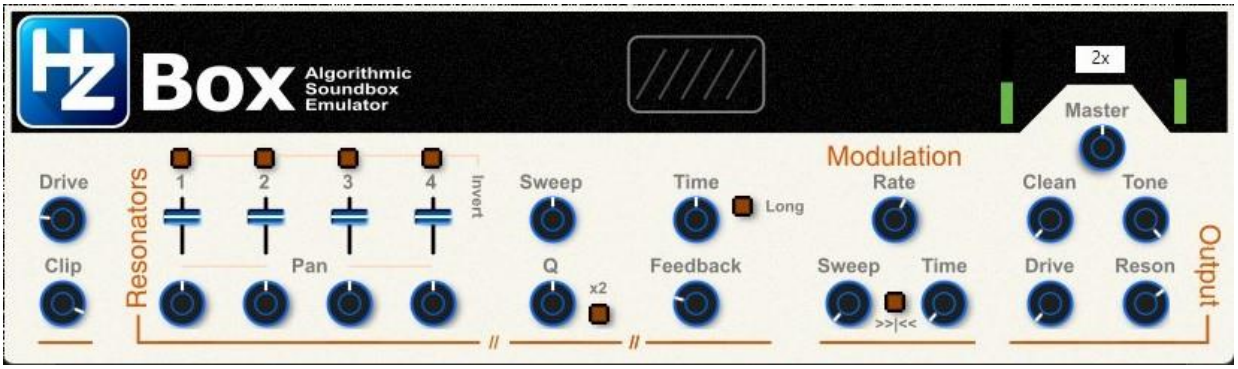
Higher Hz – HZ Box



HZ Box Manual

Thanks for downloading and using HZ Box from Higher Hz, please read through this manual to understand how it works.

Compatibility

HZ Box requires a VST Host to work. HZ Box will work within just about all VST Hosts or DAWs running on Windows or Mac OS so long as they are ready to support a 64 Bit VST 2.4, 64 Bit VST 3 or 64 Bit AU.

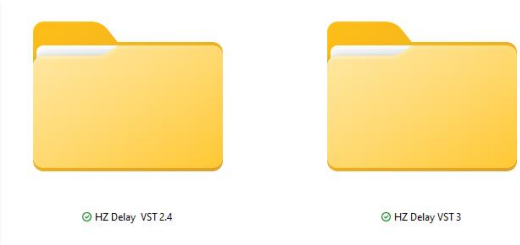
Installation

Installing HZ Box is a manual process but not a hard one. First Unzip the downloaded files and identify the parts that you want to install to suit your needs. You can toss out anything else to make it a bit clearer.

In every case you are putting a WHOLE FOLDER into the right location. If you try to be clever and drag over only a .dll the install/plugin will fail. Delete whatever you did and start again.

Installation Windows

Installing HZ Box into your host is a manual process. Open the downloaded folder and grab the **whole folder** for *either* the VST 2.4 or VST 3 and drag & drop it in your relevant VST folder.



For VST 2.4 this can be any folder that you specify but for VST 3 this must be the default path:

This PC > OS(C:) > Program Files > Common Files > VST3

Start your DAW and the HZ Box should be searched, found and available under HigherHZ.

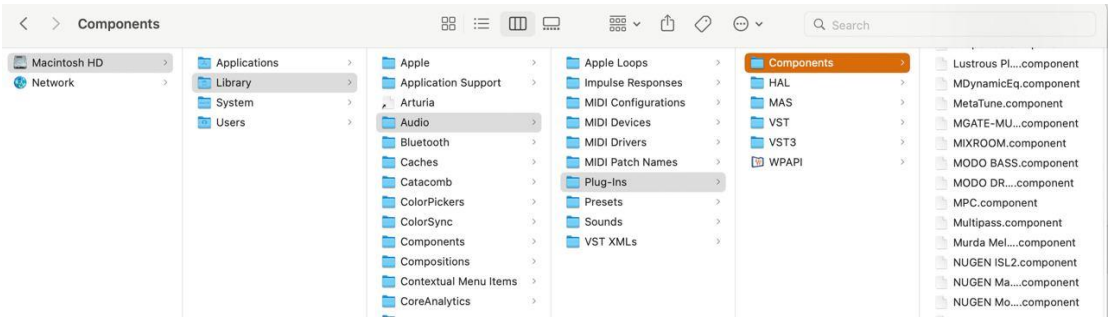
If HZ Box does not appear please check Compatibility above and that you copied/dragged over the whole folder (not just the .dll file) as there are other files in the folder needed to make the VST work properly.

