

AUDIO ENGINEER ACADEMY

AEA Bridge Guide

On Mac, listen to and measure your mix live in AEA through the AEA Bridge plug-in in your DAW. Setup, Live and Tools.

Version 1.1.5 · Logic Pro · Cubase · Fender Studio Pro

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1. What AEA Bridge is

AEA Bridge is a plug-in you insert on a channel or on the master in your DAW. It passes the audio through **completely unchanged** and sends it to the AEA app running on the same Mac, so you can listen to and measure your mix in AEA's **Live** tab.

The package has four parts:

- **AEA Bridge (AU)** — for Logic Pro and Fender Studio Pro.
- **AEA Bridge (VST3)** — for Cubase and Fender Studio Pro (Cubase on Mac only loads VST). In Fender, use either AU or VST3.
- **AEA MIDI helper** — runs in the background and keeps the "AEA" MIDI port open, so the control connection to your DAW doesn't drop when you quit and reopen AEA.
- **Cubase MIDI Remote script** — lets Cubase detect AEA automatically.

The Tools tab is part of Pro. The Live tab opens with the Pro + Live bundle or, if you already have Pro, with the Live upgrade; it can be tried free for 5 days. Everyone who buys Pro by October 20, 2026 gets Live for free.

2. Requirements and installation

Requirements

- A Mac with Apple silicon (M series) — Intel Macs are not supported.
- macOS 12 or later.
- The AEA app on your Mac.

Installation

1. **Quit** Logic Pro, Cubase and Fender Studio Pro. The installer won't install while a DAW is open.
2. Open the downloaded `AEA-Bridge-1.1.5.dmg`.
3. Double-click **AEA Bridge 1.1.5.pkg** and follow the steps.
4. When it's done, open your DAW and follow the setup for your DAW below.

What goes where

Everything goes into the home folder of the user who installs it (`~` = your home folder):

Part	Location
AEA Bridge (AU)	<code>~/Library/Audio/Plug-Ins/Components/AEABridge.component</code>
AEA Bridge (VST3)	<code>~/Library/Audio/Plug-Ins/VST3/AEABridge.vst3</code>
MIDI helper	<code>~/Library/Application Support/AEA MIDI Yardimci/aea-midi-yardimci</code>
Helper launcher	<code>~/Library/LaunchAgents/com.logicprotrick.audioengineeracademy.midi-yardimci.plist</code>
Helper log	<code>~/Library/Logs/AEA MIDI Yardimci/</code>
Cubase MIDI Remote script	<code>~/Documents/Steinberg/Cubase/MIDI Remote/Driver Scripts/Local/aeacademy/aea/aeacademy_aea.js</code>

The MIDI helper starts right after installation and every time you log in; if it quits, it is restarted.

3. Bridge setup by DAW

Logic Pro

Plug-in

- **For gain staging:** put AEA Bridge (Audio Units) on the **master (Stereo Out)**.
- **For Channel Clash:** insert AEA Bridge on the channels you want to listen to — up to four.

Mackie Control (channel name, solo, fader, navigation)

1. Choose **Logic Pro > Control Surfaces > Setup**.
2. In the Setup window choose **New > Install** and add **Mackie Control** from the list.
3. Set the device's **Output Port** and **Input Port** to **AEA**.

Pink noise reference (in LUFS mode)

Choose the Level you use for Logic's Test Oscillator (Pink Noise). This is not the level of the audio being played. The reference is used only in LUFS mode; Peak mode doesn't use it.

Cubase

- Put AEA Bridge on the master as **VST3** (Cubase on Mac doesn't load Audio Units).
- The **MIDI Remote script** is installed by the installer. Cubase detects **AEA** automatically — no manual setup needed.
- If it doesn't connect, check that AEA is enabled in **Studio** → **MIDI Remote Manager**.
- If Cubase isn't responding: **Studio** → **MIDI Remote Manager** → **Reload Scripts**.

Fender Studio Pro

- Put AEA Bridge (Audio Units or VST3) on the master.
- Mackie Control: **Preferences** → **External Devices** → **Add** → **Mackie Control; Receive From** and **Send To: AEA**.
- Fender's **Solo Follows Selection** setting affects solo — see section 5.

4. Live

Channel Clash

Which channels mask each other, and where.

Insert AEA Bridge on channels in your DAW; this screen listens to four channels together and shows, in dB, which channels mask each other in which frequency regions. AEA Bridge must be the last plug-in on the channel; only then does it hear the effect of the plug-ins above it.

What it does

When two channels are both present in the same region, one masks the other. The list shows each pair's region (Hz), the overlap (dB) and who is how many dB ahead; the chart marks the selected pair's region as a band.

