returns to the delay. COLOUR shapes the repeats' tone. MIX sets their level against the source. Begin with moderate feedback, then listen after releasing the note so you can judge the complete tail.

Keep the melody in front

Ducking turns the echoes down while the original notes play, then lets them rise in the gaps. DUCK sets the reduction and DUCK TIME controls recovery. Modulation RATE and DEPTH add motion to the repeats. Use ducking when echoes crowd a busy lead or pluck.

Try it

Use a rhythmic division that leaves room around the phrase. Follow Delay with a restrained Reverb for a blended space, or place a filter before it to remove unnecessary low energy. Lower feedback and mix if fast sequences become crowded.

Reverb

Reverb adds the lingering sound of a space, such as a room or hall. Use a little to make a dry sound feel natural, or more for a distant, spacious pad.



APEX / EFFECTS / REVERB

Size and timing

Choose Plate, Hall or Arena for different space characters. DECAY sets how long the sound lingers. PREDELAY is the short wait before the reverb begins; a little can keep the start of a note clear. Start with a short decay and low Mix, then increase either.

Tone and width

DAMP controls high-frequency decay; COLOUR changes the tonal character. WIDTH sets the stereo spread. MIX balances ambience and direct sound. Reduce low-frequency energy elsewhere in the chain when a large space makes bass notes muddy.

Ducking

DUCK lowers reverb while the dry signal is present; the duck timing sets how quickly it comes back. This can keep an energetic lead in front while preserving a substantial tail between phrases.

Choose the appropriate reverb

Use this Reverb for flexible algorithmic room/hall shaping. Choose Impulse Reverb for the character of a built-in impulse response. Both can be placed on a bus for selected layers, and both need their wet level checked while playing full chords.

Impulse Reverb

Impulse Reverb adds space using a stored response - a short sound that describes how a space rings. Choose it when you prefer one of its built-in room, plate or unusual space characters.



APEX / EFFECTS / IMPULSE REVERB

Choose a space

The 18 responses are Tight Room, Studio Room, Bright Plate, Dance Hall, Wide Hall, Gated Space, Reverse Bloom, Metal Chamber, Backstage Booth, Concrete Tunnel, Crystal Vault, Dream Chamber, Glass Atrium, Marble Rotunda, Neon Corridor, Stone Gallery, Velvet Booth and Wooden Loft. Wide Hall is the default. External IR-file import is not available.

Fit the space to the sound

PRE-DELAY separates the dry attack from the space. LENGTH scales the response from 10% to 200%. LOW CUT removes bass; HIGH CUT softens brightness. WIDTH adjusts stereo spread and MIX blends wet/dry. The example uses Crystal Vault at 125% Length and 32% Mix.

Shape the response

SHAPE opens Attack, Fade Out, Wet Gain and Reverse. These change the impulse, not the dry source. A soft attack creates a swell, Fade Out tidies the tail, and Reverse plays the response backwards. Check Wet Gain after changing spaces.

Try it

Use a booth or room subtly on keys, or a hall/vault for a spacious lead. Low Cut helps preserve bass clarity. Gated and reversed spaces suit accents. Listen in the full mix; longer impulses and multiple active copies cost more CPU.

Distortion

Distortion adds grit and extra brightness by reshaping audio. Use a little for warmth or more for an aggressive bass; it can also make the sound much louder.



APEX / EFFECTS / DISTORTION

Start gently

Choose a mode, then slowly raise DRIVE to add grit. Soft Clip and Tube are useful starting points; Hard Clip, Fold, Sine and the other modes have different characters. MIX blends the processed contribution. OUTPUT adjusts final volume: turn it down when distortion gets louder, then compare fairly.

Shape what is distorted

OFF bypasses the filter. PRE filters the input to distortion; POST filters the added distortion. Drag the graph node or the grouped FREQ and RES knobs, then blend LP / BP / HP below. Choose 12, 24 or 48 dB/oct for low/high-pass; band-pass slopes are 6, 12 or 24 dB/oct on each side.

