

7KIT

- Q** KICK
- Q** SNARE
- Q** TOM
- C02**



SEVEN PIECE PERCUSSION MICROPHONE KIT

Owners Manual

SAMSON
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PERCUSSION MICROPHONES

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Introduction

Congratulations on your purchase of the 7KIT percussion microphone kit from Samson Audio! We understand that the sound of your drum kit is extremely personal and important to your livelihood, so we carefully designed the 7KIT as a complete solution specifically for miking your drum kit. The 7KIT includes the QKICK for your bass drum, a QSNARE for your snare drum, and for your tom-toms, three QTOM mics will more than “fill-in”. In addition, to capture the brilliance of your cymbals and the overall ambient sound of your drum set, we’ve included a matched pair of our C02 studio condensers. Special attention in the construction of the neodymium elements, together with precise capsule porting produces a frequency response that has been carefully contoured for each of the specific drums in your kit. Thunderous low end from the bass drum, crisp and punchy attack on snare plus thick and defined tom-tom sounds are easy to get with this powerful complement of percussion mics. In addition to the great sound, the QSNARE and QTOM feature an integral mounting clip that easily installs on any standard drum rim. The multi-adjustable mounting clip allows you to carefully position the mic and completely eliminates the need for external mic stands which can be difficult to position around cymbal stands. Thanks to the great sound and flexible mounting solution, the 7KIT excels in both live performance and recording applications.

Should your microphone ever require servicing, a Return Authorization number (RA) must be obtained before shipping your unit to Samson. Without this number, the unit will not be accepted. Please call Samson at 1-800-3SAMSON (1-800-372-6766) for a Return Authorization number prior to shipping your unit. Please retain the original packing materials and if possible return the unit in the original carton and packing materials.

7KIT Features

Features

The Samson 7KIT utilizes state-of-the-art microphone technology and each microphone is engineered to the finest detail for the drum it is to be used on. Here are some of the 7KIT's main features:

- Seven piece percussion microphone kit including one QKICK bass drum mic, one QSNARE snare drum mic, three QTOM tom-tom mics and a matched pair of C02 studio condensers for overheads.
- The QKICK, QSNARE and QTOM are neodymium, dynamic percussion microphones, designed from bottom to top, specifically for the drums they mic.
- The C02 condensers have an extended frequency response range for optimum reproduction and exceptionally clear, crisp sound with great transient response making them ideal for cymbals and overhead miking.
- Extended frequency range, contoured and optimized for each drum providing deep low end and snappy attacks.
- Integral, multi-adjustable mounting clip allows the QSNARE and QTOM to be easily mounted on any standard drum rim, therefore eliminating the need for an additional mic stand.
- Tight super cardioid polar patterns minimizes feedback problems and effectively rejects unwanted signals from other drums in the kit.
- Capable of withstanding high SPLs, lending themselves to a wide range of close miking applications above or below and inside and outside the drums.
- The QKICK, QSNARE and QTOM employ ultra sensitive neodymium elements that pick up all of the nuances of any performance.
- Lightweight and compact, the QSNARE and QTOM can be mounted on any standard tom-tom and easily positioned to stay out of the way of your playing.
- Rugged Die-cast and ABS case construction ensures reliable performance in even the most demanding environments.
- Included foam-lined, impact resistant carrying case for convenience when transporting the microphones from venue to venue.
- Gold plated XLR Connectors.

