



New to OAS-7?

Article 10 : The Sub-Presets – Reverb (b)

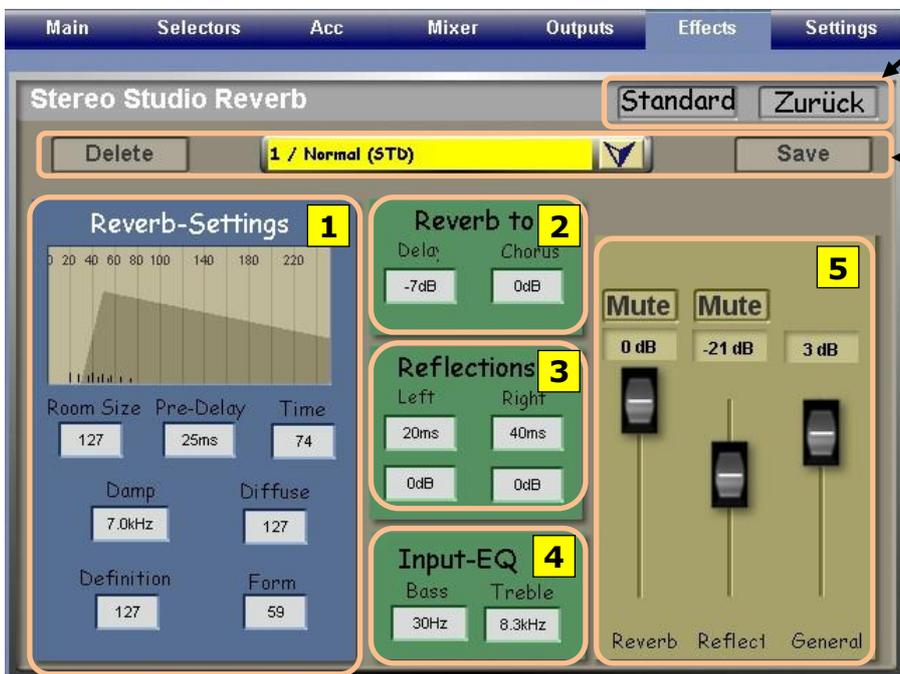
In this article we shall be looking at the remainder of the Reverb Sub-Presets, ie those in the "Other soundgenera(ation)" panel for the Microphones, Audio Inputs and the OX7 found on the **Effects** screen as shown below.



Touch this button to produce the screen shown below.

There are many more parameters here than are available in the Wersi Soundgenera(ation) panel screens.

Standard allows the currently displayed Sub-Preset to be set as the Standard. **Zurück** = Back



Delete and **Save** are obvious. The central yellow panel displays the name of the Sub-Preset selected from the drop-down list accessed via the downward pointing arrow.

The numbered panels are referred to in more detail below.

This Reverb section applies to the **Audio** and the **Microphone Inputs**, where reverb needs treating with care. You probably won't want any reverb when using an audio input so select **0 / Aus/Off** from the drop-down list of Sub-Presets. You will want some reverb when singing into a microphone while using the Harmoniser so here is where you can select the Reverb Sub-Preset which is most suitable. When using a microphone for speech it is usual to drop the reverb down considerably, possibly even removing it completely depending upon the venue. You can also change any of the parameters of an existing Sub-Preset here and save it as a new User Reverb Sub-Preset. The saved versions are specific to this section and are not the same as those for Long Waves, even if the name is the same.

Whether you use the audio or microphone inputs or not, you will be able to set up and deploy Reverb Sub-Presets from here for the **OX7. Organ Drawbars 1** and **Organ Drawbars 2** are in the database of sounds and **Organ Drawbars 1** is factory mapped to the Tone Wheel/Zugriegel Button. These are not pre-fixed sounds but merely allow access to the Drawbars. To save a Drawbar setting requires using the **OX7 software** to set it up and save it. As a result, this Reverb Sub-Preset area contains the Sub-Presets from which you can select the most appropriate reverb for the Drawbar sounds you are using, or you can save User Reverb Sub-Presets of your own.

