



# Ohm Force & Future Publishing

# Ohmygod

## Advanced Comb Filters

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# 1. Getting started

Thank you for using the Ohmygod effect. This manual is divided into three sections :

**Getting Started**, which explains how to install the Ohmygod plug-ins and get it working;

**Common features**, rounds up the common features you can see on every Ohm Force effects;

**Effect usage**, which shows you how to operate the plug-in.

## 1.1 Features and requirements

Ohmygod is a high quality comb filters module, which can use extensively MIDI control.

It is built as a VST plug-in, which means you can use it on a large part of the available audio software.

You will need at least 64 MB of RAM, 25 MB on your hard-drive, a Pentium II-compatible CPU on PC machines and a G4-compatible CPU on Apple Macintosh.

- MacOS Classic

Requires OS 9.x and CarbonLib 1.5 or higher. See how to update on the Apple website: <http://www.apple.com/support/>.

- MacOS X

Requires OS 10.1 or higher, Jaguar is recommended.

- Windows

Requires Windows 98, 98 SE, ME, 2000 or XP.

## 1.2 Installing

Run the installer and follow the instructions, which may vary depending on the platform.

## 1.3 First contact

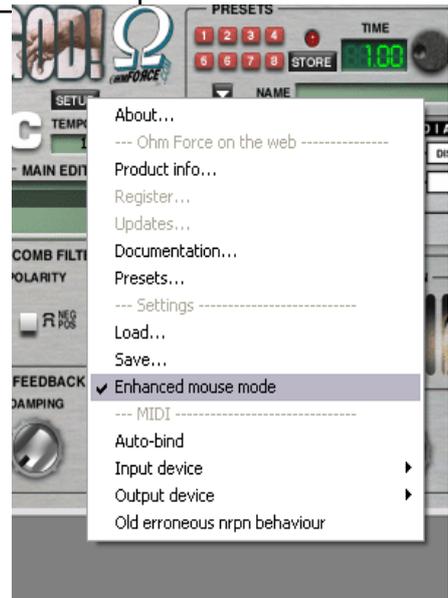
Open Ohmygod and feed it with some sound. The MacOS Classic users should ensure that there is enough memory reserved for the application.

A good way to start the tour is to try the *factory presets*. On the plug-in you will find a frame with eight numbered buttons in it. Click on these buttons to activate each of the eight factory presets.



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

**Note:** If your mouse suddenly goes mad, stay calm and locate the **SETUP** button. Click on it to open the menu and unselect **ENHANCED MOUSE MODE**. This may happen with some mouse, graphic tablets or trackball devices.





## 2. Common features

Ohm Force's plug-ins share a lot of important features. They might not look alike because of graphic design differences, but they have the same basic functionalities. Let's review them.

### 2.1 Preset support

A bank of eight slots enables you to memorize your sound settings, and can be saved on your hard disk. Those banks are multi-platform; therefore, you can use your presets on another computer or with another sequencer.



You can add a transition time when applying a preset, during which the buttons are going to turn slowly to go from the current setting to the new one you have chosen.

#### 2.1.1 Presets / Memorize

To memorize the effect current setting in a preset, click once on the **STORE** button; it will light up. Then click on the button of the preset in which you wish to memorize the effect.



To apply a preset, make sure the **STORE** button is off. To turn it off, click it once. Then click on the preset you want to activate.



#### 2.1.2 Rename

Once you have stored your preset, you can rename it by clicking on the display screen. Press **[RETURN]** to validate your change or **[ESCAPE]** to cancel it. Note that the name applies only to the last selected or memorized preset.



You can check the names in the preset menu by clicking on the small down arrow. This menu acts exactly like the preset buttons, you can apply or record a preset by selecting an entry in the menu.

#### 2.1.3 Transition time

This potentiometer enables you to vary the time the plug-in will take to go from a sound to another when a preset is activate. The time measured in seconds is displayed beside. By default, this duration is to one second. Set it to 0 if you want the immediate preset application.





### 2.1.4 Load / Save Bank

These two buttons will help you save and load your preset banks on the hard disk for a later use. The 8 presets are memorized or loaded at once. During disk loading, the current setting is not modified. There are a lot of presets bundled with your Ohmygod. If you're trying to achieve a particular sound, you can start with a preset close to the idea you have in mind, and tweak the settings to get the wanted result.



## 2.2 Using knobs and faders

Not all the knobs and the faders work the same way. There are two modes: direct action or slide-clicks.

### 2.2.1 Direct action

You can catch the button by giving a long click on it (on the mobile part for the fader) and moving the mouse up or down, keeping the button pressed.

