

Cobalt Filter Neo User Manual

Manual language: English

Product version: 0.9.0

1. Introduction

Cobalt Filter Neo is a mono/stereo audio filter plugin designed for sound shaping, tone control, and creative filter movement.

Version 0.9.0 supports the Windows 64-bit edition.

Cobalt Filter Neo offers two processing cores: **Cobalt Core**, which is tuned for the feel of a zero-delay feedback (ZDF) ladder filter, and the more straightforward **Clean Core**. With Cobalt Core, you can combine **Drive** and **Cobalt Color** (Now / Vintage) to control filter character across a wide range.

Main features:

- **Three filter modes** — Low Pass (LPF) / High Pass (HPF) / Band Pass (BPF)
- **Three slope steps** — Cobalt Core: 6 dB / 18 dB / 24 dB per octave. Clean Core: 6 dB / 12 dB / 24 dB per octave
- **Cobalt Core / Clean Core** — switch between character-rich and clean filtering
- **Cobalt Color** — Now / Vintage (Cobalt Core only)
- **Drive and Makeup Gain** — input drive and output level compensation
- **Response graph** — visual frequency-response feedback
- **2× oversampling** — anti-aliasing (ON / OFF)
- **Preset banks** — Factory presets and user saves

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

2. About the Evaluation Build

Cobalt Filter Neo 0.9.0 is a published evaluation build. Full operation is not guaranteed in every DAW, environment, or project.

Specifications, sound design, presets, GUI, parameter layout, and save formats may change in future updates.

Back up important DAW project files before use.

Version 0.9.0 is published mainly for:

- Basic operation checks
- DAW loading verification
- Identifying areas for future improvement

Demo and Full Editions

Distributions include a **Demo** edition and a **Full** edition. In Menu → About, the Demo edition shows a **Demo** line. The version string is **0.9.0**.

The **Demo** edition has these limits:

- Approximately 15 minutes after launch, audio output fades out safely and then becomes silent
- To continue evaluation, reload the plugin instance or session
- **Save**, and Menu **Export Expansion / Rename Expansion**, are disabled

The Full edition does not include the above time limit or save-related restrictions.

3. System Requirements

Supported OS

- Windows 11 64-bit recommended
- Windows 10 64-bit or later

Supported Formats

- VST3
- CLAP

Behavior of the CLAP edition may vary depending on the host and environment.

Supported Hosts

- 64-bit DAWs that support VST3 or CLAP
- Mono or stereo audio tracks (input and output channel counts must match)

4. Installation and Launch

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

Distribution file names

Expected file names:

- Cobalt Filter Neo.vst3
- Cobalt Filter Neo.clap

VST3 install location

Place the plugin in one of the following folders:

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

For most setups, we recommend the all-users location:

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

CLAP install location

Place the plugin in the following folder:

```
%LOCALAPPDATA%\Programs\Common\CLAP\
```

After placing the VST3 or CLAP file, restart your DAW or run a plugin rescan.

5. First Steps

- 1. **Insert** Cobalt Filter Neo on an audio track
- 2. Send audio to the track (playback, input, or looped material)
- 3. Check the track monitor, mute, volume, and master output
- 4. Select Bank / Preset from the top preset bar
- 5. Adjust **Cutoff** and **Resonance** to hear the filter effect

6. Screen Layout

The Cobalt Filter Neo window uses a single-screen layout based on **1080 × 414** pixels. The window can be resized from **940 × 360** to **1620 × 621** with a fixed aspect ratio.

Area	Position	Contents
Preset bar	Top	Bank / Preset selection, Save / Load / Init, Undo / Redo, Menu
FILTER	Left	Cutoff, Resonance, Drive, Makeup, Core, Cobalt Color
Response graph	Upper right	Frequency-response visualization
MODE / SLOPE	Lower right	Filter Mode (LPF / HPF / BPF), Slope (Cobalt Core: 6 / 18 / 24 dB, Clean Core: 6 / 12 / 24 dB), Oversampling

The GUI subtitle displays ANALOG ZERO-DELAY FEEDBACK LADDER MODEL.

A good starting workflow is to choose **Filter Mode** and **Slope**, shape the basic tone with **Cutoff** and **Resonance**, then select **Core** for character.

Reading the response graph

The response graph in the upper right shows the frequency response based on the current parameter settings.

Item	Description
Frequency axis	20 Hz to 20 kHz (log scale)
Gain axis	+36 dB to -24 dB
Update	Real-time updates as parameters change

Use the graph as a guide to filter shape. With Cobalt Core and high **Drive** or **Resonance**, the actual audio output may not match the graph display exactly.

7. Preset Bar

The preset bar at the top of the window handles preset selection, saving, undo/redo, and menu operations.

Control	Role
Bank	Select preset bank (Factory / User)
Preset	Select preset
< >	Move to previous / next preset
Save	Save current settings to the User bank
Load	Load a preset (.cfnp) or bank (.cfnb)
Init	Return settings to the initial state (Factory: Init)
Undo / Redo	Undo / redo edits
Menu	About, Expansion Import / Export / Rename / Delete

Save and **Load** are separate functions.

