

MasterVerb Pro

Source Image

Controls

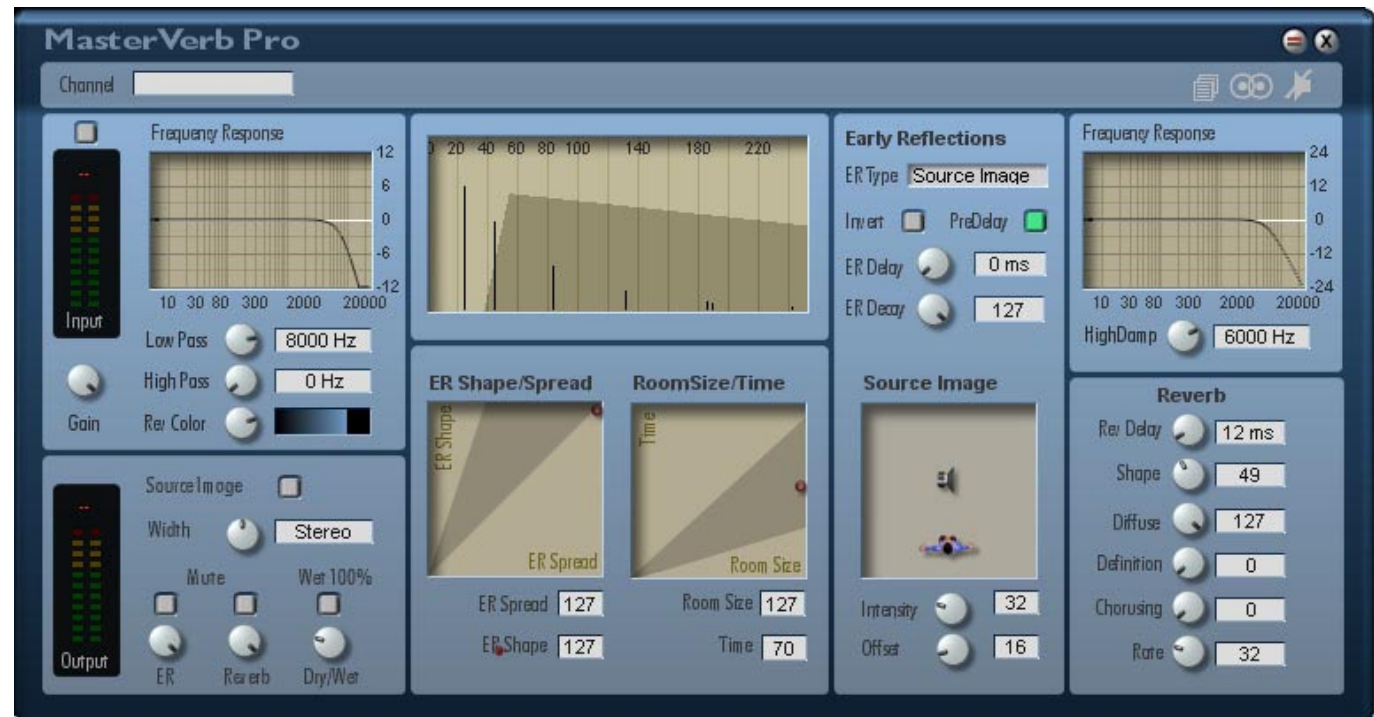
Early Reflections

Reverb

Source Image

In Out Section

Creating Reverb Presets



MasterVerb Pro

Congratulations on acquiring **MasterVerb Pro**. MasterVerb Pro combines a high-end reverb with a very user-friendly interface.

Based on the reverb algorithms of the original MasterVerb, MasterVerb Pro further improves on the naturalness of the reverberation. In addition to a fixed selection of early reflection models, you can now create as many of your own models as desired using the **Source Image Method**. This method employs easy X/Y controls to compute realistic early reflection signals of an acoustic source (Source) relative to a listener (Destination). If desired, you can also include the distance of the source to the listener and the source pan position as part of the calculation. Reverb Color and stereo spread (Width) controls enhance the overall impression of spaciousness. Applying Chorus to the response guarantees sonic density and also opens the door for some interesting special effects.

