



## Recording Guitars

### **PAUL WHITE and DAVE LOCKWOOD strum up a few tried-and-trusted methods of improving your studio guitar sound.**

At one time, recording electric guitar meant putting a mic in front of an amp and hitting the record button. Of course, you can still do it that way, and in many instances such an approach yields perfectly acceptable results. But there are also viable DI alternatives that may be more convenient in a home recording environment.

The fact that guitar sounds vary so much according to the instrument, the player, the amplifier and the recording techniques employed is one of the great attractions of the instrument. But while no two players will ever sound quite alike, there are a few general recording rules that can help achieve consistently good results. It would be wrong to try to define a single 'foolproof' method for guitar recording, so instead we've pulled together a few different tricks, tips and ideas that will help you get the results you want, while still providing plenty of scope for experimentation.

As ever, if you get a result by breaking a rule or doing something in an unorthodox way, that's fine. In music, the end always justifies the means!

\* As a first and very basic rule, always make sure your guitar is in good condition. Use new strings, properly fitted and check both the tuning and intonation. This may seem obvious, but many players leave their old strings on, tune up and hope for the best. They think the tone doesn't matter because you'll be able to fix it in the mix. More often than not you can't! When fitting new strings, make certain that you don't have any overlapping turns of the string around the tuning machine peg as the tuning will tend to slip. Also, pull the strings to stretch them before final tuning or again, the tuning will slip. If you change either the brand or gauge of strings you're using, check the octave tuning on all six strings to ensure the intonation is OK.

\* Check your tuning before every take, as it tends to drift in warm studios. Ideally, use a tuner with an audio thru socket and leave it connected at all times. Users of vibrato arms should be especially careful to check their tuning at every opportunity.

\* Equipment containing transformers will tend to cause hum interference on electric guitars, especially those with single-coil pickups. Rotate your position in the room to find the angle of least hum and keep as far away as possible from the interfering equipment. As a rule, the more overdrive you use, the more serious the effect of interference. Computer monitors in particular cause serious

interference problems with guitar pickups, so keep as far away from these as you can. Or better still, turn the monitor off. (Note, though, that if a monitor is in energy-saving mode and is still powered up, the screen may be dark, but you'll still get interference.)

\* Use different guitar types or sounds when recording two or more overdrive guitar parts to keep the sounds separate in the mix. For example, use a single-coil setting for one part and a humbucker for another. It also helps if you use less distortion than if you were playing live, especially for rhythm guitar parts. Otherwise the guitar sounds can blend into a confused wall of sound. Bracketing the sounds using tunable high- and low-pass filters (such as those on the Focusrite Platinum Tone Factory or the Drawmer DS201 gate side-chain), can help confine the sounds to narrower parts of the spectrum.

\* If you have enough spare tracks, compile a 'best of' solo from multiple whole takes recorded on separate tracks. Hard disk recording is good for this as you simply cut and paste the sections you want to use. However, you can also compile on tape by bouncing the chosen sections to a new track. Compiling before adding delay or extra reverb will help conceal any edits.

\* Create a sense of stereo space by processing a mono guitar sound via a gated or ambience reverb program. A close-miked or DI'd guitar part contains no spatial information, but adding reverb to the sound to create the illusion of space may not be artistically appropriate. Ambient reverb settings will simulate the early reflections of a real space without adding reverb decay. A short gated reverb may also be suitable for creating a more live sound.

\* In the recording studio, it's common to leave effects processing until the final mix so as to allow sounds to be changed right up to the last minute. However, guitar players rely on many of their effects to create the right 'feel' at the playing stage -- specifically, effects such as overdrive, wah-wah or delay. Reverb can be added at the mixing stage, as stereo digital reverb is sometimes more appropriate than the mono spring reverb built into some guitar amps. If stereo reverb is to be added during recording, a pair of tracks will be needed for recording. Should you want to replace any of a guitarist's 'essential' effects at a later stage, arrange it so the player can monitor via the effect, even if you're recording without it.

\* Don't assume the speaker simulator in your preamp is the best one for the job. Better results can often be achieved by taking the unfiltered output from a recording preamp or effects unit, then processing it via a good quality stand-alone speaker simulator. Extra EQ from the mixing desk or an outboard parametric EQ can also help shape the sound.

