

Lem Echo Music



User Manual

English (US)

Version 1.2.0



Table of Contents

Introduction	3
History	3
Features	3
CAUTION!	4
Free Trial	4
Installation	4
<i>System Requirements</i>	4
<i>Windows Installation</i>	5
<i>Mac Installation</i>	7
<i>Loading Lem Echo Music</i>	8
Getting Around	8
<i>Using the controls (plus fine-tuning and value entry)</i>	9
<i>FX view and Settings view</i>	9
How it Works	10
Using the controls	11
<i>Shift and Double-click</i>	11
Delay Controls	11
<i>On/Off</i>	11
<i>Delay Selectors</i>	11
<i>Echo and Repeat</i>	12
<i>Volume</i>	12
<i>Bass and Treble</i>	13
<i>Volume Record (Vol.Rec.)</i>	13
Settings	13
<i>Master Volume</i>	14
<i>Panning</i>	14
<i>Reverb</i>	15
<i>Tape</i>	15
<i>Stereo</i>	15

Introduction

Thank you for purchasing or trying Martinic Lem Echo Music.

The Lem Echo Music plugin recreates the nostalgic tones of the vintage Italian tape delay effect from LEM.

History

In 1959, Matteo Galanti introduced the GEM (Galanti Egidio Mondaino) instrument brand, by developing and building the first electric organ made in Italy. Over the next ten years the company would branch out into audio effects, which were housed under a subdivision of the brand, LEM (Electro Music Laboratory).

The Lem Echo Music hardware was one of the earliest pieces of studio equipment that was birthed from the Laboratory, and was first used on a commercial music recording in the 1967 Italian hit *La Pelle Nera*, by Nino Ferrer.

<https://www.youtube.com/watch?v=9xsDNSMdnHo>

Features

Martinic Lem Echo Music simulates the classic sound of a vintage tape delay unit. The Echo Music's effect was created by recording to a single reel of tape which then moved past magnetic playheads placed at different positions (times) relative to each other, playing back multiple copies of the original signal.

The playhead positions (and therefore the delay times) are fixed, so the Echo Music does not sync to a DAW's host tempo.

The imperfections of the original machine's mechanical design have been recreated, so you get all the wonderful wow, flutter, and degradation that makes the effect so unique. There are additional features on the plugin including tape saturation level, stereo mode with pan controls, and reverb, which weren't present on the original machine.

CAUTION!

High values of feedback (the Repeat control) can cause extreme feedback loops. We recommend that you use the Lem Echo Music plugin with a limiter activated on your master channel to prevent damage to your playback equipment and to your hearing.

Free Trial

Before purchasing a license you are allowed to try Lem Echo Music free of charge for up to 30 days for testing purposes and in non-published work.



When Lem Echo Music runs in demo mode, once every minute the user interface will display Trial Version in red, and white noise is added to the output signal.

Installation

System Requirements

Lem Echo Music is available as a **VST 2.4**, **AU** (Audio Units), or **CLAP** (CLever Audio Plugin) effect plugin, which means it needs to run inside VST, AU, or CLAP hosting software, e.g. Ableton Live, Cubase, GarageBand, Logic Pro, REAPER, Studio One, etc.

Although Lem Echo Music should be able to run at any sample rate the host provides, a rate of at least 44.1 kHz is recommended.

Lem Echo Music is designed to run on **Windows 7** or newer, or **Mac OS X 10.9** (Mavericks) or newer.

