



DK3

3-Piece Drum Microphone Kit

Follow us on social media @EarthworksAudio
For more information, please visit earthworksaudio.com or call 1-603-654-2433.

EARTHWORKS AUDIO



Description

The Earthworks Audio DK3 is a three-microphone kit for drums.

With just these three microphones, you can capture truly professional drum sound that preserves every detail and nuance of your instrument and your playing.

DK3 will give you an unfair audio advantage in the studio, onstage and at home, whether you're recording, rehearsing or performing live.

Inside The Box

- 2x SR20 G2 microphones for overheads
 - 1x DM6 microphone for bass drum
 - 2x MC1 mic clips for the SR20 G2s
 - 1x Triad-Orbit M2-R ball mount for the DM6
 - 2x SRW3 foam windscreens for the SR20 G2s
 - 3x Mic stand thread adapters
 - Printed Quick Start Guide
 - Protective case for travel and storage
-

Phantom Power

Earthworks mics are condenser microphones, so they contain active electronics which require Phantom Power to generate sound.

If you are new to this, here are some really helpful tips:

- **Mute channels before switching Phantom Power on or off.** If there's just a single Phantom Power control for all channels on your mixer, audio interface or external mic preamp, then mute ALL channels.
- **Avoid Hot-Plugging.** Disable Phantom Power before connecting or disconnecting your microphones. Earthworks microphones are unlikely to be damaged by connecting them to an input that already has phantom power enabled, but some audio interfaces, mixers and external mic preamps (especially vintage designs) behave unpredictably during hot-plugging, and in rare cases can even be damaged by it.
- **Use 48V Phantom Power.** Some devices supply Phantom Power at voltages other than 48 volts (like 12 or 24). If phantom power is enabled but you aren't getting any sound, make sure that your device is providing 48V phantom power (the most common kind). If your device can't provide 48V, use an external phantom power supply.
- **Use high quality balanced microphone cables.** If you've done everything listed above and still aren't getting any sound, try swapping the cable.



Drum Miking Tips

OVERHEADS

DK3 comes with two SR20 G2 microphones for overheads, designed to capture the sound of your entire drumkit, not just the cymbals.

There are many ways to use two microphones for drum overheads. Some commonly used stereo mic techniques include X/Y (coincident pair), A/B (spaced pair), ORTF, NOS, as well as more drum-oriented approaches like Glyn Johns and Recorderman.

If you are new to drum miking or to Earthworks microphones:

We recommend trying A/B (spaced pair), as it takes advantage of SR20 G2's wide polar pattern to capture a vivid and powerful stereo image of your kit, and is quick and easy to set up.

Use tall boom stands to position the microphones about 40 inches above the drumkit (just over 1 meter), one on the left and one on the right. Aim them straight down.

Fine-tune the positioning so the microphone capsules are both exactly the same distance from the center of the snare drum's batter head. Use a tape measure to be precise. By doing this, you ensure that the snare drum is centered in the stereo field. On a typical right-handed drumkit setup, the microphone on the right will likely end up at a lower height than the left one.

How far apart the two microphones are from one another strongly affects the stereo image, with wider spacing producing a wider and more exaggerated stereo picture. The most realistic stereo image is typically found with the microphones spaced something like 12 inches (30 cm) apart.

A realistic stereo image is especially helpful for learning and rehearsing, where you need to listen to your drums through headphones or in-ear monitors (IEMs), mixed with an instructional video or practice track.

With accurate headphones/IEMs and a little time spent on overhead mic positioning, you can achieve a startlingly realistic stereo image of your drums, to the point that you might even forget that you are listening through microphones.

With its flat frequency response and exceptionally good cardioid polar pattern, SR20 G2 is also great on other loud sound sources, like close-miked drums, guitar cabs, percussion of all kinds, brass, saxes and other loud instruments.

However, SR20 G2's high SPL optimization means that in the studio its self-noise might be a bit too high for soft sound sources like solo nylon string guitar, violin, or whispered vocals.

For quieter audio sources in the studio, SR25 G2 or P30-S are a great choice.



Drum Miking Tips

BASS DRUM

DK3 comes with a DM6 microphone for bass drum.

A bass drum is an acoustically complex instrument, and a microphone placed inside it hears something very different from what the drummer (or a person standing in the room) hears. For this reason, DM6 is one of the few Earthworks microphones not designed with a flat frequency response.

DM6's frequency response is contoured to remove the low-mid mud that builds up inside the drum and clutters up the mix, and to capture your bass drum's true-to-life character, letting you get the sound right at the source without the need for heavy corrective EQ and processing.

DM6 is designed to help you unleash the deep low-frequency power impact of even small bass drums, while still *sounding like you playing your bass drum*.