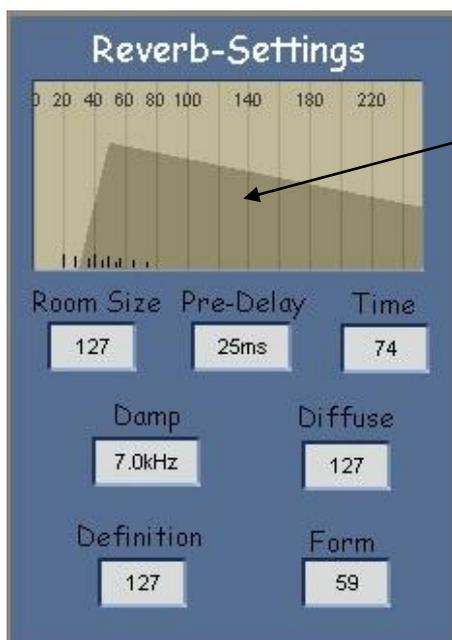
There is another Drawbar section within a Wersi Instrument which used to be called **Wersi Drawbars** but is now called **OAS Drawbars**, as shown on the **Settings** screen by **Edit OAS Drawbars**. (There is a Factory Preset OAS Drawbar called **WERSI Drawbars 1** which is in the Sounds database and allows access to the Drawbars for use, editing and saving in that section). This Reverb Sub-Presets section does not apply to **OAS Drawbars**. Use the **Reverb 1** and **Reverb 2 Sub-Presets** from the Wersi Soundgenera(tion) panel for **OAS Drawbars**.

The **B4 VST** is another way of using Drawbars and this does respond to this Reverb Sub-Preset section. In **Selectors > Sub-Presets > Micro/OX7** the panel is headed **Effects Micro/OX7/ASIO**. (ASIO = Audio Stream Input/Output – don't ask!!)

Let's now look at each of the numbered sections on the previous **Stereo Studio Reverb** Screen.

1 Reverb-Settings

The graph is dynamic ie it changes according to the values set up in this particular panel. The numbers on the graph are milliseconds of time – the first value is 20 so represents a time 20ms (milliseconds) after the sound is first produced. These numbers, therefore, are the graduations of the x axis (horizontal). The shaded portion represents the volume level of the reverberation of the sound with time. The vertical (y) axis therefore represents volume level.



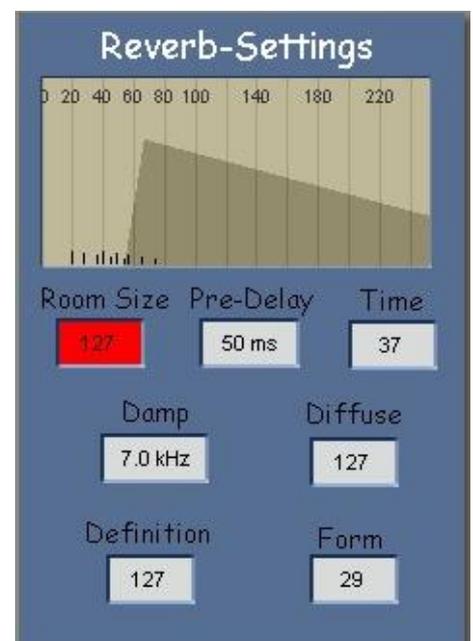
In this example, reading from the graph, the reverberation starts 30ms after the sound is first generated and rises to its maximum level at 50ms. After this time the reverb decays reaching around half of its maximum level by 235ms.

In the screenshot to the right, the following parameters have been changed: **Pre-Delay**, **Time**, **Form**. By inspection it's possible to see that:

Pre-Delay refers to the unshaded part of the graph before the reverb is heard. In the left shot it is given a value of 25ms in the box so the graph is only approximate in that it reads as 30ms. In the right shot the box indicates a value of 50ms while the graph reads approx 53ms.

Time has changed the decay slope of the graph from the maximum level. The decay now occurs in half the time so the slope is steeper.

Form has changed the **Attack** - a lower value = faster Attack (as usual), so the initial rising slope has become steeper.



The other parameters in this panel are not represented by changes in the graph.

Room Size : This is particularly significant in setting the reverb; the larger the Room Size the more reverb there will be, all other things being equal.

Damp : This has a range from 1 kHz to 12 kHz. This acts as a treble control on the reverb and its effect is noticed more the longer the reverb lasts. Setting this to a low value provides a treble cut to the reverb which therefore loses its high frequencies with time. Setting a high value reduces the amount of treble cut allowing the reverb sound to maintain its brightness during its decay. Set the **Time** box to 110 and test this out with the two extreme values of the **Damp** box. The amount of damping is not controlled here, just the frequency range of the reverb sound to which the damping is applied.

