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The sound and the fury

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FROM ROCK'S
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ANDY ALEDOR
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WITH JIMI'S
"RED HOUSE" &
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EXCLUSIVE!
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RETURNS!
BLACK METAL'S
NOTORIOUS
VARG VIKER
SPEAKS!

Plus
THE ULTIMATE GUIDE TO RECORDING
HARD ROCK & EXTREME METAL!
As the cost of digital audio workstations (DAWs) and recording equipment has come down over the years, it's become possible for musicians at all levels of income to produce their own songs. Unfortunately, this hasn't guaranteed that everyone's projects will meet with excellent results. Money still matters when it comes to hardware, software and the recording environment, as do the expertise and talent of the performers and producers.

For some music genres, low production standards may sometimes be perfectly acceptable. For example, some varieties of rock and folk are basic enough in instrumentation, arrangement and rhythm to translate through even a raw recording, without impeding the listener's ability to gauge the quality of songwriting and performance.

But nothing could be further from the truth when it comes to modern or extreme metal. Badly produced metal will almost always result in a mush of sound, in which the quality of the material and performances is indeterminate. Much of the reason has to do with the music's particularly fast, complex and demanding drum parts and the challenges of reproducing them clearly. Double-kick drums are a prerequisite of the genre, as are the fast patterns and subdivisions that they employ. Then there's the dynamic complexity and speed of the snare performance.
including techniques such as blast beats. Finally, there are the challenges of recording the high energy and drive from the cymbal work without rendering the mix abrasive. Modern metal rhythm guitar techniques, such as tremolo picking and fast picking, pose similar problems, especially when guitars are downturned, as they usually are. It’s easy for the sound to lose note definition and clarity, and this problem increases when tracks are stacked. This is further complicated by the need for the trills to lock together with the kick drums and bass (which is also often tuned down). As the kit to all the vocal tracks, the engineer/mixer will often deliver an aggressive sound, while emphasizing definition, on the cymbal work without rendering the mix abrasive. The cymbals will lack the attack and pinpoint accuracy required for the music’s high-end energy and drive. If the kick-drum heads may not require replacement, but the drum’s resonator head, the kick drum’s metalwork—the hi-hats and crash and ride cymbals—is one of the most critical, but frequently overlooked, elements of the drum kit. For example, a highly reverberant room can make the kit sound muddy, while a dead, ambient environment will dry out the cymbals. Note that you don’t need to set up room/mic/amphitheater, since you don’t want to capture the sound of the kit interacting with the room acoustics. Room coloration can color an entire drum and increase the level of ambience that the mics pick up. Be sure to leave room to take advantage of the more accurate critical listening space and monitoring.

Once the kit is set up, hang heavy blankets and drapes from ceiling to floor around the kit, and on the walls themselves. This will dampen the room’s reflections and cut down the level of ambience that the mics pick up, so that you have enough room for the mic stands. If possible, do the same across the ceiling area, leaving enough space to place the mic stands. If you’re recording from the front and back of the kit, if you have foam cushions, you can use them to build a small wall in front of the kit, or place the mic stands in a corner of the room. Likewise, when recording vocals in this scenario, build a 360° vocal booth, again with blankets and drapes, and if possible, enclose the rear of the microphone diaphragm in an arc with two suspended foam cushions.


dailor

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As the kit is often tuned down, hang heavy blankets and drapes from ceiling to floor around the kit, and on the walls themselves. This will dampen the room’s reflections and cut down the level of ambience that the mics pick up. So that you have enough room for the mic stands. If possible, do the same across the ceiling area, leaving enough space to place the mic stands. If you’re recording from the front and back of the kit, if you have foam cushions, you can use them to build a small wall in front of the kit, or place the mic stands in a corner of the room. Likewise, when recording vocals in this scenario, build a 360° vocal booth, again with blankets and drapes, and if possible, enclose the rear of the microphone diaphragm in an arc with two suspended foam cushions.

**RECORDING WITH A STUDIO BUDGET**

**Your budget allows you to record in a professional studio, consider yourself lucky! But as we’ve just learned, modern metal requires that the instruments are well defined and intelligible in the mix. For this reason, avoid studios with live spaces that are very ambient, as the added room coloration will muddle the recording. Instead, use a studio that has easy access to the recording drum space, with a very very reverberant room. This will provide the tightest, most controllable results, particularly with the drums. Many studios have a drum room for this very purpose, giving the engineer great control over the sound. If your budget allows you to track only part of the recording in a studio, I highly suggest that you devote it to the drums, due to the complexities of recording the instrument. When checking out a studio’s offerings, make sure it has a live room with sufficient acoustic treatment (see previous paragraph), and a mix to catch up to the drum sound. This will provide the tightest, most controllable results, particularly with the drums. Many studios have a drum room for this very purpose, giving the engineer great control over the sound.

