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Drawmer 1970 Applications Notes

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Setting up the 1970's Compressor

Once you are comfortable and satisfied with the sound you're getting using the microphone pre-amp section only, you can move on to using the compressor. When to compress, what instruments and vocals to compress, and how much compression is appropriate are decisions you make according to your own preferences, what sounds good to you and your production style. There is no 'wrong way' to set up a compressor but to be effective and achieve a specific outcome, it is essential to know the basics.

The super versatile Drawmer 1970's FET-based compressor controls gain using classical and proven modern technology. You can achieve compression sounds anywhere from nearly invisible to strikingly colorful.

I'm setting up for compressing a single source coming into Channel 1 but for stereo compression you may want to duplicate all steps for both Channels 1 and 2 as is typical for the left and right channels of stereo audio sources. Once you have similar settings, later on you may switch in the compressor Link switch where both channels are controlled by Channel 1's control knob settings. This causes both channels to 'track together' for solid stereo imaging.

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After the Source switch come separate Phase (or polarity) reverse and a 70Hz HPF or high pass filter switches. The Phase switch is when recording the same source with two mics—one coming into each channel. Normally, you should not have to use it unless one of the microphones or the connecting cables is miss-wired.

You should decide whether to use the HPF before setting up the compressor because its controls may have to be re-adjusted if you elect to use the HPF later on in your recording setup/process. The HPF is useful for recording acoustic guitars with close microphones or any source with excessive subsonic energy that can trigger unwanted gain reduction.

Start With This Setup



Turn the compressor Link switch off, the large Threshold control should be at full CCW at +20dB, both the Big and Air switches should be off, and make sure

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the Gain controls on the far right are at 0dB, and the unit is not in Bypass mode. I would also make sure the Mix controls are at 100% Wet and that the (Output) Link switch is off.

Compression is a way to make recording levels—the electrical level and volume of vocals and instruments—more consistent, less jumpy and erratic. Compression also brings up the level of quieter moments at the same time as reducing the overly loud moments.

The continuously variable Ratio control sets the "strength" of compression and you can always readjust this at any time. I'd start with a gentle ratio of 2:1. A 2:1 ratio means that after the signal exceeds the threshold setting, if the audio signal coming into the compressor changes by 2dB the output will only change by 1dB.

Set the Attack and Release controls mid-way in their ranges. 15-ms for the attack time and set the release time to around 1 second.

Attack time is defined as the time it takes the compressor to start working while the release time is defined as the time the compressor takes to "release" from gain reduction and return the output level to normal. These settings are medium starting positions and you may want to change them later on after you assess what you want the 1970's compressor to do more precisely.

As a short test, have your musician or singer play or sing and start turning the Threshold knob CW until you begin to see the red LEDs in the G.R. Meter start to light up indicating the amount of gain reduction. You may want to practice and familiarize yourself on an already recorded track as a Source coming into the Line input XLR connectors.

If you speed up the Attack time control (CCW) you'll see more activity on the GR LEDs and slower attack time settings (CW) produce less. When you increase release times (CW) you'll see the GR meter seem to act "lazy" by staying down more in gain reduction longer.

The 1970 has a Program Dependent release time mode that automatically adapts to the program's dynamics. If you're unsure of where to set the release

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time control, just use the PGM switch. It is a good compromise and starting position.

The 1970 shows gain reduction with the LEDs and output level using the VU meters at the same time. This a good feature to instantly appraise its overall operation—most compressors use a single meter to indicate one or the other.



At the right side of the front panel are Gain control knobs for Ch1 and Ch2. The Gain controls have a range of -10 to +20dB and act as a fine adjust for the overall level through the 1970—whether you're using the compressor or not. With the compressor switched in, these are used to add more level to get parity—match the same approximate level as the uncompressed signal from just the pre-amp section.

You can quickly push the Bypass button(s) to hear and easily compare the compressed sound with the incoming level from the pre-amp before the compressor. You should hear an obvious change in volume with the 1970's compressor switched in. If you don't or the level drops, increase the Gain control.

Again when compressing heavily, such as for a vocalist with very wide dynamics, poor mic technique—moving around, back forth in front of the mic, you will need to add more using the Gain control to make up for the loss of level due to heavy compression.

When compressing bass-heavy music or instruments, you should try the Big button. It causes less compression of the low frequencies (in a special way)

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with the rest of the sound remaining compressed. Big is great for whole stereo mixes to keep them sounding fat. It and the Air feature are unique to the Drawmer line of compressors.

The Air button boosts high frequencies lost when heavily compressing especially when using fast attack times. Compressing with super fast attack times will dull percussive attacks and high frequencies—you should be careful when using fast attack times. The Drawmer fastest attack time is 200-microseconds.

Fast release times are associated with making mixes or individual instruments loud when using a limiter. The Drawmer 1970 is capable of very fast attack and release times and is able to make mixes very loud if you desire. Increase the compressor's Ratio to 8:1 or more to get more limiting action.

The far right output section has two modern features you should use. For instant parallel compression, there is the Wet/Dry Mix control that blends the signal from before the compressor with the compressor's output.

Try severely compressing a stereo track or stereo drum track and then blend back some of the un-compressed sound to restore transients and increase clarity. Wet/Dry works great for guitars, pianos and percussion instruments. In general, a Wet/Dry Mix control is seldom included in hardware compressors.

The second very useful feature is called (Output) Link. In this mode Channel 1's Gain, Mix, and Bypass buttons act as 'Master' for itself and all of the same controls on Channel 2. This is the mode for stereo operation because the left and right are locked together in level.

Here is a link to a helpful article on Audio Compressors and Audio Compression at

<https://www.barryrudolph.com/pages/compdirectory.html>