



*Manual for the Operation of CanOpener Studio
by Goodhertz, Inc.*

§ INTRODUCTION

By making your headphones behave a bit more like loudspeakers, the **CanOpener Studio** crossfeed algorithm allows you to recreate, on headphones, the rich sonic experience of listening to high-end speakers in a finely tuned room. Combined with a gorgeous equalizer and serious monitoring controls, **CanOpener Studio** is great for tracking — allowing performers to get the prefect headphone mix, and it's also equally useful on the master output — to help correct or enhance your monitoring environment.

“CanOpener conjures speakers from your headphones.”

– Damon Krukowski, Pitchfork

§ CONTROLS

Crossfeed

Amount

0% / 150%

default: 100%

Varies the amount of crossfeed.

100% is generally a good starting point, though 150% is the truest to real-life loudspeaker listening. At 0%, the signal is totally unaffected.

Angle

0° / 75°

default: 60°

Affects the width of the crossfeed soundstage.

Smaller speaker angles (less than 30°) place the sound more “in front” of the listener. Larger speaker angles (more than 45°) are more immersive and surrounding. This control affects the crossfeed only — not the entire soundstage.

Equalization

Bass Gain

-9dB / 9dB

default: 0dB

Amount of bass boost/cut.

To alter the center frequency of the bass shelf, see [Bass Freq](#) in [Advanced](#).

Treble Gain

-9dB / 9dB

default: 0dB

Amount of treble boost/cut.

To alter the center frequency of the treble shelf, see [Treble Freq](#) in [Advanced](#).

Monitoring

Mono

Off / On

default: Off

Mono summation of the left/right channels.

Flip L/R

Off / On

default: Off

Swaps the left and right channels.

Polarity

Off / On

default: Off

Inverts the phase of the right channel.

Use [Polarity](#) + [Mono](#) at the same time to monitor the “sides” of a stereo signal: all the information that differs between left and right channels.

Dim

Off / On

default: Off

Turns down the output signal by .

Balance

L/R Balance

-100% / 100%

default: 0%

Varies the left/right volume balance.

-100 solos the left channel, **+100** solos the right channel.

Output

Output Gain

-24dB / 12dB

default: 0dB

Varies the output gain, post processing.

Advanced

The Advanced section offers more precise control and fine adjustment options.

To access CanOpener Studio's advanced controls, click the "... " icon in the sidebar.

Crossfeed Realism

Most Realistic
More Realistic
Standard

Controls the degree of realism in the idealized speaker model.

default: Most Realistic

"Most Realistic"

Advanced delay and spectral modeling (recommended for most situations).

"More Realistic"

Simplified delay modeling.

"Standard"

The classic crossfeed algorithm. No delay.

Though less realistic, "Standard" crossfeed realism has the advantage of having a constant spatial frequency response.

Bass Freq

20Hz / 1000Hz

default: 250Hz

Center frequency of the equalizer's bass shelf.

Treble Freq

1000Hz / 20000Hz

default: 2000Hz

Center frequency of the equalizer's treble shelf.

Soft Start Time

0ms / 1000ms

default: 250ms

Controls the Soft Start fade-in time.

Soft Start gently ramps up the volume when playback begins. This helps avoid loud transients that occur when starting playback in the middle of a phrase and minimizes listener fatigue (particularly important in long tracking, editing, or mixing sessions).



0ms is the equivalent to turning Soft Start off.

Dim Level

-32dB / 0dB

default: -20dB

§ PRESETS

The presets are a great way to get to know each plugin. The preset drawer can be accessed at the bottom of each plugin by clicking the current preset name.

Crossfeed

- [Default](#)
- [Music Before 1970](#)
- [Lifelike](#)
- [Modern Music](#)
- [Wide Soundfield](#)
- [Crossfeed, No Delay](#)

Equalization

- *Bump*
- *More Air*
- *A Lil' Mo Hi-Fi*
- *Warmth*
- *Brighter*
- *Darker*
- *Hear the Mix (Over the Drummer)*
- *Light on the Bass*

Monitoring

- *Solo Left*
- *Solo Right*
- *Mono Sum*
- *Mono Sum to Left*
- *Mono Sum to Right*
- *Sides Only*

§ ACKNOWLEDGMENTS

*Chris Conover
Matthew Foust
Ollie Hammett
Annie Huang
Mark A. Jay
Ewan Macpherson
Evan Olcott
Jack Stratton
Diana Zheng*

§ ABOUT GOODHERTZ PLUGINS

User Interface

Goodhertz plugins are made to be workhorse tools that sound amazing. We've

put a lot of thought and care into the audio quality and plugin usability, and for that reason, we've opted for simple and direct controls & interfaces that don't rely on photorealistic knobs or ornamental screw heads to communicate their meaning.

