

## What is the most important piece of gear in the recording chain?

This question has been asked repeatedly over the years, so I am going to give you an answer. But first, let me set up the context:

My preferred recordings were made before 1990 reaching back to the 1950' s.

The advent of digital brought 2 things with it: The analog-to-digital conversion process, and the shift in the industry from a professional to a consumer based model. During the analog era most recording was done on professional tape machines (generally) of outstanding sound quality, but this has been replaced by digital storage, and the A/D/A processes encompass a much wider range of sound quality, (or lack thereof). The recording medium has shifted from a qualitative, (analog tape), to a quantitative, (sample frequency and bits), format. For the sake of this discussion, I will just say that you should get the best conversion available for what you are doing. This will be the ceiling of your sound quality.

The most important entity in the recording process is the sound source. But this has to do with the ability of the musician, and the quality of the instrument, and is an artistic choice. So it will be discounted for this discussion.

In this context, the most important piece of equipment in the recording chain is the microphone preamplifier. Now let' s discuss this assertion.

### The Microphone:

In my opinion, the preamp' s ability to reproduce the signal from the microphone supercedes the importance of the microphone itself. The selection of the

microphone has a lot to do with its unique tonal signature in relation to the sound source, and the function of the recorded entity within the context of the arrangement or mix.

### Dynamics and Equalization:

When we get into a discussion of outboard processors, we must also bring up the concept of “ Ego” . It is very hard to extract the “ Self” from the recording process and surrender solely to the demands of the music. The urge to plug those boxes in can arise because:

1. Some recording magazine, (that is funded by manufacturers), ran an article reporting “ Mr. Recording God” only uses box XYZ.
2. You spent big bucks on said box and you need to justify that investment.
3. You need to insert yourself into the process because you are there and want to contribute/control/justify-your-existence in said recording.

Bring your knowledge and experience, and leave your ego out of it. (The rampant over-use of compression is an entirely separate topic, so let’ s just forget about it for now.)

In my opinion, there is little need for either equalization or compression when recording. In fact, if one does require any other processing, (barring manipulation for artistic effect), it is as a corrective measure to make up for a poor signal from the preamp. Given a good sound source, a great preamp will negate the need for corrective processing by delivering a full, rich signal teeming with personality, detail, and relevant dynamics. Poor preamps can be characterized as thin, hyper-dynamic, sibilant, or overly colored. These characteristics can arise from low quality components, wimpy power supply, too much negative feedback within the circuit, not enough drive in the output stage, bad circuit design, poor linearity, or any combination of the above.

Sibilance that requires de-essing is just transistor distortion of a transient, usually in the first stage. It is the sound of a gain stage cracking from the SPL. That is why all those old tube recordings have no sibilance. Tubes gently roll off the transient before the amplifier goes into hard clipping.

My favorite preamps have one knob, (gain), or none. The perfect amplifier is a straight wire with gain, and we are all still searching for it. The more buttons or switches on a box, the more processing or stages employed, and the greater the signal degradation. If you feel the sound is lacking, and begin to reach for an equalizer or compressor to “ fill in” what is not there, you probably have the wrong preamp for what you are doing. That is not to say that preamps are uncolored, everything is colored. It just comes down to how much damage/enhancing the unit is doing. Remember that each piece of equipment plugged into the chain degrades the signal. You have to decide whether the amount of damage justifies the process being employed. Each separate component inside a unit affects the sound. You can’ t get around it.

The greatest demand in the industry seems to be for the “ everything box” . I hate to tell you that while these boxes may do a few things well, they will never do anything great. It goes the same for guitars, amps, bicycles, whatever: If you want it to be great, go for the unit that is optimized for one function.