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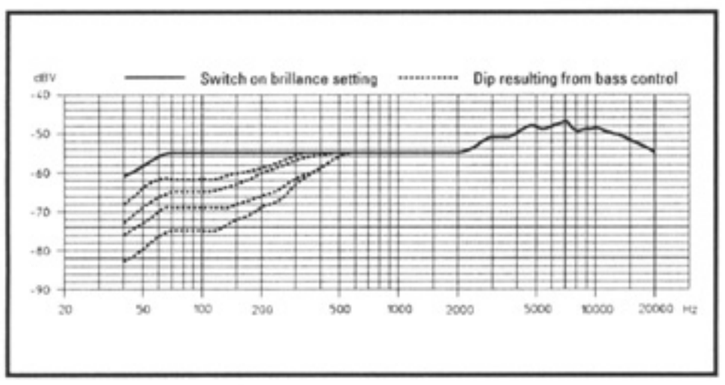

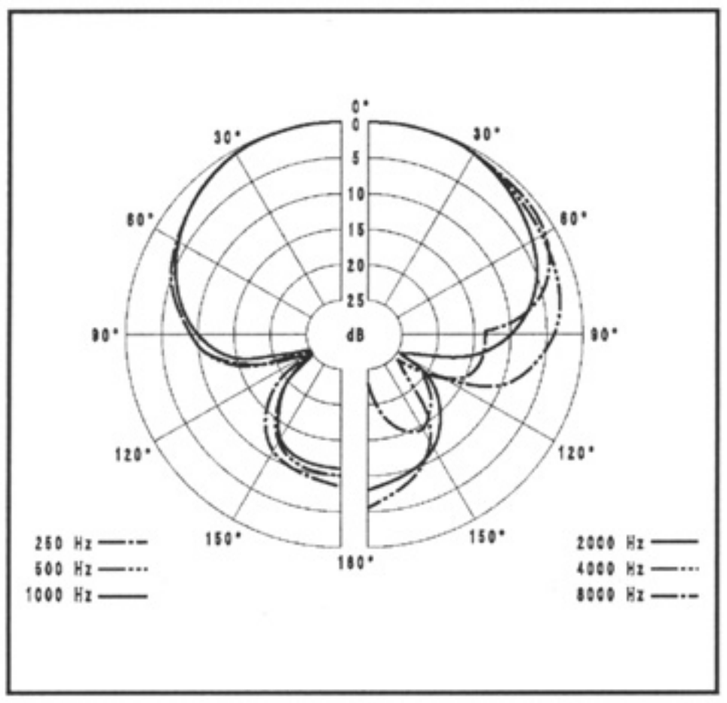

MD 441 U Microphone

The MD 441 U is a microphone of exceptional quality: its acoustic properties come as close as possible to those of a condenser microphone. Accurate signal response and low distortion are ensured, even with the highest sound pressure levels. Surface: all metal body with black simulated leather finish, sound inlet basket: nickel plated

Features—Benefits

- Excellent feedback rejection
- Excellent sound quality
- Spring capsule mounting—low sensitivity to handling noise
- Hum compensating coil—reduces electrical interference
- Five position bass roll-off switch—compensates for proximity effect
- Brilliance (treble boost) switch—added speech intelligibility
- Integral pop filter

Technical Data

Pick-up pattern	super-cardioid
Frequency response	30–20,000 Hz
Sensitivity (free field, no load) (1 kHz)	1.8 mV/Pa ± 2 dB
Nominal impedance	200 Ω
Min. terminating impedance	1 k
Dimensions in inches	10.63 x 1.3 x 1.4
Weight	approx.15.87 oz

Optional Accessories

Locking stand adapter	MZA 441
21' XLR microphone adapter	MC21N
Foam windshield	MZW 441

Optional Accessories

1 Flexible stand adapter	MZQ 441

Architect's Specifications

Super-cardioid studio microphone, hum compensating coil, five position bass control, brilliance switch, integral pop filter, frequency response 30–20,000 Hz, sensitivity (free field, no load) 1.8 mV/Pa ± 2 dB at 1 kHz, nominal impedance 200 Ω, min. terminating impedance 1 k, dimensions 270 x 33 x 36 mm, weight approx. 450 g.