Diffuse : High values apply the reverb in full stereo while low values restrict the stereo spread of the reverb. The effect of this is best tested with headphones by playing a chord and releasing it, listening to the spread of the reverb as it decays. Use a Time value of around 100. It also diffuses the effect of **3. Reflections** below.

Definition : This determines the density of the reverb, high values giving the reverb more body. It's a subtle effect best tested with headphones. Use a Time value of around 100.

2 Reverb to Delay/Chorus



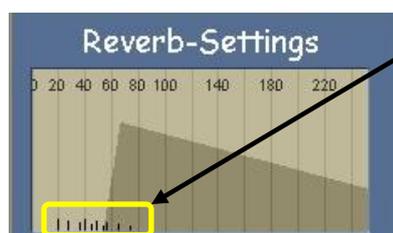
This allows you to set how much reverb is applied to the Delay and Chorus effects selected elsewhere. The result is very subtle and best tested on headphones when it may still be a little elusive. 0dB (dB = decibels, a measure of relative sound level) is the highest value available and allows the Delay or Chorus to receive the full Reverb effect, just like the original sound. Negative values down to -32 dB are also available which progressively remove the Reverb effect from the Delay or Chorus. The dB scale is logarithmic and -3dB represents a halving in level: -6dB would be a quarter of the original level, etc.

3 Reflections (Left/Right)



This allows you to set the left and right reflections separately within the stereo spread. Reverberation is a complex phenomenon and is zero in an open field. Outside a building there is reflection of sound from the walls of the building and within a room there are reflections from all six surfaces.

The parameters here simplify this to left and right walls only, allowing you to set the time before the first reflection arrives at your ears and the amount of damping in dB that reflection has "suffered" on its journey, eg by soft furnishings. 0dB means no damping. Playing staccato causes a different result from playing legato.



Watch the way these little (Reflections) markers move as you adjust the four values in the Reflections panel. There are five markers for the left and five for the right, becoming lower in height from left to right, indicating a reducing level. Raising the top two values (ms) moves these markers to the right so the first one (left) is at the same point on the x-axis as the value in its box (20ms here for left and 40ms for right). Lowering the bottom two values (dB) reduces the height of each marker showing there is less reverb. The overall effect of these adjustments is very subtle, even listening with headphones, but see **5** below.

4 Input EQ



This provides a **Bass** and **Treble** control for the reverb sound.

30Hz is the lowest **Bass** frequency available. This allows all bass sounds above this frequency to experience the reverb effect. Its highest value is 1000Hz (1kHz). Setting this value removes the reverb from all frequencies below 1000Hz (approximately C5 and below), though it's a gradual change, not a brick wall effect.

The lowest **Treble** frequency which can be set is 5 kHz and the highest 12 kHz. This is less easy to demonstrate because it affects harmonics, not fundamentals, but try testing it with the 1' Drawbar alone. [F4 = approx 5 kHz]

5

There are three sliders here plus a mute button for two of them.

General - this is an overall volume control for the whole Reverb Sub-Preset. Its maximum value is 12 dB and its minimum value is -69 dB though it will go below this but not show a permanent value (despite lower values appearing momentarily).

Reverb - this is an overall volume control for the blue panel **Reverb-Settings**. Its maximum value is 0 dB and its minimum value is -82 dB (though it goes lower to no value with lower values appearing momentarily). As you adjust it, watch the shaded area of the graph. It pivots around the peak. Changes within that blue panel will be less effective if this Reverb slider has a low value.

Reflect - this is an overall volume control for the central green **Reflections** panel. You will notice that in this Sub-Preset it has quite a low value which is why in the Reflections box above I referred to this box 5. By raising the value of **Reflect** here it is easier to set the values in the Reflections panel. The values range from 0 dB down to around -82 dB, though the same situation as with the other two sliders applies here also. You will also observe the five Reflections markers for each of the left and right Reverbs increasing in height as you move this Reflect slider up to increase the value in its box (and vice versa).

By touching each Mute button in turn you can mute the effect of that parameter, making it easier to adjust not only the other values here but also those in the blue **Reverb-Settings** and the green **Reflections** panels.

To end with, here are two User OX7 Reverb Sub-Presets I've set up.



In the next article in this series we shall be looking at the **Chorus Sub-Presets** in both the Wersi Soundgenera(tion) and the other soundgenera(tion) panels.

Incidentally, you may have wondered why some words are truncated on the screens. This is because the German word fits but the English word has more letters so doesn't fit. I think it's always understandable, though.

Colin
June 2009