The MasterVerb Pro algorithm is split into two sections—the production of early reflections, and the production of a response signal pattern. The early reflections are responsible for producing the impression of space, while the response signal creates the atmosphere. You can adjust the overall tone quality of the space with the filters in the input and response sections. The X/Y controls provide direct access to the most important early reflection and response parameters.

The abundant settings available and the excellent sound quality of the plug in guarantee the high quality working environment your creative efforts deserve. We at CreamWare hope your work with MasterVerb Pro will be both productive and enjoyable.

Source Image

MasterVerb Pro computes early reflections using a simple geometric model. In this model, acoustic waves are treated much like rays of light. Acoustic waves emanate radially, like light, but from an acoustic source (Source=S). The waves then reflect from walls or surfaces the way light is reflected when it meets a mirror. For consistency with the light analogy, we also assume that the walls are very large with respect to the wavelengths of the sound waves. High frequency absorption is ignored for the time being.

If the position of the listener is well defined (Destination=S), the sound wave transmitted from the acoustic source to the wall and then to the listener could be regarded as if the wall doesn't exist. In this new view, another acoustic source lies **behind** the position of the wall and transmits a sound wave directly to the listener. We could regard this second

source as a phantom acoustic source. Finally, individual phantom sources are defined for each wall. This procedure is applied repeatedly to create a sufficient number of phantom sources as required to represent the area model. MasterVerb Pro uses sixteen early reflections to define the space.

This description of a source with mirror-image phantom sources is known as the *Source Image Method*. Simply stated, this model describes the behavior of acoustic waves in an area with an enclosed source and several other non-enclosed copies of the source.

The wall absorption factor, ignored previously, can be effectively reproduced with the filters in the MasterVerb Pro's input section. However, this model does not take into account the existence of a floor and ceiling for the acoustic area. This model should not, therefore, be considered as a complete room simulation. Nevertheless, the results are very convincing, and the MasterVerb Pro fully meets all professional post production requirements.



Controls

Input Gain

Controls the level of the signal to be processed. A VU-meter displays the level of the signal as adjusted. A small mark next to the control indicates unity gain. When adjusted to the left of the mark, the signal is attenuated. To the right of the mark, the signal is amplified.

Low Pass Filter

A low pass filter with a slope of 12db/octave follows the gain control in the signal path. There are three ways you can adjust the cutoff frequency: Use the rotary control, enter the value in the text field, or adjust the value directly in the graphic display area using the mouse.

Rooms or halls we classify as "warm" absorb most of the high frequencies—those over 8 kHz (or less). Use the low pass filter to create a warmer response.

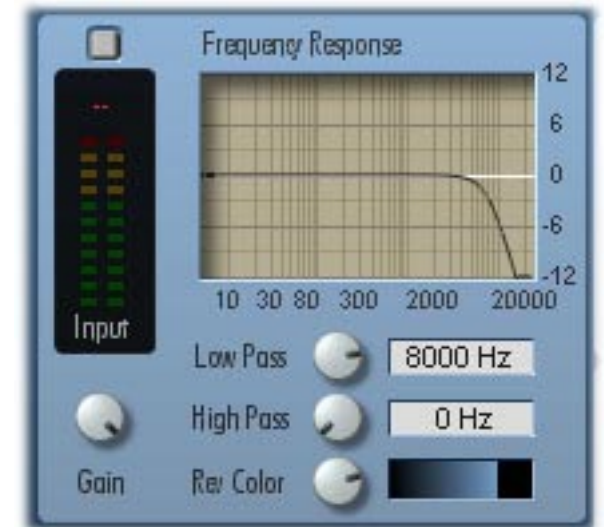
High Pass Filter

A high pass filter, also with a slope of 12db/octave, follows the low pass filter in the signal path. As with the high pass filter, there are three ways to adjust the cutoff frequency: Use the rotary control, enter the value in the text field, or adjust the value directly in the graphic display area using the mouse.

