REPLIKA

Manual

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Software version: 1.0 (12/2014)

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 REPLIKA

REPLIKA is part of Native Instrument's Komplete Instruments & Effects series. Designed for use with your host software, REPLIKA is a plug-in that offers both, clean delays, as well as creative effects with a distinct sound character.

Document Conventions

In this manual you will find particular formatting to point out special facts or 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 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 on the screen (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 faced letters**.
- References to keys on your computer's keyboard you'll find put in square brackets (e.g., "Press [Shift] + [Return]").

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

→ Results of actions are introduced by this smaller arrow.

1.1 What is Delay?

We constantly encounter acoustic delays in real life without thinking about it. The best-known and very noticeable delay effect is probably the echo you can encounter when hiking in the mountains. If you shout or whistle very loudly, the sound travels through the air, is reflected by an opposite wall and then travels back to your ears. Depending on the distance the sound has to travel in total, it will return more or less delayed.

There are also delay-based phenomena which allow your ears to determine the size and nature of your surrounding space.

1.2 What is Delay Used for in Music Production?

In music production, we try to create a specific illusion of space and directivity from different source material. Some instruments are recorded in stereo, some in mono. Some recordings contain a lot of sound reflections from the room, some are recorded completely dry. In order to create the illusion of these elements being in one cohesive space, a delay can be used. In many cases, delays are preferable over the use of reverb, as they create a similar illusion of space without cluttering the mix.

A delay effect can be used creatively. You can add it to single components of a drum set, to muted guitar notes or percussion for rhythmical inspiration, or you can play a melody in sync to the taps to create harmonies.

1.3 How do Delay Effects Work?

Delay effects sample a portion of an incoming audio signal, delay it and play it back. This delayed signal is then mixed with the unprocessed (dry) signal. The delayed signal can be routed back to the input of the delay unit via a **feedback loop** to create echo. By increasing the feedback amount, the number of repetitions increases.

Delay repetitions, so-called **taps**, can be synced to your song's tempo so they work as a rhythmical effect, creating interesting ideas from very simple drum patterns or a simple melody.

1.4 What is REPLIKA?

REPLIKA is an easy to learn stereo delay plug-in which offers three unique delay modes.

Modern was specifically designed to limit the complexity that often comes with general-purpose delays. It covers pristine delays, making it a good choice for acoustic instruments like guitar and piano. The Saturation, LoCut and HiCut parameters allow you to introduce color, making it more flexible in the context of electronic music.

Vintage Digital mode brings back the sound of early digital delays units. Four quality levels model the behavior of vintage delays with a limited sample memory size. Increasing the delay time forces the delay to decrease the sampling rate of the taps, which introduces audio artifacts. In addition to that, the sample quality and interpolation are different for each of the four quality levels.

Diffusion can produce anything from regular delay to larger-than-life diffusion-based reverb sounds, which makes it a good choice for ambient music and sound design tasks.

2 The Main Interface

REPLIKA's interface can be seen as four sections. The knobs in the left and right sections are shown or hidden dynamically to keep the interface clean. We'll go into more detail in ↑2.3, Delay Modes and ↑2.4, Modulation Modes.

Main Sections

This is a high-level look at the main areas of the user interface.

REPLIKA's main areas

(**1**) **Mode Section**: here, you can select one of REPLIKA's delay modes and shape the sound anywhere from clean to rich in character.

(**2**) **Delay Section**: this is where the most basic delay parameters like delay time or feedback are set.

(**3**) **Modulation Section**: in addition to using just the delay section, REPLIKA lets you add either a phaser effect or a filter. These are activated and controlled in this section.

(**4**) **Menu Bar**: this is where you can load and save presets and access the A/B compare feature. All of this is described in more detail in ↑4, Presets.

Summarizing, there are three sections which affect the sound of this plug-in. Let's go through all interface elements contained in them and see what they control.

2.1 Control Types

This is a summary of the different knobs, switches and the faders and how to use them. If you want to start using REPLIKA right away, skip ahead to ↑2.2, Controls Overview and return to read up on details later.

Switches

You'll find three different kinds of switches on REPLIKA's interface.

Overview of switch types

(**1**) **Lever switch**: click and drag the silver lever or click on one of the text labels next to it to select a setting.