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Sennheiser Mexico: Av. Xola 613, PH6, Col. Del Valle 03100, Mexico, DF. Telephone: (525) 639-0956. Fax: (525) 639-9482
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Manufacturing Plant: Am Labor 1, 30900 Wedemark, Germany

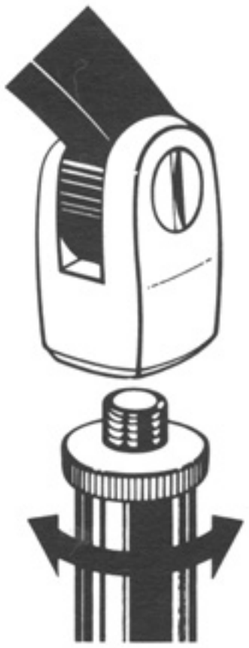


Bild 1
Fig. 1

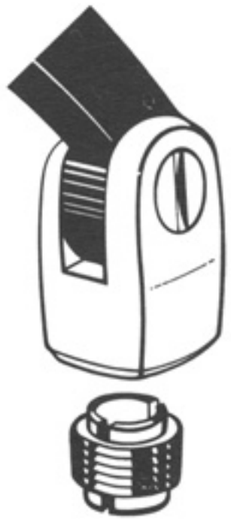


Bild 2
Fig. 2

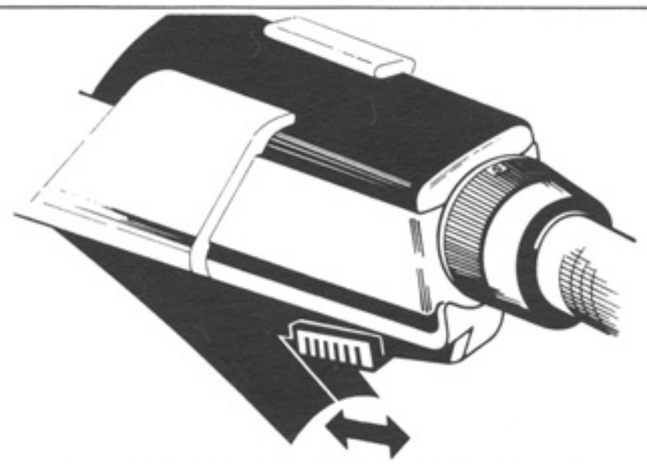
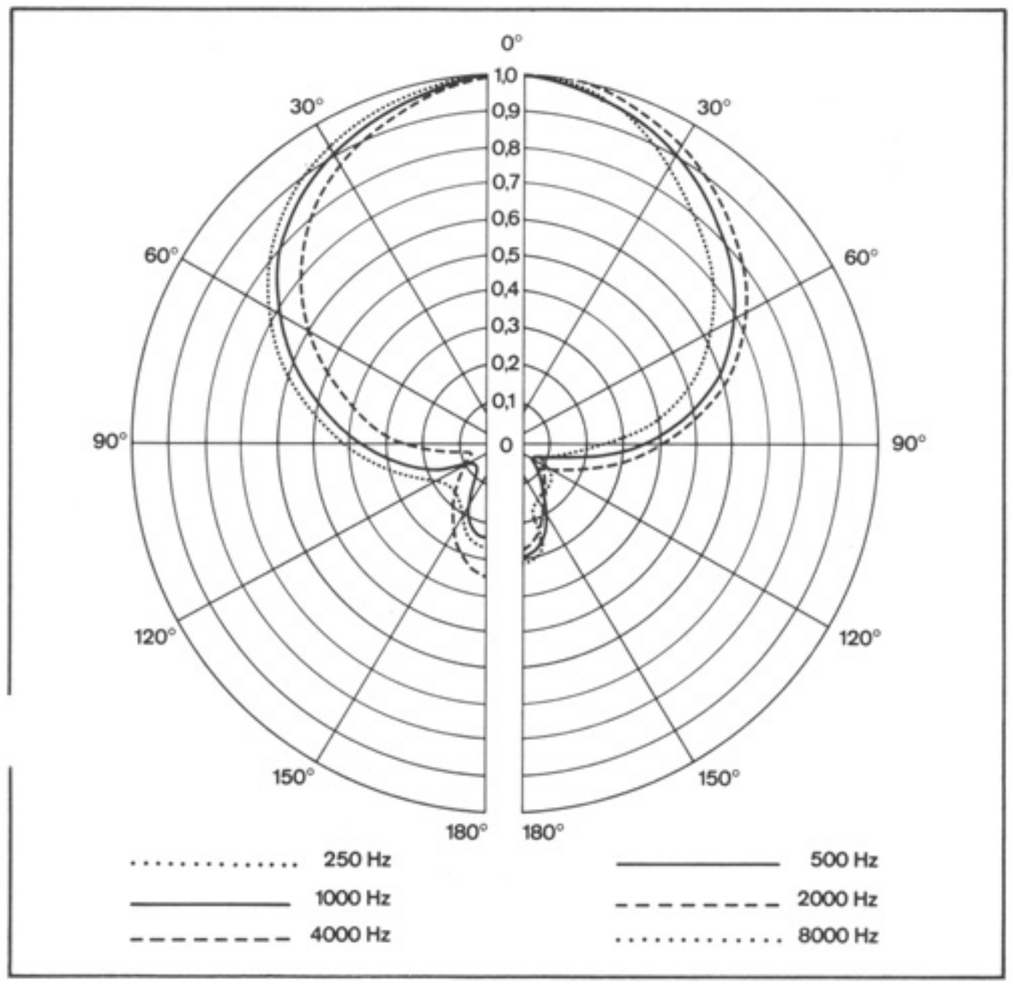


