PRIME ENTITY

GATED REVERB & DELAY

REFOLVK

USER MANUAL

Your reverb, out of the way. One plug-in on the channel: detector, ducking, reverb, delay and a four-band wet EQ, already wired together.

VST3 · AUDIO UNIT · STANDALONE · MACOS AND WINDOWS

WWW.PRIME-ENTITY.NL

WHY IT EXISTS

Ducked reverb usually means a send, a bus, a compressor and a sidechain feeding it. Half an hour of routing before you hear a single decision.

THE USUAL WAY

Create an aux bus and load a reverb. Set up a send from the source. Add an EQ to clean up the tail. Insert a compressor. Route the dry source into its sidechain. Dial in threshold, ratio, attack and release until it ducks correctly. Repeat the whole setup on the next channel.

WITH REFOLVK

Drop it on the channel or bus and turn it up. The detector, ducking, reverb, delay and EQ are already connected inside the plug-in. Save the result as a preset and the same setup takes seconds on the next channel.

BUILT AROUND THE TRIGGER

ReFOLVK is not a reverb with ducking added on top. The trigger is the centre of the plug-in. It controls the effect in real time, keeping the source in front while the reverb and delay move around it.

> **TWO WAYS IN**
>
> **Easy** shows four controls: Reverb, Delay, Duck and Wet Level. **Advanced** opens every panel. Switching between them changes nothing about the sound — Easy hides controls, it does not reset them.

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INSTALL AND ACTIVATE

INSTALLING

01 **Open the installer.** On macOS it places the VST3, the Audio Unit and the standalone application; on Windows the VST3 and the standalone application. The factory presets and impulse responses come with it either way.

02 **Rescan in your DAW** if it does not pick the plug-in up straight away.

03 **Load ReFOLVK** on a channel or a bus as an insert.

THE WARNING THE FIRST TIME

The installer is not signed with a developer certificate yet, so both systems question it once. After that they stay quiet.

macOS calls it an unidentified developer. Right-click the installer and choose Open rather than double-clicking it, then confirm. If you copy the plug-ins in by hand instead, clear the quarantine flag with `xattr -cr` on the copied bundles.

Windows shows a blue SmartScreen panel saying the publisher is unknown. Choose More info, then Run anyway.

ACTIVATING

01 **Buy a licence.** You get an email to choose a password.

02 **Open ReFOLVK and sign in** with that email address and password.

03 **Done.** The plug-in stores a signed licence and never contacts the server again.

The bottom right then reads **Licensed to** and your name.

WITHOUT A LICENCE

Every feature is unlocked, including all three reverb engines, your own impulse responses and the presets. The only difference is that the audio mutes for five seconds once every twenty, dry signal included, with a short fade so it does not read as a crash. There is no time limit.

MOVING TO ANOTHER COMPUTER

The licence is active on one computer at a time. Open your account, release the machine you are leaving, then sign in on the next one. That also covers a laptop that was stolen, wiped or died: you release it from the website, not from the machine.

THE WINDOW

Advanced view puts every panel on screen at once. Each one has its own switch beside its name, and switching a section off keeps its settings.



ADVANCED VIEW

> **WORKING WITH CONTROLS**
>
> Drag a knob to change it, hold shift for fine adjustment, double-click to reset. Click the number underneath to type a value. A control that is greyed out does not apply to the current setting and cannot be moved — a delay time while the delay is following the tempo, for instance.

TOP BAR

Preset	Arrows step through the list. The name in the middle opens the browser. Save stores the current settings under a name of your own.
A / B	Two complete settings side by side. Press the other letter to compare. The window turns a cooler shade in B, so you can hear which one you are on without looking.
Zoom	70% to 120%.
View	Easy or Advanced.
Settings	The gear: update notifications on or off, and releasing this computer from your licence.
Engine	Hall, FDN or Convolution.
Wet Solo	Hear the effect on its own, with the dry signal removed.
Listen	Hear what the trigger is listening to, after Detect HP and Detect LP.

