

# Hematohm Reference Manual

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Hematohm Manual v1.29

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# CHAPTER 1 Getting Started

Thank you for purchasing Hematohm.

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## 1. Structure of this manual

This manual is divided into 7 sections:

- ▶ **Getting Started** - explains how to install Hematohm and get it working.
- ▶ **User Interface Features** - rounds up the user interface features and covers Automation and MIDI topics.
- ▶ **Using the Effect** shows you how to operate Hematohm,
- ▶ **MIDI Control** – gives you information about controlling Hematohm using MIDI.
- ▶ **Settings File Reference** – explains the syntax and use of a Settings File.
- ▶ **Version Notes** - summarises the difference between Hematohm versions.
- ▶ **FAQ** - provides troubleshooting information for your plug-in.

## 2. Features and Requirements

Hematohm is a frequency shifter effect. It is available with two interfaces styles, the *Classic Skin* and the *Funky Skin*. You will need at least 64 MBytes of RAM, 25 MBytes on your hard-drive, a Pentium II-compatible PC or a G4-compatible CPU on Apple Macintosh. On PC, it requires Windows 98, 98 SE, ME, 2000 or XP. On Mac, it requires MacOS 10.1 or higher, but MacOS 10.2 at least is strongly recommended.

It is available on VST/DirectX for Windows, and VST/AU/RTAS for MacOS X.

## 3. Installing

### 3.1. Installing on Windows

Run the installer, which is an .exe file whose exact name depends upon the version you received. Follow the on-screen instructions carefully. Select the interface skin you would like to use; it's possible to change the interface skin by installing again.

You will be prompted to enter both your *User Name* and *Key Code*, which have either been sent to you by e-mail, or can be found within your printed manual if you bought a boxed version. Please enter the two codes carefully, preferably using copy/paste to avoid typos. You will then be prompted to choose one or more installation paths, depending upon the plug-in version you are installing.

### 3.2. Installing on MacOS X

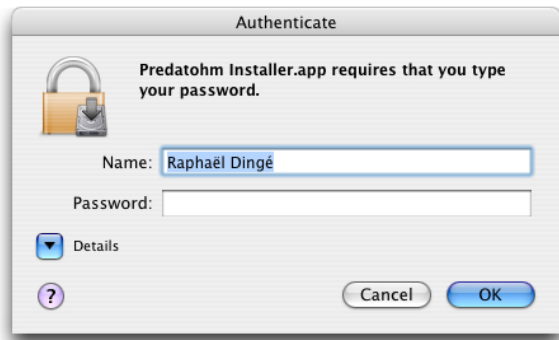
Almost every internet browser will open the file automatically, presenting a disk image on your desktop. If not, please locate the .dmg file and double click it.

The disk image contains:

- ▶ This manual,
- ▶ The installer named *Hematohm Installer*,

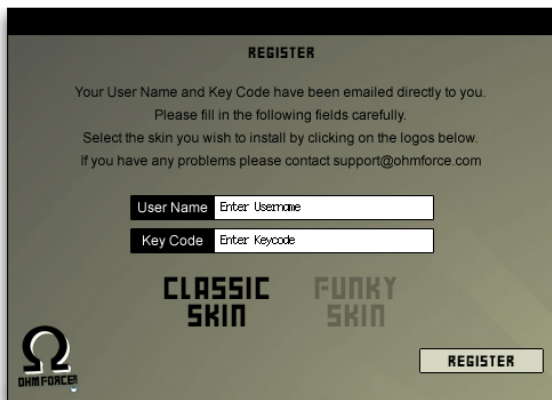
To install Hematohm, double click the installer icon. Before the installer can copy its file to your disc, it needs to have permission from your system to do it.

The first window will ask for your admin password:



If you don't know the admin password please contact the system administrator, generally the owner of the computer, who should know it.

The next screen is the plug-in installer. Please follow the on-screen instructions carefully. You will have to choose between *Classic Skin* and *Funky Skin* (they cannot be both installed), and you will be prompted to enter your *User Name* and *Key Code*.



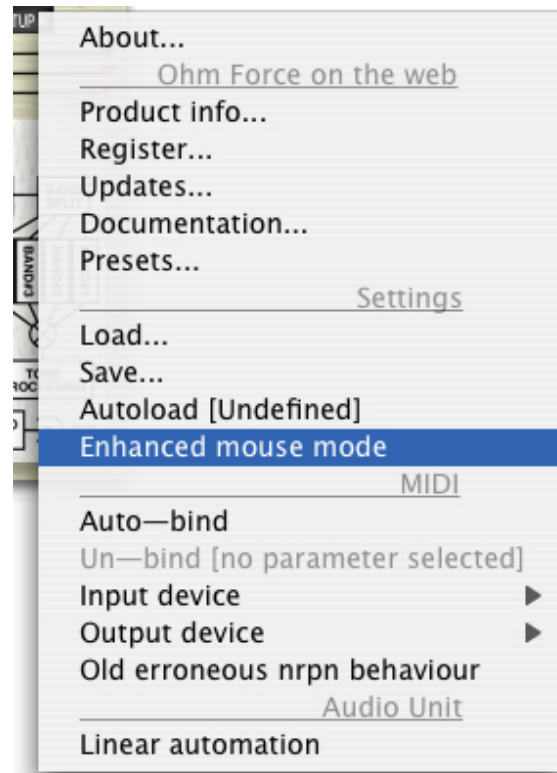
They have either been sent to you by e-mail, or can be found within your printed manual if you bought a boxed version. Please enter those two codes carefully, preferably using copy/paste to avoid typos.

## 4. First Use

Open your favorite audio host and put Hematohm as an insert effect on an audio track. A good way of getting a feel for Hematohm is to try the factory Presets. You will find a frame with buttons in it, either numbered or laid out like a keyboard octave. Click on each button to audition a factory Preset.

Turn the knobs by clicking on them and dragging the mouse vertically.

If your mouse suddenly goes mad, don't call the cat, stay calm and locate the *Setup* button. Click on it to open the menu and deselect *Enhanced Mouse Mode*. This behaviour may happen with some mice, graphic tablets or trackball devices.



# CHAPTER 2 User Interface Features

Each Ohm Force plug-in shares several common features. These are explained below.

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## 1. Preset Panel

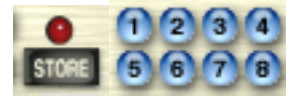


There are eight Preset memory allocations. A group of eight Presets can be saved as a Preset-Bank to your hard disk. These

Preset-Banks are multi-platform, thus enabling you to load Presets into any sequencer on any computer. You can also adjust the speed at which the knobs and sliders move between Preset selections using the Time function.

### 1.1. Presets / Memorise

To activate a Preset simply click on any of the eight Preset buttons. Having edited the on-screen parameters you may wish to memorise your new settings. To do so, click once on the Store (or M) button; it will light-up. Then click on the Preset button in which you wish to store your new settings to save your Preset. To return to Preset select mode, turn off the Store (M) button by clicking it once.



### 1.2. Transition time

This knob enables you to vary the time the plug-in will take to Morph between two Presets. The time, measured in seconds, is displayed beside it. By default, the duration is set to 1 second. Set it to 0 if you want the Preset applied instantaneously — without Morphing.



**i** The Melohman plug-ins will not morph between Presets when using the Presets buttons. The morphing between Presets is done using the Melohman octave instead.

### 1.3. Load / Save Bank

Use these two buttons to Save and Load your Preset-Banks to and from the hard disk. A Preset-Bank contains eight Presets. Loading a Preset-Bank will not modify the current settings until you select a



new Preset. There are many Presets bundled with your plug-ins. Use the Presets as the basis from which to create your desired sound.

## 2. Using Knobs and Faders

All the knobs and the faders work the same way. There are two modes: *direct action* and *side-clicks*.

### 2.1. Direct action

You can move a Knob by clicking on it (click on the slider part of a Fader) while keeping the button pressed and moving the mouse up or down. Each button has a preferred direction for the mouse movement: vertical for Knobs and, according to orientation, for the Faders. If you move the mouse in the preferred direction, the Knob will turn quickly. However, if you move your mouse in the perpendicular direction e.g. horizontally for Knobs, the movement will be slow and very accurate. Some Knobs have notches which lock to certain values. It is possible, however, to set the Knob position between two notches by moving the mouse in the perpendicular direction, as mentioned above.



### 2.2. Side-clicks

The Knob is divided into two zones on which you can click to turn it to the right or to the left. For Faders, the two zones are on either side of the slider. For Knobs, they are positioned at 4:30 and 7:30 on the dial. The Knobs will move slowly if you click and hold on these zones without moving the mouse. This enables you to make very small adjustments with ease.



