

# Recording techniques:Drum kit

[http://en.wikiaudio.org/Drum\\_kit\\_microphone\\_placement\\_recording\\_techniques](http://en.wikiaudio.org/Drum_kit_microphone_placement_recording_techniques)

From WikiAudio

This article documents how to record drums as a kit. For information on microphone techniques for individual drums please search *Category:Drums* to see a listing

## Contents

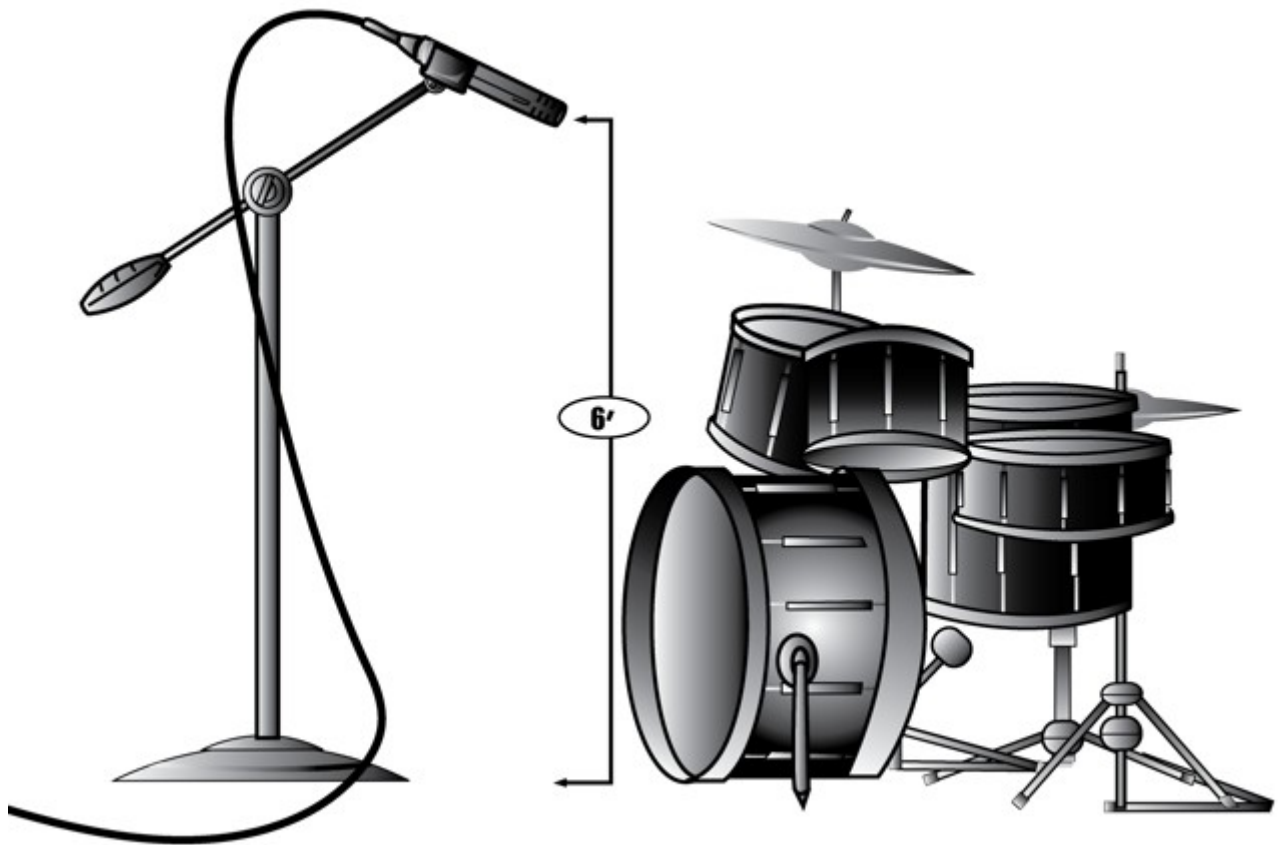
[\[hide\]](#)

