REVERB CLASSICS

RC48

Manual

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Software version: 1.0 (01/2013)

Special thanks to the Beta Test Team, who were invaluable not just in tracking down bugs, but in making this a better product.

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Table of Contents

1 Welcome to RC 48

Thank you for downloading RC 48 by Native Instruments.

The following manual will give you an overview of the features of RC 48, as well as explain how to use the software.

1.1 What Is RC 48?

The RC 48 is a classic reverb with a very special and warm sound that was inspired by a classic hardware device. The RC 48 brings this renowned unit to your DAW, successfully recreating its unique, vintage sonic characteristics while greatly extending its usability!

1.2 Manual Conventions

This manual uses particular formatting to point out special facts and to warn you of potential issues. The icons introducing the following notes let you see what kind of information is to be expected:

Whenever this exclamation mark icon appears, you should read the corresponding note carefully and follow the instructions and hints given there if applicable.

This light bulb icon indicates that a note contains useful extra information. This information may often help you to solve a task more efficiently, but does not necessarily apply to the setup or operating system you are using; however, it's always worth a look.

Furthermore, the following formatting is used:

- Text appearing in (drop-down) menus (such as *Open...*, *Save as...* etc.) and paths to locations on your hard drive or other storage devices is printed in *italics*.
- Text appearing elsewhere (labels of buttons, controls, text next to checkboxes, etc.) is printed in light blue. Whenever you see this formatting applied, you will find the same text appearing somewhere on the screen.
- Important names and concepts are printed in **bold**.

▶ Single instructions are introduced by this play button type arrow.

→ Results of actions are introduced by this smaller arrow.

2 Installation and Activation

2.1 Installing RC 48

The following section explains how to install and activate RC 48. Although this process is straightforward, please take a minute to read these instructions, as doing so might prevent some common problems.

► To install RC 48, double-click the installer application and follow the instructions on the screen. The installer application automatically places the plug-in into a directory. Alternatively, during the installation process, choose the directory where you would like to have RC 48 installed.

2.2 Activating RC 48

When installation is finished, start the Service Center application, which was installed with RC 48. It will connect your computer to the Internet and activate your RC 48 installation.

As long as your NI product has not been activated, it will run in Demo mode with limited functionality.

In order to activate your copy of RC 48, you have to perform the following steps within the Service Center:

Log in: Enter your Native Instruments user account name and password on the initial page. This is the same account information you used in the Native Instruments Online Shop, where you downloaded RC 48, and for other Native Instruments product activations.

Select products: The Service Center detects all products that have not yet been activated and lists them. You can activate multiple products at once if necessary.

Activate: After proceeding to the next page, the Service Center connects to the Native Instruments server and activates your products.

Download updates: When the server has confirmed the activation, the Service Center automatically displays the Update Manager with a list of all available updates for your installed products. Please make sure that you always use the latest version of your Native Instruments products to ensure they function correctly.

Downloading updates is optional. After activation is complete, you can always quit the Service Center.

3 Using RC 48

RC 48 has controls that are common with a classic hardware unit, as well as some unique features—in particular a powerful display and a more streamlined interface. The user interface is organized as follows:

The RC 48 interface.

- The topmost row provides a Menu bar with various features mainly concerning preset management.

- The upper part (above the display) holds a few controls affecting the overall behavior of the reverb unit.
- The middle part holds the multi-purpose display.
- The bottom part holds the faders and knobs allowing you to finely adjust the characteristics of the reverb.

For all knobs and faders, the value is displayed in place of the control label when the mouse cursor hovers over the control, or when you are interacting with the control.

The following sections describe each of these areas.

3.1 The Menu Bar

At the very top of the RC 48 interface, you will see the Menu bar. This is primarily used for saving and loading presets, but also has a few other functions.

The Menu bar is located at the top of the interface.

3.1.1 Loading Presets

In the center part of the Menu bar, you will see the Preset menu. This menu provides quick access to all available presets for your effect.

