

Start recording your drums with the cheapest mics

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List of mics

Listen to the drum recordings at [musicianself](http://musicianself.com). Among the cheapest mics were used to make the recordings.

Here is the list of mics

- Sm57 (snare)
- Beta 52 (kick)
- Pg 56 – 2 in number (one for each tom)
- Pg 81s – 2 in number (left and right overhead mics)
- Pg 52 (floor tom)
- Two condenser mics for the ride and hihats.
(battery powered condensers available were used)

The pg series mics come as a drum kit of 6 mics. For each extra tom, add one more pg56 or SM57 to the list.

Phantom power and battery powered condensers

The two overhead mics – pg 81s – need two preamp ins with phantom power.

For ride and hihat condenser mics,

- We can use phantom powered condenser mics if the audio interface or mixer has the provision.
- Else use battery powered condenser mics.

- There are external preamp boxes like Audio Buddy which have preamp ins with phantom power available.

- Better preamps can make the process better because mic and preamp is the entry point for the sound source into our system. Recording with a focusrite audio interface who makes good preamps or using a dedicated preamp will be better than recording with a generic sound card.

Basic mic selection logic

- SM57 can be used for toms and snares.
- Mics which are good with the low frequency can be used for the kick drum and floor tom. So you can use the same mic for kick drum and floor tom. Try to get at least a Shure Beta 52 for the kick drum, because anything lower than that may not perform really good with the bass frequencies.
- Condenser mics for the high frequency elements
 - overheads which take in all the **cymbals** and the whole sound of the drum set.
 - The **hihat** and **ride** – both elements whose higher frequencies are of interest to the engineer and listener.

Improvements when possible

Impossible are possible if options available and within our budget. For example :

- Condenser mics powered by preamp phantom power is preferred to battery powered condenser mics. So if you sound card, audio interface or mixer has the provision to add four condenser mics (2 for the overheads, one each for hit hat and ride cymbal), you have made the process better.

SM57 for snare – Shortcoming as advantage.

Many high budget projects where expensive condenser mics can be used still use SM57 for recording the snare.

The 'disadvantage' of a dynamic mic over condenser mic is one main reason for this selection.

Dynamic and Condenser mics

A little bit about how a dynamic mic and a condenser mic is built and functions.

Dynamic mics use a diaphragm with electric coil, which when moves in a magnetic field produces the electric signal that we record.

A **condenser mic** has a condenser, with a very light leaf for one of the plates of the condenser. When sound waves reach the leaf, the distance between the condenser plates vary and an electric current is produced, which we record.

Shortcoming as advantage

The diaphragm of a dynamic mic is heavier than the leaf of a condenser mic. The heavy diaphragm has much more inertia to move when compared to the light leaf of a condenser.

Therefore the condenser records very subtle movements while the diaphragm will not move as much to each nuance, and will smooth out the details in the recording.

When recording with an SM58 dynamic mic, the inertia of the diaphragm therefore acts as **sort of a compressor**, that naturally smoothens out the transients in the signal, making the snare sound more 'thick' or substantial.

That is an advantage in using SM57, dynamic mic, for recording snare, thanks to its 'shortcoming' when compared to a condenser mic.

Cables

The mic side needs an XLR female jack. The audio interface can have XLR, balanced TRS or RCA jacks.

Stands

- 1 Kick mic stand, the rod to attach the mic should be long. Usually they have a short one. Ask for a long one, the rod of a straight stand (usual stands

used for vocals, snare...) will do. (This is important for us)

- 4 straight stands. (Snare, Floor, Ride, Hat)
- 2 boom stands for the overheads.
- First and second tom mics should have clips to attach to the toms.
- Remember to get enough holders to place the mics on the stand.

Notes :

- a. Get a longer rod for the kick mic than usually comes with the short kick mic stands. That will be needed when one wants to keep the kick mic close to the batter head, entering through the hole on the other side skin.
- b. The tom mics come with their own clips, with which one can attach the mics to the tom and position it as needed.
- c. Get tall boom stands for the two overheads.
- d. Get stands for all the other mics.
- e. Get long cables.
- f. Have some strong brown tapes handy and some post it or price slips for notes (eg. When there are 10 cables on the floor it is good to mark a cable on both sides for easy identification.) Power plug extensions (spike busters).

The drummer needs to have a pair of headphones, preferably a drummer's headphones since they keep the

Basic drum micing logic + a sample mic and equipment list

drum sound from masking the clicks. If monitors/speakers are available at the site, they can be used for general listening without headphones.

That is all we need to start with...

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