Friday for Features will take a look on not so well-known features in SATlive, thus helping you to improve your user experience with SATlive.

The topic of today's Fridays for Features is:

Take the right route.

Once upon a time, in the early days of SATlive the audio – input in nearly any case was an USB audio – interface, in most cases a simple 2 In / 2 Out device. In this configuration, routing and signal selection is not really needed. The only option we needed in those days was to choose whether the measurement mic connects to the left or the right input of the device. We can configure this using the selection
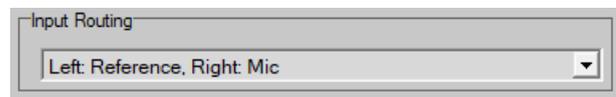
Input – Routing in the *Setup → I/O Devices* section[1].

But today a lot of the USB audio – interfaces offer more than two inputs or outputs, and using the DVS (*Dante Virtual Soundcard*) in a Dante environment will offer you a lot of possible sources and targets, even without the need of an external interface.

So, starting in 2008, SATlive offers additional routing options. Because of the limitations, of the windows – audio and of the DirectX audio subsystem, this option was designed to work with ASIO drivers only.

To access this routing, use the *Edit ASIO Settings* button, which can be found in the *Setup → I/O Devices* section, as long as the entry *ASIO driver* will show in the *Audio Driver Type* selection.

ASIO always relates to a certain device, so you had to choose the device you want to use also.

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1   Please note that this option is available only when you're using windows or DirectX drivers.

The ASIO setup – window features two columns. While the right column contains the list of the routings currently assigned, the left column allows the global configuration of the ASIO driver and its routing.

The operation of the right side is quite easy. Just click *New* to create a new routing or select an entry and click *Edit* to open the edit window for the routing. In this window, you can label the routing and you can choose the inputs you want to use for reference and measurement.

The *Audio Input Ref* selection contains the entry *Direct Reference*[2]. This entry will establish an internal loop between the signal – generator's output and the input buffer, thus avoiding the need for a second input and external wiring.

Furthermore you can compensate an internal delay or flip the polarity of the mic – signal. This are two options that you'll rarely need. It can be used for latency compensation between a digital wireless system and a wire – bound mic or to compensate for a (legacy) measurement – mic with *3 – Hot* wiring.

You can also choose a specific mic – correction for this routing. This will override the global mic – correction setting. Use the selection *Audio Output* to choose the output(s) where SATlive's signal – generator will output its signals to.

Please see the next page about the different *Audio Out Mode* settings and how they will affect the audio – output selection.

The entries in the left column will affect the global settings of all routing related to the current ASIO device.

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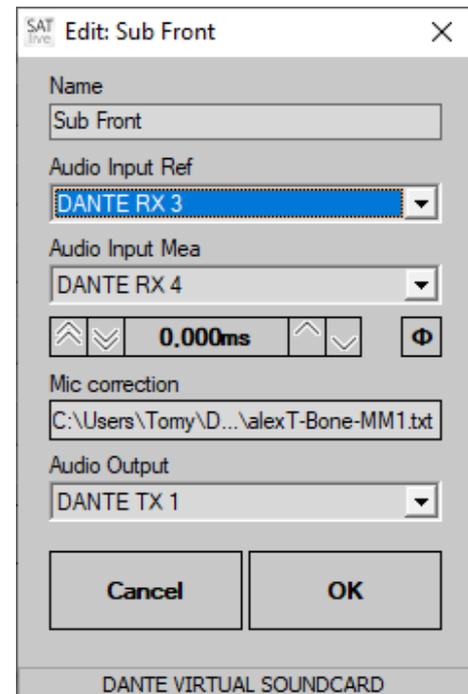
2   Direct Reference would be an interesting subject for a Fridays for Features document. If you want to use it right now please consult the manual.

The first entry, labeled *Connection Manager Delay*, defines the handling of the delay used in the measurement of the transfer – function.