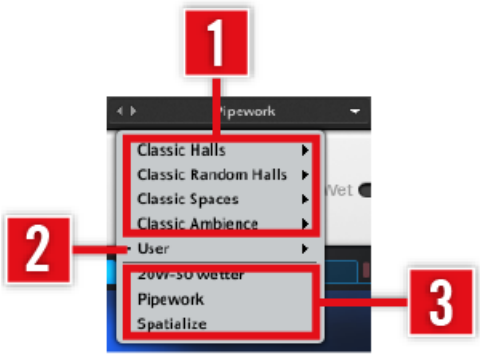
To load presets, either:

► Click the left and right arrows at the left of the Preset menu to cycle through and load the presets one at a time, or

► Click the Preset menu (displaying the name of the loaded preset) to display a structured list of all available presets, navigate through the preset folders, and click the desired preset to load it. See below for a detailed description of the Preset menu.

In Demo mode you cannot load user presets! Presets saved in Demo mode will be available once you have activated your effect (see section ↑2.2, Activating RC 48 for more on this).

Using the Preset Menu



The Preset menu.

In the top part of the Preset menu, presets are organized into several submenus. Each submenu represents a particular **preset folder**:

(**1**) Factory content submenus: At the top, a series of submenus holds the factory presets.

(**2**) *User* submenu: Once you have saved presets of your own (see ↑3.1.2, Saving and Deleting Presets), a *User* submenu appears under the factory content submenus. This *User* submenu holds all the user presets you have created. You can organize its content into preset subfolders according to your needs—see below for more on this.

(**3**) Current preset folder: At the bottom of the Preset menu, you can see all presets located in the same folder as the preset currently loaded. This allows you to quickly switch between presets of the same folder without having to navigate each time through the same submenu(s).

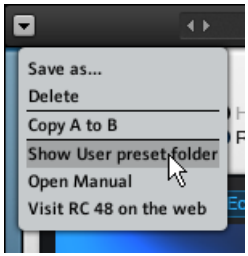
Additionally, in the menu a small dot is displayed in front of the loaded preset and its parent subfolder(s), if any.

Organizing Your Own Presets

The Preset menu displays your various user presets in the same way they are organized in your file system: The menu directly mirrors the subfolder structure of your **user preset folder**. To modify the way the Preset menu displays your own presets, do the following:

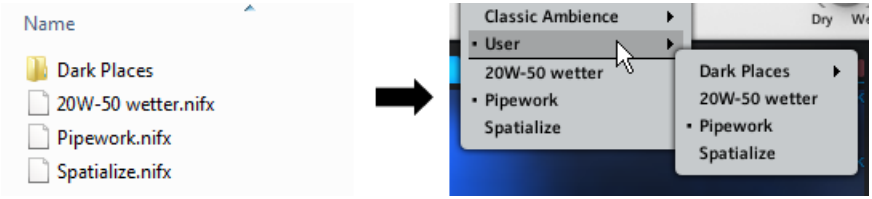
1. Click the drop-down arrow to the very left of the Menu bar to open the File menu.

2. Select *Show User preset folder* from the File menu:



   The folder containing your user presets opens in the Explorer (Windows) / Finder (Mac OS).
3. In this folder, create, rename, and move subfolders, and move preset files (extension ".nifx") across subfolders according to your needs—you could for example move into a subfolder the various presets used in a song or on the same track/instrument.
4. Close the RC 48 window and open it again so that the plug-in can mirror your changes.

→ The Preset menu now mirrors the new preset organization.



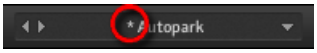
The User submenu of the Preset menu mirrors the file structure in your file system.

You can create nested subfolders within your user preset folder: These will appear as nested submenus in the Preset menu.

You can also rename and delete the preset files in your file system: The changes will be mirrored in the Preset menu.

3.1.2 Saving and Deleting Presets

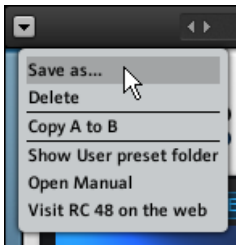
If you change any setting in the loaded preset, an asterisk appears in front of the preset name in the Menu bar to indicate that the preset has been modified:



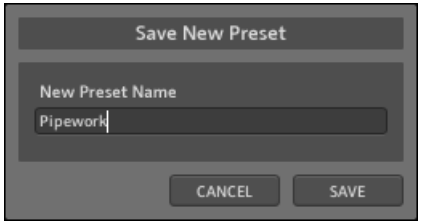
The asterisk indicates that the settings have been modified.