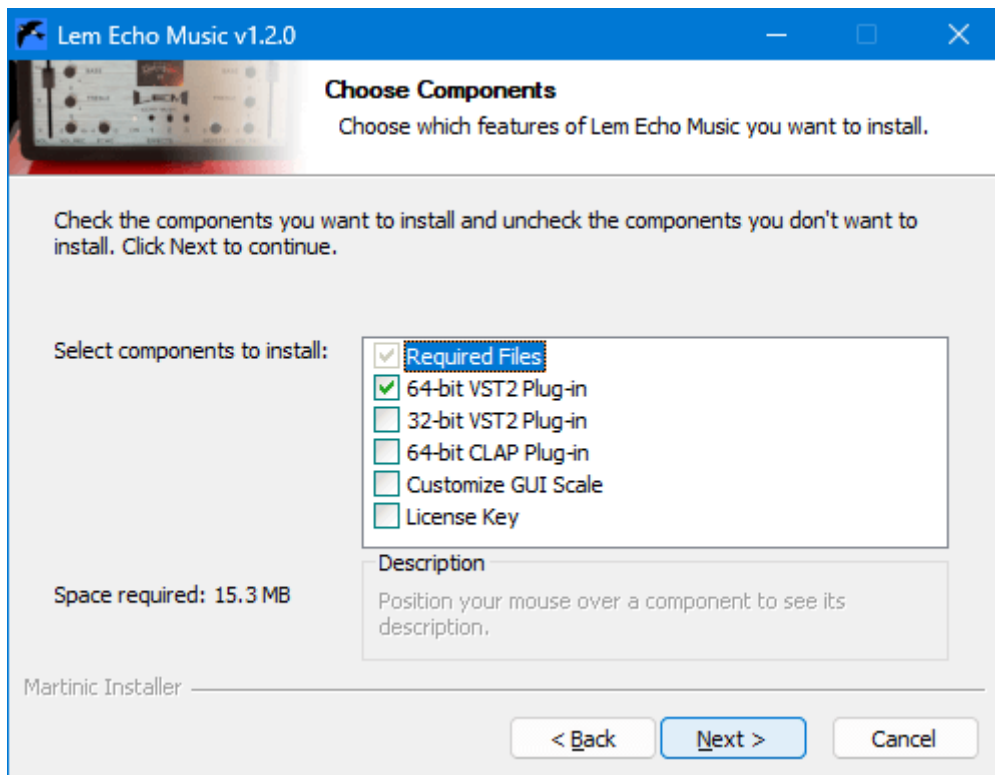
Windows Installation

To install Lem Echo Music on Windows, download the Windows 32/64-bit VST/CLAP installer, and save it on your computer (e.g. in your Downloads folder).

Navigate to this folder, locate the installer and double-click on it, and then click on the **Next** button to start the installation process.