- [1 Single Microphone Full Kit Techniques](#)
  - [1.1 One microphone in front of kit](#)
  - [1.2 One microphone back of kit](#)
  - [1.3 One microphone overhead technique](#)
  - [1.4 One microphone 8 feet away](#)
- [2 Dual Microphone Full Kit Techniques](#)
  - [2.1 Stereo X-Y](#)
  - [2.2 Wide Stereo Overheads](#)
  - [2.3 Head baffle technique](#)
  - [2.4 One microphone overhead & one in kick](#)
  - [2.5 MS Stereo Technique](#)
    - [2.5.1 Setup](#)
    - [2.5.2 Analog recording](#)
    - [2.5.3 Digital recording](#)
- [3 Triple Microphone Full Kit Techniques](#)
  - [3.1 Kick, Snare and Overhead](#)
  - [3.2 X-Y and Kick](#)
- [4 Quadruple Microphone Full Kit Techniques](#)
  - [4.1 Glyn Johns Technique](#)
    - [4.1.1 Microphone Selection](#)
    - [4.1.2 Position Your Overheads](#)
    - [4.1.3 Position Your Spot Mics](#)
    - [4.1.4 Panning In The Mix](#)
  - [4.2 XY, Kick & Snare](#)

## Single Microphone Full Kit Techniques

### One microphone in front of kit

One cardioid condenser microphone 6 feet above the floor placed facing the kit



## One microphone back of kit

This setup uses a condenser microphone with a cardioid polar pattern pointed at the back of the kit directly over the drummer's head 6 feet above the floor



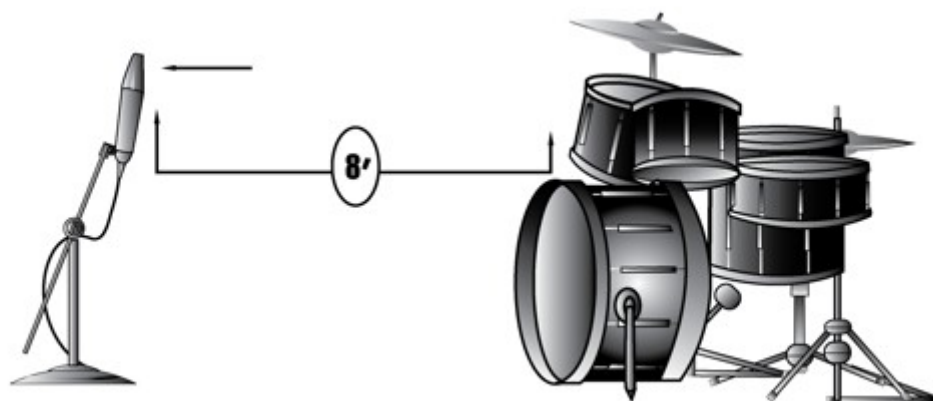
## One microphone overhead technique

This setup uses 1 cardioid condenser microphone as an overhead pointed down at the drums from a distance of about 4ft.



## One microphone 8 feet away

This setup uses a condenser microphone with a cardioid or omnidirectional pickup pattern placed 8 feet away and pointed at the drums



## Dual Microphone Full Kit Techniques

## Stereo X-Y

This technique uses two condenser microphone with cardioid polar patterns. The microphones are placed at a 90 degree angle to one another at about 3 feet above the cymbals. The horizontal and vertical plane positioning should be the same for both microphone capsules and they should be close enough that they're *nearly* touching each other



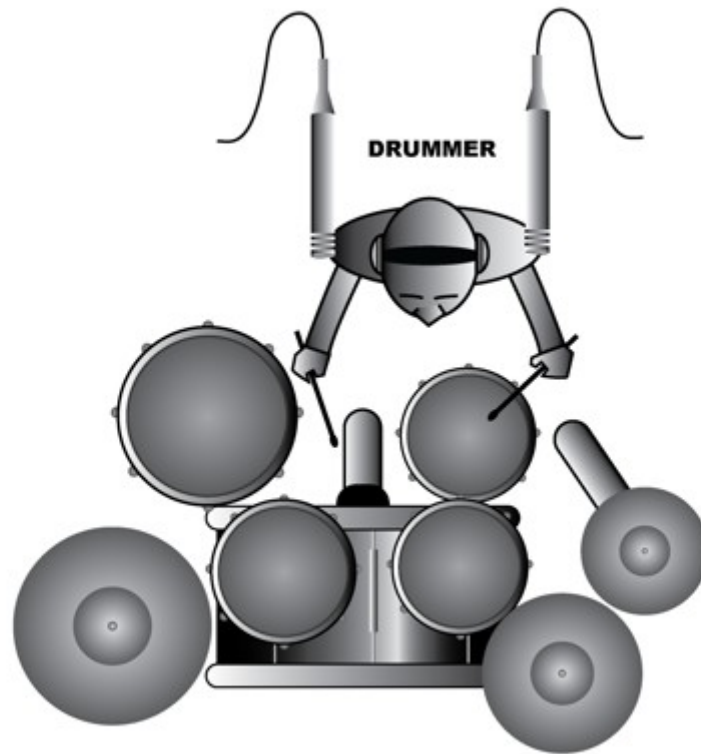
## Wide Stereo Overheads

This technique requires the use of two cardioid condenser microphones placed 1-3 inches apart over the drum set and placed at a 90 degree angle pointed away from one another as displayed in the image below.



