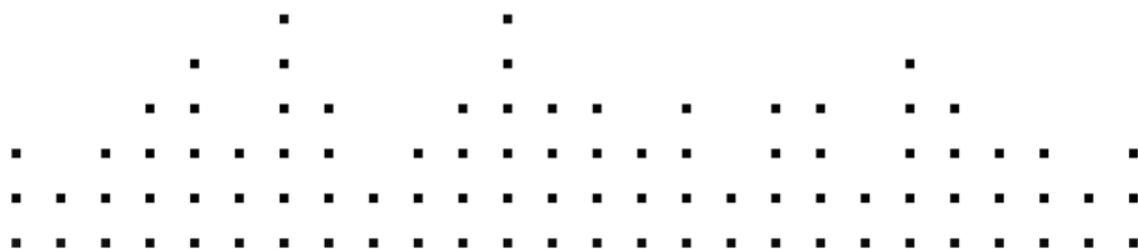


# РЕФЛЕКТОЯ

Manual



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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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# 1 Introduction

REFLEKTOR is engineered at the pinnacle of digital signal processing—a definitive convolution reverb based on the groundbreaking Zero Latency Convolution technology, and utilizing the GUITAR RIG PLAYER platform.

Native Instruments' patent pending "Zero Latency Convolution" is the basis for REFLEKTOR, the first KOMLETE effect powered by GUITAR RIG. With its streamlined interface REFLEKTOR is perfectly simple to use. A rich selection of supreme quality impulse response content spans an enormous range of reverb sounds to start with. Moreover, they're all smoothly and quickly adjustable due to advanced technology under the hood. REFLEKTOR also boasts a number of additional features beyond the usual reverb settings, making this effect perfect for all production use cases, with some unique features catering directly for production of electronic and dance music.

Its instantly usable musical features give REFLEKTOR a twist for any producer with a sense for advanced techniques: a reverse mode with an adjustable position for leaving early reflections in place produces anything from aspirated reverbs to far-out effects; the dead-easy sync feature allows for syncing the pre-delay and the decay both of original and reversed impulse responses for creating a superb pumping beat effect. In addition, special controls over depth and pan position, as well as stereo width make this reverb a cut above the competition. With over 350 impulse responses REFLEKTOR is the ultimate reverb for every production need, from classic to creative!

We sincerely hope you enjoy REFLEKTOR.

Your team at Native Instruments

## **More about REFLEKTOR and Reverb**

REFLEKTOR is a quick and powerful Convolution Reverb component powered by GUITAR RIG. It boasts zero latency and produces no crackling noises and artifacts when using the controls. The all-new convolution algorithm speeds up and smoothes out any parameter adjustments, and also boasts a new level in CPU efficiency. REFLEKTOR contains over 350 impulse responses (IR) ranging over a wide spectrum of sources, from digital hi end reverb units, to real IRs recorded from actual physical spaces, synthesized IRs calculated from modeled rooms, and special processed IRs.

Reverb or Reverberation is essentially an effect that simulates putting a sound in a location by adding the small echoes and changes in sound that you would experience in that location. For example, think of the difference in the sound that your voice produces in a room, a tunnel, a canyon, or even a snowfield. All of those places have a different reverb. Over the years music companies began to create echo rooms, run signals through springs and large metal plates, and eventually created sophisticated programs for digital devices all with the aim of recreating different reverb atmospheres. Those are all recreated with REFLEKTOR.

REFLEKTOR enables you to easily recreate any variety of these different atmospheres and lets you modify various characteristics of a particular space in fun and creative ways. This is achieved by using an advanced processing technique call convolution. The REFLEKTOR convolution reverb uses a sample or IR of a physical location or piece of gear to accurately mimic the acoustics of that sample. Besides using REFLEKTOR's large selection of world-class IRs, you can also load your own IR collections or even experiment by using other samples.