Mounting the QSNARE and QTOM

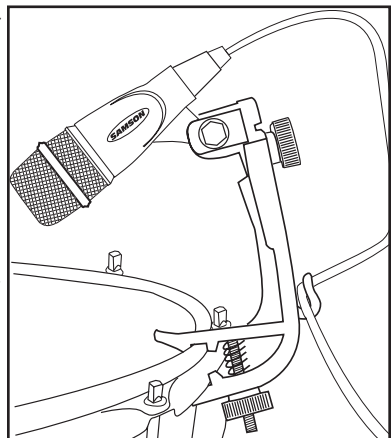
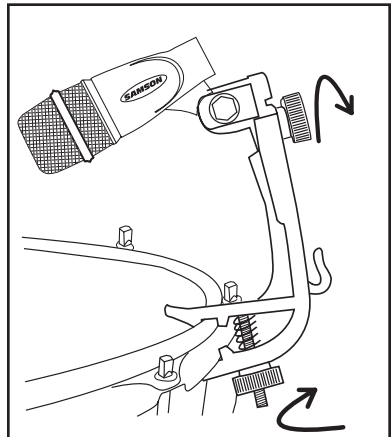
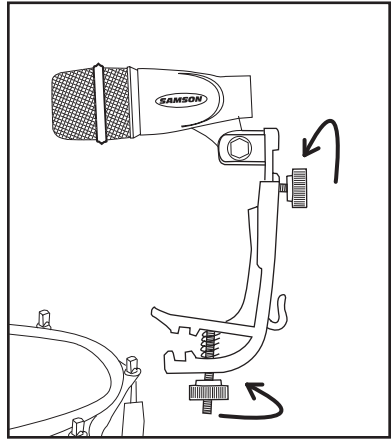
Installing the QSNARE and QTOM to your drums with the integral DMC100 mic clip is easy. Follow the simple steps below to install the DMC100 mic clips to your drum kit.

- First, get the DMC100 ready for installation. Release the tension on the upper and lower thumbscrews by turning them counter-clockwise.
- Next, place the bottom claw the under the bottom edge of the upper drum rim, then push the DMC100 forward until you hear and feel it click into place.
- Now, tighten the lower thumbscrew to secure the DMC100 firmly to the rim.
- Adjust the height and tighten the upper thumbscrew in place.
- Once the DMC100 clip is fixed in place and the height is set, you can adjust the angle.

Note: While adjusting the angle, you will want to place the mic in a position that is least likely to interfere with your playing style. Because of the QSNARE and QTOM's pick-up pattern, and due to a phenomenon called proximity effect, slight adjustments of the microphone position and angle can make a big difference in sound. For further information on positioning your microphone see the section "Microphone Placement and Tone Quality" on page 6 of this manual.

- Connect the QTOM using a standard XLR mic cable and dress the wire away from your drum using the cable strain relief.

Note: For more information on wiring and mic cables, see page 10 in this manual.



Using the 7KIT

Microphone Placement and Tone Quality

When you position your mics on the drums, it will be easy to get a great sound since, in general, they are positioned so close to the sound source. You can make slight adjustments to the height and angle that will have an effect on the sound. The changes in sound may be difficult to notice at first, especially in live sound applications, however the more you use your microphones and listen to the sound, the more you will understand, and hear, the effect the microphone placement has on the sound. As always, experimentation and experience are the best teachers. Obviously, in live sound applications you can't always hear the final results of the sound you're getting because most of the time your drum kit will be positioned behind the PA speakers, so rely on a band mate or sound engineer to help you dial up the sound. In recording applications, print some scratch tracks and check the sound by listening to your headphones and to the control room monitors.

By the way, the "Golden Rule" of getting a great sound miking any instrument, with any microphone, is to start with a great sounding instrument. Be sure that you pay careful attention to the tuning, and if necessary, the dampening of your drums. Miking your drums is similar to putting the sound under a microscope. Any unwanted buzzes and rattles coming from your instruments may be much more noticeable when you mic the kit.

You'll get a great sound just by positioning the mics close to your drums however, there are some basic principles and fundamentals that should be followed. (If not, at least understood.)

- The 7KIT drum microphones have cardioid pick up patterns, which means they pick up sound directly in front of the microphone, and reject the sound behind the microphone. This means in order to get the best separation between the drum you want to pick up in a particular mic and the ambient sound around it, let's say your cymbals or other drums, you can aim the mic so that it is facing away from the cymbals or other drums. As with any drum miking situation, you'll have to make some compromises with the ultimate position for sound and interface to your playing style.