The response of many halls lies mainly within the middle frequencies. Together, the low pass and high pass filters form a band pass filter, attenuating both high and low frequencies. Appropriate adjustment of the two filters reproduces the sound of a hall in which the midrange is favored.

Reverb Color

Reverb Color controls the tone quality of the room from bright to dark. The results affect the apparent warmth and volume of the room. With darker color settings, the low frequencies resound longer than the high frequencies.



Early Reflections

Early reflections in the MasterVerb Pro are built up from sixteen individual “echoes”. You can control the form and process of the early reflections by adjusting the parameters described below. The filters (mentioned previously) affect the tone quality of the early reflections. The pre-defined ER models in the selection provided have been specifically designed to produce useful space impressions and musical effects.

MasterVerb Pro features a Source-Image mode to provide simplified control of the major parameters by letting you position an acoustic source (Source) and a listener (Destination) within a defined area. This positioning is enough to produce useful early reflections models. If desired, you can also include the distance of the source to the listener and the pan position of the source in the computation. The X/Y control adjusts the two most important parameters—ER Size and ER Shape—simultaneously.

ER Type (Early Reflections Type)

In the drop-down menu, select an Early Reflections model. The model you select determines the impression of space. You can select from among 11 specifically designed models. The twelfth model, SourceImage, enables computation mode.

ER Delay (Early Reflections Delay)

Delay, in milliseconds, of the early reflections. This is not associated with the Pre Delay except insofar as the room effect is influenced by the ER Delay only if Pre Delay is enabled (see the *Pre Delay* parameter).

ER Size (Early Reflections Size, X-Control)

You can edit Room Size and Rev Time parameters simultaneously using an X/Y control. The most important parameters are thus directly accessible.

ER Shape (Early Reflections Shape, Y-Control)

The Shape parameter determines the decay “envelope” –the decay curve. An envelope with an exponential shape, as adjusted by setting ER Shape to its maximum value, produces the most natural effect.

ER Decay (Early Reflections Decay)

Controls how the early reflections die away over time. With higher values: the greater the delay with respect to the original signal, the quieter the reflections become. For a natural effect, set the decay to its maximum value to shorten the early reflections.

Invert

Inverts the decay envelope of the early reflections. In other words, the Early Reflections model remains the same, but each reflection acquires a gain, rather than a diminution, of volume.

This effect is not found in natural acoustical systems, but can be interesting as a special effect.

Reverb

The following parameters control the behavior of the overall response, and are available in both versions of the reverb. In this section the tone quality is also determined by the settings of the filters mentioned previously. You can edit Room Size and Rev Time parameters simultaneously using an X/Y control. The most important parameters are thus directly accessible.

Rev Delay (Reverb Delay)

Adjusts the delay of the response in milliseconds. This is distinct from a Pre-delay as the early reflections or reflections are not affected by this setting.

The Reverberation Delay is used to separate the hall response from the direct signal and the early reflections. This is useful to increase the comprehensibility of vocals or speech. The impression of space is not altered, as the early reflections are not changed.

Pre Delay

This switch automatically sets the overall response delay to the delay time of the first of the early reflections. When enabled, the functionality corresponds to a classic Pre Delay, and is adjustable with the ER Delay control.

Room Size (X-Control)

Adjusts the apparent room size. This control applies only to the reverb portion of the signal.

In order to avoid interference, the response is muted for brief periods of time when adjusting the room size.