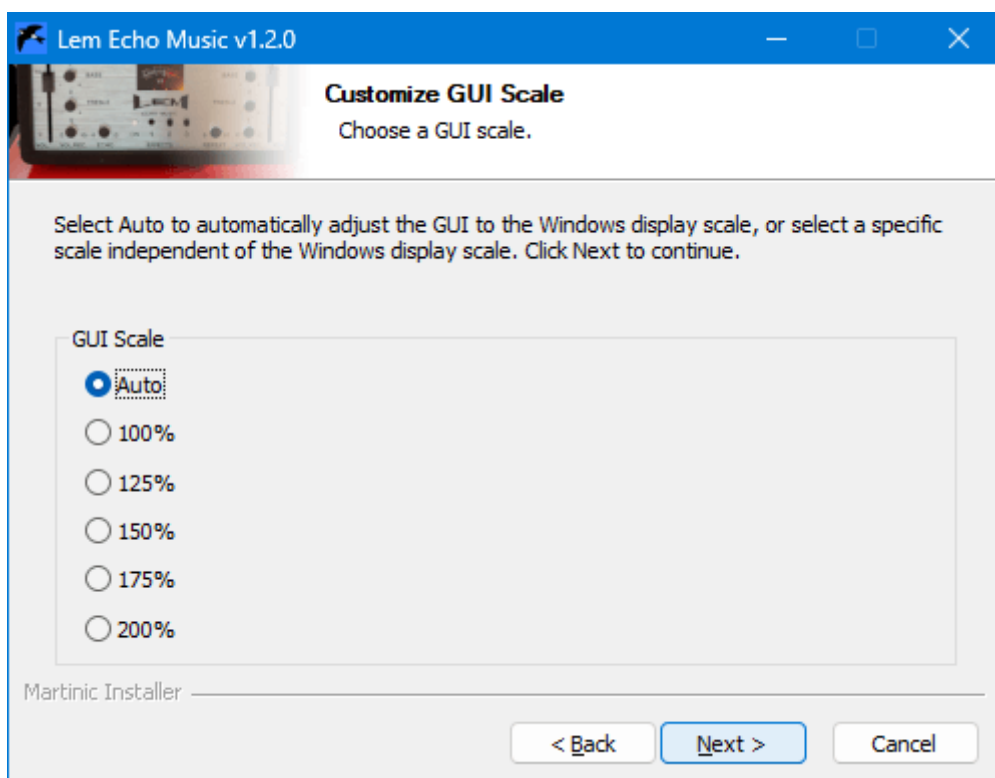


Carefully read the license, and then click on the **I Agree** button to continue. Next select which versions of the plugin you want to install. Select **Customize GUI Scale** to manually override the scaling factor of the plugin in a later screen. Optionally you can select **License Key** if you have purchased a license. Click on the **Next** button to continue.



Optionally change the install location, and again click on the **Next** button. Then select your VST2 32-bit and/or 64-bit plugin folder, and optionally select your license key file (if you have purchased a license), confirming each selection by clicking on the **Next** button.

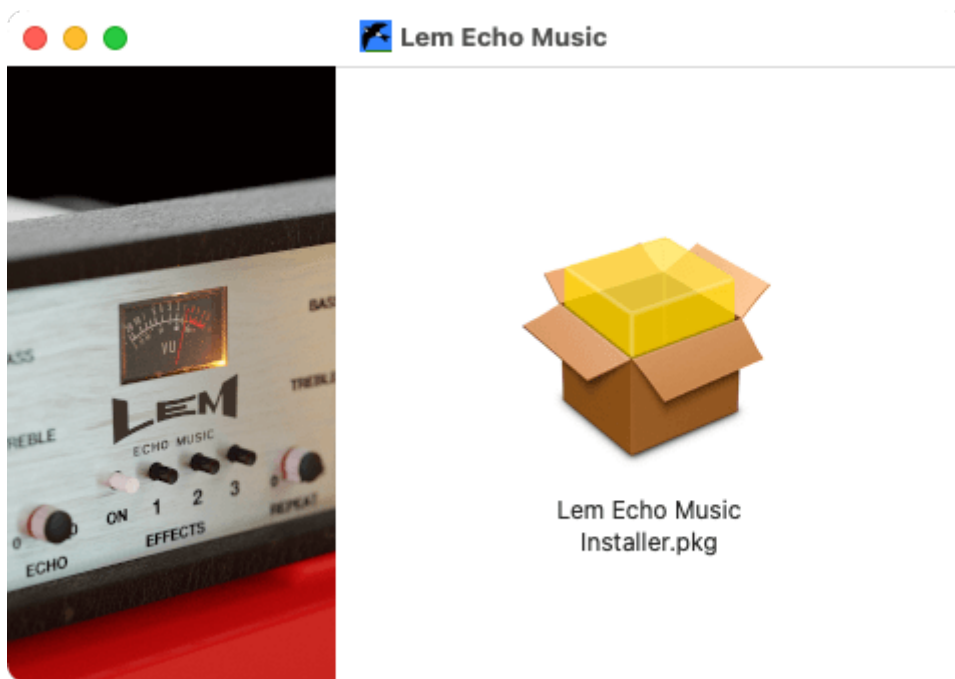
If you have previously chosen to customize the GUI scale, you will be able to select different options before selecting **Next** to begin installation.



Now wait for the installation to complete (this should take only a few seconds), click on the **Close** button, and you are ready.

