

# HEAR

## User Guide



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# 1 Introduction

Hear greatly improves sound quality in movies and music throughout all of your Mac OS X applications. Hear utilizes the hardware already in your computer and combines that with state of the art DSP programming to give you additional bass, spatialization, 3D surround enhancements of any sound played through your Mac.

Hear extends sound beyond speakers, improves space perception and turns two-speaker system into surround environment. With particular settings, technology can generally improve the sound quality and dynamic range of any type of speakers and headphones.

## 2 System Requirements

Hear requires:

- Mac OS X 10.4 or higher (Leopard compatible)
- Intel or PPC
- 256mb or more memory

## 3 Installation

To install Hear click on Hear.app, this will open the installer program and prompt you for your Mac OS X Administration password. Enter in your password then click OK and then “Continue”. To launch Hear go to the Hear folder in Applications, and click on Hear.app. To uninstall Hear menu>Hear>Uninstall.

## 4 Registering

When you start an un-activated copy of Hear, you will be presented with an Activation window for you to enter in your registration information. You must enter in your name and serial number, click in the checkbox for, “ I agree the license agreement”, and then click “Activate”. If using in Demo mode simply click the Demo button (no serial number required).

## 5 Using Hear

To launch Hear, go to the Application folder and double click on the Hear folder and then on the Hear.app. This is a system-wide control panel you will use to make adjustments to all of the sound in OS X. You are not required to have the Hear control panel open to enjoy. The Hear Audio Server handles all the audio processing in background transparently.

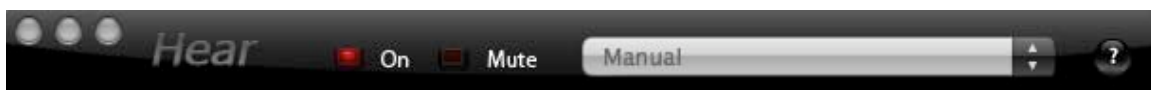
## 6 Presets

Hear provides a wide variety of presets for you to choose from, genres include everything from Dance music to Movie Trailers. You can also select the type of environment the sound will be played in. Only registered users are allowed to create and save presets.



**Figure 1 Preset**

To see all the available presets select the pull up/pull down arrow where it reads “Manual”.

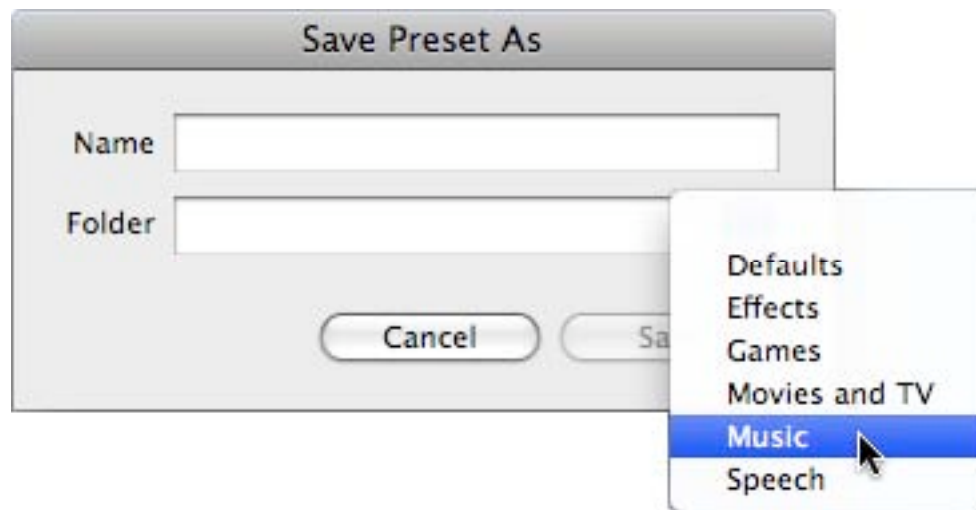


**Figure 2 Manual Preset**

Hear also allows you to modify existing presets. Simply select the preset you wish to change, make your changes in any of the feature options, then select Save Preset under the Hear file menu. If you decide you wish restore modified preset to factory setting, go to Hear menu>Restore Preset.



To create a new preset: Simply select “Manual”, make changes in any of the feature options. To save, go to the Hear menu>File>Save Preset As. A dialog box will appear where you can enter the new preset name or choose existing preset name. You can also choose to save this in any of the existing preset folders or create a new folder.



**Figure 3 Save Preset As**

To delete a preset, select “Delete Preset” from Hear file menu.

## 7 General Tab

General audio control that allows you to see and control sound quality.



Figure 4 General Tab

### 7.1 Volume

Use to gain effect of additional sound amplification or attenuation, turning too high will likely cause sound to distort (clipping). Also, this slider is useful to lower sound volume in case distortion occurs (e.g. too many options are turned on simultaneously).

To adjust the Volume; Position the mouse over the dial and mouse click up, you will notice the volume dial move clockwise to adjust the volume higher. To turn volume down, mouse click down and this will adjust counterclockwise. You can also click to the red dot right of “Volume (db)” to automatically adjust the volume half way, red light will turn on.