To save the current settings as a preset:

1. Click the drop-down arrow to the very left of the Menu bar to open the File menu.
2. Select *Save as...* from the File menu:



3. Enter the name of your preset in the field under the label New Preset Name:



4. Click SAVE to finish the process and close the dialog box.

→ The current settings are saved as a user preset file on your hard disk. The preset will appear in the *User* submenu of the Preset menu.

> In Demo mode you can save your own presets but you cannot recall them! You will be able to load user presets once you have activated your effect (see section ↑2.2, Activating RC 48 for more on this).

Deleting a User Preset

If you wish to remove a user preset you no longer want, you can delete it by loading it and selecting *Delete* from the File menu.

Alternatively, you can delete the preset file (extension ".nifx") from the Explorer (Windows) or in the Finder (Mac OS). After restarting the RC 48 plug-in, the list in the Preset menu will be updated accordingly.

You cannot delete factory presets.

3.1.3 A/B Comparisons

RC 48 offers an A/B comparison system to help you fine-tune your settings.

Basically, this feature gives you two slots into which you can enter different parameter settings. You can then quickly switch between the two slots to quickly compare the settings and use whichever sounds better.

By default, you edit the parameters of slot A. To **switch to slot B**:

► Click on the **A/B** switch located beside the preset menu.

→ You will now be editing and listening to the parameters of slot B, until you click on the switch again.

To **copy the settings of slot A to slot B**:

► Go to the File menu on the left side of the menu bar and select *Copy A to B* from the list. You can also copy from B to A when editing the parameters of slot B.

3.1.4 Other functions

The File menu also offers the following options:

- *Open Manual*: opens this PDF document for reference.
- *Visit RC 48 on the web*: opens your default web browser and takes you to the RC 48 page on the Native Instruments website.

3.2 Global Parameters

The upper part of the RC 48 interface contains a few global parameters.

The upper part of the user interface.

(**1**) Reverb selector: Selects from two different reverb algorithms. The Reverb selector is your first stop when searching for a particular reverb sound since it defines the overall type and characteristics of the reverb. Click the selector to switch between both algorithms (the selected radio button lights up while the other label is grayed out). Available algorithms are Hall and Random Hall. These algorithms closely emulate the corresponding programs of a classic hardware unit—including their distinctive (and meanwhile much appreciated) limitations and flaws!

Compared to the Hall algorithm, the Random Hall algorithm adds random modulation to some of the delay taps that randomly vary in time. This allows to generate complex reverberations whose timbre evolves continuously, thus making them sound closer to acoustic spaces as found in the real world (where the wind varies, the musicians slightly move, etc.). Depending on both the input signal and the reverb settings, the Random Hall algorithm can lead to a more natural sounding reverberation or something a bit more abstract.

Depending on the algorithm selected here, many other parameters of the RC 48 will have different ranges of values. For example, if Hall is selected, the Size fader will start from 4.0 m, whereas with Random Hall selected Size will start from 1.0 m.

When the Reverb selector is set to Random Hall, three additional parameters are available in the Options page of the display. See ↑3.3.4, The Options Page for a description of these parameters.

(**2**) Wet/Mix switch: Selects whether the effect should output the reverberated signal only (switch set to Wet) or a mix of the reverberated signal and the original, unprocessed signal (switch set to Mix). Click the switch to change its setting. Setting the switch to Mix activates the Dry/Wet knob (**3**) next to it (see below).

The state of the Wet/Mix switch is **not** saved with the preset. However, it will be saved with your project in your host software.

The Wet/Mix switch can be very useful according to your current effect setup:

- If you want to use RC 48 as an insert effect, set the Wet/Mix switch to Mix so that you can use the Dry/Wet knob (**3**) to adjust the amount of reverb applied to your input signal.
- Alternatively, if you want to use RC 48 as a send effect, you would set the Wet/Mix switch to Wet and adjust the amount of processed signal using the level control(s) on your send bus.

(**3**) Dry/Wet knob: Adjusts the balance between the original, unprocessed ("dry") signal, and the processed ("wet") signal—i.e., the signal on which the reverb was applied. The Dry/Wet knob is enabled only if the Wet/Mix switch (**2**) is set to Mix (if this switch is set to Wet, only the wet signal is output anyway). At full left (Dry), you hear only the original signal. At full right (Wet), you hear only the processed, reverberated signal.

