

Cobalt Feedback Neo User Manual

Manual language: English

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Product version: 0.9.0

1. Introduction

Cobalt Feedback Neo is a tempo-synced delay plugin built to deliver epic spatial feedback, designed for Progressive Trance, Melodic House, Deep Progressive, Modern Trance, and similar production styles.

0.9.0 supports the Windows 64-bit edition.

Cobalt Feedback Neo is based on tempo-synced delay processing and includes **EPIC ENGINE** and **FEEDBACK ENGINE**. **EPIC ENGINE** adds an independent late tail without directly driving the main delay feedback loop into runaway behaviour, for more epic and sustained spatial feedback. **FEEDBACK ENGINE** switches strong feedback-loop behaviour driven by Bloom / Density / Smear on or off.

Main features:

- **4 Delay Types** — Cobalt Sync / Neon Ping / Diffusion Cloud / Gravity Bloom
- **Tempo-synced delay** — Note values, Dot, and Triplet rhythm control
- **Epic Engine** — Epic spatial feedback through independent late-tail addition
- **Feedback Engine** — Strong Bloom / Density / Smear feedback-loop behaviour (ON/OFF)
- **Mix controls** — Duck, Low Cut / High Cut, Damping, Width
- **Presets and Expansions** — Factory / User banks, .cfnp / .cfnb

On startup, **Factory Init** from the **Factory** bank is selected.

Cobalt Feedback Neo can be used as an Insert or Send effect on its own, and within effect chains of other Cobalt-series products.

Two editions are distributed: **Demo Edition** and **Product Edition**. See §2 and §17 for differences.

2. Demo Edition / Product Edition

Cobalt Feedback Neo 0.9.0 is available in two editions:

Edition	Summary
Demo Edition	Evaluation build. Audio becomes silent after 900 real-time seconds (15 minutes), and some save features are unavailable (see §17)
Product Edition	Full product build without the demo limitations above

Neither edition guarantees full operation in every DAW, environment, or project. Back up important DAW project files before use.

Check the version under **MENU** → **About Cobalt Feedback Neo**. About shows Version 0.9.0, and Demo Edition adds **Demo** (for example Version 0.9.0 Demo). Product Edition shows the version number only.

3. System Requirements

Supported OS

- Windows 11 64-bit recommended

Supported Formats

- VST3
- CLAP

Distribution formats are **VST3** and **CLAP** only.

The CLAP edition is an experimental distribution format. Behaviour may vary depending on the host environment. If stability is your priority, we recommend starting with the VST3 edition.

Supported Hosts

- 64-bit DAWs that support VST3 or CLAP
- Stereo audio tracks or effect buses

4. Installation and Launch

Cobalt Feedback Neo is distributed as a zip package. There is no installer. Extract the zip and place the plugin files manually.

Distribution file names

- Cobalt Feedback Neo.vst3
- Cobalt Feedback Neo.clap

VST3 install location

Place the file in one of the following folders:

```
C:\Program Files\Common Files\VST3\  
%LOCALAPPDATA%\Programs\Common\VST3\
```

For most users, the shared all-users location is recommended:

```
C:\Program Files\Common Files\VST3\
```

CLAP install location

Place the file in one of the following folders:

```
C:\Program Files\Common Files\CLAP\  
%LOCALAPPDATA%\Programs\Common\CLAP\
```

After placing VST3 or CLAP, restart the DAW or rescan plugins.

5. Understanding the UI

The Cobalt Feedback Neo window uses a **980 × 640** pixel reference layout. The window can be resized within **860×560 to 1600×1040**.

Area	Position	Contents
Preset bar	Top	Bank / Preset, SAVE / LOAD / INIT, Undo / Redo, BYPASS / KILL, MENU
Left panel	Left	Delay Type, Stereo Mode, Drive, Low Cut / High Cut, Input meters
Feedback Engine	Centre top	Bloom, Density, Smear, KILL, Feedback Engine ON/OFF
Main controls	Centre	Epic Engine, Repeat, Note / SYNC, FREEZE / THROW / PANIC
SPACE / SAFETY / MIX	Centre bottom	Width, Diffuse, Low Guard, Damping, Mix
Right panel	Right	Tail, Duck, Output, Output meters

A practical starting flow is: set rhythm with **Delay Type** and **Note**, shape length with **Repeat** and **Tail**, then fit the mix with **Mix** and **Duck**.

