



# Drum miking

**A black art that is not nearly as prevalent as it once was, drum miking can be a nightmare if you don't know what you're doing. We got a drum kit from FX Rentals in to the live room at Hear No Evil studios in London and got band recording specialist engineer Alan Douglas to communicate his methodology and his reasoning.**

**ZENON SCHOEPE**

**A**LAN DOUGLAS STARTED ENGINEERING at The Manor in 1976 and considers himself fortunate in having been taken under the wing of Mick Glossop who passed on 'the craft, the knowledge, the voodoo.' He moved to Town House and, as in-house chief engineer, was involved with many of the studio group's studio purchases and refits before going freelance in 1992.

Over the years he's worked with Bryan Adams, Adam Ant, Badly Drawn Boy, Jeff Beck, Bjork, China Crisis, Echo and the Bunnymen, Eric Clapton, The Cult, Ian Dury, Eurythmics, The Jam, James, Grace Jones, BB King, Lighthouse family, Queen, Simply Red, Squeeze, Toploader, and XTC among many others.

Alan travels with three of his own mics. 'The Brauner VM1 is my vocal mic and it is outstanding. I never, ever

EQ it,' he explains. 'It goes all the way down and all the way up. You can make little tonal corrections by moving the singer or changing the pattern. It has sounded amazing on every vocal I've done.'

'The Schoeps M94B isn't just my hihat mic, I use it for acoustic guitar and occasionally with the Brauner for MS stuff. It's also great for Dobro. I also take a Beyer M88, which is good for electric guitar and is just the best mic for guide vocals because it is fatter and brighter than a SM57.'

Drummers that have come under his microphone technique include Steve Gadd, Jim Keltner, Andy Newmark, Geoff Holroyde, David Palmer and Stewart Copeland. All big hitters then and he's carved a hefty reputation as a man who does real drums rather well.

**If we take it for granted that the engineer knows what he's doing, a great drum sound comes down to the drummer, the drums and the room, correct?**

Yes and the right mics. The drummer is the most important aspect because you can't make a bad drummer great. The drums are important but you can always work the on drums. I suppose you could get a drum kit that is completely unworkable but I can't remember the last time it happened to me. The drum kit is probably the least important.

The drums need to be tuned correctly to avoid things resonating at ugly frequencies within the kit, but a good drummer will have tuned the kit.

**What physical treatment of the drums do you do?**

I'll put a cushion or blanket in the kick drum, generally, with a serious weight on it so the damping you've set doesn't move and change the sound.

**What's a good drum room?**

I tend to prefer wood surfaces rather than glass or stone but modifying the acoustic to work with the kit, the drummer and the song is important. I might bring screens relatively close around the drummer so you get fewer reflections from the walls and roof into the close mics.

In tracking, the important things to get are the bass and drums and the elements that you think you're going to replace you try to put in iso booths. Pick the

best room for the drums and work everything around that. If what happens in the room might end up on the record, like with a live performance, then you have to make it all work together.

In an ideal world and if you're working with a live band then, within reason, the bigger the better because the logistics are just simpler. It's important that the musicians are comfortable too. But you can record drums in a small room, the thing you have to be careful of is flutter echoes and standing waves and you get around these with screens, blankets, anything to alter the shape and tonal character of the room.

I'll listen to the drummer play in the room but you can often tell what the problems will be when you walk into a room. Positioning the drummer in the room is critical and a mistake that a lot of people make is they ask the studio where they tend to put the drummer and do the same. You should do that if that's your instinct, and often it will be the best place, but sometimes they've been put there for no good reason for years and years and nobody knows or remembers why the first person who put the drums there did it.

### **There's an opinion that says that drums work best with just two room mics and it all goes downhill and more complicated as you add more.**

It's more complicated for the engineer but it's ultimately a lot more rewarding. You're recording to multitrack so there's nothing to stop you recording everything and using the stereo pair but I can't think of an instance where it's worked for me.

### **So what's your miking approach to a kit?**

Occasionally if it's really difficult to physically get mics in I might use fewer mics but I would like every drum to be individually miked. Two on the snare, two on the bass drum and, generally, I try to use only two overheads. If there are a lot of cymbals I might use an XY.

Bass drum is D112 and an NS10 bass driver, snare is two SM57s, rack toms Sennheiser 421s, and floor toms sometimes RE20s or 421s. For hihat I really like my valve Schoeps, which has the qualities of a good condenser but is a little funkier sounding. For overheads, if there aren't any 67s then I'll use 87s.