Reverb Time (Y-Control)

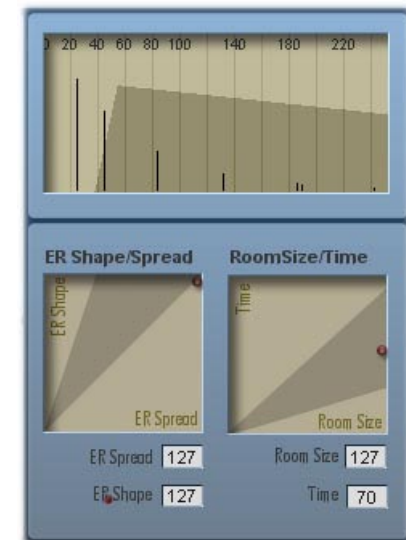
Controls the reverb time (duration). The reverb time is unlimited, and can even be adjusted to infinity if desired.

As in a real-world acoustical environment, long reverb times correspond to large rooms. In small rooms, use shorter times to produce a natural sounding response.

HiDamp Filter (High Damp Filter)

This 6 db/octave filter operates on the reverb response. This filter reduces the high frequencies in the response signal depending on how it is adjusted. There are three ways you can adjust the cutoff frequency: use the rotary control; enter the value directly in the text field; or adjust the value directly in the graphic display area using the mouse.

Rooms or halls absorb high frequencies quite strongly. Therefore, settings between 3 kHz and 6 kHz are typical.



Shape

The Shape control lets you change the envelope of the response signal. Lower values correspond to relatively fast rise and fall times, while larger values result in slower rise and fall times. The effect is analogous to moving a wall, or raising or lowering the ceiling in a concert hall. The apparent size of the space changes correspondingly.

For percussive sounds like drums or other percussion instruments, smaller values for the Shape parameter are best.

Diffuse

This setting controls the density of the response during the first milliseconds. For large rooms or halls, this should be set to maximum. When simulating smaller spaces, reducing the level results in added presence to the sound.

In the MasterVerb Classic version, this setting also affects the density of the reflections.

Definition

The definition control adds response echoes similar to those produced in a room with smooth walls. This setting controls the "liveness" of the overall effect.

Chorusing

You can insert chorusing in the response to enrich the resonance of the reverb, making it sound less static. Some instruments can handle more of a chorus effect than others. Drums and vocals generally benefit from chorusing, whereas instruments with a steady, clearly defined pitch (like guitar or piano) can handle somewhat less of the effect. Too much of the effect on these instruments alters their pitch in the response making them sound unsteady. Use little or no chorusing in the reverb for these instruments.

Rate

Controls the modulation speed of the Chorus' delay. You can get the most out of the chorus effect by judiciously adjusting the modulation speed for specific instruments.



Source Image

Source Image

Switches on the automatic computation of the Dry/Wet relationship and the Pan position of the acoustic source. The computation is based on the distance from the listener to the source. Before you can use this feature SourceImage must be the selected model in the ER Type menu.

Effect Intensity

Determines the minimum effect proportion through automatic calculation of the Dry/Wet relationship.

Effect Minimum

Bestimmt den minimalen Effektanteil bei automatischer Berechnung des Dry/Wet-Verhältnisses.

In Out Section

Dry/Wet

Controls the relative levels of the direct and effect signals.

Wet 100%

Switches the direct signal off. The resulting effect output signal contains only the reverb portion (100% effect).

ER

Controls the volume level of the early reflections.

ER Mute

Switches off the Early Reflections.

Reverb

Adjusts the proportion of the response signal.

Reverb Mute

Switches the response signal off.

Reverb Width

Adjusts the stereo spread of the effect signal. The spread is adjustable from mono to stereo with complete separation of left and right signal components possible. Double-clicking the control sets it to a normal stereo spread.

