

Les Diffuseurs



User Manual

Table of contents

Table of Contents

Introduction.....	3
Features.....	4
Installation.....	5
Serial number.....	5
Windows (Windows 7,8,10).....	5
Mac (OSX 10.9.0 and later).....	5
Getting Started.....	7
Insert or Bus.....	7
Les Diffuseurs as Insert.....	7
Les Diffuseurs on a Bus.....	7
Toolbar.....	7
Adjusting the Les Diffuseurs parameters.....	8
Preset Management.....	8
Main Toolbar.....	8
Preset Menu.....	9
Sort Menus.....	9
Sorting Menu: Additional Functions.....	10
Advanced Preset Manager.....	11
A/B comparison.....	12
Les Diffuseurs Main Panel.....	12
The Strings Settings.....	12
The Gong Settings.....	13
The Box Settings.....	13
The True Stereo Dynamic Engine.....	14
Option menu.....	16
Main.....	16
Display.....	16
Misc.....	16
Credits.....	18

1 Introduction

Thank you for choosing the **Les Diffuseurs** !

Les Diffuseurs (La Palme and Le Metallique) are inspired by famous speakers (called "diffuseurs") that came with the Ondes Martenot, featuring a resonance chamber laced with 12 strings or a gong.

La Palme allows you to tune or mute each string and gives access to their internal parameters.
Le Metallique allows you to change the Gong size and modulate it.

You will also have access to the Xils-lab **True Stereo Dynamic Engine** which allows you to put your dry or wet channels in the correct stereo position for unbelievable realism.

2 Features

Les Diffuseurs offer:

- True stereo path, independent Right and Left processing
- 12 strings with independent tuning.
- A Gong with size variation and modulation
- True Stereo Dynamic Engine
- All parameters are MIDI controllable

Les Diffuseurs are available in the following formats:

- ! **Mac OSX 10.9 and later:** 64 bits (Intel & Apple Silicone), VST2.4, VST3, Audio Unit, AAX native
- ! **Windows 7, 8,10, 11:** 64 bits, VST2.4, VST3, AAX native



Minimum system requirements: 1 Gigabyte of RAM and a 1 GHz processor.

Les Diffuseurs are plug-ins and are not available as a standalone application.

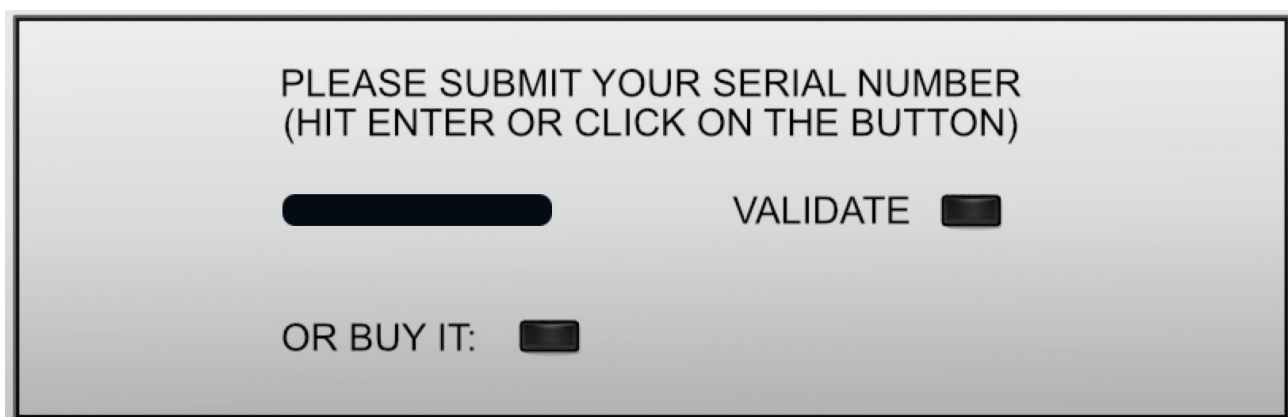
3 Installation

3.1 Serial number

Les Diffuseurs uses a simple proprietary serial number based protection. When launching **La Palme or Le Metallique** for the first time, it will ask for this number.

After submitting (by clicking on the "enter" key of your keyboard or the VALIDATE button), you must close and re-launch it to complete the registration.