3.3 Using the Display

The middle part of the RC 48 interface holds a powerful, yet intuitive, multi-purpose display. This tool can be used both to visually monitor how the reverb affects the signal, and to further shape the effect. The display provides three pages:

- The Spectrum page displays a graphic representation of how the reverb affects the input signal. Optionally, you can superimpose a live representation of the input signal being processed by the reverb—see the description of the Options page below.
- The Pre Echoes page allows you to set up several echoes of the input signal.
- The Options page provides a few more parameters affecting the display and the reverb effect.

Either page can be enabled by clicking the corresponding tab at the top of the display, as described below.

3.3.1 Common Controls

At the top of the display, you always find the same four elements: the Spectrum, Pre Echoes, and Options tabs, and the Level meters. The other elements in the display depend on the selected page.

The four controls in the top row of the display are always visible.

(**1**) Spectrum tab: Click this tab to show the Spectrum page.

(**2**) Pre Echoes tab: Click this tab to show the Pre Echoes page.

(**3**) Options tab: Click this tab to show the Options page.

(**4**) Level meters: The Level meters allow you to monitor the input and output signal levels in real time. Levels are indicated via horizontal segments, starting from the center of the meters: short segments that stay close to the center will indicate low levels, while longer segments extending horizontally on both sides will indicate higher levels.

- In the top row (with a little "I" for "Input" in the middle), the left and right white meters indicate the left and right input levels, respectively.
- In the bottom row (with a little "O" for "Output" in the middle), the left and right blue meters indicate the left and right output levels, respectively.

These Level meters allow you to keep levels under control; if necessary, adjust the input and/or output levels via their dedicated controls in the Options page (see ↑3.3.4, The Options Page).

On either side of the meters, an additional pair of clipping indicators lights up yellow in case of internal processing overload. If this tends to happen too often, decrease the Input Gain value in the Options page (see ↑3.3.4, The Options Page) or adjust the Bass and Mid faders until the clipping indicators stay continuously off.

3.3.2 The Spectrum Page

The Spectrum page of the display provides the following elements:

The display showing the Spectrum page.

(**5**) Spectrum display: Taking up the biggest part of the display, the spectrum display visually illustrates the current effect of the reverb on the incoming signal (see below for more details).

(**6**) Zoom controls: The little "-" and "+" buttons allow you to halve/double the time units on the x-axis, respectively.

The Spectrum Display in Detail

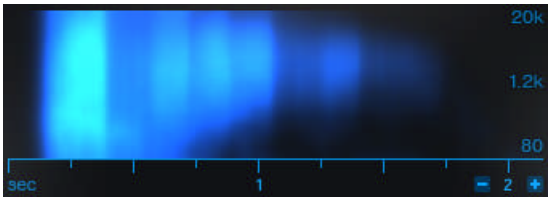
In the picture above, there is no signal sent to the reverb input. The graphic representation in the spectrum display (**5**) looks like a **cloud** that represents the sound of the reverb with the current parameter settings. This cloud can be described as follows:

- **Short version**: The reverb cloud shows the overall frequency response of the reverb over time to a short audio burst containing the full frequency spectrum.
- **Longer version**:

- The **x-axis** represents **reverb time** (in seconds), starting from 0 at left and increasing to the right of the display—in other terms, the x-axis represents the time it takes for the reverb signal to fade away.
- The **y-axis** represents **frequency content** (in hertz), starting from the low frequencies at the bottom and increasing to the top of the display.
- In the cloud, a **bright region** indicates that the reverberated signal will have a strong response to these particular frequencies at this point in time of the reverb tail—in other words, these frequencies will be more present in the reverberated signal around these particular times in the reverb tail.

Realtime Audio Analysis

When the reverb receives a signal at its input, the spectrum display is enhanced by a live representation of the sound travelling through the reverb cloud: The incoming signal is analyzed in real time and the display shows how the signal is processed by the reverb as it runs from left to right through the reverb tail. The same color coding is used (the brighter, the louder).



A series of kick and snare hits being processed by the reverb.


You can disable the Realtime Audio Analysis in the Options page. See ↑3.3.4, The Options Page for more info.