Mac Installation

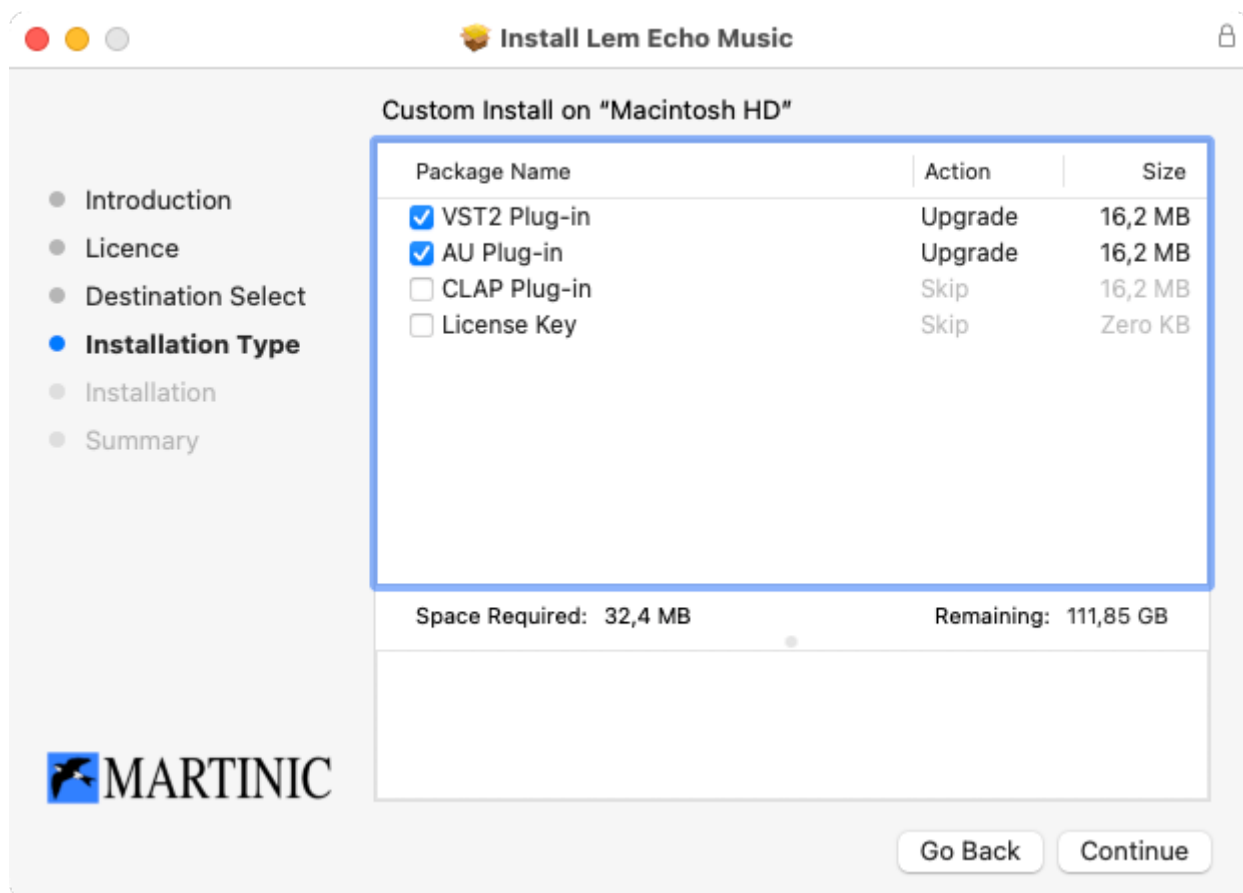
To install Lem Echo Music on Mac OS X or macOS [download](#) the Mac 64-bit VST/AU/CLAP installer disk image (DMG), and save it on your computer (e.g. in your Downloads folder).



If you have purchased a license, then you should copy your license key file to the same folder in which you have saved the installer disk image (DMG), so it can be installed along with the plug-in(s).

Navigate to the folder in which you have saved the installer, locate the installer disk image (DMG) and double-click on it, and then double-click on the **Lem Echo Music Installer.pkg** icon. Click on the **Continue** button to confirm that the installation package will run a program, and then click on **Continue** (in the bottom right corner of the installation window) to start the installation process.