Installation Apple Mac OS

Installing HZ Box into your host is a 2 or 3-stage manual process. First install the HZ Box and run it in your DAW (to make the second part easier). Then install the Patches to the created Folder.

Install AU

Folder location is **~/Library/Audio/Plug-Ins/Components**. Pop the **whole HigherHZ Folder** in the Components Folder.



You can access that folder by clicking the Go tab in Finder, selecting Go To Folder, and typing the path ~/Library/Audio/Plug-Ins/Components. You can also access it by opening your Macintosh HD, where you'll see Applications, Library, System, and Users folders. Choose Users, then click through each step from the Library folder. More easily, you can access it by clicking the Go tab in Finder, then hold down the Option button, and you'll see Library appear on the list of destinations.

If you're the only user of the Mac, it makes no difference which of these Components folders you use. Obviously, if it's shared, you may want to have public and user-only plugins. Many plugins that don't have an installer end up in the user-only Components folder because it's so quick to reach.

Unverified Publisher Warning

If macOS says unverified publisher, or anything similar, you have to go to the following location:

System Preferences (found on the task bar or via Spotlight search easily) ———> Security & Privacy

In this panel, near the bottom, the plugin/software that was just blocked should be named with the option to Open Anyway. As you know, this happens with legitimate software, so people shouldn't be worried about clicking Open Anyway unless they have any other reasons to doubt the developer/software.

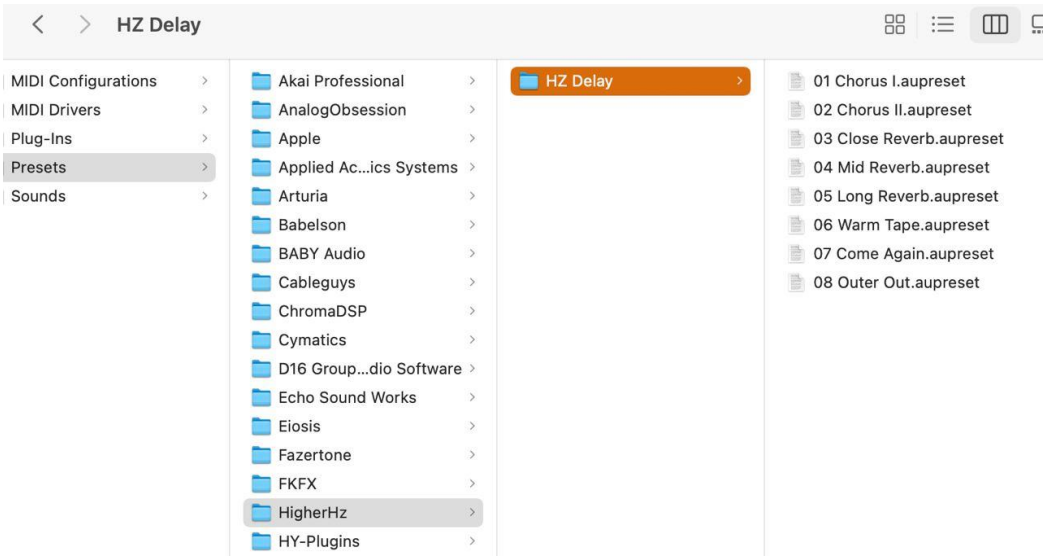
If you open the Security & Privacy panel and the plugin isn't listed, just leave the panel open, and try to open/launch the software/plugin again, and it should appear.

While annoying this is a result of decisions at Apple and not our software.

Install AU Patches

AU Patches are stored separately from the plugin. If you followed the advice above and have run the plugin in your DAW, the folder you need to put the patches into should already be there.

The location is the path is: **~/Library/Audio/Presets/HigherHz/HZ Box** Replace the HZ Box Folder – or – drop the presets into that folder.