(**2**) **Text toggle**: this type of switch may be the least obvious, as it functions as both, a display for parameter names and values, and a switch. Clicking it toggles between the available options.

(**3**) **Left/right toggle**: click either the text area or one of the arrow buttons to toggle through the available options.

Knobs

Each knob has a label which displays the parameter name.

► Hover your mouse pointer over the knob to see the parameter value.

Clicking and dragging up or down on a knob adjusts the value. Most of the knobs allow for coarse and fine adjustment.

► Hold [Shift] while dragging a button for fine increments.

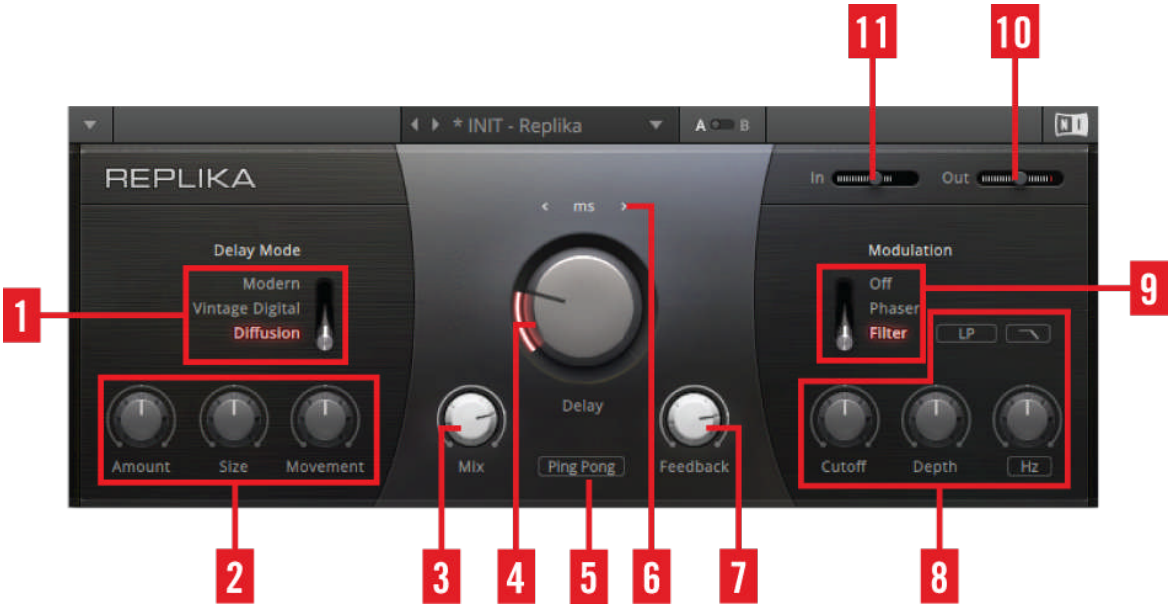
Volume Faders

There's an In and an Out fader in the top right corner of the interface, which include a meter. Click and drag up or down to increase or decrease the volume.

2.2 Controls Overview

This is an overview of the controls and the parameters you can adjust with them.

Setting Feedback to high values around 100% allows for self-oscillation. At this point, the delay doesn't decay, but each repetition of the signal becomes louder than the previous one. This can lead to very loud signals. Turn down Feedback when the delay volume starts getting out of control.



REPLIKA's User interface in Diffusion mode with the Filter activated

(**1**) **Delay Mode**: this control switches between three distinct delay modes. Modern is a clean delay which you can warm up and filter so only a specific frequency range is repeated. Vintage Digital models the sound of early digital hardware units from high-end studio devices to lower end devices with a gritty sound. Diffusion can continuously go from delay all the way to reverb effects, which makes it ideal for ambient music.

(**2**) **Delay Mode controls**: depending on the mode selected in (**1**), these three knobs allow you to adjust mode-specific parameters. ↑2.3, Delay Modes provides more details on both, the modes and the controls.

(**3**) **Mix**: controls the balance between the processed (wet) signal and the original (dry) signal. Between 0% and 50%, an increasing amount of delay signal is added to the unprocessed signal. At 50%, both are equally balanced. Between 50% and 100%, the delay signal stays at full volume, while the unprocessed signal is gradually decreased.