If you click on this zone, then move the mouse without releasing it, the Knob will move automatically and keep moving even after you have released it. The further you move the mouse, the faster the Knob will

move. To stop the movement, just click on the Knob again. This is especially useful during live sessions, as you can have many parameters shifting at the same time without having to use the Preset Morphing feature.

### 2.3. Linked Knobs

Most Ohm Force plug-ins allow some Knobs to be linked as they control similar parameters. For instance the parameters of the two OhmBoyz's delay lines can be linked. This means that you can alter a parameter in both Line 1 and Line 2 at the same time — with a single click.

To do so, you have to click on the parameter with the right mouse-button (click while holding the **Control** key on Mac systems with a single-button mouse). The Knobs in both channels will now move in unison.

If you hold the **Shift** key and click on the right mouse-button, both Knobs move at the same time but keep their own original gap. For instance, if the original value of the first Knob is 10% and the original value of the second Knob is 50%, when you increase the value of the first Knob to 30%, you will increase the value of the second knob up to 70% at the same time.

You can undo the movement of the slave Knob(s) by performing a right mouse click while holding the **Control** key (the **Command** key on Macintosh).

## 3. Parameter Information and Modulation

### 3.1. Parameter

This contextual display shows details of the selected parameter.



- ▶ **Name** Name of the selected parameter.
- ▶ **Value** This is the parameter value expressed in the selected unit (BPM or Hz).

You can edit this value by clicking on it. Press **Return** to validate your change or **Escape** to cancel it.

### 3.2. Tempo Control

Because many plug-in applications are related to music and therefore rhythm, it is necessary to be able to synchronise with the tempo of the host application. Some host programs can automatically synchronise the plug-in's internal tempo with their own tempo. Alternatively, you can change the tempo by clicking on the buttons to the right of the numeric display. You can also type into the numeric display itself.



**i** When the host controls the tempo, you won't be able to set the plug-in tempo

Tempo control is available on most Ohm Force plug-ins. Frohmag and Predatohm have no time-sensitive parameters therefore there is no requirement for this feature.

### 3.3. LFO (Low Frequency Oscillator)



Most of the Ohm Force plug-ins have a modulation unit: the LFO. This is an oscillator producing a signal usually below the audio frequency range. This signal additively modulates the parameter with which it is associated, causing it to oscillate around a central value. This is useful for creating vibratos, tremolos or panoramic rotations, along with more unusual effects.

Like the Parameter display, the LFO display is activated when a parameter that has an associated LFO is selected.

- ▶ **Period** This is the time taken for one LFO oscillation (the length of the wave). LFO's are synchronised to the tempo value to keep them in time with the music.
- ▶ **Amplitude** This is the amplitude of the oscillations (the height of the wave). A 0% setting means that the LFO will not affect the sound.
- ▶ **Waveform** This parameter defines the shape of the oscillations. Seven of the shapes are classic, the three others are random oscillators.
- ▶ **Sine** It is the default waveform. LFO sweeps smoothly back and forth.
- ▶ **Triangle** LFO travels linearly between two extreme points.
- ▶ **Square** LFO stays for one half-period at the maximum point, then for the other half-period at the minimum point.
- ▶ **Ramp up** Travels from the minimum point to the maximum one in a linear fashion.
- ▶ **Ramp down** Like Ramp up, but in the other direction.
- ▶ **Cos up** A bit like Ramp up, but the LFO goes and arrives more gently at the extreme points (a kind of shelf).
- ▶ **Cos down** Like Cos up, but in the other direction.
- ▶ **Random steps** When a period starts, the LFO generates random values which it keeps constant until the end of that period.
- ▶ **Brown noise** LFO value changes randomly, combining wide, slow moves with small, fast oscillations. With a very long period, this kind of LFO is perfect for giving a parameter a natural, nervous, random variation.

- **Red noise** Somewhat like Brown Noise, but fast variations are damped, generating even smoother random walks.

## 4. Automation

### 4.1. Support

Every parameter, including modulation settings (LFO's, etc...) is potentially automatable on the RTAS, MAS, VST and AudioUnit platforms. However depending on your host's capabilities, you may be restricted to a fixed number of parameters, or even have no automation capability at all. Check the host's reference manual for details about parameter automation.

Digital Performer and ProTools display the automated parameters on the plug-in interface itself. A green triangle on a Knob indicates that the automation is playing, and a red disc shows automation data being recorded.

### 4.2. DirectX Limitations

The DirectX version does not support automation and DXi features yet, please use MIDI automation instead.

### 4.3. VST and AU Limitations

Some host applications, such as earlier versions of Steinberg Cubase VST, have several limitations regarding plug-in automation. They can handle only a few parameters, which is unfortunate as some Ohm Force plug-ins have hundreds. As a consequence, some important parameters cannot be automated. It is possible to get around this by using MIDI commands.

To alleviate this problem, we give you the option of changing the order in which the parameters are presented to the host. We should warn you that this section is rather technical.

You have two ways to proceed: you can either use the provided configuration file or make your own from scratch.

To load the provided configuration file, activate the *Settings/Load* item in the *Setup* menu. Locate the file `easy_vst_automation.cfg.txt` in your effect's installation folder and open it. The configuration file was developed so you can move the most important parameters to the top of the list so that they can be automated.

You can change the provided configuration file or make your own: first save the current plug-in configuration using *Settings/Save* (eg. `my_settings.cfg.txt`). Then load it into a text editor, along with `easy_vst_automation.cfg.txt` so you have a reference to work with. You can see that a configuration file is made of keys. They have a name and a content, which can be made of other keys, a recursive structure known as a tree in scientific circles. Key name and content are separated by an equals sign (=), and complex key contents are enclosed by brackets.

The provided configuration file will be a lot smaller than your own one. This is because it is a partial configuration, whereas yours is a complete one. Suppress some irrelevant subkeys (the MIDI section, for example) in order to make the two files look more alike. Yours will inevitably remain longer.

Let's look at what else we can do with `parameter_reorder_mapkey`. You'll see several parameter names as the file you have just saved contains all the potential plug-in parameters. Move the parameters you want to automate to the top of the list. You can specify a particular order for the other parameters if you want to, or you can simply suppress them. This does not mean that they will not appear any more, or become unavailable for automation. When loading the configuration file, the plug-in will automatically find the best mapping for the suppressed parameters. Once you have finished sorting the parameters, save your work and load your configuration file into the plug-in. Activate *Settings/Autoload* so that the settings

file you just loaded is automatically loaded each time the plug-in is opened.

**! IMPORTANT**

If you created settings before applying the Mapping file, you should save them into an internal Preset, as described in the Preset section of this manual.

You should not use the host's Presets anymore because they will be completely re-ordered after the change. Instead, apply your saved internal Ohm Force Preset to restore your sound. Fortunately, new Presets you make after the change can be stored in host's format and reloaded.

## 5. MIDI Support

You can also use MIDI commands to control the plug-in parameters. MIDI can even replace automation, because not only can the plug-ins receive MIDI commands, they can also transmit them. The effects are in “Omni” mode, meaning they can receive MIDI commands from any channel. However, all commands are sent via Channel 1. Commands can be regular CC (Continuous Controllers), or RPN and NRPN (Non-Registered Parameter Numbers). The decision as to whether to use CC or NRPN will depend upon the capabilities of your MIDI device. CC is commonly used by hardware devices, but NRPN has a higher resolution. The factory MIDI settings use NRPN, but it is possible to change the mapping at any time. The default mapping for Hematohm is listed in the *Hematohm default MIDI mapping* chapter of this manual.

**! IMPORTANT**

Some hosts, such as Mackie Traktion or Ableton Live auto connect the MIDI ports of audio-connected plug-ins. This can result of strange behaviour. However you can disable the MIDI ports in the plug-in Setup Menu.

**! IMPORTANT**

Some hosts, such as Apple Logic, require that the Plug-in is instantiated as a Midified-FX in order to receive MIDI commands. For example in Logic, you need to instantiate the Plug-in on a MIDI track as an input, choosing the Midified-FX version of the Plug-in. Then you have to sidechain the audio signal from the plug-in window toolbar.



### 5.1. Selecting MIDI Ports

Depending on your host, your MIDI devices and your system settings, you may have more than one MIDI port available for MIDI input and output. It is possible to select which ‘virtual’ port you wish to use for receiving and sending MIDI events. To choose the input port — the one from which MIDI data is received by the plug-in — click on the *Setup* button, go to the *MIDI/Input device* menu and select the one you want. Do the same thing to select the output port, except, of course, you will need to click *MIDI/Output device*. The selected MIDI port will be ticked in the menu. You can only use one input and one output port at a time.



