

M SERIES GUIDE

MUSIC HISTORY COMPOSED
IN GERMANY



beyerdynamic



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HISTORY OF THE M SERIES MICROPHONES

1957



M 160
Legendary dynamic double-ribbon microphone with unique hypercardioid polar pattern. Part of the NAMM Tec Awards Hall of Fame.

M 130
Iconic dynamic double-ribbon microphone (figure-eight).



1963



M 201
Dynamic moving-coil microphone with remarkably natural sound. First choice for a number of sound sources.

M 88
Very flexible dynamic moving-coil microphone. Established for the recording of vocals as well as instruments.

1973



MM 1
Precise condenser measurement microphone, which has already measured thousands of studios, event halls and industrial projects.

1998



MC 930
Popular true condenser microphone (cardioid) for a wide range of applications.

2002



2008



MC 950
Supercardioid counterpart of the popular MC 930.

For decades, M Series microphones have been helping professional sound technicians, musicians and producers create unique recordings and unforgettable concert moments.

Painstakingly handmade at the company headquarters in Heilbronn, Germany, microphones such as the **M 160**, **M 88** and **M 201** are considered milestones in the history of audio.

The unified design combines tradition and future without altering the tried-and-tested acoustic signature of the microphones.
The names of the M Series microphones differ according

to the transducer type. The letter '**M**' is used for dynamic microphones, whereas '**MC**' represents true condenser microphones. '**MM**' stands for measurement microphone.

MADE IN GERMANY

Since the first day of our existence, high-quality production "Made in Germany" has been a central part of our company DNA. Founded by Eugen Beyer in Berlin in 1924, the company moved to Heilbronn in the South of Germany in 1948 and finally found its current home in the Theresienstraße in Heilbronn in 1960.

While the visual appearance of microphone classics such as the **M 160** or **M 88** has been repeatedly adapted over the years, acoustically relevant components and the traditional manufacturing with a high proportion of manual labour have remained untouched to this day.

Today, more than 200 experts take care of the production of high-quality microphones and headphones at beyerdynamic. Thorsten Bender, Director of Production at the company's location in Heilbronn, is responsible for this team and very proud of the products' long-standing tradition.

"The foundation of our history in building microphones was laid by the **M 19** dynamic microphone in 1939. At that time, the company was still based in Berlin. It is particularly impressive that the two double-ribbon microphones, the **M 130** and the **M 160**, have been manufactured in Heilbronn since 1957," says Thorsten Bender.

The high degree of in-house production is unusual – and truly special. "While other manufacturers buy circuit boards, membranes or entire capsules from external suppliers, we manufacture a large number of these sound-relevant components for the M Series microphones ourselves."

The **M 130** and **M 160** are prime examples of this delicate production. Those two double-ribbon microphones are particularly difficult to manufacture, according to Bender. "To build these classics, two hand-embossed pure aluminium ribbons are inserted precisely into a tiny magnetic gap. For this task, we carefully select specialists who have excellent manual dexterity. The experts go through training for up to one year – which is why only a few employees are currently able to manufacture these microphones."

Thorsten Bender stresses that the updated design does not involve any changes in terms of sound quality: "The new design combines tradition and future. However, it is important for me to emphasize that this does not mean a reduction in terms of manufacturing and sound quality. We continue to manufacture these products in the traditional, time-tested manner."



*"M 130 AND
M 160 HAVE BEEN
MANUFACTURED
SINCE 1957"*

APPLICATION OVERVIEW



| Dynamic microphones | | | | | | | | | | | | | | | | | |
|-----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M 88 | X | | X | X | | X | | | X | X | | X | X | | X | X | |
| M 201 | X | | X | | X | X | | | | X | | X | | X | X | X | |
| M 130 | | | | | | | | | | X | X | | X | | | | |
| M 160 | | | | | | | X | X | X | | X | | X | X | X | X | |
| Condenser microphones | | | | | | | | | | | | | | | | | |
| MC 930 | | X | | | | | X | X | X | X | | | X | | | X | |
| MC 950 | | X | | | | | X | X | X | X | | | X | | | X | |
| MM 1 | | | | | | | | | | | | | | | | | X |

The technical attributes and natural sound characteristics of the M Series microphones make them extremely flexible and suitable for many different applications including but not limited to the ones marked here. Feel free to give them a try and let us know what you think works best for your use case.

