**MAT 4**

Accordion pickup. In contrast to well-known models, these are two dynamic plug-in microphones comprising the treble pickup MAT 3.01 and the bass chord pickup MAB. 3. Exceptionally wide frequency response and designed for suppressing unwanted noise from the keyboard's mechanical system, stops, register slides, or fingering. Satisfies all requirements concerning high-fidelity and full reproduction of the accordion sound. Separate volume control for treble and bass. Connection to two microphone inputs. Easy installation on the outside of the accordion.

**Technical specifications**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency response</td>
<td>30 - 20 000 Hz</td>
</tr>
<tr>
<td>Treble pickup</td>
<td>30 - 20 000 Hz</td>
</tr>
<tr>
<td>Bass chord pickup</td>
<td>20 - 6 000 Hz</td>
</tr>
<tr>
<td>Pickup pattern</td>
<td>bidirectional</td>
</tr>
<tr>
<td>Treble pickup</td>
<td>bidirectional</td>
</tr>
<tr>
<td>Bass chord pickup</td>
<td>bidirectional</td>
</tr>
<tr>
<td>Directivity factor</td>
<td>25 db at 1 kHz/90°</td>
</tr>
<tr>
<td>Treble pickup</td>
<td>25 db at 1 kHz/90°</td>
</tr>
<tr>
<td>Bass chord pickup</td>
<td>2 mV/Pa A - 54 dBV</td>
</tr>
<tr>
<td>Free-field sensitivity</td>
<td>1 mV/Pa A - 60 dBV</td>
</tr>
<tr>
<td>Nominal impedance</td>
<td>200 Ω each</td>
</tr>
<tr>
<td>Nominal load impedance</td>
<td>≥1 kΩ each</td>
</tr>
</tbody>
</table>

**KBM 1**

Pickup for electric bass guitars (system Dörmling). World's first special pickup for producing the sound of an acoustic bass by means of an electric bass guitar. Simple mounting to the body with a clip. Extensive sound variation by adjusting the pressure with two setscrews.

**Technical specifications**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>600 g</td>
</tr>
<tr>
<td>Nominal impedance</td>
<td>≥3 000 Ω</td>
</tr>
<tr>
<td>Nominal load impedance</td>
<td>≥3 000 Ω</td>
</tr>
<tr>
<td>Diameter</td>
<td>69 mm</td>
</tr>
<tr>
<td>Height</td>
<td>20 mm</td>
</tr>
<tr>
<td>Weight (with fastening bow)</td>
<td>330 g</td>
</tr>
</tbody>
</table>

**HM 560**

Dynamic vocalist's microphone with headband. Bidirectional characteristic.

The solution for drummers, keyboarders, also entertainers, who sing in addition to playing their instruments. Headband for mounting the microphone either on the left-hand or right-hand side. Adjustable distance and angle to the musician's mouth. For outside broadcast purposes also combinable with headphones DT 100 by simply replacing a cover on the housing of the headphones (BN 54-156).

**Technical specifications**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency response</td>
<td>20 - 20 000 Hz</td>
</tr>
<tr>
<td>Polar pattern</td>
<td>bidirectional</td>
</tr>
<tr>
<td>Open circuit voltage</td>
<td>0.4 mV/Pa A - 68 dBV</td>
</tr>
<tr>
<td>Output impedance</td>
<td>200 Ω</td>
</tr>
<tr>
<td>Load impedance</td>
<td>≥1 kΩ</td>
</tr>
<tr>
<td>Weight without headband</td>
<td>66 g</td>
</tr>
<tr>
<td>Weight with headband</td>
<td>120 g</td>
</tr>
</tbody>
</table>

*1 with microphone preamplifier
*2 for direct interface to pocket transmitters TS 42.10 - 10 etc.

**Models**

- HM 560 N (C)
- HM 560 V, 04
- M 560 N (C)
- M 560 V, 04
- HM 560/42
Studio-quality microphone.
The M 58 omnidirectional moving coil microphone has been specifically designed to satisfy the demands of electronic news gathering (ENG) and electronic field production (EFP) applications in broadcast industry. Its sophisticated internal shockmount dramatically reduces undesirable handling noise. The frequency response has been fine tuned to provide broadcasters with accurate reproduction of voice information with a very high degree of intelligibility.

M 101

Studio-quality dynamic microphone.
Omnidirectional characteristic.
This microphone requires excellent room acoustics, but in turn it gives an atmosphere to the production. Balanced frequency response with a slight emphasis at the upper end. Suited for studio and OB productions. Talk-back is possible because the M 101 can handle speech modulated voltages of up to 2 volts.

