

Getting Started

Welcome to NGWave

Thank you for using NGWave, Next Generation Software, Inc's award-winning audio editor for Windows.

Please read on for detailed information on how to get started with NGWave.

Getting Started

NGWave is a sound editing application for Microsoft Windows. NGWave has many features you will not find in other audio editing applications. More specifically, NGWave was engineered from the ground up to be fast and efficient.

Please choose the most appropriate option below:

- [I am new to sound editing on the PC](#)
- [I am familiar with other audio editing applications](#)

Or jump directly to one of the following topics:

- [Keyboard Usage](#)
- [Program Options](#)
- [Dialog Windows](#)
- [Licensing and Ordering Information](#)

You can press the F1 Key in any dialog of NGWave to view help specific to that dialog.

This page is only shown automatically the first time you run NGWave. After that, simply press F1 for help, or visit the [Help](#) menu for more options.

More information is available on our web site: NGWave.com. Check frequently for product updates, news, and support information.

If you are new to NGWave but familiar with other sound editors, be sure to try out our [test scenerios](#) designed to demonstrate first-hand what sets NGWave apart from the rest.

Digital Audio Basics

Help ▶

▶ Digital Audio Basics

When audio is *Digitized*, or Digitally Recorded, the audio data is sampled at regular intervals. The rate at which the audio level is sampled is called the *Sampling Frequency*, or *Sample Rate*.

Each sample is then represented by a number corresponding to the level of the audio at that point. A Compact Disc holds digitized audio that was sampled 44,100 times per second. Each sample is represented as a 16-Bit number, giving it 65,536 possible levels for each sample. The number of bits used to store each sample is referred to as the *Bit Resolution*.

PC Sound Editing

Sound editing on the PC has been around for quite a while. As PCs become faster and less expensive, sound editing becomes easier and more practical.

Operations that would take hours a few short years ago can be accomplished in mere seconds these days. NGWave expands on that, and attempts to be faster at most things than most other editors.

Wave-form Display

The most basic concept in audio editing is the Wave-Form Display. This is basically a visual representation of the sound you are working with. This may not seem to make sense at first -- you certainly can't "see" sound -- but it will become second nature before you know it. It is a good idea to familiarize yourself with the concept by experimenting on some sound files, and getting a feel for how each sound "looks" on your screen.

Sound is simply a variation in air pressure. Analog devices record or reproduce this by attempting to mimic the air pressure variations. A loudspeaker, for example, modifies the pressure of the surrounding air by moving a cone in and out of its shell. Similarly, a microphone picks up these variations in air pressure. Its diaphragm (like the cone in the loudspeaker) moves with the pressure changes, and the pickup detects the changes and converts them to an electrical signal.

Digital audio goes a step further, by quantifying these changes. Many times a second, the current position is recorded as a number. The frequency at which this takes place is called the *Sampling Frequency*, or *Sample Rate*. By storing numbers instead of arbitrary magnetic positions, digital audio is able to more accurately reproduce the original sound.

A Compact Disc samples the audio 44,100 times every second. It uses a 16-bit number, giving each sample 65,536 possible positions. This may sound like a lot, but many applications use a much finer resolution (NGWave allows for billions of positions with its 32-bit internal processing). When you are editing, you generally want higher precision than when you are simply archiving the audio.

Visual Representation

Imagine if we draw out these numbers on your computer screen. Louder sounds will look larger than smaller sounds. Imagine even further if you could "zoom in" on the sound -- viewing more detail, and less data. This is the heart of a sound editing application -- the ability to show the audio in a visual manner that makes sense to the user.

NGWave attempts to make the wave-form look as true as possible. Lots of coding time went behind our wave-form display technologies, and we hope to have achieved a really nice effect. Other editors offer a very limited view -- some require specific zoom ratios, or don't allow as much detail. NGWave lets you zoom to any integral zoom ratio.

NGWave also allows you to adjust the Display Linearity. Other editors simply show the audio data linearly, but NGWave lets you choose how you want to view the waveform.

Trying it Out

The best way to learn to understand a wave-form display is to try it out. If you have some sound files, open one up in NGWave. Zoom in and out on the wave-form, and play the audio back using the audio controls toward the bottom of the window.

Once you get the feel for the visual representation, the rest is quite easy!

Actually "Editing" Sound

Once you understand the idea of visualizing your audio, you can do things like:

- Select a portion of audio with your mouse (just like you might do with text)
- Perform an operation on the selection
- Delete the selection
- Copy, Cut, and Paste the selection

Adding to the standard Copy/Paste, sound editors usually have an additional Paste mode: *Paste Mix*. This *Mixes* the sound on the clipboard with the destination sound.

NGWave lets you "nudge" the selection in the Paste Mix dialog, so you can preview and adjust until you're pasting exactly where you wanted to: where it sounds the best. You can also adjust the volume level of the pasted audio.

Moving On

Once you get the hang of sound editing on the PC, you can read about [NGWave's features](#) to see what NGWave offers that other editors don't.

► [Back to Help](#)

Learning NGWave

Help ▶

▶ Learning NGWave

If you have used other audio editing applications, you already have a basic knowledge of audio editing on the PC. This help topic will help you to get started with NGWave's more advanced features.

First, we will address some things that are different in NGWave.

Display

NGWave offers a very nice visual representation of the audio wave-form. NGWave's audio display is completely customisable; you can select the colors from within the Options Dialog, disable the Shadow, and control its Scrolling Behavior. NGWave also allows you to adjust the linearity of the waveform data displayed.

Key Differences

NGWave lets you view the wave-form at an arbitrary zoom ratio. Unlike some editors, you are not restricted to a *power of two* zoom ratio.

You can use the Mouse Wheel (if your mouse has one) to zoom in or out by a configurable amount. You can also use the up and down arrow keys on your keyboard to do this.

NGWave defaults to center the current view when zooming; however, when you are playing back audio, it zooms so that the playback cursor ends up in the same position.

You can also use the Page Up and Page Down keys to zoom in and out by 50%.

Selection

Some editors handle selection differently, but NGWave sticks with the Windows Standards. You can simply click and drag with your left mouse button to select a portion of audio. Going past the end of the view causes the wave-form to scroll in order to let you select more. If you press and hold the right mouse button while the selection is scrolling, it will scroll faster.

You can also drag either side of the selection; hovering over the selection boundaries will cause the mouse pointer to change, indicating that you can drag the selection bigger or smaller.

Scrolling

NGWave offers a standard Scrollbar to let you drag the wave-form left and right. If your mouse has a third button (on most wheel mice, your wheel serves as a "middle button"), you can also drag the wave-form left and right by middle-clicking the wave and moving your mouse.

Additionally, you can click and drag the area just above the scrollbar, where the time display is shown, to move the viewable display left and right.

The mouse wheel can be used to zoom in and out. You can configure how much it zooms, and you can invert the operation of the wheel.

More mouse buttons

If you have a Microsoft Intellimouse (or other 5-button mouse), your extra buttons (or "forward" and "back" buttons) can be configured to do additional tasks. You can have these buttons:

- Start and Stop Playback
- Undo and Redo
- Zoom In and Out by 10 or 50 percent

Additionally you can reverse the operation of the buttons. [More Details...](#)

Other differences

The most notable difference in NGWave is its speed. Many operations that would take a few seconds (or even minutes) in other editors are instantaneous in NGWave. Undo and Redo functions are both quite instant; likewise, any delete, mute, insert silence, and many other options are nearly instant.

NGWave avoids storing redundant data. With its unique data storage format, you won't have to wait for your editor to copy the entire file (eg, creating an "undo") just to delete a couple seconds of space. NGWave simply marks that data as "deleted", and will not waste any time about it.

Run through a typical editing session with NGWave, and we're sure you'll be sold on its performance alone.

► New: Crash Recovery

If NGWave exits prematurely for any reason -- NGWave crashes, Windows hangs, or even a power outage -- it will prompt you on the next load to recover your session. Unlike any other editor, NGWave will recover the entire session, complete with full Undo/Redo history, copy buffers, and saved views.

Notes: Everything up to the current edit is restored. If an edit was in progress, however, you will not retrieve that last edit; it will pick up at the point prior to initiating the edit. Also, if you were in the middle of a recording, NGWave will not recover the last *take*, eg, the last bit since pressing Record in the Recording dialog.

Challenge

Our [web site](#) has a few [test scenerios](#) that allow you to compare a few real-world editing sessions between NGWave and your current favorite sound editor. We're sure that these tests will both get you familiar with NGWave, and prove that NGWave is superior in many ways to most other audio editing applications.