This serial number will never be asked for again, even when installing updates.



Tip: It is always a good idea to back up this serial number, or to print it, in case you should have to reinstall **Les Diffuseurs** (i.e., if you encountered an HD crash, or have to reinstall your OS).

3.2 Windows (Windows 7,8,10)

To install **Les Diffuseurs** on Windows 7 and later, launch the installer file `lesdiff_win_setup_xxx.exe`. Please download the latest version from the XILS-lab website.

Once you have accepted the license agreement, you will be asked to select the installation directory and be provided with a default one. Presets and various files, like this manual, used by the **Les Diffuseurs** will be stored in this directory. Please note that this location is different from the VST install directory, which you will need to specify in the next step of the installer. Once the installation directory is specified, you will be asked to select the VST plug-in directory, with a suggested default location. Keep this default directory if you do not use the VST version.

Important notice: be sure to use a folder owned by the user (do not use "c:/program files" for instance, or any subfolder of a system folder). By default, the preset folder is `c:/users/documents/public/XILS-lab/LedDiff`

3.3 Mac (OSX 10.9.0 and later)

To install **Les Diffuseurs** on a computer equipped with Mac OSX 10.9.0 or later, double-click the file lesdiff_osx_setup_XXX.dmg.

Please download the latest version from the XILS-lab website.

Then launch the install program, LesDiff.pkg, and follow the instructions. Warning: the install program will ask you for your system password.

The various files of the **Les Diffuseurs** will be copied into the following directories:

- Library/Application Support/Avid/Audio/Plug-Ins

- Library/Audio/Plug-Ins/Components

- Library/Audio/Plug-Ins/VST/

- Library/Application Support/Documentation/XILS-lab/LesDiff

- Library/Application Support/XILS-lab/LesDiff

- users/username/Library/Preferences/XILS-lab/LesDiff

Getting Started

3.4 Insert or Bus

Like any other effect, **Les Diffuseurs** can be inserted in the instrument channel of your mixer or DAW, or be used on an auxiliary bus. Let's take a look at the pros and cons of each method.

3.4.1 Les Diffuseurs as Insert

When inserted on the instrument channel, you can adjust the dry/wet signal between the incoming dry signal and the delay signal (wet) using the DRY/WET knob located at the bottom right of the unit.

This can result in a loss of global volume; therefore, you should use the Global Output Gain knob to compensate for this.

The main advantage of this method is that you can use the **Les Diffuseurs** advanced stereo processing to put your track in the stereo field in a real, easy and intuitive way.

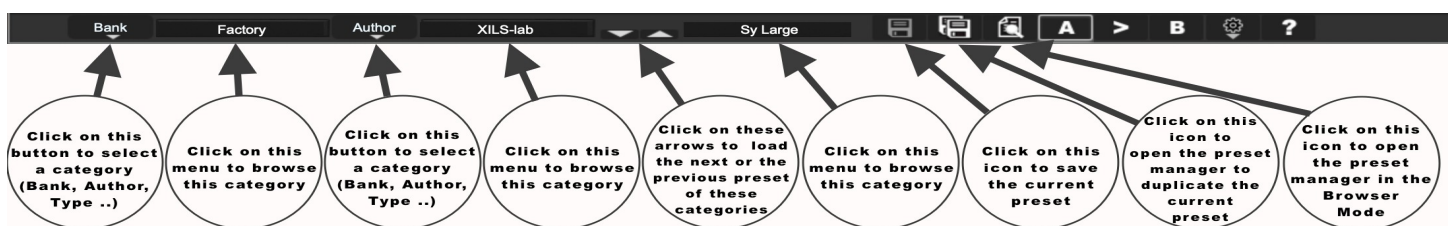
3.4.2 Les Diffuseurs on a Bus

When placed in an auxiliary bus, **Les Diffuseurs** provides you with total control of the processed signal: You can EQ it, compress it, choose to add reverb on it, or a different reverb than on the dry signal... in short you can perform all the processing you want. You can also render the signal of **Les Diffuseurs** on an audio track then cut/paste/slice/edit it.

In an auxiliary track, **Les Diffuseurs** can also receive data from SEVERAL separate audio channels. You can experiment with this and create stunning effects that would be different if **Les Diffuseurs** received only a single channel signal.

