BC-1 Bass Compressor

User Manual | Version 2.0.0

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1. Overview

BC-1 is a compressor designed for bass.

- **Learn**: press LEARN and play 8 seconds of bass. THRESHOLD, ATTACK, RELEASE and RATIO are then set to suit the performance.
- **Three modes**: choose the playing style (STYLE: FINGER / SLAP / PICK), the amount of compression (MODE: SOFT / NORMAL / HARD) and how much of the attack is kept (ATTACK MODE: FAST / MEDIUM / SLOW). After Learn, changing a mode resets the four knobs immediately.
- **AUTO**: AUTO Release adjusts the release automatically, and AUTO MakeUp makes up for the level lost to compression.
- **A/B comparison and Undo / Redo**: compare two settings and undo your actions.
- **Oversampling** (OFF / 2x / 4x) and **MIX** (parallel compression) are built in.
- **Stereo link**: on a stereo track, both channels get the same amount of compression, so the stereo image does not shift.
- Works in both **mono and stereo**.

2. System Requirements & Installation

Item	Details
OS	Windows 11 (64-bit) / macOS 13 (Ventura) or later (Apple Silicon and Intel)
Format	VST3 (Windows / macOS) / Audio Unit (macOS only)
Supported hosts	Any DAW that supports VST3 or Audio Unit
Channels	Mono to mono / mono to stereo / stereo to stereo
Latency	0 samples with OS (oversampling) OFF, 31 samples at 2x and 42 samples at 4x. It is reported to your DAW and compensated automatically

Install BC-1 from the MuseHub app. When it has finished, restart your DAW and rescan your plugins. BC-1 appears in the plugin list.

3. The Screen

The first time you open BC-1, the window is 694 x 350 pixels (6.3).



BC-1 during Learn. The numbers correspond to the table below.

No.	Part	What it does
1	A / B / A>B	Switch between two settings to compare them. A>B copies the settings shown to the other slot (6.1)
2	UNDO / REDO	Undo and redo your actions (6.2)
3	OS	Oversampling (OFF / 2x / 4x) (5.4)
4	Knobs	THRESHOLD, ATTACK, RELEASE, RATIO, MIX and OUTPUT (5.1)
5	ATTACK MODE	FAST / MEDIUM / SLOW (5.3)
6	AUTO (under RELEASE)	AUTO Release: automatic release (5.2)
7	AUTO (under OUTPUT)	AUTO MakeUp: automatic compensation for the level lost to compression (5.2)
8	INPUT meter	Input level. The blue triangle marks the THRESHOLD (5.5)
9	LEARN button	Starts and cancels Learn. Shows the time remaining during Learn (section 4)
10	STYLE	The playing style (FINGER / SLAP / PICK) (5.3)
11	MODE	The amount of compression (SOFT / NORMAL / HARD) (5.3)
12	REDUCTION meter	Gain reduction (how much the compressor is turning the level down) (5.5)

4. Using Learn

1. Choose the playing style (FINGER / SLAP / PICK) in **STYLE**.
2. Start playback of the bass track in your DAW, using a section where the part is played with full intent.
3. Click **LEARN**. The button shows the time remaining, for example "Listening... 7.3 s left".
4. When 8 seconds of audio have been collected, THRESHOLD, ATTACK, RELEASE and RATIO are set.

- While Learn is listening, BC-1 outputs the original, unprocessed (dry) signal.
- Only audio above -60 dBFS is counted. Rests are not counted, so the actual time can be longer than 8 seconds.
- Press LEARN again during Learn to cancel it. The result of the previous Learn is kept.
- If no audio is arriving, "Waiting for audio - start playback" is shown; if the audio is too quiet, "Signal too low - Learn only counts audio above -60 dBFS".
- After the 8 seconds, the settings may take a moment (up to about a second) to change, because the AUTO MakeUp amount is being calculated.
- If the audio cannot be analyzed, "Learning Failed" is shown. Try again with a louder, clearer section. The previous result and the knobs are kept in this case too.
- The Learn result is saved in your project. Opening the project does not run Learn again.
- Learn does not change OUTPUT, MIX, AUTO or OS.

Note: Learn sets a starting point for the knobs. You can adjust them freely afterwards.

5. Controls

5.1 Knobs

Knob	Range	Default	What it does
THRESHOLD	-60.0 to 0.0 dB	-20.0 dB	The level at which compression starts
ATTACK	0.1 to 100.0 ms	10.0 ms	How quickly compression kicks in. Slower settings let the start of each pick or slap through
RELEASE	10 to 1000 ms	100 ms	How quickly compression releases
RATIO	1.0:1 to 20.0:1	4.0:1	How strongly the signal above the threshold is reduced
MIX	0 to 100 %	100 %	Blend of the dry (uncompressed) and compressed signals (parallel compression)
OUTPUT	-24.0 to +24.0 dB	0.0 dB	The final output level

- **Drag**: drag upwards to increase the value. Hold **Shift** while dragging to adjust in fine steps, about one sixth of the normal speed.
- **Mouse wheel**: one notch moves 2 % of the range (finer with Shift).
- **Double-click**: double-click a knob, or the value window below it, to type in a value. Press Enter to confirm or Esc to cancel. Values outside the range are limited to the range.

5.2 AUTO

AUTO is the button under a knob. Both are on by default.