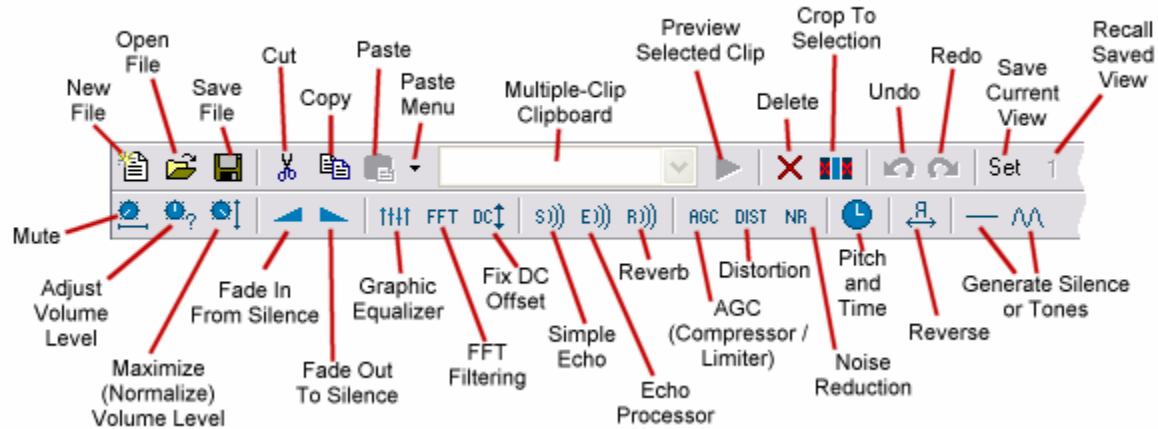
► [Back to Help](#)

Main Interface

Help ▶

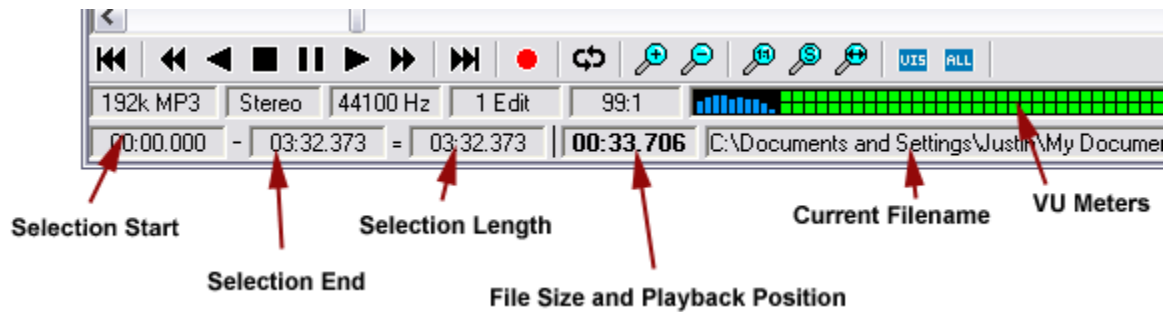
▶ Main Interface

The main toolbar is shown below, with descriptions for each button:



Some of the buttons launch a [Dialog Window](#). Others perform an action directly -- namely the Cut, Copy, Paste, Delete, Crop, Fade-In, Fade-Out, Undo, and Redo buttons simply perform their action without showing a dialog window first.

There is also a Status Area at the bottom of NGWave's display. The following image explains what each field shows:



▶ [Back to Help](#)

Dialog Windows

Help ▶

▶ Dialog Windows

A description of each Dialog Window in NGWave is shown below:

- [New File Properties](#)
- [Undo History](#)
- [Paste Mix](#)
- [Trim Silence](#)
- [Insert Silence](#)
- [Generate Tones](#)
- [Resample](#)
- [DC Offset](#)
- [Volume Change](#)
- [Equalizer](#)
- [FFT Filtering](#)
- [Noise Reduction](#)
- [Simple Echo](#)
- [Echo Processor](#)
- [Reverb](#)
- [AGC/Compression](#)
- [Distortion](#)
- [Pitch and Time](#)
- [Recording](#)

▶ [Back to Help](#)

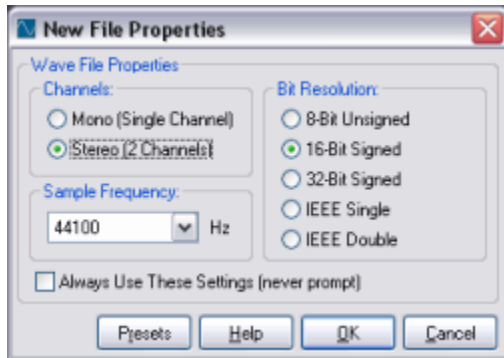
New File Properties

[Help](#) ▶

▶ [Dialog Windows](#)

▶

▶ **New File Properties**



This dialog lets you choose properties for a new file, after clicking the New File button or menu options. It offers the following options:

Channels allows you to choose how many channels the new file will contain. It can have one channel (Mono) or two (Stereo).

Sample Frequency lets you specify the Sampling Rate used in this file.

Bit Resolution lets you choose how many bits are used to represent each sample. Note that this only affects the default Save behavior; internally, all files are created and editing using 32 bits in a floating point representation.

This dialog remembers your last settings, and additionally you may save and retrieve Presets.

You can also check *Always Use These Settings*. When you check this, the next time you choose to create a New file, your saved settings will be used, and you will not be prompted. You may re-enable this or change your default settings by visiting the [Options dialog](#).

▶ [Back to Dialog Windows](#)

▶ [Back to Help](#)

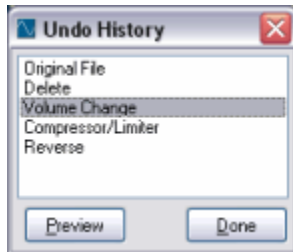
Undo History

Help ▶

▶ **Dialog Windows**

▶

▶ **Undo History**



This window lets you jump to any level in your Undo History. Clicking on a level immediately loads that level into the wave display. Click *Close* to close the dialog.

▶ **Back to Dialog Windows**

▶ **Back to Help**

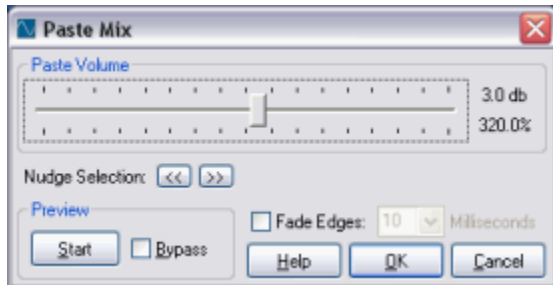
Paste Mix

Help ▶

▶ Dialog Windows

▶

▶ **Paste Mix**



This function lets you mix the Clipboard contents with the current file. You can adjust the audio level of the pasted audio with the Level control.

You can also "Nudge" the selection to the left or right. This lets you preview the result, and adjust the selection a small bit at a time until you have found exactly where you want to mix the clip.

If you right-click on the Nudge buttons, you can choose how much the Nudge buttons move your selection.

▶ Back to Dialog Windows

▶ Back to Help

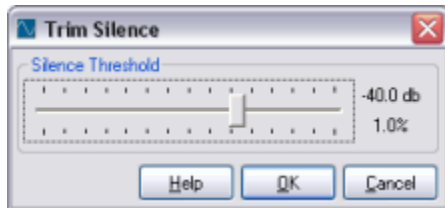
Trim Silence

Help ▶

▶ Dialog Windows

▶

▶ **Trim Silence**



This feature removes leading and trailing silence from the current file. You can select the Threshold for the silence detection; anything below that threshold is considered "silence".

▶ Back to Dialog Windows

▶ Back to Help

Insert Silence

Help ▶

▶ Dialog Windows

▶

▶ **Insert Silence**



This function simply generates silence, and inserts it into the file.

▶ Back to Dialog Windows

▶ Back to Help

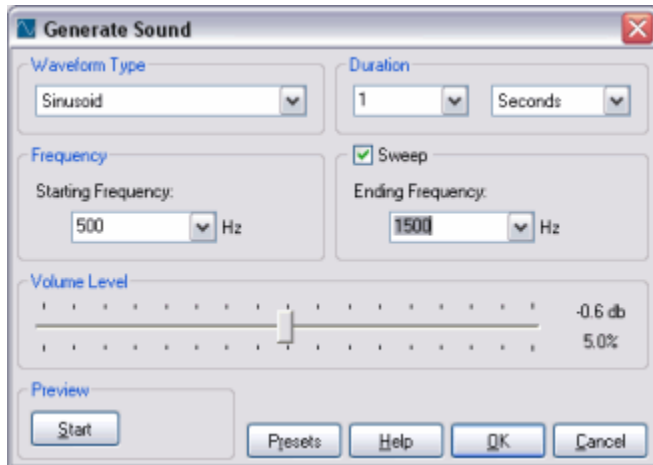
Sound Generator

Help ▶

▶ **Dialog Windows**

▶

▶ **Sound Generator**



NGWave's integrated Sound Generator lets you create waveforms. The settings are as follows:

Waveform Type - choose from Sin, Triangle, Sawtooth or Square waves.

Duration - Specify how much sound to generate.

Frequency - Specify the frequency of the tone.

Sweep - If selected, the tone will sweep, linearly, from your Start frequency to the End frequency.

Volume - This adjusts the resulting output level of the tone.

