

# Product Information

## **KMR 81/82 i**

*Shotgun Microphones*





The KMR 81 and KMR 82 are shotgun microphones with a high directivity that remains within the acceptance angle independent of the frequency.

The advantage is that a sound source, for example an actor on stage, will not change its apparent tonal balance when moving within this area.

## Applications

Shotgun microphones are particularly useful in recording situations where a microphone cannot be positioned within the desired distance of the sound source to produce a sufficiently loud signal level.

Typical applications are film and video recordings, where the microphone should not appear in the picture.

The KMR 82 is very often used on stage. The KMR 81 has been specifically designed for electronic news gathering.



## Acoustic features

In principle, Neumann shotgun microphones use a combination of a pressure gradient transducer and an interference tube. If the wavelength of the frequency is longer than the

tube length, the microphones work as pressure gradient transducers. At higher frequencies they operate as interference transducers for lateral sound. Off-axis sound sources are picked up with reduced level, but without coloration.

Therefore, the microphones are well suited to record individual instruments of an orchestra. The pickup areas of several shotgun microphones may even overlap as, for example, during recordings on a large stage, without causing any problem.

The KMR 81 and KMR 82 are less sensitive to wind and pop noise when compared to the KM 150 miniature microphone with a similar high directivity. Both shotgun microphones feature extremely low self noise, good impulse response, and high output level.

## Polar pattern

KMR 81 and KMR 82 are shotgun microphones with a very directional characteristic.

The microphone capsule is positioned inside a housing tube that is acoustically open but has a high flow resistance.

The directional patterns of the microphones are lobe shaped. The attenuation of lateral sound is practically independent of the frequency.

The KMR 82 has a frequency independent directivity within a pickup angle of 45° for audio signals that determine the tonal balance of the program material. For the KMR 81, this angle is 90°.



## Features

- Interference tube microphones with shotgun directional characteristic
- Interference/pressure-gradient transducer
- High lateral and back attenuation
- 90°/45°-recording angle
- Switchable filter or preattenuation features
- Extensive accessories for outdoor use
- Light weight: 145 g/250 g



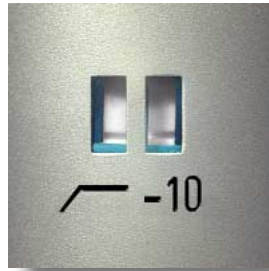
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## Filter and attenuation KMR 81 i

The microphone has a 10 dB attenuation switch to prevent the input of the following unit from overloading.

A second switch activates a 200 Hz high-pass filter. Toward the lower frequencies the sensitivity of the microphone is attenuated by approximately 15 dB at 50 Hz. The frequency range above 200 Hz is unaffected.



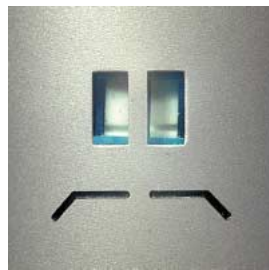
## Filter KMR 82 i

Between 2 kHz and 15 kHz the KMR 82 has a boost to compensate for HF transmission losses in air when recording distant sound sources.

This may overemphasize any sibilance if the microphone is used close-up.

Therefore, a two-position slide switch allows to select the setting that is best for balanced upper frequencies.

The KMR 82 has a high-pass filter to suppress subsonic interference. The cutoff frequency may be raised to 120 Hz (-3 dB) with a built-in two-position slide switch.



## Use on location

The shotgun microphones feature very high output capability and a remarkably low self-noise level.

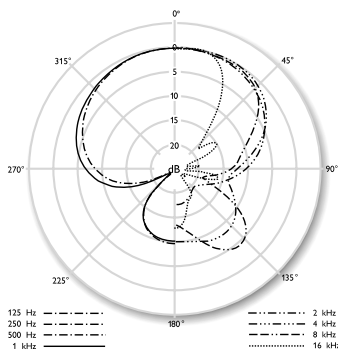
Their low power consumption, light weight, and low sensitivity to wind and handling noise, make them ideal tools for news gathering on location.

Small dimensions, together with a balanced center of gravity, make handling easy without any whiplash effect.

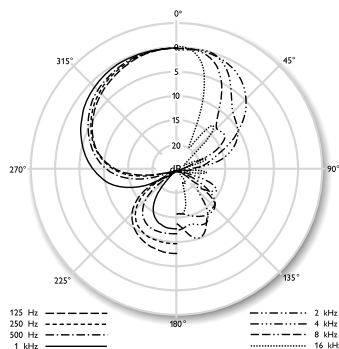
However, when on location and during strong wind conditions, we recommend using an additional wind screen (included as standard accessory). The wind screen is made of polyurethane foam and also serves as soft padding of the microphone in its leather carrying case.