For more information on polar patterns, see the section Polar Pattern on page 9 of this manual.

- All microphones, especially uni-directional or cardioid microphones, exhibit a phenomenon known as "proximity effect." Very simply put, proximity effect is a resulting change in the frequency response of a microphone based on the position of the mic capsule relative to the sound source. Due to the result of the proximity effect, slight adjustments of the microphone position and angle can make a big difference in sound. Specifically, when you point a cardioid mic directly at the sound source (on axis) you will get the best frequency response, however when you start pointing the microphone slightly away (off axis) you will notice the low frequency response dropping off and the microphone will start to sound thinner. Knowing that the bass will decrease as you change the mic angle can be a big help if you are getting a "boomy" sound from your drum.

Using the 7KIT

Application Guide

The following section will describe some basic miking techniques for the various drums in your kit. Use this as a guideline, but remember every sound system, every room, every drum kit and every drummer is slightly different, so experiment around until you find the sound that's right for you.

Snare drum

When you mount the QSNARE on your snare drum rim you'll be well on your way to getting a great sound due to the close placement of the mic. You can experiment by changing the angle of the microphone to change sound. If you want to get more stick attack try lifting the mic slightly so that it is pointing bit way from the rim and aim it more in the direction towards the center of the drum head. You can use the proximity effect to your advantage to increase the low-end response by pointing the mic further downward. For recording and advanced live sound applications try a second QSNARE under the snare drum to pick up more of the sound from the snares. When using the second QSNARE under the drum, be sure to reverse the phase polarity on the mic input, otherwise some of the sound will actually cancel.

Bass Drum

The QKICK is perfectly happy positioned outside the bass drum for more of an ambient sound, which is sometimes desired for recording, or inside the bass drum for a tighter sound like in live sound applications. When positioning the QKICK you will notice that changing the distance the microphone is placed from the head will have an effect on the low frequency response. You can use the proximity effect to your advantage by moving the microphone closer to the head if the sound is too boomy, or try moving the QKICK back a bit to add more low end. If you want more of the click attack sound from your bass drum, try aiming the QKICK directly at the beater.

Tom-toms

When you mount the QTOM on your tom-tom rim you'll be well on your way to getting a great sound thanks to the close placement offered by the DMC100 clip. You can experiment by changing the angle of the microphone to change sound. If you want to get more stick attack try lifting the mic slightly so that it is pointing bit way from the rim and aim it more in the direction towards the center of the drum head. You can use the proximity effect to your advantage to increase the low-end response by pointing the mic further downward.

Overhead Drum Kit

Because of it's extended high frequency response and fast transient response the C02 performs outstandingly when used as an overhead cymbal microphone. You can position one C02 on a boom mic stand directly above the kit pointing from front to back. For stereo miking, use two C02's placed over the drum set at a distance of three to five feet. You can experiment with the exact placement depending on the size of the room and whether you're looking for an ambient or close-miked sound. In general, when miking a drum kit it's a good idea to start with the overhead mics. Even though you use the overhead mics mostly for the cymbals, try to get the entire kit to sound great in the overheads. Then it will be easier to just bring up your individual mics for more attack and thickness in the overall sound.

Hi Hat

The C02 is a perfect microphone for miking Hi Hats thanks to its smooth top end and the ability to capture fast attack transients. Try placing the microphone over the edge of the top cymbal. Experiment by moving the mic further over the cymbal to produce more of a stick sound, but keep in mind it may pick up more of the kit. Remember that the C02 has a cardioid frequency response, so position the microphone in the direction of the Hi hat, but for increased separation, be sure to point the mic away from other drums or cymbals whenever possible.