EASY VIEW

Four controls, for when the sound matters more than the settings. Everything the advanced panels expose keeps whatever it was set to.

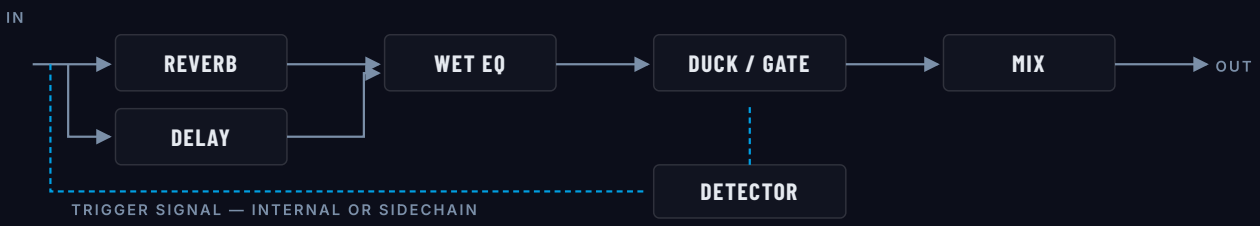


EASY VIEW — FOUR CONTROLS

CONTROL	RANGE	DEFAULT	
Reverb	0 – 100%	**70%**	How much reverb reaches the output. The same control as Mix in the Reverb panel.
Delay	0 – 100%	**35%**	How much delay reaches the output. The same control as Mix in the Delay panel.
Duck	0 – 100%	**100%**	How far the effect is pushed down while the source plays. The same control as Depth in the Trigger panel.
Wet Level	−24 – +24 dB	**0 dB**	The level of the whole effect path.

SIGNAL FLOW

Reverb and delay run in parallel by default. Routing in the Output panel can chain them in either direction instead. The dry signal never passes through the effect path: Mix sets how much of the processed signal joins it at the end.



PARALLEL

Reverb and delay side by side, each fed from the source. The default, and the one that keeps both clear.

REVERB > DELAY

The tail feeds the delay, so the repeats are repeats of the reverb rather than of the source.

DELAY > REVERB

The repeats feed the reverb, so every echo arrives with a tail of its own.

THREE STARTING POINTS

VOCAL, OUT OF THE WAY

Duck, Depth 100%, Attack 5 ms, Release 300 ms. Pre-delay Sync on at 1/16. Detect HP around 200 Hz so the low end of the voice does not drive it. The tail lives in the gaps and never covers a word.

GATED DRUMS

Gate with Shape on Trigger, so every hit fires the same envelope. Short Hold, Release under 200 ms, Decay around 1.5 s. Detect LP low enough that only the drum, not the cymbals, opens it.

AMBIENT WASH

Depth around 40% so the effect steps back rather than disappearing. Long Decay, Shimmer at +12 with feedback past halfway, Air up. Routing on Delay > Reverb, so every repeat carries its own tail.

> #### WHERE THE TRIGGER SITS
>
> The detector listens to the source, not to the effect, and its envelope is applied after the reverb and delay have been made. That is why the tail keeps growing underneath while it is being held down, and swells back in the gaps instead of starting again from nothing.

TRIGGER

The detector decides when the effect gets out of the way. Everything else follows from what you set here.



SOURCE

Internal listens to the signal on the channel. **Sidechain** listens to a second input you feed from elsewhere, which is how you duck a reverb from a kick that is not on this channel.

MODE

Duck pushes the effect down while the source plays and lets the tail swell back in the gaps. **Gate** does the opposite: the effect is only heard while the source is over the threshold. **Inverse** reverses the response for effects that appear only where the source is absent.

SHAPE

For Gate mode. **Follow** tracks the level continuously. **Trigger** fires a full envelope on each hit, regardless of how long the source stays up. Greyed out in the other modes, where it has no meaning.