Try it

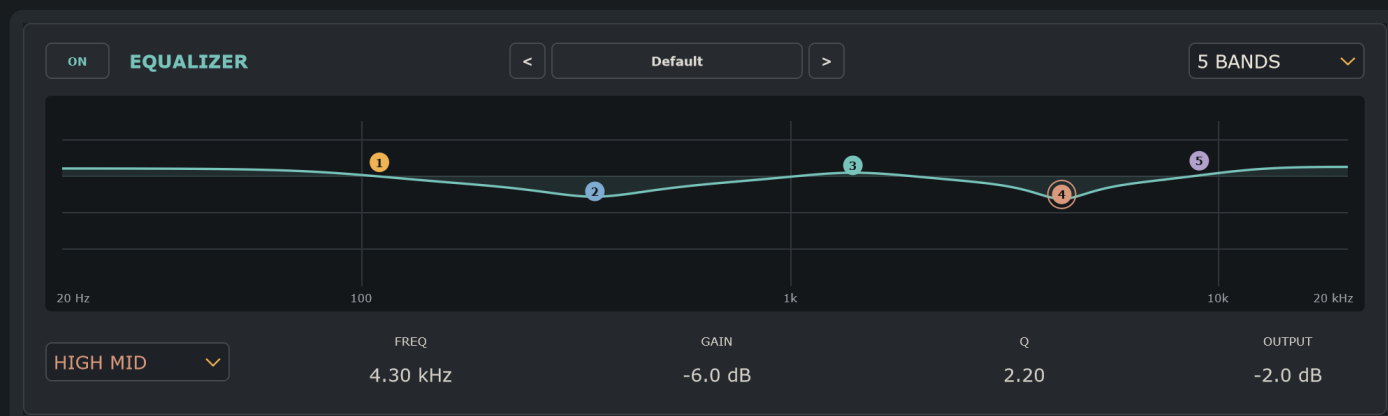
For a growling bass, remove unnecessary low or high content before strong distortion, then use the output to restore a sensible level. Keep a clean bass layer on another route if you want a stable fundamental beneath a distorted upper layer.

Why volume matters here

Driving distortion harder changes its character, not just its loudness. Lowering Output afterwards cannot undo that change. Compare processed and bypassed sound at similar final volume; louder often seems better even when it is not. Keep a clean bass layer if heavy distortion removes the body you need.

Equalizer

An equalizer (EQ) turns selected frequency regions up or down. Use it to remove unwanted bass, soften harshness or make a sound clearer without changing every part of its tone.



APEX / EFFECTS / EQUALIZER

Choose three or five bands

Use 3 BANDS for Low, Mid and High. Choose 5 BANDS to add Low Mid and High Mid for more detailed shaping. Switching back to three bands keeps the extra bands' settings for later use. Low and High offer shelves or high/low-pass cuts; the inner bands are bells.

Select and shape a band

Click a coloured graph point or use the band selector beneath the graph. Drag a point horizontally for frequency and vertically for gain; cut filters use vertical movement for Q. Scroll over a point for Q, or Ctrl-drag for fine adjustment. Drag the numeric values or double-click them to type.

Read the example

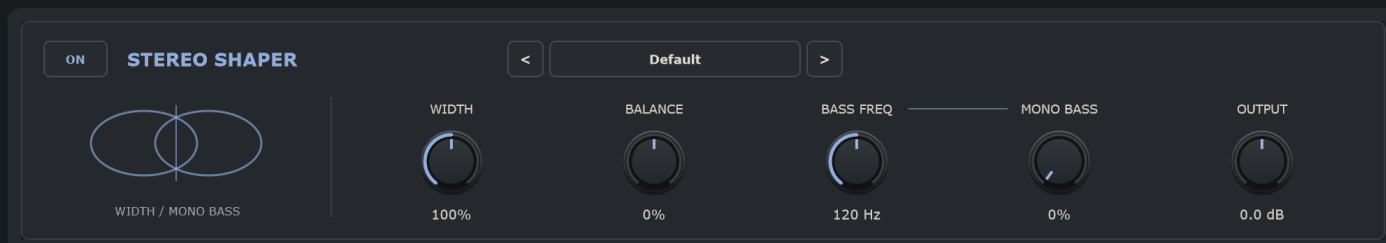
This five-band curve lifts the bass shelf and upper treble, cuts low-mid weight around 350 Hz and a narrow region near 4.3 kHz, and adds presence near 1.4 kHz. The high-mid band is selected, so its frequency, gain and Q appear in the control strip. Use broad changes for tone and narrower changes for correction.

Filter shape and output

Select Low or High to reveal its shelf/cut menu. Cut filters offer 12, 24, 48 and 96 dB/oct slopes. OUTPUT trims the whole EQ. Strong boosts raise peaks; compare the processed and bypassed sound at similar volume. EQ before distortion changes what drives it; EQ after distortion shapes the added harmonics.