How it measures

Measurement happens only while BOTH channels are actually playing (each above –20 dB of its own peak, in 50 ms frames). Bands follow hearing resolution: 39 ERB bands, window the last 10 seconds. A region counts only if the weaker source is above –30 dB of the pair peak and at least 2 seconds of simultaneous audio has accumulated.

How to use it

Tap a row: the chart focuses that pair and the other regions open. "listen" plays that region's band with both channels together (the DAW is muted). Before a cut press "start measurement", after the cut press "finish measurement"; the card shows the before/after value. After adjusting the EQ, tap the value; the new measurement arrives in 2–3 seconds.

No automatic cuts

This tool does not EQ for you and never turns a channel down on its own. It only measures and tells you where and how much clash there is; the decision is yours.

Gain staging

Bring the channel level to target — with the channel's gain, not the fader. AEA measures the selected channel and shows it against the target with a light: green on target, red off target.

The result doesn't change with short fluctuations; if the level changes by more than 1 dB for longer than 4 seconds, it updates on its own and a new history entry is added.

In Logic, when you bypass a plug-in and turn it back on and the level changes by more than 3 dB, the new entry appears within a few seconds. In Cubase and Fender Studio Pro the plug-in list can't be read, so this entry also follows the 4-second rule.

When the app is in Turkish, numbers on screen use a decimal comma (e.g. –12,5 LUFS).

The (i) on the Gain screen opens a short version of this section under 9 headings: What gain staging is, Pink noise reference, Light and numbers, How to use it, Keyboard shortcuts, Plug-in effect, History and Before / after, Warnings, Other buttons.

Peak or LUFS

With **Peak** selected on the meter the decision follows the channel's peak (dBFS); with **LUFS** it follows LUFS. "Measured", "Target" and the suggestion are in the selected unit; the suggestion is in dB in both modes (e.g. "Turn down 2.2 dB"). VU only displays and doesn't change the decision.

Target peak and reference channel (Peak)

First pick a channel with "Use this channel as reference"; only one channel can be the reference at a time, and the line "Reference: VOCAL · peak -6.0 dBFS" appears. The target peak is that channel's peak: -12.0 dBFS by default; change it between -18 and -6 dBFS with - / + in 1 dB steps or by tapping the number and typing (e.g. -12.5). A value outside the range is moved to the nearest limit and the reason is shown. The other channels' targets come from the same calculation as LUFS: the point where they sound as loud as the reference, shown as their own peak (e.g. "Target -11.0 dBFS"). Each channel gets a different target peak; -6 dBFS is not a ceiling for the other channels. No suggestion is given until a reference is picked; the screen says "First pick a reference channel". Each channel's target is fixed at its first measurement (about 10 seconds of audio); it doesn't move when the song section changes, while the measured value and the light stay live. To measure again, tap "Measure again" inside the light or the large text below it. If a channel's target peak goes above -6 dBFS, the warning "Reference is too high; this channel doesn't fit. Lower the reference by a few dB." appears: lower the target peak by a few dB and the other targets update on their own. While more than one channel is soloed, no suggestion is given; the screen says "Solo a single channel". The peak is the highest peak in the measurement window.

Pink noise reference (LUFS)

The options are -6, -12, -18; the - / + next to them also adjust it in 1 dB steps. The app does not play any noise. Based on the pink noise reference you choose, it calculates a target that puts each instrument at its **masking threshold**, i.e. the point where it can only just be heard within the noise. The measurement uses LUFS, which approximately accounts for the ear's different sensitivity to different frequencies (**Fletcher-Munson** equal-loudness contours). (Terms: section 7.)

Teach 0 dB

In your DAW, Option-click the fader to set it to 0 dB, then press this button. The app remembers this position as 0 dB. If you press it while the fader is turned down, the warnings will be wrong; to fix it, set the fader to 0 dB and press it again.

Lower limit

AEA never suggests a "turn down" that would take the channel's peak below -18 dBFS; the suggestion stops there and reads "Don't turn down: the peak is close to -18 dBFS. Any lower and it will be too quiet for plug-ins." It works the same in Peak and LUFS.

Master

When no channel is soloed, the whole mix is measured. The large card then gives no channel suggestion and reads "No solo — solo a channel to get a channel suggestion"; the **Master** card does the evaluation: a large peak value (dBFS), "Target -6 dBFS" below it, and the status: "Enough headroom" or "Master peak is X dB over -6 dBFS". The card's own "Measure again" button restarts the master measurement.