In that method, you must turn the Dry/wet parameter in the Advanced panel fully to the right to remove the dry signal. To mix between dry and wet, you will use the global level of each of the individual tracks, and/or the global level of the **Les Diffuseurs**.

3.5 Toolbar



Note: The toolbar at the top of the interface allows you to load or save presets, make a comparison between settings A and B, or modify the options. These functions are described in detail later in this manual.

Click on the **PRESET** menu to show the available presets in the current sorted group. Please note that selecting a new preset without saving your current settings will erase any changes you have made to those settings.

Click on the **sort arrow** button to display the current sorted group and to choose the preset within it.

You can sort presets by: **Author, Feeling, Type, Style, Bank or Projects.**

Please note that **Les Diffuseurs** will display presets by Author categories by default.

Click on the sorting label over the sorted group name, to sort your presets according to your preferences. Please note that **Les Diffuseurs**'s powerful Preset management is fully explained in chapter 5 of this manual.

3.6 Adjusting the Les Diffuseurs parameters

On **Les Diffuseurs**, the sound parameters are controlled using knobs, switches or Pad 2D.

To use a mouse to adjust the parameters of **Les Diffuseurs** which are controlled by knobs, click inside the knob and move the mouse up or right to increase the value, down or left to decrease it.

If you right-click on a parameter, or if you hold-shift while clicking, you can adjust the parameter with fine precision.

To use a mouse to adjust the parameters of **Les Diffuseurs** which are controlled by a switch, just click inside it.

To use a mouse to adjust the parameters of **Les Diffuseurs** which are controlled by Pad 2D, locate the dot you want to move, click on it and drag it around the PAD. By right-clicking, you can move several dots at the same time.

Keyboard shortcuts:

In addition, we have provided some soft key combinations to perform several very useful tasks:

Windows:

- CTRL+left click: resets parameter to its default value.
- CTRL+right click or CTRL+Shift+left click: initializes the default value of the parameter.
- Win+Alt+CTRL + click: opens the MIDI Control panel, with the parameter already selected.

OSX:

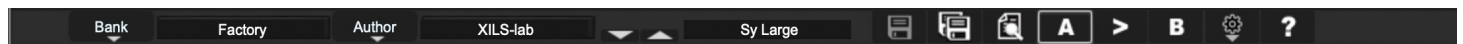
- Apple+left click: resets parameter to its default value.
- Apple+Shift+left click: initialises the default value of the parameter.
- Apple+Alt+CTRL + click: opens the MIDI Control panel, with the parameter already selected.

When a parameter is chosen via a drop-down menu, just click on the button or label and select the item.

The help button (?) on the toolbar displays a panel summarizing these shortcuts.

4 Preset Management

4.1 Main Toolbar



In the toolbar, you can find two buttons, displaying the category name (Bank, Author, Type, Style, Feeling or Project), which open the **sort** management menus.

The first two text fields show the current sorting group and the third shows the current preset.

Clicking the arrow on the left of the category or preset names opens the corresponding menus.

Note: When a parameter is modified, the name of the preset is followed by a *, indicating that the current settings of **Les Diffuseurs** no longer match the stored preset.

When you want to save a modified preset, click on the **Save or Save As** button.

In order to prevent you from erasing them, the Factory presets cannot be modified. When you edit a Factory

preset, the **Save** button will be grayed out, and you will have to use the **Save As** function to save it in another bank.

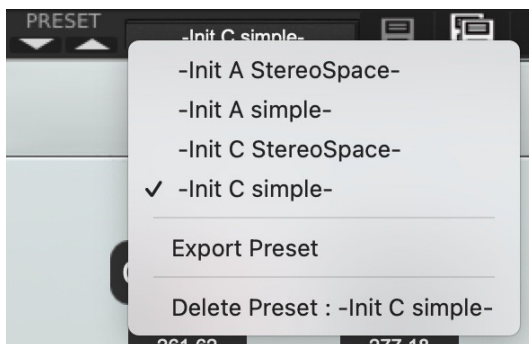
If you edit any preset, other than a Factory one, the **Save** and **Save As** function will both be available.

The main difference is that the **Save** function will save the preset under its current name, and with its current tags, overwriting the previous incarnation of the preset, while the **Save As** function will open a dialog box where you can modify the name of the preset, the bank in which it will be stored, and all its tags.