Bild 3
Fig. 3

Polar Diagram

Bild 4
Fig. 4



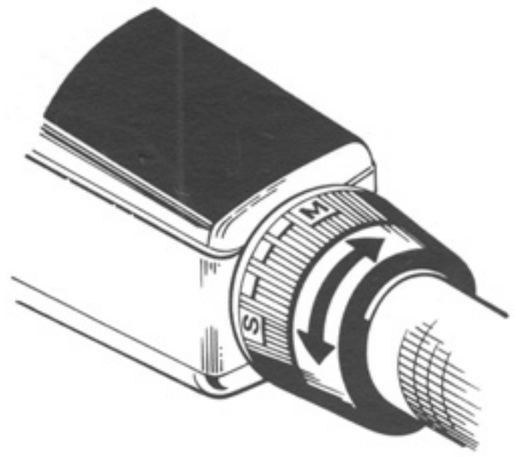
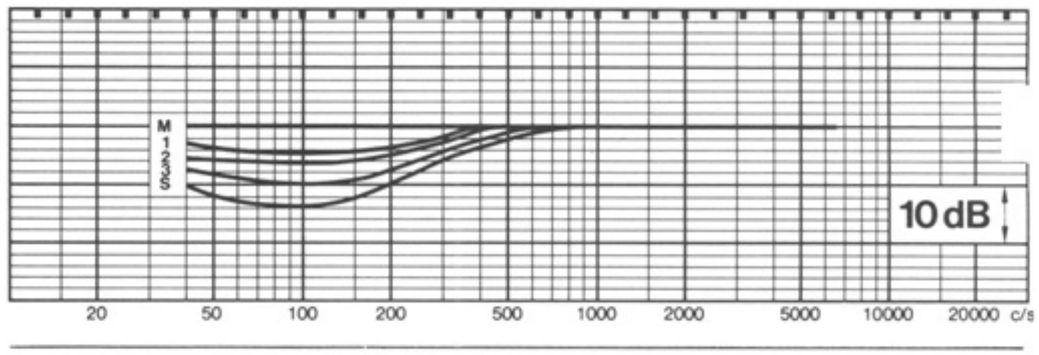


Bild 5
Fig. 5

Effect of the Roll-off Filter



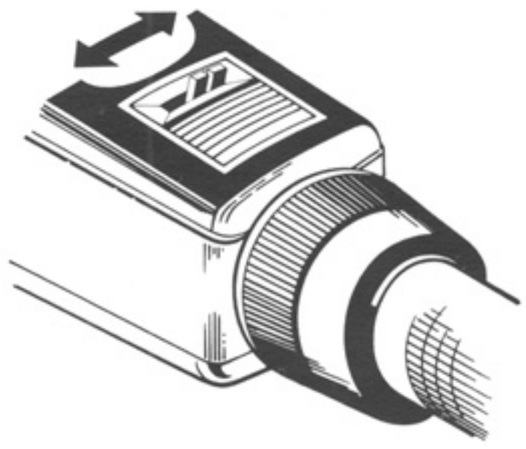
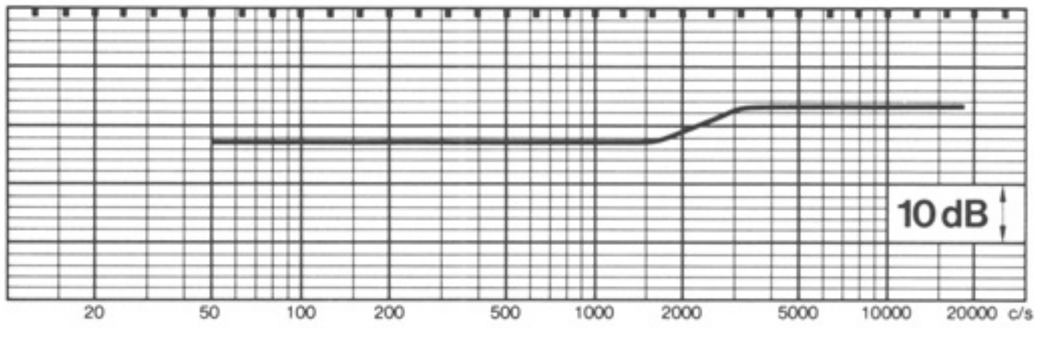