- **AUTO Release (under RELEASE)**: adjusts the release automatically to the depth of compression. The gain recovers quickly during heavy compression and slowly during light compression (about 40 to 400 ms).

While it is on, the RELEASE knob is dimmed and cannot be adjusted.

- **AUTO MakeUp (under OUTPUT)**: makes up for the perceived loudness lost to compression, so the output sounds about as loud as the signal without BC-1. You can judge the effect of the compression without being misled by a change in level.

About the AUTO MakeUp amount:

- The amount is set by the knob settings and by the loudness distribution of the performance heard during Learn. It does not fluctuate with the audio being played.
- Before Learn, BC-1 does not know how loud your playing is, so the amount is a provisional one based on a loud performance (peaks at -10 dBFS). If your input is quieter, the compensation is a little too much, and the output sounds a little louder than without BC-1. After Learn, the amount fits your performance.
- The OUTPUT knob stays adjustable while AUTO MakeUp is on. OUTPUT is the final level adjustment applied after the compensation, and it always takes effect.

5.3 STYLE, MODE and ATTACK MODE

Menu	Choices	What it sets
STYLE (PLAY STYLE)	FINGER / SLAP / PICK	The playing style. Changes the character of the attack and release. SLAP shortens the release and raises RATIO slightly
MODE (COMP MODE)	SOFT / NORMAL / HARD	The amount of compression. Changes how much the loud notes are compressed (light with SOFT, heavy with HARD)
ATTACK MODE	FAST / MEDIUM / SLOW	How much of the attack is kept. FAST controls the start of each note at once; SLOW lets it through for more definition

- Click to open the menu. You can also scroll the mouse wheel over the button to step through the choices.
- **After Learn**, changing a mode immediately resets THRESHOLD, ATTACK, RELEASE and RATIO from the Learn result. There is no need to run Learn again.
- **Before Learn**, changing a mode does not move the knobs.

5.4 OS (oversampling)

Choose the oversampling at the top right, in **OS**: OFF / 2x / 4x. The default is OFF.

- At 2x and 4x, BC-1 processes internally at two or four times the sample rate. This reduces the harsh aliasing distortion that fast, heavy compression can produce, at the cost of more CPU and latency (section 2).
- The filters are linear-phase, so blending with the dry signal using MIX does not smear the tone.

5.5 Meters

- **INPUT**: the input level (-60 to 0 dB). The **blue triangle** above the bar marks the THRESHOLD. Audio reaching to the right of the triangle is compressed.
- **REDUCTION**: how much the compressor is turning the level down. 0 is at the right; the further the bar extends to the left, the heavier the compression (marks at 5, 10, 15, 20 and 30 dB).
- The white line in a bar is the recent peak. It holds briefly and then falls.
- The numbers hold the highest value since they were last reset (peak hold). Click a meter or its number to reset it.

6. A/B, Undo, Redo & Resizing

6.1 A/B comparison

- **A** and **B** switch between two settings. A and B each keep their own knob, AUTO, mode and OS settings.

- **A>B** (**B>A** while B is shown) copies the settings shown to the other slot.
- The A/B state is saved in your project. Your DAW's bypass is not part of A/B.

6.2 Undo and Redo

- **UNDO** / **REDO** at the top right undo and redo your actions in the BC-1 window. The buttons are dimmed when there is nothing to undo or redo.
- Each of these counts as one action: one knob drag, one menu change, one Learn, and switching or copying A/B. When changing a mode resets the knobs, that all counts as one action.
- Actions that change nothing visible are not counted.
- There are no keyboard shortcuts. Opening a project again clears the history.

6.3 Resizing

- Drag the bottom-right corner to resize the window. The aspect ratio is kept, and the width ranges from 694 to 1280 pixels. The first time, it opens 694 pixels wide.
- The size is remembered and used the next time you open BC-1.

7. Projects from Earlier Versions (LEGACY ENGINE)

When you open a project saved with BC-1 1.0.4 or earlier, a **LEGACY ENGINE** badge appears under the BC-1 name. To keep its sound, that project runs the previous processing (engine).



The LEGACY ENGINE badge and the confirmation shown when you click it.

- Click the badge to see a confirmation. Click **Switch** to change to the new engine, which uses the stereo link (section 1) and the new AUTO MakeUp (5.2).
- Switching changes the sound. The knob settings and the Learn result stay as they are.
- Switching cannot be undone with UNDO. To go back, open the project again without saving it. To keep the new engine, save the project.
- A newly inserted BC-1 uses the new engine from the start.

8. FAQ & Troubleshooting

LEARN stays at "Waiting for audio". Check that your DAW is playing and that audio reaches BC-1. Also check that no plugin before BC-1, or the track itself, is muted.

LEARN shows "Signal too low". Learn counts only the audio above -60 dBFS at BC-1's input. Raise the input level, or play a section where the part is played with full intent.

The knobs moved when I changed a mode. This is by design: after Learn, the settings are reset to match the mode (5.3). To go back, press UNDO.

I cannot move the RELEASE knob. The AUTO button under it (AUTO Release) is on. Turn AUTO off to adjust the knob.

How do I get rid of the LEGACY ENGINE badge? Click the badge and switch to the new engine (section 7). The sound changes, so listen before you save.

9. Support

For questions and bug reports, please contact MuseHub support. Please include the BC-1 version (2.0.0).