Product Information

RSM 191 A-S

Stereo Shotgun Microphone

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The RSM 191 is a stereo microphone system consisting of the microphone and the MTX 191 A matrix amplifier. It has an adjustable pick-up angle and high directivity.

The microphone has two separate capsule systems, a hypercardioid element and a figure-8, both in a short shotgun. Together they generate the mid and the side signals.

The matrix amplifier controls the width of the stereo image by changing the gain of the side signal relative to the middle signal in six 3 dB steps.

The output signals of the matrix amplifier are either mid-side (MS) or left/right (XY). The signals are converted through transformerless sum-and-difference circuitry.

The balanced, transformerless technology permits the use of long cables between the microphone, the matrix amplifier and the following mic input of other signal processing equipment.

Applications

The RSM 191 system is an ideal microphone system for:

Outdoor stereophonic news coverage, even in extremely noisy surroundings;

Stereo recordings for film and television where the actors are recorded simultaneously with acoustic ambiance, or an orchestra;

Stereophonic motion picture sound where the width of the sound image must match the camera viewing angle.

Features

- *Variable stereo shotgun microphone with shotgun and figure-8 patterns*
- *Interference/pressure-gradient transducer*
- *MS-stereo microphone, switchable to XY-stereophony*
- *Transformerless circuitry*
- *Switchable low frequency roll-off and switchable 10 dB preattenuation*
- *Set with case and accessories*
- *Battery or phantom powering*

Construction

The RSM 191 consists of a capsule head containing two separate transducer systems and an amplifier section with two independent transformerless microphone amplifiers.

An interference tube system with a hypercardioid characteristic generates the middle signal, while a horizontal figure-8 assembly provides the side signal.

Acoustic features

The RSM 191 achieves its high directivity and special acoustic features through a unique construction. The microphone capsule assembly is mounted inside a housing tube that is acoustically open but has a high flow resistance.

This results in a high driving force for the diaphragm, even with a low pressure gradient factor of the capsule. Therefore, the microphone can suppress unwanted off-axis interference to a considerably higher degree than other microphones without such an interference tube.

The middle system (M-signal) combines high attenuation of lateral sound incidence, similar to a hypercardioid characteristic (which is about 10 dB), with the large front-to back ratio of the super-cardioid characteristic.

Therefore, sound from the rear is likewise attenuated by approximately 10 dB. This design approach makes the microphone less sensitive to wind or pop noise than other shotgun microphones.

The side system (S-signal) consists of two single capsules arranged back to back, closely behind the interference tube (M-signal) capsule. Arrows engraved on the microphone housing show their orientation.

The uniform and balanced performance characteristic of the microphone system is achieved without resorting to corrective resonance effects. Therefore, the microphone maintains

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an excellent impulse response, reproducing all transient phenomena in music and speech without coloration. The entire internal construction is decoupled from the housing to avoid structure borne and handling noise.

Electrical features

The output signals of the included matrix amplifier are in either MS or XY format. The small capsules are mounted in close proximity to ensure transparent and coloration-free stereo sound with excellent mono-compatibility. The stereo acceptance angle is variable and controlled remotely.

Filter and attenuation

For the handling of very high sound pressure levels, a 10 dB attenuation can be switched ON to avoid overloading of the following equipment.

To suppress structure borne noise, a high-pass filter in the matrix box provides cutoff frequencies of 40 Hz, 80 Hz, and 200 Hz.

Battery supply

The RSM 191 system is fed from either 2 x P 48 phantom power or from a 9 V battery inside the matrix box.

One alkaline battery provides 8 hours of operation.

Technical Data

Acoustical operating principle	*M: Pressure gradient/interference transducer*
	S: Pressure gradient transducer
Directional pattern	*M: Lobe-shaped*
	S: Figure-8
Frequency range	*20 Hz...20 kHz*
Sensitivity at 1 kHz into 1 kohm	*23 mV/Pa*
Rated impedance	*50 ohms*
Rated load impedance	*1000 ohms*
Equivalent SPL CCIR 468-3	*M/S 25/31 dB*
Equivalent SPL DIN/IEC 651	*M/S 16/22 dB-A*
S/N ratio CCIR 468-3	*M/S 69/63 dB*
S/N ratio DIN/IEC 651	*M/S 78/72 dB*
Maximum SPL for THD 0.5%	*134 dB*
Maximum SPL for THD 0.5% with preattanuation	*144 dB*
Maximum output voltage	*2540 mV*
Supply voltage	*2 x 48 V ± 4 V*
Current consumption	*2 x 1.9 mA*
Matching connector	*2 x XLR 3F*
Weight	*170 g*
Diameter	*30 mm*
Length	*212 mm*

Delivery range

The complete miocrophone system comes in a robust aluminum carrying case.

Along with the microphone and the matrix amplifier the case contains a windscreen, the special interconnecting cable and an adapter cable that splits the 5-pin XLR output of the matrix amplifier into two 3-pin XLR connectors for channels I and II to connect with the following equipment.

Application Hints

- *Stereo recordings for*
  - *broadcasting/ENG,*
  - *film productions*
  - *video productions*
- *Recordings with variable stereo width*
- *Handheld and boom/fishpole operation*
- *As variable stereo overhead system for drums (percussion)*

These are just some of the most common applications. We recommend additional experimentation to gain maximum use from this microphone.

Delivery Range

Microphone RSM 191
Matrix amplifier MTX 191 A
Microphone cable KT 5
Adapter cable AC 20
Windscreen WS 191
Aluminium case

Catalog No.

RSM 191 A-S ..... blk 07087

Selection of Accessories

Power supply, N 48 I-2 (230 V) ..... blk 06500
Power supply, N 48 I-2 (117 V) ..... blk 06502
Power supply, N 48 I-2
(without plug-in mains unit) ..... blk 06504

Auditorium hanger, MNV 87 mt ..... blk 06806

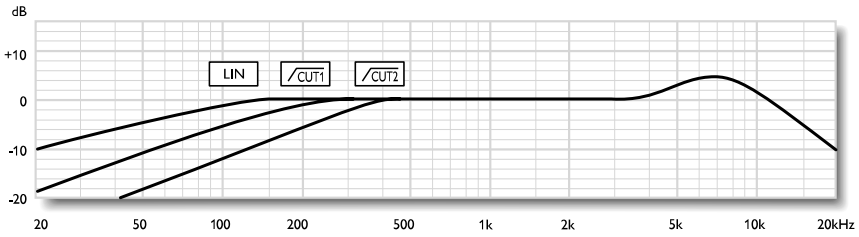
Elastic suspension, EA 30 B mt ..... blk 06349

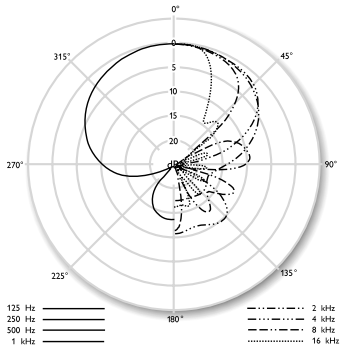
Microphone cable, KT 6
(with stand mount swivel) ..... blk 06725
Microphone cable, IC 7 ..... blk 06740

A complete survey and detailed descriptions of all accessories are contained in the accessories catalog.

Meaning of color codes:
blk = black
ni = nickel

M-System





S-System