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BUDGETS AND THE IMPORTANCE OF DRUM TRACKING

**SIMPLY STATED, the vast majority of bad productions for this genre result from poor drum recording and processing. The drum kit’s wide frequency range is part of the problem. The range of human hearing extends from 20Hz to 20kHz (though the range is narrower depending on age, hearing damage and so on). Unlike other instruments in a mix, the drum kit spans almost the entire range, so that each track needs its own microphone. High and low frequency notes can be captured with a single mic, but mid-range notes can be difficult.**

Once you have your drum kit in a workable fashion, you can begin overdubbing the other instruments. If your budget doesn’t allow you to record these tracks in a professional studio, you may be able to achieve great results on your own using a DI (direct input) box and digital amp emulation plug-in. A professional studio will allow you to record all the guitar and bass performances directly to your DAW. You can then use amp, cab and effect plug-ins to create the sound you want, or you can re-amp the tracks through a favorite rig using a device such as the Radial XAMP Active Reamping Device. Even if your budget allows studio time to track guitars and bass, you can record these parts on your own using a DI box and bring the raw tracks into a commercial studio. As with the drums, the essential benefits of a well-designed acoustic space, high-end mic preamps and microphones can go a long way to help you

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slam-patch is used on the kick’s batter head to increase attack, and keep both heads tuned very low, usually within just a single turn from being finger tight. This will enable the right “weight” and movement of air from the kick drum. Stare tunes vary depending on taste, but if the performance involves a lot of faster rolls, stick drags and ghost notes, the batter head should be very tight to enable the right stick response. If your snare drum tends to ring, try using a drumhead that is less resonant. I’ve used Evans snare heads and have had good results with the company’s “dry” models.

For the toms, opt for smaller drum sizes, but again with relatively low tuning. However, avoid having the batter and resonator heads tuned to the same tension. While doing so will increase projection, it will result in a less-pleasing tone, without the pitch bend that is a desirable part of the modern metal tom sound.

**DOWNTUNING: STRING GAUGE AND INTONATION**

**W**HEN MANY MODERN METAL guitarists and bassists use drop-D and B tunings these days, I’ve encountered very few players who compensate for the lack of string tension by using higher-gauge strings. This is unfortunate. Tuning down a standard-gauge string can result in poor tone, because the string is much more slack than it was intended to be. For drop B tuning, I recommend guitarists use a minimum gauge of .060 for the 6th string. If the entire instrument is tuned down, be sure to use heavier gauges for the entire set. Similarly, many musicians fail to have their instrument re-intonated for dropped tuning, which can cause tuning problems, particularly when rhythm guitar parts are stacked up. In addition, it’s essential that you place a fresh set on your instrument just before you start tracking and again after four or five hours of constant use. Bass strings tend to start going dead even before this, so you may want to change them more frequently.

**VOCAL SCHEDULING**

**A**LTHOUGH OBLVIOUSLY NOT equipment in the traditional sense, the vocalist’s “instrument” is too often overlooked, and consideration must be given to the scheduling of vocal performances for maximum impact. A vocalist can sing only a finite number of hours per day, and I know few who can do so for more than two hours. For this reason, it seems pointless to leave a certain number of days to complete the vocals after the drums, bass and guitars have been tracked. Instead, schedule the vocals throughout the guitar and bass recording sessions, and designate a separate day for recording vocal vocals, as aggressive vocal styles tend to affect a singer’s range.

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a pair of overhead mics will suffice. As mentioned before, keep the overheads 18 to 24 inches away from the cymbals, and aim the diaphragm at the rim of the cymbal (FIGURE 5). Place each of these the same distance from the snare to ensure a stereo image that doesn’t pull to one side (many engineers use a piece of string to measure this). In addition, observe the 3:1 rule: the distance between the overhead mics should be roughly three times the distance from the cymbal nearest to the mics. For example, if the cymbal closest to one of the eowill be brightest at the dust cap (the speaker’s center) and boomiest near the grille cloth. I suggest starting out with the mic just off the speaker’s center and close to the grille cloth but not touch- ing it. If the sound is too bright, move the mic toward the speaker’s edge until you achieved the desired tone; if it’s too boomy, or not tight enough, move the mic away from the speaker in half-inch increments until you achieve the desired amount of low-end definition and clarity.

