Audio effects

Balance effect

The Balance effect lets you control the relative volumes of the left and right channels. Positive values increase the proportion of the right channel; negative values increase the proportion of the left channel. This effect is available for stereo clips only.

Bandpass effect

The Bandpass effect removes frequencies that occur outside the specified range, or band of frequencies. This effect is available for 5.1, stereo, or mono clips.

Center

Specifies the frequency at the center of the specified range.

Q

Specifies the width of the frequency band to preserve. Low settings create a wide range of frequencies, and high settings create a narrow band of frequencies.

Bass effect

The Bass effect lets you increase or decrease lower frequencies (200 Hz and below). Boost specifies the number of decibels by which to increase the lower frequencies. This effect is available for 5.1, stereo, or mono clips.

Channel Mixer effect

The Channel Mixer effect alters the balance of stereo or surround channels. You change the apparent position of sounds, correct mismatched levels, or address phasing issues.

Channel tabs

Select the output channel.

Input channel sliders

To mix into the output channel, determine the percentage of the current channels. For a stereo file, for example, an L value of 50 and an R value of 50 results in an output channel that contains equal audio from the current left and right channels.

Invert

Inverts a channel's phase. Inverting all channels causes no perceived difference in sound. Inverting only one channel, however, can greatly change the sound.

Channel Volume effect

The Channel Volume effect lets you independently control the volume of each channel in a stereo or 5.1 clip or track. Each channel's level is measured in decibels.

Chorus effect

The Chorus effect simulates several voices or instruments played at once by adding multiple short delays with a small amount of feedback. The result is lush, rich sound. You can use the Chorus effect to enhance a vocal track or add stereo spaciousness to mono audio. You can also use it to create unique special effects.

Premiere Pro uses a direct-simulation method of achieving a chorus effect, making each voice (or layer) sound distinct from the original by slightly varying timing, intonation, and vibrato. The Feedback setting adds extra detail to the result.

Note:

To achieve the best results with mono files, convert them to stereo before applying the Chorus effect.

Bypass

Keyframeable option that specifies whether to apply or bypass the Chorus effect.

Custom Setup

Opens a mixer-style control panel that controls the properties with knobs.

Individual Parameters

Opens a set of parameter controls for the Chorus effect.

LfoType

Specifies wave type of Low Frequency Oscillator: Sin(e), Rect(angle), or Tri(angle).

Rate

Determines the maximum rate at which amplitude changes occur. With low values, the resulting voice slowly gets louder and quieter, like singers that cannot keep their breath steady. With high settings, the result can be jittery and unnatural.

Note:

High settings can produce interesting special effects (as in the Another Dimension preset).

Depth

Determines the maximum variation in amplitude that occurs. For example, you can alter the amplitude of a chorused voice so that it is 5 dB louder or quieter than the original. At low settings (less than 1 dB), the depth could be unnoticeable unless the Modulation Rate is set

extremely high. At high settings, however, the sound could cut in and out, creating an objectionable warble. Natural vibratos occur around 2 dB to 5 dB. This setting is a maximum only; the vibrato volume would not always go as low as the setting indicates. This limitation is intentional, as it creates a more natural sound.

Mix

Determines the ratio of Dry and Effects signal. A setting of 100% corresponds to a ratio of 1/1 while a setting of 0 defeats the effect signal.

Feedback

Adds a percentage of processed voices back into the effect input. Feedback can give a waveform an extra echo or reverb effect. A little feedback (less than 10%) can provide extra richness, depending on the delay and vibrato settings. Higher settings produce more traditional feedback, a loud ringing that can get loud enough to clip the signal. Sometimes this clipping is a desired effect, as in the Flying Saucers preset, which generates the warbled sounds of UFOs whizzing around your head.

Delay

Specifies the maximum amount of delay allowed. An important component of chorusing is the introduction of short delays (often in the 15-35 millisecond range) that vary in duration over time. If the setting is small, all the voices start merging into the original, and an unnatural flanging effect could occur. If the setting is high, a warbled effect could occur, like a tape being eaten by a cassette deck.

Convolution Reverb

Record a clap in a location, and apply the acoustics to a different recording to make it sound like it was recorded in the original environment.

DeClicker effect

The DeClicker effect is used to remove unwanted clicks from the audio signal. Clicks are often introduced by bad splices on film edits, or bad digital edits of the audio footage. Often the DeClicker is helpful for small pops introduced by hitting a microphone.

In the Effect Controls panel, Custom Setup for this effect shows Input and Output monitors. The first shows the input signal with any detected clicks. The second shows the output signal with the clicks removed.