For mobile use a handle and an elastic suspension are available. An active handle with a built-in battery power supply makes an external phantom supply unnecessary.

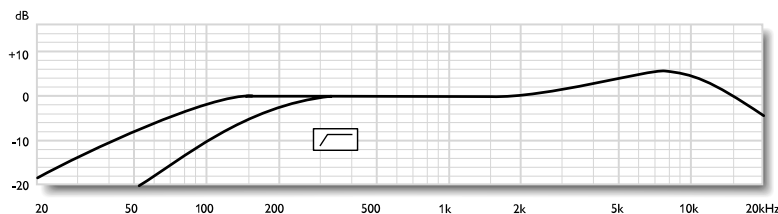




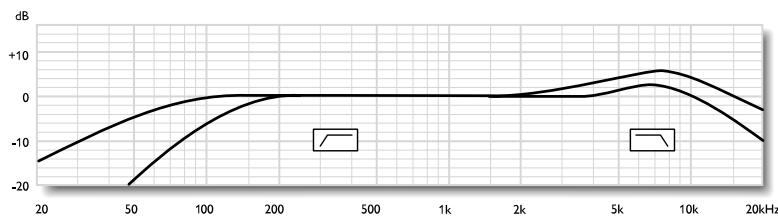
**KMR 81 i**



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### Technical Data

	<b>KMR 81 i</b>	<b>KMR 82 i</b>
Acoustical operating principle	Interference transd.	Interference transd.
Directional pattern	Supercard./lobe	Supercard./lobe
Frequency range	20 Hz...20 kHz	20 Hz...20 kHz
Sensitivity at 1 kHz into 1 kohm	18 mV/Pa	21 mV/Pa
Rated impedance	150 ohms	150 ohms
Rated load impedance	1000 ohms	1000 ohms
Equivalent SPL CCIR 468-3	23 dB	23 dB
Equivalent SPL DIN/IEC 651	12 dB-A	12 dB-A
S/N ratio CCIR 468-3	71 dB	71 dB
S/N ratio DIN/IEC 651	82 dB	82 dB
Maximum SPL for THD 0.5%	128 dB	128 dB
Maximum SPL for THD 0.5% with preattenuation	138 dB	-
Maximum output voltage	900 mV	1050 mV
Dyn. range of the mic. amplifier DIN/IEC 651	116 dB	116 dB
Supply voltage	48 V ± 4 V	48 V ± 4 V
Current consumption	0.8 mA	0.7 mA
Matching connector	XLR 3F	XLR 3F
Weight	145 g	250 g
Diameter	21 mm	21 mm
Length	226 mm	395 mm

### Application Hints

- Recordings for
  - broadcasting/ENG,
  - film and video productions
- Medium length shotgun spot mic in noisy surroundings
- Balanced weight during handheld and boom/fishpole operation

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

### Delivery Range KMR 81 i

Microphone KMR 81 i (mt)  
Windscreen WS 81  
Leather carrying case

### Delivery Range KMR 82 i

Microphone KMR 82 i (mt)  
Windscreen WS 82  
Leather carrying case

### Catalog No.

KMR 81 i	..... ni	..... 06961
KMR 81 i mt	..... blk	..... 06962
KMR 82 i	..... ni	..... 06878
KMR 82 i mt	..... blk	..... 06879

### Selection of Accessories

Battery supply, BS 48 i	..... blk	..... 06494
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	..... blk	..... 06504
(without plug-in mains unit)	..... blk	..... 06504
Active handle, AG 82	..... blk	..... 06851
Stand mount swivel, SG 82	..... blk	..... 06616
Handle, HG 82	..... blk	..... 06856
Auditorium hanger, MNV 21 mt	..... blk	..... 06802
Elastic suspension, EA 82	..... ni	..... 06846
Elastic suspension, EA 82 mt	..... blk	..... 06848
Microphone cable, IC 3 mt	..... blk	..... 06547

### for KMR 81 i only:

Windscreen, WK 81	..... gr	..... 07275
Elastic suspension,		
EA 2124 A mt	..... blk	..... 08433

### for KMR 82 i only:

Windscreen, WK 82	..... gr	..... 06855
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A complete survey and detailed descriptions of all accessories are contained in the accessories catalog.

Meaning of color codes:

blk= black; ni = nickel; gr = grey