HZ Delay
MIDI Configurations
MIDI Drivers
Plug-Ins
Presets
Sounds
Akai Professional
AnalogObsession
Apple
Applied Ac...ics Systems
Arturia
Babelson
BABY Audio
Cableguys
ChromaDSP
Cymatics
D16 Group...dio Software
Echo Sound Works
Eiosis
Fazertone
FKFX
HigherHz
HY-Plugins
HZ Delay
01 Chorus I.aupreset
02 Chorus II.aupreset
03 Close Reverb.aupreset
04 Mid Reverb.aupreset
05 Long Reverb.aupreset
06 Warm Tape.aupreset
07 Come Again.aupreset
08 Outer Out.aupreset

HZ Box Overview

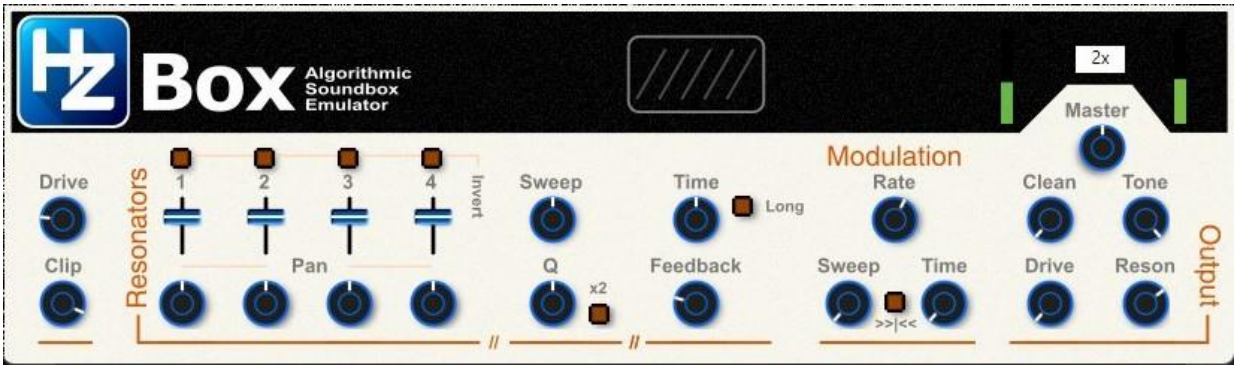
HZ Box is designed emulate a soundbox, like an instrument body or a guitar speaker. The way the effect works best will tend to vary from instrument to instrument and situation to situation. While it will be a bit possible to just dial up one of the few presets, please be sure that when using HZ Box you put in the time to make the effect match the sound.

The sorts of effects or outcomes HZ Box will help you to achieve are:

- Instrument Body – Resonance Chamber
- Combo Speaker Emulation
- Chorus
- Phaser
- Reverb – simple early reflections

The idea is that commonly you will be balancing some or all of the above as you use HZ Box to add depth & sparkle to specific sounds in your mix.

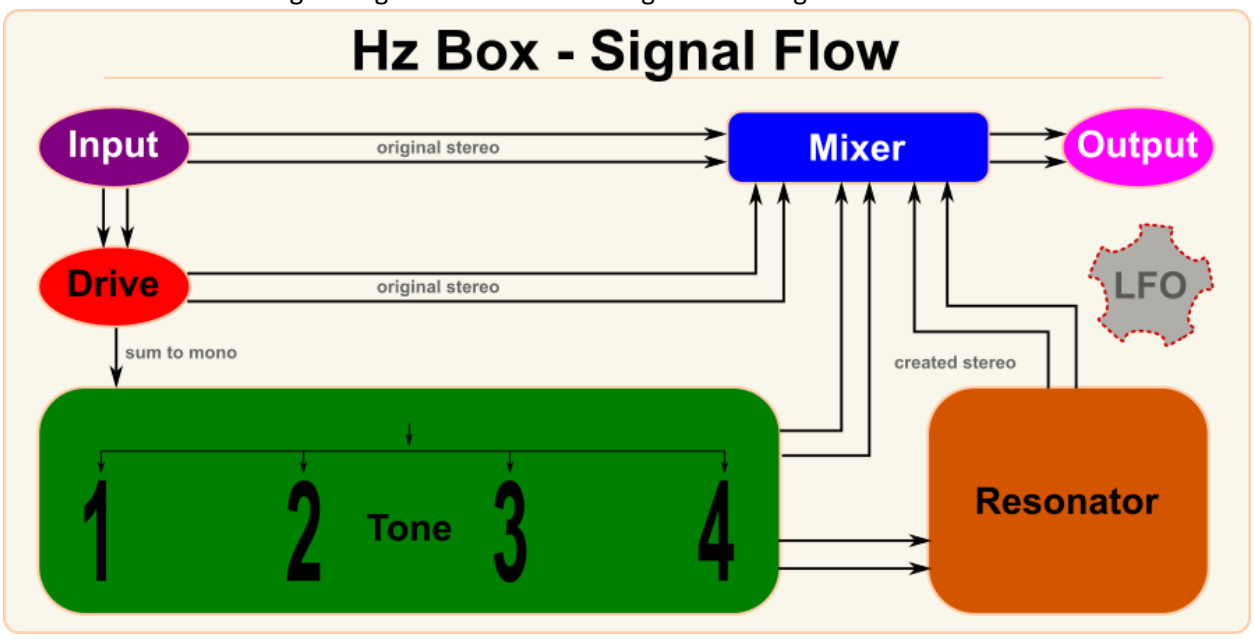
HZ Box – The GUI



The user interface for HZ Box is split into several parts.

