

POLAR PATTERNS

Low frequencies



High frequencies



SASS-P MK II



STEREO PZM MICROPHONE



The Crown® SASS-P MK II Stereo Ambient Sampling System™ is a patented, stereo condenser microphone using PZM® technology. It is a mono-compatible, near-coincident array designed for professional applications including:

- classical-music recording (acoustic ensembles)
- stereo electronic news gathering (E.N.G.)
- sports ambience and crowd reaction
- recording worship services
- televised theatre and dance
- film ambience
- stereo sampling for keyboards
- stereo sound effects
- recording studios and live sound

Compared to its predecessor the SASS-P, the SASS-P MK II provides a warmer, smoother sound with more high-frequency brilliance (“air”) and less midrange “hardness.”

A patented design¹, the SASS® uses a premium-quality Pressure Zone Microphone® for each channel. The PZMs are mounted on boundaries (with a foam barrier between them) to make each microphone directional.

The carefully controlled polar patterns and human-head-sized spacing between capsules create extremely well-focused, natural stereo imaging with no “hole in the middle.” Overall, the reproduction of the sound field is precise and realistic.

The SASS can accurately convey the ambient environment for location recording film-wide sound, or synched audio ambience (movement of traffic) where movement heard must precisely match movements in the screen image.

A foam barrier/baffle between the capsules shapes the pickup angle of each capsule in the front, and limits overlap of the two sides at higher frequencies. Although the mic capsules are spaced a few centimeters apart, there is little phase cancellation when both channels are combined to mono because of the shadowing effect of the baffle.

The SASS can be powered in the field by two 9V batteries, as well as 12-48V phantom power. Separate left and right outputs are low-impedance balanced.

Features

- Perfect for stereo recording of classical music ensembles, E.N.G., sports ambience, audience reaction, and sound effects.
- Sharp, accurate and spacious imaging.
- Mono-compatible.

- Lightweight and portable.
- Powered by internal 9V batteries or phantom power.
- Low-cut switch reduces rumble.
- Includes windscreen, handgrip, swivel stand adapter, and stand thread adapter.

Specifications

Type: Stereo condenser.

Element: Electret condenser Pressure Zone Microphone.

Frequency response (typical): 20 Hz to 18,000 Hz in a reverberant field. See Fig. 1.

Polar pattern (each channel): Omnidirectional at low frequencies, unidirectional at high frequencies. See Fig. 2.

Impedance: 150 ohms rated (240 ohms actual), balanced. Recommended minimum load impedance 1000 ohms.

Open-circuit sensitivity: 6.0 mV/Pa* (−44.5 dB re 1 volt/Pa*).

Power sensitivity: −44 dB re 1 mW/Pa*. −136 dB EIA.

Equivalent noise level: 20.5 dB SPL typical (0 dB= .0002 dyne/cm²), A-weighted.

S/N ratio: 73.5 dB at 94 dB SPL.

Maximum SPL: 150 dB SPL at the diaphragm produces 3% THD.

Polarity: Positive pressure on the diaphragm produces a positive voltage on pin 2 with respect to pin 3 of the output connector.

Operating voltage: Standard phantom power, 12 to 48 volts DC, positive voltage on pins 2 and 3 with respect to pin 1 of the output connector. Or two 9 V alkaline batteries (Mallory Duracell MN1604 or equivalent).

Current drain: 1.1 mA per channel.

Material: Molded high-impact plastic.

Finish: Satin black and charcoal grey.

Cable: None supplied; use 2-conductor shielded mic cables.

Connectors: 3-pin professional audio connector (one per channel).

Switch: Phantom/flat, phantom/low-cut, battery/flat, battery/low-cut. Battery off in phantom positions.

Net weight: 17 ounces (482 grams).

Dimensions: See Fig. 3.

Included Accessories: Handgrip, windscreen, 5/8-in.-27 to 1/4-in.-20 thread adapter.