- i** Only one MIDI Input device is available for AudioUnit plug-ins. No MIDI output device is available for AudioUnit plug-ins.

If the connection fails, it is usually because the port you selected is already in use by another application — most likely the host itself. In this case, check your host’s operating manual to see if it is possible to free up the port.

## 5.2. Binding Parameters to MIDI Controls

The easiest way to Bind a parameter with a specific MIDI controller knob or fader (or any MIDI Control Change) is to use the Auto-bind feature. First, activate the Auto-bind mode by checking *MIDI/Auto-bind* in the *Setup* menu.

If you have already selected a parameter its name will be displayed in brackets in the menu, like this:

Auto-bind [target: Volume]

If not, click on the Knob you want to bind to a MIDI control message. Only the last one selected will be taken into account for Binding.

Once you have chosen the parameter, send a MIDI event to the plug-in (for example, turn a knob on your external MIDI controller). It can be a simple CC, an RPN or an NRPN command. As soon as the event is received, the connection is created automatically, and the MIDI command will remain associated with this parameter. Only one parameter can be bound to each MIDI command, and visa versa. If you want to Bind more parameters, repeat the procedure: select another parameter, and send another MIDI event. Do not forget to exit the Auto-bind mode, by un-checking the corresponding entry in the *Setup* menu, when you have finished.

## 5.3. Saving and Loading the MIDI Configuration

If you have numerous parameters to Bind each time you want to use the plug-in, you can save the configuration for later use. Currently selected ports will also be saved. To do so, select *Settings/Save* in the *Setup* menu. You can restore the settings at any time by selecting *Settings/Load*.



The MIDI configuration is not stored in Presets, and therefore is not saved with the host song. You will have to load the settings manually after having loaded a song on your host application.

The true tech freaks among you will notice one can open the saved file in a text editor and tweak the configuration from there. It is also possible to build *partial* configurations by only keeping a couple of the ‘keys’. The content syntax is covered in the *Settings File Reference* chapter of this manual.

## 5.4. About Control Change (CC) Messages

Although you can assign most of the CC numbers to plug-in parameters, there are things to consider:

- ▶ You cannot use certain CC numbers like Data Entry (6 and 38), Data Button Increment (96), Data Button Decrement (97), nor you can use RPN and NRPN Parameters 98, 99, 100 and 101, because they are used for RPN and NRPN coding.
- ▶ It is possible, but not advisable, to use the fine tuned section at the lower end of the controller range (32 to 63). This will work, but if plug-in parameters are assigned to coarse parts of the low controller range (0 to 31), the plug-in will also output the fine commands, resulting

in possible interference. For example, if you assigned Knob A to CC 20 and Knob B to CC 52 (= 20 + 32), twisting Knob B would output CC 52 messages, whereas twisting Knob A would output both CC 20 and 52! Trying to record automation in this manner could result in a host of unnecessary complications.

## 5.5. Unbind

Select the parameter you want to unbind. Open the *Setup* menu. You can see that the *Un-bind* menu item shows which MIDI control the parameter is binded to. To unbind it, simply click on the *Un-bind* menu item.

- i** The *Un-bind* menu item is handy to know which MIDI control is currently binded to the selected parameter.

## 5.6. Old erroneous NRPN behaviour

This option is unchecked by default, and exists for historical reasons. Our plug-ins used to interpret RPN and NRPN controls erroneously. As a consequence, automation recorded using old versions cannot be interpreted by the recent versions unless this option is checked. You are advised to uncheck this option if you are a new Ohm Force user.

## 6. Presets in Host Format on Macintosh

Ohm Force delivers its presets in its own *.pbk* format which is a collection of individual presets put together into a bank preset file. We also have translated them, when possible, to host specific formats.

Those presets have been assigned an automatic name, reflecting the original name in the bank. Since some presets have been

contributed by our users, some may not have a special name.

- i** All Melohman plug-ins do not have preset in the host specific format.

### 6.1. Audio Unit *.aupreset*

Presets in the *.aupreset* format have been installed in the */Library/Audio/Presets/Ohm Force/* folder starting from your hard drive root, which is the standard path for presets in the Audio Unit format.

Presets detection should be automatic in about all Audio Units hosts, and are generally available through the host part of the plug-in window. Please refer to your host manual for more details.

### 6.2. Protocols *.tfx*

Presets in the *.tfx* format have been installed in the */Library/Application Support/Digidesign/Plug-Ins Settings/* folder starting from your hard drive root, which is the standard path for presets in the Protocols format.

Presets detection is automatic in Protocols, and are available through the host part of the plug-in window. Please refer to your Protocols manual for more details.

### 6.3. VST *.fxb* and *.fxp*

Presets in the *.fxb* (bank) or *.fxp* format (individual preset) have been installed in the */Library/Application Support/Ohm Force/* folder starting from your hard drive root.

Since there is no default path for VST presets, you might need to tell your host where to find them, if possible. Please refer on your host manual for more details.

# CHAPTER 3 Using the effect

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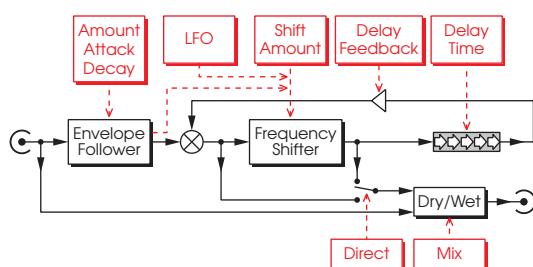
## 1. Functionality

### 1.1. Architecture

This plug-in is a frequency shifter, augmented with an LFO, an envelope follower and a delay. The process can be divided into 3 steps:

- ▶ The input volume is detected by the envelope follower.
- ▶ The signal spectrum is shifted and delayed.
- ▶ The input and the shifted sounds are combined

Here is a diagram that summarizes the Hematohm effect:



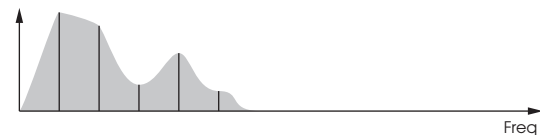
### 1.2. A Frequency Shifter?

First, this is not a pitch shifter! The two are often mixed up. A pitch shifter is an effect that can change the tuning of a sound, by transforming a piano note tuned in C4 into an A3 note, for example. It is achieved by multiplying all frequency components by a constant. Thus the ratio between harmonics is preserved and the sound maintains its timbre.

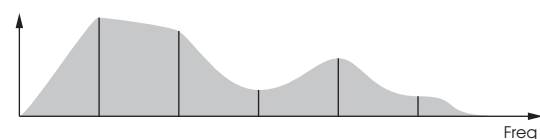
A frequency shifter is different. The frequencies are added according to a constant frequency, rather than being multiplied. A ring modulator works in this manner, but it is limited to building a mirror image in the lower part of the spectrum, and it doesn't support negative shifting.

Below is a comparison of these various effects on the spectrum of a sound:

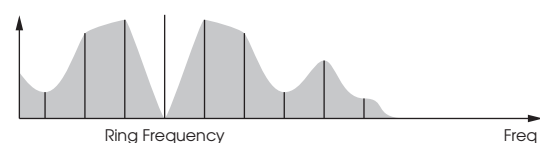
Unprocessed sound:



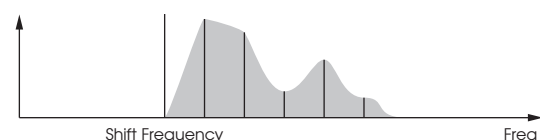
Pitch shifting one octave up:



Ring modulation:



Frequency shifting:



### 1.3. Frequency Shifter – typical use

A consequence of this frequency shifting is that the harmonics get out of tune. Their relationships with the fundamental frequency are broken, with outlandish results: making an acoustic guitar sound like a bell, for example.

However, with certain sounds, and the right frequencies, it is possible to maintain a good relationship between harmonics. As a result the sound is changed but its pitch remains identifiable. Small shifting frequencies keep the sound coherent and are useful to obtain slight variations in the tone.

## 2. Effect

In this section you'll find instructions for the main Knobs that control Hematohm.



### 2.1. Amount

The Amount Knob is the main effect control. It is the shifting frequency, in Hz. It can be positive or negative. When the amount is 0 Hz, the center position, it has no effect.

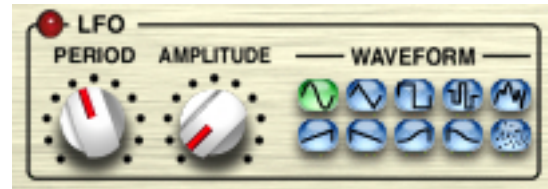
### 2.2. Mix

The Mix Knob dictates how the input and processed sound are mixed together to form the output signal. Turned to the left, the effect is completely bypassed, and the input is directly connected to the output. At the far right, the output sound contains no trace of the unprocessed input.