(**4**) **Delay**: controls the delay time. Depending on the setting in (**6**), this parameter is either synced to your host's song tempo and measured in musical divisions or it runs free and can be adjusted in milliseconds.

(**5**) **Stereo Setting**: this control determines the relation between left and right channels. Normal is a regular stereo delay setup with taps occurring on both left and right sides at the same time. Wide increases the perceived stereo width by introducing a slight timing offset between the left and right channel; stereo signals sound wider, while mono signals become pseudo-stereo. Ping Pong alternates the taps between left and right sides.

(**6**) **Delay Time Mode**: clicking one of the arrow buttons switches the units controlled by (**4**) between Milliseconds, Straight divisions, Dotted divisions and Triplets.

(**7**) **Feedback**: controls the amount of signal fed back to the delay's input. Around 100%, the feedback signal doesn't decay anymore and REPLIKA enters self-oscillation, at which point the delay produces increasingly louder feedback sounds. Turn down the Feedback control to stop it.

(**8**) **Modulation Mode controls**: control parameters specific to the modulation mode selected in (**9**). See ↑2.4, Modulation Modes for more details.

(**9**) **Modulation**: switches between three modulation section setups. Off bypasses the section. Phaser adds a phasing effect in series after the delay unit. Filter adds a resonant multimode filter in the delay's feedback path.

(**10**) **Output**: controls the output level. The included meter visualizes the level, with red segments indicating clipping.

(**11**) **Input**: controls the input level. The included meter visualizes the level, with red segments indicating clipping.

2.3 Delay Modes

REPLIKA's three delay modes offer distinct colors. Here's an overview of their characteristics.

Modern Mode

Modern mode is by default a completely clean digital delay, ideal for retaining transparency even at high mix settings. When changing the delay time, pitch stays constant.

When selecting this mode, three knobs provide you with the means to filter the delay taps and introduce color. Here's a description of the parameters:

Controls in Modern mode

(**1**) **Saturation**: adds tube-like saturation before the delay module. Turned all the way to the left, the knob bypasses saturation, turning it to the right pushes the sound from subtle warmth to overdrive. The amount of saturation is dependent on the input level and the IN slider setting.

(**2**) **LoCut**: cuts bass frequencies in the feedback path with a non-resonant filter. Turned all the way to the left, the filter is off. Turning it to the right adjusts the Cutoff frequency from 10Hz - 1,000Hz.

(**3**) **HiCut**: cuts treble frequencies in the feedback path with a non-resonant filter. Turned all the way to the right, the filter is off. Turning it to the left adjusts the Cutoff frequency from 19.9kHz - 200Hz.

Vintage Digital Mode

This mode models the sound of early digital delay units. The size of the memory that REPLIKA records audio to is limited here, so the sampling rate is constantly reduced while increasing delay times.

Vintage Digital mode doesn't preserve pitch when changing delay times. Get creative by modulating the Delay parameter in real-time for pitch changes; when in synced mode, switching from 1/8 to 1/16 will pitch up a full octave, switching from 1/8 to 1/4 will pitch down an octave.

Controls in Vintage Digital mode

(**1**) **Quality**: switches between four different quality levels. Crunch is a bright but artifact-rich model. Low, Medium and High are based on early digital studio delays. High has a broad frequency response and few digital artifacts. Medium and Low sound increasingly duller and grittier. The intensity of artifacts increases with longer Delay time settings, especially above 1,000ms.

(**2**) **LoCut**: cuts bass frequencies in the feedback path with a non-resonant filter. Turned all the way to the left, the filter is off. Turning it to the right adjusts the Cutoff frequency from 10Hz - 1,000Hz.

(**3**) **HiCut**: cuts treble frequencies in the feedback path with a non-resonant filter. Turned all the way to the right, the filter is off. Turning it to the left adjusts the Cutoff frequency from 19.9kHz - 200Hz.

Diffusion Mode

This mode's specialty is the creation of ambiance from small rooms to unnaturally big spaces. Diffusion increases the density of the delay taps, gradually turning delay into an ambient reverb.

Controls in Diffusion mode

(**1**) **Amount**: controls the amount of signal sent to the diffuser between 0% and 100%. Settings above 50% will make the delay appear out of sync. Keep below this value if timing is essential.