Actually, each button has a *preferred* direction for the mouse movements : it is vertical for the knobs and according to their orientation for the faders. If you move the mouse in the preferred direction, the move will be quick. But, if you move your mouse in the *perpendicular* direction – horizontally for knobs, then the move will be slow and therefore very accurate.



Some buttons have notches to constraint certain values. However it is possible to set the button position between two notches. To achieve this, move the mouse along the perpendicular direction mentioned above.

### 2.2.2 Side-clicks

The button is divided into two zones on which you can click to turn the button on the right or on the left. For the faders, those two zones are on both sides of the moving part. For the knobs, they are at 4:30 and 7:30 on the button. The button will move slowly if you give a long click on these zones without moving the mouse. This can help slightly and quickly adjust a parameter value.



If you click on this zone then move your mouse without releasing it, the button will move automatically, and keep moving even after having released it. When you move the mouse away from where you clicked, the movement of the button will get faster. To stop that move, just click again on the button.



## 2.3 Parameter information and modulation

### 2.3.1 Parameter

This contextual zone depends on which parameter you have chosen – it has a colored outline. Indeed, it would be horrifically complex if all the numeric parameter values were displayed on the interface at once.



- **NAME**

Name of the selected parameter.

- **VALUE**

It is the parameter value expressed with the selected unit. You can edit this value by clicking on it. Press **[RETURN]** to validate your change or **[ESCAPE]** to cancel it.

### 2.3.2 Tempo control

Because many of plug-in's applications are related to music, and therefore to rhythm, it was necessary to take the song tempo into account. Indeed various settings are oscillating or beating, and synchronization with the piece is really convenient.

Some host programs can synchronize the plug-in internal tempo with their own tempo. In this case, the BPM display is only a display. Otherwise, you can change the tempo by clicking on the handle right to the numeric display. You can also edit the numeric display itself.



### 2.3.3 Automation

Every parameter including the LFOs and other modulation devices are potentially automatable on the VST platform. However depending on your host's capabilities, you might be restricted to only 16 fixed parameters, or even none. Check your host reference manual to find out how to automate a parameter.

## 2.4 MIDI support

The Ohmygod plug-in can receive MIDI commands to control parameters (and more, as we will see later in this manual). MIDI can even replace automation, because the plug-in is not only able to receive these commands, it can also emit them when the user twists knobs or pushes buttons.

Effects are in "Omni" mode, meaning they can receive MIDI commands from any channel. However all the commands are sent via Channel 1. Commands can be regular CC (Continuous Controllers), but also RPN and NRPN (Non-Registered Parameter Numbers). Depending on what your MIDI device is supporting, it can be better to use CC or NRPN. CC are the most commonly used by hardware devices, but NRPN have a higher resolution.



The factory MIDI settings are using NRPN, but it is possible to change the mapping at any time. The default mapping is listed in the last section of this manual.

**Note:** MIDI support is disabled in the demo version of the plug-in.

### 2.4.1 Selecting MIDI ports

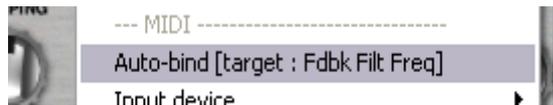
Depending on your host, your MIDI devices and your system settings, you may have one or more available MIDI port, for input and for output. It is possible to select the virtual ports for receiving and sending MIDI events.

To chose the input port – the one on 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. The selected MIDI port will appear checked in the menu. It is possible to chose only one MIDI port for input, and one for output.

A reason for a failed connection is the use of the port by another piece of software or plug-in, likely your host program. In this case, check your host operating manual to know how to free up the port.

### 2.4.2 Binding parameters to MIDI controls

The easiest way to associate a parameter with a specific MIDI controller knob, 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 already selected a parameter before, its name will display in the menu, between brackets, like this: `Autobind [target : Volume]`. If not, select the one you want to bind on a MIDI control change. After auto-bind activation, you can change the selected parameter. Only the last selected one 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 you external MIDI controller). It can be a simple CC, a RPN or a NRPN. As soon as the event is received, the connection is done, the MIDI command will remain associated with the parameter. Only one parameter can be bound to a MIDI command, and vice et 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 unchecking the corresponding entry in the **SETUP** menu.

### 2.4.3 Saving and restoring 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. The 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**.