▶ **Back to Dialog Windows**

▶ **Back to Help**

Resample

Help ▶

▶ Dialog Windows

▶

▶ **Resample**

▶

This dialog lets you resample the file to a new sampling rate. NGWave uses a filtered linear interpolation technique that provides fast and good quality sample rate conversions.

▶ **Back to Dialog Windows**

▶ **Back to Help**

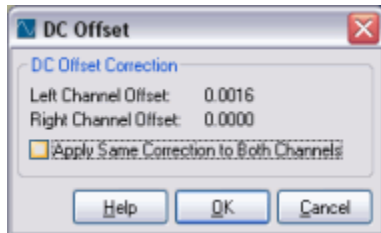
Correct DC Offset

Help ▶

▶ Dialog Windows

▶

▶ **Correct DC Offset**



This feature lets you correct a DC offset in a sound file. A *DC Offset* is where the entire wave is shifted up or down, where zero is not quite zero. Some inexpensive sound cards may record audio with an offset that isn't quite zero; this feature will let you correct this.

After scanning the file to determine the offset, you are prompted to correct this. If you choose to apply the same correction for both channels, the audio is shifted by the average offset of the combined channels. This is not recommended, however; it's best to let each channel be adjusted independantly.

▶ **Back to Dialog Windows**

▶ **Back to Help**

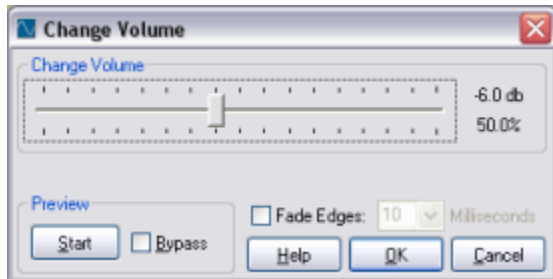
Volume Change

Help ▶

▶ Dialog Windows

▶

▶ Volume



This dialog lets you adjust the audio level. You can adjust from -48db to +48db.

If you choose the *Normalize* option, the level control will be placed at the recommended setting after scanning the peak level. Because of the way the *decibel* unit works at a logarithmic curve, if your audio is 3db over, then you simply reduce it by 3db to *normalize* (or Maximize) the audio.

▶ Back to Dialog Windows

▶ Back to Help

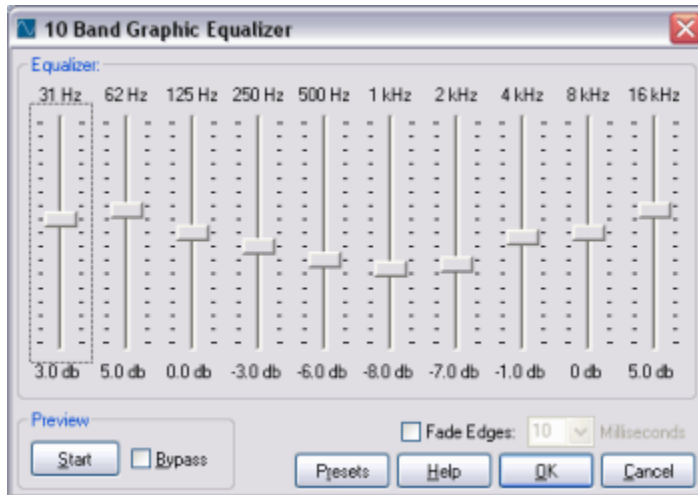
Equalizer

[Help](#) ▶

▶ [Dialog Windows](#)

▶

▶ [Equalizer](#)



NGWave offers a 10-band Graphic Equalizer. This functions very much like a standard analog equalizer. The code mimics analog circuitry as much as possible, resulting in a very warm equalization.

Each band is at IEEE standard cutoffs, in one-octave steps with a 12 db/octave curve.

Note that the actual frequencies will depend on the sampling rate of the current audio file.

▶ [Back to Dialog Windows](#)

▶ [Back to Help](#)

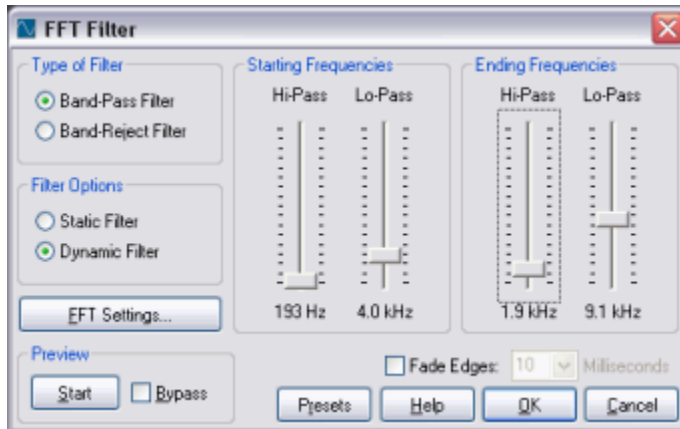
FFT Filtering

Help ▶

▶ **Dialog Windows**

▶

▶ **FFT Filtering**



Unlike the Graphic Equalizer, the FFT filtering uses a Fourier Transform to perform filtering. The result is a "brick wall" filtering, where anything beyond the range of the filter is completely filtered out.

There are various options for the filtering:

Type of Filter - a filter is either Band-Pass, where frequencies *outside* the specified range are filtered out, or Band-Stop, where frequencies *within* the specified range are filtered out.

Note that you can achieve a Hi-Pass or Lo-Pass filter by using BandPass, and setting the Lo- or Hi-Pass setting to the maximum or minimum positions, respectively.

Filter Options - a Static filter simply performs the same filtering throughout the selection. A Dynamic filter sweeps linearly between your Start and End settings.

FFT Settings - This lets you jump to the FFT section of the Options dialog to adjust the properties used in the Fourier transform.

Note that FFT filtering is slower than the 10-Band Graphic Equalizer.

▶ **Back to Dialog Windows**

▶ **Back to Help**

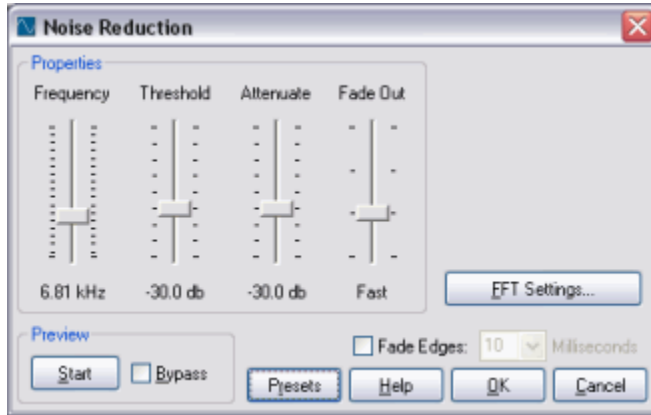
Noise Reduction

Help ▶

▶ Dialog Windows



▶ **Noise Reduction**



This function attempts to reduce background noise or hiss from the audio.

The way this works is the audio is split into multiple frequencies. Each frequency is then gated through a soft noise gate. Anything below the Threshold you set is muted, and frequencies above the threshold are allowed through at full volume. You can adjust how quickly a frequency is cut off with the Fade Out control.

The Frequency control lets you choose what frequencies are affected. Frequencies below this level are let through with no processing.

The Attenuate control lets you adjust how much attenuation is applied to frequencies below the threshold.

Operation

A standard Noise Gate would simply mute the audio when it is below a certain threshold. Once the audio is above the threshold, it is audible -- tape hiss, background noise, and everything present in the audio is heard.

Noise Reduction, on the other hand, applies a soft noise gate to each frequency present in the audio. You can completely eliminate hiss, without limiting treble response. Likewise, you can reduce background rumble without losing low-frequency response.

The best way to get started is to follow this procedure:

- 1) Set the Frequency all the way down to 0.0 Hz
- 2) Set the Threshold all the way down to -48.0 db
- 3) Set Attenuate down to -48.0 db
- 4) Set the Fade Out to Medium.

With these initial settings, virtually no reduction of noise occurs.

Gradually increase the Threshold, just until the undesired noise is now removed. Then, bring up the Frequency to just before the noise starts to come through again. If you are removing hiss, the Frequency control should be relatively high (around 4 kHz or higher). If removing rumble, it may need to be all the way down.

Finally, raise the Attenuation slider to just before you start to hear the noise again. This makes sure you're not unnecessarily attenuating -- only enough to remove the undesirable noise.

Adjust the Fade Out to suit your own tastes. You will notice that with a slower fade out, you may hear the background noise or hiss fade out after a loud sound is played. Faster fade outs may cause the audio to sound "artificial". Adjust as necessary for the source you are working with.