**i** You can obtain nice phaser effects by setting the Amount parameter to a value below 10 Hz and then setting the Mix Knob to its center point...

## 3. LFO

It is possible to make the shifting frequency — the Effect/Amount parameter — change constantly using the LFO. The Low Frequency Oscillator causes oscillations or random changes. See the Common Features section for more information about LFO's.



## 4. Envelope Follower

The Envelope Follower detects the input sound volume and modifies the shifting frequency according to the envelope shape. The louder the sound, the more the shifting frequency is affected.



### 4.1. Amount

Indicates how the shifting frequency should be modified. At the center position of 0 Hz, the envelope follower has no effect.

### 4.2. Attack

The time it takes the envelope to respond to the attack in the input sound (i.e. rises in input volume).

### 4.3. Release

The time it takes the envelope to respond to the decay in the input sound (i.e. drops in the input volume).

## 5. Delay

The unit also has a delay, which can be used with the shifter in its feedback path.

The delay effect repeats the sound regularly. Sounds created can have an infinitely increasing or decreasing pitch.



### 5.1. Time

The time between each repetition.

### 5.2. Feedback

The amount of delayed sound which is re-injected into the delay. 0% means no re-injection.

### 5.3. Direct routing

This Button selects where the effect occurs in the delay circuitry. In *Feedback* mode, the effect is only applied to the feedback path, thus the shifting is heard only after one repetition. In *Direct* mode, it is applied to the direct signal path before it is fed into the delay.

# CHAPTER 4 MIDI Control: Overview

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Before reading this chapter, please read the *User Interface Features* chapter to setup MIDI in your audio configuration and have general informations on MIDI support. This chapter only add more details on the MIDI Control procedure.

### 1. Overview

With the “Pro” and “Expert” plug-in versions, it is possible to control parameters using MIDI commands.

- ▶ Using the VST version of the plug-in, they can even replace host native automations, because the plug-in can emit MIDI commands as well as rereading them.
- ▶ AU and RTAS version of the plug-in does not emit MIDI commands, but can receive them.

Either plug-in versions (VST, RTAS, AU) can receive commands from any MIDI channel, but only VST version will always send them on channel 1.

Default MIDI commands are NRPNs. The plug-in can receive them with a 7-bit or 14-bit resolution, and will always send them (for VST) with a 14-bit resolution to reach maximum accuracy. However, if you sequencer or MIDI controller does not support NRPN, it is possible to use CC numbers also.

The section *What is NRPN ?* describe the NRPN system in more details. However you may skip that section which is highly

technical : the auto-bind feature makes direct use of NRPN useless unless some very specific MIDI needs.


### 2. Selecting MIDI devices

On Macintosh, the only available input port is the native format port :

- ▶ *VST MIDI In Interface* for VST,
- ▶ *Audio Units MIDI In Interface* for Audio Units,
- ▶ *RTAS MIDI In Interface* for RTAS.

On Macintosh also, only the VST version will have the available output VST native port.

On Windows VST, the available input port are the one written above, and all other MIDI interface available for input and correctly managed by Windows. The available output ports are the native *VST MIDI Out Interface*, as well as all other MIDI interface available for output and correctly managed by Windows.

 No output ports are available for the Predatohm Plug-in, this is normal.

Before using MIDI, you will want to ensure that the Plug-In correctly receive the MIDI signal. To do this, you will want to read the *User Interface Features* chapter to setup MIDI in your audio configuration and have general informations on MIDI support, as well as reading your host manual for additional MIDI setup informations.

For example on some Audio Unit hosts, such as Apple Logic, the host requires that the Plug-in is explicitly instantiated as a Midified-FX in order to receive MIDI commands. In Logic, you will need to instantiate the Plug-in on a MIDI track as an input, choosing the Midified-FX version of the Plug-in. Then you will have to sidechain the audio from the plug-in window toolbar. The latter note is only

pertinent for Audio Unit Effects as Audio Unit Instruments are implicitly connected to MIDI.

### 3. Binding parameters to MIDI controls

The easiest way to Bind a parameter with a specific MIDI controller knob or fader (or any MIDI Control Change) is to use the Auto-bind feature. First, activate the Auto-bind mode by checking *MIDI/Auto-bind* in the *Setup* menu.

If you have already selected a parameter its name will be displayed in brackets in the menu, like this:

```
Auto-bind [target: Volume]
```

If not, click on the Knob you want to bind to a MIDI control message. Only the last one selected will be taken into account for Binding.

Once you have chosen the parameter, send a MIDI event to the plug-in (for example, turn a knob on your external MIDI controller). It can be a simple CC, an RPN or an NRPN command. As soon as the event is received, the connection is created automatically, and the MIDI command will remain associated with this parameter. Only one parameter can be bound to each MIDI command, and visa versa. If you want to Bind more parameters, repeat the procedure: select another parameter, and send another MIDI event. Do not forget to exit the Auto-bind mode, by un-checking the corresponding entry in the *Setup* menu, when you have finished.

If you have numerous parameters to Bind each time you want to use the plug-in, you can save the configuration for later use. Currently selected ports will also be saved. The inner configuration file syntax is available in the chapter *Settings File Reference*.

### 4. What is NRPN ?


An NRPN allows 14-bit data to control a MIDI device, which allows greater flexibility than using a single MIDI CC.

There are 16384 possible NRPN's, each one having a 14 bit value (i.e. a value between 0 and 16383). The system uses 4 predefined MIDI CC's. Data is sent to the MIDI device in two phases : first the NRPN number, and then the NRPN value.

So, what's the advantage of the NRPN system over traditional Control Change? It allows to control much more parameter than the traditional CC, and with a far better resolution.

CC 99 and 98 are used to send the NRPN number. The value transmitted by CC 99 represents the first 7 bits of the value, the one being transmitted by CC 98 represents the last 7 bits of the NRPN number. Then, you use CC 6 and 38 to send the required value. If you want to only send a 7 bit value, simply send the CC 6. So, for example, to send NRPN #831 value 257, you have to send:

```
CC \#99, value 6  
CC \#98, value 63  
CC \#06, value 2  
CC \#38, value 1
```

 You don't have to send the NRPN number each time, as the Hematohm remembers the currently selected NRPN number.

Moving on with this example, if you want to set NRPN #831 to value 0 and NRPN #832 to value 127, you would have to send the following:

```
CC \#06, value 0  
CC \#38, value 0
```

Now, NRPN #831 is 0.

```
CC \#98, value 64
```

Now, the NRPN number is 832. You don't have to send the MSB number if it did not change.

```
CC \#38, value 127
```

As we already sent [CC #06, value 0], we don't need to send it again.

## 5. NRPN to CC#99 & CC#98 Tables

NRPN	CC99	CC98	NRPN	CC99	CC98	NRPN	CC99	CC98	NRPN	CC99	CC98
0	0	0	46	0	46	92	0	92	138	1	10
1	0	1	47	0	47	93	0	93	139	1	11
2	0	2	48	0	48	94	0	94	140	1	12
3	0	3	49	0	49	95	0	95	141	1	13
4	0	4	50	0	50	96	0	96	142	1	14
5	0	5	51	0	51	97	0	97	143	1	15
6	0	6	52	0	52	98	0	98	144	1	16
7	0	7	53	0	53	99	0	99	145	1	17
8	0	8	54	0	54	100	0	100	146	1	18
9	0	9	55	0	55	101	0	101	147	1	19
10	0	10	56	0	56	102	0	102	148	1	20
11	0	11	57	0	57	103	0	103	149	1	21
12	0	12	58	0	58	104	0	104	150	1	22
13	0	13	59	0	59	105	0	105	151	1	23
14	0	14	60	0	60	106	0	106	152	1	24
15	0	15	61	0	61	107	0	107	153	1	25
16	0	16	62	0	62	108	0	108	154	1	26
17	0	17	63	0	63	109	0	109	155	1	27
18	0	18	64	0	64	110	0	110	156	1	28
19	0	19	65	0	65	111	0	111	157	1	29
20	0	20	66	0	66	112	0	112	158	1	30
21	0	21	67	0	67	113	0	113	159	1	31
22	0	22	68	0	68	114	0	114	160	1	32
23	0	23	69	0	69	115	0	115	161	1	33
24	0	24	70	0	70	116	0	116	162	1	34
25	0	25	71	0	71	117	0	117	163	1	35
26	0	26	72	0	72	118	0	118	164	1	36
27	0	27	73	0	73	119	0	119	165	1	37
28	0	28	74	0	74	120	0	120	166	1	38
29	0	29	75	0	75	121	0	121	167	1	39
30	0	30	76	0	76	122	0	122	168	1	40
31	0	31	77	0	77	123	0	123	169	1	41
32	0	32	78	0	78	124	0	124	170	1	42
33	0	33	79	0	79	125	0	125	171	1	43
34	0	34	80	0	80	126	0	126	172	1	44
35	0	35	81	0	81	127	0	127	173	1	45
36	0	36	82	0	82	128	1	0	174	1	46
37	0	37	83	0	83	129	1	1	175	1	47
38	0	38	84	0	84	130	1	2	176	1	48
39	0	39	85	0	85	131	1	3	177	1	49
40	0	40	86	0	86	132	1	4	178	1	50
41	0	41	87	0	87	133	1	5	179	1	51
42	0	42	88	0	88	134	1	6	180	1	52
43	0	43	89	0	89	135	1	7	181	1	53
44	0	44	90	0	90	136	1	8	182	1	54
45	0	45	91	0	91	137	1	9	183	1	55