- Input Drive & Clip
- Resonators
- Modulation
- Mixer

It is worth understanding the signal flow. This is the signal flow diagram:



Signal Flow:

1. Audio Input is Stereo and echoed straight to the Dry Output as Clean
2. and sent to a mild/soft Drive which is sent to the Mixer as well as
3. summed to mono (guitar speakers are always mono right) at the Tone stage which allows for four-stage bandpassing of the signal along with creation of a new stereo image from use of the pan controls. The Tone signal is sent to the Mixer
4. and the Resonator which is a very short Delay line with Feedback to emulate the sound bounce within the box. This Resonated signal is sent to the Mixer.
5. Modulation can be applied to the tuning of the Tone & Time elements for subtle or dramatic phasing and chorusing. These knobs are wonderful for some purposes but don't suit strict speaker box emulation – unless the guitarist is kicking their combo about the stage, but then you have other issues to deal with!!! However, these effects are not uncommon on a combo and having them here opens the device to so many very cool outcomes.

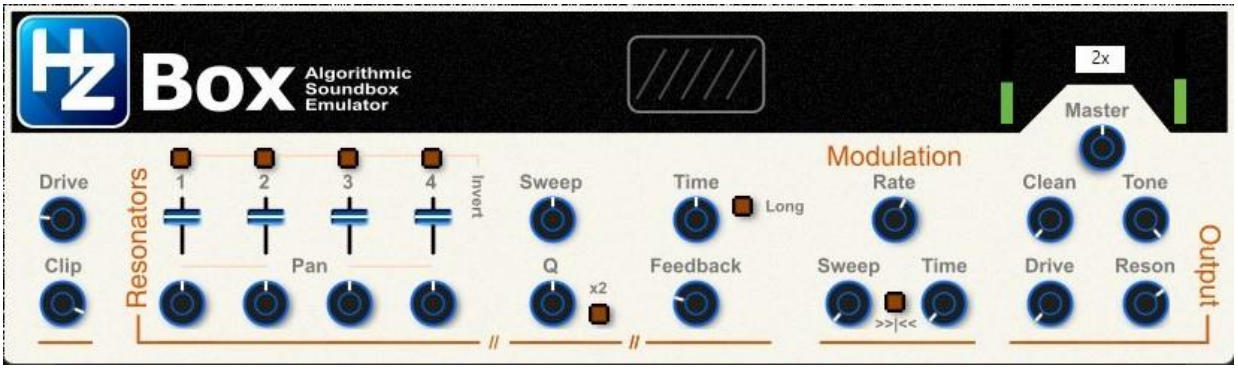
Because this device can get loud and create feedback, **it is always advised that a Brickwall Limiter or Clipper be applied across the masters of your DAW** to prevent any LOUD events getting to your amp/speakers/ears. In many cases follow Hz Box with a Compressor to even peaks.

Insert or Send

Mostly it is expected that HZ Box will be used as an insert effect – between the instrument and the mixing desk or in the insert box of the mixing desk. In these cases use any balance of the four signals to create the balance and output level that you want.

If you decide to use this device as a send effect eg Reverb, be sure that the all Mixer knobs except Reson are set to 0 so you are only hearing the Resonator (delayed) signal. Usually in this case you will want the Time-Long button On for the longer echo time.

The Controls



This section covers the controls.

Input:

- **Drive** – sets the input level to a soft drive circuit. This may emulate the drive of a "Clean" Jazz or Keyboard combo amp. It will not provide High Gain or Heavy Metal sorts of drive, in which case use some sort of Overdrive, Distortion or Fuzz Pedal before Hz Box.
- **Clip** – allows the post Drive signal to be clipped. This helps control any transients or provides a hard distortion if pulled too low.

