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## Of Amps and Simulators; What makes the ultimate rock guitar track?

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**HIGHLIGHT:** It's no secret that amp simulators have found a home in hit records, TV and movie soundtracks, jingles, and onstage - in fact, in just about every pro situation (as well as in home studios). And why not? They're convenient, versatile, way easier to haul around than a stack of amps, consistent, require no maintenance, and can be used at 3 a.m. without disturbing your neighbors.

Producers love them because the guitarist can cut a track "clean" and the producer can choose the amp model during mixdown, offering unlimited sonic possibilities. Besides, most amp sims include effects, speaker and/or room simulations, and other paints for the tonal palette. Still not enough? Amp sims can bridge the gap between guitar and synthesizer, forging unique sounds never before possible.

But for many guitarists, particularly rock and blues guitarists, the Holy Grail of tone remains the classic tube amp. And although many have made a valiant effort to make modelers sound like tube amps, the reality is they really don't behave like tube amps. Sure, you may get a sound you like out of them, but if your heart is set on vintage tube tones, for now there simply isn't any other way to achieve that sound but with a tube amp.

Moreover, there are some performance issues with sims. Many guitarists are bothered by the latency inherent in tracking with a modeler, which persists in spite of many improvements. Modelers also respond differently to the guitarist's fingering than an amp, and while the ability to re-amp is a boon to producers, to a guitarist it can be like flying blind - the musician is trying to record a performance without knowing the ultimate instrument sound. This removes a lot of the visceral impact of playing, which can result in a less than inspired performance.

### Building A Better Sim

If you have to use an amp sim, but wish you had a tube amp, here are a few tips to get the most out of your sim:

- Patch a tube preamp in front of the sim. Not only might this help with the tonal character, but most sims benefit from a strong signal coming from the guitar. If the guitar has single coil or other low-gain pickups, this becomes especially important.

- Try higher sampling rates. Although I haven't been able to discern much difference in recording ordinary audio at 96kHz and up, vs. 44.1, it does seem to make a difference in amp modeling.

- Modern high-gain distortion and very clean sounds seem to be easiest to model. Lower gain distortion, such as those found in classic rock and blues recordings, is where sims are most likely to fall short. Again, this is particularly true if the guitarist is using lower output pickups. If this is the sound you're going for, you really will be better off with a tube amp. I often like to use my Line 6 POD to cut scratch tracks when tracking live with a band, as there's no bleed into the drum tracks; but then I re-cut the track later using a tube amp (except where I need a heavily effected or other weird sound that I couldn't get from an amp).

### Warming Up To Tubes

There are even more tube amps on the market these days than there are simulators, and many of them are excellent. But simply having a tube doesn't make an amp great. Many so-called tube amps have tubes only in the preamp section, while the power section is solid state (which isn't necessarily a bad thing, but it will sound different from a 100 percent tube amp). And different amp circuits and speakers sound radically different from each other. Guitarists spend a lifetime experimenting with different tubes, speakers, and bias settings for good reason: They all change the tone. And that's before you even put a mic on it and start playing with mic selection, placement, room sound, etc. So, spend a lot of time auditioning different tube amps before you decide on one (or several).

Also, a tube amp that hasn't been maintained won't sound good. Changing tubes and/or capacitors doesn't have to be done often - I have 35-40 year old amps that have only been in the shop a handful of times - but any amp has to be checked out periodically to maintain peak performance. Amps shouldn't be left in storage or unplayed for too long either, as that tends to dry out the capacitors.

Lastly, although engineers have a tendency to want consistency and control, tube amps and stomp boxes are noisy, heavy, loud, and not always predictable. But that's rock 'n' roll! Quite often, I track with not only a tube amp but with the amp's reverb or tremolo, and analog stomp boxes. Most engineers would prefer to add these effects from a quality processor during mixdown, but the sound simply isn't the same, and putting the effects before the amp creates a unique alchemy of its own when interacting with the amp distortion. And hey, if you're that nervous, you can always record a "clean" track direct at the same time so you can re-amp later. There are even some heretics who use an amped track combined with a sim track. Whatever works. . . .

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