## Head baffle technique

This technique uses two cardioid condenser microphones positioned side-by-side with the drummer's ears and pointed toward the front of the kit. The microphones should be four to eight inches from the drummer's head.



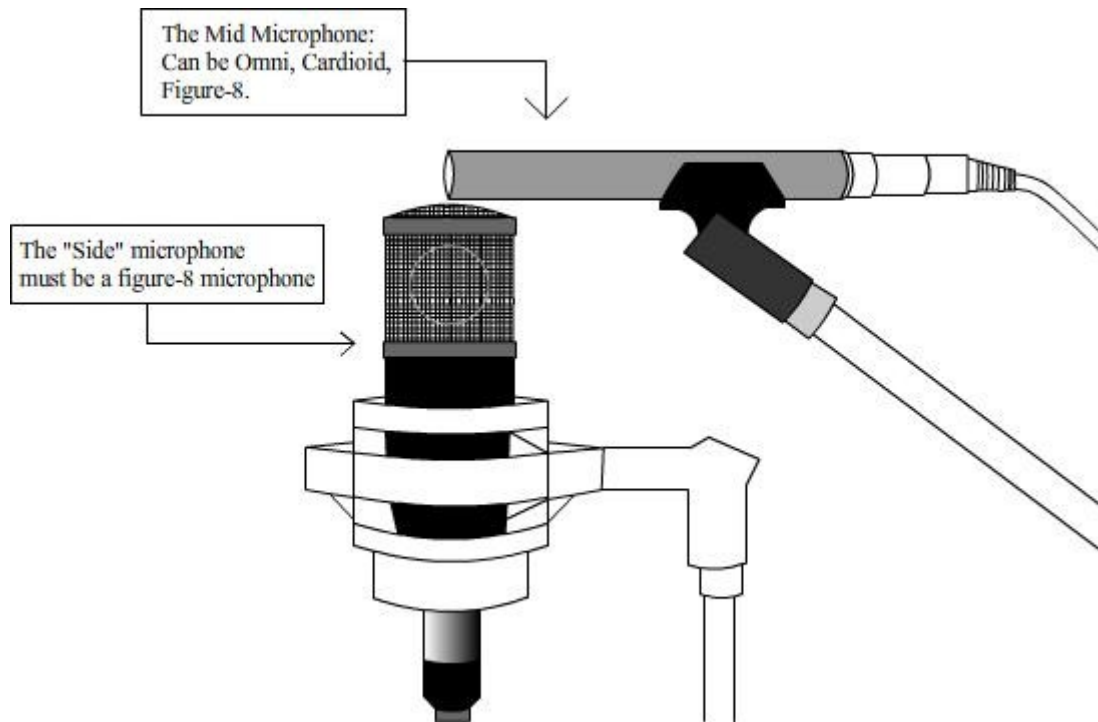
## One microphone overhead & one in kick

For this technique one cardioid condenser microphone is overhead pointing down at the drum kit. The other microphone is a dynamic microphone and is placed inside the kick drum aimed at the head, about half way between the center of the head & the shell



## MS Stereo Technique





M/S stereo is short for Mid-side stereo. MS Stereo microphones exist but you can also create the effect with a good quality cardioid mic and condenser with a figure 8 polar pattern.

## Setup

- Place the cardioid mic where you would normally position it to capture direct sound from the source and place the figure-8 mic with its diaphragm at a 90-degree angle to the diaphragm of the Cardioid mic. The Cardioid microphone is called the mid mic and the fig 8 is called the side mic.

## Analog recording

1. Bring the Figure 8 mix up into a console and then take a feed from the direct out of that channel and bring it back in via a line input on another channel
2. Bring up the cardioid mic and center pan it.
3. Take the two channels of the figure 8 microphone and pan one left and one right. Now reverse the phase of one of the splits. Listen to the cardioid signal and bring up the signal from the condenser mic and you will hear the sound change from mono to a wide stereo signal.

When you mono the figure 8 signal, the left and right signal should cancel each other out and leave the cardioid mono signal.

