

About This File

This Help file contains context-sensitive help topics that are used by Sonic Foundry XFX 1.

Revised 10/26/2000

Dry out (-Inf. to 0 dB)

Drag the fader to set the level of the unprocessed signal mixed into the output.

Delay out (-Inf. to 0 dB)

Drag the fader to set the level of the delayed signal mixed into the output

Delay time (0.001 to 5.0 seconds)

Drag the slider to set the interval between the dry and delayed signals.

If the **Multiple delays (Feedback)** check box is selected, subsequent echoes occur at this interval.

Decay time (0.1 to 20.0 seconds)

Drag the slider to determine the time it takes the multiple delays to become nearly inaudible.

Multiple delays (Feedback) (On/Off)

Select this check box and drag the **Decay time** slider to produce multiple echoes that gradually fade out. When the check box is not selected, a single echo is created.

Input gain (-Inf. to 0 dB)

Drag the fader to set the gain that is applied to the signal before processing.

Dry out (-Inf. to 0 dB)

Drag the fader to set the level of the unprocessed signal mixed into the output.

Wet out (-Inf. to 0 dB)

Drag the fader to set the level of the processed signal mixed into the output.

Modulator rate (0.1-10 Hz)

Drag the slider to control how fast the delay times are modulated. Slower values will create subtle changes, while faster values will create more intense effects.

Modulator depth (0-100%)

Drag the slider to control the range of the delay time modulation. Modulation is used to create a fuller sound or chorusing effects.

Feedback (0-150%)

Drag the slider to create additional echoes. Feedback percentages of more than 100% will cause the repeating echoes to get louder over time.

Low-pass start frequency (100-10,000 Hz/ Off)

Select this checkbox and drag the slider if you want to filter high frequencies. Move the slider to the left to filter more high-frequency material and to the right to leave more high-frequency material. The results are a brighter or more muted sound.

Number of taps (1-8)

Drag the slider to specify the number of delay taps used to create the reverberation.

Current tap (1-8)

Click the radio button for the tap you want to adjust.

Delay (1-2500 ms)

Drag the slider (or enter a value in the edit box) to set the interval between the dry and delayed signals.

Tap gain (-100 to 100%)

Drag the fader to set the level of the selected echo.

Pan (-100 to 100%)

Drag the slider to pan the current tap to the left or right. Double-click the slider to reset it to the middle.

Note: The **Pan** slider is available only when you are working with a stereo file.

Echogram

The echogram represents the amplitude of sound reflections over time (impulse response) as determined by the current settings. Each vertical line represents an echo of the original sound. The length of each line corresponds to its amplitude (as a percentage of the original sound), and its horizontal distance from the left edge represents the time elapsed after the original sound. The red line is the currently selected tap, black lines are the other active taps, and blue lines are echoes resulting from feedback.

Graph resolution (Delay ms)(500, 1000, 3000, 5000)

Drag the slider to specify the interval that is displayed in the graph..

Input gain (-Inf. to 0 dB)

Drag the fader to set the gain that is applied to the signal before processing.

Dry out (-Inf. to 0 dB)

Drag the fader to set the level of the unprocessed signal mixed into the output.

Chorus out (-Inf. to 0 dB)

Drag the fader to set the level of the processed signal mixed into the output.

Chorus size (1 to 3)

Drag the slider to specify how many times the selection is processed with the chorus algorithm.

Invert the feedback phase(On/Off)

Select this check box if you want to invert (apply a 180-degree phase shift) the feedback before being added to the chorused signal. This feature can have a subtle effect on the final sound.

Invert the chorus phase(On/Off)

Select this check box if you want to invert (apply a 180-degree phase shift) the chorused signal before mixing with the dry output. This can sometimes have a large effect on the final sound.

Feedback (0 to 100%)

Drag the slider to specify the percentage of the processed signal that you want to re-process.

Chorus out delay (0.1 to 100 ms)

Drag the slider to select the delay time that will be the middle point for the modulation.

Note: Chorus effects are typically created with delay times between 25 and 50 milliseconds, depending on the source material. Shorter delay times will create a flanging effect, and longer delay times will create a doubling or slap-back delay effect.

Modulation rate (0.1 to 20.0 Hz)

Drag the slider to determine how fast the delay time is modulated. Choose values of 0.3 to 1 Hz for subtle modulation. Higher values will produce more intense effects.

Note: Modulation will not be heard until you increase the **Modulation depth** setting.

Modulation depth (1 to 100%)

Drag the slider to determine how far outside of the initial setting the delay time is modulated. Higher settings will create detuning effects. Lower settings are better for creating lush guitar and string effects.

Attenuate frequencies above (100 to 10,000 Hz/Off)

Select this check box and drag the slider to apply a low-pass filter to your selection. Frequencies above the frequency specified by the slider will be filtered.

Mode

Choose a Mode from the drop-down list.

Time Compress/Expand provides 19 different modes that are designed to maintain the highest quality for specific types of material. A mode that works great for drums will not work as well for string pads, for example.

Note: You should be able to achieve excellent results for ratios between 75% and 115%. Beyond this range, you will start to hear artifacts such as echoes, flanging, or drop-outs. Also, running the process a number of times using small increments (such as 105%) will create different effects than processing all at once with a large time change.