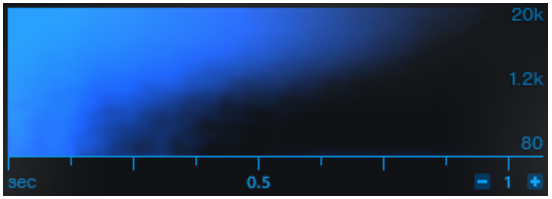
Playing with the Reverb Parameters

Of course, the reverb characteristics strongly depend on the values of the reverb parameters. Accordingly, the display automatically mirrors any change made in the reverb parameters.

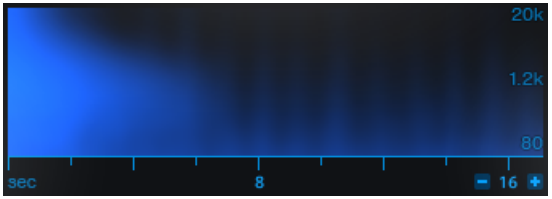
With some practice, you will see that the spectrum display is a very useful tool to experiment with the various parameters and quickly “see” how they affect the sound.


You will find a description of every parameter available in the lower part of the RC 48 interface in section ↑3.4, Adjusting the Reverb Parameters.

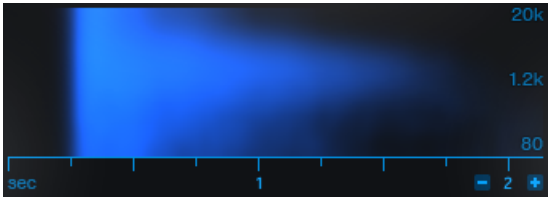
Here are a few examples:



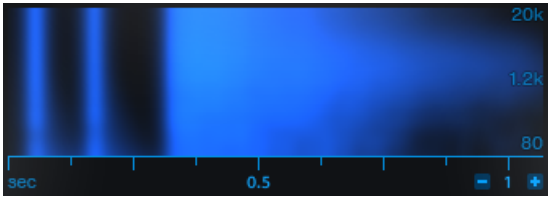
A rather short reverb with longer tails in the high frequencies.



A very long reverb focused on the low frequencies, with interesting waving, discrete, echo-like reflections (the vertical structures).



A reverb with persistent mid frequencies. Note the predelay on the left (black vertical stripe).



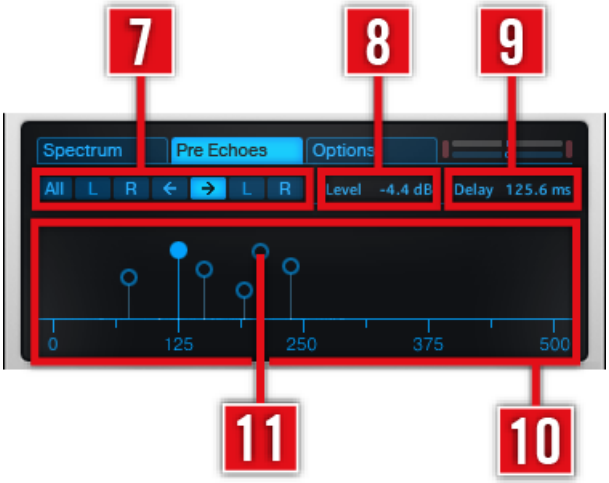
In this reverb, the predelay is filled up with two echoes (blue vertical bars).

3.3.3 The Pre Echoes Page

The Pre Echoes page allows you to add up to six echoes that reproduce the original signal at various levels and delay times. These echoes operate independently ofare not affected by the reverb: They are not fed into the reverb but instead directly sent to the output as “dry” copies of the input signal.

While the pre echoes are not fed into the reverb, they are still processed by the output low-pass filter controlled via the HiCut parameter. See ↑3.4.3, Frequency-related Parameters for more information.

The Pre Echoes page provides the following controls:



The display showing the Pre Echoes page.

(**7**) Echo selector: Selects a particular echo for editing. Click the desired symbol to select the corresponding echo. The selected symbol is highlighted. From left to right, you find following elements:

- All: Selects all echoes for editing. When All is active, modifying the Level (**8**) or Delay (**9**) value of the selected echo will also affect all other echoes in a proportional way.
- L: Selects the left echo. Echoes the left input channel onto the left output channel.