## 2 REFLEKTOR Interface and Controls

This section describes REFLEKTOR's interface and controls in detail.

Once installed, REFLEKTOR is found under the Components tab in GUITAR RIG. Double click or drag and drop the component to make it appear in the Rack.



Fig. 2.1 REFLEKTOR loaded in GUITAR RIG with numbered controls.

1. **Component Preset Selector** – Use this drop down to select a preset for the reverb.
2. **IR Category/Folder** – Use this drop down to select a category from the factory IR's or to choose your own user selected folder. The list displays all the available categories and folders in the User Directory. When you select a folder from the menu, the first sample in that category is loaded. To select a user folder use the first item in this list, "Select Folder...." Once a user directory is selected, it will appear in the list of categories

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below the factory content. The folder will also be stored as a user folder for the next time you load REFLEKTOR. User folders have sub-menus for each folder containing loadable IR content in the list.

3. **IR Sample** – Use this drop down menu to choose an IR sample from the list in the current category/folder. To load a user sample directly, use the first item in this list, “Open IR...” Once a user sample is selected, it will appear and will load, its name will appear in the display, and its folder will be used as the User Directory. After a sample is loaded (and after all parameter changes are made to the sample), it is analyzed and the level is auto-normalized. You can load many file formats from the library including mp3. If a sample exceeds the maximum length it will be cut (Note: user selected IR's will be saved with the GUITAR RIG preset. This is a great feature that allows you to trade presets without sending samples, ensuring that presets and songs will always be loaded exactly the same in the future, even if their sample folders change).
4. **Prior IR** – This will select the IR in the current category/folder that is above the current sample in the list. If you press this button when the first sample in a category is reached, it will loop to the last sample.
5. **Next IR** – This will select the IR in the current category/folder that is below the current sample in the list. If you press this button when the last sample in a category is reached, it will loop to the first sample.
6. **Prior Category** – This will select the category/folder that is above the current category in the list. If you press this button when the first category in the list is reached, it will loop to the last category. This also loads the last sample in the prior categories list.
7. **Next Category** – This will select the category/folder that is below the current category in the list. If you press this button when the last category in the list is reached, it will loop to the first category. This also loads the first sample in the prior categories list.
8. **WET** – This knob controls the amount of the wet or processed signal that is heard.
9. **DRY** – This knob controls the amount of unprocessed signal that is heard.
10. **DECAY** – (1% to 150%) This affects how long the tail of the signal is heard. At its default, no change occurs. When the knob is turned to less than 100%, an envelope is applied that shortens the sample length. When the knob is turned to more than 100%, an envelope is applied that amplifies the end of sample. When the SYNC button is pressed, the knob operates in lengths related to the tempo. The values for sync

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are 1/32, 1/16T, 1/32., 1/16, 1/8T, 1/16., 1/8, 1/4T, 1/8., 1/4, 1/2T, 1/4., 1/2, 1/1T, 1/2., 1/1. When the REVRS button is on, it also truncates the IR (adjusting the time between the dry signal and the 'pumping end' of the reversed reverb).