CONTROL	RANGE	DEFAULT	
Threshold	−60 – 0 dB	**−30 dB**	The level the trigger signal has to pass before the effect responds.
Depth	0 – 100%	**100%**	How far the effect moves. At 100% it disappears completely while the source plays.
Attack	0.1 – 200 ms	**5 ms**	How quickly it gets out of the way. Short keeps transients clear; longer lets a little of the tail through on the front of each hit.
Hold	0 – 1000 ms	**80 ms**	How long it stays down after the signal drops, so short gaps between hits do not retrigger it.
Release	1 – 2000 ms	**300 ms**	How quickly the effect returns. This is the control that decides whether a tail swells or snaps back.
Lookahead	0 – 20 ms	**0 ms**	Lets the detector react before the transient arrives. Adds the same amount of latency, which the plug-in reports to the host so everything stays in time.
Detect HP	20 – 2000 Hz	**20 Hz**	Removes low frequencies from what the detector hears.
Detect LP	200 Hz – 20 kHz	**20 kHz**	Removes highs from what the detector hears.

> **SETTING THE DETECTOR FILTERS BY EAR**
>
> Detect HP and Detect LP shape what the trigger listens to, not what you hear, so turning them changes nothing directly. Switch **Listen** on in Monitor to hear that signal itself, then sweep until only the part you want to trigger on is left.

REVERB



Three engines share one set of controls. Everything on this page applies whichever one is selected; the engine-specific controls are on the next.

PRE-DELAY

The gap between the source and the start of the tail. **Pre-delay Sync** switches it to a note value instead of milliseconds. A sixteenth is the usual way of dropping a tail in behind a vocal rather than on top of it. Whichever one is not in charge is greyed out.

FREEZE

Holds what is in the tail right now. The input stops going in and the decay stops. Available on Hall and FDN; Convolution plays back a recording, so it has nothing to hold.

CONTROL	RANGE	DEFAULT	
Mix	0 – 100%	**70%**	How much reverb reaches the output.
Size	0 – 100%	**55%**	The size of the space. On Convolution it stretches or shortens the impulse response.
Decay	0.1 – 20 s	**2.50 s**	How long the tail takes to die away.
Pre-delay	0 – 250 ms	**20 ms**	The gap before the tail starts.
Damping	0 – 100%	**40%**	How much the top end is absorbed on every pass, the way a real room loses highs first.
Mod	0 – 100%	**25%**	Movement inside the tail. Keeps a long decay from turning metallic.
Low Cut	20 – 1000 Hz	**120 Hz**	Clears the bottom out of the tail. Fully anticlockwise switches it out completely.
High Cut	100 Hz – 20 kHz	**12 kHz**	Takes the top off the tail.
Air	0 – 100%	**0%**	A high shelf of up to 24 dB over the whole effect, reverb and delay together, applied last so nothing downstream can undo it. Damping and the high cut take the top off the tail on every pass; this puts it back.
Width	0 – 200%	**100%**	The stereo spread of the tail. Below 100% narrows it, above widens it.

THREE ENGINES

HALL

The big, bright, moving hall rather than a neutral room. The bass hangs on longer than the mids while the top dies away, the modulation is randomised so the ear never finds a pattern in it, and a handful of early reflections arrive before the wash so you can hear how big the space is. The default, and the one most of the factory presets are built on.

FDN

Dense, modern, synthetic. A feedback delay network with no room behind it. Where Hall sounds like a place, FDN sounds like an effect — which is often exactly what a production wants.

CONVOLUTION

Real spaces, from recorded impulse responses. Includes a set of factory files, and loads your own. Size, length and reverse reshape the file itself.

HALL ONLY

CONTROL	RANGE	DEFAULT	
Diffusion	0 – 100%	**70%**	How thoroughly the reflections are smeared together. Low leaves distinct echoes, high gives a smooth wash.
Bass Mult	0.2 – 4.0 x	**1.50 x**	How much longer the low end rings than the rest. Above 1 the bottom blooms under a tail that stays clear on top.
Crossover	40 – 2000 Hz	**400 Hz**	Where Bass Mult starts to apply.
Early Refl	0 – 100%	**25%**	The first reflections, before the tail proper. More of them reads as a closer, harder room.

