



What are Impulse Responses?

An '*Acoustical Impulse Response*' is basically the acoustical '*signature*' of a system, or how a system would react acoustically when a certain input signal is applied to this system. The so called **system** can be a variety of things, such as a cabinet, a microphone, a preamp, or all those elements combined. The technique of capturing and using Impulse Responses has been used for a long time in the professional audio world to capture the reverberation of rooms, studios, churches, etc.

IRs are created by sending a specific signal through a certain recording setup to capture its linear characteristics. This way it is possible to, for example, capture the tone of an old 4x12 cabinet with its sweet, broken in speakers professionally mic'ed up with classic microphones, load it in your DAW or amp simulation and have that exact studio quality sound at any time - live or in the studio - without actually having to own all that expensive gear or risk taking that precious vintage cabinet on the road.

The result is, effectively, a virtual version of that exact cabinet, mic and room setup, as opposed to a digital approximation of an X cab and generic room reverb.

Please note that this is not an amplifier simulation. Amplifiers do not behave in a linear way (distortion), and as such cannot be modeled with an Impulse Response.

However, using IRs with real amplifiers would sound exactly the same as connecting that amplifier to the modeled cabinet and microphone setup.

How to use Impulse Responses?

The SoloDallas IRs are **24-bit, 48kHz** .WAV files that have to be loaded in a convolution reverb engine - it can be either a plug in inside your DAW, standalone software or modeling amp that accepts mono .wav format convolution reverb IRs.

The files come in a compressed file. Extract the .WAV files before use and save them in a dedicated folder.

IRs can be used in conjunction with amp simulations and with real amplifiers (solid state or tube). In either case the guitar signal has to be converted to a digital signal with an A/D converter or a proprietary interface with a built-in converter.

If using an amp simulation, make sure the guitar is connected to the audio interface via a dedicated instrument input with proper impedance (especially when using passive pickups), otherwise the guitar will not sound as it should.

IMPORTANT: Some amp sim applications do not support third-party IRs. Read the app's documentation before buying IRs. If third-party IRs are not supported inside the app, the IRs have to be loaded in a separate host later in the signal chain (read **Using IRs inside a DAW** below).

Using IRs in a standalone amp sim application

In the cab/speaker simulation part of the amp sim application, look for a button which allows to import external .WAV files and import the desired SoloDallas IR file.

Disable the internal cabinet simulation in the app, otherwise the signal will be processed twice. The signal should only be processed by our modeled cabinet.

For more information, read the app's documentation.

Using the IRs with real amplifiers

When using tube amplifiers, **ALWAYS make sure there is a load of correct impedance and wattage connected to the output of the amp. Not doing so will result in damage to your tube amplifier!**

Many attenuators can act as a dummy load and also offer a **Line Out** that can be used to route the signal to the Line In input of the mic pre or interface (volume should be adjusted to proper line level to avoid unwanted noise or digital clipping). Always connect a speaker cabinet to the attenuator UNLESS the manual clearly states that it is not necessary.

For amplifiers with a built-in Line Out, that output can be used to connect it to the interface. In case the amplifier or attenuator does not have a line out, it can easily be installed by adding one jack and a potentiometer + resistor. We had very good results even with non-reactive attenuators (cheap) in combination with our IRs.

IMPORTANT: Always read the user manual of your amplifier or/and attenuator for more information. We are NOT responsible for any damaged gear caused by incorrect use. If unsure, seek professional advice.

Once the amplifier output (line) signal is properly routed to a DAW, load the IR as described below.

We noticed a significant sound improvement when using a good active DI (e.g. Radial Pro 48) between the amp/attenuator line out and the interface line in. The line out of the amplifier has a high impedance signal, so there may be a loss of higher frequencies because of long cables, jacks, the low input impedance of the sound interface's line in, etc. The active DI helps preserving the full signal of the amplifier.

Using IRs inside a DAW via Plugin

Activate a convolution reverb host plugin and load the desired IR .WAV file. If there is a WET/DRY mix knob in the plugin, set it to 100% wet so the full signal is processed by the virtual cabinet.

If using an amp sim plugin inside the DAW, place the IR host plugin AFTER the amp sim plugin. Remember to turn off the internal cab/speaker simulation inside the amp sim, as explained above.

We have used **free plugins** such as the Voxengo Boogex as IR hosts with good results. Make sure any 'amp' or reverb simulations are turned OFF inside the plugin. The plugin will only be used as a IR loader.

A more detailed guide for using a real amplifier with this plugin will be available soon.

More Information

The SoloDallas Impulse Responses also can be used with Kemper Profiling Amps, Fractal Audio Systems and other dedicated amp sim platforms. Read the platform's documentation for more information.

Always check the .WAV files bit depth and sample rate requirements for each app, plugin or platform. Convert the audio files if necessary.

If possible, use a high quality monitoring system or good headphones for playback.

Enjoy!