

# R21

DYNAMIC MICROPHONE

## OWNERS MANUAL

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# **SAMSON®**

Thank you for purchasing the Samson R21 Dynamic Microphone. The R21 dynamic microphone brings a high level of accuracy and audio performance to vocal miking applications.

The R21 is a hand held dynamic microphone that excels in both live performance and recording applications. Equipped with a linear frequency response for superior reproduction, it is also designed to withstand high sound pressure levels. Extremely sensitive, it employs a tight cardioid pattern to reduce feedback. A special shock-mounted element minimizes handling noise and provides additional protection.

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

### Features

The Samson R21 utilizes state-of-the-art microphone technology and is engineered to the finest detail. Here are some of its main features:

- Tight cardioid polar pattern minimizes feedback problems and effectively rejects signals not originating directly in front of the mic capsule.
- Extended range frequency response for optimum reproduction and exceptionally clear, crisp sound.
- Special shock-mounting allows movement of the mic element to greatly reduce handling noise.
- Rugged zinc alloy die-casting case ensures reliable performance in even the most demanding environments.
- Lightweight and compact, the R21 can be mounted on any standard microphone stand (using the included mic clip) or can be easily handheld for long periods without inducing fatigue.
- Included foam-lined impact resistant carrying case for convenience when transporting three R21 microphones from venue to venue.

- Withstands high SPLs lending itself to a wide range of miking situations
- Ultra sensitive element picks up all of the nuances of any performance
- Gold plated XLR Connector

## **Microphone Placement and Tone Quality**

Listed are some common microphone placement techniques. Use these suggestions as a guide and let your ears determine what works best in your situation.

- Sound source less than 6 inches away from mic—Full sound, pronounced bass, increased isolation from background noise.
- Sound source 6 inches to 2 feet away from mic.—Balanced natural sound, less bass, some background noise.
- Sound source 3 to 6 feet away from mic—Thinner ambient sound.

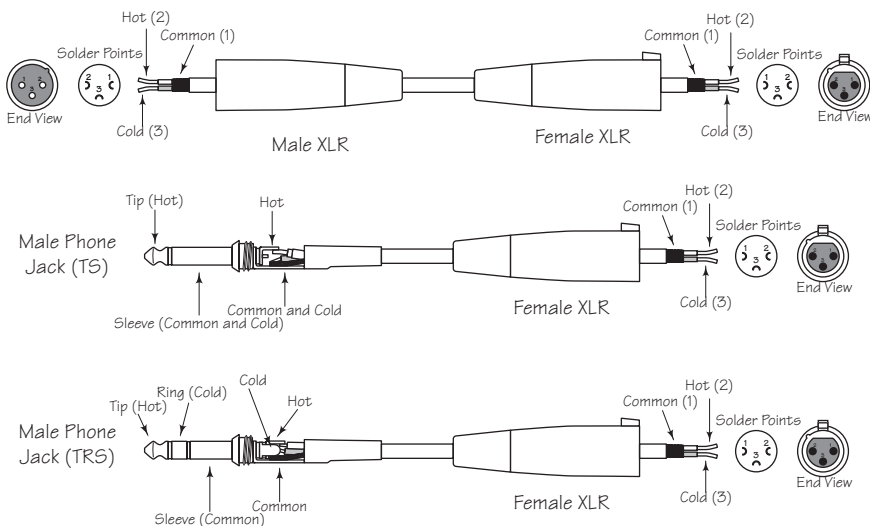
## **Guidelines for Microphone Use**

- Aim the microphone at the desired source. Keep unwanted sound sources at a 135° angle from the front of the microphone (see polar pattern).
- Place the microphone as close to the sound source as possible.
- Use the proximity effect to your advantage: The closer the mic is to the sound source, the more emphasized the bass response will be.
- Use a windscreen to suppress unwanted wind noise.
- Never cup your hand over the microphone grill.

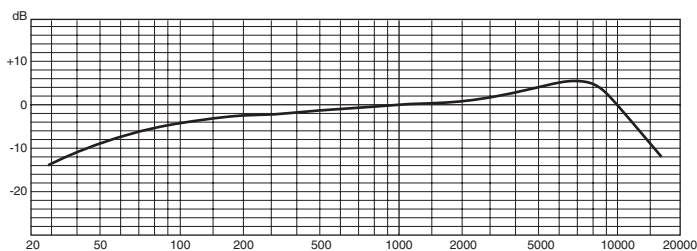
## **Operating Notes**

- The R21 will boost bass frequencies when the microphone is between 0—6 inches from the sound source. As you move the sound source further away from the microphone, the bass response will gradually roll off.
- The R21 has a built-in wind screen which protects against most wind and breathing noise. Under adverse conditions, such as high winds, an optional foam windscreen can be used.
- For maximum signal handling capability and minimal distortion, a minimum load impedance of 800 ohms should be used. A reduction in output signal strength and output clipping level will result with the load at 150 ohms.

The R211 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 R21'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.



The R21 can be mounted to any standard microphone stand (using the included mic clip) or can be handheld; due to its unique mic element shock mounting, it generates significantly less handling noise than most other microphones. If handheld, take care not to cover any part of the head grille with your hand. Be aware of a phenomenon called the proximity effect which causes a noticeable increase in low frequencies (bass response) when a microphone is close to the audio source. This can have positive impact—for example, it will cause your voice to sound much fuller when you sing close to the mic than when you sing at a distance. The R21 is specially designed to be used up close, since it provides a built-in windscreen for removal of pops, sibilance and onstage noise. The key to developing the best mic technique is experimentation, along with awareness of the general principle that, the closer your R21 is to a signal source, the greater the bass response.

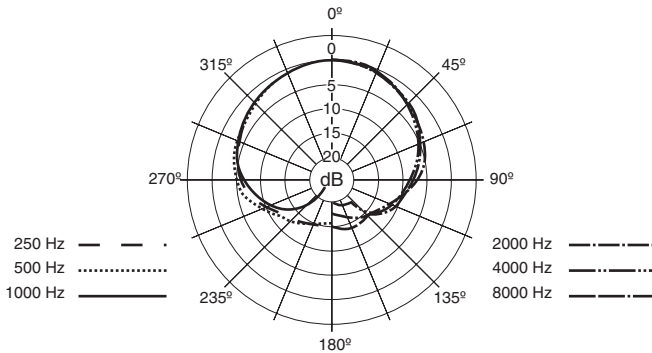


*R21 Frequency Chart*

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 cardioid pattern is utilized by the R21 (as shown in the illustration below). For this reason, the R21 excels in environments where there is a good deal of unwanted ambient sound—it delivers those signals originating directly in front of the mic capsule itself while rejecting those that originate from behind.

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 R21 is so good at rejecting signal not coming from directly in front of the mic, you'll find that use of the R21 greatly minimizes feedback problems.



*R21 Polar Pattern*

**R21 Specifications**

Type	Dynamic
Frequency Response	80 Hz - 12 kHz
Polar Pattern	Cardioid
Output Impedance	Rated at 500Ω
Sensitivity	-53 dBV/pa (1.8 mv/pa)
Connector	3-pin gold plated balanced XLR male
Dimensions	
Head length	2.125 in. / 53.97 mm
Main unit length	4.56 in. / 115.88 mm
Total length	6.85 in. / 169.8 mm
Weight	7 oz. / 217 g