## Ohm Force Ohmygod User Manual

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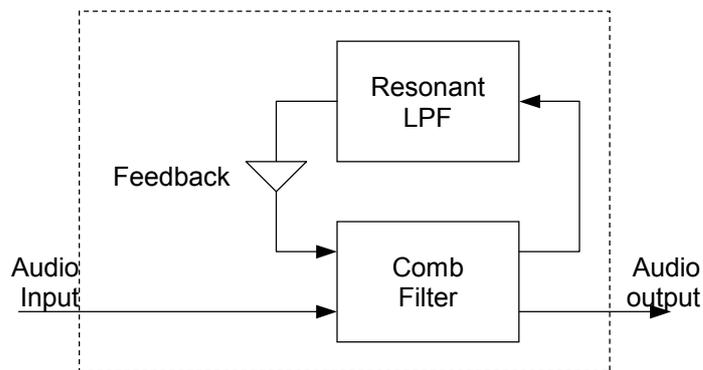
 **Important:** the MIDI configuration is not part of the presets therefore it is not saved with the host song. You have to load the settings manually after having loaded a song on your host application.

The true tech freaks among you will notice one can open the saved file in a text editor and tweak the configuration from here. It is possible to build "partial" configurations by only keeping a couple of the "keys". The content syntax is rather simple but will not be covered much in this manual.

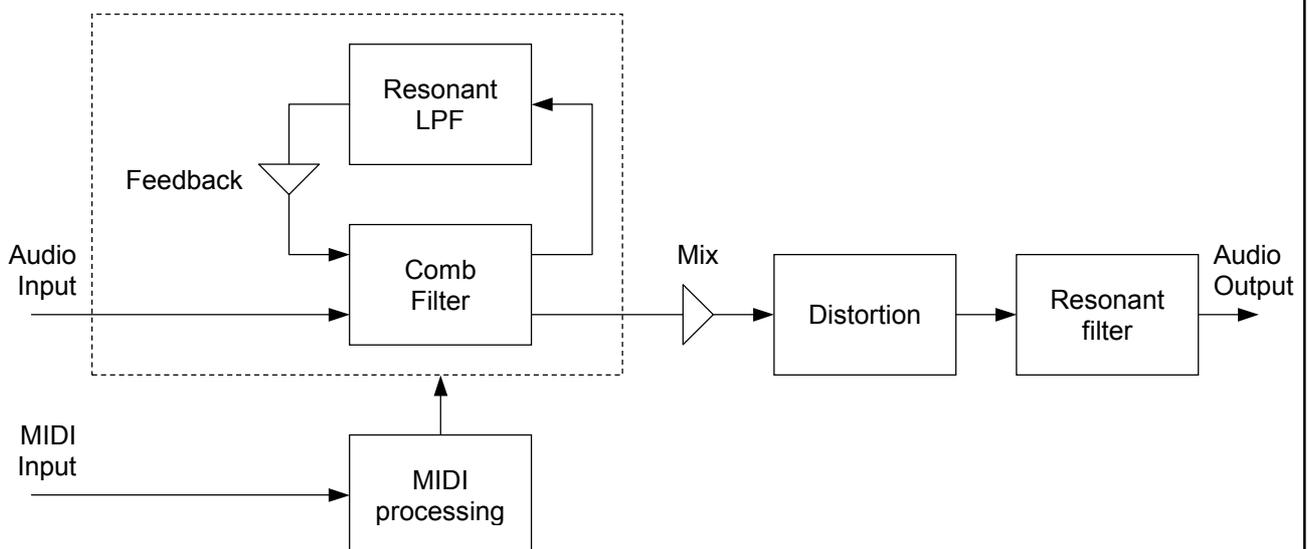
### 3. Effect usage

#### 3.1 Functioning overview

Ohmygod is based on comb filters, which are resonating filters based on a short delays. The resonant low pass filter in the feedback path of the comb filters will allow you to obtain new kind of resonant textures.



The comb filters feed a distortion module, followed by a multi-mode resonant filter.





### 3.2 Play mode

The Ohmygod can behave as a standard, single comb filter, or can be "played" with a MIDI keyboard.



#### 3.2.1 Classic mode

The Ohmygod runs a single comb filter, which frequency is set using the knob **COMB FILTER FREQUENCY**.

#### 3.2.2 MIDI mono mode

The Ohmygod runs a single comb filter, which frequency is set to be the frequency of the last MIDI note played.

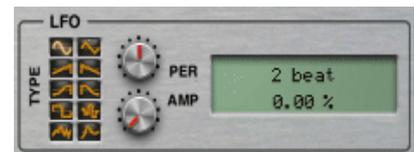
#### 3.2.3 MIDI poly mode

The Ohmygod runs one comb filter per note played (up to ten concurrent comb filters). Each filter frequency is set according to the corresponding note.