Tone:

- **Vol 1 - 4** – set the Level of each of the bands. While they look and appear to operate like a Graphic EQ they are not as each is a parallel Bandpass Filter which leaves "holes" in the signal.
- **Pan 1 - 4** – set the stereo position for each band. Input for this module is summed to mono so you can create a new "creative" stereo image here if you wish.
- **Phase Inver 1-4** – allows the inversion of each band. This may or may not have a strong effect in any situation.
- **Sweep** – adjusts the center frequency of all for bands at once. Commonly the result will feel like the opposite of the direction turned. This lets you adjust the overall "size" or "tone" of the soundbox emulation.
- **Q** – sets the narrowness of the Bandpass Filters. Low levels will be quieter but broader, with more crossover between bands. Higher levels will be louder, with less crossover (larger holes) between bands.
- **x2** – switches the Bandpass Filters from 12dB to 24dB for a stronger sound.

Resonance:

- **Time** – sets the delay time. This delay is deliberately very short to emulate the very short "bounce" times for sound withing an enclosed space like a speaker cabinet. In theory the smaller the box, the shorter the bounce-back time. Each bounce creates phase boosts & cuts. The idea here is to find a point that flatters the input signal.
- **Longer** – sets the maximum delay time to 120ms which is better suited to larger areas like a room. Mostly only use this when wanting Chorus or Reverb effects. While this will sound great, understand that this moves the device from emulating a sound box to emulating a room, or hall.

- **Feedback** – creates regeneration within the delay line for a more pronounced sense of bounce-back within the box. This will make the phase inversions more pronounced, including introducing Ringing.

Modulation:

- **Rate** – sets the LFO rate. This rate is free (no BPM as that makes no sense as rooms are never BPM sync'd – but if you insist, fly in modulation from your DAW). This offers some very slow rates for moves that are very subtle.
- **Stereo** – sets the LFO to a stereo mode. This will behave as expected with Time modulation but not so much with Tone Sweep modulation. See which option better suits your application. If you want both at once, use DAW modulation to control things separately.
- **Sweep** – sets the depth of modulation being sent to the Sweep of the Tone Bands (all at once). Raising this can create a wonderful Phaser effect, especially with the Sweep Q setting quite high. Just be aware that this can get unruly so use a Compressor/Limiter.
- **Time** – sets the depth of modulation sent to the Delay time for Chorus type effects. This can be handy in reducing some ringing in reverb type situations.

Mix & Masters:

- **Master** – sets the overall output level. Use this to balance input and output levels.
- **Clean** – sets the level of the Clean/Dry signal. This signal is the original Stereo.
- **Drive** – sets the level of the Drive signal. This is the original Stereo.
- **Tone** – sets the level of the four Tone sliders signal. This signal is mono + any created stereo from the Pan knobs.
- **Reason** – sets the level of the Delayed signal. Combining this signal with any of the other signals introduces phase variations like the inside of an instrument soundbox or guitar cabinet. This signal is mono + any created stereo from the Pan knobs.
- **Input and Output Meters** – are the Left Input and Output signals to help balance the gain post effect.
- **Oversampling** – can be set from Off to 16x. This is based on the assumption the session is running at 44.1kHz. x2 delivers a working rate of 44 x 2 = 88. If working at 88kHz already, move to x4 to double your project rate.

Automation & Patches

Parameter Automation is handled by your DAW so please understand how your DAW handles Automation.

Automatable Parameters have been assigned in logical order in the VST but your DAW may display them in a different order (or even not at all).

If visually impaired, some DAWs offer the option to display the parameters in a Text-list form which will help. Parameters should display in the order in the manual and broadly the signal flow.

Patches are also commonly handled at the DAW level so please consult your DAW manuals if you need to consider things like patch changes within a piece (not really recommended as the unit may output thumps).

Support

Support should generally not be necessary if you have followed instructions in this manual. Should you need advice on a situation, please start by looking at the Manual (this PDF) or the Video Manual on our YouTube channel: Higher HZ - YouTube. Most questions you may have will already have been asked and answered there already.

As a final option if you have a need you may ask directly at: support@higherhz.com

Legal Liability

Higher HZ HZ Box is an audio effect using the VST SDK and dependent on Host software (your DAW) for operation. Usage and results also depend on what is fed to the unit and other parameters and events beyond our control.

This means that we cannot be responsible for outcomes or damages real or perceived as a result of using this software device.

We will however advise common cautions advised above like managing levels and using a Limiter across audio outputs.

Thanks

Thanks to Andrej Skola for testing and explaining Apple Mac installation.