The settings of **Les Diffuseurs** are then saved in the currently displayed preset, and the * disappears. Click on the **Save As** button to save this preset with another name and/or to other sorting groups.

4.2 Preset Menu

Click the **Preset arrow** button to open the preset menu. Here you can choose and load another preset from the current sort group into **Les Diffuseurs**.

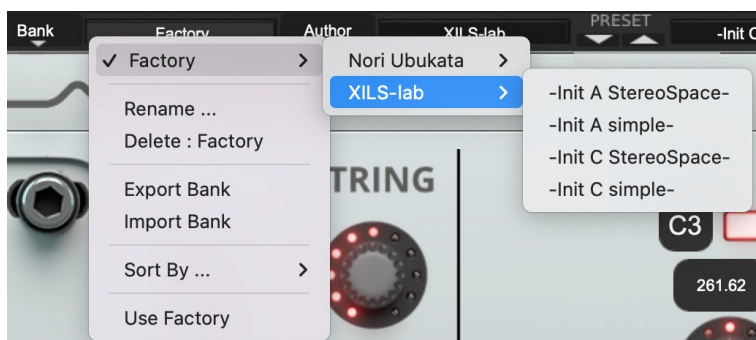


In this menu, other actions are also available:

Delete Preset: Use this to delete the current preset (a pop-up confirmation window appears). This option is only available if the current preset is not a factory one.

Export Preset: Use this function to export the current preset in an external file (.chx format). This file can be imported later as a new bank. It always makes sense to back-up your presets on external media.

4.3 Sort Menus



The sorting menus are a unique and powerful tool allowing you to perform sophisticated tasks, such as displaying the preset list organized in a variety of different ways

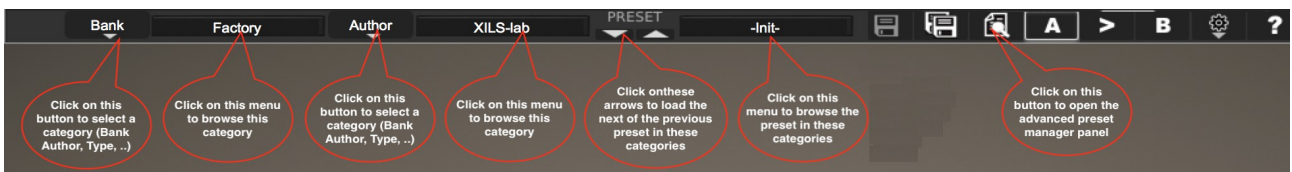
There are indeed a lot of possibilities, and we're confident that you'll find the best way to customize it to your personal needs.

In order to perform such selections, all you have to do is select an item in the first sort menu. This represents the first and main criteria for the search engine.

- **Author** (Your name, or a Sound Designer name for factory presets),
- **Type** (Category of the instrument like Keys, Leads, Bases, etc.)
- **Style** (Musical Genre),
- **Feeling** (Cold, warm, soft)
- **Project** (My Song, My Live Project).
- **ALL** (this item is not used for sorting the preset)

These primary results can then also be filtered according to a second criteria which can be chosen from a similar list in the secondary **sort** menu.

Sometimes a picture is better than a lot of text, so below you'll find an example of where you can find how to select a specific sound.



Please note that, once you are familiar with this system, you can also perform some operations with a single click, by using the Sub Groups to choose a preset:

In the picture below, the primary sort menu is used to browse the different banks. Then in a factory bank, the author, Xils-Lab, is selected, and finally the Preset -Init- . In this example, the preset is selected in a single click operation, and the presets available in the preset list will be all the Xils-Lab presets available in the entire Factory Sound Library.

Click on the **row** of the sorting button to open the menu used to manage this sorting group (or subgroup). Here you can directly select and load any preset from any group or subgroup.

4.3.1 Sorting Menu: Additional Functions

In this menu, other actions are also available:

Delete: Deletes all of the presets of the current group that are not factory ones. **IMPORTANT: Use this function with care: If the bank does not contain any factory presets, ALL PRESETS IN THIS BANK WILL BE PERMANENTLY DELETED.**



Use Factory: enables or disables the display of factory presets.

Sort By: This function sorts the presets according to bank, author, project, or shows all presets (**Bank Name, Author Name, Project Name, All Presets**). The preset menu will show presets of the same category (same author, same project or same bank).