### 7.2 Super Bass

This slider adjusts amount of additional SUB- and MID- bass frequencies sent to the speaker system. This effect is useful for some speakers, which lack the power in this kind of frequency.

## 7.3 Ambience

This allows you to add a reverb effect to the output.

## 7.4 DeWoofers

Removes “Woof” like sound of mid frequency range. DeWoofers correction can generally improve quality of old recordings. DeWoofers can also greatly improve sounding of standard desktop speakers, laptop speakers or even low-fi headphones. For all normal speakers systems, recommended value is 25-30%, while with laptop speakers it may perform better while turn to higher point. DeWoofers brings new level of quality, when used with SuperBass effect. The approximate DeWoofers value of 60% is suitable for laptop speakers and light multimedia headphones (e.g., made by Genius, QuickShot, Typhoon, etc.)>

## 7.6 Fidelity

Fidelity effect is designed to enhance sound image by introducing additional harmonics in high frequency range. The technology makes the music sound brighter and reduces low MP3 quality compression artifacts. Fidelity effect also improves aggressive 3d stereo expansion accuracy. In professional audio world similar hardware devices are often called ENHANCERS and EXCITERS.

## 7.7 FX Chain

This function allows you to change the chaining order of the effects applied to the audio. Experiment with this setting to find best possible chain layout.

## 7.8 Enable

The rest of the controls are checkboxes. Each checkbox is called after corresponding effect or tab name, and is used to either enable or disable settings for effects on particular tab.

Note: If checkbox is not checked, controls on appropriate tab will produce no effect. In order for particular tab to affect sound, the corresponding checkbox must be checked.

## 8 Equalizer tab

Hear features the most advanced N-band equalizer with built-in peak limiters.



**Figure 5 EQ Window**

You have a choice here to “Display As” Curve or Sliders. For fine tuning adjustments it is recommended you use the Slider.



**Figure 6 Curve Window**

Curve:

In curve mode you can click and drag the mouse on the band (vertical line with number underneath) and move mouse pointer up or down to fine tune.

Slider:

In slider mode move the slider up or down to adjust higher or lower.

Reset:

Selecting this will reset to default.

Resolution:

Default is 10-band equalizer. You can adjust from 10 to 256 band equalizer, understand increasing the number of bands will result in more CPU usage.



**Figure 5 Resolution options**

Enable: Check box to enable EQ tab.

## 8.1 PreAmp

By using preamp you can gain effect for additional sound amplification or attenuation. Tuning to high will cause sound to distort (clipping). If distortion occurs lower the preamp by moving slider to the left.



Figure 7 Resolution options

## 9 Mixer

This allows you to enable or disable Hear sound control for a particular application.



Figure 8 Mixer Window

### 9.1 DSP

Digital Signal Processor indicates the listed application is enhanced by Hear. Click on the triangle to disable/enable sound enhancements for the selected application..

## 9.2 Volume

To adjust volume for particular application, move slider to the right to make louder, or to the left to make volume lower.

## 9.3 Application

Which Application you will be selecting to adjust, enable or disable sound.

## 9.4 Activity

Displays level of sound activity.

# 10 3D Tab

This is an effect of expanding audio environment out of actual speaker positions.



Figure 9 3D Window

Hear 3D surround technology is an effect of expanding audio environment out of the actual speaker positions. Normally you hear the sound in between the speakers, if the sound comes from the left speaker, it is not heard from the left, but from the speakers position.

When you are sitting in the middle of two front speakers, it is possible to correct the situation by processing the sound. 3D surround does such processing, called “expansion”. It applies several effect envelopes on the primary input signal and outputs surround space.

Note: Speakers should be plugged in proper phase. If they are not, the sound will appear to be closer to the center of the two speakers, instead of space expansion.

If you experience this problem, Hear allows this to be fixed in a feature called “Phase invert”. Phase Invert is located in the Speaker tab.

## **10.1 3D Mode**

This controls the surround effect intensity.

Normal (x1): Standard level of effect. 3D depth is 100%.

Extra (x2): Double processing. 3D depth is 30-40%.

Overload (x3): Deep ambience processing. 3D depth is 10-25%.

V1 Extended: Echoes. Preserves lows and highs.

Enable: Click to enable 3D surround.

## **10.2 3D**

Shows the amount of effect to be applied.

## **10.3 Bass Adjust**

This compensates feedback or bass frequencies. This option creates extended surround for low frequencies. If you like to have a very light sounding space effect, bass adjust level should be lowered.

Note: Fidelity (Fidelity tab) can be useful when used with 3D surround, as it brings extra fidelity to the surround and brightens dim sound.



## 11 Ambience tab

This allows you to add a reverb effect to the output.



**Figure 10 Ambience Window**

This effect has three options.

Room Size: Adjust according to size of room.

Dry: Specifies amount of original sound added.

Wet: Specifies the amount of reverb sound

To adjust the Wet/Dry(db); Position the mouse over the dial and mouse click up, you will notice the Wet/Dry dial move clockwise to adjust the volume higher. To turn Wet/Dry(db) down, mouse click down and this will adjust counterclockwise. You can also click to the left of Wet/Dry(db) to automatically adjust Wet/Dry(db) half way. Red light will turn on.