▶ [Back to Dialog Windows](#)

▶ [Back to Help](#)

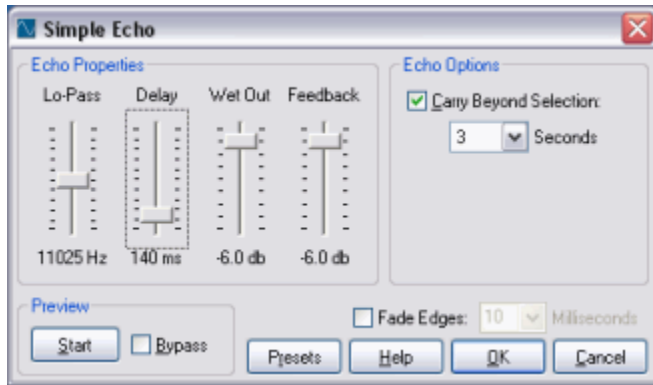
Simple Echo

[Help](#) ▶

▶ [Dialog Windows](#)

▶

▶ [Simple Echo](#)



The full [Echo Processor](#) may be a bit intimidating, and sometimes it is overkill. The Simple Echo dialog lets you perform a much simpler echo.

The parameters you can change are described below:

Lo-Pass - this applies a simple Lo-Pass filter to the input prior to entering the Delay.

Delay - This controls the amount of delay.

Wet Output - This controls how much of the processed audio is mixed to the output.

Feedback - This feeds some processed output back into the input, for a repeating echo.

▶ [Back to Dialog Windows](#)

▶ [Back to Help](#)

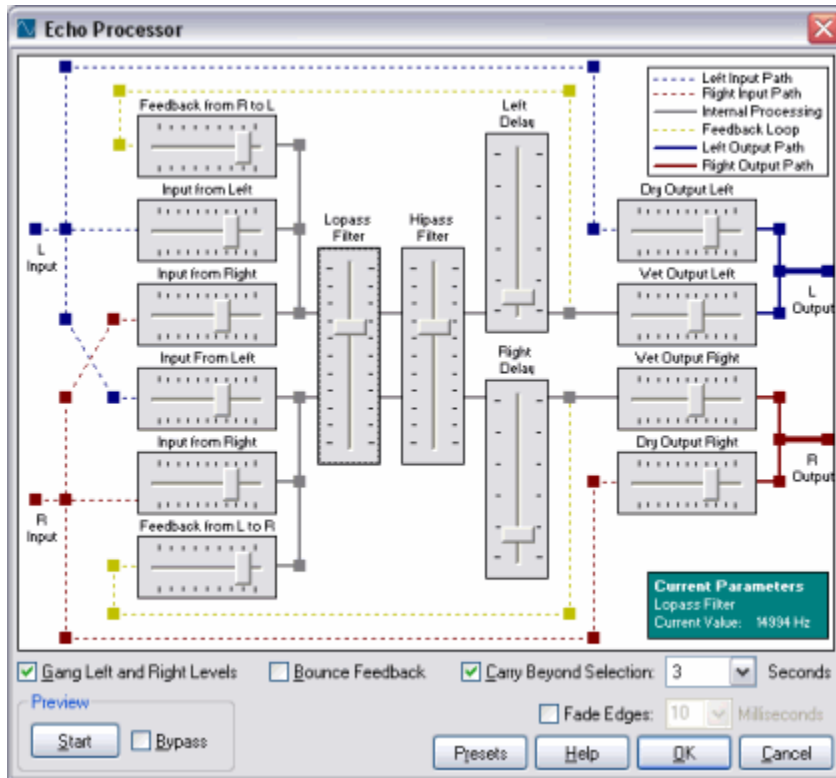
Echo Processor

Help ▶

▶ Dialog Windows



▶ Echo Processor



The Echo Processor may look intimidating at first -- but it's a lot easier than it looks.

The Echo Processor offers many settings. We will introduce them in the order of processing. Starting on the left, in the middle of the dialog:

Input from Left/Right - These four controls let you control how much of the Left and Right channel inputs are fed in to the Left and Right lines. You can keep them completely independant (by reducing the opposite channel levels to -48) or mix them.

The audio chain continues to the Filtering section:

Lo-Pass Filter and Hi-Pass Filter - These apply a simple filter to the audio.

Then the Delay section comes into play:

Delay - You can adjust how much delay is introduced for each channel independantly. This allows you to create neat stereo effects.

The audio then forks into the Wet outputs -- the amount of "processed" audio that gets fed to the output -- and the Feedback Loop.

The *Feedback Loop* feeds some processed output back into the input. This allows your echo effect to carry for a long

time -- but be careful, as you can very easily overdrive the processor with too much feedback! This is of course harmless, unless you have your speakers cranked up too loud...

The *Dry Output* simply feeds some unprocessed input back into the output. This lets you mix some processed audio into the unprocessed audio.

Gang Left and Right Levels - With this box checked, all controls (except for the Delay) are "ganged", or tied together. Adjusting the Left Dry Output, for example, also affects the Right Dry Output to the same amount.

Bounce Feedback - This box causes the Left channel to feed back into the Right, and vice-versa. This is for further stereo effects. Note that the diagram changes to reflect this.

Carry Beyond Selection - This option carries the echo -- but does not process further -- past the selection. This lets you hilite a small section that you wish to hear echoed, and the echos will carry on past where you selected. Audio that is beyond the selection is not echoed.

Note: It is a good idea to have your Dry Output set to 0db when using this feature to mix echoes with more, non-processed audio. This way there will be no sudden level change at the end of the processing.

▶ [Back to Dialog Windows](#)

▶ [Back to Help](#)

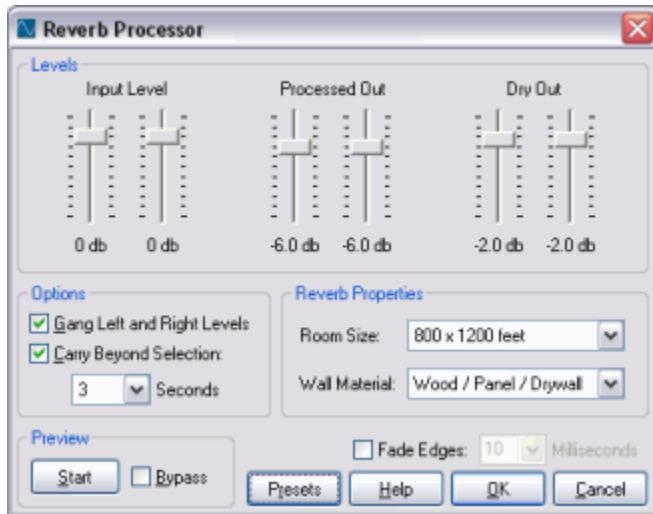
Reverb Processor

[Help](#) ▶

▶ [Dialog Windows](#)

▶

▶ [Reverb Processor](#)



NGWave's Reverb Processor produces a reverb effect. This is similar to an Echo effect, except that NGWave tries to mimic the sound properties of a large (or small) room.

The *Input Level* controls how much of the input is fed into the processor from each channel. Note that the input is mixed down to one channel during processing -- but the Dry Output remains in stereo, and the effect is a stereo effect.

The *Wet Output* controls how much processed audio is fed into the output. The *Dry Output* controls how much unprocessed audio is mixed into the output.

The *Room Size* controls the size of the "room". Larger rooms will have slower echo effects.

The *Wall Material* controls which type of material the reverb processor simulates. Metal will give a ringing effect, while Foam will try to absorb most of the audio, reflecting very little and sounding somewhat muffled.

Gang Left and Right Levels ties the Left and Right controls together. It does not affect the processing.

Carry Beyond Selection - This option carries the reverb -- but does not process further -- past the selection. This lets you hilite a small section that you wish to hear echoed, and the echos will carry on past where you selected. Audio that is beyond the selection is not echoed, but is mixed with the fading echo effect.

▶ [Back to Dialog Windows](#)

▶ [Back to Help](#)

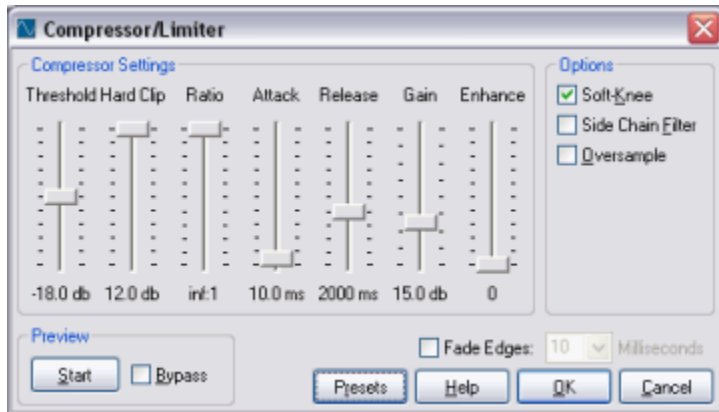
Compressor/Limiter

Help ▶

▶ [Dialog Windows](#)



▶ [Compressor/Limiter](#)



NGWave features a full Dynamic Compressor/Limiter. This can be used for effect (great for Drums or controlling vocals), or for Automatic Gain Control (AGC).