6. Preset Bar

The top preset bar handles preset selection and save, undo, bypass, and clearing the tail.

Control	Role
Bank	Select Factory or User (Expansion name)
Preset	Select a preset
< >	Step to previous / next preset
SAVE	Save the current settings to the User bank (Factory is read-only; unavailable in Demo Edition)
LOAD	Import a single .cfnp preset into the User bank
INIT	Reset parameters to Factory Init (parameters only; does not clear the tail buffer)
Undo / Redo	Undo or redo edits
MENU	About, Expansion (.cfnb) Import / Export / Rename / Delete
BYPASS / BYPASSED	Bypass the plugin ON / OFF
KILL	Immediately clear delay / feedback internal state (stops ringing tails)

BYPASS and **KILL** are different:

- **BYPASS** — Outputs dry only while keeping settings. Host-automatable.
- **KILL** — Resets internal buffers and stops ringing delay tails. Parameter values are unchanged.

The **KILL** button inside the Feedback Engine tile and the lower **PANIC** button clear internal state the same way as the header **KILL**.

Demo Edition save and bank limits are described in §16 and §17.

7. Quick Start

Building a delay from scratch

1. Select **Factory Init**

2. Choose a **Delay Type** for the role
3. Enable **Sync** and set **Note** (and Dot / Tri if needed)
4. Set length and body with **Repeat** and **Tail**
5. Add spread with **Diffusion**, and **Epic Engine** if needed
6. Turn **Feedback Engine** ON and shape space with **Bloom** / **Density** / **Smear** (best with Diffusion Cloud / Gravity Bloom)
7. Fit the mix with **Duck**, **Low Cut** / **High Cut**, and **Damping**
8. Balance dry / wet with **Mix**

8. Delay Type and Stereo Mode

Delay Type

Type	Typical use
Cobalt Sync	A tight tempo-synced delay that keeps rhythmic edges clear. Good for leads, vocal throws, synth stabs, drum fills, and anything that must read on the note grid.
Neon Ping	A warm stereo feedback delay with clear left-right motion. Good for 1/8D leads, plucks, FX throws, and bouncing rhythmic repeats.
Diffusion Cloud	A dense echoverb-style delay. Good for epic lead space, pads, and break FX with large expanding tails. The reference type for the current DSP.
Gravity Bloom	The largest and darkest late-tail expansion type. Good for build-ups, impact tails, long sends, and dramatic dark space.

Changing Delay Type applies these defaults automatically (you can override them manually):

Delay Type	Stereo Mode (auto)	Feedback Engine (auto)
Cobalt Sync	Straight	off
Neon Ping	Ping	off
Diffusion Cloud	Cross	on
Gravity Bloom	Cross	on

Diffusion Cloud / Gravity Bloom with Epic Engine and Feedback Engine

Selecting **Diffusion Cloud** or **Gravity Bloom** turns **Feedback Engine** ON automatically. On these two types, the roles of Epic Engine and Feedback Engine are clearest.

Engine	Diffusion Cloud	Gravity Bloom
Feedback Engine	When ON, Bloom / Density / Smear enable dense diffusion space inside the feedback loop. All-pass Diffusion is the base; density and smear fill between repeats.	Same family as Diffusion Cloud, with stronger late-tail expansion and darker internal tuning. Bloom / Density / Smear feel more dramatic.
Epic Engine	Adds an independent late tail outside the main delay feedback loop. Off at 0%. Higher values layer darker, wider sustained spatial feedback. Adjustable independently of Feedback Engine strength.	Same independent late-tail addition, with a larger / darker late-tail expansion curve intended for Gravity Bloom.

On **Cobalt Sync** and **Neon Ping**, Feedback Engine defaults to OFF. Keeping Epic Engine modest helps preserve early-repeat rhythm.