CONVOLUTION ONLY

CONTROL	RANGE	DEFAULT	
IR Length	5 – 100%	**100%**	How much of the file's own tail is used. At 100% it is heard exactly as recorded; lower shortens it without changing its character.
IR Reverse	on / off	**off**	Plays the impulse response backwards, for a tail that swells into the note instead of away from it.

> **LOADING YOUR OWN IMPULSE RESPONSES**
>
> Put WAV or AIFF files in the impulse response folder under Documents. The plug-in can open that folder for you. Files appear in the list next to the factory ones, and a preset remembers which file it was using by name.

SHIMMER



Pitch-shifted feedback fed back into the tail. Because it sits around the engine rather than after it, the shifted signal becomes part of the reverb instead of sitting on top of it. It works with all three engines.

Shimmer runs inside the reverb, so it needs the reverb switched on. Turning the Reverb section off switches Shimmer off with it.

How much feedback it takes to build a cloud differs per engine, because each passes a different amount of signal round the loop. The plug-in compensates for that, so the same setting behaves the same whichever engine is selected.

CONTROL	RANGE	DEFAULT	
Interval	+12 · +7 · +24 · −12 · +12/+19	**+12**	What the feedback is shifted by, in semitones. +12 is the classic octave; +12/+19 stacks an octave and a twelfth for a wider, choral result; −12 drops instead of lifts.
Shimmer	0 – 100%	**0%**	How much shifted signal goes back in. At 0 the layer is silent.
Shim Fbk	0 – 100%	**50%**	How much the shifted layer feeds itself, so each pass rises again. High values build endlessly climbing tails.

DELAY



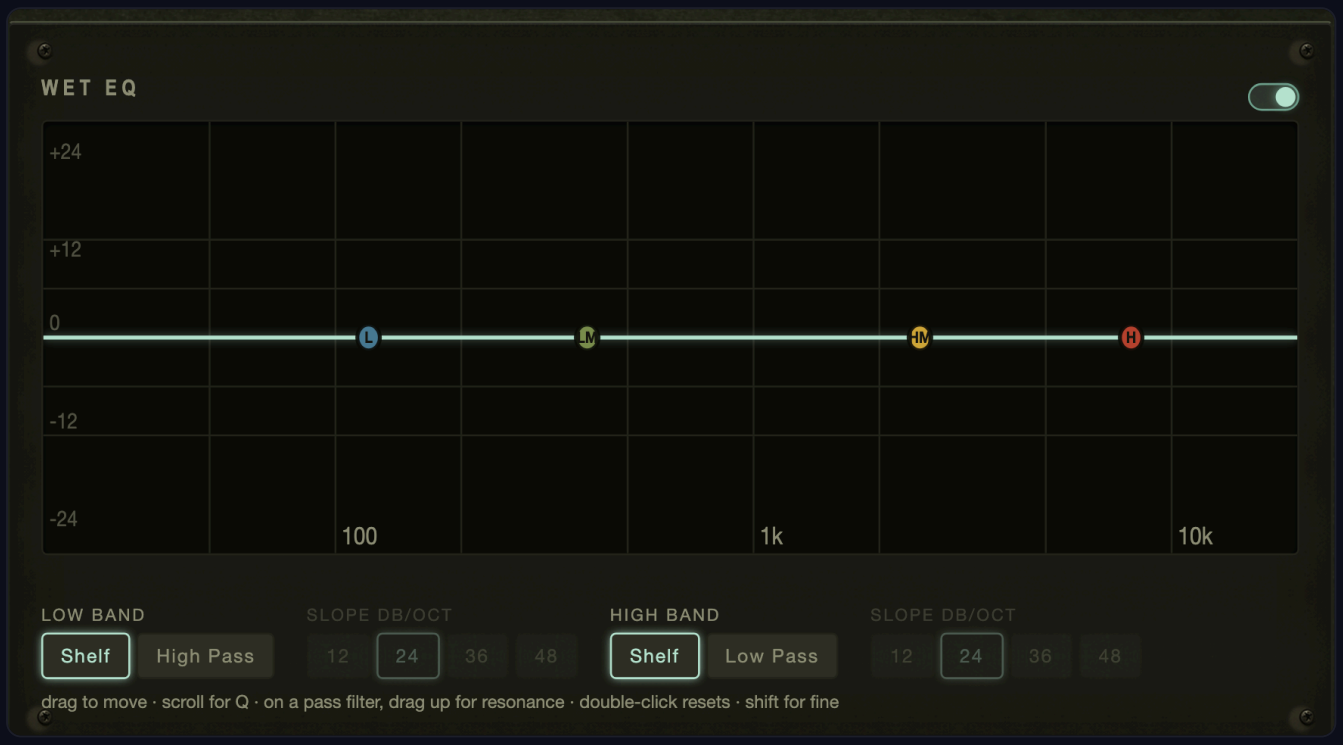
Sync locks the repeats to the host tempo and Division sets the note value. With Sync off, Time sets it in milliseconds instead. Whichever one is not in charge is greyed out.