Many settings are available:

Threshold - When your audio exceeds this level, compression is applied.

Hard Clip - When your audio exceeds this level, the audio is clipped.

Ratio - This controls how much compression is applied. The ratio is between decibels over the threshold, and decibels of compression applied. So 1:1 means no compression will be applied, and inf:1 means full compression.

Attack - This is the rate at which the compression is applied. Lower numbers (in milliseconds) give faster attacks.

Release - This is similar to the Attack; it controls the rate the compression is released (volume increases)

Gain - This allows you to increase the output gain to make up for the compression.

Enhance - This setting is similar to the Enhance setting on some real-world compressors. It lets you add back in some treble (higher frequencies) as compression is applied. It helps to reduce the "Pumping" effect compressors often have.

Soft-Knee Curve - This setting causes the compressor to attack before the input reaches the threshold; the closer to the threshold, the faster the attack.

Side-Chain Filter - This option inserts a hi-pass filter into the *side-chain*. The side-chain is the audio that is actually causing the compressor to act. By filtering this audio, lower frequencies do not have as much effect on the compression, and will help to reduce pumping.

Oversampling - With this option enabled, NGWave will oversample the audio by 10 times before applying compression. This helps to smooth faster attacks, and prevent over-attack. However, this uses more processing power (will be slower).

▶ [Back to Dialog Windows](#)

▶ [Back to Help](#)

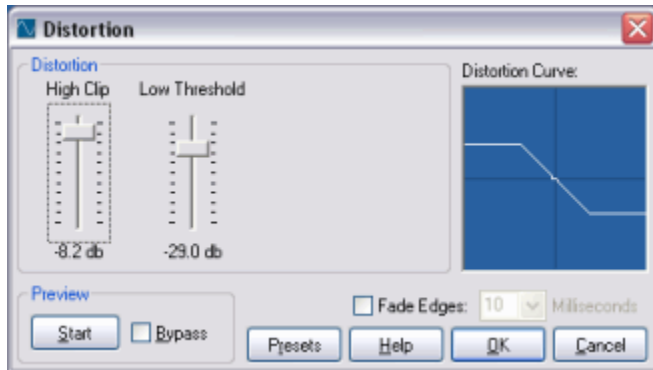
Distortion

[Help](#) ▶

▶ [Dialog Windows](#)

▶

▶ [Distortion](#)



The Distortion processor lets you clip your audio, as well as set a low threshold. Audio above the Clip threshold will be clipped. Audio below the Low threshold will be silent.

This can be used to produce a "fuzzy" effect, or to simply limit your audio range by cutting off high peaks.

The Distortion Curve display is non-interactive; it is simply there to show you the resulting audio curve.

▶ [Back to Dialog Windows](#)

▶ [Back to Help](#)

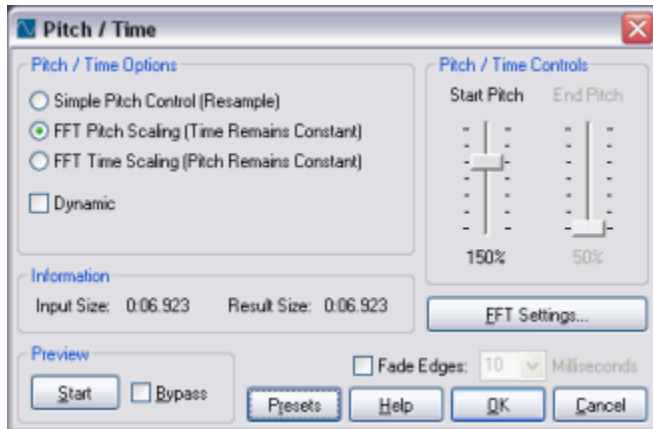
Pitch and Time

Help ▶

▶ **Dialog Windows**

▶

▶ **Pitch and Time**



This function lets you alter the pitch or time. There are three modes:

Pitch Shift - This acts as a simple resampling. Both the Pitch and Time (speed) are affected. This is the fastest option.

Pitch Scaling - Using a Fast Fourier Transform (FFT), this option *scales* the pitch, leaving the time (speed) unchanged.

Time Scaling - Also utilizing an FFT, this option stretches or shrinks the time, without affecting pitch.

Selecting the *Dynamic* option causes the Pitch or Time to be shifted/scaled from the Start setting to the End setting. The speed of this sweep depends of course on how much audio is selected.

The dialog shows how long the selection will be as a result of the operation.

▶ **Back to Dialog Windows**

▶ **Back to Help**

Recording Dialog

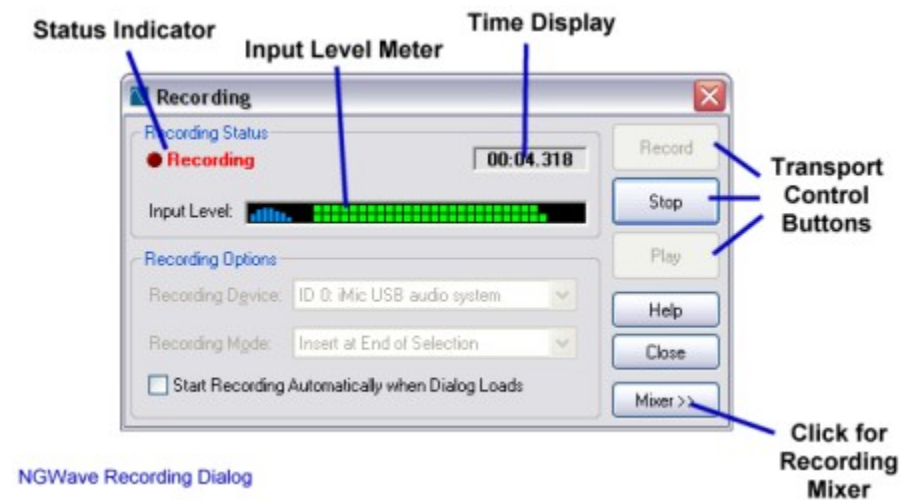
Help ▶

▶ Dialog Windows

▶

▶ Recording Dialog

The Recording dialog lets you record sound using your sound card. It offers many functions to help you quickly record audio input from any source, from any sound card. Below is a detailed view of the dialog:



NGWave Recording Dialog

The *Input Level* shows the current level. Try to avoid hitting the red LED toward the end to avoid clipping.

The *Time Display* shows the current recording position in realtime. Right-click for size and color options.

The *Recording Device* selection lets you choose which sound card you want to record from if you have multiple sound cards.

The *Recording Mode* lets you choose whether NGWave will *Replace* the current selection each time you click *Start*, or insert after the selection. Note that each "take" can be undone individually once you close this dialog.

Start Recording Automatically - if you check this option, the next time you load the Recording Dialog, recording will start immediately.

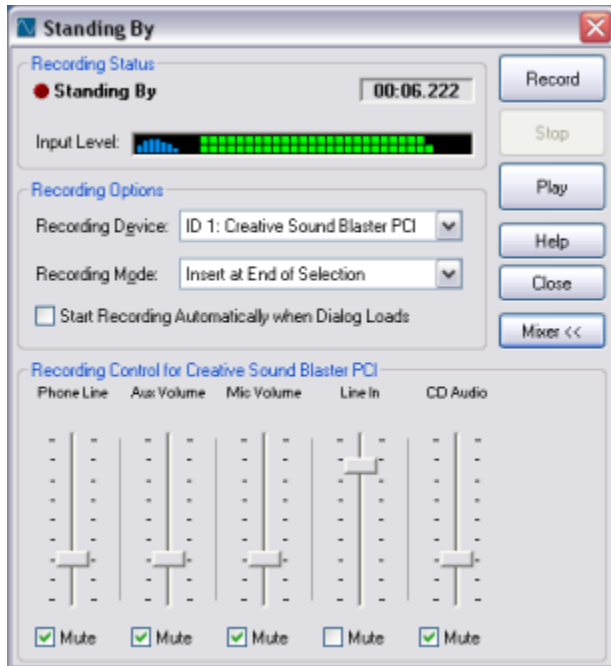
The *Record* button starts recording.

The *Stop* button stops playback or recording.

The *Play* button lets you play back the current selection. This way you can quickly re-play what you just recorded.

The *Close* button closes the dialog.

The *Mixer* button displays the Recording or Capture control for the selected sound card. This allows you to adjust the recording levels without having to open up a mixer utility, and works well with most standard sound cards. Note that if your audio card supports "Advanced" features, you may need to use the utility that came with your card to access these functions. NGWave's mixer only allows you to adjust the recording or capture levels, mute, and source selection properties.



Within the mixer, you may see various controls, depending on what functions your sound card and driver supports. The number of Faders visible depends on how many available input source lines your card supports. If more than 6 are shown a scrollbar will appear, allowing you to scroll to view all available mixing sources.

Some sound cards require you to "Select" a particular line for input. If your card has this option, you will see a "Select" button directly below each fader. Choosing this will select that line for recording input. Most cards offering this option are *Mutually Exclusive*, meaning that selecting one line deselects the others.