Carefully read the license, click on the **Continue** button, and then click on **Agree**. Next select which versions of the plug-in you want to install (it is recommended that you install the VST2, AU, and CLAP versions, just to be sure), optionally select **License Key** if you have purchased a license, and click on the **Continue** button. Optionally change the install location, and then click on the **Install** button.



Now wait for the installation to complete (this should take only a few seconds), click on the **Close** button, and you are ready.

Loading Lem Echo Music

Launch your host, and create an audio track or load a project to which you want to add Lem Echo Music. Please refer to the documentation of your hosting software on how to do this.

Note: Most hosts will list Lem Echo Music as **Martinic Lem Echo Music**, but some may list it as **Lem Echo Music** or **LemEchoMusic**.

Lem Echo Music is primarily meant to be used as an “insert” effect, which is also the way in which it was originally used. However, it can also be used as a “bus” effect.

Getting Around

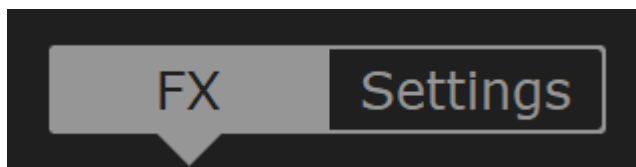
Using the controls (plus fine-tuning and value entry)

You can adjust controls by clicking and dragging them up or down using the mouse. To fine-tune a parameter to a more exact value, hover your cursor over it, hold the **Ctrl** key (Mac and Windows), and scroll the mouse wheel. You can also right-click on a knob to enter a value using the computer keyboard.

Double-clicking a knob or fader will reset it to its default value.

FX view and Settings view

The Lem Echo Music can be used in either FX view or Settings view.



FX view allows you to control some of the Lem Echo Music's parameters, as you would on a physical version of the device.



Settings view provides an abstracted set of controls for the plugin, giving you control over every parameter on the Lem Echo Music. Here you can access all the controls, including

master volume, Reverb Mix, Panning Mix, Delay Tape Age and Delay Mono/Stereo.

Lem Echo Music is a stereo effect, so it is applied to both the left and right channels. When the switch is off the effect is bypassed. Note that this is likely not the same as bypassing Lem Echo Music in your hosting software, because the input signal is still fed into the effect, meaning that you can turn it on again at any time, smoothly and without any pops or clicks.

How it Works

The Lem Echo Music offers a combination of three delay lines over two channels. The delay lines are fixed to particular speeds and do not sync with your host tempo; each delay line (1, 2 and 3) can be switched on or off, and all three can be run at the same time.



The delay properties include **Echo** (dry/wet), and **Repeat** (feedback). These are common to both channels.

By default, the two channels are set to control left and right sides of the stereo signal, but this can be customized in the Settings screen. Each channel has its own input volume (**Vol Rec**) output **Volume**, and EQ controls for **Bass** and **Treble** emphasis/de-emphasis. The delay times remain the same for each channel.

On the **Settings** page, there are additional controls including **Reverb** and **Tape** saturation.

Using the controls

You can adjust controls by dragging them up/down using the mouse, or you can use the mouse wheel while holding the Ctrl key down. You can also right-click on a knob to enter a value using the computer keyboard.

Shift and Double-click

Holding Shift and dragging a knob on either side of the unit will control the corresponding knob on the opposite channel at the same time.

Double-clicking a knob or fader will reset it to its default value.

Delay Controls

On/Off

The tape delay effect can be turned on by pushing in the **On** button, and you will notice the bottom right of the VU meter light up when you do.



Delay Selectors

With the On button pushed in, you can apply the playheads by pushing in the numbered buttons in the Effects section. **1** is a short delay (80ms), **2** is medium (210ms) and **3** is long (330ms). Each delay time is fully fixed and non-syncable to host tempo, just like the original unit.



You can choose to use one delay by pushing it in and leaving the others, or combine them for a more chaotic effect by switching on multiple buttons at once.