7KIT Microphone Characteristics

Polar Pick-up Pattern

Every microphone has a characteristic polar pattern that determines how well it accepts or rejects signal coming from various areas around the microphone. For example, omnidirectional mics accept all signals regardless of wherever those signals originate (in front of the mic, behind it, to the side, etc.). In contrast, directional cardioid mics are specifically designed to accept mostly signal coming from directly in front, and to reject signal coming from behind or from the side. The super cardioid pattern is utilized by the QKICK, QSNARE and QTOM (as shown in the illustrations on the following page). The super cardioid is a slight variation of the standard cardioid pattern with a slightly tighter pick-up pattern, which helps increase the side-to-side rejection giving better isolation from drum to drum. For this reason, the QKICK, QSNARE and QTOM excel in environments where there is a good deal of unwanted ambient sound (like a live sound stage)—they deliver those signals originating directly in front of the mic capsule itself while rejecting those that originate from behind.

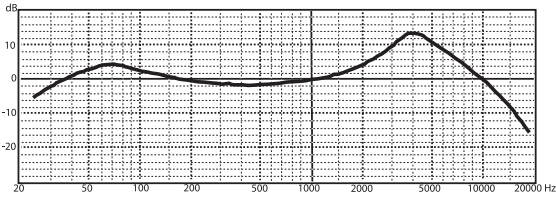
The C02 has a standard cardioid pattern offering good rear rejection, but with a wider pick-up pattern which make them ideal for miking the cymbals and entire kit when use as overhead mics.

In addition, the polar pattern also determines how prone a particular mic is to inducing feedback. Feedback is that characteristic nasty howling sound that occurs when a mic is placed too close to a loudspeaker—the signal from the loudspeaker is fed into the mic, then into the loudspeaker, then into the mic, over and over again until an oscillating tone is generated. Because the cardioid pattern utilized by the QKICK, QSNARE, QTOM and C02 is so good at rejecting signal not coming from directly in front of the mic, you'll find that using these mics will greatly minimize feedback problems.

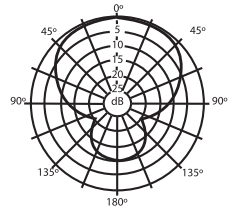
Frequency Response

Each of the QKICK, QSNARE and QTOM microphones have been designed with a custom frequency response which is ideally tailored for the specific drum it is going to be placed on. The response is created by the careful consideration of the microphone element and the design of rear porting. The C02 has been designed to have a flat frequency response with just a slight lift in the highs making it great for overhead cymbals and hi-hat. You can see the individual frequency response of each mic included in the 7Kit on the following page.