Some cards also offer a Mute function; if your card offers this, a Mute button will also appear below each fader. Clicking Mute will cause that line to be silent.

Note: On some audio cards, the Mute function does *not* affect the *recording* level; rather, it mutes the *playback* on that line. For example, you may want to Mute the Microphone input, so that the microphone is not heard over your speakers, but the card will still record from this input.

See your sound card's documentation for details specific to your hardware.

► [Back to Dialog Windows](#)

► [Back to Help](#)

Options Dialog

Help ▶

▶ **Options Dialog**

NGWave offers various optional features and custom settings. Click on *Tools*, then choose *Options* to open the Options dialog.

You navigate the Options dialog by clicking on a Heading in the left panel; that heading's options appear on the right.

See the topics below for details on each Options page:

- [General](#)
- [Colors](#)
- [Display](#)
- [Controls](#)
- [Audio Settings](#)
- [FFT Settings](#)
- [Advanced](#)

▶ **[Back to Help](#)**

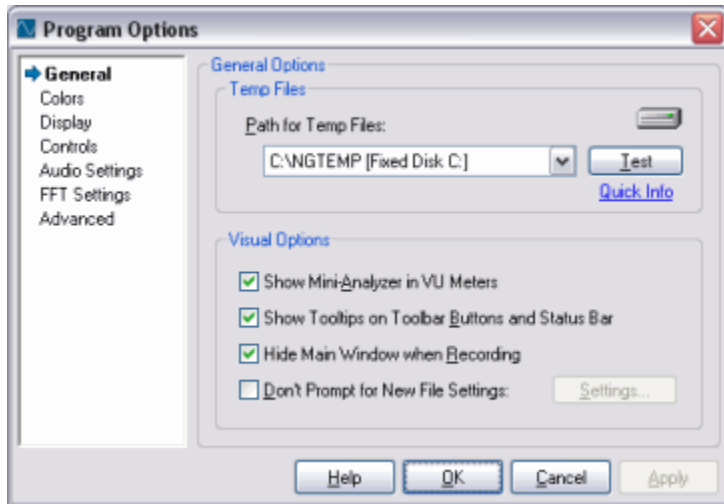
General

Help ▶

▶ Options Dialog



▶ General Options



This section contains general program options.

Temp Path - Here you can choose which hard disk NGWave will use for temporary storage. It is recommended that you choose your fastest available disk drive.

If you have multiple local disk drives, you can click on the **Test** button to perform a simple test on each of your disks. NGWave will perform a simple read/write speed test and let you know which of your disks appears to be fastest. This is **not** a comprehensive performance analysis, however. NGWave simply measures the time it takes to perform a few operations that are common in NGWave.

The time taken for the test determines which disk drive is fastest at these operations. The fastest drive is selected in the drop-down for you.

You may need to repeat the test a couple of times to get accurate results.

Visual Options

Show Analyzer - This simply enables or disables the small 10-band analyzer shown on the left side of the VU meters in NGWave's main window and recording dialog.

Show Tooltips - You can disable the *Tooltips*, or popup descriptions, for the toolbars and status bar in NGWave.

Hide Main Window when Recording - with this option enabled, NGWave's main window will be hidden when the Recording dialog is shown. This is handy when you need to use another program, such as when recording audio from a video clip playing in another program.

Don't Prompt for New File Settings - when this option is checked, clicking *File --> New* will simply create a new file, using your last settings. You can click on *Settings* to change the default New File properties.

With this option enabled, clicking the **Record** icon in NGWave's main toolbar when no file is open brings you immediately to the record dialog with a new file already created.

▶ [Back to Options](#)

▶ [Back to Help](#)

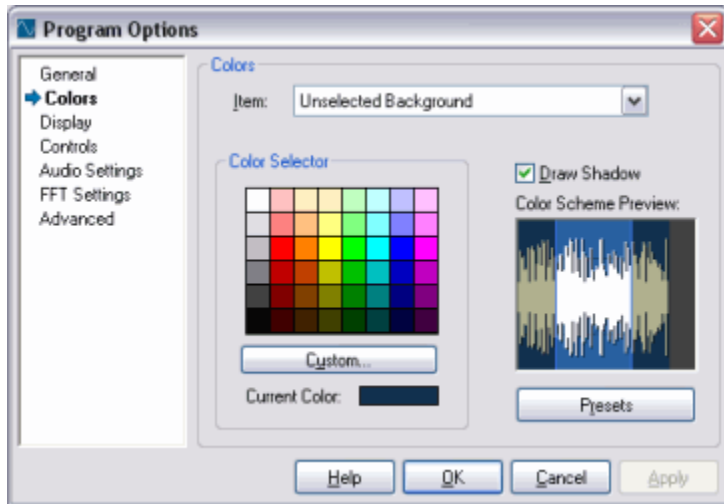
Colors

[Help](#) ▶

▶ [Options Dialog](#)

▶

▶ **Colors**



You can customize NGWave's Waveform Display area here. Choose an item in the Items: dropdown, or click on an item in the Preview area. Then choose a color, or click Custom for a full color selection dialog.

The *Draw Shadow* option shows a small drop-shadow, offset by one pixel down and to the right, underneath the waveform. This helps give a 3D effect, and helps the waveform to stand out from the background. Disabling it may result in a (very slight) increase in drawing speed.

The *Presets* button lets you load saved color schemes. NGWave comes with several color schemes by default.

▶ [Back to Options](#)

▶ [Back to Help](#)

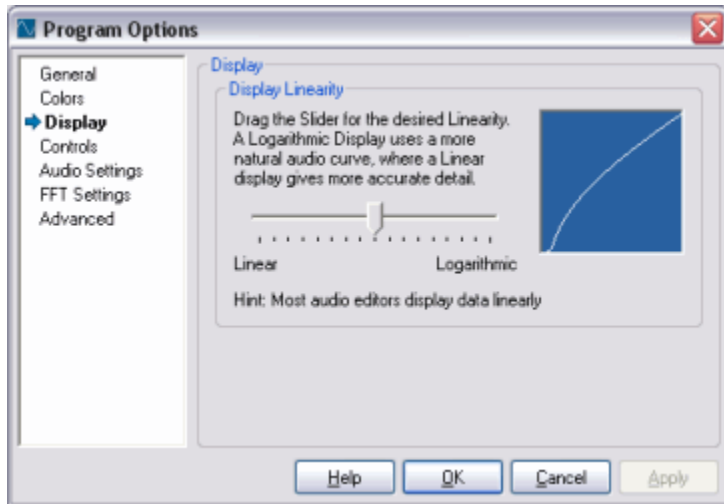
Display

[Help](#) ▶

▶ [Options Dialog](#)

▶

▶ [Display](#)



This page lets you adjust the linearity of the Waveform display. Other audio editors, including previous versions of NGWave, simply draw the audio data in a linear manner. While this is more mathematically correct, it doesn't conform to the actual perceived audio curve as heard by the human ear. Quiet sounds will appear much more quiet than they actually are.

Using a Logarithmic curve shows the audio in a more natural manner, similar to the VU meters. NGWave allows you to adjust the linearity anywhere between Linear and Logarithmic, with 16 steps in between. This way you can display your audio in the best manner for you.

This setting does not alter the audio in any way, nor does it alter playback of the audio. It is strictly for visual representation.

▶ [Back to Options](#)

▶ [Back to Help](#)

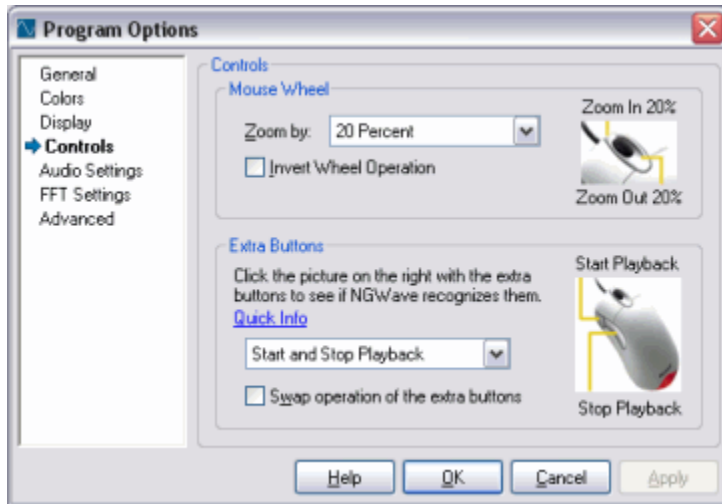
Controls

[Help](#) ▶

▶ [Options Dialog](#)

▶

▶ **Controls**



Mouse Wheel Zoom

Here you can choose how much the mouse wheel zooms the display. You can also choose to invert the operation, so you can use whichever mode is most comfortable.

Extra Buttons

Some pointing devices, such as the Microsoft Intellimouse Explorer, have two additional "thumb" buttons. These are typically used as "Forward" and "Backward" buttons in your web browser, but are generally unused in other applications. NGWave lets you choose what action these buttons perform.