If your bass drum's resonant head is ported: Position DM6 in the center of the port, at a depth where the middle of the windscreen is aligned with the resonant head. DM6's extremely effective supercardioid polar pattern provides a consistent frequency response at every angle across the front of the windscreen (inside the bass drum), so mic placement is easy and forgiving. High rejection of unwanted sound at the rear (outside the drum) minimizes cymbal bleed, letting you take full advantage of DM6's detailed high frequency capture of your bass drum's attack.

If the head is unported: DM6 works just as well on bass drums with unported resonant heads, though there will likely be a bit more bleed because the microphone is outside the drum. Typically (but not always), the sound at the edge of the head is fuller and more natural than at the center, so start there, with the DM6 at a distance of about 3 inches from the surface of the head (just under 8 cm). Take a few minutes to find the position and distance where the sound of the drum comes into focus, and you may be surprised at just how much impact and fullness you can get with an unported bass drum.

DM6's high SPL handling and shaped frequency response make it excellent for other loud low-frequency sources, like floor toms, low-tuned snares, gong drums and other low-pitched percussion, as well as bass cabs.

Outdoor Usage

FOAM WINDSCREENS

When using your Earthworks microphones outdoors, it's a good idea to use the included foam windscreens to protect the capsules of the SR20 G2 microphones from wind and dust. They should also be used in indoor environments that are very dusty or when a fan or air conditioner blowing air across the tips of the microphones is creating wind noise.

EXTREME TEMPERATURES

When using your microphones in direct sunlight in a hot climate (ie: a daytime festival in the desert), the sun can heat them to the point that their circuitry



Outdoor Usage

temporarily stops working. Bring the microphones into the shade and let them cool down, and they should be fine. Likewise, if your microphones have been stored in a very hot or cold place and their stainless steel bodies are uncomfortably hot or cold to touch, let them acclimatize before using them.

MOISTURE

It is important to keep the capsule inside the tip of each microphone from getting wet.

A few drops from an unexpected rain shower before you can set up a shelter will likely not cause damage, especially if the SR20 G2 overheads are pointed downwards. However, continuous water exposure or immersion can cause permanent damage.

The included foam windscreens provide a little extra protection, but be aware that if they become waterlogged they will become a source of damaging moisture located close to the capsule. The same applies to the DM6's metal and foam windscreen.

DK3 Specifications

PHYSICAL CHARACTERISTICS

DIMENSIONS (L x W x H)
11.625 x 7.375 x 3.625 Inches
(29.5 x 18.7 x 9.2 cm)

WEIGHT
3.7 lbs
(1.67 kg)





SR20 G2 Specifications

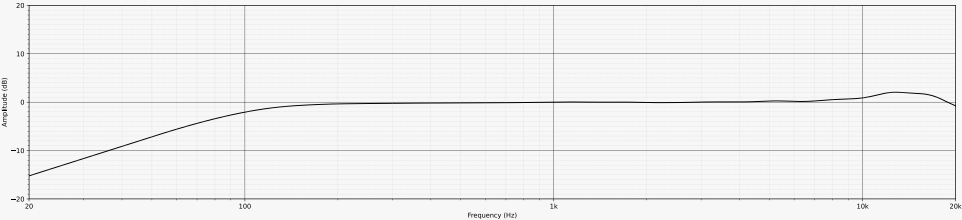
CAPTURE TYPE
MICROPHONE TYPE
Pre-Polarized Condenser
DIAPHRAGM SIZE
10mm
POLAR PATTERN
Cardioid

AUDIO PERFORMANCE
FREQUENCY RANGE
20 Hz - 20 kHz
1 KHZ SENSITIVITY
-50 dBV/Pa (3.2 mV/Pa)
A-WEIGHTED SELF-NOISE
25 dBA
MAXIMUM SPL (3% THD)
148 dB SPL
MAXIMUM ACOUSTIC INPUT (10% THD)
155 dB SPL

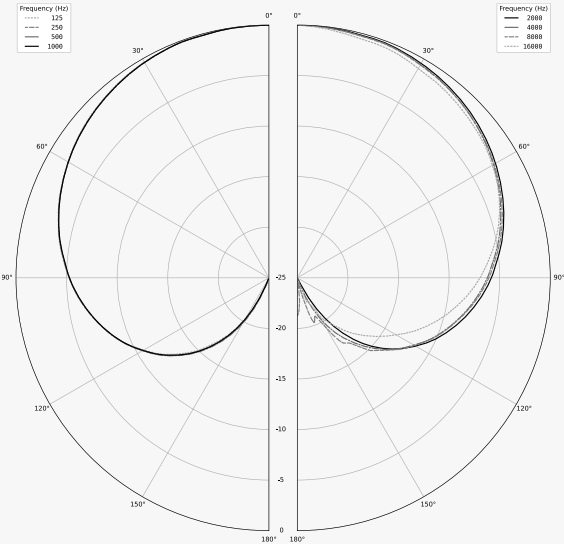
ELECTRICAL CHARACTERISTICS
POWER REQUIREMENTS
48V Phantom Power (P48)
P48 CURRENT CONSUMPTION
6 mA
MINIMUM LOAD IMPEDANCE
1 kΩ