Threshold

Determines the threshold for the detection and thus determines how much of the signal gets affected. This control ranges from 0% to 100%.

DePlop

Determines the extent of the reduction of low frequency clicks. These sometimes sound more like a plop than a click. This control ranges from 0% to 100%.

DeCrackler effect

The DeCrackler effect removes crackling sounds from sources such as 16mm and 35mm film soundtracks, and shellac or vinyl recordings. The DeCrackler effect can also mitigate crackles caused by raindrops on windows, bad audio cables, the proximity of electrical devices to microphone cables, and clip-on microphones rubbing cloth.

In the Effect Controls panel, Custom Setup for this effect shows Detected Crackles and Output monitors. The first shows the input signal with any detected crackles. The second shows the output signal with the crackles removed.

Threshold

Determines the detection level for the crackles. This control ranges from 0 to 100%.

Reduction

Determines the amount by which the crackles get reduced. This control ranges from 0 to 100%.

Efficiency meter

This meter indicates the efficiency of the DeCrackler. The Threshold dial should be tweaked to get the maximum value. The maximum is also reached when the threshold is low, but at this point the fundamental audio signal gets harmed.

Audition

When selected, this control lets you hear only the sounds that gets removed. When the actual contents of the audio can be heard in audition mode, this is a strong indication that the threshold is set too low. If the threshold is left unadjusted, the audio signal gets harmed.

DeEsser effect

The DeEsser effect removes sibilance and other high frequency "SSS"-type sounds, which are often created when a narrator or vocalist pronounces the letters "s" and "t." This effect is available for 5.1, stereo, or mono clip.

Gain

Specifies the amount of reduction applied to the "SSS" sound. The meter displays the amount of the reduction, in decibels.

Male and Female

Specifies the gender of the narrator or vocalist. This option helps the effect to adapt to the difference in tone between genders.

DeHummer effect

The DeHummer effect removes unwanted 50 Hz / 60-Hz hum from the audio. This effect is available for 5.1, stereo, or mono clip.

Reduction

Specifies the amount of reduction to apply to the hum. High values could also cut necessary audio information in the low end.

Frequency

Specifies the center frequency of the hum. Usually this is 50 Hz in Europe and Japan, and 60 in the US and Canada. Often the frequency of the hum is not static, but varies by +/− 5 Hz. Click the 50 Hz or 60 Hz buttons to set the respective frequency.

Filter

Specifies the number of filters to use to remove the hum. Hum is included not only of the fundamental frequencies of 50 or 60 Hz, but also contain harmonics with frequencies that are multiples of the fundamental (100/110 Hz, 150/160 Hz, and such). Higher values cause greater CPU usage. Adjusting this value determines the number of harmonic frequencies to filter. For example, if you choose 60 Hz as the Frequency value, and choose 4# as the Filter value, the DeHummer filters the 60 Hz frequency along with three harmonic frequencies (120 Hz, 240 Hz, and 480 Hz), for a total of four frequencies filtered, hence the value of 4#. Higher values require more processing power.

Delay effect

The Delay effect adds an echo of the audio clip's sound that plays after a specified amount of time. This effect is available for 5.1, stereo, or mono clip.

Delay

Specifies the amount of time before the echo plays. The maximum is 2 seconds.

Feedback

Specifies a percentage of the delayed signal to be added back into the delay to create multiple decaying echoes.

Mix

Controls the amount of echo.

DeNoiser effect

The DeNoiser effect automatically detects tape noise and removes it. Use this effect to remove noise from analog recordings, such as magnetic tape recordings. This effect is available for 5.1, stereo, or mono clip.

Noisefloor

Specifies the level (in decibels) of the noise floor as the clip plays.

Freeze

Stops the noise floor estimation at the current value. Use this control to locate noise that drops in and out of a clip.

Reduction

Specifies the amount of noise to remove within a range of –20 to 0 dB.

Offset

Sets an offset value between the automatically detected noise floor and the value defined by the user. This is limited to a range between –10 and +10 dB. Offset allows more controls when the automatic denoising is not sufficient.

Dynamics effect

The Dynamics effect provides a set of controls that can be combined or used independently to adjust audio. Use either the graphical controls in the Custom Setup view, or adjust values in the Individual Parameters view. This effect is available for 5.1, stereo, or mono clips.

AutoGate

Cuts off a signal when the level falls below the specified threshold. Use this control to remove unwanted background signals in recordings, such as a background signal in a voice-over. Set the gate to close whenever the speaker stops, thus removing all other sounds. The LED display colors indicate the gate's mode: open (green), attack or release (yellow), and closed (red). Use the following controls for Gate:

Threshold

Specifies the level (between –60 and 0 dB) that the incoming signal must exceed to open the gate. If the signal level falls below this level, the gate closes, muting the incoming signal.