Notes:

With some drivers, especially under Windows 98, your mouse wheel and/or extra buttons may not function properly in NGWave. If your mouse wheel causes NGWave's display to scroll instead of zoom, check your driver settings (choose the Mouse or Pointers applet in your Windows Control Panel).

Likewise, if your extra buttons do not function in NGWave, you may need to see your mouse or driver documentation for details. Typically under Windows XP, you can simply use the default Windows drivers and everything will work as expected.

If NGWave won't recognize your extra buttons, and your mouse driver lets you program the buttons, you can set the "Back" button to send a CTRL+SHIFT+Q, and the "Forward" button to send CTRL+SHIFT+W. NGWave will recognize these key presses, and perform whatever action you define in the Options dialog for the Extra buttons.

Likewise, you may be able to program your wheel to send Up and Down arrow keys, if your driver supports this.

▶ [Back to Options](#)

▶ [Back to Help](#)

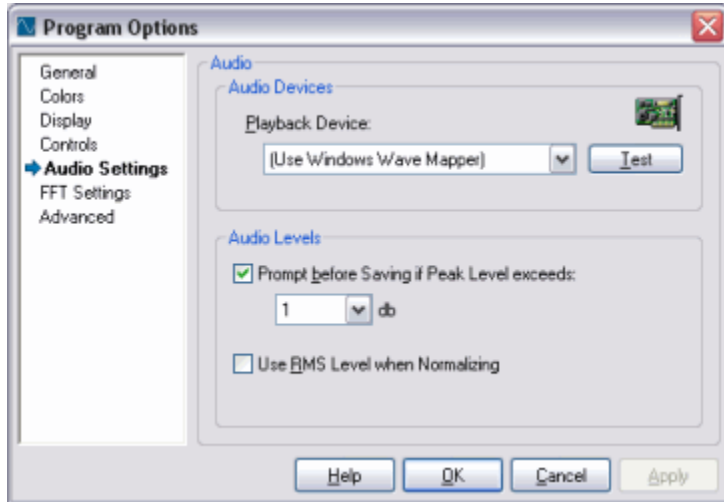
Audio Settings

[Help](#) ▶

▶ [Options Dialog](#)

▶

▶ [Audio Settings](#)



Audio Device - You can select which of your installed sound cards NGWave will play audio through. Use the "Test" button to play a sound through the selected device. The sound played is a file called "test.wav", residing in NGWave's program folder.

Clip Warning - If the option is enabled, NGWave will warn you, prior to saving your file, if the file is over-driven (or Clipped). You can adjust the threshold at which NGWave issues this warning.

If enabled, and if a file is over the threshold, NGWave will offer to automatically *Normalize* the audio, bringing it to a peak level of 0db.

Use RMS Level when Normalizing - By default, the "Normalize" feature detects the Peak level in the audio file. With this option enabled, it detects the RMS, or *Average*, level within the file. This results in a more natural level detection, but can result in clipping if the file is very dynamic.

▶ [Back to Options](#)

▶ [Back to Help](#)

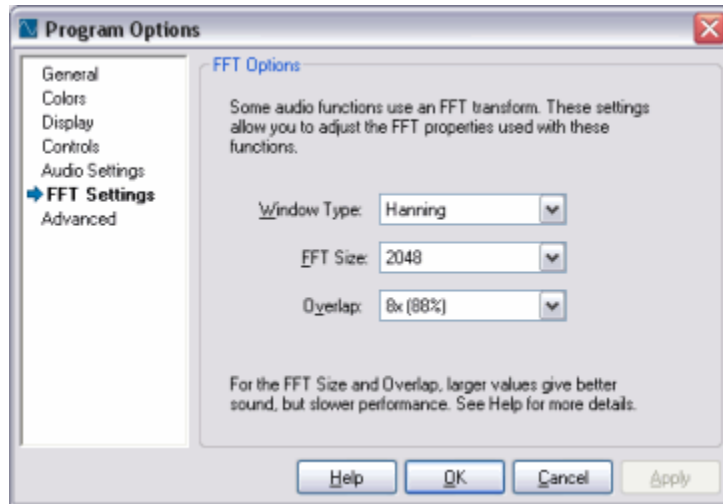
FFT Settings

Help ▶

▶ Options Dialog

▶

▶ **FFT Settings**



Some functions utilize a Fast Fourier Transform. Here you can customize certain properties used with this transform. If none of this is familiar to you, the defaults should work fine for most people.

Window Type - Choose from several windowing techniques. Rectangle is equal to no windowing. Barlett is a simple Triangle window, while Hanning is a raised cosine. Sine is just a Sine window, useful for certain effects. The other window types are variations of the Hanning window. Typically Hanning gives the most natural sound with the least amount of artifacts.

Window Size - This lets you choose how large the FFT window is. Larger windows may result in better low-frequency response, but higher latency (can lead to a "beating" sound).

Overlap - This lets you choose how much the windowing overlaps. 75% is usually sufficient, but some uses may require more overlap. Of course the higher the overlap, the slower the process will be.

More FFT Details

For most operations, the Hanning window yields the best results. It is the most linear, and offers the smoothest sounding output. The Window Type does not affect the speed of FFT operations.

The optimal Window Size will depend on what you are doing, and what you are working with. Larger windows give better low-frequency response, but can lead to a *swishy* sound with high frequencies. Sudden sounds (like a drum hit) may seem dull with too large a window.

A smaller window will give better sound for higher frequencies, but may introduce very audible aliasing effects for very low frequencies.

The Window Size affects speed; the larger the window, the slower the operation.

Overlap affects speed in direct proportion to the amount of overlap. Doubling the overlap doubles the amount of time the operation will take. More overlap leads to higher sound quality, and reduced *swishy* sound.

▶ [Back to Options](#)

▶ [Back to Help](#)

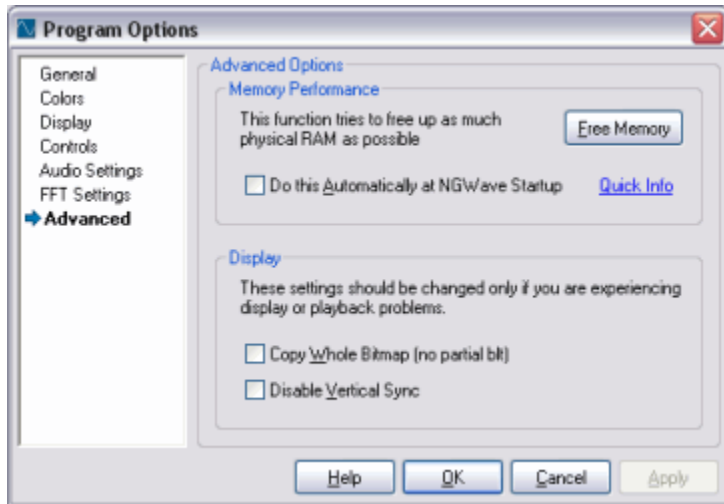
Advanced

Help ▶

▶ Options Dialog



▶ Advanced Options



Free Memory - This feature performs an operation similar to *Free Mem* or *RAM Defrag* utilities. It simply allocates a large amount of memory, then frees it, forcing Windows to flush unused memory such as the disk cache. The result is faster access to new memory, and a perceived faster response in some programs. Specifically, this can help NGWave if you are experiencing glitches during playback or recording.

This option is especially useful under Windows 98, 98SE, and Me. **However**, Windows NT, 2000, and XP manage memory much more efficiently, so this option is likely to have no perceivable effect under these operating systems, and in fact may cause already loaded programs to respond sluggishly at first.

You can optionally choose to perform this function every time NGWave starts, and you can choose to have the dialog close automatically (instead of displaying a summary).

Copy Whole Bitmap - for a smoother drawing appearance, NGWave utilizes an in-place shift of the visible audio pattern. Once it has done this, it then copies a new copy of the same data over top of it. While slightly redundant, this contributes to a smooth scrolling effect, as on-screen data is (with most video cards) much faster to shift and copy.

Selecting this option will disable this feature, and NGWave will just copy the entire cached image to the display screen.

Disable Vertical Sync - To avoid "tearing", an annoying effect caused by out-of-sync screen updates, NGWave waits for your monitor to reach the blanking interval -- a period of time where nothing is being drawn to the screen -- before updating the display. This way your monitor refresh is less likely to coincide with a screen update, resulting in the "tearing" effect.

If you are having problems with this, you can try disabling vertical sync to see if it helps.

▶ Back to Options

▶ Back to Help

Licensing Information

Help ▶

▶ Licensing Information

NGWave is **not** free software, or *freeware*. What you have downloaded is an Evaluation Copy of NGWave. This means we have released a version of NGWave for people to evaluate before making a decision to Purchase the software.

The Evaluation version does not allow you to save files. You can open files, and perform all editing operations on those files -- but you will not be able to save your changes to them.

If you want the ability to save files, you must purchase a License Key.



