u-BACCH How-To Guide

INTRO

Welcome to Universal BACCH. u-BACCH is a series of stereo speaker filters that create a 3D soundstage from any stereo content played through symmetrically placed, matched speakers. This is achieved through our patented, best in class, cross-talk cancellation filters. Our filters are industry leading with no coloration, tonal distortion, or dynamic range loss. So you can hear exceptional 3D audio over stereo speakers any time, with no penalty.

For more info, visit our FAQ: https://www.bacch.com/faq.

For additional plugin guides, check out u-BACCH Support.

INSTALLATION & LICENSING:

Simply download and install following the prompted instructions on your device. Default installation locations for plugins can be found here:

- Mac Global: [Macintosh HD]/Library/Audio/Plug-Ins
- Windows: C:\Program Files\Common Files\VST3

On **Mac**, you'll have to place the VST3 in the VST3 folder, and the component in the component folder. Here's a quick guide on that.

> If running Rosetta or any Intel application on an ARM (M1/2) Mac, you'll need the intel version of the plugin as well. Here's a quick guide.

On **windows**, our installer will place the plug-in automatically in the folder above.

Upon first opening the plugin in a DAW of your choosing, you'll be prompted to **start a trial** or **activate**. If you've purchased the plugin, you'll have received a license code in your email along with the download link. Simply click "activate" and paste in your license key. If there are any issues here, please contact info@bacch.com.

If you're testing the software, start a trial! You'll have 14 days of full use.

SETUP

u-BACCH is a series of cross-talk cancellation filters based on the half-span angle of the speakers at the listening position, ranging from 1 to 90°.

You can imagine the two speakers and listener as forming a triangle: In an equilateral setup where the distance between left and right speaker is the same as the distance from either speaker and the listener, then the angle of the speakers would be 60°. To get your half-span angle, you'd simply divide that in half to get 30°.

EXAMPLES:

■ A lot of studio monitoring situations will have stereo speakers with half-span angles anywhere from 20-35° (or higher).

■ A computer with symmetrical speakers to each side of the keyboard would be somewhere from 12-18°, a tablet held horizontally would be a similar range, and a soundbar several feet away could range from under 10-14°.

■ Please note these are ballpark numbers, just to give you an idea of where to start looking for your own devices.
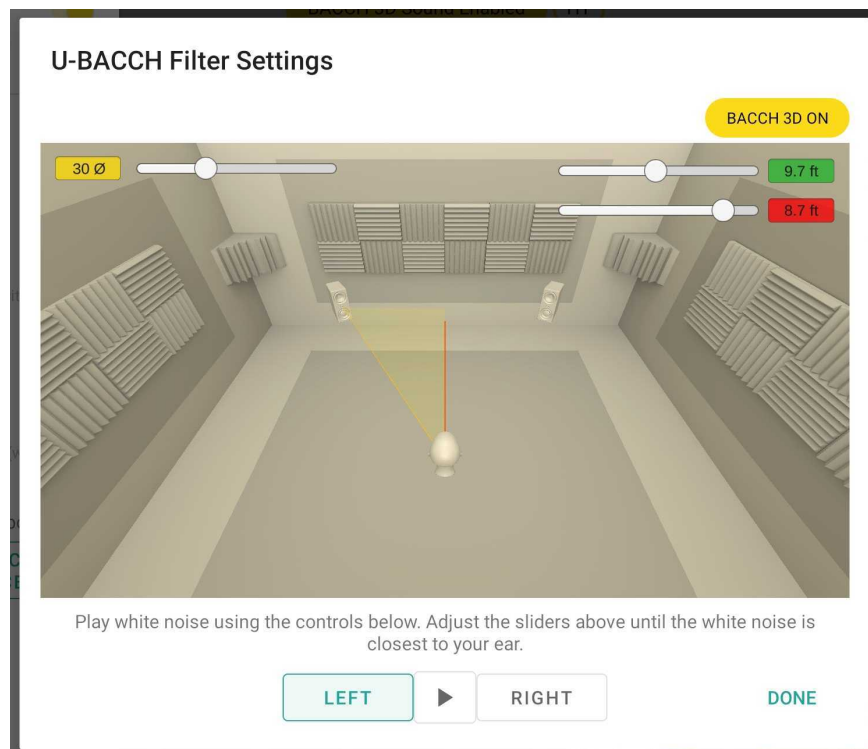

Image from our android app showing a 30° half-span angle.

<u>**So how do you pick a filter angle?**</u>

While you could measure your stereo triangle and compute the angle, it's actually much faster (and more accurate) to tune by ear. Simply click the Left or Right buttons to play noise, and move the slider until the sound is cleanly off to one side around 90°. Think of trying to get the ball of noise to sit within arms reach directly to either side. The actual perceived location varies by device based off of acoustic performance and geometry, but the target stays the same. You only need to tune one side, whichever is more obvious to you. Once you've settled on a number, do some listening! You can always go back and re-tune.

> ***NOTE - some DAWs require you to start playback to hear any sound generated from a plugin. Other software, such as Premiere, may not let audio effects play noise themselves. We recommend tuning in another environment to find a suitable u-BACCH angle first.***

[TL;DR - you'll just need to move a slider and tune it briefly by ear.]

The Center Gain Knob

To faithfully produce a stunning 3D image, we extract a the very innermost center image and run this through different filters than our actual BACCH 3D filter that produces the spatial width and depth around you. The Center Knob exposes the extracted center to the listener, allowing you to tune the Center Gain to your liking.

By default, this is left neutrally at 0dB. However, if you'd like a more spatial and immersive experience, try knocking down the Center gain a couple dB.

LISTENING

Start simple with obvious stereo hard panning or even a binaural recording. Tracks like Money by Pink Floyd, Lovesong by Adele, or Afro Freestyle by Erykah Badu are great starting points.

When turning u-BACCH on and off, there should be an obvious image change: those instruments and sounds located directly at the speaker in bypass should pop out to either side, or even approach either ear. This may be less obvious on very wide stereo setups, but you will still notice an increase in depth and immersion, especially with ambience and reverb.

Always feel free to retune while playing music, and give yourself some listening time — sometimes the most obvious change is actually going back to stereo and losing BACCH's sense of realism and ambience.

Here's a link to our Spotify Playlist.

A quick note on latency:

Currently, our plugin doesn't report latency to DAWs for delay compensation. However, there is indeed a very short latency added when listening through the (latest versions of the) plug-in, under 10ms.

A quick note on buffer size:

Our plugin currently requires minimum buffer sizes of 256 at 44.1/48kHz and 512 at 96kHz for best operation. Your system may perform perfectly fine at lower buffer sizes, however. If there are any clicks and pops, please increase buffer size a bit more.

Where should u-BACCH be in my signal chain?

u-BACCH ideally should be the last processing on your master bus / stereo out. If you use room correction software, however, try u-BACCH both before and after. If the room correction software is altering timing/delay of the speakers, it may help u-BACCH line up better with the listening position. In this case, we recommend putting u-BACCH before room correction.

That's all folks. Happy listening!

For more info check out our pages:

u-BACCH

u-BACCH FAQ

u-BACCH SUPPORT PAGES

BACCH 3D FAQ