Bild 6
Fig. 6

Effect of the brilliance switch



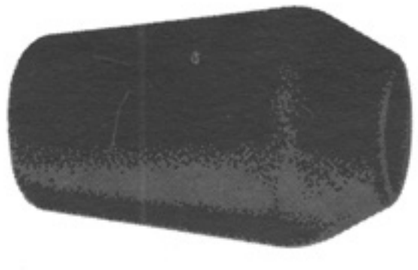


Bild 7
Fig. 7

DYNAMIC DIRECTIONAL STUDIO-MICROPHONE MD 441

Introduction

The MD 441 is a dynamic studio microphone with outstanding properties. It has a very wide frequency response and a uniform super-cardioid directional characteristic with a maximum sound cancellation of 20 dB at 130°. The rear sound inlets, necessary in all directional microphones, are arranged that they cannot be inadvertantly covered by the hand, thus causing alterations in the acoustical properties of the microphone.

The transducer system is softly spring-suspended in a pleasantly formed leatherette – covered quadrangular housing. It is therfore insusceptible to handling noises. The MD 441 contains a newly developed pop and dust shield and is intensitive to pop- and sibilant noises.

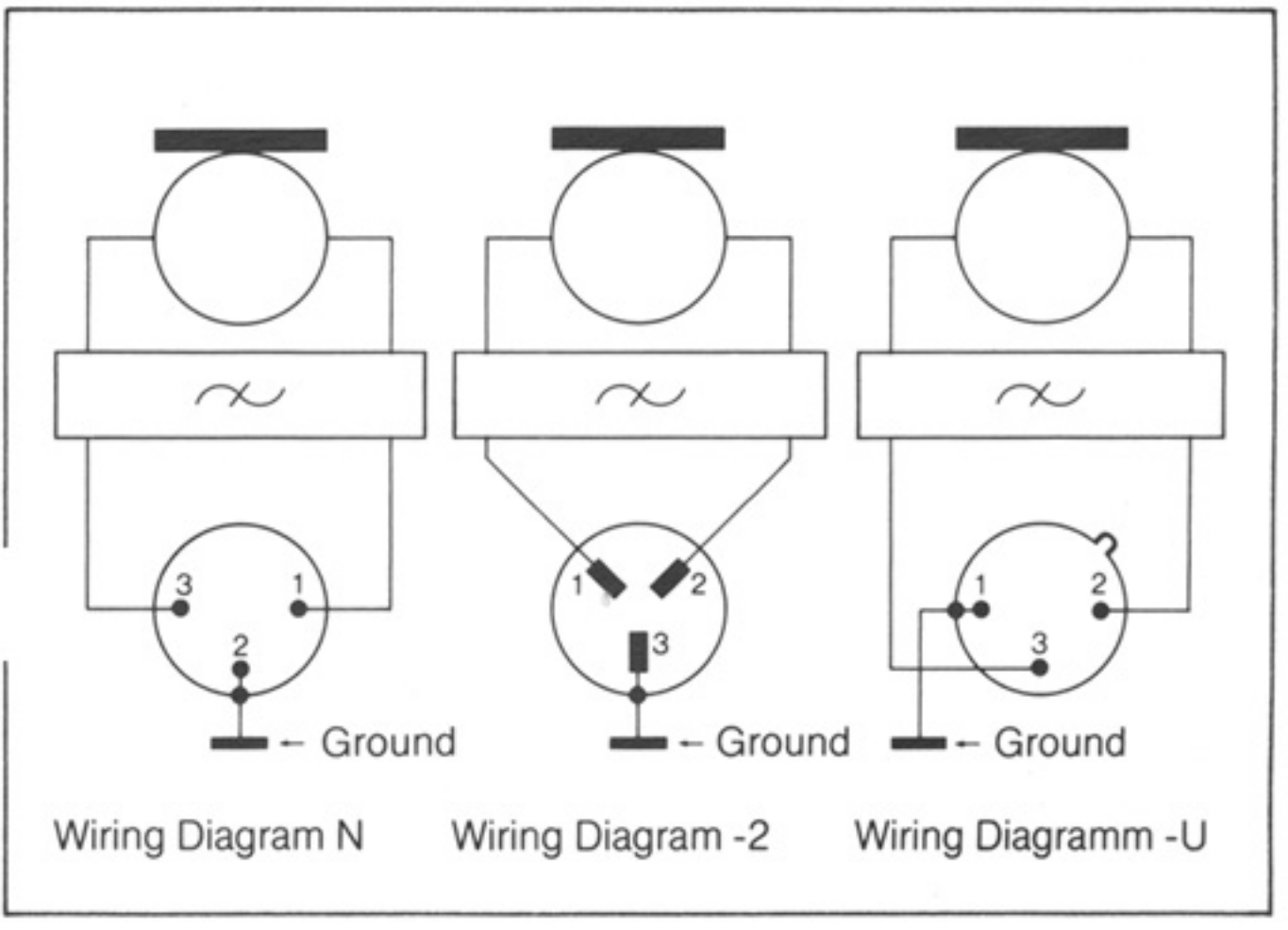
Types

There are three types of MD 441, the main difference between them being the type of connector fitted:

MD 441 N
The MD 441 N is fitted with a 3-pin plug according to DIN 41524 being of low impedance and balanced complying with DIN 45594. This microphone incorporates a roll-off filter and a brillance switch.

MD 441-2
The MD 441-2 is fitted with a large 3 pin Tuchel plug as preferred by most European Broadcasting Authorities. It is also of low impedance and balanced. The MD 441-2 does not provide a roll-off filter but is furnished with a brillance switch.

MD 441-U
Predominantly for the non-European market, the MD 441-U has a 3 pin Cannon plug (XLR). Like both of the other two models, it is of low impedance and balanced. Roll-off filter and brillance switch are provided.



Wiring Diagram N Wiring Diagram -2 Wiring Diagramm -U

Operating Instructions

Setting-up the microphone
The tripod connecting link MZA 441 belonging to the standard outfit serves to mount the MD 441 onto a tripod e. g. MZS 210 or table stand e. g. MZT 441 (Figure 1).