Ping-Pong sends the repeats alternately left and right, and gives the right side its own timing. An eighth against a dotted eighth is where the useful patterns come from. With ping-pong off, one setting drives both sides and the label says so.

CONTROL	RANGE	DEFAULT	
Mix	0 – 100%	**35%**	How much delay reaches the output.
Division	1/1 – 1/16T	**1/8**	Note value when Sync is on. Straight, dotted and triplet.
Division R	1/1 – 1/16T	**1/16**	The right side, in ping-pong.
Time	1 – 2000 ms	**375 ms**	Repeat time when Sync is off.
Time R	1 – 2000 ms	**250 ms**	The right side, in ping-pong with Sync off.
Feedback	0 – 110%	**35%**	How many repeats. Past 100% the line builds rather than fades.
Low Cut	20 – 2000 Hz	**150 Hz**	Keeps the repeats out of the low end.
High Cut	1 – 20 kHz	**8.00 kHz**	Darkens the repeats. Because it sits inside the feedback path, each repeat is darker than the last, the way tape behaves.

WET EQ

Four bands on the effect only. The source never passes through it, so you can clear the mud out of a tail without touching the vocal that caused it.



THE CURVE IS EDITABLE DIRECTLY

WORKING IN THE GRAPH

Drag a node to move it. Scroll on it for Q. On a pass filter, drag upwards for resonance. Double-click resets a band. Hold shift for fine adjustment. Every value can also be typed into the readout underneath.

OUTER BANDS

The low band is a **shelf** or a **high-pass**; the high band a shelf or a **low-pass**. As pass filters they run at 12, 24, 36 or 48 dB per octave. The slope only applies to a pass filter, so it is greyed out while the band is a shelf.

BANDS

BAND	FREQUENCY	DEFAULT
Low	20 – 1000 Hz	**120 Hz**
Low Mid	100 – 2000 Hz	**400 Hz**
Hi Mid	500 Hz – 8 kHz	**2.5 kHz**
High	500 Hz – 20 kHz	**8 kHz**

Every band has ±24 dB of gain. Q runs to 12 on the outer bands and to 24 on the mids — narrow enough to notch out a single ringing frequency in a tail.

OUTPUT AND ROUTING



ROUTING

Parallel runs reverb and delay side by side, each fed from the source. **Reverb > Delay** sends the tail into the delay, so the repeats are of the reverb. **Delay > Reverb** puts the repeats into the space, so each one has its own tail.

CONTROL	RANGE	DEFAULT	
Mix	0 – 100%	**50%**	Dry against wet. At 100% the dry signal is gone completely.
Wet Level	−24 – +24 dB	**0 dB**	The level of the effect path on its own, before it meets the dry signal.
Output	−24 – +24 dB	**0 dB**	The level of everything leaving the plug-in.
Routing	Parallel · Rev > Dly · Dly > Rev	**Parallel**	How reverb and delay are connected.