Attack

Specifies the time the gate takes to open after the signal level exceeds the threshold.

Release

Sets the time (between 50 and 500 milliseconds) the gate takes to close after the signal level has fallen below the threshold.

Hold

Specifies the time (between 0.1 and 1000 milliseconds) the gate stays open after the level has fallen below the threshold.

Compressor

Balances the dynamic range to create a consistent level throughout the duration of the clip by increasing the level of soft sounds and decreasing the level of loud sounds. Use the following controls for Compressor:

Threshold

Sets the level (between –60 and 0 dB) that the signal must exceed to start compression. Levels that fall below the threshold are unaffected.

Ratio

Sets the ratio by which compression is applied, up to 8:1. For example, if the ratio is 5:1, and the input level increases by 5 dB, the output increases by only 1 dB.

Attack

Sets the time (between 0.1 and 100 milliseconds) that the compressor takes to respond to a signal that exceeds the threshold.

Release

Specifies the time (between 10 and 500 milliseconds) it takes for the gain to return to the original level when the signal falls below the threshold.

Auto

Calculates the release time based on the incoming signal.

Make Up

Adjusts the compressor's output level (between –6 and 0 dB) to account for loss in gain caused by compression.

Expander

Reduces all signals below the specified threshold to the set ratio. The result is similar to the gate control but is more subtle. Use the following controls with Expander:

Threshold

Specifies a level in which the signal must fall to activate the expander. Levels that exceed the threshold are unaffected.

Ratio

Sets the rate at which signals are expanded, up to 5:1. For example, if the ratio is 5:1, a level decrease of 1 dB is expanded by 5 dB, resulting in a much faster decrease of the signal.

Limiter

Reduces clipping in audio clips that contain peaks in the signal. For example, by leveling out peaks that exceed 0 dB in an audio file, the overall level of the audio doesn't have to be reduced below 0 dB to avoid clipping. Use the following controls with Limiter:

Threshold

Specifies the maximum level of the signal, between –12 and 0 dB. All signals that exceed the threshold are reduced to the same level as the threshold.

Release

Specifies the time (between 10 and 500 milliseconds) required for the gain to return to the normal level after a clip occurs.

SoftClip

Reduces clipping similar to Limiter but doesn't use hard limiting. This control adds an edge to some signals to better define them within an overall mix.

Distortion effect

Use this effect to use a little gravel or saturation effect to any audio.

EQ effect

The EQ effect acts as a parametric equalizer, meaning that it controls frequency, bandwidth, and level using multiple bands. The effect includes three fully parametric mid bands, a high band, and a low band. The low and high bands are shelving filters, by default. Gain is constant over frequency. The Cut control switches the low and high band from shelving to cutoff filters. Gain is fixed to -12 dB per octave and is deactivated in cutoff mode.

Use the graphical controls in the Custom Setup view, or adjust values in the Individual Parameters view. In the Custom Setup view, you can control the properties of the filter bands in the Frequency window by dragging band handles. Each band includes a control for Frequency and Gain. Mid bands include two more controls for adjusting the Q-factor. This effect is available for 5.1, stereo, or mono clips.

Frequency

Specifies the amount by which to increase or decrease the band (between 20 and 20,000 Hz).

Gain

Specifies the amount by which to increase or decrease the band (between –20 and 20 dB).

Cut

Changes the functionality of the filter from shelving to cutoff.

Q

Specifies the width of each filter band (between 0.05 and 5.0 octaves).

Output

Specifies the amount of gain to compensate for increases or reductions of frequency bands on the output gain of the EQ.

Fill Left effect, Fill Right effect

The Fill Left effect duplicates the left channel information of the audio clip and places it in the right channel, discarding the original clip's right channel information. The Fill Right effect duplicates the right channel information and places it in the left channel, discarding the existing left channel information. Apply to stereo audio clips only.

Note:

Think of Fill Left as "fill from the left," and think of Fill Right as "fill from the right."

Flanger effect

Flanging is an audio effect caused by mixing a varying, short delay in roughly equal proportion to the original signal. It was originally achieved by sending an identical audio signal to two reel-to-reel tape recorders, and then pressing the flange of one reel to slow it down. Combining the two resulting recordings produced a phase-shifted, time-delay effect, characteristic of psychedelic music of the 1960s and 1970s. The Flanger effect lets you create a similar result by slightly delaying and phasing a signal at specific or random intervals.