Stereo Shaper

Stereo means separate left and right channels. Stereo Shaper changes how wide or centred a sound feels; use it to spread a lead while keeping bass focused in the middle.



APEX / EFFECTS / STEREO SHAPER

Spread or centre it

WIDTH changes how much left/right difference you hear. BALANCE shifts the sound toward one side; OUTPUT adjusts its final level. Begin with small width changes. A centred bass can support wider upper layers; making every layer very wide can weaken the centre.

Bass control

BASS FREQUENCY sets the region affected by the bass-stereo control; BASS AMOUNT controls how strongly that lower region is narrowed. Use these to keep low fundamentals focused while retaining width higher up.

Modulation

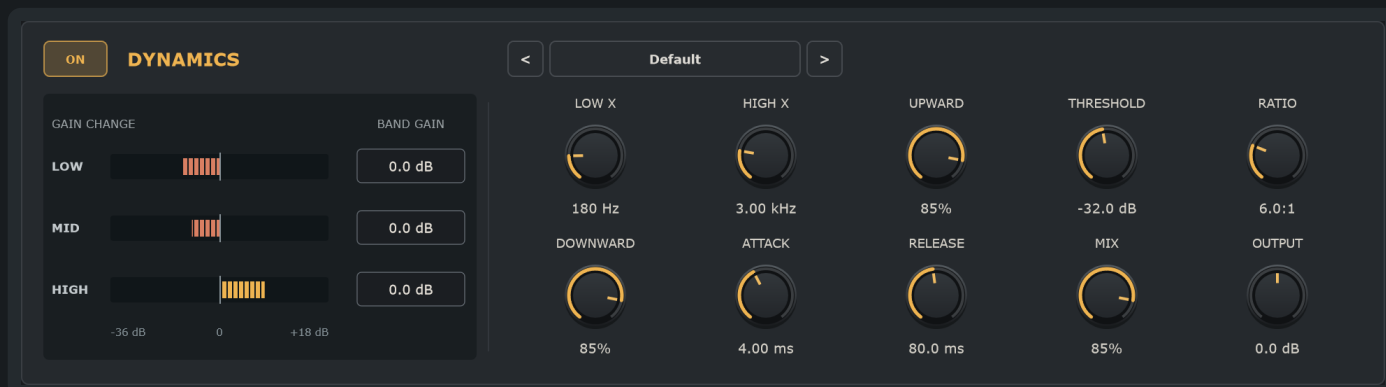
Supported Stereo Shaper controls, including bass frequency, accept macro/LFO assignments. Use subtle movement first. A wide range can make the low end or apparent centre move significantly, so check the route at both extremes.

Try it

For a wide dance lead, widen its upper layer while keeping the bass layer centred. Check mono compatibility in the DAW and listen for a loss of body. Width does not create useful stereo information from every completely mono source on its own.

Dynamics

Dynamics controls differences between loud and quiet parts of a sound. Use gentle compression to steady uneven notes, or stronger settings for a denser, more forceful result.



APEX / EFFECTS / DYNAMICS

Shape loud and quiet parts

UPWARD brings quieter material forward; DOWNWARD controls reduction of louder material. THRESHOLD sets where processing changes behaviour, and RATIO sets downward compression strength. The two rows of knobs keep these controls beside the crossover, timing, mix and output settings.

Read the three-band display

LOW X and HIGH X divide the signal into Low, Mid and High. The dark meter panel shows real gain changes: coral bars extend left for reduction and amber bars right for upward gain. The centre line is zero. BAND GAIN fields are separate trims for each region; they do not show gain reduction.