M 88

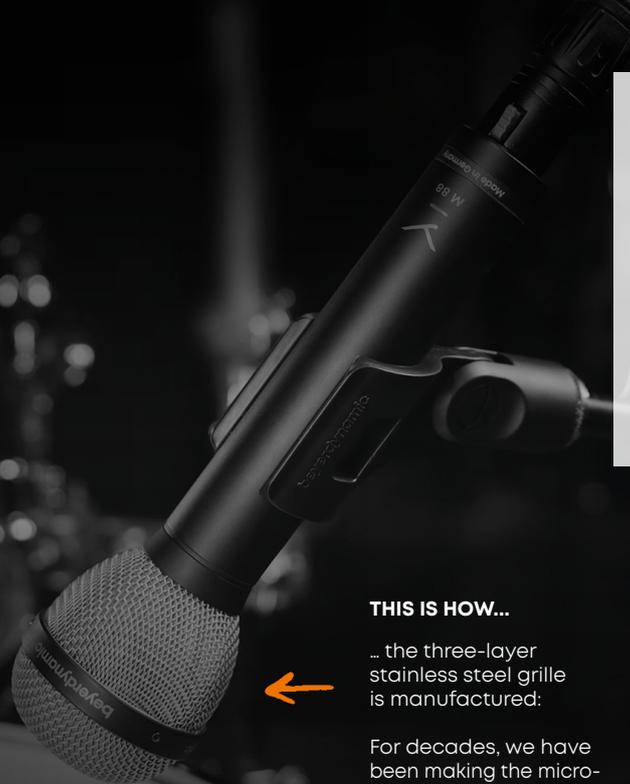
Dynamic moving-coil microphone (hypercardioid)



ADVANTAGES OF THE M 88

- Wide frequency response (30 - 20,000 Hz)
- High sensitivity (2.9 mV/Pa = -51 dBV)
- Superb suppression of noise from the back and sides thanks to the physically almost perfect

- hypercardioid polar pattern
- Individual measurement of each microphone: a printed version of the measurement curve is enclosed in the packaging
- Handmade in Germany



THIS IS HOW...

... the three-layer stainless steel grille is manufactured:

For decades, we have been making the microphone grille of the **M 88** in our mechanical production facility. This is unusual for other manufacturers but has a decades-long tradition at beyerdynamic. The microphone grille is stamped from multi-layer stainless steel.

DID YOU KNOW THAT?

Phil Collins was probably one of the best-known users of the **M 88**. Apparently, he grew so fond of the microphone that he personally carried it from stage to stage in his hand luggage.

The individual parts are then assembled by hand to build the final grille. Since the grille is designed to protect the acoustic system inside the microphone, the highest level of precision is essential. Apart from the visual difference, the three-layer, silver-coloured grille offers better behavior with pluses compared to the all black TG variant.

M 201

Dynamic moving-coil
microphone
(hypercardioid)



ADVANTAGES OF THE M 201

- Exceptionally clear, natural sound characteristic
- High impulse fidelity and unusually fast transient response for a dynamic microphone
- Great suppression of noise from the back and sides thanks to the hypercardioid polar pattern
- Individual measurement of each microphone: a printed version of the measurement curve is enclosed in the packaging
- Handmade in Germany

cardioid polar pattern

- Individual measurement of each microphone: a printed version of the measurement curve is enclosed in the packaging
- Handmade in Germany

THIS IS HOW...

... the **M 201** rejects humming noise:

In addition to the moving-coil, which is connected to the low-mass Hostaphan® membrane, the **M 201** system also integrates another, larger coil to effectively reduce humming noise. Both coils have been wound in Heilbronn, Germany for decades.

DID YOU KNOW THAT?