- **Save** — Saves the current parameter settings to the User bank with a name. A .cfnp file is also written to the preset folder on disk.
- **Load** — Loads an existing .cfnp (single preset) or .cfnb (bank) from a file.

Init restores each parameter to the contents of the Factory **Init** preset.

Undo / Redo tracks in-plugin edit history (up to 64 steps) and is independent of your DAW's Undo.

8. Quick Start

Using presets

1. Select **Factory** for Bank
2. Choose a sound from Preset (e.g. **Warm LPF**, **Acid Bass**)
3. Play audio and check the filter effect
4. Adjust output level with **Makeup** if needed

Building a filter from scratch

1. Select **Init**
2. Choose LPF / HPF / BPF with **Filter Mode**
3. Set rolloff steepness with **Slope**
4. Choose Cobalt Core / Clean Core with **Core**
5. Shape the filter with **Cutoff** and **Resonance**

6. With Cobalt Core, add character with **Drive** and **Cobalt Color** (Now / Vintage)
7. Compensate output level with **Makeup** if it drops
8. Set **Oversampling** to 2x if aliasing is a concern (default is 2x)

9. FILTER Panel

The FILTER panel on the left handles basic filter parameters and core selection.

GUI Label	Host Name	Range	Default	Summary
CUTOFF	Cutoff	20 to 20000 Hz	20000 Hz	Filter cutoff frequency (log scale)
RESONANCE	Resonance	0 to 100	0	Filter resonance amount
DRIVE	Drive	0 to 100	0	Input drive (active with Cobalt Core only)
MAKEUP	Makeup Gain	0.0 to 12.0 dB	0.0 dB	Output makeup gain
CORE	Filter Core	Cobalt Core / Clean Core	Cobalt Core	Switch filter processing core
COBALT COLOR	Cobalt Color	Now / Vintage	Now	Cobalt Core tonal character (active with Cobalt Core only)

CUTOFF uses a log scale with 1 kHz near the center of the GUI, allowing fine control from low to high frequencies.

Raising **RESONANCE** increases resonance; with Cobalt Core, filter character becomes more pronounced.

DRIVE is available only when Cobalt Core is selected. At 0, gain is unity; higher values increase saturation.

MAKEUP is manual output level compensation. With Cobalt Core, manual makeup is added on top of automatic level compensation tied to resonance. With Clean Core, only the manual amount is applied.

10. Filter Mode and Slope

Use the segment buttons in the lower right to select filter type and rolloff slope.

Filter Mode

GUI Label	Host Name	Options	Default	Summary
LPF / HPF / BPF	Filter Mode	LowPass / HighPass / BandPass	LowPass	Switch filter mode

Mode	Button	Typical use
Low Pass	LPF	Cut highs; warm tone, bass processing
High Pass	HPF	Cut lows; kick cleanup, high-pass sweeps
Band Pass	BPF	Pass a specific band; radio tone, focused band processing

Slope / Poles

GUI Label	Host Name	Options	Default	Summary
6 dB / 18 dB / 24 dB (6 dB / 12 dB / 24 dB with Clean Core)	Filter Slope	6 dB/oct / 18 dB/oct / 24 dB/oct	24 dB/oct	Filter rolloff slope

With **Cobalt Core** selected, button labels and rolloff are as follows.

Button	Summary
6 dB	Gentlest rolloff
18 dB	Medium rolloff
24 dB	Steepest rolloff (default)

With **Clean Core** selected, the same three buttons produce the following rolloff. The middle button displays **12 dB**.

Button	Summary
6 dB	Gentlest rolloff
12 dB	Medium rolloff
24 dB	Steepest rolloff (default)

On the host, the parameter name (Filter Slope) always shows 6 dB/oct / 18 dB/oct / 24 dB/oct regardless of Core type.

Higher **Slope** values steepen attenuation near cutoff and tend to emphasize **Resonance** peaks. 6 dB suits natural tone shaping; 24 dB suits pronounced filter effects.

11. Cobalt Core and Clean Core

What is Cobalt Core?

Cobalt Core is a ladder-filter-based processing core. You can achieve character-rich tone when adding **Resonance** and **Drive**.

With Cobalt Core, the following features are available:

- **Drive** — Input drive and saturation inside the filter
- **Cobalt Color** — Switch tonal character between Now / Vintage
- **Resonance-linked makeup** — Automatic output level compensation based on resonance amount
- **Slope** — 6 dB / 18 dB / 24 dB per octave (see §10)

What is Clean Core?

Clean Core is a more straightforward filter processing core. Nonlinear drive and Cobalt Color processing are not applied. **Drive** and **Cobalt Color** controls are disabled (grayed out). Slope is **6 dB / 12 dB / 24 dB per octave** (see §10).

Cobalt Color (Cobalt Core only)

Setting	Summary
Now	Default Cobalt tone; relatively modern and clear character
Vintage	Character with slight cutoff drift and richer tone shaping

When Core or Cobalt Color is switched, the filter's internal state is reset. Audible discontinuities may occur when switching.