Keep the attack you want

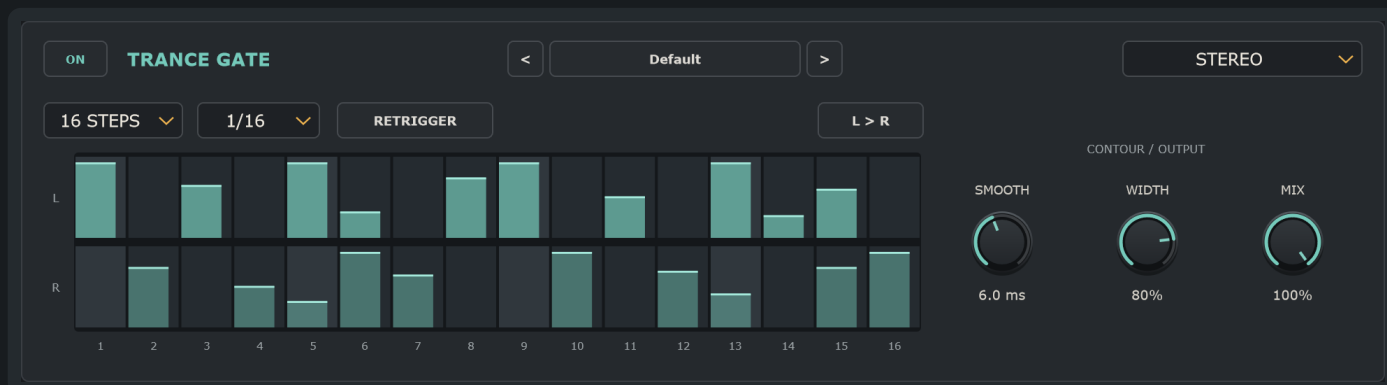
ATTACK sets how quickly processing reacts; RELEASE sets how quickly it recovers. Fast reactions can soften a note's initial transient; longer releases can smooth a phrase or create pumping. Start with the band gains at 0 dB and listen to the start and gap between notes while adjusting.

Blend and compare

MIX blends processed and original audio. OUTPUT adjusts level; on the original Dynamics instance it is global Output Gain and stays active when bypassed. Additional copies have local output trim. Compare at similar volume so increased loudness does not disguise over-compression.

Trance Gate

A Trance Gate rhythmically turns audio up and down. Hold a long note to hear it become a chopped pattern; Stereo mode lets the left and right sides play different rhythms.



APEX / EFFECTS / TRANCE GATE

Draw a stereo rhythm

Choose Stereo to show separate L and R lanes. Each bar is a step: tall means louder, low means quieter and zero means silent. Drag different patterns for left and right to hear rhythmic stereo movement. Mono uses the left pattern for both sides; L > R copies it to the right.

Set speed and softness

RATE sets step speed in musical divisions. LENGTH sets 1-32 active steps. WIDTH is how much of a step stays open, not stereo width. SMOOTH softens abrupt volume changes; MIX restores some unchopped sound. Try 16 steps at 1/16, then hold a long note.

Retrigger is optional

Leave RETRIGGER off for simple audio chopping. Turning it on also restarts envelopes on the relevant gate path, so each pulse can get a fresh attack. It does not create new MIDI notes or restart the sample/oscillator itself. Use it when you want more strongly articulated pulses.

Choose where to put it

Before Delay or Reverb, the gate chops the note but echoes and ambience can ring between steps. After them, it chops the whole result. Use a sustained pad to hear the difference clearly. Save a module preset when you like the rhythm.

WORKFLOW NOTE

Shown: a 16-step Stereo pattern with different left/right accents. Use headphones or stereo speakers to hear the movement; changing Length keeps hidden steps for later.

Filter effect

This is a filter you can place among your effects. Use it to soften echoes, remove bass from a reverb chain or add a tone sweep at a particular stage.



APEX / EFFECTS / FILTER EFFECT

Start with low-pass

Choose LP 24 dB and lower CUTOFF to soften the audio reaching this point in the chain. RES emphasises the cutoff region. Use a little resonance first. The menu also offers the Main/Layer models, including Notch, Phaser, Comb - and Scream LP/BP; their extra character control changes with the model.

Original or filtered?

MIX balances the filtered and original audio; at full Mix you hear the filtered result. DRIVE pushes its input harder for more character. To learn the basic sound, keep Drive low and Mix high, then sweep Cutoff. Reduce level if resonance causes large peaks.