Meters

- **VU:** average level, 300 ms (with CAL).
- **Peak:** sample peak (dBFS) — instant rise, falls 20 dB in 1.7 s.
- **LUFS:** momentary loudness (400 ms); green mark = the channel's target.

Plug-ins on the master

If there are plug-ins on the master, AEA warns you: remove them while gain staging. In Logic, select Stereo Out once so AEA can check the master plug-ins.

History and before / after

A new history entry opens in two cases: when you tap "Measure again" inside the light, and on its own when the level changes clearly (by more than 1 dB for longer than 4 seconds). "History" shows a channel's measurements; "Before / after" shows the difference between two of them (level and plug-in changes). The suggestion on a history row matches the large suggestion: based on the peak in Peak, and with the -18 dBFS lower limit in both modes.

Warnings

Clip: the level is over 0 dBFS, turn the channel's gain down. Peak: the peak is above -6 dBFS. Warnings don't disappear after a while; they stay until the next measurement or history entry. If the problem is still there they stay with the new value, otherwise they go away. You can dismiss the solo warnings ("No solo — the whole mix is being measured", "Selected channel is not soloed") with ×; they don't come back until the solo state changes.

Plug-in effect

In Logic, while the song is playing, bypass the plug-in, wait a few seconds, then turn it back on. AEA writes the difference on that plug-in's row (e.g. "Compressor: raises the level by 3 dB"). When you turn one of the plug-in's knobs, AEA can't tell which plug-in it was; it writes "Level changed: a plug-in setting". To see its new effect, bypass that plug-in and turn it back on. You don't need to press Measure again.

Plug-in names can't be read in Cubase and Fender Studio Pro. To see a plug-in's effect, turn it off and back on while the song is playing; the difference shows in History as a "Level changed" row.

AEA measures the channel's output; it doesn't measure the level between plug-ins.

Keyboard shortcuts and buttons

Shortcuts work while the Gain screen is showing and the focus isn't in a text field.

Key / button	What it does
▼ · ↓	Next channel.
▲ · ↑	Previous channel.
S	Solo only this channel / unsolo. If other channels are soloed too, the selected channel becomes the only solo; if it's already the only solo, it's unsoloed.
Shift + S · Shift-click S	Adds the selected channel to the solo; the previous solo stays on. If the channel is already soloed, only that channel is unsoloed.
Shift + ▼ / ▲	Adds the new channel to the solo; the others stay on.
Option + ▼ / ▲ · Option-click	Moves the selection only; no solo is turned on or off.
◀◀ · Left arrow	Rewind.
▶/■ · Space	Plays when stopped, stops when playing.

How solo moves: A channel you solo with S moves along as you go with ▼ ▲. Shift+▼ / Shift+▲ add the new channel to the solo; the others stay on. With several channels soloed, ▼ ▲ leave the solos alone.

Example: with "drum" soloed, go down to OH with Shift+▼; the drums keep playing.

AEA never sends a Record command to your DAW.

◀◀ by DAW

- **Logic Pro:** a short press starts rewinding, a short press while rewinding stops; hold for fast rewind.
- **Cubase:** rewinds for as long as you hold it.
- **Fender Studio Pro:** one rewind command per press.

5. Solo Follows Selection in Fender

On: ▼ ▲ moves the solo from channel to channel. Crossing an 8-channel group boundary turns off the channels you soloed together.

Off: Solos are kept across groups; AEA moves the solo.

With the setting off, S only turns off solos in the 8-channel group on screen; turn off solos in other groups in Fender.

AEA works out whether the setting is on or off at the first channel selection and shows this information once, the first time.

6. Tools

The Tools tab works on your own file (Pro).

Upload Your Mix

Upload your own file and use it in the exercises instead of the built-in sources. A difference you hear in a track you know teaches you more than one in a source you don't. The file stays on your device and is never sent anywhere.

Tonal Balance

It compares your mix's frequency balance — the bass/mids/highs ratio — against a target curve. The deviation list shows which region is too much or too little, and how big a correction it needs.

- **Pop / EDM / Acoustic:** These three ready-made curves are a general genre reference. For the most accurate result, use "My Own Reference" and upload a track you like. The curves were measured from 41 real tracks (Pop 25 · EDM 7 · Acoustic 9) — across the SUB 20-120 · BASS 120-250 · LOW MIDS 250-500 · MIDS 500-2000 · HIGH MIDS 2000-8000 · HIGHS 8000-20000 Hz bands, as deviation from each track's own band average rather than absolute level. Because band definitions vary from tool to tool, the numbers may not match another measurement tool exactly — that isn't an error.
- **My Own Reference:** Instead of the ready-made curves, upload a reference track you like and compare your mix against it.
- **Deviation list:** The dB value next to each band shows the correction needed to bring that band closer to the reference — you can apply the same amount in the same direction (boost/cut) at the same frequency in your DAW's EQ.
- **Solo a single band:** Tap any band on the graph — that region plays solo. Tap again to turn solo off.
- **A · Matched mix / B · Reference:** A is your mix with EQ applied to match the reference's tonal balance; B is the reference file, unprocessed.

