

Sidechain Applications

Side Chain Compressor Applications for Bass & Kick Drum, Ducking Using the Gate or De-essing

This document is to help give you a better understanding of Sidechain applications.

For Kick Drum/Bass Guitar

In order to trigger the noise gate of the compressor from a kick drum signal, start by connecting the dbx on an insert where the bass is connected (bass channel on mixer).

You may need to use an insert cable.



Send the kick drum signal through an aux send and plug this into the Side Chain/key input (labeled this way on some compressors). Then press in the Side Chain/Key Input button to activate.

TRS or even TS will work to send an input signal from the kick drum to trigger the gate on the bass compressor channel.

Since you are only working with line level signals, you can't hurt the compressors.

Here's a good description from a *Drawmer* article regarding this technique.

“Typically a gate is triggered by its own input signal, but on occasion you may wish to trigger it from a different source.

If the bass isn't sitting right together with the kick drum, gate the bass and set the gate key input to External.

Connect the rear panel Key jack to the kick drum signal and now the gate will open on each beat of the kick drum.

If the bass player is a bit early, the gate will hold him off until the drummer hits the kick.

Since the kick drum drops below threshold quickly and you'd like some sustain on the bass, use the Hold and Decay controls for a natural sounding decay.”

dbx1066 SideChain Ducking Application Guide

Sidechain Enable – This switch enables the in and out connectors of the sidechain, allowing external processing of the detector signal. It has no effect if there is nothing plugged into the sidechain loop; however, the switch will still light, indicating the sidechain is enabled.

Sidechain Monitor Switch – This switch connects the sidechain return signal to the 1066's output. This allows monitoring of any signal processing that is inserted to the sidechain loop to assist in setup. The switch will light to indicate the sidechain is being monitored and the main signal path is bypassed.

Note:

Auto Mode not recommended.

The release time needs to be set slow enough so that the main over ride source doesn't revert quickly to an uncompressed state when you are no longer speaking into the mic.

Test the mic to make sure it's ducking the audio by performing a continuous signal into the mic.

Ducking Application

A dynamics processor/process that lowers (or "ducks") the level of one audio signal based upon the level of a second audio signal. A typical application is paging over background music: A ducker senses the presence of audio from a paging microphone and triggers a reduction in the output level of the music signal for the duration of the page signal. It restores the original level once the page message is over. Most dynamics processors (usually **compressors** are used) that give the user access to the detector circuit can be used for ducking. It is simply a matter of routing a copy/split of the second audio signal (the page in the example above) to the **detector** input such that it will trigger the gain cell to lower the level of the main signal (the music).

Suggested Settings:

Expander/Gate Threshold> OFF
SC Enable> ON (illuminated red)
Expander/Gate Release> Set to FAST
Compressor Threshold> -30
Compressor Ratio> ∞:1 (all the way clockwise)
Compressor Attack > About 12 o'clock
Compressor Release> About 12 o'clock
Output Gain> 0

Note:

Make sure the Bypass button is NOT engaged.
Audio should be running through the inputs and outputs of the compressor.
Stereo Couple is engaged.
The Mic should be ran into channel one sidechain insert.
You don't need anything plugged into the channel two sidechain.
This will set it up so the music will be attenuated by how the Compressor Ratio is set. ∞:1 would be maximum attenuation.
The music will fade back up depending on how the Release is set.

DE-ESSING Application

A common application for use of the side chain inserts are to allow the compressor to respond based on a specific frequency when an EQ is placed on the side chain insert.
The side chain insert is used to trigger the compression based on certain frequencies set by the EQ.
Normally this is done with an EQ in the Side Chain of the compressor.
A common application is de-essing where you need to remove real pronounced SSSS (sibilance) from the vocals.
The problem frequency is boosted and then limited with the compressor.
The compressor actually cuts out those frequencies.

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