Modulate it

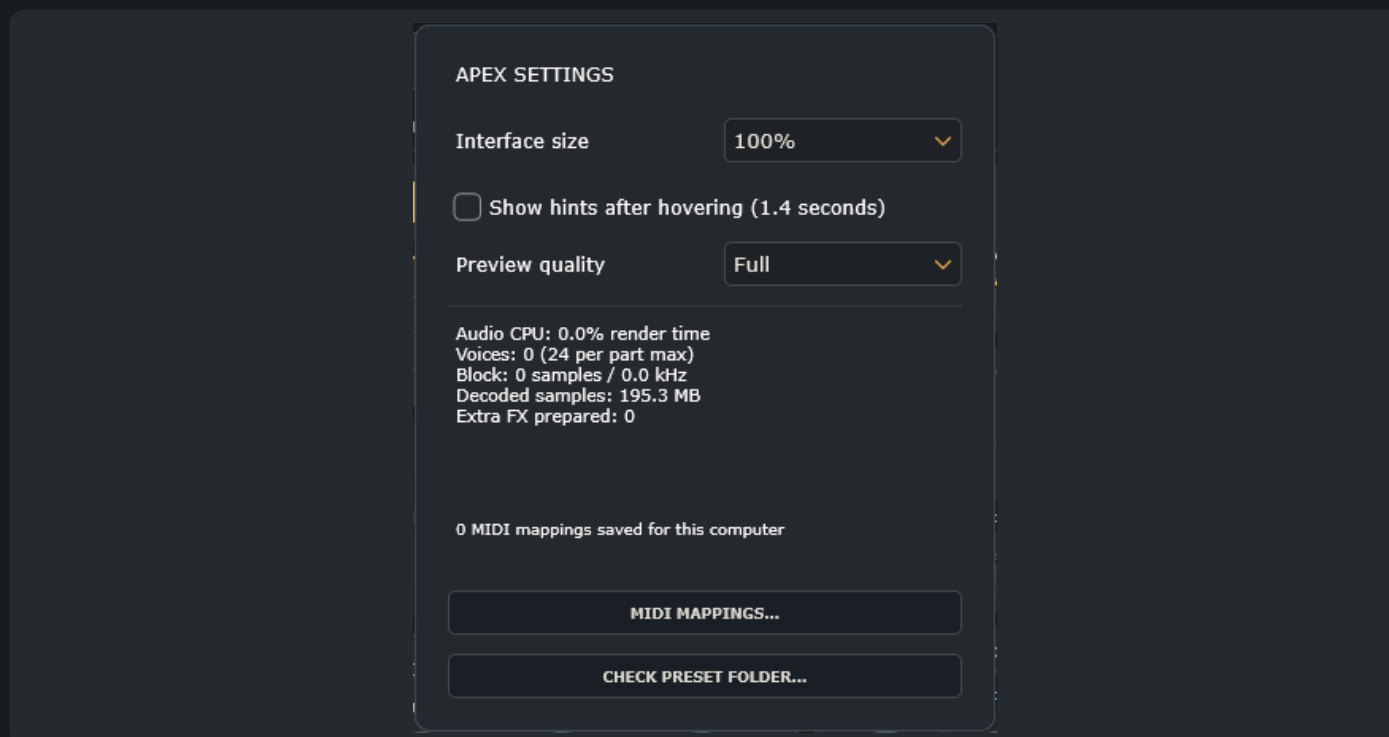
Assign a macro or LFO to cutoff for a shared sweep. Use an envelope for rhythmic movement. Unlike the per-note Layer Filter, this effect processes the audio reaching its rack position, including any earlier effects.

Try it

Place a filter after Delay to shape the complete repeat signal, or before distortion to emphasise a narrow range. Put it on Bus 1 when only a lead layer should sweep, leaving the bass on another route. Watch peaks when combining resonance and drive.

Master, MIDI & settings

These controls affect the whole instrument or how you operate it. Use Master for final volume, MIDI Learn for your physical controller and Settings for interface size and information.



APEX / REFERENCE / MASTER, MIDI & SETTINGS

Master and performance

Master Pitch transposes the complete instrument; Master level changes its output level. The stereo meter and held peak show final output. The on-screen Pitch and Mod wheels provide performance input. The lower voicing controls set mono/poly, legato and glide.

MIDI Learn

Right-click a supported knob and choose MIDI Learn, then move the intended controller. Settings > MIDI Mappings shows the current mappings and lets you cancel learning or remove a mapping. Mapped controls still have their normal base values and modulation behaviour.

Interface settings

The gear opens interface size and hover hints. Choose the size that fits your screen. Performance information reports audio processing, voices, decoded sample memory and prepared extra FX. These figures describe Apex's measurements and may differ from the DAW's CPU meter.

Check a preset folder

The preset checker can identify missing assets, silent probes and level problems in a chosen folder. It is a diagnostic aid, not a replacement for auditioning musical phrases, macros, looping, pattern triggers and the entire keyboard range.

Three practical patches

Try these small sound-building exercises after learning the basic controls. Start from Init, change one section at a time and save each result with a new name.