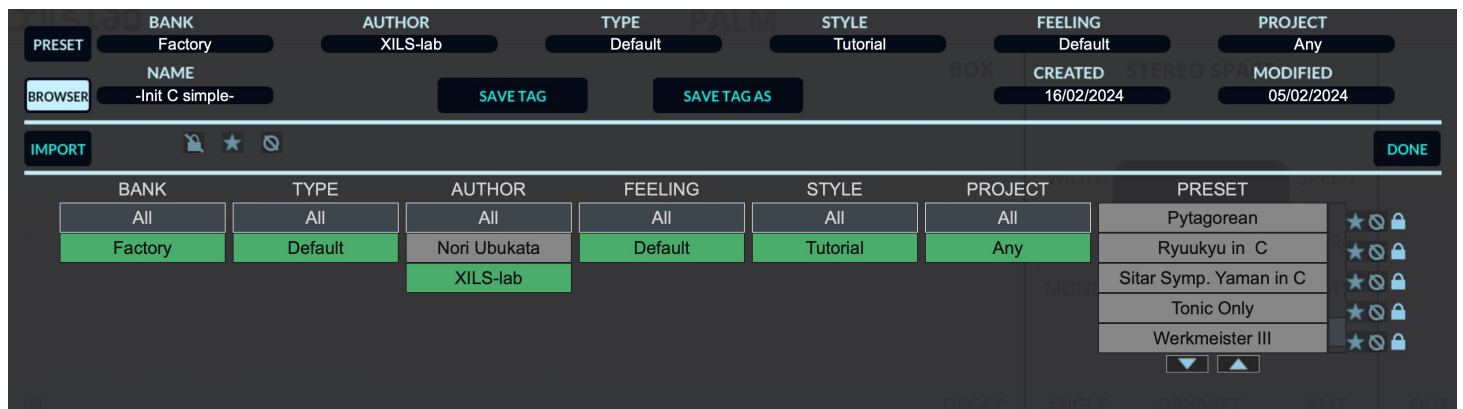
Export Bank: This function exports a bank in **Les Diffuseurs**'s proprietary cross platform format, (Mac and PC). The selected bank (i.e., the bank which contains the currently active preset) will be exported to a user specified location on your hard drive.

Import Bank: This Function allows you to browse your hard drives to select a file and import a **Les Diffuseurs** bank.

These two choices are not available from the second **sort** menu.

This menu also provides the possibility to change the size of the interface. This feature is the same as the one provided in the **Option** menu.

4.4 Advanced Preset Manager



The preset manager provides two modes: **Current Preset Mode** and **Browser (or Tag) Mode**.

Current Preset Mode: This mode allows you to change any of the criteria of the current preset and save them as well as the current settings.

Click on a criteria and choose a new one in the menu. If you need a new criteria choose "New Criteria" and submit the new name in the edit box. Click on the preset name to change it.

When done, click on **SAVE CURRENT** (to replace your preset) or **SAVE AS CURRENT** (to duplicate it)

Notice: When creating a new preset, this is the mode you need to go to for saving your settings.

Preset Browser Mode: This mode allows you to easily sort your preset among multiple criteria for a fast selection.

Double click or hit Enter on a preset to launch it. Be careful, this will erase any changes you could have made to the current preset.

Use the Arrow (up and down) for browsing the presets

Click on a criteria for displaying only the corresponding presets.

A grayed-out criteria means that, according to the currently selected criteria, there is no preset that matches that criteria.

The current preset and its associated criteria are **highlighted in green**.

Clicking on the Browser icon will open the Preset manager in Browser mode.

Clicking on the **Save As** icon will open the Preset manager in Current Preset mode.

On each criteria, right-clicking will open a contextual menu. You can then rename, delete, export a criteria. In these two later cases, all the presets which are not in the "Factory" bank, corresponding to that criteria will be deleted or exported.

Favorite: You can add each preset in your "Favorite" or "Hidden" selection. In that case, when clicking on the "Favorite" icon, only the preset in your favorite selection will be displayed. When clicking on the "Hidden" icon, all the presets in your "Hidden" selection will be removed from the list.

Factory: The preset in the factory bank can't be changed or removed (shown by a lock at the right of the preset). When clicking on the "Lock" icon, all the "Factory" presets will be removed from the list.