Enable: Check box to enable Ambience tab.

## 12 FX tab

This is an aggressive type of surround sound remixing. This effect includes two controls, “Space” and “Center”. “Center” controls center bass frequencies, you can control the volume of sounds “center”. “Space” moves the sound aside from the listener. As the effect itself is strong enough, it is not recommended to use 100% values of Space option. Good results are often gained at 25-30% value. This effect is also effective for narrow placed speakers, however placing speakers closely to each other will still require the listener to in the middle of the speakers.



**Figure 11 FX Window**

This is essentially an Aural Exciter feature. This restores the subtle nuances that are often damaged in the recording process.

Enable: Check box to enable FX tab.

## 13 Maximizer

Adjusts the Low and High Contours.



**Figure 12 Maximizer Window**

Low and High Contours adjust the bell shape curve parameters.

Gain: Elevates the Low and High Contour curve.

To adjust the Gain(db); Position the mouse over the dial and mouse click up, you will notice the Gain(db) dial move clockwise to adjust the volume higher. To turn Gain(db) down, mouse click down and this will adjust counterclockwise. You can also click to the left of Gain(db) to automatically adjust Gain(db) half way. Red light will turn on.

Enable: Check box to enable Maximizer tab.

## 14 Brainwave Synthesizer

This includes relaxation, meditation, concentration, etc. This should be adjusted to a particular person, headphones and music style. Each person has different ears and different audio equipment. This affects how a person hears the sound and how the sound passes to the brain. For example, one person can hear sounds clearly, while another person may claim the same sound is incorrect.



**Figure 13 Brainwave Window**

Enable: Check box to enable Brainwave tab.

### 14.1 Concentration

Use this mode to wake you up in the mornings.

### 14.2 Light/Effective Relaxation

Designed for maximum effect while a person is awake.

### 14.2 Deep Relaxation

Designed for use during sleep.

## 15 Limiter

This controls the level of compression.



**Figure 14 Limiter Window**

This effect has two options:

Ceiling: Good values for ceiling are in the range of 30 – 60%.

Threshold: Sets decibel threshold to level which compressor begins to work.

Enable: Check box to enable Limiter tab.

## 16 Space tab

Creates a virtual sounding space around the listener's position.



**Figure 15 Space Window**

Extended space processing creates a virtual re-sounding frame behind the listener position and bounces the sound around. The sound gets bounced multiple times and returns to listener from the back. While the effect utilizes only two speakers, the resounding frame is emulated in 3D space. The width of the resounding frame gives you the spatialization effect. To get the maximum impression, use it together with 3D surround technology.

This effect has two options.

Normal: This effect emulates sound coming from the back.

Wide: Makes the frame wider and places it closer to the listener

Enable: check box to enable Space.

## 17 Fidelity

Aural Exciter Feature. Restores the subtle nuances that are often damaged in the recording process.



Figure 16 Fidelity Window

## 18 Speaker

This enhances the sound of your speakers. Hear technology supports Speaker Adjustment, which widens the frequency range of your speaker system (or headphones) and corrects the output phase (when speakers are assembled incorrectly).



**Figure 17 Speaker Window**

This effect has five options:

**Reduce Bass Resonance:** Allows you to control how much bass is coming through the audio.

**Reduce Cabinet Resonance:** Allows you to adjust mid-range frequencies resonance.

**Accent Mid Range:** Accents mid-frequencies resonance.

**Phase Invert:** This is a fully featured software fix for improperly plugged speakers. Detects improperly connected speakers (speaker wires connected incorrectly).

**Flip Stereo:** Switches the L/R around.

**Enable:** Check box to enable Speaker tab.



## 19 Subwoofer

Virtual subwoofer is a technology of expanding bass frequencies like a real subwoofer would do. Only two speakers are needed to emulate surround subwoofer.



**Figure 18 Subwoofer Window**

This effect has two options.

Overdrive: This affects the sensitivity of the subwoofer

Intensity: This controls the volume of added bass frequencies

Enable: Check box to enable Subwoofer tab.

## 20 Frequency Asked Questions

**Q:** How do I reach JoeSoft Technical Support?

**A:** Technical Support can be reached at:

Email: [support@prosofteng.com](mailto:support@prosofteng.com)

Phone: 1-925-426-6306

Fax: 1-925-426-6309

**Q:** How do I launch Hear?

**A:** Go to the Applications folder and look for the Hear folder. Double click on the Hear.app.

**Q:** How do I detect the right “Phase Invert” state for my speakers?

**A:** Turn on any song with vocals, place speakers closely facing each and touching each other. With one setting of “Phase Invert” the vocals will be heard clearly, while the other speaker will be slightly quieter, or will disappear. Adjust “Phase Invert” so songs vocals are heard clearly.

**Q:** Can you tell me more about the “Reduce Bass Resonance”?

**A:** Yes. This is a good feature to use if you live close to your neighbors, you can filter out low frequencies that bother your neighbors.