You can also reduce brightness by placing the mic off axis. An on-axis mic is pointed 90º perpendicular to the grille cloth (FIGURE 6). Placing the mic from 45º to 85º off-axis relative to the grille cloth will reduce the brightness (FIGURE 7). I recommend trying an off-axis placement that is around 70º to the grille cloth but pointing in toward the speaker cone. Additionally, many producers will use both types of mics in on- and off-axis configurations simultaneously to give them a broader range of rhythm tones. When doing so, the capsules of both mics should be placed as close to one another as possible to reduce phase problems when the two signals are combined.

I recommend tracking two rhythm guitars for each side of the stereo picture, unless there are extremely challenging guitar parts, in which case stick to one rhythm guitar per side to avoid creating a muddy sound. When recording two gui- tars per side, vary the tone between takes, either with the guitar, amp, cab or mic, as this will help produce a thicker tone.

**Vocals**

**WHILE A CONDENSER MIC** is typically better suited to vocals than a dynamic mic, that doesn’t mean it’s the right choice for every vocalist. For that matter, you can’t know which mic of either variety is best for your vocalist without some trial and error.

I suggest recording a quick test with your singer, using two or three vocal mics placed with their diaphragms as close together as possible. Record a vocal take using all the mics simultaneously, then listen to the results and determine which mic you prefer. It’s essential that the singer stand the correct distance from the mics, as the proximity effect has a huge effect on the sound. Once this has been established, place a pop shield at least three inches from the mic, and
make sure that the vocalist remains at the same distance from the pop shield for the entire recording. Your singer can create a reference point by placing his hand perpendicularly between his mouth and the shield and noting the number of fingers he can fit within the space. Taking this step will ensure consistent volume and tone from one vocal take to another and over the selection of songs. (Note that you can achieve different tones for harmony and backup vocals by having the singer move to a different position relative to the mic.) If breath blasts are still a problem, experiment with placing the microphone slightly off axis (facing toward, but not directly in front of, the mouth area), so that the breath blasts go past the diaphragm rather than directly into it.

**CLICK TRACKS AND DRUM POST PRODUCTION**

ON MANY MODERN metal productions, the drum tracks are often altered to improve the quality of the performance. Often, the tracks include elements that weren’t performed at all but rather were added by the producer using samples. Most producers are loathe to discuss the post-recording work they perform on the drum tracks, and the drummers themselves are even less likely to own up to it, for obvious reasons.

For modern metal drum performance, accuracy is more important than vibe, feel or groove. The kick drum work and the beats, patterns, subdivisions and syncopation involved demand the highest standard of precision and accuracy. However, in many instances the drummer simply can’t perform the parts with the accuracy required, leading producers to use various methods to edit, quantize (fit to the beat) or build patterns that make the drum track sound tighter. Doing so is one of the specific engineering challenges of the modern metal.

A click track is essential to this task. It provides an essential reference point that helps the drummer keep time and turn in the tightest performance possible. It also helps the producer after the fact by giving him a grid-like guide on which he can edit and quantize beats and build new patterns that make the drum performance sound more accurate.

Recording to a click track has become a staple of the modern metal method. Slayer’s Dave Lombardo, one of the world’s finest metal drummers, told *Modern Drummer* in its September 2006 issue that he recorded all his parts for the album *Christ Illusion* to a click track. He said, “There was one tune where we wanted to speed up the ending, so we turned the click off at that point. But that was it. You have to be able to play to a click today. I really like using one. It’s helped me a lot.”

Mastodon’s Brann Dailor is another metal drummer who has changed over to playing with a click track. He told *Rhythm*

magazine in the April 2009 issue that he played to a click track for the first time when the group recorded its most recent album, *Crack the Skye*, at the urging of the album’s producer, Brendan O’Brien. “Brendan said, ‘Look, let’s just get it up and see how you get on, if it doesn’t work, we’ll lose it.’ But it worked great... With a lot of our songs they’ll start with a theme, then go somewhere else with a heavier feel, then return to the first theme again. And so I have to be careful that when we return to that part, it’s the same tempo as we started, but always a bit too fast [without a click] when we were recording. Then you have to think very hard about slowing yourself down, [and] then it feels too slow. It’s a nightmare.”