### **Watching you set the mics up for the kit you clearly have a formula and a pattern.**

Pretty much. I'm pointing the mic on the toms somewhere between pointing parallel to the head and where the stick hits, and within 2-3 inches of the skin. I always mike drum kits myself. I never let the assistant do it, not because he can't, but because the only way to know how moving a mic 5mm changes the sound is to do it yourself. Rather than instantly trying to EQ, very often you can move the mic a tiny amount and the sound will suddenly be there. If that doesn't sound right then I'd work on the drum. And it will sound better, and I'm not talking from a purist sense because I do use EQ, but it will sound more immediate. On the best recording consoles, as soon as you hit the EQ button the sound changes. It may be very subtle and you may not hear it on one channel but if you're using 12 mics then you will. Making the drum sound better acoustically or moving the mic an inch is definitely better. Always.

With hihats, I'll encourage drummers to change the cymbals to get the right sounding hat. Often this will involve splitting hihat sets for, say, a bright top with a dark bottom.

For the snare, there's one mic for the snares and one for the skin. You've got to take in to account how guitar



notes are setting off the snares and how much resonance you have with the other drums. The balance between the top and bottom I finalise as the song is being played. Generally the bottom mic won't move but its fader will; the top mic I'll move a lot. Again I'll angle it and move it relative to the rim. The sound of the snare will change depending on where you point the mic, the song and how the drummer plays it also changes, so I move my top snare mic a lot.

### **You use an NS10 driver as your supporting kick drum mic.**

I've been using it for years and it sounds fantastic because it gives you all the fat you need. [The transducer is simple mounted on to something solid, like the bench vice at Hear No Evil, and wired up and treated as a large dynamic mic.] It solves so many problems because using two full range mics on bass drum can cause subtle phase problems. Superficially while you may put two up and it might sound satisfying, the phase shift will mean you're getting less. You move one of the mics to adjust the amount of attack and the other for the amount of fat you need.

The important thing with bass drums is having the right head and the right beater; nine times out of ten the hard beater works. The advantage of that, if you're using one mic, you get more attack and the mic doesn't have to be so close to where the beater hits and therefore you can get more bottom end. Some drummers prefer the feel of the kick drum with the front skin on but it's more difficult to record like that. If you want to get a good present kick drum you've got to get the mic in to the drum and you have to deal with all the extra resonance that the front skin creates. Ideally

you want the front skin off, but if the drummer doesn't then you have to work around him.

It doesn't seem to make a huge difference where the NS10 driver is but I get the kick drum sound on the D112 and add in the NS10 for the fat. What's good about this arrangement is that if you find you need more attack as the session progresses then you can move the D112 in closer knowing that the NS10 is there to support it.

### **Presumably phase is a problem across the kit.**

The top and bottom snare mics are always out of phase and if you have a front skin on the bass drum then the NS10 will be out of phase with the mic inside. Quite often the overheads will be out of phase with the snare and the bass drum. To me, the more coherent the phase is the bigger, the fatter, the punchier and more transient drums sound.



### What do you record to and how do you arrange the tracks?

Generally to Pro Tools with a mic to a track, except the bass drum mics are combined as are those on the snare. If there are lots of toms then I'll put them to a stereo pair.

### How do you play the gain structure on the console?

I try to record drums as hot as possible but if I'm working with someone with huge dynamics then I'm careful. In a sense, digital is easier in this respect because if he ends up not getting as loud as he has on previous takes then at least the quiet stuff isn't down there in the noise of the tape. The beauty of digital, especially if you're working 24-bit, is that you can

record stuff quite low level and it'll still sound great.

The thing I like about digital and really fast consoles like the SSL J Series is that you can get the most amazing transients. There are lots of ways of rounding off those transients if you subsequently decide you don't want them, but there is no way of putting them back when they've gone. I believe that people have become too worried about the medium they record on. My argument is, you get in the room and play, we'll hide the machines in another room, I'll record it, you come back, you're going to love it. Unless you're listening for tape hiss, you're not really going to be able to hear whether its analogue or digital, you're a musician and you've got much better things to do. So much of this is just nonsense in people's heads because they've been told they can't do their music on anything other than analogue. That's the engineer's job, to make it work.

### So you don't EQ but do you compress when printing?

It's not that I don't use EQ, it's that I find that I often haven't used EQ. For compression, if you need a little more thwack from the snare because the head has gone, the drummer's tired and can't hit it any differently, and you can't get a new head, then compression will give you that.

If you're recording to tape then you have to make those sorts of decisions because if you're going to compress off tape then you're going to bring up a lot of tape noise. Digital allows those decisions to be made post recording.