(**2**) **Size**: controls the space size and reverb decay time from 1.0 - 10.0.

(**3**) **Movement**: controls the intensity of pitch, stereo field and delay time modulation.

2.4 Modulation Modes

The modes available in the Modulation section greatly expand REPLIKA's sound design potential. Phaser can add color and stereo movement to mono sources. If you're looking for more aggressive delay sounds, try Filter with high resonance.

Off

In this setting, no modulation is applied. Consequently, the three knobs are grayed out.

Phaser

This setting inserts a phaser effect in series after the delay section. Phasers are best known for their use with guitars, creating a 'whoosh' effect but can also create more subtle modulation of the frequency balance and stereo field.

Modulation controls in Phaser mode

(**1**) **Depth**: controls the intensity of the phaser effect.

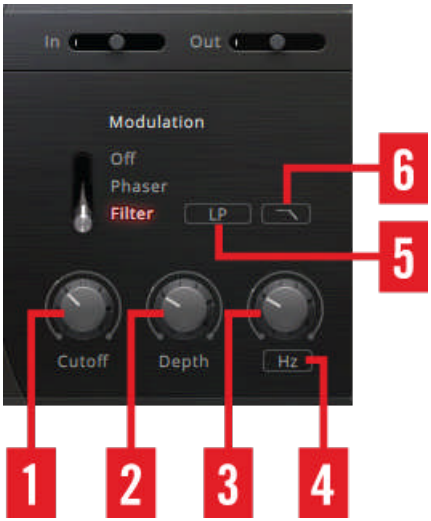
(**2**) **Feedback**: controls the intensity of the peaks and notches which create the phaser sound. High feedback values create a resonating sound.

(**3**) **LFO Rate**: controls the frequency of the phaser effect.

(**4**) **LFO Sync**: switches (**3**) between musical divisions (synced) and Hz (free) operation.

Filter

Selecting Filter inserts a resonant multimode filter in the delay's feedback path. This allows you to create really wild and aggressive-sounding feedback sounds.



Modulation controls in Filter mode

(**1**) **Cutoff**: depending on the setting of (**5**), frequencies are attenuated either below (HP), above (LP) or at (Notch) the set Cutoff frequency.

(**2**) **Depth**: controls how much the Cutoff frequency is modulated by an internal Low Frequency Oscillator (LFO).

(**3**) **LFO Rate**: controls the cycle frequency of the LFO which modulates the Cutoff frequency.

(**4**) **LFO Sync**: switches (**3**) between musical divisions (synced) and Hz (free) operation.

(**5**) **Filter Type**: switches between Highpass (HP), Lowpass (LP) and Notch filter types.

(**6**) **Filter Resonance**: controls the resonance of the filter in the modulation section similar to a synthesizer filter. High values lead to more intense attenuation and more pronounced filter resonance. This also affects how quickly self-oscillation occurs and how quickly it gets out of control when you increase the Feedback value.

3 Using REPLIKA

In this chapter, we'll go through a few mixing techniques, as well as sound design applications for REPLIKA. A number of presets are provided in REPLIKA's preset menu as starting points, but since sound can vary so much, this guide will provide you with step-by-step instructions, as well as hints to what to listen for and which parameters to adjust if the preset and your source don't blend.

3.1 Guitar solo

REPLIKA can achieve a wide range of tasks for a lead guitar. If you play your notes in sync with the delay time, you can create interesting rhythmic effects or use the repeating notes to stack up harmonies. The delay can also be used instead of a reverb, creating a sense of space without clashing with the other instruments' ambience and it can increase the perceived stereo width.

For this tutorial, you'll need a (recording of a) distorted guitar solo and a corresponding playback so you can hear the solo in context.

► Insert REPLIKA on a track in your host software.

→ It loads with the *INIT - Replika* preset selected.

1. Set Delay Mode to Modern.
2. Set Mix to 88% / 12% and Feedback to 15%.
3. Set the stereo setting beneath the Delay knob to Ping Pong.
4. The Delay time is already set to Dotted 1/8. note.

→ When playing the guitar solo now, you'll hear an added sense of space.