LFO Type

Specifies the wave type for the Low Frequency Oscillator: Sin(e), Rect(angle), or Tri(angle).

Rate

Specifies the speed of the Low Frequency Oscillator.

Depth

Determines the gain level of the modulation waveform, thus controlling the depth of the effect.

Mix

Adjusts the mix of original (Dry) and flanged (Wet) signal. You need some of both signals to achieve the characteristic cancellation and reinforcement that occurs during flanging. With Original at 100%, no flanging occurs at all. With Delayed at 100%, the result is a wavering sound, like one coming from a bad tape player.

Feedback

Determines the percentage of the flanged signal that is fed back into the flanger. With no feedback, the effect uses only the original signal. With feedback added, the effect uses a percentage of the affected signal from before the current point of playback.

Delay

Sets the point in milliseconds at which flanging starts behind the original signal. The flanging effect occurs by cycling over time from an initial delay setting to a second (or final) delay setting.

Highpass and Lowpass effects

The Highpass effect removes frequencies below the specified Cutoff frequency. The Lowpass effect eliminates frequencies above the specified Cutoff frequency. The Highpass and Lowpass effects are available for 5.1, stereo, or mono clips.

Invert (audio) effect

The Invert (audio) effect inverts the phase of all channels. This effect is available for 5.1, stereo, or mono clips.

Multiband Compressor effect

The Multiband Compressor effect is a three-band compressor with controls for each band. Use this effect instead of the compressor in Dynamics when you need a softer sounding compressor.

Use the graphical controls in the Custom Setup view, or adjust values in the Individual Parameters view. The Custom Setup view displays the three bands (low, mid, high) in the Frequency window. You control the gain for each band by adjusting handles for make up gain and frequency range. The handles of the center band determine the crossover frequency of the bands. Drag the handles to adjust the corresponding frequency. This effect is available for 5.1, stereo, or mono clips.

Solo

Plays the active band only.

Make Up

Adjusts the levels, in decibels.

BandSelect

Selects a band. In the graphical control, click a band to select it.

Crossover Frequency

Increases the range of frequencies for the selected band.

Output

Specifies the output gain adjustment to compensate for the reduction or increase in gain caused by compression. This helps to preserve the mix of the individual gain settings.

Use the following controls for each band:

Threshold 1-3

Specifies the level (between –60 and 0 dB) the incoming signal must exceed to start compression.

Ratio 1-3

Specifies the rate of compression, up to 8:1.

Attack 1-3

Specifies the time (between 0.1 and 10 milliseconds) the compressor takes to respond to a signal that exceeds the threshold.

Release 1-3

Specifies the time required for the gain to return to the original level when the signal falls below the threshold.

Multitap Delay effect

The Multitap Delay effect adds up to four echoes of the original audio in the clip. This effect is available for 5.1, stereo, or mono clips.

Delay 1-4

Specifies the amount of time between the original audio and its echo. The maximum is 2 seconds.

Feedback 1-4

Specifies the percentage of the delayed signal to be added back into the delay to create multiple decaying echoes.

Level 1-4

Controls the volume of each echo.

Mix

Controls the amount of delayed and nondelayed echo.

Notch effect

The Notch effect removes frequencies that are near the specified center. This effect is available for 5.1, stereo, or mono clips.

Center

Specifies the frequency to be removed. If you are removing power-line hum, type a value that matches the power-line frequency used by the electrical system where the clip was recorded. For example, in North America and Japan type 60 Hz, and in most other countries type 50 Hz.

Q

Specifies the range of frequencies to be affected. A low setting creates a narrow band; a high setting creates a wide band.

Parametric EQ effect

The Parametric Equalization effect increases or decreases frequencies near the specified Center frequency. This effect is available for 5.1, stereo, or mono clips.

Center

Specifies the frequency at the center of the specified range.

Q

Specifies the range of frequencies to be affected. A low setting creates a narrow band; a high setting creates a wide band. The amount by which frequencies are adjusted is set in decibels by the Boost property. The Boost control specifies how much to adjust the specified Width in decibels.

Boost

Specifies the amount by which to increase or decrease the range of frequencies (between –24 and +24 dB).

Sweetening audio with Parametric EQ in Adobe Premiere Pro and Audition, in this video tutorial by Andrew Devis.

Phaser effect

The Phaser effect takes a part of the incoming signal, shifts the phase by a varying degree and mixes it back to the original signal. The result is a partial cancellation of the frequency spectrum, giving the phaser its distinctive sound, well known as the signature of Motown funky guitars.