The other issue with drums is that they tend to be quite wide stereo and compression on constituent separate parts can change that width and the phase. A hihat may be off-centre in the stereo but as the compressed snare hits, its image will jump towards the hihat because of the amount of snare on the hihat track.

A real issue for engineers is that while you may be recording the track, you might not be mixing it so you don't want to be making dramatic decisions, on such things like compression, and boxing people into a corner. However, if you really feel it's right for the vibe of the song, do it. If it's someone's whim, do it in the monitor chain.

### How do you monitor and make decisions when you're in a control room that you haven't been in before?

If you have a mic that you know very well and you're hearing one thing in the room but when you bring it up on the fader it sounds completely strange, then something is clearly wrong. It could be the mic, the lead, the channel or the control room that's broken. Often it's just the control room acoustic and the monitoring that are broken. Having said that, some of the best things I've done have been done in control rooms that I walked in to on the first day and my heart sank.

I carry KRK 9000B nearfields with me and that's my reference but I don't carry amps and they can make a difference. If you really don't know what you're hearing then it's down to engineering by guesswork. Kind people call it experience. If the main monitors sound shocking and wherever you move in the room sounds different, I rely on the KRKs and have built up this intuitive way of working in which I don't do anything that can't be undone later. That's when you definitely don't use loads of EQ.

There's also a psychological problem because you still have to make it sound good and impressive in the control room for the musicians, because they have to feel good about it. I use the KRKs for playback,

thankfully they are loud, but if it sounds odd in different parts of the control room I make the drummer sit at the board where I know it sounds great.

### So how do you make a drummer feel good about himself?

Make him sound great, better than he's ever sounded in his life. Let him use that daft drum, but make him sound fantastic so he thinks he's a genius. Our job is about making the musicians and the producer look great. It's about the A&R man walking into the room and thinking 'I'm so clever for signing this band, this is fantastic.'

### What about headphones mixes?

That's interesting and for vocals it's absolutely crucial. With a drummer, if it's working for him in the room with the leakage he's hearing then that's all that matters. I've recorded tracks where the musicians have played absolutely brilliantly, and I've suddenly thought that I haven't checked the headphones mix for hours. I've cringed because it's the worst balance you've heard in your life but it was just happening in the studio. Give them what they want, but remember that quite often when people are bitching about the headphone balance, that's not the real issue.

Click level is important and if the drummer's playing loud then he's getting so much from the kit acoustically that the headphone mix doesn't reflect what he's actually hearing.

### So what do you bring to the party?

I make things gel musically, I make things work. I have no ego and I see my job as an enabling thing. And it's such a great job. Some of the people I work with have been around the block and if you cause Billy Preston, Steve Gadd, Jim Keltner, Nathan East, and Pino Palladino to smile at you and say 'Yeah', it's kind of cool!

I still get a huge buzz from this job. When I was 14 I listened to a Steely Dan record and worked out from the sleeve notes that it was someone's job to record this stuff. That was 30 years ago and I'm still living that childish dream.

There have been moments when Eric has completely gone somewhere on a track and it's been

astounding - and you're the one who is recording it! And that's in the original meaning of the word, you're taking a snapshot of a moment in time that can live forever. There are moments on the Eric and BB album that I am truly proud of because I know that's what happened then in that room. In 50 years time, some kid can put it on and they'll experience it exactly as I did at that moment.

Creating something that is timeless like that is more important than getting this month's hihat sound. I know a very talented band that worked three days on a hihat sound. You could have gone through every possible permutation of cymbals, sticks, rooms, mics, consoles, tape machines, but that's not what's wrong with it, is it? And how interested was the drummer to play that song on day four? ■

## FX Rentals

Special thanks to FX Rentals for the provision of the drum kit used for the purposes of this article.

Celebrating its tenth anniversary, FX has grown from a pro audio equipment rental company (FX Rentals) into a Group that includes equipment sales (FX Music Control), equipment servicing and repairs (FX Cimple Solutions), copying across all digital and analogue formats (FX Copyroom), equipment rentals in southern Europe (FX Spain) and, most recently, audio and video installations (FX Technical Services).

FX Rentals, UK: +44 208 746 2121



Venue for this article, Hear No Evil studio recently installed a 6.1 Genelec monitoring system featuring 1037B monitors and the new 7071A LSE 6.1 sub.

Owners and producers Steve Parr and Sharon Rose have built up a reputation for specialising in multichannel music to picture. Steve mixed one of the world's first 6.1 DVDs for LA-based Studio Voodoo, which was released by DTS. The pair have also set-up a DVD production company called See No Evil.

Hear No Evil, UK: +44 207 385 8244