

The Glyn Johns Method

A quick primer for recording drums

Introduction

Recording a drum kit is arguably the most difficult of all sound engineering tasks. The number of individual sound sources and vast range of different frequencies covered by a set of drums and cymbals makes obtaining a good drum sound a challenge for even the most experienced studio engineer. One way to meet this challenge is to use one of the many well-established techniques developed by experienced audio engineers over years of professional studio recording.

This primer is intended to provide an illustrated step-by-step guide to using one of the most reliable and simple drum recording methods, pioneered by legendary producer Glyn Johns during the late 1960s and 1970s. The Glyn Johns method is a simple, fast and reliable way to achieve an open, live and realistic drum sound using a small amount of recording equipment.

Glyn Johns

Glyn Johns is one of the UK's most respected producers and engineers. Starting his career working as a tape op for The Beatles, he went on to work with thousands of artists from The Rolling Stones, The Who and Led Zeppelin through to Van Halen, New Model Army, Eric Clapton and many more.

Johns is probably best known in the drumming community for his legendary drum sound. His unique recording method was used to create many of John Bonham and Keith Moon's best recordings.

The signature Glyn Johns sound is a massive, live, open tone. Surprisingly, Johns achieves this huge sound using only four microphones. It's a simple technique to learn and requires relatively little studio hardware to produce. In this article we'll be looking at ways to achieve a great Johns-style drum sound in the same way that John Bonham used to record.

What you'll need

The microphone cabinet

The classic Glyn Johns sound is produced by using only four microphones. You'll need two overheads (preferably large diaphragm cardioid types), one bass drum mic and one snare mic. The following list includes approximate UK street prices in Pounds Sterling for budget equipment choices that will provide a good starting point for developing a signature sound.

Possible budget microphones for your setup are:
Overheads: 2 x Audio Technica AT2020 (65 GBP each)
Snare: Shure SM57 (70 GBP)
Bass drum: Audix D6 (130 GBP)

Accessories

4 x mic stands (10 GBP each)

Powered mixer: Soundcraft Folio Notepad (50 GBP)

USB box: Edirol UA-5 (125 GBP)

Laptop: any PC, Mac or Linux box (see Software below for suggested software)

4 x high quality balanced XLR cables (mics to mixer)

2 x high quality balanced XLR cables (mixer to USB audio box)

1 x high quality USB cable (USB audio box to laptop)

Tape measure

Headphones

Getting started

The room

Find a room in which your kit sounds good. The major advantage of using this technique is that it provides a big, open, natural sound, so find a room with a good natural reverb. Size isn't important; small rooms can sound as good as large rooms. You can control how bright or harsh the room sounds by covering bare walls with curtains or drapes.

Tuning the kit

A well-tuned kit will record better than a set of cardboard-sounding tubs. Obvious but true. Before the recording session, spend time on tuning your kit so you'll only need to make minor tweaks during the session based on what you're hearing through your headphones. You're looking for a big, natural sound that can only be produced by drums that sing.

New heads

It's surprising how quickly drum heads start to sound tired. This is particularly true of snare heads so change your snare batter head and tune the snare before the session. You'll get more bite out of the snare sound if you use a new head. Many drummers keep the same heads on their gear for years - it's all part of developing a signature sound!

Kit positioning

Start by setting up your bass drum, toms, hi-hats and snare in the centre of the room. If possible, get someone else to play your kit and listen to how it sounds, then move the kit to a different place in the room and listen again. You'll get a feel for the point in the room where the kit sounds best. Avoid areas that make your kit sound flat or quiet. When you've found the room's sweet spot, assemble the rest of the kit and start setting up the mics.

Basic principles

The basic Glyn Johns technique uses four microphones: two overheads, one snare and one bass drum microphone.

Most of the recorded sound is taken from the overheads. They provide the stereo image, warmth, clarity, and 'crack' from the snare. The snare and bass drum mics are used to round out the sound, providing body and attack for the snare and bottom end punch for the bass drum.

Forget what you might already know about overheads. Conventional overheads are usually positioned using XY pairing, where both overheads are placed high above the kit. In the Glyn

Johns method, one of the 'overheads' is used as a side mic, out to the right of the drummer beyond the floor tom. That's intentional. It looks bizarre but it works.

Positioning and panning the microphones

The four microphones should be positioned and panned as follows:

Overhead 1: in front of the drummer, 36-40" above the snare, pointing directly downwards at the bass drum pedal between the bass drum-mounted toms. Pan right (3 o'clock). Use your tape measure to measure the distance from the centre of the snare to the mic diaphragm.

Overhead 2: to the right of the drummer, 4-6" above the top of the floor tom pointing across the top of the snare towards the hi-hats. Pan left (9 o'clock). Measure the distance from the centre of the snare to the mic diaphragm: it must be exactly the same as the distance used for positioning Overhead 1, or you'll encounter phase problems.

Snare: pointing at the centre of the top of the snare, 2-3" from the head, positioned between the hi-hat stand and the crash cymbal stand. Pan centre (12 o'clock). Don't position the mic too close to the snare head or you'll encounter proximity effect.

Bass drum: depending on the mic and your required sound, either inside the bass drum and close to the head (more attack) or outside the bass drum. Pan centre (12 o'clock). Again, don't get the mic too close to the head.



Figure 1: the basic Glyn Johns microphone setup



Figure 2: Drummer's view of the Glyn Johns microphone setup



Figure 3: Side view of the Glyn Johns microphone setup



Figure 4: front view of the Glyn Johns method showing snare and kick mic positioning

Connecting the equipment together

Buy high quality balanced XLR cables to connect the mics to your mixer and the mixer to your USB audio box, and a high quality USB cable to connect your external USB soundcard or breakout box to your laptop.