M 130

Studio-quality dynamic microphone.
Figure eight characteristic.
This double-ribbon microphone features a uniform, frequency-independent directional characteristic in the shape of figure 8. It is used in M/S stereo, for picking up dialogues, and for including the audience in the transmission of a stage production. Excellent suppression of unwanted signal at 90° and 270° off-axis.
M 260 N. 80
Dynamic microphone.
Hypercardioid characteristic.
Ribbon microphone with bass de-emphasized frequency response for use in live rooms such as churches. Extremely low feedback. Cylindrical shaft.

Specifications
- Transducer type: Dynamic, ribbon
- Frequency response: 100–18,000 Hz
- Polar pattern: Hypercardioid
- Side attenuation at 115°: 1 kHz: 12 mV/Pa
- Open circuit voltage at 1 kHz: 1.2 V
- Output level: > 15 dB
- EIA 485 output: > 700 mV
- Nominal output impedance: 600 Ω
- Load impedance: 600 Ω

Dimensions
- Length: 163 mm
- Shaft diameter: 24 mm
- Head diameter: 42.5 mm
- Weight: 230 g

Models
- M 260 N. 80
- M 260 N (C), 80

M 411
Dynamic directional microphone.
Cardioid characteristic.
Field-proven announcer's microphone. Maximum intelligibility of speech picked up in noisy surroundings. Very low feedback. Available as a hand-held microphone as well as for gooseneck mounting. Switch function available in various versions. M 411.10 with push button.

Specifications
- Transducer type: Dynamic, moving coil
- Frequency response: 200–12,000 Hz
- Polar pattern: Cardioid
- Side attenuation at 180°: 1 kHz: > 15 dB
- Open circuit voltage at 1 kHz: 2.5 V
- Output level: > 700 mV
- EIA 485 output: > 700 mV
- Nominal output impedance: 200 Ω
- Load impedance: 600 Ω

Dimensions
- Length: 139 mm
- Length for model without push button: 28 mm
- Shaft diameter: 28 mm
- Head diameter: 38 mm
- Weight: 160 g

Models
- M 411 N (T)
- M 411 N (T) S
- M 411 N (T) S 1
- M 411 N (T) S 2

M 412
Dynamic directional microphone.
Cardioid characteristic.
High-security ductile microphone. Its crushability reduces injuring hazards in case of violent breaking or accident. Very low feedback. Available as a hand-held microphone as well as for gooseneck mounting. Also available with ON/OFF switch or switch to control an external relay circuit.

Specifications
- Transducer type: Dynamic, moving coil
- Frequency response: 200–12,000 Hz
- Polar pattern: Cardioid
- Side attenuation at 180°: 1 kHz: > 15 dB
- Open circuit voltage at 1 kHz: 2.5 V
- Output level: > 700 mV
- EIA 485 output: > 700 mV
- Nominal output impedance: 200 Ω
- Load impedance: 600 Ω

Dimensions
- Length: 140 mm
- Shaft diameter: 26 mm
- Head diameter: 38 mm
- Weight: 160 g

Models
- M 412 N (T) S
- M 412 N (T) S 1
- M 412 N (T) S 2
DYNAMIC MICROPHONES FOR ANNOUNCERS

M 420

Dynamic directional microphone. Hypercardioid characteristic. For use in high-quality electroacoustical installations. Efficient bass de-emphasis prevents pickup of low-frequency noise. Extremely low feedback. Rugged all-metal housing, slim, elegant styling. For gooseneck mounting e.g. in conjunction with the beyerdynamic table stand MTF 222-SH 15/250 N resp. MTF 222-SH 15/250 N (C).

![Graph](image)

**Specifications**
- Transducer type: Dynamic, moving coil
- Frequency response: 100 - 12,000 Hz
- Hypercardioid: > 20 dB
- Side attenuation at 120°, 1 kHz: 1.2 mV/pA
- Open circuit voltage at 1 kHz: 57 dB (0 dB = 1 mV/W/2 \times 10^{-5} Pa)
- Output level: -150 dB (0 dB = 1 mW/2 \times 10^{-5} Pa)
- EIA 980 output: 200 Ω
- Nominal output impedance: > 500 Ω

**Dimensions**
- Length: 98 mm
- Shaft diameter: 24 mm
- Head diameter: 24 mm
- Weight: approx. 150 g

**Models**
- M 422 N
- M 420 N (C)

M 422

Dynamic directional microphone. Supercardioid characteristic. Particularly low-priced, small directional microphone for speech transmission. Very low feedback. Excellent intelligibility also of speech picked up in noisy surroundings. Suited for voice communication and paging systems and as an announcer’s microphone on mixing consoles. For gooseneck mounting e.g. in conjunction with the beyerdynamic table stand MTF 222-SH 15/250 N resp. MTF 222-SH 15/250 N (C).