The connecting link is manufactured and designed for utilization on tripods and table stands providing the internationally most customary $^3/_8$" thread. If the threaded coupling is screwed off by means of a coin and screwed in again upside down, then the connecting link may be fitted to $^1/_2$" threads. By removing the threaded coupling completely, the connecting link is prepared to fit to $^5/_8$" threads (Figure 2).

The tripod connecting link MZA 441 provided, is furnished with an interlock facility allowing the microphone be used being fixed onto a boom. By unlatching the locking mechanism the connecting link may be utilized to serve as quick release clamp.

If the latching button is pushed forward (towards the microphone's sound inlet) then the microphone rests loosely in its support and can be easily withdrawn from the mount. By pushing the latching button backwards, the microphone is secured on the mount. It is important that the microphone is being pushed fully into the clamp up to backstop since otherwise the locking mechanism will not engage (Figure 3)

Directional Properties
The MD 441 has a super cardioid directional characteristic which means that the maximum insensitivity to unwanted sound sources is at 130°. The directional index of the MD 441 at 1000 Hz and 130° is at least 20 dB. This means that sound waves from this direction with a frequency of 1000 Hz produce a 20 dB lower signal as sound waves of the same intensity striking the microphone from the front. As can be seen from the polar diagram the MD 441 should therefore be spoken into directly from the front (Figure 4).

Setting the Roll-off Filter
When a directional microphone is spoken into from a close distance the lower frequencies are overemphasized. If this effect is not desired it may be levelled by aid of a roll-off filter.

From the diagram (Figure 5) showing the influence of the roll-off filter it can be seen that in position M (music) the frequency response curve is not altered in any way. In position S (speech) however, the frequencies below 700 Hz are attenuated by up to 14 dB. Between the positions M and S the low frequency response can be altered in three defined steps.