Levels, gain structure and headroom

To start recording, turn on the mic phantom power supply on the mixer and start setting gain and volume pots. You're looking to achieve a final recording volume that gives plenty of headroom, and no clipping (pushing the signal meter into the red.) Digital clipping sounds awful so make sure that your loudest drum sound - usually a snare accent or rimshot - doesn't cause your recorded signal to clip. Spend time recording yourself playing very loud and check that your showcase fill doesn't clip before you record a real take.

EQ

Don't apply EQ when recording using this technique. Set your mixer EQ pots to neutral and perform any EQ during later mixing.

Tweaking your sound

If you need more hi-hat in your mix, move the snare mic clockwise around the circumference of the snare to point in the direction of the drummer's left leg. To reduce bleed from the hi-hat, move the snare mic anticlockwise around the snare so that it points away from the hi-hat towards the drummer's right leg.

If you're looking for more attack from your bass drum sound, move the bass drum mic closer to the beater, change beater type or use a click pad on the bass drum head.

Experiment with overhead placing. If you place your cymbals high then be careful to keep them away from the overheads. Avoid placing your main overhead directly above a cymbal or you'll lose the body and tone of the cymbal.

Be careful not to place your snare and bass drum mics too close to the corresponding drum head, or you may experience proximity effect – unwanted, enhanced bass response.

Open up the stereo image by moving the floor tom overhead further around to the right of and behind the drummer. Remember to keep the distance between the mic diaphragm and the snare centre identical to the measurement between the snare and the main overhead's diaphragm.



Figure 5: view showing outboard recording gear and laptop

Conclusion

With a little experimentation, the Glyn Johns method makes it possible to achieve impressive results using a relatively small and easily portable amount of studio equipment. If you're looking for a reliable, reproducible, simple and quick drum micing technique that produces a live, punchy, natural tone from a kit, then the Glyn Johns method is definitely worth auditioning.

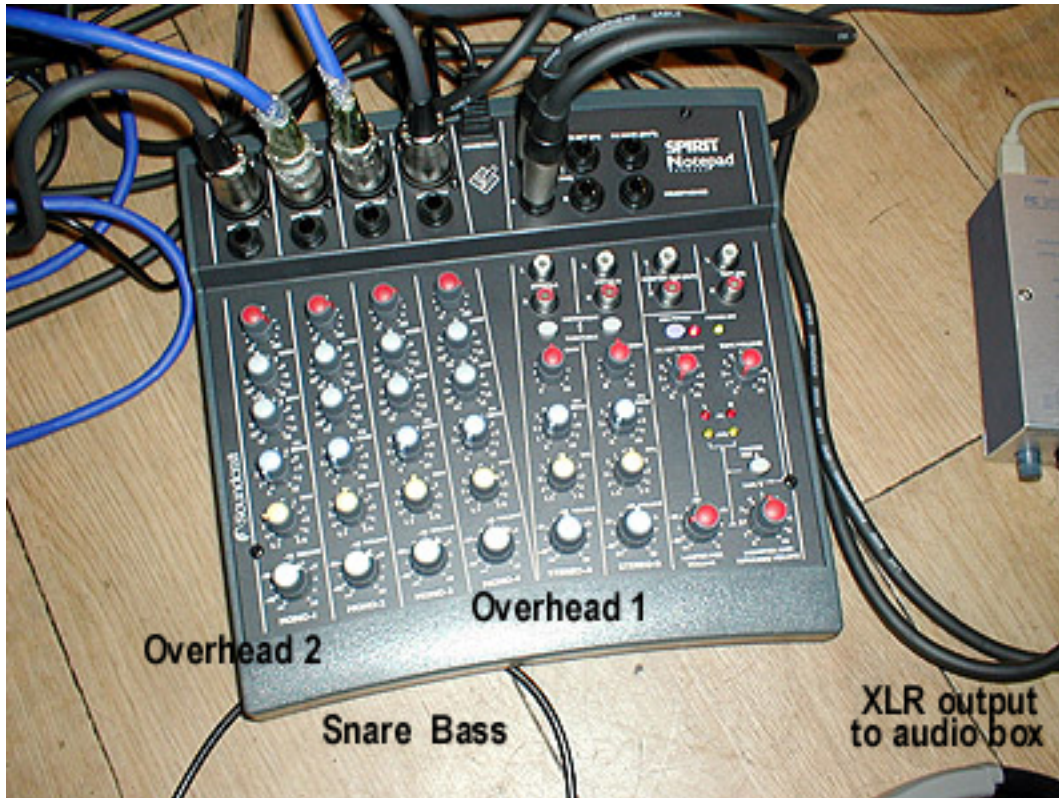


Figure 6: Mixer view showing simple pan settings, EQ and levels for each microphone

Software

Audio software doesn't have to be painfully expensive. The following Windows programs can be downloaded without charge.

Audacity: free, open source software for recording and editing sounds.

<http://audacity.sourceforge.net>

Reaper: a powerful Windows application for multitrack audio recording and editing.

<http://www.cockos.com/reaper/>

References

Glyn Johns biography

http://en.wikipedia.org/wiki/Glyn_Johns

Basic layout mic setup diagrams

<http://www.danalexanderaudio.com/glynjohns.htm>

Detailed discussion of an enhanced version of the Glyn Johns method

<http://forums.musicplayer.com/ubbthreads.php/ubb/showflat/Number/780024/page/2>

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