NRPN	CC99	CC98	NRPN	CC99	CC98	NRPN	CC99	CC98	NRPN	CC99	CC98
184	1	56	232	1	104	280	2	24	328	2	72
185	1	57	233	1	105	281	2	25	329	2	73
186	1	58	234	1	106	282	2	26	330	2	74
187	1	59	235	1	107	283	2	27	331	2	75
188	1	60	236	1	108	284	2	28	332	2	76
189	1	61	237	1	109	285	2	29	333	2	77
190	1	62	238	1	110	286	2	30	334	2	78
191	1	63	239	1	111	287	2	31	335	2	79
192	1	64	240	1	112	288	2	32	336	2	80
193	1	65	241	1	113	289	2	33	337	2	81
194	1	66	242	1	114	290	2	34	338	2	82
195	1	67	243	1	115	291	2	35	339	2	83
196	1	68	244	1	116	292	2	36	340	2	84
197	1	69	245	1	117	293	2	37	341	2	85
198	1	70	246	1	118	294	2	38	342	2	86
199	1	71	247	1	119	295	2	39	343	2	87
200	1	72	248	1	120	296	2	40	344	2	88
201	1	73	249	1	121	297	2	41	345	2	89
202	1	74	250	1	122	298	2	42	346	2	90
203	1	75	251	1	123	299	2	43	347	2	91
204	1	76	252	1	124	300	2	44	348	2	92
205	1	77	253	1	125	301	2	45	349	2	93
206	1	78	254	1	126	302	2	46	350	2	94
207	1	79	255	1	127	303	2	47	351	2	95
208	1	80	256	2	0	304	2	48	352	2	96
209	1	81	257	2	1	305	2	49	353	2	97
210	1	82	258	2	2	306	2	50	354	2	98
211	1	83	259	2	3	307	2	51	355	2	99
212	1	84	260	2	4	308	2	52	356	2	100
213	1	85	261	2	5	309	2	53	357	2	101
214	1	86	262	2	6	310	2	54	358	2	102
215	1	87	263	2	7	311	2	55	359	2	103
216	1	88	264	2	8	312	2	56	360	2	104
217	1	89	265	2	9	313	2	57	361	2	105
218	1	90	266	2	10	314	2	58	362	2	106
219	1	91	267	2	11	315	2	59	363	2	107
220	1	92	268	2	12	316	2	60	364	2	108
221	1	93	269	2	13	317	2	61	365	2	109
222	1	94	270	2	14	318	2	62	366	2	110
223	1	95	271	2	15	319	2	63	367	2	111
224	1	96	272	2	16	320	2	64	368	2	112
225	1	97	273	2	17	321	2	65	369	2	113
226	1	98	274	2	18	322	2	66	370	2	114
227	1	99	275	2	19	323	2	67	371	2	115
228	1	100	276	2	20	324	2	68	372	2	116
229	1	101	277	2	21	325	2	69	373	2	117
230	1	102	278	2	22	326	2	70	374	2	118
231	1	103	279	2	23	327	2	71	375	2	119

NRPN	CC99	CC98	NRPN	CC99	CC98	NRPN	CC99	CC98	NRPN	CC99	CC98
376	2	120	424	3	40	472	3	88	520	4	8
377	2	121	425	3	41	473	3	89	521	4	9
378	2	122	426	3	42	474	3	90	522	4	10
379	2	123	427	3	43	475	3	91	523	4	11
380	2	124	428	3	44	476	3	92	524	4	12
381	2	125	429	3	45	477	3	93	525	4	13
382	2	126	430	3	46	478	3	94	526	4	14
383	2	127	431	3	47	479	3	95	527	4	15
384	3	0	432	3	48	480	3	96	528	4	16
385	3	1	433	3	49	481	3	97	529	4	17
386	3	2	434	3	50	482	3	98	530	4	18
387	3	3	435	3	51	483	3	99	531	4	19
388	3	4	436	3	52	484	3	100	532	4	20
389	3	5	437	3	53	485	3	101	533	4	21
390	3	6	438	3	54	486	3	102	534	4	22
391	3	7	439	3	55	487	3	103	535	4	23
392	3	8	440	3	56	488	3	104	536	4	24
393	3	9	441	3	57	489	3	105	537	4	25
394	3	10	442	3	58	490	3	106	538	4	26
395	3	11	443	3	59	491	3	107	539	4	27
396	3	12	444	3	60	492	3	108	540	4	28
397	3	13	445	3	61	493	3	109	541	4	29
398	3	14	446	3	62	494	3	110	542	4	30
399	3	15	447	3	63	495	3	111	543	4	31
400	3	16	448	3	64	496	3	112	544	4	32
401	3	17	449	3	65	497	3	113	545	4	33
402	3	18	450	3	66	498	3	114	546	4	34
403	3	19	451	3	67	499	3	115	547	4	35
404	3	20	452	3	68	500	3	116	548	4	36
405	3	21	453	3	69	501	3	117	549	4	37
406	3	22	454	3	70	502	3	118	550	4	38
407	3	23	455	3	71	503	3	119	551	4	39
408	3	24	456	3	72	504	3	120	552	4	40
409	3	25	457	3	73	505	3	121	553	4	41
410	3	26	458	3	74	506	3	122	554	4	42
411	3	27	459	3	75	507	3	123	555	4	43
412	3	28	460	3	76	508	3	124	556	4	44
413	3	29	461	3	77	509	3	125	557	4	45
414	3	30	462	3	78	510	3	126	558	4	46
415	3	31	463	3	79	511	3	127	559	4	47
416	3	32	464	3	80	512	4	0	560	4	48
417	3	33	465	3	81	513	4	1	561	4	49
418	3	34	466	3	82	514	4	2	562	4	50
419	3	35	467	3	83	515	4	3	563	4	51
420	3	36	468	3	84	516	4	4	564	4	52
421	3	37	469	3	85	517	4	5	565	4	53
422	3	38	470	3	86	518	4	6	566	4	54
423	3	39	471	3	87	519	4	7	567	4	55

NRPN	CC99	CC98	NRPN	CC99	CC98	NRPN	CC99	CC98	NRPN	CC99	CC98
568	4	56	616	4	104	664	5	24	712	5	72
569	4	57	617	4	105	665	5	25	713	5	73
570	4	58	618	4	106	666	5	26	714	5	74
571	4	59	619	4	107	667	5	27	715	5	75
572	4	60	620	4	108	668	5	28	716	5	76
573	4	61	621	4	109	669	5	29	717	5	77
574	4	62	622	4	110	670	5	30	718	5	78
575	4	63	623	4	111	671	5	31	719	5	79
576	4	64	624	4	112	672	5	32	720	5	80
577	4	65	625	4	113	673	5	33	721	5	81
578	4	66	626	4	114	674	5	34	722	5	82
579	4	67	627	4	115	675	5	35	723	5	83
580	4	68	628	4	116	676	5	36	724	5	84
581	4	69	629	4	117	677	5	37	725	5	85
582	4	70	630	4	118	678	5	38	726	5	86
583	4	71	631	4	119	679	5	39	727	5	87
584	4	72	632	4	120	680	5	40	728	5	88
585	4	73	633	4	121	681	5	41	729	5	89
586	4	74	634	4	122	682	5	42	730	5	90
587	4	75	635	4	123	683	5	43	731	5	91
588	4	76	636	4	124	684	5	44	732	5	92
589	4	77	637	4	125	685	5	45	733	5	93
590	4	78	638	4	126	686	5	46	734	5	94
591	4	79	639	4	127	687	5	47	735	5	95
592	4	80	640	5	0	688	5	48	736	5	96
593	4	81	641	5	1	689	5	49	737	5	97
594	4	82	642	5	2	690	5	50	738	5	98
595	4	83	643	5	3	691	5	51	739	5	99
596	4	84	644	5	4	692	5	52	740	5	100
597	4	85	645	5	5	693	5	53	741	5	101
598	4	86	646	5	6	694	5	54	742	5	102
599	4	87	647	5	7	695	5	55	743	5	103
600	4	88	648	5	8	696	5	56	744	5	104
601	4	89	649	5	9	697	5	57	745	5	105
602	4	90	650	5	10	698	5	58	746	5	106
603	4	91	651	5	11	699	5	59	747	5	107
604	4	92	652	5	12	700	5	60	748	5	108
605	4	93	653	5	13	701	5	61	749	5	109
606	4	94	654	5	14	702	5	62	750	5	110
607	4	95	655	5	15	703	5	63	751	5	111
608	4	96	656	5	16	704	5	64	752	5	112
609	4	97	657	5	17	705	5	65	753	5	113
610	4	98	658	5	18	706	5	66	754	5	114
611	4	99	659	5	19	707	5	67	755	5	115
612	4	100	660	5	20	708	5	68	756	5	116
613	4	101	661	5	21	709	5	69	757	5	117
614	4	102	662	5	22	710	5	70	758	5	118
615	4	103	663	5	23	711	5	71	759	5	119