Secure Online Ordering - only \$29.95

What does a License key give me?

A License Key is a special code, based on your name, that unlocks the Save feature of NGWave. This License NEVER expires -- you may continue using the product for as long as you like. This License is NOT bound to a specific computer, Operating System, or other hardware -- you may use your license on your current computer, as well as any future upgrades you may make, without having to contact us in any way. You can even download free updates of new versions of NGWave, and your license automatically carries over with you.

Unlike some other licensing schemes, ours is simple: your code will always work in any version of NGWave for as long as you have a Windows computer.

Online orders are processed immediately, providing your License Key by email within minutes.

How do I place an Order?

NGWave can be purchased for only **\$29.95** USD. You can purchase online using our Secure Online Ordering server by clicking the following link. This requires an active Internet connection - your web browser will launch directly to our Secure order form.

▶ **Secure Online Ordering - only \$29.95**

Other Options

If you do not wish to place your order online, or if you do not have Internet access or a credit card, you may mail \$29.95 in United States dollars (check or money order -- do not send cash) to the following address:

Next Generation Software, Inc.
1104 Collingwood Lane
Alpharetta, GA 30022
USA

Please be sure to include your **Full Name**, First and Last, since your License Key is based on your name. Also be sure to include one of the following:

- A valid email address
- A US telephone number

- A return mailing address

We will send your License Key using whichever method you prefer. Email is the fastest option, but the choice is yours. Be sure to allow a sufficient amount of time for processing; personal checks will take a few days longer than a US or Postal money order.

Why won't NGWave accept my License Data?

If you are having trouble entering in your License Data, be sure to check the following:

- Make sure you are entering your Full Name exactly as it appears in your License Information email
- Make sure you enter the License Key exactly as it appears
- Try to Copy and Paste the information from the email to see if it is a typing issue

If you need further assistance, do not hesitate to contact us. You can send an email to Support@NGWave.com, or see the [Support Resources](#) on our web site.

► [Back to Help](#)

Copyrights and Credits

Help ▶

▶ **Copyrights and Credits**

NGWave is Copyrighted software. No part of NGWave, or any file included with NGWave, may be used for any purpose other than as a part of the NGWave computer program. You may not modify any files included with the NGWave package.

Some components shipped with NGWave are Copyrighted © by Microsoft Corp. Other components may be copyrighted by other companies.

NGWave's Setup (installation) program provided by Inno Setup.

Everything else is Copyright © 2002-2003 by Next Generation Software, Inc. All rights allowed by law are hereby reserved.

Next Generation Software, Inc. is a Delaware Corporation.

▶ **Back to Help**

Keyboard Usage

Help ▶

▶ Keyboard Usage

NGWave offers many keyboard shortcuts and commands. This page will describe all available keyboard commands.

Basic Editing Functions

NGWave offers the standard editing functions. The Copy action is performed by holding Control (CTRL) and pressing 'C'. Below is a list of the Edit functions and their keyboard shortcuts:

Copy: **CTRL+C**
Cut: **CTRL+X**
Paste Insert: **CTRL+V**
Paste Replace: **CTRL+R**
Paste Mix: **CTRL+M**
Crop To Selection: **CTRL+T**
Delete: **DEL**
Undo: **CTRL+Z**
Redo: **CTRL+Y**
Undo History: **CTRL+H**
Zoom 1:1: **CTRL+J**
Zoom to Selection: **CTRL+K**
Zoom Out Full: **CTRL+L**

Wave Display and Navigation

There are several advanced shortcuts for navigating within the Wave Display. They are as follows:

Basic Navigation

- Left and Right Arrows let you scroll the view left and right, respectively
- Holding CTRL while using the Left and Right arrows scrolls a full page
- Up and Down Arrows let you zoom in and out by 10%
- PGUP and PGDN zoom in and out by 50%
- Home moves the view to the start of the file
- End moves to the end of the file

Selection

You can adjust the Selection by holding SHIFT and pressing the Left and Right arrow keys. Pressing TAB toggles which side of the selection you are working with (the selection boundary marker will become the color of the Waveform display).

This method adjusts the selection by 4 pixels; how much actual audio this represents depends on your zoom ratio.

Holding CTRL while doing this adjust the selection by a single pixel. By zooming in to 1:1, you can adjust your selection down to the individual sample using the keyboard.

Playback

Pressing the Space Bar toggles normal playback.

By default, playing back the audio causes the view to scroll, keeping the current playback position in view. You can choose between three modes using *View --> Playback Scrolling*. These modes are:

- *Smooth Scrolling* scrolls the view smoothly. Slower video cards may appear jerky with this option.
- *Page Mode* moves the view a full page at a time. When the position indicator reaches the end, the view changes, so the indicator starts back on the left side (or right if playing backwards)
- *No Scrolling* - your view does not change during playback

You can press 'S', 'P', and 'N' to quickly switch to each of these modes respectively. Note that once you touch the display (move it, or click it with the mouse) scrolling ceases; pressing 'S' or 'P' again resumes the scrolling.

Playback Controls

You can access the standard Playback toolbar using keys F5 through F12. The following image shows the relationship:



You can also click the *Controls* menu to view these shortcuts.

Saving Views

You can save your current view using the View toolbar. Clicking 'Set', then choosing one of the 8 View buttons, assigns your current view to that button. The saved view includes the current position, zoom ratio, and selection.

You can also use the keyboard for this. Pressing the number keys '1' through '8' switches to that view; holding Shift and pressing '1' through '8' assigns the current view to that button.

► [Back to Help](#)

MP3 CODECs

Help ▶

▶ **Error Messages**

If an error message tells you that a CODEC could not be found, this means that you do not have the appropriate CODECs required to open or save the file type.

If an error message states that your CODEC may be corrupted, this means the conversion process failed in some way. Contact the vendor of the CODEC for assistance.

See our [Codecs Page](#) on our web site for details on how to obtain an *Encoding* CODEC, as well as more CODEC information in general.

▶ **Back to Help**

File Error Messages

Help ▶

▶ File Error Messages

NGWave uses a "Safe Save" feature. Whenever you choose to save a file, NGWave creates a temporary file in the same directory first. It then writes out the new data you are saving.

Once this is completed and has been verified, NGWave deletes the original file, and renames the temporary file to become the new file.

This ensures that the integrity of your original file is never altered until NGWave is sure that the save was successful.

If you receive an error stating that NGWave could not create a temporary file, make sure the directory you are saving to is not marked as "Read-Only", and make sure the disk has enough free space. If saving to a network share, be sure you have permission to *create* files on that share.

See your Operating System documentation for assistance.

▶ [Back to Help](#)

WAV File Errors

[Help](#) ▶

▶ **WAV File Errors**

WAV files -- also known as RIFF PCM audio files -- come in a variety of formats. Some programs add non-standard extensions to WAV files.

NGWave is able to handle most WAV files available, including RIFF MP3 files. NGWave will ignore any non-standard chunks found in a WAV file, but there must be at least a 'fmt' chunk and a 'data' chunk.

If NGWave is unable to open a WAV file created with another program, check that program's documentation to see if it is able to create standard RIFF PCM WAV files. If not, please contact our support team and let us know what program generated the file you are having trouble with, and we will see if it is possible to support those files in a future update of NGWave.

▶ [Back to Help](#)

Free Memory

This feature performs an operation similar to *Free Mem* or *RAM Defrag* utilities. It simply allocates a large amount of memory, then frees it, forcing Windows to flush unused memory such as the disk cache. The result is faster access to new memory, and a perceived faster response in some programs. Specifically, this can help NGWave if you are experiencing glitches during playback or recording.

This option is especially useful under Windows 98, 98SE, and Me. **However**, Windows NT, 2000, and XP manage memory much more efficiently, so this option is likely to have no perceivable effect under these operating systems, and in fact may cause already loaded programs to respond sluggishly at first.

You can optionally choose to perform this function every time NGWave starts, and you can choose to have the dialog close automatically (instead of displaying a summary).

The **Test** button will perform a simple test on each of your disks, and let you know which one appears to be fastest.

This is **not** a comprehensive performance analysis, however. NGWave simply measures the time it takes to perform a few operations that are common in NGWave.

You may need to repeat the test a couple of times to get accurate results.

Note: Make sure you have the correct drivers for your IDE or SCSI controller. The *generic* drivers that Windows uses by default may not be optimized. Speed-ups of 5 times or more are not uncommon when using the drivers made for your motherboard instead of the default Windows drivers.

Numbers Seem wrong? The test has changed as of version 1.50, and is a bit more comprehensive. The test may take up to three times longer than previously, and the result numbers will reflect this.

Extra Buttons

This feature works with the Microsoft Intellimouse Explorer and some other 5-Button pointing devices. However, if NGWave does not see the extra buttons, it is likely that your particular device handles the buttons differently.

You may try updating the driver for your mouse. Also note that under Windows 2000 or XP, the default drivers will generally do the right thing. Installing third-party drivers may actually cause the buttons to no longer function in NGWave.

Click on [Help](#) for more details.