Echo and Repeat

The **Echo** knob controls how much of the echo is applied to the sound, like a dry/wet control. Higher values result in a more intense effect, while lower values will be more subtle.

The **Repeat** knob acts much like a feedback control to extend the number of delays you hear. Feedback works by routing the delayed output signal back into the input to create a “feedback loop”. Higher values on the Repeat knob will extend the delay multiple times, while lower values will only add a few, or even one echo.



DANGER: High values of Repeat can cause extreme feedback loops. We recommend that you use the Lem Echo Music plugin with a limiter activated on your master channel to prevent damage to your playback equipment and to your hearing.

Tip: *Manipulating the Repeat control during playback will change the unit’s properties in real time, resulting in the pitch of the echoes being lowered or raised, emulating a waveform on a tape being played back at different speeds.*

Volume

The **Volume** slider controls the level of the signal coming out of each channel, after the

delay processing. Its default setting of 10 represents unity gain, and it can be lowered all the way to $-\infty$ dB.

Bass and Treble

Bass and **Treble** knobs can be adjusted to shape the tone of both the left and right channels. These are overall tone shaping controls that will apply to both the input and output signal.

Volume Record (Vol.Rec.)

The **Vol Rec** knob acts like an input gain control, sending the dry signal into the delay at lower or higher levels. You can disable the delay effect entirely for a channel by reducing its Vol.Rec. to 0.

Settings

In the Settings tab you will find five extra controls which were not present on the original tape echo hardware, alongside the same controls from the FX section, albeit fully digitally represented. Any changes you make to the original controls in the Settings tab will be represented on the FX interface, and vice versa.

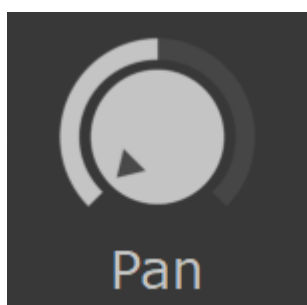


Master Volume

In the centre is a **Master** volume control, ranging from -36dB to +24dB. This is an overall output control, so if you have created a nice balance between the two channels, adjusting the Master knob will preserve this balance, and alter the volume of everything in unison.

Panning

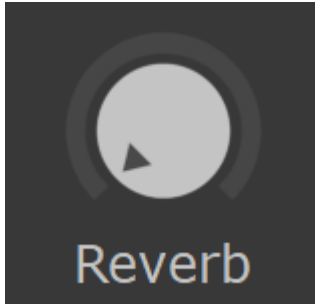
Both channels of the Lem Echo Music have a **Pan** knob. By default, the left channel is set to -10.00 (left), and the right channel is set to +10.00 (right), but these can be decreased, reversed, or anything in between using the Pan controls.



Setting a channel's Pan control to 0 will center its signal.

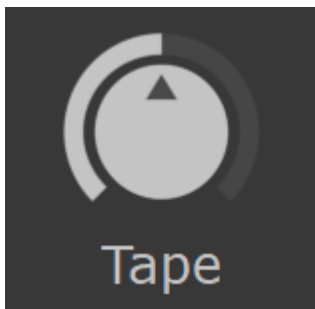
Reverb

The **Reverb** knob adds a classic spring reverb to the plugin, which is applied pre-delay. When combined with the echo effect, this will create an even more lush and enveloping sound.



Tape

Recording sound on to tape, at a high enough volume level, overloads the tape's capabilities. This leads to an overdrive effect known as "tape saturation" which produces a characteristic distorted yet warm tone. The **Tape** knob allows you to control the amount of tape saturation that is applied to the echoes. If there is no delay applied using the plugin, the Tape control will not affect your signal.



Stereo

The **Stereo** button applies to the tape delay specifically – switching it on (black square) will put the effect in stereo, while switching it off makes it mono.



As mentioned before, this also affects the Volume Record controls for each channel of the mixer. In stereo mode, raising the Vol Rec levels on the left and right will emphasize the tape delay effect for each side. With the stereo button switched off, the effect will intensify in mono.

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