11. **SIZE** – (50% to 200%) Resizes the IR, affecting both the time and the color of the reverb. If turned to the right, the size becomes larger which makes the length longer and the frequency content lower much like what is experienced in a room when the size is increased. Turn the knob to the left to achieve the opposite effect.
12. **START** – (0% to 90%) This adjusts the start position of the IR sample. You can use this to remove predelay from an IR, but adjusting it will give you a totally new sample to use. This is useful in the following type of situation: you have a long plate reverb with nice high frequency content in the end but you don't like the beginning. You can easily change it into a short high frequency IR by adjusting the start, and all your other parameters will be applied on top of this new (normalized) sample.
13. **MUTE** – this will mute the send of the dry signal to the reverb processor. The tail of the reverb is still there after pressing it. This is mostly a performance control and should always be off in the requested rack presets.
14. **REVRS (Reverse)** – This reverses the IR sample. This button also enables the R POS (Reverse Position) knob. Use REVRS in conjunction with SYNC to get a reversed sound that will always end with its climax on a beat.
15. **R POS (Reverse Position)** – (0%-25%) This is one of REFLEKTOR's special features and is activated by pressing the REVRS button. With this knob you can set which part of the IR is reversed. 0% reverses the full sample, 25% keeps the first 25% of the sample unaffected and reverses the last 75%. Use this control to get an early reflection followed by an aspirated reverse climax.
16. **LOW-ENV (Low Frequency Envelope)** – This produces an effect similar to low dampening on a reverb, except you can increase the low frequencies present in the IR too. When increased there is an envelope that increases the volume of the content below the Frequency over time and when it is decreased, there is an envelope to lower that volume over time. Only the wet signal is affected.
17. **Frequency for LO-ENV** – sets the cutoff frequency for the Low Frequency envelope.

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18. **HI-ENV (High Frequency Envelope)** – This produces an effect similar to high dampening on a reverb, except you can increase the high frequencies present in the IR too. When increased there is an envelope that increases the volume of the content above the Frequency over time and when it is decreased, there is an envelope to lower that volume over time. Only the wet signal is affected.
  19. **Frequency for HI-ENV** – sets the cutoff frequency for the High Frequency envelope.
  20. **PEAK** – This is a static peak filter. The bipolar slider adjusts the gain/cut for the post reverb Peak EQ.
  21. **Frequency for the Peak EQ** – sets the frequency for the Peak EQ.
  22. **Q factor or band width for the Peak EQ** – sets the width for the Peak EQ.
  23. **SYNC** – When turned on, the Decay and Predelay parameters are synced to the host tempo. Their scale is switched from a percentage to musical values.
  24. **PREDELAY** – This knob adjusts the predelay time. It adds a delay to the wet signal to simulate distance and produces rhythmic effects. When the SYNC button is pressed, the knob operates in lengths related to the tempo. The values for sync are 1/32, 1/16T, 1/32., 1/16, 1/8T, 1/16., 1/8, 1/4T, 1/8., 1/4, 1/2T, 1/4., 1/2, 1/1T, 1/2., 1/1.
  25. **WIDTH** – adjusts the stereo image. Position 0 sums the input into a mono signal and convolves it with the IR (mostly 2-channel samples). In this case, all stereo information comes from the IR. Position 1 convolves the left side of the input with the left side of the IR and the right side of the input with the right side of the IR. The knob cross-fades between these signal flows.
  26. **DEPTH** – This knob simulates the depth of the room, bringing it closer or further away by increasing or decreasing the early reflections in the IR. Using this control once the START knob is turned produces interesting results. It has little effect in Reverse mode.
  27. **PAN** – This does a psychoacoustic panning of the wet signal. Turn this knob to the left to make the wet signal pan left, simulating the acoustics of shifting the reflections to the left. Turn the knob to the right to cause the wet signal to pan right.
  28. **Processing Indicator light** – this light tells you when REFLEKTOR is processing a new IR. When a knob is turned, the tail of the old IR is still processed and a new IR is started for the change. The light then turns on. If another parameter is changed while the light is on, the first IR is cut and the new change is started immediately.

29. **Category Picture** – This is the picture for the IR category. This will display a picture (.png file type only) that is in the same folder as the loaded sample. If a picture with the same name as the sample is not found it looks for one with the name of the folder. If nothing is found the default picture is loaded.

 Decay, Size, Start, Reverse Position, Low Frequency Envelope, Frequency for LO-ENV, High Frequency Envelope, Frequency for HI-ENV, Predelay, Depth and Pan parameters cannot be modulated because the IR needs to be recalculated for a new value that is not real-time. If a Midi controller is assigned you can adjust the parameter, but it is not intended to be used as a performance control.

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## 3 Credits

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