The **M 201** is also an excellent microphone for vocal recordings. It was used by **Green Day** for the vocal recordings of the album "Dookie", for the recordings of the world hit "Sweet Dreams (Are Made of This)" by the duo **Eurythmics** and for the vocal recordings of **a-ha's** "Take on Me".



"Unlike many dynamic mic options, the **M 201** has an incredible level of detail, rivalling many condensers at higher price points."

*William Nicholson,
FOH engineer for Dua Lipa*



M 130

Dynamic double-
ribbon microphone
(figure-eight)



ADVANTAGES OF THE M 130

- Great for stereo, ambience and instrument recordings
- Excellent off-axis behaviour
- Individual measurement of each microphone:

- a printed version of the measurement curve is enclosed in the packaging
- Handmade in Germany

DID YOU KNOW THAT?

The pure aluminium ribbon used in the **M 130** is approximately **0.003 mm thick**. This makes it many times thinner than a human hair. On top of that, our ribbon-embossing technique is unique and different to the ones used for other ribbon microphones. This ensures optimal vibration behaviour as well as robustness of the ribbon itself.

THIS IS HOW...

... the double-ribbon system of the **M 130** is built by hand at the company's location in Heilbronn, Germany:

During the production process, two manually embossed wafer-thin pure aluminium

ribbons are inserted into a magnetic gap that is only a few millimetres wide. Because this job requires extreme dexterity, there are currently only a few employees able to build this microphone.

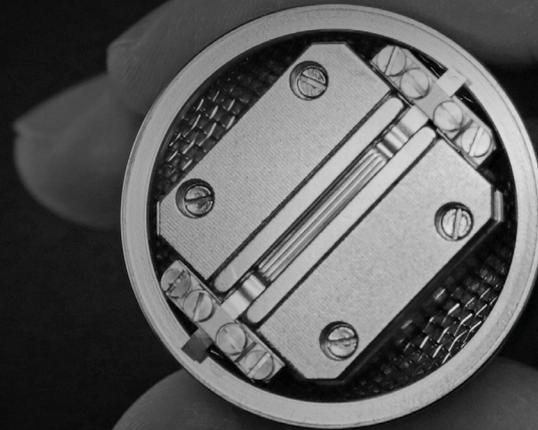
M 160

Dynamic double-ribbon
microphone
(hypercardioid)



ADVANTAGES OF THE M 160

- Unique double-ribbon microphone with a hypercardioid polar pattern
- Warm sound character with little discoloration
- Balanced treble reproduction, high impulse fidelity and excellent transient response
- Ideal for a wide variety of sound sources
- NAMM TEC Awards Technology Hall of Fame
- Individual measurement of each microphone: a printed version of the measurement curve is enclosed in the packaging
- Handmade in Germany



THIS IS HOW...

... the construction of the **M 160** generates its unique polar pattern:

The hypercardioid polar pattern is the result of the well thought-out construction of

our system bedding and an acoustically relevant component called "labyrinth". This construction directs the sound in a targeted manner, resulting in the hypercardioid directivity.

DID YOU KNOW THAT?

Bill Bottrell, **producer for Michael Jackson**, recorded the guitar track for the world hit "Black or White" himself with a beyerdynamic **M 160** double-ribbon microphone.



MC 930

True condenser
microphone
(cardioid)



DID YOU KNOW THAT?

The **MC 930** is also **available as a stereo set**: During compilation, the frequency responses and sensitivities of the microphones produced are checked. Our experts then put together those microphones that harmonize based on the measurement results. This way, we create a matched pair based on technical data with the expertise of our employees.