\* Following on from the previous tip, it's often interesting to try splitting the signal into pseudo-stereo via two different speaker simulators -- for example, using the simulator in the recording preamp and, at the same time, taking the unfiltered output via an external speaker simulator. Panned left and right in the mix, this can create a larger-than-life sound that is more effective than either of the individual speaker simulators used in isolation. As an alternative, try miking a small amp while also DI'ing it via a speaker simulator. Moving the mic further from the amp will capture more room sound. Combining a close mic or DI feed with a more distant, ambient mic can also yield interesting results. The more distant the ambience mic, and the greater its level relative to the close mic or DI feed, the further back the sound appears in the mix. Compressing the ambient mic output can also help create a bigger sound in a live room.

\* You don't necessarily need a big amp to achieve a big sound. A small practice amp can sound great. In addition to the miking arrangements outlined in the previous tip, try putting the mic at head level so it 'hears' what you hear. Also, try miking the side or rear of the speaker cabinet to see what that sounds like. It's easiest to find the best spot if you wear enclosed headphones and move

the mic around while the guitarist plays. Lift the guitar amp or speaker cabinet off the ground to reduce bass or stand it right in a corner for more bass. If the sound is too brittle, point the amp into the corner and mic it from behind. It's also worth trying different mics, both dynamic and capacitor, to see which one produces the best tone.

\* Compression is a useful tool to even out the tone of the guitar and also to add sustain. By using compression, you may be able to get a better lead tone with less overdrive. For clean sounds, introduce EQ after compression: for more mellow results, EQ before you compress. Using compression after gentle overdrive allows more control over the amount of distortion via the guitar volume control without the overall level changing too much.

\* Hedge your bets by recording a clean DI feed (via a high-input impedance DI box) on a spare track so you can reprocess it later. This way, if the original sound doesn't work out, you can play the clean track back via a specialised guitar preamp/effects unit or even play it via a small amp and then re-mic it. Alternatively, use both the original and the reprocessed sounds to create an interesting stereo effect.

**"If you play in the control room with your amp in the studio, you can hear what the recorded sound is really like..."**

\* When you need a thicker sound, try real double-tracking rather than ADT (Artificial Double Tracking). In other words, play the same part twice over on two different tracks. Depending on the player, you may get better results by muting the original part until the new part has been recorded. If real double-tracking is too difficult, use a pitch-shifter to add a small amount of delay and detuning to fake the effect more convincingly than chorus.

\* When DI'ing, you can still use a small guitar amp to monitor what you're playing. This often makes playing seem more natural and the acoustic coupling between the speaker and guitar strings will add life to the sound. Even a small battery-powered practice amp can help you deliver a better performance.

\* To get a more lively electric guitar sound when DI'ing or recording with the amp in another room, mic up the strings and add that to the main sound. Use a mic with a good high-end frequency response -- a capacitor or back-electret mic is best -- and position it around 15 to 20cm from the strings.

\* If using a valve amp with speaker simulator, be sure to use a simulator model with dummy load if the amp needs to be silent when you're recording. This is especially important as the output transformer can be damaged by running with no load. In the case of transistor amplifiers, running without a load shouldn't cause problems, unless the amplifier has a transformer output stage (rare in transistor amps). If in doubt, check the manual.

\* If you play in the control room with your amp in the studio, you can hear what the recorded sound is really like via the control room monitors as you play. However, you lose the acoustic coupling that you get with a loud amp close to your guitar so the sound may be different, especially if it is heavily overdriven.

\* When using cabinets with more than one speaker (for example, four by twelves), listen for the best-sounding speaker and mic that one. Miking close to the centre of the cone gives the brightest sound, while moving towards one edge produces a more mellow tone.

\* If you decide to use a gate to reduce noise or interference, put the gate after the overdrive stage if possible, but before compression or delay/reverb-based effects. This is so the gate won't cut off

your reverb or delay decays. Adjust the decay time so as not to cut off notes prematurely and set the threshold as low as you can without allowing noise to break through. Either an expander or a dynamic noise filter will do the same job, often with less noticeable side effects than a basic gate.

\* To get a 'glassy' clean sound, compress the guitar signal and then try adding a little high frequency enhancement from an Aphex Exciter or similar processor. When trying to achieve this kind of sound, DI techniques often work better than miking because more high-frequency harmonics are preserved. If you like a really glassy top, then try switching any speaker simulation out when using a clean sound.

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