![Graph](image)

**Specifications**
- Transducer type: Dynamic, moving coil
- Frequency response: 100 - 12,000 Hz
- Supercardioid: > 20 dB
- Open circuit voltage at 1 kHz: 1 mV/pA
- Output level: -152 dB (0 dB = 1 mW/2 \times 10^{-5} Pa)
- EIA sensitivity rating: 200 Ω
- Nominal output impedance: > 500 Ω

**Dimensions**
- Length: 80 mm
- Shaft diameter: 23.6 mm
- Head diameter: 23.8 mm
- Weight: approx. 70 g

**Models**
- M 422 N
- M 422 N (C)

SHM 422

The M 422 permanently attached to a gooseneck, suited for installation on a speakers’ desk or mixing consoles. Excellent intelligibility of speech also under unfavourable conditions. Combined with the ZSH 40 (see page 40) ideal protection against footfall sound and other noise.

![Graph](image)

**Technical Specifications**
- Transducer type: Dynamic, moving coil pressure gradient
- Polar pattern: 100 - 12,000 Hz
- Frequency response: > 20 dB
- Open circuit voltage at 1 kHz: 1 mV/pA
- EIA sensitivity rating: 152 dBm
- Nominal output impedance: 200 Ω
- Load impedance: > 500 Ω

**Dimensions**
- Length: 360 mm
goose neck diameter: 11 mm
internal thread at bottom: 3/8"Length of cable: 1 m (free end)
Weight: 250 g
Gooseneck announcer's microphone, suited for installation in urban and suburban buses of public transport systems. Acoustical characteristics identical to those of the safety microphone M 412 that has proven itself over many years. The system is flexibly mounted in a rubber head which is protected by a deformable wire screen. This head prevents injury to the driver in the event of an accident. The head is permanently attached to a rugged gooseneck, the lower end of which terminates in a straight tube with mounting flange. Suspended mounting. Optimum voice pickup distance: 10 - 15 cm.

**Specifications**

- **Model:** SHM 415
- **Mode of operation:** Pressure-gradient microphone
- **Cardioid:** 200 - 14,000 Hz
- **1.4 mV/Pa = 57 dBV**
- **Approx. 2.5 mV**
- **200 Ohm**
- **> 500 Ohm**
- **From -20° to +80°C**
- **From -40° to +120°C**

**Mechanical specifications:**

- **Microphone head:**
  - Volume weight of the shell material: 1.51 g/cm³
  - Ultimate elongation: 300 %
  - 76.6 N/m
  - -30°C
  - (Rubber will not be destroyed at this temperature, however it may break under stress.)
  - 70° Shore
  - -30° to +120°C
  - (Short-time heating for up to 15 minutes and up to 140°C admissible.)
- **Necorone 70 CR/746**
- **300 ml**
- **76.6 N/m**
- **-30°C**
- **(Rubber will not be destroyed at this temperature, however it may break under stress.)
  - 70° Shore
  - -30° to +120°C
  - (Short-time heating for up to 15 minutes and up to 140°C admissible.)
- **No discoloration, also not by the UV radiation contained in sunlight. 5 years warranty**
- **2 BC 718 A 14 B 14 E 34**
- **Soap or detergent solution, or quick wiping with a piece of cloth soaked with alcohol, mineral spirits, or trichloroethylene.**
- **16 mm diameter**
- **Chromium plated, black 730 mm**
- **By means of mounting bracket or mounting flange (specify with order).**

**Gooseneck:**

- **Surface:**
  - **Overall length:**
  - **Mounting:**
DYNAMIC MICROPHONES
FOR ANNOUNCERS
TABLE STANDS

M 640/M 680

Dynamic directional microphone.
Cardioid characteristic.
Small microphone for conference and interpreter installations.
Insensitive to solid-borne noise because of flexible system mounting.
Extremely low feedback. Ideal close-talking characteristic through
sintered bronze head in conjunction with an acoustical filter. For
gooseneck mounting. For versions with permanently attached gooseneck refer to models.

