

## Noise Gate

### Inspire Recording Arts

“A **noise gate** or **gate** is an electronic device or software that is used to control the volume of an audio signal... Comparable to a compressor, which attenuate (lowers) signals *above* a threshold, noise gates attenuate signals that register *below* the threshold. However, noise gates attenuate signals by a fixed amount, known as the range. In its most simple form, a noise gate allows a signal to pass through only when it is above a set threshold: the gate is 'open'. If the signal falls below the threshold no signal is allowed to pass (or the signal is substantially attenuated): the gate is 'closed'. A noise gate is used when the level of the 'signal' is above the level of the 'noise'. The threshold is set above the level of the 'noise' and so when there is no 'signal' the gate is closed. A noise gate does not remove noise from the signal. When the gate is open both the signal and the noise will pass through. Gates typically feature 'attack', 'release', and 'hold' settings and may feature a 'look-ahead' function.”

([http://en.wikipedia.org/wiki/Noise\\_gate](http://en.wikipedia.org/wiki/Noise_gate))

As an exercise on how to use the Gate try the following:

1. Insert the Gate on the snare channel and solo it.
2. Raise the threshold control until you can hear the snare drum hit but there is no sound in between the hits.
3. If the snare sound unnatural or cut off, raise the Threshold a bit to see whether it improves the sound.
4. If the snare still sounds unnatural or cut off, try increasing either the Hold or the Release control.
5. Try adjust the Range control so the snare is attenuated by 10 dB between hits to hear whether it sounds more natural.
6. If the gate chatters (you'll know it when you hear it) try fine-tuning the setting of the Threshold and Release controls. This may require some experimenting so be patient.
7. Try timing the Release control so that the gate breaths with the pulse of the song.

\*Gates are pretty difficult to use because the dynamics of the signal are usually constantly changing. Inserting a compressor in the signal chain before the gate can improve the performance of the Gate.