- R: Selects the right echo. Echoes the right input channel onto the right output channel.
- ←: Selects the right-to-left echo. Echoes the right input channel onto the left output channel.
- →: Selects the left-to-right echo: Echoes the left input channel onto the right output channel.
- L (Hall mode only): Selects an additional left echo (see above). This echo is not available if the Reverb selector is set to Random Hall.
- R (Hall mode only): Selects an additional right echo (see above). This echo is not available if the Reverb selector is set to Random Hall.

The additional L and R echoes on the right are not available if the Reverb selector is set to Random Hall at the top of the plug-in interface (see ↑3.2, Global Parameters for more info).

(**8**) Level control: Adjusts the level of the selected echo. Click and drag the value vertically to adjust it.

(**9**) Delay control: Adjusts the delay of the selected echo. Click and drag the value vertically to adjust it.

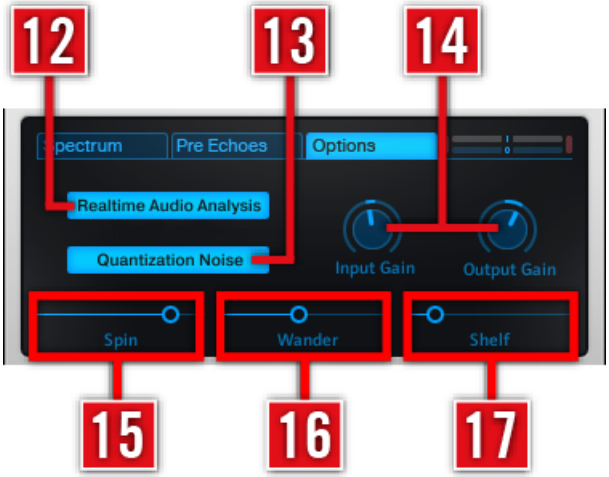
(**10**) Echo display: Shows and lets you edit the current echo configuration. As an alternative to the Echo selector (**7**), Level control (**8**), and Delay control (**9**) above, the Echo display is an intuitive tool to quickly modify the various echoes on the fly. Each circle represents a particular echo:

- Click a circle (**11**) to select it (the circle turns solid and lights up). Above the display, the Echo selector (**7**) indicates you which echo you just selected.
- Drag the circle vertically to change the echo level; drag it horizontally to change its delay time.
- The current level and delay values for the selected echo are displayed by the Level (**8**) and Delay (**9**) controls, respectively.

(**11**) Single echo: Each circle represents a particular echo. Click the circle to select it, drag it to modify the Level and Delay values of the corresponding echo (see above).

3.3.4 The Options Page

The Options page of the display provides the following controls:



The display showing the Options page.

(**12**) Realtime Audio Analysis button: If you disable the Realtime Audio Analysis button, the display in the Spectrum page only shows the static cloud of the reverb (i.e. without live input). Disabling the Realtime Audio Analysis can be useful to save CPU power, for example if you have many plug-in instances running in your host. See ↑3.3.2, The Spectrum Page for more information.

The state of the Realtime Audio Analysis button is **not** saved with the preset. However, it will be saved with your project in your host software.

(**13**) Quantization Noise button: Enables sound artifacts that are created as a side effect of the lower bit resolution of classic hardware devices for a more authentic vintage sound.

The state of the Quantization Noise button is **not** saved with the preset. However, it will be saved with your project in your host software.

(**14**) Input Gain and Output Gain knobs: Adjust the level of the signals at the input and the output of the reverb unit, respectively. Used in conjunction with the Level meters above, these knobs notably allow you to avoid any clipping from occurring (see ↑3.3.1, Common Controls for more on the Level meters).

Advanced Parameters (Random Hall Only)

If the Reverb selector is set to Random Hall at the top of the plug-in interface (see ↑3.2, Global Parameters), the bottom of the Options page additionally provides three advanced parameters for this particular algorithm:

(**15**) Spin fader: Sets the rate at which many of the delay taps that make up the reverb will be modulated.

(**16**) Wander fader: Sets the distance in time by which the delay taps are shifted.

While lower values of Spin and Wander allow to reproduce the tiny physical variations taking place in natural instruments and situations, higher values will on the contrary tend to detune melodic instruments and introduce unnatural (and possibly very interesting!) elements in the reverberant sound.

(**17**) Shelf fader: Adjusts a high-frequency boost applied to the processed signal. This allows you to add a second knee to the low-pass filter controlled by the HiCut fader (see ↑3.4.3, Frequency-related Parameters).