Toning Down the Delay

In this setting, the delay might overwhelm the guitar solo itself, so this is what you can do to optimize the tonal and loudness balance between the two:

1. Turn down the HiCut to 9,000 Hz. This will filter some of the brightness out of the delay taps, leaving more space for the solo guitar itself.
2. Turn up the LoCut to 50Hz as a starting point. This removes low frequency buildup caused by the delay taps. Go even further if you feel that the bass range is too strong after adding REPLIKA.
3. Now turn down the Mix level so the delay signal blends into the background, while still adding space.

→ The delay signal should now mix well with the guitar solo.

3.2 Moving Reverb

Diffusion opens up a wide range of sounds in between delay and reverb.

For this tutorial, load up an electric piano sound. Play a loop of 2 bars in length and record one single chord on the first beat.

► Insert REPLIKA on a track in your host software.

→ It loads with the *INIT - Replika* preset selected.

1. Set Delay Mode to Diffusion.
2. Set Amount to 0%, Size to 6.0 and Movement to 0.
3. The Delay time is already set to Dotted 1/8.
4. Increase Mix to 0% / 100% and lower Feedback to 70%.
5. In the stereo setting, select Ping Pong.

→ You now have a rhythmic delay alternating between the left and right of the stereo field.

Introducing Diffusion

What's special about Diffusion mode, is the range in between delay and reverb. The goal of this tutorial is a moving reverb, so let's explore that:

1. Slowly increase the Amount value towards 50% and note how the delay gradually turns into a reverb, which preserves the tonality of the chord going in.
2. Increase Amount beyond 50% to create a reverb which retains the Ping Pong movement.

3. Now change the Delay time to Dotted 1/4. Notice how the movement between left and right sides slows down.
4. Decrease the Mix value to 60% / 40% to bring back some of the unprocessed piano chord.

→ You've just created a diffusion based moving reverb effect which augments the piano sound.

3.3 Vocals - Width and Ambience

Vocals, especially lead vocals, have to stand out from the other instruments. Listeners are accustomed to an up-front, wide, big vocal sound. Depending on the musical genre, the kind of space that's created around the vocals can go from subtle ambience to obvious delay.

In this tutorial, we're aiming for a subtle ambience and widening. You need a completely dry (i.e. no effects applied) vocal recording playing back in your DAW.

► Insert REPLIKA on a track in your host software.

→ It loads with the *INIT - Replika* preset selected.

1. Set the Delay time to 55ms. Hold [Shift] on your keyboard for fine increments.
2. Set Mix to 86% /14% and Feedback to 38%.

→ The vocal track should sound as if recorded in a small to medium size room.

Toning Down the Ambience

Since we're aiming for subtlety, let's cut some of the treble frequencies and filter out low frequency energy which would clutter the mix.

► Set LoCut to 90Hz and HiCut to 3560Hz.

→ Your vocals have space and width now.

Consider this a starting point, adjust the LoCut and HighCut parameters so they sound good with your specific recording. Also, experiment with the Mix value.

3.4 Acoustic Guitar - Stereo Widening

Acoustic guitars can fill various spots, from being the main instrument supporting the vocals in a singer/songwriter setting to providing just a subtle rhythmical element and support for electric guitars in modern pop and rock music.

If recorded with just one microphone, an acoustic guitar often sounds narrow and sticks out of an otherwise wide mix. This is how you can increase the width of a guitar track to fit in better:

▶ Insert REPLIKA on a track in your host software.

→ It loads with the *INIT - Replika* preset selected.

1. Set Delay Mode to Modern. Our goal is to keep the guitar as clean and pristine as possible, not to give it any additional color.
2. Saturation, LoCut and HiCut are already off.
3. Hold [Shift] while dragging the Delay knob and set it to 5ms.
4. Set Mix to 80% / 20%.
5. Turn off Feedback.
6. For the stereo setting, Wide is already selected.

→ Your monophonic guitar recording now has more width.

As you can see, except for a 5ms delay, we only needed the Wide setting. Adjust the Mix control so the guitar track still sounds natural but gains enough width to blend in well.

Keep widening subtle, further processing in mixing and mastering will make any artificial characteristics you introduce here sound more pronounced.

3.5 Epic Percussion Reverb

REPLIKA is capable of diffusion-based reverb effects which are ideal for epic cinematic drums, as well as for drone sounds. In this tutorial, we'll turn a regular drum sample into a cinematic drum.