Stereo Mode

Mode	Summary
Straight	Independent L/R stereo delay. Prioritises rhythmic clarity
Cross	Cross-feedback style stereo motion
Ping	Ping-pong style left-right bounce

9. Tempo Sync and Delay Time

Sync mode (default)

- With **SYNC** on, delay time follows host BPM and the selected note value.
- Notes range from 1/1 to 1/32.
- **Dot** / **Tri** checkboxes apply dotted and triplet values (shown only in Sync mode).
- Host BPM is displayed near the top of the UI.

MS mode

- Switching to **MS** uses free-time delay in milliseconds (1 to 8000 ms).
- For club production, prefer Sync mode; use MS for special cases or off-tempo material.

10. Main Controls

GUI label	Host name	Range	Factory Init	Summary
MIX	Mix	0–100 %	40 %	Dry / wet blend
REPEAT	Repeat	1–32	8	Repeat count / practical tail length
TAIL	Tail	0–100 %	50 %	Later-tail spread and decay feel
DUCK	Duck	0–100 %	0 %	Lowers wet while dry input is active
WIDTH	Width	0–150 %	150 %	Stereo width of the wet signal
OUT	Output	-24 to +12 dB	0 dB	Final output level

Even with a moderate **Mix**, high Repeat / Epic Engine / Feedback Engine settings can raise output. Watch **Output** and the DAW meters together.

11. Tone and Feedback Path

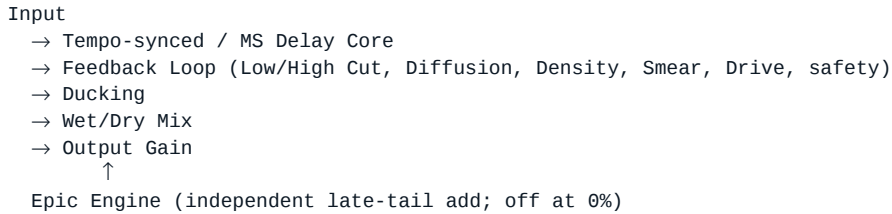
Tone

GUI label	Host name	Range	Default	Summary
DRIVE	Drive	0–100 %	0 %	Warm saturation
LOW CUT	Low Cut	20–1000 Hz	20 Hz	Low cut in the feedback path
HIGH CUT	High Cut	1000–20000 Hz	20000 Hz	High cut in the feedback path
LOW GUARD	Low Cut	20–1000 Hz	20 Hz	Same parameter as left Low Cut (values stay linked)

GUI label	Host name	Range	Default	Summary
DAMPING	Damping	1000–20000 Hz	20000 Hz	High-frequency damping on the later tail

Low Cut (left panel) and **Low Guard** (centre bottom) both map to host **Low Cut** and stay linked. Use whichever control is easier to reach.

Signal flow (overview)



Internal Feedback amount is fixed. Audible tail length and character are shaped with **Repeat**, **Tail**, **Diffusion**, **Epic Engine**, and **Feedback Engine** macros.

12. Epic Engine

Epic Engine is a one-knob spatial control that adds an independent late-tail component without directly driving the main delay feedback loop into runaway behaviour.

GUI label	Host name	Range	Default	Summary
EPIC ENGINE	Epic Engine	0–100 %	0 %	Amount of dark, wide late-tail addition

At 0% the Epic path is effectively off. Higher values increase late-tail sustain and spread. It is a separate path from **Feedback Engine** and can be used together.

13. Feedback Engine and Space Macros

Feedback Engine

GUI label	Host name	Range	Default	Summary
FEEDBACK ENGINE	Feedback Engine	on / off	off	Strong feedback-loop behaviour ON/OFF

When OFF, **Bloom** / **Density** / **Smear** do not strongly drive the feedback loop. When ON, classic strong feedback space is enabled. Clearest on **Diffusion Cloud** and **Gravity Bloom**.

