

# Mic techniques for the curious

The session's going well but you need something a little different. **KEITH SPENCER-ALLEN** goes off the wall and suggests directions for miking experimentation that deviate a little from accepted practice.

**IN CONTACT** — Contact microphones are extremely useful tools and some types give a really good representation of the instrument but they lack the 'air' that a normal mic can give. Add a mic on the instrument, combine the signals and listen (possibly changing the polarity of one). It is surprising how little of the mic signal is needed to achieve 'naturalness'.



Armed with this technique, you can amaze musicians by letting them play close together with a minimum of acoustic screening, still have a high level of separation, achieve a good sound, and appear a miking genius!



**DISTANT DRUMS** — Overhead mics on a drum kit are the norm but sometimes, due to a combination of local acoustics, the kit and the player, we get a sonic discrepancy between the majority of the drums whose axes are vertical, towards the overheads, and the bass drum that fires horizontally. Adding a 'distant' bass drum mic 2-3 metres in front and positioned on the drum's axis can be very effective, capturing the change in tonality and knock that you have to recreate with close miking. Some have suggested the use of a directional rifle for this but trading directionality for a better off-axis response has led to success with mics such as the E-V RE20. Some degree of screening from the rest of the kit might help, or you could consider 'extending' the bass drum shell towards the mic.

**WEARING THE PZM** — Percussionists with an arsenal of tools can present a miking challenge particularly when this extends beyond handheld instruments to tuned percussion. It's rare



that a single mic will capture all the percussion at an equal-sounding distance even if the percussionist is skilled at using distance from the mic to achieve equal volume. Adding mics can add problems so a suggestion that Crown published in tech notes for its early PZM mics was to hang a boundary layer mic around the player's neck so it's on their chest. The hemispherical polar pattern will then pickup whatever instrument the player turns to, all from the single mic. There are some obvious difficulties but the larger PZMs don't suffer from clothing noise against the back plate. And it works.

**THE MIKED CEILING** — Boundary layer mics have an improved LF response when mounted on larger hard surfaces, effectively increasing the size of



the back plate. Fixing the mics to walls or windows is useful but a permanent pair on the ceiling is best. That hemispherical polar pattern covers the studio floor, makes a great musicians comms mic, gives you instant overhead pickup using the maximum studio height, and on those creatively draining sessions can be fed directly to a logging recorder so that those inspired licks are never entirely lost!



**NAFF MICS** — In the same way that a stopped clock reads the correct time twice a day, there is a train of thought that states there is no such thing as a truly bad mic — you just have to find what it is good for! Philosophically we are a long way from the standard studio multifunctional workhorses here and we're looking at the oddities of the mic world — the cheap, the quirky, and maybe even the damaged. I've an old Shure 55 that had all the marks of a very hard life before we crossed paths yet it delivers a distinct guide vocal no matter what sound level surrounds it. On drums, the same mic turns a clunky hi-hat into a shimmering hi-fi impersonation, or very close to it. Yet it is very probably broken and way out of original spec. I've a very cheap early electret mic of uncertain make yet it can bring out the rough and hard edge in a voice in a way that no other mic can yet it does nothing else. Such mics are the colour in your palette.

**MOVING MICS** — One of the assumptions that we



make about mics is that they are placed on a stand and they remain static. If we are after a special effect maybe this can be disregarded. Most of us will be familiar with the sound created when one of two mics receiving a similar signal is moved — the sliding sweep of frequency cancellations. Consider the effect of moving mikes around the studio, carefully tutored assistants walking the mics on paths that take them closer to and away from each other. The key effects are cancellations in the summed signals when they are close, the effect of changing room acoustics, and the Haas effect when different mics are closer to the sound source they assume precedence. With these mics panned or summed, experimentation can lead to a deep fuller effect that is impossible with signal processing.



**REALLY MOVING MICS** — We can also take the above moving mic concept and 'regularise' it. Two mics can be suspended pendulum-like by their cables and swung with differing intervals. This is a gentle effect and you need mics that aren't upset by a gentle breeze. Alternatively there is the advanced version where one mic is swung in a circle on a short cable and a second mic on a longer cable attached to a boom (fishing rod style) and swung in circles in the opposite direction (*The looks you must get. Ed*). Tricky (I've never made it work) but apparently the effect on a guitar solo is extraordinary but difficult to repeat!



**REINFORCED STEREO** — Stereo is an illusion that fools the ears. When multitracking to create a stereo image take a different approach. Place a pair of mics in the optimum position for an effective stereo image and keep them in the same position. All overdubs can then be positioned left or right in front of those mics and recorded and the resultant pairs panned hard right and left. Obviously this is for specific types of recording but the effectiveness of the result, where the reflections in the room from each separate recording reinforces the acoustic illusion, is impressive.



**MODIFYING RESPONSE**

— Although all mics have a predefined polar pattern there are opportunities to modify that. The rear pickup of a cardioid (or omni) can be tailored by placing an acoustically absorbent panel behind it. Or a foam cut-away, such as from a flight case, can be created for that mic. Why bother? Well sometimes there is a necessity for a particular mic in that position with that sound but the rear response is not wanted.



**TURNED BACKWARDS** — If you have a limited number of mics available, or even if you just feel adventurous, the sound available from the rear of a mic can be another option. With a cardioid pattern mic it will be a fuller, bass heavy signal with a possible skew to the HF, and an overall decreased sensitivity. While you may wish to place some foam over the mic front to decrease front pick-up, you can also put another (identical) mic facing forwards for an increased range of miking possibilities. While this may seem like a hypercardioid or fig-8 approach, you still retain separate signals for further processing. ■