Final length (50% to 500% of original length)

Drag the slider to specify the desired length of the selection. The name of this slider will change depending on the value in the **Input format** drop-down list.

Initial time/Initial tempo

Specify the length (in time or tempo) of the current sound file. This value is used as a reference when moving the **Final time/tempo** slider. The name of this control will change depending on the value in the **Input format** drop-down list.

Input format

Choose a setting from the drop-down list to change the time format.

Percent of original

Displays the amount of change, in percent, of the original length regardless of the **Input format**.

Reverberation mode

Choose a **Reverberation mode** from the drop-down list.

These modes are the basic types of reverb simulation available to you in the Reverb dialog. Rather than determine the length of the reverb, these modes determine parameters such as diffusion and the reflective patterns of the echoes that make up a reverb.

Dry out (-Inf. to 0 dB)

Drag the fader to set the level of the unprocessed signal mixed into the output.

Reverb out (-Inf. to 0 dB)

Drag the fader to set the level of the processed signal mixed into the output.

Early out (-Inf. to 0 dB)

Drag the fader to set the level of the early reflections mixed into the output.

Note: Early reflections are the first reflections you hear when a sound is created in a space. These reflections have typically only bounced once before reaching your ears. The human ear uses these reflections first to judge the size of the space.

Early reflection style

Choose a style from the drop-down list to adjust the early reflections mixed into the output.

Note: Early reflections are the first reflections you hear when a sound is created in a space. These reflections have typically only bounced once before reaching your ears. The human ear uses these reflections first to judge the size of the space.

Decay time (0.5 to 5.0 seconds)

Drag the slider to specify the length of the reverb. Decay time is the time it takes for the reverb to decay to -60 dB below its initial level.

Pre-delay (Off to 200 ms)

Drag the slider to specify the time between the initial sound and the start of the reverb. Pre-delay is another parameter that gives the human ear cues as to how big a space is. Long Pre-delay times are usually associated with large spaces.

Attenuate bass frequencies below (10 to 500 Hz)

Select this check box and drag the slider to apply a high-pass filter to your selection. Frequencies below the frequency specified by the slider will be filtered.

Attenuate high frequencies above (100 to 15,000 Hz)

Select this check box and drag the slider to apply a low-pass filter to your selection. Frequencies above the frequency specified by the slider will be filtered.

This setting has a lot to do with the perceived liveliness of the room. In a very lively room, high frequencies are not attenuated when they bounce off of the walls.

Semitones to shift pitch by (-50 to 50)

Drag the slider (or enter a value in the edit box) left or right to lower the pitch of the selection

Note: When the **Preserve duration** check box is selected, this slider is limited to -12 to 12 semitones.

Cents to shift pitch by (-100.0 to 100.0)

Drag the slider (or enter a value in the edit box) left or right to lower the pitch of the selection.

Note: There are 100 cents to a semitone and 12 semitones to an octave. If you are tuning a vocal track, you will most likely have to adjust the **Cents** slider to get the desired pitch.

Apply an anti-alias filter during pitch shift (On/Off)

Select this check box to minimize aliasing distortion when raising the pitch of a signal.

When shifting the pitch up, it is very likely that frequencies above one half of the sampling frequency (or Nyquist frequency) will be introduced. The anti-alias filter removes these frequencies, thereby removing any potential aliasing distortion.

Preserve duration (On/Off)

Select this check box if you want the length of your selection to remain the same; otherwise, the length of the selection will change by the transposition ratio.

Mode

Choose a mode from the drop-down list to specify which algorithm is used for pitch shifting.

Pitch Shift provides 19 different modes that are designed to maintain the highest quality for specific types of material. A mode that works great for drums will not work as well for string pads, for example.

Accuracy (1 to 3)

Drag the slider to set the accuracy of the pitch-shifting algorithm. High **Accuracy** settings result in slower processing.

Initial time

Because DirectX provides no way of determining the total length of the data it will process, the user must enter the total length of the selection if he or she intends on adjusting the pitch to change duration. This feature is only active when *Preserve duration* is turned off.

By first typing in a time in hours, minutes and seconds, moving either of the pitch controls will change the **Final time** display relative to the pitch shift. This is very useful when trying to make small changes in duration where the pitch shift will not be noticed.

Final time

Displays how the Pitch Shift affects duration with relation to time. The **Initial time** control must be set properly for this display to be accurate.

Musical equivalent

Displays the musical interval that the pitch shift corresponds to. The plus and minus signs to the right of this display indicate whether the transposition is flat or sharp of the indicated interval. Moving the **Cents** slider will affect this. The interval names will cycle every 12 semitones. Therefore, no ninths or thirteenthths are ever displayed.

Transposition ratio

Displays the fraction by which all frequencies will be multiplied. If the **Preserve duration** check box is off, the length of the file will be multiplied by $1/\text{transposition ratio}$.

Note: Pitch change without preserving duration is accomplished in the same manner as changing the playback speed on a tape deck. Therefore, the length of the file will be changed. A pitch change can be used to accurately change the time duration of a selection if the change in pitch is not audible or important. This is useful if a very small change in time duration is necessary, for example, to correct for playback/record speed discrepancies on a tape deck.

