TP-1 Tone Purifier

User Manual | Version 2.0.0

Thank you for choosing the TP-1 Tone Purifier.
TP-1 is a cleanup and EQ tool for preparing sources before the mix. It combines noise reduction (NOISE), resonance suppression (RESONANCE), a 4-band EQ and a spectrum analyzer in a single window. It removes steady noise such as hiss, hum, buzz and rumble, as well as harsh resonances, from recordings of guitar, bass, vocals, dialogue, drums and more.

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1. System Requirements & Installation

Item	Value
Supported OS	Windows 11 or later / macOS 13 (Ventura) or later
Supported Format	VST3 (Windows / macOS) / Audio Unit (macOS only) / 64-bit

Installation Steps

- Install TP-1 from the MuseHub app.
- After installation, restart your DAW and rescan plugins so TP-1 appears in your plugin list.

2. License

The license of the MuseHub edition is managed by the MuseHub app. There is nothing to activate inside the TP-1 window.

3. Interface Overview

The whole window is the spectrum analyzer. The EQ points and the control cards (NOISE and RESONANCE) sit on top of it.

Area	Location	Contents
Header, left	Top left	Product name
Header, right	Top right	**A / B / A>B** (compare settings), **Undo / Redo** (arrow icons), quality mode

Area	Location	Contents
Analyzer	Whole window	Input and output spectrum, colored areas showing what was removed, EQ curve
EQ points	4 points on the analyzer	Drag to adjust the frequency and gain of each EQ band at once
NOISE card	Lower left	LEARN, SOURCE, AMOUNT, power button, DELTA
RESONANCE card	Lower right	DEPTH, FOCUS, SHARPNESS, power button, DELTA
RESONANCE range	Just above the frequency scale	Two handles that set the range where RESONANCE works
Vertical scales	Right edge (dB) and left edge (EQ)	The right scale is the spectrum level, the left scale is the EQ gain

- When the mouse is not over a control card, the card is faded so you can see the spectrum behind it. It becomes solid when you move the mouse over it.
- Rest the mouse on a button or knob for about a second to see a short description.
- Drag the bottom-right corner to resize the window (the aspect ratio is fixed). The size is remembered on your computer and used the next time you open TP-1.

4. Quick Start

1. Insert TP-1 on the track you want to clean.
2. Choose the kind of material in **SOURCE** (Vocal, Electric Guitar and so on). If unsure, leave it at **Universal**.
3. Click **LEARN** and play a part where only the noise is heard (the start of the song, or a gap in the performance). LEARN ends by itself and turns NOISE on.
4. Set the amount of reduction with **AMOUNT**. Click **DELTA** to hear only what is being removed.
5. If there are harsh resonances, turn **RESONANCE** on and adjust it.
6. Shape the tone with the **EQ** as needed.

5. NOISE (Noise Reduction)

5.1 SOURCE (Kind of Material)

Choosing the kind of material switches the internal settings (how much of the highs to keep, how the reduction follows the noise and so on) to suit it. The choices are **Universal** (default) / **Vocal** / **Dialogue** / **Electric Guitar** / **Acoustic Guitar** / **Bass** / **Drum** / **Piano** / **Keys** / **Strings** / **Brass** / **Woodwind** / **Mix**.

- You do not need to LEARN again after changing SOURCE. The learned noise stays, and only the settings change.
- For material with several instruments, or a bus, choose **Mix**.

5.2 LEARN (Noise Learning)

- Click **LEARN** once to start learning. If nothing is playing, the window shows "LEARN starts when audio plays. Play a part with noise only." and learning starts when playback starts.
- Learning **ends by itself after about 8 seconds at most**. TP-1 picks out the noise-only parts of what is playing, so it is fine if some of the performance is mixed in. About 2 seconds of noise only, such as the start of a song, is enough to learn. The longer the noise-only parts, the more accurate the result.
- Click LEARN again while learning to finish with what has been learned so far.

- When learning ends, NOISE turns on automatically and this result is used for all noise reduction from then on.
- The learned result is saved with your DAW project, so you do not need to learn again after reopening the project.
- If you do not like the result of a new LEARN, click **Undo** to go back to the previous result.

Messages after LEARN:
• "LEARN: only a short noise-only part was found. LEARN again if noise remains." → Learning finished, but the noise-only part was short, so the result may be less accurate. If noise remains, play a longer noise-only part and LEARN again.
• "LEARN failed: too little noise-only audio. Stop playing and LEARN again." → The noise-only part was too short, so nothing was learned (the previous result is kept). Play a part without performance and LEARN again.