NRPN	CC99	CC98	NRPN	CC99	CC98	NRPN	CC99	CC98	NRPN	CC99	CC98
760	5	120	808	6	40	856	6	88	904	7	8
761	5	121	809	6	41	857	6	89	905	7	9
762	5	122	810	6	42	858	6	90	906	7	10
763	5	123	811	6	43	859	6	91	907	7	11
764	5	124	812	6	44	860	6	92	908	7	12
765	5	125	813	6	45	861	6	93	909	7	13
766	5	126	814	6	46	862	6	94	910	7	14
767	5	127	815	6	47	863	6	95	911	7	15
768	6	0	816	6	48	864	6	96	912	7	16
769	6	1	817	6	49	865	6	97	913	7	17
770	6	2	818	6	50	866	6	98	914	7	18
771	6	3	819	6	51	867	6	99	915	7	19
772	6	4	820	6	52	868	6	100	916	7	20
773	6	5	821	6	53	869	6	101	917	7	21
774	6	6	822	6	54	870	6	102	918	7	22
775	6	7	823	6	55	871	6	103	919	7	23
776	6	8	824	6	56	872	6	104	920	7	24
777	6	9	825	6	57	873	6	105	921	7	25
778	6	10	826	6	58	874	6	106	922	7	26
779	6	11	827	6	59	875	6	107	923	7	27
780	6	12	828	6	60	876	6	108	924	7	28
781	6	13	829	6	61	877	6	109	925	7	29
782	6	14	830	6	62	878	6	110	926	7	30
783	6	15	831	6	63	879	6	111	927	7	31
784	6	16	832	6	64	880	6	112	928	7	32
785	6	17	833	6	65	881	6	113	929	7	33
786	6	18	834	6	66	882	6	114	930	7	34
787	6	19	835	6	67	883	6	115	931	7	35
788	6	20	836	6	68	884	6	116	932	7	36
789	6	21	837	6	69	885	6	117	933	7	37
790	6	22	838	6	70	886	6	118	934	7	38
791	6	23	839	6	71	887	6	119	935	7	39
792	6	24	840	6	72	888	6	120	936	7	40
793	6	25	841	6	73	889	6	121	937	7	41
794	6	26	842	6	74	890	6	122	938	7	42
795	6	27	843	6	75	891	6	123	939	7	43
796	6	28	844	6	76	892	6	124	940	7	44
797	6	29	845	6	77	893	6	125	941	7	45
798	6	30	846	6	78	894	6	126	942	7	46
799	6	31	847	6	79	895	6	127	943	7	47
800	6	32	848	6	80	896	7	0	944	7	48
801	6	33	849	6	81	897	7	1	945	7	49
802	6	34	850	6	82	898	7	2	946	7	50
803	6	35	851	6	83	899	7	3	947	7	51
804	6	36	852	6	84	900	7	4	948	7	52
805	6	37	853	6	85	901	7	5	949	7	53
806	6	38	854	6	86	902	7	6	950	7	54
807	6	39	855	6	87	903	7	7	951	7	55

NRPN	CC99	CC98	NRPN	CC99	CC98	NRPN	CC99	CC98	NRPN	CC99	CC98
952	7	56	1000	7	104	1048	8	24	1096	8	72
953	7	57	1001	7	105	1049	8	25	1097	8	73
954	7	58	1002	7	106	1050	8	26	1098	8	74
955	7	59	1003	7	107	1051	8	27	1099	8	75
956	7	60	1004	7	108	1052	8	28	1100	8	76
957	7	61	1005	7	109	1053	8	29	1101	8	77
958	7	62	1006	7	110	1054	8	30	1102	8	78
959	7	63	1007	7	111	1055	8	31	1103	8	79
960	7	64	1008	7	112	1056	8	32	1104	8	80
961	7	65	1009	7	113	1057	8	33	1105	8	81
962	7	66	1010	7	114	1058	8	34	1106	8	82
963	7	67	1011	7	115	1059	8	35	1107	8	83
964	7	68	1012	7	116	1060	8	36	1108	8	84
965	7	69	1013	7	117	1061	8	37	1109	8	85
966	7	70	1014	7	118	1062	8	38	1110	8	86
967	7	71	1015	7	119	1063	8	39	1111	8	87
968	7	72	1016	7	120	1064	8	40	1112	8	88
969	7	73	1017	7	121	1065	8	41	1113	8	89
970	7	74	1018	7	122	1066	8	42	1114	8	90
971	7	75	1019	7	123	1067	8	43	1115	8	91
972	7	76	1020	7	124	1068	8	44	1116	8	92
973	7	77	1021	7	125	1069	8	45	1117	8	93
974	7	78	1022	7	126	1070	8	46	1118	8	94
975	7	79	1023	7	127	1071	8	47	1119	8	95
976	7	80	1024	8	0	1072	8	48	1120	8	96
977	7	81	1025	8	1	1073	8	49	1121	8	97
978	7	82	1026	8	2	1074	8	50	1122	8	98
979	7	83	1027	8	3	1075	8	51	1123	8	99
980	7	84	1028	8	4	1076	8	52	1124	8	100
981	7	85	1029	8	5	1077	8	53	1125	8	101
982	7	86	1030	8	6	1078	8	54	1126	8	102
983	7	87	1031	8	7	1079	8	55	1127	8	103
984	7	88	1032	8	8	1080	8	56	1128	8	104
985	7	89	1033	8	9	1081	8	57	1129	8	105
986	7	90	1034	8	10	1082	8	58	1130	8	106
987	7	91	1035	8	11	1083	8	59	1131	8	107
988	7	92	1036	8	12	1084	8	60	1132	8	108
989	7	93	1037	8	13	1085	8	61	1133	8	109
990	7	94	1038	8	14	1086	8	62	1134	8	110
991	7	95	1039	8	15	1087	8	63	1135	8	111
992	7	96	1040	8	16	1088	8	64	1136	8	112
993	7	97	1041	8	17	1089	8	65	1137	8	113
994	7	98	1042	8	18	1090	8	66	1138	8	114
995	7	99	1043	8	19	1091	8	67	1139	8	115
996	7	100	1044	8	20	1092	8	68	1140	8	116
997	7	101	1045	8	21	1093	8	69	1141	8	117
998	7	102	1046	8	22	1094	8	70	1142	8	118
999	7	103	1047	8	23	1095	8	71	1143	8	119