Fig. 1

Diffuse-Field Frequency Response

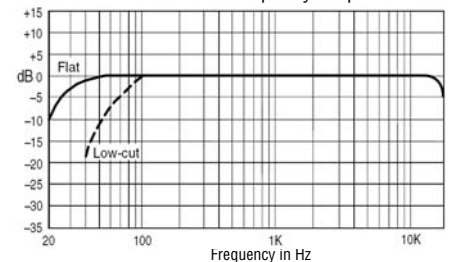
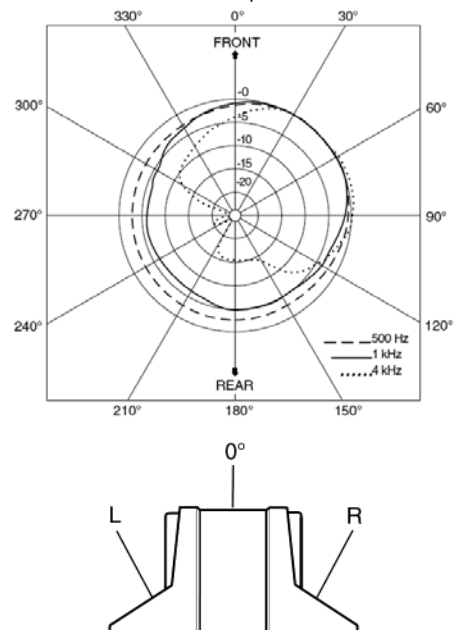


Fig. 2

Polar Response



¹U.S. Patent #4,658,932, Michael Billingsley, April 1987.

*1 pascal = 10 microbars = 10 dynes/cm² = 94 dB SPL.



RECORDING
BROADCAST



INSTALLED



TOURING

SASS-P MK II

Operating Instructions

Using two 2-conductor shielded microphone cables, plug the microphone into two microphone inputs in your mixing console or recorder. The SASS can be powered with 12-to-48 volt phantom power from the console or 9V batteries. Crown makes an AC-powered phantom power supply (model PH-4B) for powering up to four microphones (or two stereo microphones).

To reduce wind noise from air currents or microphone movement, keep the included wind-screen on the microphone. Pull the windscreen over the system from the front, stretching its edges to snap over each of the four rear corners of the boundary plates.

Wind noise and rumble from trucks and air-conditioning can be reduced by switching in the low-cut filter on the rear panel of the microphone.

After use, remember to set the rear panel switch to PHANTOM to conserve the batteries.

To avoid a "hole in the middle" effect, mike no closer than 3 feet (0.915 m).

If the perceived stereo spread is too wide, locate the SASS left and right input channels on your mixer, and pan them slightly toward center.

The SASS is designed to have flattest response in a diffuse, reverberant sound field such as in a concert hall. In outdoor or semi-anechoic environments, its response rises at high frequencies. In this case, you might want to cut a few dB at upper-mid and high frequencies with your mixer's equalizers to make the tonal balance more natural.

Architects' and Engineers' Specifications

The microphone shall be the Crown SASS-P MK II or equivalent. The microphone shall be a stereo PZM type requiring 12 to 48 volts phantom powering, or two internal 9V batteries. A smooth frequency response from 20 Hz to 18,000 Hz shall be obtained in a reverberant field. The polar pattern for each channel shall be omnidirectional at low frequencies and unidirectional at high frequencies. Stereo imaging shall be formed by a combination of time differences between channels (caused by spacing the mic capsules) and spectral differences between channels (caused by angling directional microphone boundaries apart). A foam barrier between capsules shall make the unit mono compatible.

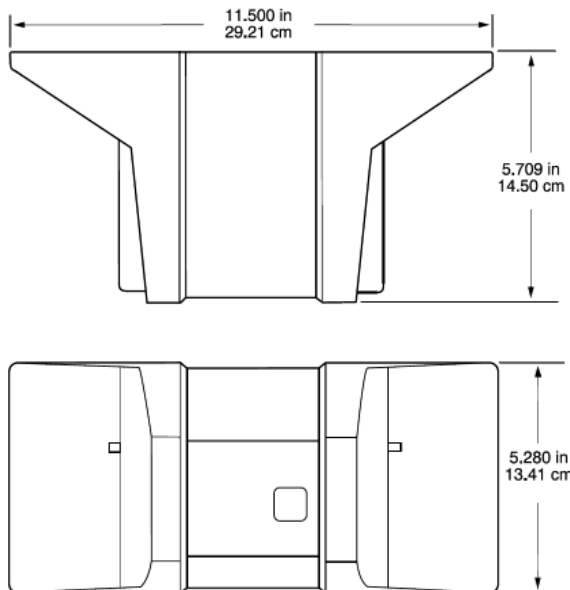
The microphone shall have a sensitivity of 6.0 mV/Pa*. The microphone shall accept a 150 dB SPL input while providing no greater than 3% THD typical. The Crown SASS-P MK II microphone is specified.

For more information on how the SASS works and how to use it, please see the *Crown Boundary Microphone Application Guide*, available free from your dealer, directly from Crown, or online at www.crownaudio.com > Microphones > Document Library.

For detailed information on SASS theory and applications, the following papers are available for a fee from the Audio Engineering Society:
Preprints 2788 (A-1), 2701 (A-2), 2870 (FD-3).

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Fig. 3



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