Any time when you'll choose an other routing, the current delay will be stored in the settings of the previous routing. So SATlive is able to restore the delay which you've used with a certain routing before. This selection contains three entries.

I think that their labels explain what each setting will do (or not).

The most interesting but also most confusing selection on this side is the second one, called *Audio – Out Mode*.

This is the basic configuration of the <u>out</u>puts of the current ASIO device.

Based on the traditional Left & Right schema, the outputs of a devices are often organized in pairs. So over a long period of time, using a pair of outputs was the default in SATlive. In this case, referred to as *Dual Channel Output* in SATlive, both outputs of the pair receive the same signal. This allows you to use one output to feed your system and to loop back the other output as your reference signal.

In this configuration you can select only pairs of outputs, with only the odd numbered output showing in the list. This setting is the default setting and tailored for the use with a dual – channel audio I/O device.
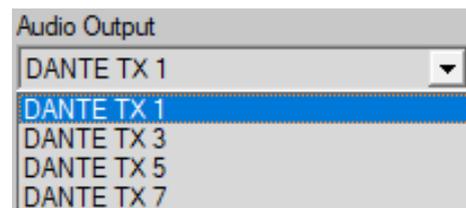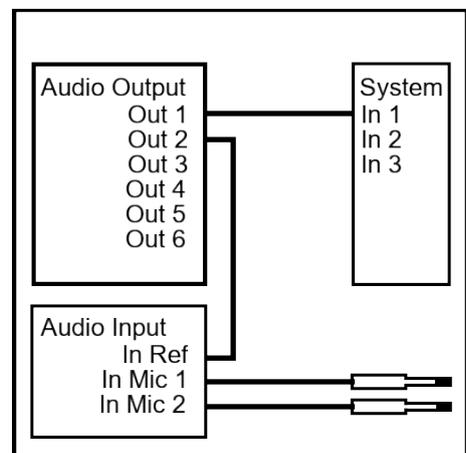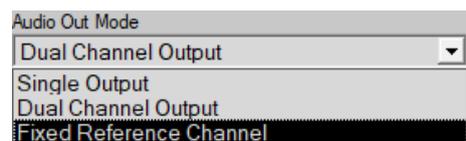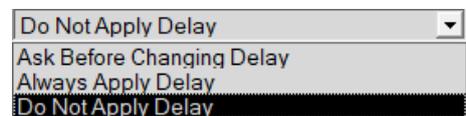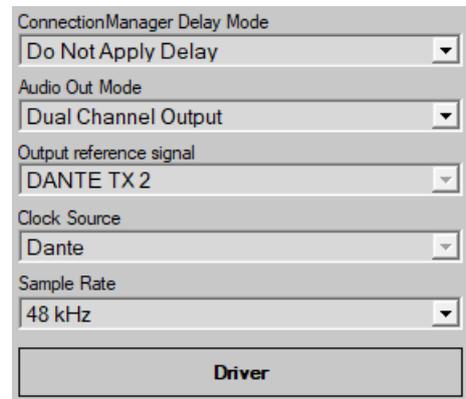
The next option available is the *Single Output* setting. As you might guess the output signal will occur at one output only. This allows you to choose every output available on your device, but you have to take care about the external routing of the reference signal.

Using this configuration allows you to get the reference signal at different location in your signal path, allowing you to exclude some devices from the result. For example, splitting the signal at the output of your console will exclude all settings on your console from the measurement.

Both settings, *Single Channel and Dual Channel* will work well. But if you consider using different outputs to measure different devices you will notice that the routing of the reference signal might become demanding.

The third option, called *Fixed Reference Channel*, overcomes that challenge. Like the Single Channel setting it will offer a single output routing, offering full flexibility for the selection of the output channel for each routing.

In addition there is a global selection in the left column, labeled *Output reference signal*. This destination will also receive the output signal and changing the routing will affected this selection. So just one connection is needed to handle the reference signal for all the routing you'll apply to this device.