5.3 AMOUNT & Power Button

- **AMOUNT (0–100%)**: How much of the learned noise to remove. Start by listening at 100%, and lower it if the music sounds thin.
- **Power button**: The button at the left of the card's title turns NOISE on and off. While it is on, the top edge of the card glows.

5.4 DELTA (Hear What Is Removed)

- Click **DELTA** at the right of the card's title to hear **only what is being removed**.
- If you only hear noise such as hiss, buzz or hum, the setting is right. If you can clearly hear the attacks or overtones of the music, lower AMOUNT or check SOURCE.
- Click it again to return to the normal sound.

6. RESONANCE (Resonance Suppression)

RESONANCE automatically tames "resonances", where a few frequencies ring louder than the rest. It works on room coloration, microphone coloration, the body boom of acoustic guitars, piercing highs and so on. It is off by default.

- **Power button**: Turns RESONANCE on and off, at the left of the card's title.
- **DEPTH (0–24 dB, default 12 dB)**: The most RESONANCE can cut at one frequency.
- **FOCUS (0–100%, default 50%)**: Lower tames short, harsh peaks. Higher tames ringing that lasts.
- **SHARPNESS (-100 to +100%, default 0%)**: Higher makes narrow cuts at the ringing frequency. Lower makes wider, gentler cuts.
- **Range handles**: Drag the two handles just above the frequency scale to set the range where RESONANCE works (default 200 Hz – 8 kHz). Double-click a handle to reset it. While you touch a handle, its frequency is shown. RESONANCE has little effect below 300 Hz.
- **DELTA**: Hear only what RESONANCE is cutting.

Finer settings that are not on the screen (threshold, attack, release, per-band weights and stereo handling) can be changed from your DAW's automation or parameter list.

7. Other Features

7.1 Quality Mode

Choose it from the menu at the right end of the header.

Mode	Description
High Quality (default)	Removes noise more cleanly. Latency is about 107 ms (at 48 kHz). Best for recorded material
Low Latency	Latency drops to about 53 ms (at 48 kHz). Best for monitoring while recording

Your DAW's latency compensation lines up the delay automatically.

7.2 4-Band EQ

A 4-band parametric EQ for tonal correction after the noise reduction. Use the four points (1–4) on the analyzer.

Band	Type	Frequency	Gain	Q
Band 1	HPF / Peak (switchable)	20 Hz – 20 kHz	-18 – +18 dB	0.1 – 10
Band 2	Peak	20 Hz – 20 kHz	-18 – +18 dB	0.1 – 10
Band 3	Peak	20 Hz – 20 kHz	-18 – +18 dB	0.1 – 10
Band 4	LPF / Peak (switchable)	20 Hz – 20 kHz	-18 – +18 dB	0.1 – 10

- **Drag a point**: Horizontal movement sets the frequency, vertical sets the gain, both at once.
- **Click a point**: Opens the band's detail panel, where you can enter values, turn the band on and off, and switch the type of Band 1 and Band 4 (HPF / LPF or PEAK).
- **Mouse wheel**: Adjusts the Q of the selected band.
- **Double-click a point**: Turns the band on and off.

7.3 Spectrum Analyzer

- **Cyan line**: Input spectrum (before processing).
- **Orange line**: Output spectrum (after processing).
- The colored area between input and output shows what was removed.
- **Cyan area**: The part that NOISE removed.
- **Purple area**: What RESONANCE cut.
- Drag the dB scale at the right edge up or down to move the displayed range, and use the mouse wheel on it to change how wide the range is. Double-click it to reset (-90 to +8 dB). This display setting is remembered on your computer (it is not saved in the project).
- The 12 / 6 / -6 / -12 marks at the left edge are the EQ gain scale.

7.4 A/B Comparison & Undo / Redo

- **A / B**: Switch between two sets of settings to compare them. **A>B** (or **B>A** while B is selected) copies the current settings to the other slot. The learned noise is shared by A and B.
- **Undo / Redo**: Use the arrow buttons in the header, or Ctrl+Z / Ctrl+Shift+Z (Cmd on macOS), to undo or redo knob moves, SOURCE choices, LEARN, A/B switches and more, one step at a time. They are not available while LEARN is running.

8. Help & Support

For bug reports or questions, please contact MuseHub support.
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