Specifications
Transducer type: Dynamic, moving coil
Frequency response: 100 - 12,000 Hz
Polar pattern: Cardioid
Attenuation at 180°, 1 kHz: -33 dB (0 dB = 1 mW/Pa)
Open circuit voltage at 1 kHz: 1 mv/Pa
Output level: -55 dB (0 dB = 1 mW/Pa)
EIA Gray output: -125 dB (0 dB = 1 mW/2.10^8 Pa)
Nominal output impedance: 200 Ω
Load impedance: >500 Ω

Dimensions
Length: 80 mm
Shaft diameter: 20 mm
Head diameter: 26.5 mm
Weight: approx 110 g

Models
M 640 N
M 680 S
Attached to gooseneck, diam. 15 mm, bottom
with 3/8" internal thread. Overall length
approximately 500 mm with ON/OFF switch.
Shielded, 2-conductor connecting cable, length
6 m, blank end.

M 682
Attached to gooseneck, diam. 11 mm, bottom
with 3/8" internal thread, overall length
approximately 300 mm without switch.
Shielded, 2-conductor connecting cable, length
6 m, blank end.

M 682 N (CF)
Same as M 682, but gooseneck with female
screwable XLR-type connector at the bottom end.

MTF 222

Desktop speaker's station.
Beyerdynamic table stands satisfy all requirements for individual,
application-oriented design of the installation. The
universal base MTF 222 can be fitted with up to 4 pilot
lamps and up to 12 switches*. Standard version: 1 switch/
1 lamp (S/L/L).
The switches can be individually converted to push buttons
by removing a spring. This station is designed to accom-
mate beyerdynamic transformers and a relay. The table
stands are supplied without cabling and without micro-
phone.

Models
MTF 222-81
MTF 222-SH 15/250 N
MTF 222-SH 11/200 N
MTF 222-SH 15/250 N (T)
MTF 222-SH 15/250 N (CF)

*Optional configurations (available only in larger quantities)
O = possible
= impossible

Switches (S)

Lamps (L)

Switches (S)
0 1 2 3 4

Touch (S)
0 1 2 3 4

Dimensions in inches (mm in brackets)
CONDENSER MICROPHONES
FOR MUSICIANS

MCE 80

Unidirectional condenser microphone. Supercardioid polar pattern. First-class quality. It can either be operated by a 4.5 V battery located in the microphone shaft or with switch in OFF-position by any phantom power supply between 12 and 48 V. The MCE 80 gives the musician the advantages of a high sophisticated studio condenser with the ruggedness of a dynamic stage microphone. For vocalists and instrumental pick-up.

MCE 81

Unidirectional condenser microphone. Hypercardioid polar pattern. One of beyerdynamic’s new touring microphones. Very rugged, durable with outstanding sound performance. Can be operated by any phantom power source between 12 and 48 V.

MC 734 PA P 48

This is the stage version of the soloist’s condenser microphone MC 734. In contrast to the standard model it can attain an audio level that is approximately 6 dB higher. Black lusterless finish to prevent reflections from the floodlights illuminating the stage. The microphone shaft has a removable leather handle cover that absorbs perspiration from the hands.

Technical specifications

Electrostatic pressure gradient
50 - 18.000 Hz
Supercardioid
Mismatched ± 1%Freq. response:
-20 dB ± 4 dB S/N ratio (JE: 179):
40 ± 4 V
approx. 0.5 mA
500 Hz
150 Q
±1000 Q
138 dB
1.7 μV
69 dB
approx. 18 dB

Dimensions

Length:
175 mm
25 mm
45 mm
80 mm
270 g
STUDIO
CONDENSER MICROPHONES
MCM System

beyerdynamic MCM-studio-quality condenser microphones consist of two parts: the amplifier handle and exchangeable microphone head. This modular design makes it possible to combine an existing amplifier handle with different microphone heads as required – a practical and economical solution for the user.

**CV 710 P 48**
**CV 720 P 12/PV**

The designation of the complete microphone is obtained by adding the numbers of the series 700 microphone heads and amplifier handles, e.g:
- CK 701 + CV 710 N = MC 711 N
- CK 704 + CV 716 N (C) = MC 714 N (C)
- CK 707 + CV 720 N = MC 727 N

The choice of amplifier handle depends on the available powering and the desired connector version:

**for 48 V phantom powering**
- CV 710 N (with DIN connector)
- CV 710 N (C) (with XLR connector)

**for 12 V phantom powering**
- CV 720 N (with DIN connector)
- CV 720 N (C) (with XLR connector)

Every amplifier handle features a built-in, switch-controlled 10 dB attenuator for picking up very high audio levels. This attenuator is effective in the whole frequency range. A roll-off filter can also be switched into the circuit for eliminating low-frequency noise as well as the well-known close-talking effect.