3.4 Adjusting the Reverb Parameters

In the bottom part of the RC 48 interface you can adjust each single parameter of the reverb effect.

3.4.1 Parameter Overview

The reverb parameters.

These parameters are arranged into two groups:

- Parameters in the left part define general characteristics of the reverb shape. These are mostly independent of the input signal's frequency content—in other terms, they affect the entire incoming signal.
- Parameters in the right part allow you to set distinct reverberating behaviors for various frequency bands of the signal to be processed.

The RC 48 plug-in honors a classic piece of hardware gear by taking over parts of its quite unusual set of parameters. For example, there is not one "reverb time" (also called "decay time") parameter for the reverb but two: the Bass and Mid faders define decay times for two distinct frequency bands, whose respective bandwidths can be adjusted via the Crossover knob below.

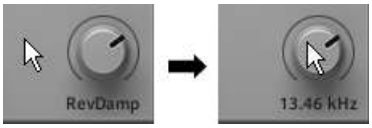
Interrelated Parameters

Like in the original vintage circuitry, some parameters of the RC 48 are **interrelated**. In other words, the values and ranges of some parameters will vary according to the current value of other parameters—most importantly the Size parameter. This notably has following consequences:

- Modifying a parameter can make other parameters change their value simultaneously while their controls (fader or knob) stay untouched.
- Under certain circumstances, some parameters won't use the entire course of their control element (e.g., a parameter would keep its value even if you further move its fader).

The parameter values and ranges also depend on the algorithm (Hall or Random Hall) selected in the Reverb selector at the top of the plug-in interface (see ↑3.2, Global Parameters).

At any time, you can check the current value of a parameter by hovering your mouse over the control: The parameter label is then replaced with the parameter's current value.



Displaying the RevDamp value.

Advanced Parameters (Random Hall Only)

If the Reverb selector is set to Random Hall at the top of the plug-in interface (see ↑3.2, Global Parameters), the Options page of the display provides an additional three parameters to further adjust the reverb. These are described in section ↑3.3.4, The Options Page.

3.4.2 Frequency-independent Parameters

On the left side of the plug-in interface you find six controls:

The frequency-independent parameters of the reverb.

(**1**) Predelay fader: Adjusts the initial delay between the original signal and the first reverberant sound. The possible values range from 0 to 510 milliseconds. At higher values this can also be used in many creative ways.

> For example, you could use insert echoes in the gap created by the Predelay. Echoes can be configured in the Pre Echoes page of the display. See ↑3.3.3, The Pre Echoes Page for more on this.

(**2**) Shape fader: Adjusts the shape of the reverberation envelope over time. This control works together with the Spread knob (**5**) below:

- With Shape at zero (fader all the way down), the reverberation strikes immediately and quickly starts decaying, producing a sharp, dry reverb. The Spread knob (**5**) only has a very small effect and does not affect the sound.
- When you raise Shape, the reverberation takes longer to develop, creating a richer sound. The duration of the reverb's attack and sustain phase can then be further adjusted via the Spread knob (**5**).

(**3**) Size fader: This important parameter adjusts the overall size of the acoustic space to be emulated. It additionally acts as a master control for various other parameters:

- If the Size Mode switch (**6**) is set to Reverb, the Size fader also affects the Spread knob (**5**) and the Mid knob in the right part (**8** in the next picture, see ↑3.4.3, Frequency-related Parameters). When the Reverb selector is set to Random Hall at the top of the plug-in interface, the Size fader also limits the range of the Wander parameter in the Options page of the display (for more info on the Reverb selector and the Wander fader, see ↑3.2, Global Parameters and ↑3.3.4, The Options Page, respectively).
- If the Size Mode switch (**6**) is set to Reverb, the Size fader also affects the Spread knob (**5**) and the Mid knob in the right part (**8** in the next picture, see ↑3.4.3, Frequency-related Parameters).

Since the Size fader possibly affects other parameters of the reverb, it can be judicious to adjust it first, using it to set the "global character" of the reverb.