Space macros

GUI label	Host name	Range	Default	Summary
DIFFUSE	Diffusion	0–100 %	50 %	All-pass style diffusion amount
BLOOM	Bloom	0–100 %	0 %	Later-tail size and spread (Feedback Engine ON)
DENSITY	Density	0–100 %	0 %	Density between repeats (Feedback Engine ON)
SMEAR	Smear	0–100 %	0 %	Later-repeat smear (Feedback Engine ON)

14. Performance and Safety

Control	Summary
FREEZE	Stops injecting new input and holds the current tail
THROW	Performance control for a temporarily larger delay gesture
KILL / PANIC	Safety controls to stop excessive feedback or leftover tails
BYPASS	Dry only; settings retained

When trying long repeats, high diffusion, or Throw, start with a moderate monitor level.

15. Factory Presets

The Factory bank currently includes:

Preset	Summary
Factory Init	Startup preset. Cobalt Sync, Straight, Sync 1/8D, balanced starting point

16. Saving and Managing Presets

Save location

User presets and Expansions (banks) are stored here:

%APPDATA%\Cobalt Feedback Neo\UserBank.cfnb

Single-preset import uses .cfnp. Bank files use .cfnb and appear in the menu as **Expansion**.

Operations

Operation	Method	Demo Edition	Product Edition
Save preset	SAVE → edit bank / preset name → save to User	Unavailable	Available
Import single preset	LOAD → select .cfnp	Available	Available
Import Expansion	MENU → Import Expansion (.cfnb)...	Available	Available
Export Expansion	MENU → Export Expansion (.cfnb)...	Unavailable	Available
Rename Expansion	MENU → Rename Expansion...	Unavailable	Available
Delete Expansion	MENU → Delete Expansion...	Available	Available

Import and Delete Expansion show an English **Yes / No** confirmation.

17. Demo Edition Limitations

Demo Edition has the following limits. They do not apply to **Product Edition**.

- After **900 real-time seconds (15 minutes)** from plugin launch, audio fades out safely and then becomes silent
- Timing uses a steady clock, so Windows clock changes or sample-rate switches do not reset the timer
- After the limit, **reload** the plugin instance or session to continue
- **SAVE**, **Export Expansion**, and **Rename Expansion** are unavailable
- **LOAD** (single .cfnp import) and **Import Expansion** remain available

You can also confirm the edition from **MENU** → **About Cobalt Feedback Neo** (Demo appears only on Demo Edition).

18. Usage Notes

- High **Repeat**, **Epic Engine**, or **Feedback Engine** settings can leave tails audible after source changes. Use **KILL** when switching sounds for a clean stop
- Raising **Output** too far can clip in the DAW. On sends, watch both send level and return **Mix**
- Higher **Duck** keeps the dry source forward but can soften tail bloom
- If CLAP is unstable, try the VST3 build

19. Troubleshooting

Plugin does not appear in the DAW

- Confirm VST3 or CLAP files are in the correct folders
- Rescan plugins in the DAW
- Confirm a 64-bit DAW is in use

No sound / no delay audible

- Confirm audio is reaching the track
- Check monitor, mute, and level settings
- Confirm **Mix** is not 0%
- Confirm **BYPASS** is not on
- On Demo Edition, check whether 900 seconds have elapsed and silence has engaged; reload the plugin if so

Tail will not stop

- Press **KILL** or **PANIC**
- Enable **BYPASS** to hear dry only
- Reload the plugin instance if needed

Too loud or distorted

- Lower **Output**
- Reduce **Epic Engine** and **Feedback Engine** macros
- Check DAW track meters

High CPU load

- Lower **Diffusion**, **Epic Engine**, and **Feedback Engine**
- Reduce instance count
- Increase the DAW buffer size

20. Specifications and Credits

Item	Value
Product	Cobalt Feedback Neo
Version	0.9.0
OS	Windows 11 64-bit (recommended)
Formats	VST3, CLAP
Developer	Synth Studio Neo
Editions	Demo Edition / Product Edition

Cobalt Feedback Neo is built with the JUCE framework.

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Version information is also available from **MENU** → **About Cobalt Feedback Neo**.

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