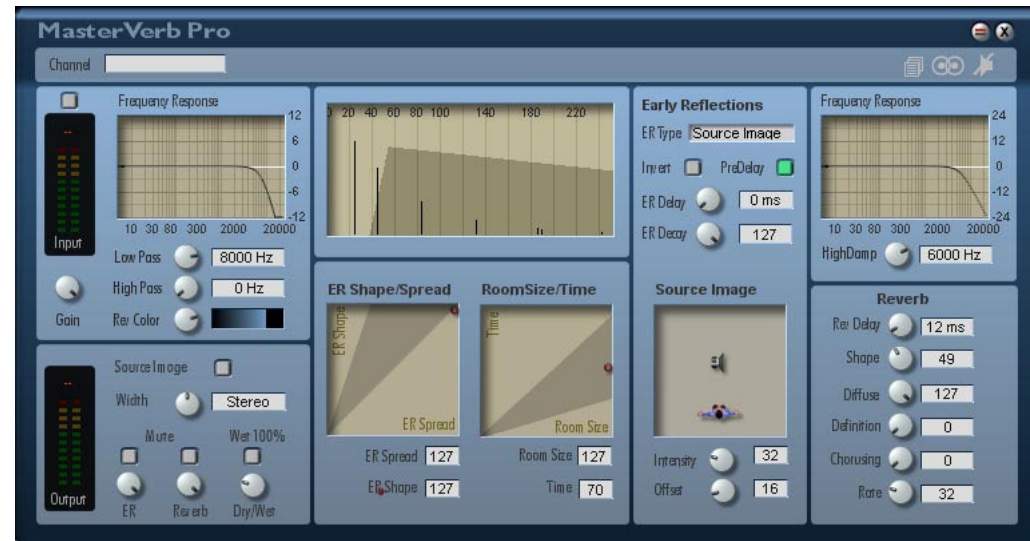


Creating Reverb Presets

Creating good presets with a reverb processor that offers so many parameters requires a good ear and some experience. To help you along, we offer some tips for creating your own presets.

It makes good sense to start by using the supplied presets as a basis from which to create your own. The presets are arranged according to categories. Using suitable test material, listen to the presets while paying attention to the adjustments of the various parameters. Gradually familiarize yourself with the effects of the parameters by adjusting them, one at a time, while listening to the results.

When you become relatively comfortable with the parameters, you can begin to create your own presets. The following section describes a proven methodology, particularly appropriate for the MasterVerb Pro.



First listen to the original signal alone by clicking the mute buttons for Early Reflections and Reverb. After you have listened carefully to the source signal, switch off muting for the Early Reflections signal and select a model corresponding to your basic idea of the room desired. Next, adjust the early reflections until they produce the desired room effect more exactly. Make several comparisons between the original signal and the processed signal as you proceed.

After you have established suitable settings for early reflections, switch in the reverb (response). Adjust the room size of the reverb signal so that the character of the reverb signal matches the character of the early reflections. Next, adjust the reverb time. Here the "less is more" principle applies. This is especially true when you get to the final mix, in which reverb times that are too long can produce disturbing results. Finally, fine-tune the effect with the Diffuse, Shape, and Definition controls.

With a little practice you'll get consistently good results without too much effort.

Index

A

absorption factor 3

C

Chorusing 7

D

Decay 5
Definition 7
Delay 5, 6
Diffuse 7
Dry/Wet 8

E

Early Reflections 5
Effect Intensity 8
Effect Minimum 8
ER 8
ER Decay 5
ER Delay 5
ER Mute 8
ER Shape 5
ER Size 5
ER Type 5
Erstellen von Reverb-Presets 9

H

HiDamp Filter 6
High Pass Filter 4

I

In 8
Intensity 8
Invert 5

L

Low Pass Filter 4

M

Minimum 8
Mute 8

O

Out 8

P

Pre Delay 6

R

Rate 7
Rev Delay 6
Reverb 6, 8
Reverb Colour 4
Reverb Mute 8
Reverb Presets 9
Reverb Time 6
Reverb Width 8
Room Size 6

S

Shape 5, 7
Size 5
Source Image 3, 8

T

Time 6
Type 5

W

Wet 100% 8
Width 8