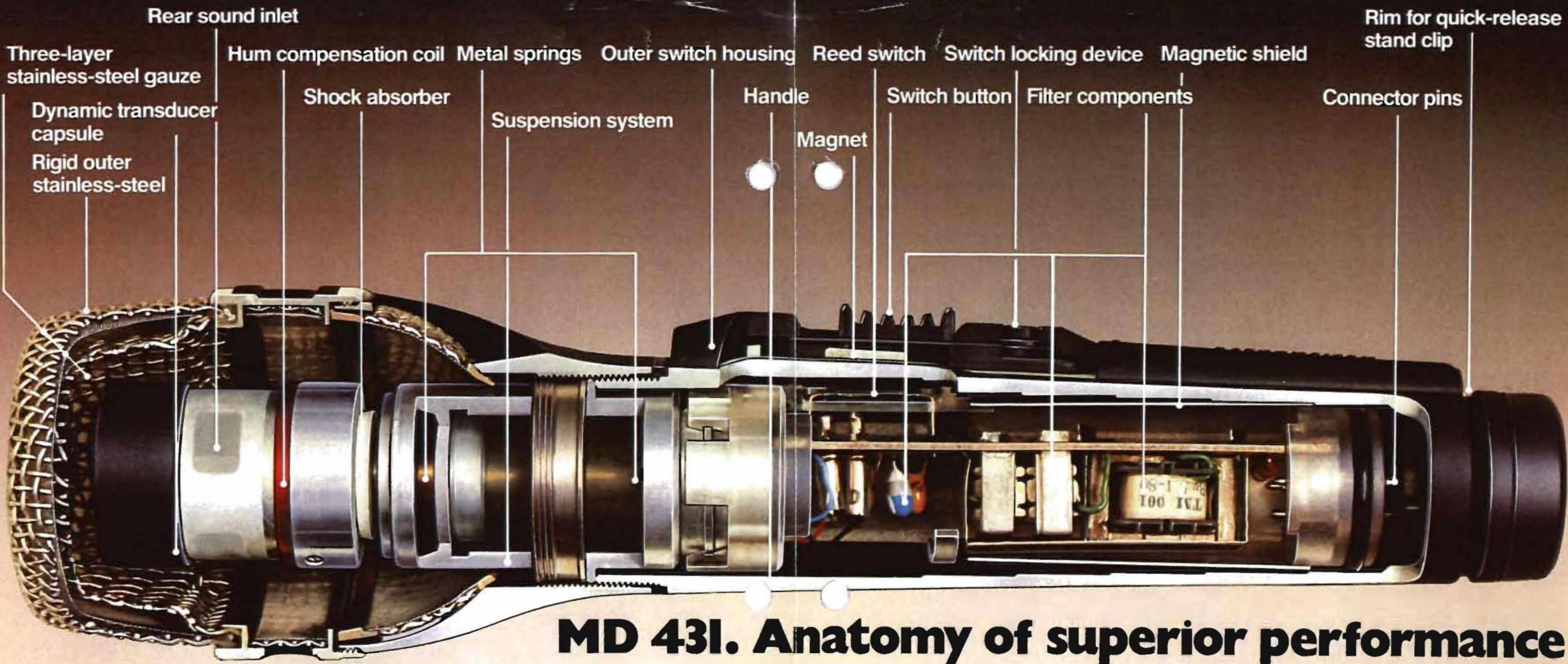


**SENNHEISER**

**MD 431**

THE PERFORMER'S EDGE





## MD 431. Anatomy of superior performance

Today's performers don't have it easy. Under the most extreme conditions, in acoustics far from ideal, they're expected to combine recording-studio sound with all the spontaneity of a live performance.

It's a difficult problem indeed. And one we at Sennheiser have been working to solve for quite some time.

After considerable research and in-use testing, we've created a microphone designed to help performers sound their best. By giving them more usable power, even in the most difficult of circumstances. We call it the MD 431. And it's designed to provide superior performance from the inside out.

### Superior directionality. For greater versatility.

One of the most difficult problems musicians face is unwanted sound pickup from the sides and rear – especially from musical instruments and loudspeakers. As a result, performers must often restrict their movements, instruments must be specially positioned and amplifiers must frequently be turned down.

