

ReValver Live

Manual

This manual covers the handling of Alien Connections ReValver Live, a real-time DirectX host for 'ReValver'.



alien
connections

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What is ReValver Live?

Introduction

ReValver Live is a DirectX utility that instantiates ReValver and plugs it in between the input and output of your sound card.

ReValver Live is a free utility, and is supposed to be looked upon as a “toy”, not the replacement for a real life amplifier.

ReValver is a DirectX *plug-in*.

ReValver Live is a DirectX *host* in which you can use ReValver between the input & output of your sound card.

Requirements for useful operation

DirectSound mode:

To be able to use ReValver Live in “DirectSound mode”, you need a sound card with DirectX compatible drivers. The drivers can not be “emulated” by Windows (see the documentation of the drivers.) You must have DirectX 5 or later.

Please note that Windows NT 4 does *not* support non-emulated DirectX drivers. Currently, Win95, Win98 and Win2000 are supported assuming DirectX5 (or later) is installed.

Legacy multimedia mode:

When lacking proper DirectX sound card drivers, or when the legacy multimedia mode is preferred for stability reasons, no special requirements need to be fulfilled. The legacy multimedia mode is compatible with all sound-cards and Windows versions. In some cases, the latency can be awful, but sometimes even better than DirectSound mode.

Sound card:

To reduce the latency of the sound card, it is recommended that a PCI-based sound card is used. (Most modern soundcards are PCI-based.) To reduce the latency of ReValvers internal processing, a processor of 400MHz or more is recommended.

Setting up your sound card

To be able to use ReValver Live correctly you must setup the input & output of your sound card. ReValver Live will sample the input, process it and then play this on the output.

It is absolutely vital that you do not create a feedback loop in your sound card:

The inputs

The inputs must only record the “Line In” or “Microphone In”. (It may not sample “What-you-hear” or “Sum” or similar!)

The output

The outputs should only playback “Waveform Out” “Wave Out” or similar.

Setting up ReValver Live

The main issue when setting up ReValver Live is minimizing the latency of the “input to output”.

You will experience a delay from that you touch a string on the guitar and when you hear the processed sound. This is what is meant with “latency”. The latency is mainly due to the internal structure of Windows.

Due to Windows driver models, a nominal latency will rarely be less than 60 ms, whatever you do. This is a limitation of Windows, which cannot be adjusted in ReValver Live.

A PCI soundcard is recommended due to the characteristics of the older ISA bus.

Please keep the sample rate as high as possible, typically 44.100 or 48.000 samples per second. Stereo is always

recommended. (The processing time is *not* necessarily depending on the number of channels of the sound.)

Parameters in ReValver Live

Processing chunk size

Keep as small as possible. Too small chunks will show itself in scrambled sound, and too big chunks will delay the sound.

In DirectSound mode, good values are typically found between 32-128 samples. In legacy mode it is harder to find the best value, but it is typically between 200-500 samples.

Minimize latency

It is advised to “minimize the latency” every 1-5 seconds. Every time this happen, you *may* hear a faint click, or, the sound may be bad for this amount of time. The internal data stream is reset to ensure minimal latency. This is necessary due to drifts & dropouts in the synchronization between input and output.

Extra output latency

To ensure stability, please use an *extra* latency of 20-30 ms. Too small “extra” latency will scramble the sound.

Accelerated output

No need to uncheck this. This simply mean that ReValver Live takes control of the playback on a deeper level.

...DirectX manager

On some systems, the built-in DirectX manager (DirectShow filter graph) is too slow to keep up with latency requirement. You will have to try on your own system.

Input and output devices

If you have several soundcards on your system you can select which devices to use. (Devices called “Primary Sound Driver” or “Microsoft Sound Mapper” maps to the default soundcard.)

Save input / output signals to disk

Both the input signal (the untouched) and the output signal (the processed) can be saved to disk as *.wav files. By pressing “Options...” you can choose output directory and filenames. You can also choose to number the wav-files according to the current “take”.

That’s all folks...