Signal flow

Audio through Cobalt Filter Neo flows roughly as follows:

```
[Input]
→ [Optional: 2x oversampling]
→ [Filter processing by Filter Core]
    ■■ Cobalt Core: ladder filter + Drive + Cobalt Color
    ■■ Clean Core: straightforward filter processing
→ [Makeup Gain (includes resonance-linked compensation with Cobalt Core)]
→ [Output]
```

Oversampling

GUI Label	Host Name	Options	Default	Summary
Off / 2x	Oversampling	Off / 2x	2x	2× oversampling ON / OFF

Off processes at the host sample rate directly. **2x** upsamples by 2×, processes, then downsamples to reduce aliasing. Effective when using Drive or high Resonance. CPU load increases at 2x, and switching resets the filter's internal state.

Core and color usage guide

Use case	Core	Cobalt Color	Notes
Bass / synth LPF	Cobalt Core	Now	Start from Acid Bass , etc.
Warm low pass	Cobalt Core	Now or Vintage	Start from Warm LPF , etc.
Kick or low-end cleanup	Clean Core or Cobalt Core	—	See Kick Cleanup (HPF)
Clean EQ-style filtering	Clean Core	—	When Drive is not needed
Sub-bass emphasis	Cobalt Core	Now	Start from Low Boom , etc.
Narrow-band processing	Cobalt Core	Now	See Drum Radio (BPF)

12. Factory Presets

The Factory bank includes the following presets:

Preset	Summary
Init	Initial preset on startup. LPF 24 dB, Cutoff 20 kHz, Resonance 0
Warm LPF	Warm low pass at 1.2 kHz. Moderate Resonance and Drive
Acid Bass	Bass-oriented low pass at 650 Hz with high Resonance. 18 dB slope
Low Boom	Sub-bass emphasis low pass at 60 Hz with high Resonance
Kick Cleanup	38 Hz high pass for kick low-end cleanup
Drum Radio	950 Hz band pass for radio-style drum processing

Use presets as starting points and fine-tune **Cutoff**, **Resonance**, **Makeup**, and other parameters to fit your track.

13. Saving and Managing Presets

Save location

User presets and bank files are saved to:

%APPDATA%\Synth Studio Neo\Cobalt Series\Cobalt Filter Neo\Presets\

Bank files use the .cfnb extension. Single presets use .cfnp. Legacy .cfnpreset files can also be loaded.

Operations

Operation	Method
Save preset	Save button → enter Bank and Preset names → save to User bank
Load preset	Load → Load Preset (.cfnp)
Load bank	Load → Load Bank (.cfnb), or Menu → Import Expansion
Export bank	Menu → Export Expansion
Rename bank	Menu → Rename Expansion
Delete bank	Menu → Delete Expansion

Delete Expansion clears user presets in the current session. Files on disk are not deleted.

14. Usage Notes

- High **Resonance** or **Drive** can raise output level easily. Check **Makeup** and your DAW track meters
- Switching **Core** or **Cobalt Color** resets the filter's internal state
- **Oversampling** at 2x increases CPU load. If load is a concern, set it to Off or reduce the number of instances
- The response graph is an approximate theoretical curve. Actual tone is affected by input level and nonlinear processing

15. Troubleshooting

Plugin does not appear in the DAW

- Confirm the VST3 or CLAP file is in the correct folder
- Run a plugin rescan in your DAW
- Confirm you are using a 64-bit DAW

No sound / filter effect not audible

- Confirm audio is reaching the track
- Check track monitor, mute, and volume
- Confirm **Cutoff** is not at an extreme position (e.g. 20 kHz on LPF, 20 Hz on HPF)
- Return to the initial state with **Init** and check again

Sound too loud or distorted

- Lower **Drive** and **Resonance**

- Lower **Makeup**
- Check your DAW track meters

High CPU usage

- Set **Oversampling** to Off
- Reduce the number of instances in the project
- Increase buffer size in your DAW

Preset does not save

- On the Demo edition, **Save** is disabled. Confirm whether About shows **Demo**
- Confirm write permission to the save folder
- Confirm %APPDATA%\Synth Studio Neo\Cobalt Series\Cobalt Filter Neo\Presets\ exists

Audio becomes silent midway (Demo edition)

- The Demo edition becomes silent approximately 15 minutes after launch
- Reload the plugin instance or session to continue

CLAP edition does not behave as expected

- Confirm install location is %LOCALAPPDATA%\Programs\Common\CLAP\
- Try the same settings in another DAW or the VST3 edition
- Run a plugin rescan in your DAW

16. Specifications and Credits

Item	Details
Product name	Cobalt Filter Neo
Version	0.9.0
Supported OS	Windows 64-bit
Formats	VST3, CLAP
Developer	Synth Studio Neo

This product is developed using the JUCE framework. The developer uses JUCE under a commercial JUCE licence. JUCE is a trademark of Raw Material Software Limited.

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Version information is also available from Menu → **About**. The Demo edition shows a **Demo** line in About.

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