Let's start out by playing a 1 bar loop in your DAW, with a single low pitch percussion hit on the first and second beat. Don't add anything in beats 3 and 4, so you can really hear the decay phase. Choose a floor tom or acoustic kick sound with strong low frequency content and treble range. A dull sample or electronic sub kick won't do, it has to sound powerful going in for the result to sound big.

Now let's build an epic space around it:

► Insert REPLIKA on a track in your host software.

→ It loads with the *INIT - Replika* preset selected.

1. As Delay Mode, pick Diffusion.
2. In the center section, increase Mix to 50% / 50%, so you can really hear REPLIKA's decay phase.
3. Set Amount to 60%, Size to 6.0 and Movement to 1.30. You can already hear a strong reverb tail in the background, combined with a pronounced initial delay.
4. We'll use the delay as a pre-delay, so set the Delay time to 65ms. Hold [Shift] to adjust the parameter in 5 ms steps.
5. Set the stereo setting to Wide and Feedback to 65%.

→ What you have now is the starting point for a space of epic proportions.

Toning Down the Reverb

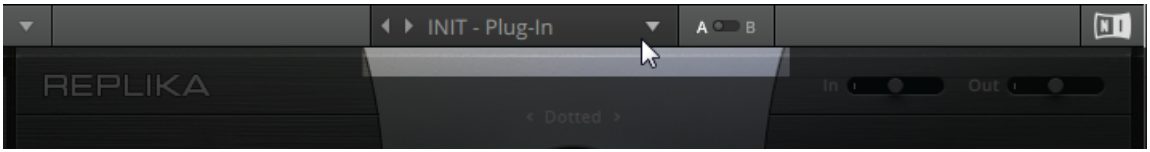
Depending on the drum sound you chose, this epic space may sound too bright. We can fix that with the filter in REPLIKA's Modulation section.

1. Set the Modulation mode to Filter, Depth to 0%.
2. Now set Cutoff to its maximum and slowly decrease it until you're satisfied with the high frequency content.

→ You have shaped the high frequencies with the filter.

4 Presets

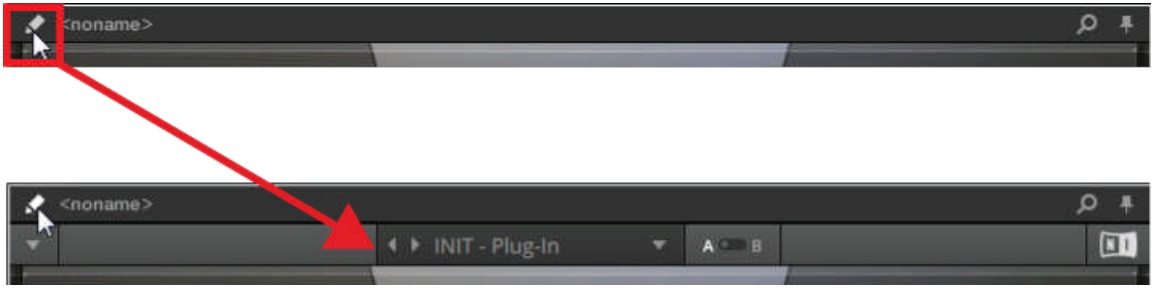
The preset menu is located in the header at the top of the plug-in window.



The Preset Menu

If you're using REPLIKA in Native Instruments' MASCHINE 2 software, to reveal the presets menu:

► Click on the pen icon in the top left corner of the interface.



Expanding the Preset Menu in MASCHINE 2

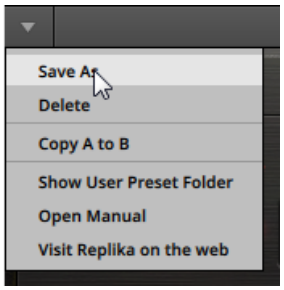
The plug-in opens with the default preset loaded which is labeled INIT - .

Experiment with adjusting the parameters using the INIT preset.