NRPN	CC99	CC98	NRPN	CC99	CC98	NRPN	CC99	CC98	NRPN	CC99	CC98
1144	8	120	1192	9	40	1240	9	88	1288	10	8
1145	8	121	1193	9	41	1241	9	89	1289	10	9
1146	8	122	1194	9	42	1242	9	90	1290	10	10
1147	8	123	1195	9	43	1243	9	91	1291	10	11
1148	8	124	1196	9	44	1244	9	92	1292	10	12
1149	8	125	1197	9	45	1245	9	93	1293	10	13
1150	8	126	1198	9	46	1246	9	94	1294	10	14
1151	8	127	1199	9	47	1247	9	95	1295	10	15
1152	9	0	1200	9	48	1248	9	96	1296	10	16
1153	9	1	1201	9	49	1249	9	97	1297	10	17
1154	9	2	1202	9	50	1250	9	98	1298	10	18
1155	9	3	1203	9	51	1251	9	99	1299	10	19
1156	9	4	1204	9	52	1252	9	100	1300	10	20
1157	9	5	1205	9	53	1253	9	101	1301	10	21
1158	9	6	1206	9	54	1254	9	102	1302	10	22
1159	9	7	1207	9	55	1255	9	103	1303	10	23
1160	9	8	1208	9	56	1256	9	104	1304	10	24
1161	9	9	1209	9	57	1257	9	105	1305	10	25
1162	9	10	1210	9	58	1258	9	106	1306	10	26
1163	9	11	1211	9	59	1259	9	107	1307	10	27
1164	9	12	1212	9	60	1260	9	108	1308	10	28
1165	9	13	1213	9	61	1261	9	109	1309	10	29
1166	9	14	1214	9	62	1262	9	110	1310	10	30
1167	9	15	1215	9	63	1263	9	111	1311	10	31
1168	9	16	1216	9	64	1264	9	112	1312	10	32
1169	9	17	1217	9	65	1265	9	113	1313	10	33
1170	9	18	1218	9	66	1266	9	114	1314	10	34
1171	9	19	1219	9	67	1267	9	115	1315	10	35
1172	9	20	1220	9	68	1268	9	116	1316	10	36
1173	9	21	1221	9	69	1269	9	117	1317	10	37
1174	9	22	1222	9	70	1270	9	118	1318	10	38
1175	9	23	1223	9	71	1271	9	119	1319	10	39
1176	9	24	1224	9	72	1272	9	120	1320	10	40
1177	9	25	1225	9	73	1273	9	121	1321	10	41
1178	9	26	1226	9	74	1274	9	122	1322	10	42
1179	9	27	1227	9	75	1275	9	123	1323	10	43
1180	9	28	1228	9	76	1276	9	124	1324	10	44
1181	9	29	1229	9	77	1277	9	125	1325	10	45
1182	9	30	1230	9	78	1278	9	126	1326	10	46
1183	9	31	1231	9	79	1279	9	127	1327	10	47
1184	9	32	1232	9	80	1280	10	0	1328	10	48
1185	9	33	1233	9	81	1281	10	1	1329	10	49
1186	9	34	1234	9	82	1282	10	2	1330	10	50
1187	9	35	1235	9	83	1283	10	3	1331	10	51
1188	9	36	1236	9	84	1284	10	4	1332	10	52
1189	9	37	1237	9	85	1285	10	5	1333	10	53
1190	9	38	1238	9	86	1286	10	6	1334	10	54
1191	9	39	1239	9	87	1287	10	7	1335	10	55

## CHAPTER 5 MIDI Control: Hematohm

The following table helps to match parameters to NRPN numbers.

NRPN	Parameter	Remark
0	Tempo	
1	Dry/Wet Mix	
2	Effect Amount	
3	LFO Period	
4	LFO Depth	
5	LFO Waveform	
6	Envelope Amount	
7	Envelope Attack Time	
8	Envelope Release Time	
9	Delay Routing	0 = Direct
10	Delay Time	
11	Delay Feedback	

# CHAPTER 6 Settings File Reference

## Contents

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This chapter is very technical. For now, settings files only contains MIDI parameter mapping, if available.

To create a settings file, select *Save Settings* from the *Setup* menu. Locate the file on your system and open it using a regular text editor, such as *NotePad* on Windows, or *TextEdit* on MacOS X.

### 1. Syntax

Its modular structure allows you to suppress, add or move the ‘keys’ making up the file. Each key represents a particular property of the plug-in. Just respect the syntax (key names are case sensitive) and the structure, and you’ll be fine. The keys work with a simple syntax:

```
KeyName1 = key value  
KeyName2 = key value  
...
```

Or

```
KeyName3 =  
{  
    KeyName4 = key value  
    // Some comment after the "//"  
    KeyName5 = key value  
    ...  
}
```

The second example shows a hierarchy, where a key contains other keys. Thus, it is possible to load partial configurations and to merge it with the current one. Only the keys in the file will be taken into account. However, saving will store all the keys into the file.

### 2. Practical Use: Reordering Parameters

You may want to reorder parameters so to be able to automate them within host that can only automate a limited numbers of parameters.

Settings file for the parameter reorder map look likes:

```
parameter_reorder_map = {  
    0_Stereo_Boost  
    1_Fdbk_Freq  
    2_Fdbk_Amnt  
    3_Tone_Freq  
    4_Tone_Shape  
    5_Master_Vol  
    ...  
}
```

You may reorder the parameters to change the way they are exposed to the host. Suppose that in the last example the host would only be able to automate 4 parameters.

Then `4_Tone_Shape` and `5_Master_Vol` would not be automable. If you want to make them automable to the detriment of, let’s say, `2_Fdbk_Amnt` and `3_Tone_Freq`, you would produce the following file:

```
parameter_reorder_map = {  
    0_Stereo_Boost  
    4_Tone_Shape  
    5_Master_Vol  
    1_Fdbk_Freq  
    2_Fdbk_Amnt  
    3_Tone_Freq  
    ...  
}
```

Simply cutting and pasting the lines will permit you to reorder the parameters. But do not change the numbers, as they are actually identifying the parameters (the name is just indicative), please keep each whole line intact.



# CHAPTER 7 Version Notes

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### v1.25 (2005.10.10)

- ▶ autobind is possible using NRPNs.
- ▶ un-bind is now possible. This is a new entry in the setup menu, which also displays the current cc binded to the selected parameter.

### v1.24 (2005.05.13)

- ▶ DP crashes correction
- ▶ AUValidation fixes (mono to stereo problems)
- ▶ Automation to host fix
- ▶ Wave shaper correction

### v1.23 (2004.10.04)

- ▶ A bug was introduced in x.x2 version of the plug-ins. Basically, to support a correct display in Logic controller view, non linear mapping is needed by most of our parameters, this was excluded in error. New versions correct this error but we keep the old build settings so that you can choose between old mode and new modes. This is needed when you have a project using automation which was

created with version x.x2 of the plug-ins. The Mode switch is operated via the setup menu. When linear automation is checked, old mode is on, otherwise new mode is on. Once the mode is changed you must restart the plug-in for the changes to work. (reloading your song will work too) You will be able to load an existing song with automation and play it in either mode (old mode will show the correct automation. New mode will show incorrect automation but it will not crash). Additionally you will be able to load a new song with automation and play it in either mode (new mode will show correct automation. Old mode will show incorrect automation but it will not crash)

- ▶ The upcoming version of Logic supports custom values in the controller view, the plug-ins are compliant with this.
- ▶ Plugins pass AUVal 1b15.
- ▶ Correct AU version impl to be compliant with upcoming Logic plug-in cache.
- ▶ Corrected bypass property reply, which corrected a bug in Live4
- ▶ Corrected parameter name from value, which makes Live4 crash with our 2004/09/08 beta release.
- ▶ Tempo synchronization for host since PT6.1

### v1.22 (2004.03.19)

- ▶ A double mouse click on a knob sets it to its center position.
- ▶ Mac installers now check the code at installation time.
- ▶ Discontinued support for MAS standard.

- ▶ Bug fix: graphic glitches when using Steinberg Cubase and Propellerheads Reason via the ReWire protocol.
- ▶ Bug fix: AudioUnit automation has been fixed, and works in latest Emagic Logic and MOTU Digital Performer.
- ▶ Bug fix: AudioUnit plugin can be put in any AU folder supported by the host.
- ▶ Bug fix: on Mac, when saving a preset file, the plug-in will not prompt twice for overwriting any more.

### **v1.20 (2003.05.13)**

- ▶ VST versions: Possibility to change the parameter order so user can automated the most important ones on hosts supporting only a small number of automated parameters.
- ▶ MIDI on Mac stand-alone versions.
- ▶ Automatic configuration loading at startup (Setup menu)

### **v1.14 (2002.12.20)**

- ▶ Bug fix : Stand-alone versions now work correctly on Windows 98.
- ▶ Bug fix : MIDI working in Windows stand-alone versions.
- ▶ Bug fix : Macintosh versions could crash because of a conflict in the preference files.
- ▶ Switches and discrete parameters are changed at the beginning of preset morphings instead of continuously changing.