It's the familiar feedback problem. And one that even conventional cardioid directional microphones cannot cure – because they still pick up 25% of their sound from the sides (as compared with on-axis sound from the front), which results in unacceptable stray pickup.

To eliminate feedback, our MD 431 incorporates a special super-cardioid directional characteristic, reducing side pickup to a mere 12% (less than half that of conventional cardioids) – with even less pickup from the rear of the microphone. And because this directional pattern is virtually identical at all frequencies – unlike many other directional microphones – it provides an almost unbelievable freedom from feedback that must be heard to be believed. Resulting in dramatically-increased usable volume, for far greater audience impact.

### Mechanical noise suppression: insensitivity where it counts.

Another problem – particularly with powerful sound reinforcement systems – is mechanical (handling) noise. Aside from disturbing the audience, it can actually damage equipment.

The answer: our MD 431. For several reasons. As you can see in the cutaway drawing above, the MD 431 is actually a microphone within a microphone. The dynamic transducer element is mounted within an inner capsule, isolated from the outer housing by means of a special shock absorber. This protects it from handling noise as well as other mechanical vibrations normally encountered in live performances.

To screen out noise still further, the MD 431 also boasts an internal electrical filter network to insure that low-frequency disturbances will not affect the audio signal. And even before sound reaches the diaphragm, a built-in mesh filter reduces the popping and excessive sibilance often produced by close-miking.

As a result, musicians finally have at their disposal a microphone combining smooth, widerange response (especially in the lower octaves) with outstanding freedom from mechanical noise, for optimum performance in the most difficult applications.

### Additional features and benefits.

By now, it should come as no surprise that the MD 431 also offers additional features to meet the demands of today's demanding professional environment.

As the cutaway shows, the microphone is

extremely rugged, from the heavy-duty cast outer housing and stiff, interchangeable stainless-steel front grille to its precision space-capsule-like construction.

This thoughtfulness and attention to performance are also reflected in such other details as

the lockable noise-free, hermetically-sealed reed-contact switch and lockable quick-release stand mount.

But the best indication of how well the MD 431 performs are its specifications. And a demonstration at your Sennheiser dealer's.



Technical Data	MD 431
Frequency response	40 to 16,000 Hz
Acoustical mode of operation	pressure gradient
Directional characteristic	super cardioid
Directionality (rejection at 1,000 Hz)	24 dB (-3 dB) at 120°
Open-circuit output voltage at 1,000 Hz	1.4 mV/Pa ± 3 dB
Electrical impedance at 1,000 Hz	200 Ω
Minimum load impedance	1,000 Ω
Switch	hermetically-sealed reed contact switch activated by moving magnet – activating assembly removable without affecting microphone functions
Filter	built-in rumble filter
Connector	XLR
Wiring	2 and 3 → moving coil 1 and case → ground
Magnetic interference	≤ 5 μV/5 μTesla
Dimensions	handle: 31 mm max. dia., head: 49 mm max. dia.
Weight	250 g

The MD 431 is supplied complete with a quick-release clip and a 5 m long cable – XLR connector on both ends for balanced microphone inputs.

# Top-microphones in our line



## MD 441\*

The universal microphone with studio quality for demanding soloists.

Frequency range: 30 to 20,000 Hz  
Directional pattern: super cardioid  
Impedance: approx. 200  $\Omega$   
Sensitivity: 2 mV/Pa

## MD 416\*

The soloist microphone for all vocalists and instrumentalists.

Frequency range: 50 to 15,000 Hz  
Directional pattern: cardioid  
Impedance: approx. 200  $\Omega$   
Sensitivity: 1.3 mV/Pa

## MD 421\*

The popular directional microphone used by professionals as well as discriminating audiophiles.

Frequency range: 30 to 17,000 Hz  
Directional pattern: cardioid  
Impedance: approx. 200  $\Omega$   
Sensitivity: 2 mV/Pa

\*U.S. models of all microphones equipped with XLR connector. MD 421 finish (U.S. version) is Professional Matte Black.

 **SENNHEISER**  
The name for perfect sound

Sennheiser Electronic Corporation (N.Y.)  
10 West 37th Street  
New York, New York 10018  
Phone: (212) 239-0190

Manufacturing Plant:  
3002 Wedemark 2/Hannover, West Germany

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