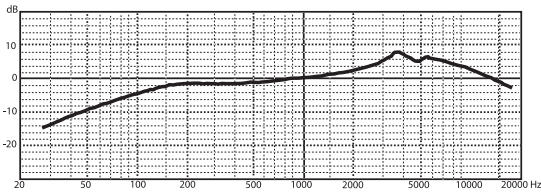
7KIT Microphone Characteristics



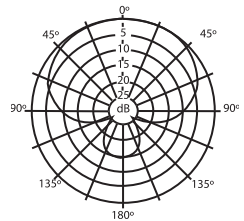
QKICK Frequency Chart



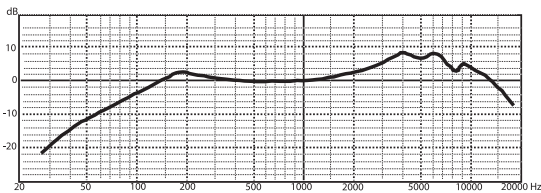
QKICK Polar Pattern



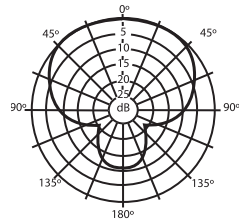
QSNARE Frequency Chart



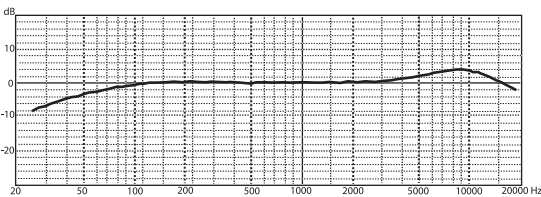
QSNARE Polar Pattern



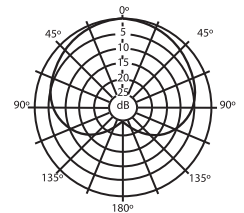
QTOM Frequency Chart



QTOM Polar Pattern



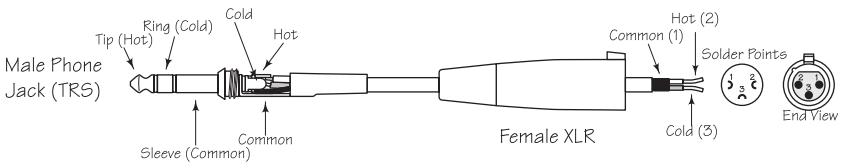
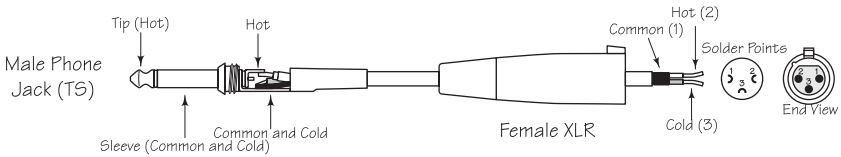
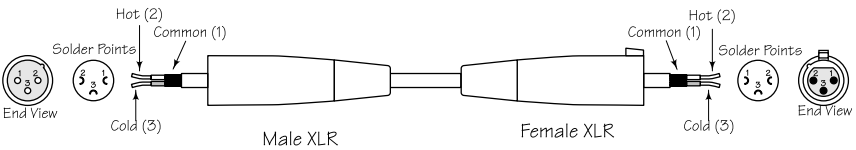
C02 Frequency Chart



C02 Polar Pattern

Microphone Wiring Guide

The 7KIT mics can be connected to any mixer, mixer/amplifier, or mic preamp using a standard microphone cable. As shown in the wiring diagrams below, connect the female XLR end directly to the microphone's gold-plated connector and the other end (normally a male XLR end, although some mixers use 1/4" connectors) to the mixer, mixer/amplifier, or mic preamp.



Specifications

QKICK Specifications

Type	Dynamic Microphone
Polar Pattern	Super Cardioid
Frequency Response	50~16000 Hz
Sensitivity	-62 dBV/pa (0.8mv/pa)
Rated Impedance	200Ω
Max. SPL	147 dB (THD _≤ 0.5% 1000 Hz)
Weight	370g

QSNARE Specifications

Type	Dynamic Microphone
Polar Pattern	Super Cardioid
Frequency Response	50~16000 Hz
Sensitivity	-55 dBV/pa (0.78mv/pa)
Rated Impedance	200Ω
Max. SPL	133 dB (THD _≤ 0.5% 1000 Hz)
Weight	150g (with DMC 100)

QTOM Specifications

Type	Dynamic Microphone
Polar Pattern	Super Cardioid
Frequency Response	50~16000 Hz
Sensitivity	-55 dBV/pa (0.78mv/pa)
Rated Impedance	200Ω
Max. SPL	133 dB (THD _≤ 0.5% 1000 Hz)
Weight	150g (DMC 100)

C02 Specifications

Type	Condenser
Polar Pattern	Cardioid
Frequency Response	40~20000 Hz
Sensitivity	-40 dBV/pa (10mv/pa)
Rated Impedance	200Ω
Equivalent Noise level	22 dB (A weighted IEC/DIN 651)
Max. SPL	134 dB (THD _≤ 0.5% 1000 Hz)
Dynamic Range	112 dB
Power Supply	48V Phantom Power (IEC 268-15/DIN 45596)
Current Consumption	3.5 mA
Dimensions	ø 20 x 150 mm
Weight	170g

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