There are a few ways to create a click track. Your DAW will have a simple click-style metronome that can be turned on or off, and this signal can be sent to your drummer’s headphones for reference. However, a heavier-sounding tone is often required, and some producers will simply build a click track on their own, then loop it for the duration of the song. For the main accents, such as the first beat of the bar, a piercing tone with plenty of body, such as a cowbell, will work fine. A guide guitar can be recorded on a separate track to give the drummer a reference point for the song.

Once you’ve worked with a click track, you’ll begin to appreciate its benefits. To help you get started, here are five production tools and techniques that a click track facilitates, each of which you can use to improve recorded performances.

1. **Playlists**

**PLAYLISTS ARE A** particular function within the Pro Tools platform, but I’m using the term here as a generic reference to recording multiple takes within the same arrangement. A DAW lets you comp together multiple takes easily and quickly. The various takes can then be compared and the best parts selected and assembled into a composite performance. Recording each to a click track ensures that the various takes match up.

2. **Edits**

**EDITS ARE FIXES** within the track itself. If you want to fix a mistake in the second verse, it might be as simple as copying the same pattern from the first verse and pasting it in place of the bad pattern. Again, a click track is required for the timing of each part to be in sync. This technique can work to varying degrees of success with all instruments, as well as vocals.

3. **Overall Quantization**

**WHILE PLAYLISTS AND EDITS** allow you to utilize the best parts of the performances, quantization lets you tighten up the re-
cording by moving individual hits so that they fall exactly on the beat. The Elastic Time function within Pro Tools is a powerful and effective method of quantizing drums without causing glitches or artifacts (except in extreme cases; see below). Using time compression and expansion algorithms, Elastic Time lets you stretch waveforms in real time. To do so, however, a tempo needs to be allocated as a reference. This is where a click track is beneficial. While it’s possible to quantize performances that haven’t been recorded to a click track, it’s much easier to do so when they have, and the results will sound more natural.

4. Kick Quantization

**Ideally, Elastic Time** should be applied to all the drum tracks collectively, to retain the phase relationship between these sources. However, it’s not a cure-all, especially when it must be used to such an extreme that glitches and artifacts result. Excessive quantization can be unforgiving with hats and overheads, resulting in an unnatural sound. However, you may find that only the kick drum is in need of quantization. As it is the most challenging part of the extreme metal drum performance, the kick drum is usually the one part in greatest need of help, and tightening its performance relative to the other instruments may make the overall track sound much better.

5. Kick Building

**Some Kick Drum** parts are so challenging that it’s best to forego the drummer’s footwork altogether and build a kick drum track entirely from samples. Again, a click track will make this task much easier. Grid lines within the DAW’s edit window will show where the beats fall, making it easy to place and copy kick drums within the track, whether the kick pattern is based around 16ths, 32nds or triplets. Once a section is completed in this manner, it is a simple enough process to copy the bass drum patterns over to where the section is next repeated.

While it’s not impossible to build a kick drum track when a click track hasn’t been used, it is incredibly difficult and time consuming, as you’ll have no grid on which to place the beats. Furthermore, once you’ve completed the kick drum part for one section, you won’t be able to copy and paste it onto the next section, as the drummer’s tempo will have undoubtedly drifted and the kick patterns will not line up properly.

However, the success of kick drum quantization and building depends on how well the edited track syncs up with the original kick drum signals that may still be apparent on the tracks recorded with the overhead mics. If the sync is noticeably off, you’ll hear a “flam” as the edited and original signals are played back—a sort of blurring of the kick drum sound that will make the performance sound inaccurate, despite your best efforts.

Techniques can be employed during the tracking stage to minimize kick drum bleed. The drum can be covered with blankets to limit the amount of bleed onto the other mics. Another solution is to pack the kick drums with pillows and blankets and push them right up against the batter head, so that the only noise that the bass drum makes is the slap of the beater hitting the head. Both methods will minimize the sound level from the kick drum, making any bleed onto the overheads irrelevant. Finally, a bass drum trigger pad can be used, which will give the drummer the sensation of hitting a drum but produce no sound.

As an alternative, the drummer can be asked to simply stop playing on particular sections where the kick work will need to be built from scratch, thereby removing kick bleed completely. This technique works well, but it could be confusing for the drummer and may cause him to lose the groove and feel.

It takes skill and experience to build a kick pattern so that it’s effective and perceived as authentic. Certainly, most producers would prefer to have the drum parts performed live and accurately. But much of the time, building a track in this fashion will be the best way to establish a strong production standard.

**Next month: how to mix modern metal.**