Measurement Results

It measures the loudness, peak level, dynamic range and phase/stereo compatibility of your uploaded file, over the whole file.

- **LUFS:** K-weighted measurement per ITU-R BS.1770-4. Momentary (400 ms), Short-term (3 s) and Integrated (whole track).
- **True Peak (dBTP):** 4× oversampling with the polyphase filter from ITU-R BS.1770 Annex 2.
- **LRA:** loudness range per EBU Tech 3342.
- **Phase / stereo correlation:** between -1 (out of phase) and +1 (fully mono compatible).

Small differences against another measurement tool are normal; every tool implements the standards with its own choices.

Stereo Field

You listen to the center (Mid) and the sides (Side) of the mix separately. $\text{Mid} = (L+R)/2$, the signal you hear in mono; $\text{Side} = (L-R)/2$, only the difference between the two channels. The warning does not rely on a target curve; it looks at the difference between Side and Mid in each band and converts it to the loss in a mono fold-down. There is no automatic correction: the tool measures, you decide.

Reference Filters

It runs your mix through the typical frequency response of different playback devices: Bluetooth Speaker (90 Hz–13 kHz), Car (60 Hz–14 kHz), Headphones (20 Hz–20 kHz — the reference, almost flat), Club System (25 Hz–18 kHz), Laptop Speaker (250 Hz–12 kHz). These filters are not the measured curve of a real device but an approximation of that class of device's typical character.

7. Terms

Masking threshold

A sound is harder to hear while another sound (the masker) is playing. The **masking threshold** is the lowest level at which a sound can just be heard in the presence of the masker. In AEA, Gain's target in **LUFS** mode is built on this idea: each instrument is set relative to the point where it can **only just be heard** within the pink noise reference you choose. In **Peak** mode the same calculation is used, but the reference is the channel you pick instead of pink noise: the reference channel's peak sits at the target peak (–12 dBFS by default); the other channels are set to the point where they sound as loud as the reference, and their targets are shown as their own peaks (dBFS).

Fletcher–Munson curves (equal-loudness contours)

The ear is not equally sensitive at every frequency. In 1933 Harvey Fletcher and Wilden A. Munson published curves showing the sound pressure levels at which tones of different frequencies are heard as **equally loud**. The ear is most sensitive in the midrange; at low levels, bass and the very top are heard more weakly. Today's standard counterpart of these curves is ISO 226.

The LUFS measurement AEA uses (K-weighting) accounts for this difference in sensitivity only **approximately**; it is not an exact copy of the equal-loudness contours.

LUFS

Loudness Units relative to Full Scale: perceived loudness measured per ITU-R BS.1770. 1 LU corresponds to a 1 dB change.

8. Uninstalling and troubleshooting

Uninstalling

1. Quit your DAWs.
2. Double-click the **AEA Bridge Uninstall** app in the .dmg. If macOS says it was downloaded from the internet, click **Open**.
3. Click **Uninstall**.
4. If you're asked for access to the Documents folder, click **Allow**; the Cubase script lives there.

The uninstaller removes everything the installer put in place: AU, VST3, the MIDI helper (with its launcher and log) and the Cubase MIDI Remote script. It doesn't remove the AEA app and doesn't ask for an administrator password. If a DAW is open, it warns you and removes nothing. Afterwards the AEA app opens the MIDI port itself.

Troubleshooting

What AEA shows	What to do
Put AEA Bridge on the master.	Insert the plug-in on your DAW's master (Stereo Out).
No Mackie Control connection — channel name, solo and fader can't be read.	In Logic, choose the "AEA" port for the control surface (section 3). In Fender, check that Mackie Control in External Devices uses AEA.
Cubase isn't responding	Studio → MIDI Remote Manager → Reload Scripts.
The installer says "AEA Bridge can't be installed right now"	Quit Logic, Cubase and Fender Studio Pro, then try again.
Keyboard shortcuts don't work	In Logic, if Control Surfaces > Setup has extra Mackie Control surfaces, delete them; keep only the one connected to the AEA port.
Fender doesn't recognize the VST3	Restart Fender after installing the bridge; if it still isn't recognized, use the AU.