The amplifier handle CV 720 can be directly connected to all phantom power sources supplying between 8 V and 52 V (only units built in 1984 or later).

<table>
<thead>
<tr>
<th>Specifications</th>
<th>CV 710</th>
<th>CV 720</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply voltage:</td>
<td>48.3 V</td>
<td>123.3 V (8-52 V)</td>
</tr>
<tr>
<td>Current consumption:</td>
<td>0.4 mA</td>
<td>≤ 3.5 mA</td>
</tr>
</tbody>
</table>

**CK 701**
**MC 711 (CK 701 + CV 710)**
**MC 721 (CK 701 + CV 720)**

**CK 702**
**MC 712 (CK 702 + CV 710)**
**MC 722 (CK 702 + CV 720)**


**Specifications**
- Condenser microphone.
- Frequency response: 40-20,000 Hz.
- Polar pattern: Omnidirectional.
- Open circuit voltage at 1 kHz: 8 mV/Pa.
- Output level: -41 dB (0 dB = 1 mW/Pa).
- EIA 436 output: -134 dB (0 dB = 1 mW/2·10^-6 Pa).
- Nominal output impedance: 200 Ω.
- Load impedance: ≥ 1000 Ω.

**Dimensions**
- MC 711/MC 712: 120 mm
- MC 721/MC 722: 120 mm
- Weight: approx. 115 g

**MC 711/MC 712**
- Length: 156 mm
- Shaft diameter: 19.2 mm
- Weight: approx. 140 g

**MC 721/MC 722**
- Length: 174 mm
- Shaft diameter: 19.2 mm
- Weight: approx. 26.5 g
**STUDIO CONDENSER MICROPHONES**

**MCM System**

**CK 703**

**MC 713** (CK 703 + CV 710)

**MC 714** (CK 704 + CV 710)

**MC 723** (CK 703 + CV 720)

**MC 724** (CK 704 + CV 720)

Studio-type condenser microphone.

High-quality, directional condenser microphone with nearly frequency-independent directional pattern. Very low feedback. CK 704 with elastic cartridge suspension and built-in wind/popscreen.

---

**CK 708**

**MC 718** (CK 708 + CV 710)

**MC 728** (CK 708 + CV 720)

Studio-type condenser microphone.

Bidirectional characteristic.

High-quality directional condenser microphone. Frequency-independent directional pattern. Elastic system suspension. For solving special pickup problems in studio applications.

---

**Technical specifications**

**Condenser**

Frequency response: 40 - 20000 Hz

Condendor: Cardioid

> 20 dB

Open circuit voltage at 1 kHz: 10 mV/Pa

Output level: -39 dB (0 dB = 1 mW/Pa)

EIA Gm output: -132 dB (0 dB = 1 mW/2 - 10^6 Pa)

Nominal output impedance: 200 Ω

Load impedance: ≥ 10000 Ω

Max. SPL for 0.6% THD: 120 dB

with pre-attenuation: 150 dB

Weighted noise voltage: 3.6 μV

Signal-to-noise ratio: 69 dB

"A" weighted equivalent SPL: 18 dB

Temperature range: -10°C...70°C

**Dimensions**

Length: 165 mm

Diameter: 19.2 mm

Head diameter: 19.2 mm

Weight: approx. 125 g

---

**Condenser**

Frequency response: 40 - 20000 Hz

Condendor: Figure-eight

> 35 dB

Open circuit voltage at 1 kHz: 10 mV/Pa

Output level: -39 dB (0 dB = 1 mW/Pa)

EIA Gm output: -132 dB (0 dB = 1 mW/2 - 10^6 Pa)

Nominal output impedance: 200 Ω

Load impedance: ≥ 10000 Ω

Max. SPL for 0.6% THD: 120 dB

with pre-attenuation: 150 dB

Weighted noise voltage: 3.6 μV

Signal-to-noise ratio: 69 dB

"A" weighted equivalent SPL: 18 dB

Temperature range: -10°C...70°C

**Dimensions**

Length: 199 mm

Diameter: 19.2 mm

Head diameter: 38 mm

Head length: 82 mm

Weight: approx. 215 g