Import: By clicking on the **IMPORT** button, you can import banks of presets created for **La Palme** or **Le Metallique**.

Click on **DONE** to close the preset manager panel.

4.5 A/B comparison

You can store two different settings at the same time and instantly switch from one to the other to compare their settings. These two settings are stored in the **A** and **B** memories.

When you launch **Les Diffuseurs**, the default-activated memory is A. When you load or modify a preset, this memory -A- is also modified in real time according to your edits. You can switch to B memory by clicking on the B button.

To copy the current active memory content to the other memory slot, just press the button labeled -> or <-, according to the current active memory.

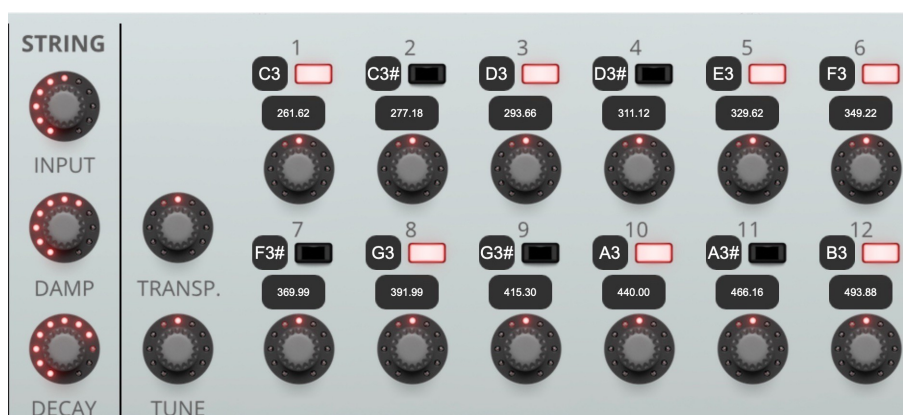
With this A/B comparison system, you can easily have two settings and compare them in a convenient way.

5 Les Diffuseurs Main Panel

La Palme or **Le Metallique** user interface is divided in three parts, one for adjusting the **Strings** or **the Gong**, a second for adjusting the **Box** and a third for placing the speakers in the **Stereo Space**.

Two vu-meters show you the input and output levels and two knobs, **IN** and **OUT** allow you to adapt the input and output level of **La Palme** or **Le Metallique**.

5.1 The Strings Settings



On the left, three knobs allow you to globally adapt the 12 strings:

INPUT: Set the level of the audio signal with which the strings are fed.

DAMP: Set how the high frequencies are filtered. Fully turned right, the box won't filter high frequencies. Fully turned left, high frequencies are filtered during the decay.

DECAY: Set the resonance time of the strings.

TRANSP: Transpose all the strings by semi-tones (-12 to +12 semi-tones).

TUNE: Tune all the strings by adding an offset in Hz (-50 to +50 Hz).

For each of the 12 strings, you can see the actual **frequency** (in Hz) taking into account the global transpose and tuning, select the **Note** of the string (from C2 to C5#), **Mute** and **Fine Tune** it by adding an offset in Hz (from -50 to +50 Hz).

5.2 The Gong Settings



On the left, three knobs allow you to globally adapt the gong:

INPUT: Set the level of the audio signal with which the gong is fed.

LOW END: Set how the low frequencies are increased.

DECAY: Set the resonance time of the gong.

SIZE: Select the size of the gong. Two sizes are available.

SIZE FACTOR: Set the factor with which the size would be multiplied or divided. This can be modulated by the MIDI "Modulation Wheel" when the **WHEEL** switch is on.

LFO ON: Switch ON the LFO which would modulate the gong size factor.

RATE: Set the rate of the LFO. When the SYNC switch is ON, the rate is a multiple or sub-multiple of the DAW tempo.

AMOUNT: Set the amount with which the size factor will be modulated. When the switch **WHEEL** is ON, it is controlled by the MIDI "Modulation wheel".

5.3 The Box Settings

This area allows you to adapt the box size and sound:



DECAY: Set the time of the box's resonance.

DAMP: Set the filtering inside the box. Fully turned right, the Box won't filter high frequencies. Fully turned left, high frequencies are filtered during the decay.