(**4**) Diffusion knob: Sets the rate at which the density of early reflections build up in the initial phase of the reverb. Adjust this parameter according to the audio material you want to process:

- At low Diffusion values, the early reflections stay more distinct. This is well suited for keeping sustained, melodic sounds (e.g., vocals) natural and well defined. At very low values, percussive audio material can even sound a bit grainy.
- At higher Diffusion values, the density of early reflections grows faster to a cluster of reflections, quickly thickening the sound. Notably, this can be useful to enrich percussive sounds.

(**5**) Spread knob: Adjusts the duration of the build up time and maximum phase ("sustain" phase) of the reverb envelope. Increasing Spread creates a fuller, but also less focused reverb. This control is related to the Shape fader (**2**):

- If Shape is set to zero, the Spread knob has almost no effect.
- The more you increase Shape, the more Spread will affect the sound.

If the Size Mode switch (**6**) is set to Reverb, the Spread value is also influenced by the Size fader (**3**).

(**6**) Size Mode switch: Selects from two operating modes affecting how the reverb fades out ("decay" phase). Click the control to switch between both modes. Following modes are available:

- Reverb: In this mode, the Size fader (**3**) is additionally used to attenuate the value of the Spread (**5**) and Mid parameter (**8**, see picture in ↑3.4.3, Frequency-related Parameters). This mode tends to reproduce what happens with a reverberating room in the real world—for example, you couldn't have very long reverb times in a tiny room. As a result, the reverb will sound more natural.
- Effect: In this mode, the two aforementioned Spread and Mid parameters are not linked to the Size parameter. This notably allows you to experiment with unnatural settings, thus greatly expanding the reverb's creative possibilities.

3.4.3 Frequency-related Parameters

On the right side of the plug-in interface, five controls let you adjust parameters related to specific frequency bands. Indeed, the input signal is dynamically split into two frequency bands (the low frequencies and high frequencies). Hence, you can apply different reverbs to each band, and further modify the frequency content of the processed signal.

The frequency-related parameters of the reverb.

(**7**) Bass fader: Adjusts the reverb time for the lower frequency band. Note that this reverb time isn't defined in seconds but instead as a **multiplier** of the reverb time for the higher band, as set by the Mid fader (**8**)—thus, the Bass value is always linked to the Mid value. The possible values for Bass range from 0.20 (a fifth of the Mid value) to 4.00 (four times the Mid value). Lower values can be helpful for example to focus the reverb on higher frequencies while keeping the bottom clean. Higher values of Bass can create massive reverb effects. The width of the Bass frequency band can be adjusted via the Crossover knob (**9**).

(**8**) Mid fader: This important parameter adjusts the reverb time for the higher frequency band. Since the reverb time for the lower band is defined as a multiplier of this one (see above), the Mid fader actually controls the overall reverb time of the unit. The available values and range of Mid depend on various other settings:

- The Mid range depends on the algorithm (Hall or Random Hall) chosen in the Reverb selector at the top of the plug-in interface (see ↑3.2, Global Parameters): Notably, if Random Hall is selected, by moving the Mid fader all the way up you can set an infinite reverb time. In this particular situation, the current reverb is frozen and does not depend on the input signal arriving afterwards—you can even stop the input signal. This quickly leads to crazy noise sounds that you can further shape via some of the plug-in parameters.
- If the Size Mode switch is set to Reverb, the Mid value is linked to the Size value (for more on the Size Mode and Size parameters, see ↑3.4.2, Frequency-independent Parameters).

The width of the Mid frequency band can be adjusted via the Crossover knob (**9**).

(**9**) Crossover knob: Adjusts the split frequency between the lower and higher frequency band. Turn the knob *counterclockwise* (i.e. towards the Bass fader) to *increase* the split frequency, hence widening the frequency band controlled by the Bass fader. Inversely, turn the knob clockwise (i.e. towards the Mid fader) to make the Mid fader control a wider frequency band.

(**10**) HiCut fader: Adjusts the cutoff frequency of a low-pass filter that is applied to the processed signal to attenuate its higher frequencies. Notably, cutting the high frequencies of the reverberant sound can make it sound more natural.

(**11**) RevDamp knob: Adjusts the cutoff frequency above which the reverb algorithm is dampened. Whereas the HiCut fader (**10**) described above attenuates the high frequencies in the whole processed signal, the RevDamp knob attenuates the high frequencies in the reverberant sound only, leaving the pre echoes untouched (pre echoes are configured in the Pre Echoes page of the display, see ↑3.3.3, The Pre Echoes Page).

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