APEX / REFERENCE / THREE PRACTICAL PATCHES

Evolving trance pad

Choose a multi-frame wavetable on Layer A. Use a modest unison stack, a slow amp attack and a longer release. Assign a slow LFO to WT Pos and Macro 1 to filter cutoff. Add restrained Chorus and Reverb, then play chords while checking the Master peaks.

Bell or electric key

Open the wavetable editor and try Randomise > Bell, or build a few harmonics manually. Use a fast attack, decaying amp envelope and low sustain. For keys, add a softer body layer and subtle Chorus. Use velocity to make brighter/harder strikes and save a useful range of the effect mix as a macro.

Split bass and lead

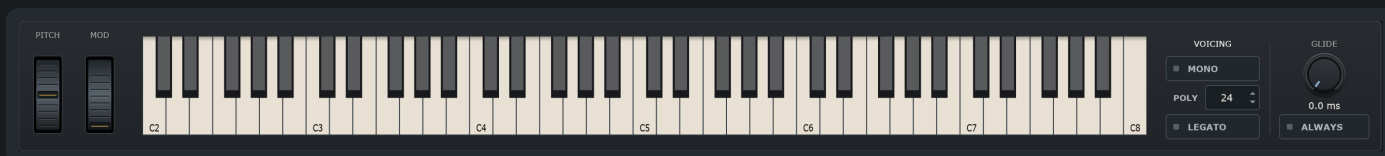
Set Layer A's key range to the lower keyboard and Layer B to the upper keyboard. Give the bass its own mono/voicing settings and route it to No FX or a minimal chain. Route the lead to Bus 1 with Delay and Reverb. Balance both from Mixer.

Finish each patch

Audition quiet/loud velocities, single notes and chords. Sweep macros through their full range, release the notes and hear the complete tail. Check the saved preset after reloading it before adding it to a bank.

Troubleshooting & CPU

If something sounds wrong, check one stage at a time. CPU is the processing work your computer must do; very complex sounds can cause glitches when that workload is too high.



APEX / REFERENCE / TROUBLESHOOTING & CPU

No sound

Load Init and click an on-screen key. Check the DAW track output and MIDI input, Master/output level, layer mute/solo, selected sample and key range. For a patterned patch, check On, Start mode, held keys and Latch. For bus routing, check bus return mute/solo and gain.

Clicks or overload

Reduce level before distortion or a heavily resonant filter. Check the final peak meter and allow short fades on envelopes/loops. After sample edits, play a new note. If saving or changing presets causes repeatable crackles, record the preset, audio settings and exact steps for support.

High CPU

Reduce unison, active layers and held notes, especially with Sync, Wavefold, Sine Fold, resonant creative filters or long convolution responses. Try a larger buffer or lower sample rate. Compare the editor open/closed. Dense four-layer patches at 96 kHz can exceed the budget even when a simple patch runs comfortably.

An edit seems missing

Confirm the selected layer, pattern tab and FX bus. Check locks and Main-follow settings. In Designer, check row enable/solo and source Amount. New sources start at full Amount. Line shortcuts act when its graph has focus; Escape clears selected points. Save before exporting a bank.

WORKFLOW NOTE

For a useful bug report, include the preset/project, Apex build, host version, sample rate, buffer size and a short reproduction sequence.

Terms & quick reference

Use this page whenever an unfamiliar word gets in the way. You do not need to memorise the terms before making music.



APEX / REFERENCE / TERMS & QUICK REFERENCE

Source, layer and voice

A source is a sample instrument or oscillator. A layer groups its source and layer controls. A played note can use several layers. Unison creates several oscillator voices within a layer for that note, so unison count is different from keyboard polyphony.

Frame and modulation

A frame is one repeating wave shape; WT Position chooses or blends frames. Modulation is automatic control movement. Its source causes the change; its destination is the knob being changed. Amount sets how much. A macro is a performance knob that can control several things at once.

Frequency, mix and level

Hz measures frequency; higher frequencies sound higher, and 1 kHz is 1,000 Hz. An octave doubles frequency; a semitone is one keyboard-key step. Dry means original audio; wet means effected audio. Gain changes volume. On a dBFS meter, 0 is the digital ceiling; negative values are normal.

About this edition

Version 1.0 review manual, updated 23 September 2026 for the current Designer, Line editing, sequence Chop, macro destination removal, layer levels and impulse collection. Screenshots show example settings, not universal defaults.

WORKFLOW NOTE

Use the clickable contents and PDF bookmarks to move between sections. The footer returns to Contents.