### **Digital recording**

For digital recording you can either follow the directions above (they will work perfectly fine) *or* instead of splitting the signal of the figure 8 mic as posted in step #1 above, you can simply record both mics on their own respective tracks and then take the figure 8 mic track and copy it to another track after recording. You should then have 2 figure 8 tracks. Now simply phase reverse one of them using a phase reverse feature of your DAW.

## **Triple Microphone Full Kit Techniques**

### **Kick, Snare and Overhead**

This technique uses 1 cardioid condenser microphone placed two feet above the cymbals and pointed down at the set. Another cardioid dynamic microphone is then pointed at the snare from a distance of about 2 inches. The third microphone is a dynamic cardioid microphone inside the kick and positioned to personal taste.



## X-Y and Kick

For this technique use two cardioid condenser microphones in an XY configuration. Then mike the inside of the kick with a dynamic cardioid microphone.



# Quadruple Microphone Full Kit Techniques

## Glyn Johns Technique

Glyn Johns is a famous recording engineer. Born in England in 1942, Mr. Johns has recorded many well known musicians including Eric Clapton, The Rolling Stones, The Who, Steve Miller, and The Eagles.

### Microphone Selection

This technique involves four microphones - two overhead microphones, a kick mic, and a snare mic. For this tutorial we suggest these microphones. Note: it only sounds good if you have a good sounding room and a good drummer.

**Kick:** AKG D112

**Snare:** Sm57

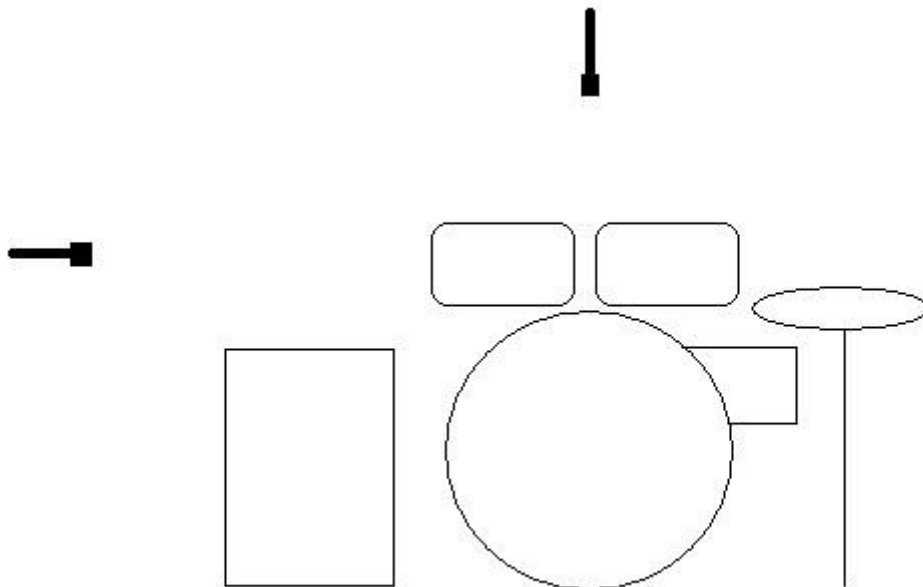
**Overheads:** 2 Beyerdynamic M160 ribbon microphones

## Position Your Overheads

Note: you'll need a tape measure for this exercise

Position the first overhead mic 40-60 inches from dead-center of the focal point of the kit (e.g. snare drum), facing directly downward to the kick drum pedal.

Position the second overhead mic's diaphragm towards the high-hat, over the tops of the floor tom and snare drum. The microphone will be positioned facing the drummer on his right side. Take the tape measure, and position the microphone's diaphragm exactly the same distance of the overhead microphone (e.g. 40"-60") inches from the center of the snare. Below is a picture representing how this should roughly look from the front of the drum kit.



## Position Your Spot Mics

Position your snare and Kick mics. These positions are a matter of personal preference.

## Panning In The Mix

Panning the microphones in your mix once you've recorded is what makes the Glyn Johns Method work.

Pan your kick and snare mics to the center. Then, take your overhead mics, and pan the one above the snare halfway to the right. Next, pan your other

overhead mic -- the one near the floor tom -- to the far left. This gives a depth and stereo image to the overall kit.

## XY, Kick & Snare

This technique requires two condenser microphones placed in an XY configuration. One cardioid dynamic microphone placed inside the kick. And one cardioid dynamic microphone pointed at the snare drum at a distance of about 2 inches above the top head