### **v1.13 (2002.12.13)**

- ▶ LFO waveform "White Noise" changed into "Red Noise"

- ▶ Exists as stand-alone version for MacOS and Windows

### **v1.12 (2002.11.07)**

- ▶ RTAS support for Mac
- ▶ Slight performance improvements
- ▶ Miscellaneous (potential) bugs fixed
- ▶ Mac versions : installer fixed

### **v1.11 (2002.07.26)**

- ▶ Pc versions : Bug with Cubase SX fixed
- ▶ small bug in graphic interface fixed

### **v1.10 (2002.06.01)**

- ▶ RPN and NRPN numbers are now correctly assigned.
- ▶ Added compatibility with graphical tablets and Kensington mouse.
- ▶ new MIDI autobind behaviour.
- ▶ Mac/PC VST2 versions : fixed display bug on Emagic Logic.
- ▶ PC VST2 versions : fixed display bug in Ableton Live 1.5
- ▶ PC VST2 versions : MIDI enabled plugins are now compatible with logic 4.8x
- ▶ Mac VST2 versions : MP Advanced bug fixed
- ▶ Mac VST2 versions : Bug with menus on some hosts removed.

### **v1.00 (2001.12.10)**

- ▶ Initial release

## CHAPTER 8 FAQ

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## 1. Website

### I've lost my password.

Click on the *Login* button at the top right of the web-site main page, leaving the name and password fields blank, and follow the instructions. Alternatively, click [here](#).

### How can I update my plug-ins?

Open the plug-in you want to update, and select *Update* in the *Setup* menu. You will be directed to the update page, where the new versions will be highlighted. Alternatively, you can log on the site and go to the *My Software* section, *Download Files*.

### How can I register my plug-ins?

Open the plug-in you wish to register, and select *Register* in the *Setup* menu of the plug-in.

### I've lost my plug-in registration key.

Log on the site, go to the *My Software* section, and click on the *Mail Personal Key* button.

## 2. Plug-in installation

### When I try to install the plug-in, the installer tells me that my key is invalid.

Be sure to enter Username and Keycode as they were sent to you. If you received authorisation by e-mail, please copy/paste the two codes. If you are using a boxed version, check for letter '0' and number '0', as well as letter 'I' and number '1'.

### The installer reports an error while installing.

Please find the installer log for the plug-in located in your `~/Library/Logs/` folder. Then send this log [here](#).

### When I double click the installer .bin file, it opens Toast.

Please drag'n'drop the installer .bin file on Stuffit Expander.

## 3. Product

### My host does not let me automate some parameters. What can I do?

Some hosts limit the number of automatable parameters but you can reorder them so that the most important to you are shown. Please read the section about reordering parameters in the plug-in manual. Also the file `easy_vst_automation.cfg.txt` is an example of basic configuration (and most likely the one you'll need). This file will work on VST, AU and RTAS.

### My plug-in does not seem to receive MIDI.

In the plug-in *Setup* menu, check the MIDI input device. It should be set to VST (or AU) MIDI in if you want to receive MIDI from the host. You can choose any other MIDI device as long as it's not used by another application (or the host).

### When I load a Preset from the Load button, the sound does not change.

Our Preset files are in fact Presets Bank files and you will need to click on a Preset button to activate a Preset

### What's the best way to save my Presets?

Using the Ohm Force system to save your Presets will allow you to:

- ▶ Save them by banks (so that you can then morph between related Presets)
- ▶ Use them on any other platform (be it AU, VST, DirectX, Mac, PC...)
- ▶ If you reorder your parameters in the configuration file, then you can be sure that previously saved Presets will still be correctly configured

**I'm finding that the VST-AU wrapped versions (using FXpansion's VST-AU wrapper) of the plug-ins seem to change Presets when I save in Logic 7.1 and Logic 6.4.3 — usually to some extreme setting that creates a horrible noise and endangers my speakers and ears!**

Use the native AU versions.

### **Can I share my Presets with the other customers?**

Yes, simply write us a mail along with the Presets (under the Ohm Force format). We'll add them to the Presets section of the site.

### **How can I get the Muse Receptor version of the plug-ins?**

You can buy Receptor versions on the [Plugorama web-site](#). In case you already own a 'Pack' version of some plug-ins, or a bundle with multiple platform support, you can get those for free, also on the Plugorama web-site.

## **4. Macintosh Specific**

### **Will the plug-in work in MacOS X Tiger?**

Please download the demos. That way you can easily check that everything will work correctly with your audio environment.

### **The plug-in will fail validation ! - I have a line in the report which states: "ERROR: Parameter's min value is greater than max value"**

Please go to your home folder, then Library/, then /Preferences/ then locate the Ohm Force/ folder and finally the folder which is named after the plug-in name. Trash the latter folder.

This error is caused when the plug-in is put in the old incorrect linear automation mode. If you need this mode to be the

old one (mainly for backward compatibility with your older projects), you can put this option back on from the setup menu *after validation*.

As stated in our manuals, new users of Ohm Force plug-ins are strongly recommended *not* to use this option (that is leave the Linear Automation *not checked* in the setup menu)

### **The plug-in does not pass AU validation.**

Please download the latest version of the plug-in. If it still does not pass validation, please send us the validation report [here](#).

### **The plug-in crashes validation.**

Please download the latest version of the plug-in. If it still crashes validation, please send the validation report and the crash log [here](#). The crash log can be found in your ~/Library/Logs/Crash Reporter/ folder. The file you need to send us contains a reference to "auval" in its name.

### **The plug-in crashes my host.**

Please download the latest version of the plug-in. If it still crashes your host, please send us the crash log [here](#). The crash log can be found in your ~/Library/Logs/Crash Reporter/ folder. The file you need to send us contains the host name in its name.

### **I bought the Ohm Force Experience boxed version, and the AU plug-ins won't work.**

Please download the latest version of the plug-ins. You will have to create an account on our site (<http://www.ohmforce.com>), and then register your OFE on our site [here](#).

### **The plug-ins make Digital Performer crash while using them in mono to stereo mode.**

Please download the latest version of the plug-in which will resolve this issue.

## 5. Hosts Related

### **Under Logic, the plug-in will not receive MIDI commands.**

Some hosts, such as Apple Logic, requires that the Plug-in is instantiated as a Midified-FX in order to receive MIDI commands. For example in Logic, you need to instantiate the Plug-in on a MIDI track as an input, choosing the Midified-FX version of the Plug-in. Then you have to sidechain the audio from the plug-in window toolbar.

### **Under Tracktion, the plug-in settings change when I save my project!**

This may happen when two Ohm Force plug-ins are following each others in a track. This is because Tracktion connects the two plug-ins via MIDI. When you save your project, the upstream plug-in sends MIDI controls to the downstream plug-in, changing it's setting! So, what can you do? Disable the MIDI output of the plug-in by default. First select *None* as MIDI out device in the set-up menu, then save your configuration (*Settings* → *Save*), and set this file to *Auto-load*.

### **My plug-in installed fine, but Cubase SL3/SX3 does not recognise it (the plug-in is not in the plug-ins list).**

It seems that Cubase does not always properly scan the VST plug-in folder, and 'misses' some plug-ins. Re-install the plug-in in a new folder (for example 'tempVST-Plugin'), and in Cubase register this directory as a VST plug-ins directory. This is done in the *Device* → *Plug-in information* menu of Cubase. Then restart Cubase and check the plug-in is correctly listed. Otherwise, [contact us](#).

### **My Plug-ins do not follow Cubase 4 tempo.**

Update to the latest plug-in version.

### **Touch automation doesn't work in Cubase 4.**

Please update to the latest plug-in version.

### **I experience clicks in EnergyXT while morphing Presets.**

Disable the plug-in's MIDI output in the plug-in *Setup* menu (select none instead of VST). This happens only with Quad Frohmag as far as we know.

## 6. OhmBoyz

### **Can I synchronise one of the LFOs to my song?**

Yes, this is possible by sending a specific MIDI NRPN to the plug-in. It's also possible to change the MIDI mapping, and assign a Control Change message for this. Refer to the documentation for more information.

## 7. QuadFrohmag

### **I experience clicks in EnergyXT while morphing Presets.**

Disable the plug-in MIDI output in the QF *Setup* menu (select none instead of VST).

## 8. Ohmygod

### **The plug-in makes no sound.**

Check the playing mode of the filter. If it's set to 'MIDI poly', it will only output something if you send it MIDI notes. Set it to 'Classic' or 'MIDI mono' to hear something without playing.

## 9. Melohman Synthesisers

### **The plug-in uses too much CPU when morphing using the Melohman octave.**

Lower the Melohman density in the *Setup* menu of the plug-in.

# CHAPTER 9 Credits & Thanks

## 1. Credits

- ▶ **Product design:** Laurent de Soras
- ▶ **GUI design:** Raphaël Dingé, Gregory Makles
- ▶ **Code:** Laurent de Soras, Raphaël Dingé
- ▶ **Team managment:** Franck Bacquet
- ▶ **Support:** Vincent Birebent and all the crew
- ▶ **Web:** Franck Bacquet, Vincent Birebent, Eric Cestari, Vincent Frison
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