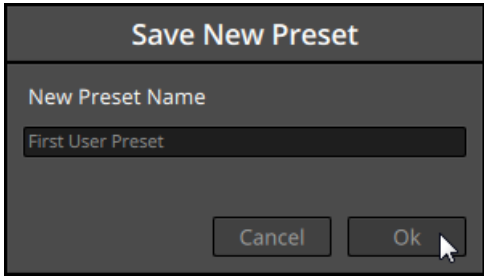
4.1 Saving and Deleting Presets

To save a preset:

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



2. Enter a preset name in the area under the label New Preset Name:



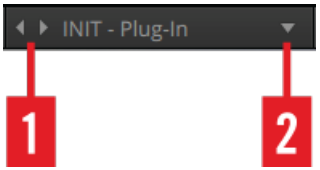
3. Click the SAVE button to finish the process and close the dialog box.

→ Your user preset is saved in the user preset folder.

You can delete any of your user presets by loading the preset and then selecting *Delete* from the File menu. Please note: you can't delete factory content.

4.2 Loading Presets

In the center part of the Menu Bar, you will see the Preset menu.



The Preset Menu

(**1**) **Left/Right Arrows**: Click the left and right arrows to cycle through and load the presets one at a time.

(**2**) **Preset Menu**: Click the drop-down menu to view a list of available presets. A preset is loaded when you click its name.

4.3 Loading a Saved Preset

When you save a preset, it is stored in a folder separate from the (Factory) presets included in the plug-in installation. The Preset menu dynamically updates if user-generated presets are present by offering separate sub menus for *Factory* presets and *User* presets.

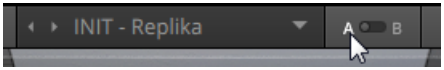
The Preset Menu before and after saving User presets

Below these sub menu entries, you'll find a quick access list. If you load a preset from the *User* submenu, next time you open the Preset Menu, that list will show all presets in the *User* submenu. If you load a *Factory* preset, next time you open the Preset Menu, you'll find all *Factory* presets listed here.

After loading a User preset, the quick access list shows all User presets when opened next

4.4 A/B Comparisons

The **A/B** comparison system can be used to help you fine tune your settings. It's located to the right of the Preset Menu.



The A/B comparison switch

This feature provides two temporary memory slots which allow you to quickly switch back and forth between two states of your parameter settings in order to compare them. Since your ears adapt to changes in tone within seconds, being able to instantly switch between settings can help making mixing decisions easier.

Here's how the system works:

1. Set up a sound you like. All parameter changes you make now are automatically saved to slot A.

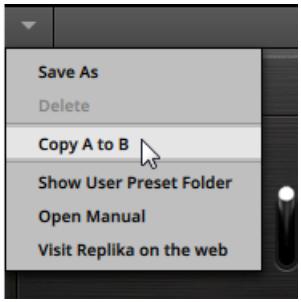
2. Click on B to switch to slot B. The settings of slot A are automatically copied as a starting point.
3. Adjust parameters to create an alternative sound. Since B is selected, this variation is automatically stored in slot B.
4. While listening to your recording, click A and B alternatively to switch back and forth between the two variations.
5. If you notice something you'd like to improve, make the necessary adjustments to either one of them. Note that the values are only copied automatically from A to B the first time for convenience, the changes you make in one of the slots afterwards are not copied to the other.
6. When you've found your setting, save it as a preset. The preset will reflect the parameter settings on the user interface.

4.5 Copying to another Slot

The A/B comparison feature helps you quickly compare two sound variations, allowing you to incrementally refine the results. Let's say you've decided that really slot A's sound is what you're going for but you want to try adjusting one or two more parameters to see if they improve or make things worse.

To avoid losing the settings you've already found, store slot A's settings in slot B. Then you can further adjust the sound in slot A and compare with your reference in slot B.

To copy settings from one slot to the other:



The Copy A to B menu option

The File menu offers an option for copying the data from the selected slot to the unselected slot. To copy the settings of slot A to B:

1. Make sure slot A is selected.
2. Go to the File menu on the left side of the menu bar and select *Copy A to B*

→ The settings from slot A are now stored in slot B. You can now adjust settings in slot A and compare them to slot B as reference.

5 Other File Menu Options

The File menu also has the following options:

- *Show User preset folder*: opens a system window in the location where your presets are saved. Note that you can rename your presets by changing the file names.
- *Open Manual*: opens this PDF document.
- *Visit REPLIKA on the web*: opens your default web browser and takes you to the product page on the Native Instruments website.

6 Credits

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