When a key is depressed, the input signal is muted on the corresponding comb. When sound has completely faded out, the comb is removed.

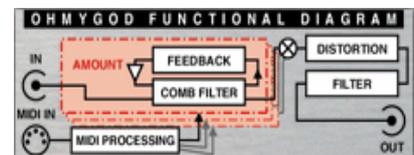
### 3.3 Modulation

A lot of parameters of the Ohmygod can be modulated by a dedicated LFO. As for the main edit display, there is a LFO section whose content change depending of the selected parameter.



Within this panel you will be able to choose the waveform, amplitude and period of the current selected parameter LFO.

When the selected parameter is not modulated (for example, the main output volume), this section is hidden by a scheme of the plug-in layout.



### 3.4 The comb filter module

#### 3.4.1 Comb

On this panel, you will set the main settings for the comb filters.



## POLARITY

Sets the feedback mode of the comb filter, which radically changes the color of the comb.



## FREQUENCY

Sets the frequency of the comb. Only active in classic mode.

## FEEDBACK

This is quite straight forward, as it let you choose the amount of feedback in the comb filter.

## 3.4.2 Feedback filter

This panel let you access the internal the feedback low pass filter.

### DAMPING

Selects the amount of low pass: full left correspond to a flat general curve, full right to low pass filtering.



### CUTOFF

Selects the cutoff and resonance frequency.

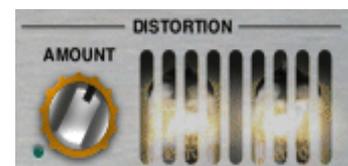
### RESO

Change the resonance amount.

**⚠ Important:** the resonance is still active if damping is set to zero. In this case, the filter is a peak filter.

## 3.5 The distortion module

Here you'll add some distortion, in order to warm nicely the sound or distort it evilly.

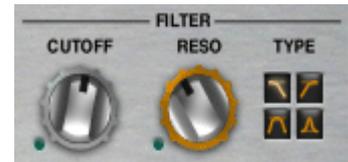




### 3.6 The output filter

The output filter is a multi-mode self-oscillating filter. You can choose here between 4 kind of filters:

-  Low pass filter
-  High pass filter
-  Band pass filter
-  Peak filter



#### CUTOFF

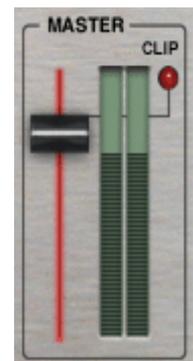
Use this knob to change the cutoff frequency, where the sound is altered within the spectrum.

#### RESO

This is the resonance and sets the height of the filter peak. Over 80%, the filter enters in self-oscillations, meaning it doesn't need any input to produce sounds.

### 3.7 The master section

This is the main output volume fader. The clip indicator next to the vumeter lights whenever the signal raises over 0dB. This doesn't actually clip the signal.





### 3.8 MIDI factory settings

#### 3.8.1 Modulation sub-parameters

Most of the Ohmygod parameters come with modulation capabilities. These capabilities are manifested in sub-parameters accompanying the main parameter. The NRPNs used to control these sub-parameters are always layered in the same order, following the main parameter NRPN.

It would be needlessly dull to list all parameters with their full modulations, so, instead, the names of modulated parameters will just be followed by an asterisk (\*). Use the table below to find the right modulation NRPN from the relevant main parameter one.

NRPN	Sub-parameter
N	Main modulated parameter
N + 1	LFO Period
N + 2	LFO Depth
N + 3	LFO Waveform

#### 3.8.2 Main parameters

NRPN	Parameter
0	Tempo
1	Comb Mode
2	Comb Cutoff *
6	Comb Feedback color
7	Comb Feedback amount *
11	Comb Fdbk Filter Cutoff *
15	Comb Fdbk Filter Reso *
19	Comb Fdbk Filter Amount *
23	Distortion Gain *
27	Post Filter Cutoff *
31	Post Filter Reso *
35	Post Filter Type
36	Master Volume



### 3.8.3 LFO phases

With the following NRPN, you can set the current phase for each LFO. 0 sets a phase of 0°, and 127 (or 16383 if you use 14-bit NRPN values) is about 360°.

NRPN	Parameter
37	Comb Cutoff
38	Comb Feedback amount
39	Comb Fdbk Filter Cutoff
40	Comb Fdbk Filter Reso
41	Comb Fdbk Filter Amount
42	Distortion Gain
43	Post Filter Cutoff
44	Post Filter Reso