PHYSICAL CHARACTERISTICS
CONSTRUCTION
Machined Stainless Steel
COLOR
Silver and Black
DIMENSIONS (L x W)
4.14 x 0.86 Inches
(105.15 x 21.84 mm)
WEIGHT:
0.25 lbs (0.10 kg)

FREQUENCY RESPONSE



POLAR RESPONSE





DM6 Specifications

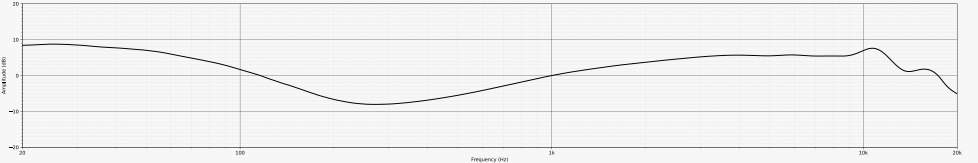
CAPTURE TYPE
MICROPHONE TYPE
Pre-Polarized Condenser
DIAPHRAGM SIZE
10mm
POLAR PATTERN
Supercardioid

AUDIO PERFORMANCE
FREQUENCY RANGE
20 Hz - 20 kHz
1 KHZ SENSITIVITY
-60 dBV/Pa (1 mV/Pa)
MAXIMUM SPL (3% THD)
150 dB SPL
MAXIMUM ACOUSTIC INPUT (10% THD)
>160 dB SPL

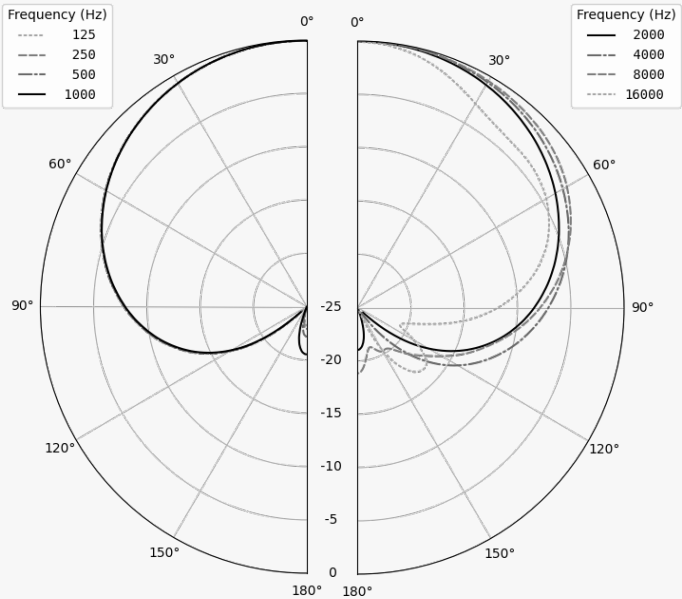
ELECTRICAL CHARACTERISTICS
POWER REQUIREMENTS
48V Phantom Power (P48)
P48 CURRENT CONSUMPTION
6 mA
MINIMUM LOAD IMPEDANCE
1 kΩ

PHYSICAL CHARACTERISTICS
CONSTRUCTION
Machined stainless steel body and tip, painted steel windscreen
COLOR
Silver and Black
DIMENSIONS (L x W)
4.97 x 1.93 Inches
(126 x 49 mm)
WEIGHT:
Without M2-R: 0.85 lbs (0.38 kg)
With M2-R: 1.25 lbs (0.58 kg)

FREQUENCY RESPONSE



POLAR RESPONSE





Warranty

All Earthworks products carry a warranty against manufacturing defects. If you believe your microphone is defective, or have any questions regarding its operation or performance, please email service@earthworksaudio.com or call 1 (603) 654-7051. For full warranty details visit <https://earthworksaudio.com/support/warranty>

PLEASE NOTE:

The warranty only applies to Earthworks microphones purchased new. Please contact us about issues with microphones purchased or received second-hand.

Compliance Requirements

Earthworks Inc. declares that this product has been determined to be in compliance with CE (Conformité Européenne) requirements. The CE label indicates that the product has been assessed and meets the European Union's (EU) safety, health, and environmental requirements. The full text of our CE declaration of conformity is available at: <https://earthworksaudio.com/support/documents/eu>

Earthworks Inc. also declares that this product has been determined to be in compliance with UKCA (UK Conformity Assessed) requirements. The full text of our UKCA declaration of conformity is available at: <https://earthworksaudio.com/support/documents/uk>

Notes

Earthworks Audio reserves the right to discontinue products and to update, correct, or change the contents of this document at any time, without prior notice, and without incurring any obligation or liability. Specifications and availability are subject to change without notice.