Sonodore RCM-402
Universal Omni directional Microphone / Active 60V Powering (Black/Silver)

Sonodore Microphone RCM-402

Design Features
The special form of the microphone body, with a relatively long and narrow tube behind the capsule, results in a sound environment with minimal reflective interactions directly in front of the capsule.

Weight
The microphone body is made of high-grade stainless steel, which provides high mass. As a result, vibrations and resonance from the microphone body are minimised.

Materials
Only materials of the highest quality are used to ensure maximum reliability under tough professional use. This means:
· use of gold-plated contacts only
· electronic components are selected for their proven quality in audio specific equipment, handpicked, and individually tested.
· the microphone membrane is made of titanium for the highest possible sensitivity and durability
· oxygen-free copper cables between the microphone and the power supply
· specially coated circuit boards for optimal protection against damp and moisture
· use of a special process for the production of printed circuit boards, which ensures the purity of the copper pathways, resulting in greater stability and performance of the circuit design.

Power supply
As part of the initial Sonodore philosophy, all microphone models, except the RCM-402/48V, are 'active' powered via a separate power supply (PS-402), instead of using standard phantom power. Phantom-fed microphones are inherently less suitable for high-quality audio usage since they work as compressors: when, for instance, high dynamics are required, strong demands are made on the current supply of the phantom. As a result, the current supply drops drastically and the stereo image and frequency response collapse with it. To avoid this, the RCM-402 is available in a version with a separate power supply which allows a high-grade and exceptionally low-distortion amplifier to be placed directly in the microphone body.

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Sonodore Sound Quality
The sonic qualities of Sonodore microphones are comparable to all major brands, but with specific improvements, namely:
· clearer placement of musical instruments within the stereo sound field
· exceptionally fast reaction time to intermittent high impulse sound waves
· extreme clarity and definition of complex low frequency sounds
· measurably less distortion across the entire sound spectrum
· Sonodore microphones do not leave a 'hole' in the middle of the stereo image when used in a standard A-B setup, as is explained below.

A better stereo image
In general, main microphone systems utilise 16 mm capsules. If the main system consists of two microphones, then the musical instruments that are in the middle of the stereo picture will have less presence and will sound somewhat dull. This is due to the fact that the frequency characteristic decays in those situations in which the signal arrives at the capsule from oblique directions.The placement of a third microphone between the main stereo pair will solve this problem only partially and, in addition, new problems will be created by the resulting phase characteristics of the third microphone and the existing pair. The only elegant solution to this problem is to increase off-axis sensitivity.

Off Axis	Typical	Sonodore
+/- 45º	-3 dB	-2 dB
+/- 60º	-5 dB	-3 dB
+/- 90º	-10 dB	-6 dB
+/- 135º	-15 dB	-7 dB

Attenuation of a 12,5 kHz tone in comparison with 1 kHz/0 dB

The table clearly shows that a higher off-axis sensitivity results in less attenuation, which means that the well known effect of the 'hole in the middle' can be effectively eliminated without the use of additional microphones.

Virtually distortion-free
In addition, Sonodore microphones are built with specially designed electronic circuitry which remains virtually distortion-free under extreme conditions. The tables below compare the distortion percentages of the amplifier circuit of a microphone commonly used for CD recording by well-known companies and the Sonodore RCM-402. For reference purposes 50m of cable was utilised with a signal equivalent to 90 dB SPL and 130 dB SPL, respectively.

THD	Microphone X	Sonodore
1 kHz	0,0027%	0,0005%
10 kHz	0,0040%	0,0010%

Amplifier THD difference at 90 dB SPL

THD	Microphone X	Sonodore
1 kHz	0,21%	0,0004%
10 kHz	0,21%	0,0013%

Amplifier THD difference at 130 dB SPL

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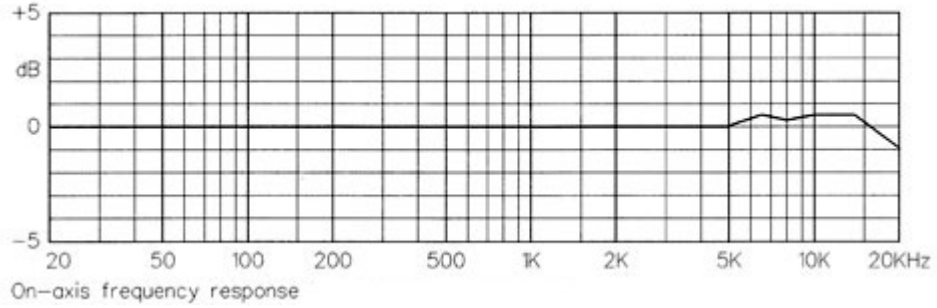
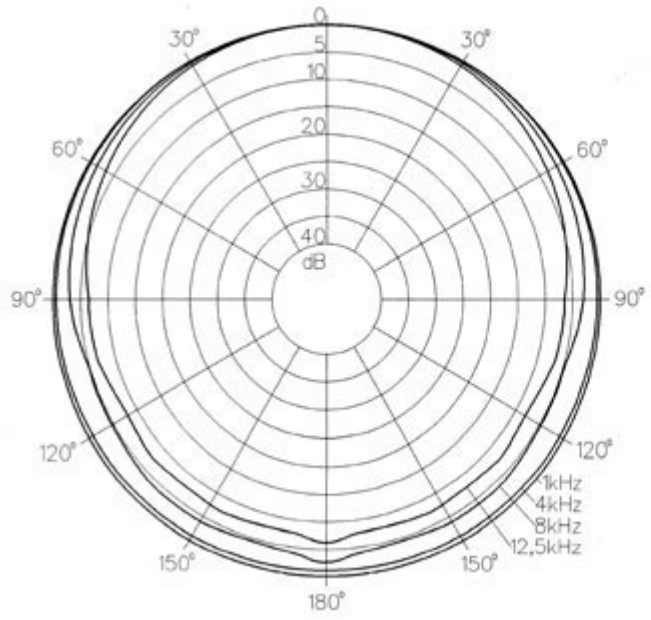
The Sonodore philosophy
The Sonodore line was developed in order to make the quality specifications of custom-built equipment available to a broad group of professional users. All Sonodore products combine new and original circuit designs with hand-made craftsmanship in which all components are specially selected and assembled. Durability, mechanical stability, and sound quality are central requirements of the Sonodore line of products, which must be met by every component and design.

All our products are the result of intensive interaction between designer and user, and are constantly being refined as a result of feedback from professional recording engineers and producers. During the design phase, measurements as well as listening tests play an important role.



On-axis frequency response



Directional characteristics

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Technical Specifications	
Capsule type:	prepolarised condenser microphone capsule
Principle of operation:	pressure
Directional pattern:	omnidirectional
Frequency response:	5 Hz to 20,000 Hz
Sensitivity at 1 kHz:	40mV/Pa
Equivalent noise level:	A-weighted typically 15.5 dB
Maximum sound pressure level:	143 dB SPL peak
Temperature coefficient:	+0.005 dB/ºC
Output impedance:	39 Ohms
Cable drive capability:	> 100m
Powering:	via separate power supply (60V)
Weight:	135g
Length:	177mm (6.97”)
Capsule diameter:	12.8mm (0.5”)
Base diameter:	21mm (0.83”)
Matching connector (to microphone):	4-pin XLR female
As an option, capsules with different frequency responses can be supplied for use in various recording situations.	

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