We've also decided to not include meters and graphs — unless truly necessary — for these reasons:

- *Meters/graphs can consume significant CPU resources*
- *Excellent metering plugins already exist when needed*
- *If it sounds good, it is good*

Keyboard Shortcuts

Action	Keyboard Shortcut
Copy Plugin Settings to Clipboard	Command ⌘ + C
Paste Plugin Settings from Clipboard	Command ⌘ + V
Enter New Parameter Value	Just type the value, then hit Enter , Return , or Tab
Increment Parameter Value	↑ or → arrow keys
Decrement Parameter Values	↓ or ← arrow keys
Jump to Next Parameter	Tab
Jump to Previous Parameter	Shift + Tab or ` (backtick)
Open the Manual (in your browser)	Command ⌘ + M
Show/Hide Advanced Controls	Command ⌘ + A
Show/Hide Preset Drawer	Command ⌘ + P
Toggle Master On/Off	Command ⌘ + O
Toggle UI Theme (Light/Dark)	Command ⌘ + T
Reset Defaults	Command ⌘ + R
Undo	Command ⌘ + Z

Redo	Action	<div> <div>Shift</div> <div> <div>Command ⌘</div> <div>+</div> <div>Z</div> </div> </div> <div>Keyboard Shortcut</div> <div>or</div> <div> <div>Command ⌘</div> <div>+</div> <div>Y</div> </div>
Escape Parameter Focus / Close any Open Drawers		<div>Esc</div>

Mouse Modifiers

Action	Combination
Reset Parameter to Default Value	<div>Option</div> + Click
Move Control with Normal Precision	Drag
Move Control with Coarse Precision	<div>Shift</div> + Drag
Move Control with Normal Precision	<div>Command</div> + Drag

Automation

Unintentional digital clicks and pops are the worst. They happen for lots of reasons and often end up wasting time with needless revisions or mastering surgery. When they go unnoticed, they can make their way onto commercial albums and releases.

Plugin automation is a common cause of clicks and pops. Sweeping an EQ band, changing a delay setting, and even automating a plugin bypass can cause digital artifacts if poorly handled.

This is not true for Goodhertz plugins. Any parameter in a Goodhertz plugin, even on/off switches, can be automated freely and smoothly without clicks, pops, or zipper noises (unless otherwise noted). You can push them, pull them, LFO them — whatever you do, they'll handle it gracefully. If a parameter can't be smoothly automated, we'll let you know with the [lightening bolt] symbol.

Since our Master On/Off controls won't create artifacts, we recommend that you use them rather than your DAW-supplied plugin bypass if you want to disable plugin processing.

Plugin Settings

Goodhertz plugin settings can be copied and pasted as text url's, like this:
<http://goodhertz.co/vulf-comp/1.0.1/?cm:0/wf:0/lf:100/lfc:50>

If you paste "<http://goodhertz.co/vulf-comp/1.0.1/?cm:0/wf:0/lf:100/lfc:50>" into Vulf Compressor it will recall the settings associated with that url. This way you can easily

send an exact plugin to someone — in an email or even a tweet — without any guesswork or screenshots.

System Requirements

- *Mac OS X ≥ 10.7*
- *Audio Unit 64-Bit **or** AAX 64-Bit host*

Support

To send plugin feedback, please e-mail us at: feedback@goodhertz.com.

If you have a quick question, send us a tweet [@Goodhertz](https://twitter.com/Goodhertz). We're often able to respond faster to tweets than emails.

If you're having trouble, experiencing a technical issue, or you think you've found a bug, please email: support@goodhertz.com.

Find all our contact info & bug-reporting protocol on the [contact page](#).