> ### HOW MIX BEHAVES
>
> The dry signal stays at full level through the first half of the travel and only fades over the second. Two things had to be true at once: putting the plug-in on a channel must not make it quieter, and Mix at 100% must mean wet only. A straight crossfade costs 6 dB in the middle even with every effect switched off, so it holds the dry flat to halfway instead.

SWITCHING THINGS OFF

Every panel has its own switch beside the name, and switching a section off keeps its settings. The switch on the **Output** panel is the whole plug-in: with it off, whatever comes in leaves untouched. The tails keep running underneath, so they are where you left them when it comes back on.

PRESETS, A/B AND SETTINGS

PRESETS

The arrows step through the list; the name in the middle opens the browser, where the factory presets are grouped by category. Save stores the current settings under a name of your own, alongside the impulse response in use if the engine is Convolution.

Your presets live in a folder under Documents, next to the impulse responses. The plug-in can open it for you, so they are yours to copy, back up or pass on.

A AND B

Two complete settings, side by side. Press the other letter to compare; each keeps its own controls and its own preset name. The whole window turns a cooler shade in B, so you can tell which one you are hearing while you are listening rather than looking.

Both are stored in your session and come back with the project. It always opens on A.

SETTINGS

The gear beside Easy and Advanced.

Updates	Whether the plug-in checks for a newer version and tells you when there is one. Off means nothing is asked.
Licence	Releases this computer, so you can activate on another. It needs your password, and the slot is freed on the server before the licence is removed here.

WORKING OFFLINE

After activation the plug-in holds a signed licence on your own machine and checks it locally. An offline studio, a plane or a website that is down changes nothing about a session that is already running. The account is how the licence reaches you, not a second lock on it.

AUTOMATION

Every control is a real parameter, section switches included, so which parts are running is part of the sound and can be automated and saved with the project.

SPECIFICATIONS

FORMATS	macOS: VST3, Audio Unit, Standalone Windows: VST3, Standalone
SYSTEM	macOS 11 Big Sur or later Windows 10 or later, 64-bit
PROCESSOR	macOS: Apple Silicon and Intel, universal Windows: 64-bit Intel or AMD
CHANNELS	Stereo, and mono in to stereo out
SIDECHAIN	Supported, for the trigger
LATENCY	None, unless Lookahead is raised. That amount is reported to the host.
LICENCE	One computer at a time, moved from your account
ACTIVATION	Sign in once, offline afterwards

IF SOMETHING IS WRONG

SYMPTOM	
The audio drops out for five seconds, over and over	That is demo mode. The plug-in is not activated. Sign in and it stops.
The system warns about an unidentified developer or an unknown publisher	Expected for now. On macOS, right-click the installer and choose Open, then confirm. On Windows, choose More info, then Run anyway.
On Windows the plug-in loads but the window stays empty	The Microsoft Edge WebView2 runtime draws the interface and is missing. Install it from Microsoft; Windows 11 already has it.
A knob is greyed out and will not move	It does not apply to the current setting. A delay time is inactive while the delay follows the tempo, the right-hand side only exists in ping-pong, and Freeze has nothing to hold on the Convolution engine.
Sign-in says the licence is on another computer	It is active elsewhere. Open your account, release that machine, then sign in again. It takes seconds and does not involve us.
Convolution is silent	No impulse response is loaded. Choose one from the list, or put your own in the folder under Documents.
The effect never ducks	Check the Trigger section is on, that Depth is above zero, and that Threshold is low enough for the source to pass it. Switch Listen on in Monitor to hear what the trigger is receiving.
Turning Mix up makes no difference	Check the switch on the Output panel. With it off the plug-in passes the input straight through.
I forgot my password	Use the forgot-password link on the sign-in page. The link works once and expires after a day. Your purchase lives on your account, not in a file you have to keep safe.

YOUR REVERB, OUT OF THE WAY.

Prime Entity is an audio production studio. Ghost production, mastering, sound design and recording, and tools built in-house for the same sessions.

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