LFO (Low Frequency Oscillator) Type

Selecting Sine, Rect, or Tri determines the waveform of the low-frequency oscillator used to modulate the phase shift.

Rate

Determines the speed of the low frequency oscillator. Ranges from 0 to 10.

Depth

Determines the gain level of the modulation waveform, and thus controls the depth of the effect. Ranges from 0 to 100%.

Delay

To achieve various possible effects, the phase-shifted signal gets delayed against the original signal. The Delay property sets the time for the delay. Ranges from 0.1 to 4.0 ms.

Feedback

Determines the amount of phase-shifted signal that gets mixed to the input signal. Using negative values inverts the phase again by 180 degrees. Ranges from -50 to 50.

Mix

Determines the ratio of Dry and Effects signal. A setting of 100% corresponds to a ratio of 1/1 while a setting of 0 defeats the effect signal. Ranges from 0 to 100%.

Pitch Shifter effect

The Pitch Shifter effect adjusts the pitch of the incoming signal. Use this effect to deepen high voices or vice versa. You can adjust each property using graphical controls in the Custom Setup view, or by changing values in the Individual Parameters view. This effect is available for 5.1, stereo, or mono clips.

Pitch

Specifies the change in pitch in semitone steps. The adjustable range is between –12 and +12 semitones.

Fine Tune

Determines the fine tuning between the semitone grid of the Pitch property.

Formant Preserve

Prevents formants in the audio clip from being affected. For example, use this control when increasing the pitch of a high voice to prevent it from sounding cartoon-like.

Reverb effect

The Reverb effect adds ambience and warmth to an audio clip by simulating the sound of the audio playing in a room. Use the graphical controls in the Custom Setup view, or adjust values in the Individual Parameters view. This effect is available for 5.1, stereo, or mono clips.

Pre Delay

Specifies the time between the signal and the reverberation. This setting correlates to the distance a sound travels to the reflecting walls and back to the listener in a live setting.

Absorption

Specifies the percentage in which the sound is absorbed.

Size

Specifies the size of the room as a percentage.

Density

Specifies the density of the reverb "tail." The Size value determines the range in which you can set Density.

Lo Damp

Specifies the amount of dampening for low frequencies (in decibels). Dampening lower frequencies prevents the reverb from rumbling or sounding muddy.

Hi Damp

Specifies the amount of dampening of high frequencies (in decibels). Low settings make the reverb sound softer.

Mix

Controls the amount of reverb.

Spectral Noise Reduction effect

The Spectral Noise Reduction algorithm uses three notch filter banks to remove tonal disturbances from audio signals. It can help eliminate noises from original footage, such as buzz and whistling tones.

Freq (1-3)

Determines the center frequency of each of the notch filters.

Reduction (1-3)

Sets the input gain level at which the color red appears in the meter for a given track.

Filter (1-3)

Activates the corresponding filter bank.

MaxLevel

Determines the gain reduction of each notch filter, thus controlling the amount of noise removed from the signal.

CursorMode

Activates the adjustment of the filter frequency by the cursor.

Swap Channels effect

The Swap Channels effect switches the placement of the left and right channel information. Apply to stereo clips only.

Treble effect

The Treble effects let you increase or decrease higher frequencies (4000 Hz and above). The Boost control specifies the amount, measured in decibels, to increase or decrease. This effect is available for 5.1, stereo, or mono clips.

Volume effect

Use the Volume effect in place of the Fixed Volume effect if you want to render Volume before other Standard effects. The Volume effect creates an envelope for a clip so that you can increase the audio level without clipping. Clipping occurs when the signal exceeds the dynamic range that's acceptable for your hardware, often resulting in distorted audio. Positive values indicate an increase in volume; negative values indicate a decrease in volume. The Volume effect is available for clips only in 5.1, stereo, or mono tracks.

Audio crossfade transitions

See also [Working with audio transitions](#).

Constant Gain transition

The Constant Gain crossfade changes audio at a constant rate in and out as it transitions between clips. This crossfade can sometimes sound abrupt.

Constant Power transition

The Constant Power crossfade creates a smooth, gradual transition, analogous to the dissolve transition between video clips. This crossfade decreases audio for the first clip slowly at first and then quickly toward the end of the transition. For the second clip, this crossfade increases audio quickly at first and then more slowly toward the end of the transition.

Exponential Fade transition

Exponential Fade fades out the first clip over a smooth logarithmic curve while fading up the second clip, also over a smooth logarithmic curve. Selecting an option from the Alignment control menu, you can specify the positioning of the transition.