5.4 The True Stereo Dynamic Engine

La Palme offers powerful stereo processing allowing you to put your audio signal in a true stereo space. This is done in an easy and intuitive way as well as giving you a true stereo feel. You can only process the wet signal (the blurred lights) or, by clicking on the **DRY** button, also process the dry signal. You can also process a stereo input signal as a mono source by engaging the **DRY MONO** switch.



Important: As in reality, putting your audio sources far from the microphones will reduce the level. You will need to compensate for this, using the general output level, which offers a wide range. If you are processing the dry signal, the relative position between them directly affects the mix of the dry and wet signal. You may need to compensate with the **Dry/Wet** level.

MIC ANGLE sets the position of the microphones and **WIDTH**, makes the space more or less wide.

Moving the lights around the area gives you the correct position for your sound.

Right click allows you to keep a left/right balance identical.

Clicking and moving the microphones allows you to open your stereo effect.

As with the bucket-brigade settings, you can add chaotic movement to the stereo position of your wet signal, with **AMOUNT** and **SPEED, HORZ** and **VERT** allowing the animation to be horizontal or vertical only.

Blue and **Green** lights are for the right and left dry channels.

Blurred **Circled Blue** and **Circled Green** lights are for the right and left wet channels.

In that module, you can change the **DRY/WET** relative levels. Doing so, you change the legacy settings as original models have fixed Dry/Wet relative levels.

6 Option menu

This menu allows you to choose the global settings. These settings are defined for all the instances of the **La Palme** or **LeMetallique**. Each time an option is changed, the related option file is saved.

6.1 Main

In the toolbar, the **Options** button opens a menu for selecting various options for the **La Palme** or **Le Metallique**

This menu shows the following options settings:

La Palme About: displays information about the **La Palme** (version, build date and credits).

Le Metallique About: displays information about the **Le Metallique** (version, build date and credits).

Open MIDI settings panel: Opens a pop-up where you can assign MIDI controllers for each of the **Les Diffuseurs**'s parameters. Click on the parameter label to select the parameter you want to assign, then enter the MIDI controller number (from 0 to 127), or switch on the learning switch and send a MIDI command with the correct MIDI controller number. The **La Palme** or **Le Metallique** will memorize it. This setting pop-up can also be opened by CTRL+ALT+Apple+Left-click (Mac) or CTRL+Win+ALT+Left-click (Win) on the desired **Les Diffuseurs** parameter.

In that panel, you can also **import** or **export** your MIDI settings.

6.2 Display

Display low frequency as BPM: Allows displaying the low frequency in BPM instead of Hz.

Output level follows presets: When checked, this option allows the output level to follow the presets. That means that the output level is programmed with the value saved in the preset. Otherwise, it keeps its value.

GUI follows presets: When checked, this option allows the GUI to follow the presets. That means that the Advanced Settings Panel will or will not be opened depending on the loaded preset.

Popup On: Shows a pop-up window while modifying the value of a knob.

Popup Over On: Shows a pop-up window when the mouse is over a switch.

Popup Name On: The name of the current modified parameter is displayed.

Display: In this sub-menu, you can select the size of the GUI. You will need to relaunch **La Palme** for the new size to be taken into account.

6.3 Misc.

Init settings from current settings: initializes the default values of the **Les Diffuseurs** from the current settings. All the new presets will be created from these settings, when the **init settings** choice is selected. These parameters will also be used when setting a control to its default value. (Win: CTRL+Click, OSX: ALT+Apple+Click).

Hiss gated: This setting allows the internal noise to be muted when no audio signal is incoming.

Wheel Incr: 0.01: Parameter increment of 0.01 when using the mouse wheel.

Wheel Incr: 0.05: Parameter increment of 0.05 when using the mouse wheel.

Wheel Incr: 0.1: Parameter increment of 0.1 when using the mouse wheel.

7 Credits

Concept of La Palme and original UI design was done by:
Xavier Oudin and Noritaka Ubukata

Additional designs of version 2.0 were done by
Xavier Oudin

Stereo processing concept and coding were done by:
Xavier Oudin

Digital Signal Processing and plug-in coding was done by:
Xavier Oudin

Initial Delay line algorithm was created by:
Yves Usson

The graphical user interface was created by:
Xavier Oudin and Noritaka Ubukata

The graphics elements created by:
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This manual was written by:
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The presets were done by:
Noritaka Ubukata, XILS-lab