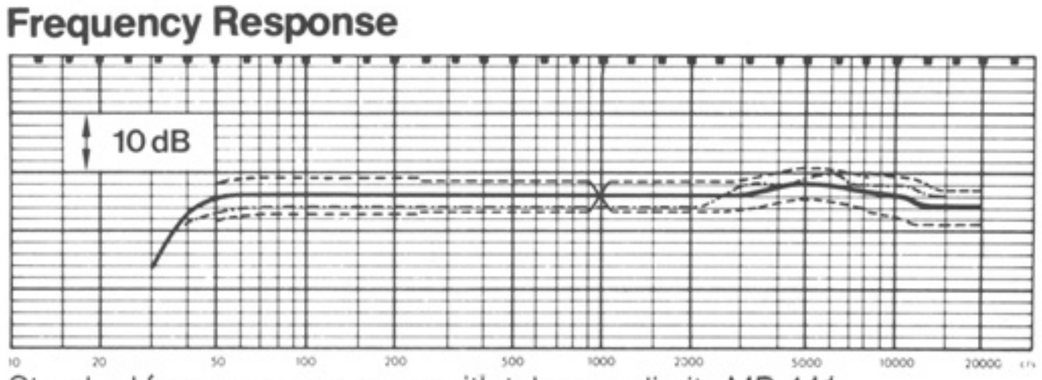
Brilliance Switch
The MD 441 allows an accentuation in the upper frequency range. It can be chosen using a switch located on the underside of the microphone. This switch can be easily operated using a pencil or small pin. If the switch is brought into position ⩘ the frequencies above 3 kHz are accentuated by about 5 dB. This switch position is recommended when the microphone is being used by a vocal soloist. The microphone can then be held vertical in front of the chest and the singer sings practically "over the top". Even then the sound remains brilliant.

The five positions of the roll-off filter can be combined with the two positions of the brilliance switch. In this way it is possible to choose between ten different frequency response settings (Figure 6).

Wind and Pop Screen
The MD 441 is fitted with a built-in popshield that does not simply consist of foam rubber, but is built up according to a new method. This popshield serving as a dustcover as well attenuates all explosive and unwanted sibilance signals. In order to achieve a further reduction of these disturbances one should talk "over the top" of the sound inlet and not directly into it.

For outdoor recordings it is recommended that a windshield MZW 441 should be used (Figure 7). The windshield must be fitted over the sound inlet of the microphone, and pulled to the rear until the sound inlet is completely covered.

Frequency Response



Standard frequency response with tolerance limits MD 441.
The original frequency response curve measured from 40 to 20 000 Hz is included with each microphone of this type.

Technical Data

	MD 441 N	MD 441-2	MD 441-U
Frequency response	30 – 20 000 Hz	30 – 20 000 Hz	30 – 20 000 Hz
Acoustical mode of operation	Pressure gradient transducer	Pressure gradient transducer	Pressure gradient transducer
Directional characteristic	Super cardioid	Super cardioid	Super cardioid
Rejection at 130° and 1000 Hz	20 dB – 3 dB	20 dB – 3 dB	20 dB – 3 dB
Sensitivity at 1000 Hz	2 mV/Pa ≙ 0,2 mV/µbar ± 3 dB	2 mV/Pa ≙ 0,2 mV/µbar ± 3 dB	2 mV/Pa ≙ 0,2 mV/µbar ± 3 dB
Electrical impedance at 1000 Hz	200 Ω	200 Ω	200 Ω
Nominal load	≧ 1000 Ω	≧ 1000 Ω	≧ 1000 Ω
Brilliance Switch	+ 5 dB (referred to 1000 Hz) above 5 kHz	+ 5 dB (referred to 1000 Hz) above 5 kHz	+ 5 dB (referred to 1000 Hz) above 5 kHz
Roll-off filter	5 positions	–	5 positions
Plug	3 pin DIN plug e. g. T 3260 001	T 3079 002	3 pin XLR-3
Connector	1 and 3 → moving coil 2 and chassis → ground	1 and 2 → moving coil 3 and chassis → ground	2 and 3 → moving coil 1 and chassis → ground
Wiring	3 pin DIN coupling T 3261 001	T 3080 002	XLR-3-11 C
Magnet field disturbance	5 µV/5 µ Tesla	5 µV/5 µ Tesla	5 µV/5 µ Tesla
Dimensions in mm	257 x 33 x 36	245 x 33 x 36	270 x 33 x 36
Weight	appx. 450 g	appx. 425 g	appx. 450 g

We reserve the right to alter specifications, in particular with regard to technical improvements.