ADVANTAGES OF THE MC 930

- Versatile true condenser microphone
- Integrated switchable pre-attenuation (250 Hz) and low-cut filter (-15 dB)
- High impulse fidelity and excellent transient response
- Exceptionally high sensitivity ($30 \text{ mV/Pa} = -30.5 \text{ dBV}$)
- Individual measurement of each microphone: a printed version of the measurement curve is enclosed in the packaging
- Handmade in Germany



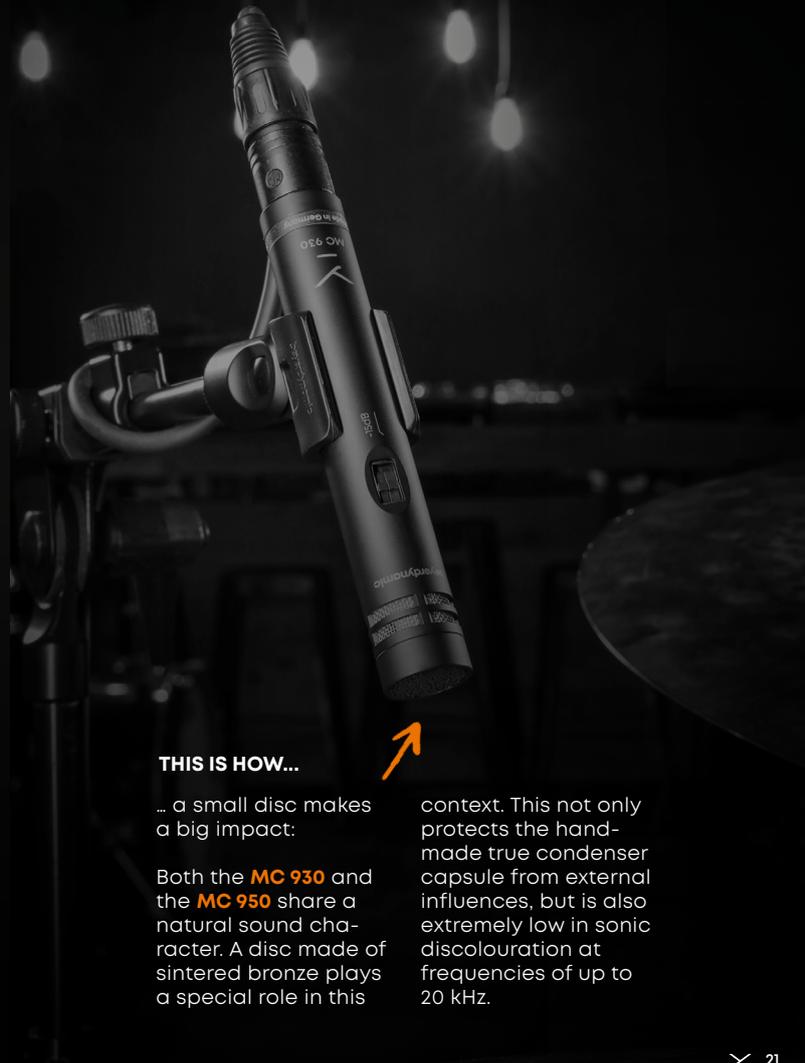
MC 950

True condenser
microphone
(supercardioid)



ADVANTAGES OF THE MC 950

- Great on various sound sources
- Integrated switchable pre-attenuation (250 Hz) and low-cut filter (-15 dB)
- High impulse fidelity and excellent transient response
- Exceptionally high sensitivity (35 mV/Pa = -29 dBV)
- High directionality
- Individual measurement of each microphone: a printed version of the measurement curve is enclosed in the packaging
- Handmade in Germany



THIS IS HOW...

... a small disc makes a big impact:

Both the **MC 930** and the **MC 950** share a natural sound character. A disc made of sintered bronze plays a special role in this

context. This not only protects the hand-made true condenser capsule from external influences, but is also extremely low in sonic discoloration at frequencies of up to 20 kHz.

MM 1

Condenser measurement
microphone
(omnidirectional)



ADVANTAGES OF THE MM 1

- Versatile measurement microphone for a variety of scenarios
- Exact measurement values thanks to minimised deviation
- Linear at 90° thanks to diffuse field equalization
- Individual measurement of each microphone: a printed version of the measurement curve is enclosed in the packaging
- Handmade in Germany

THIS IS HOW...

... the **MM 1** enables exact measurements:

This is achieved by our experts manually

adjusting the frequency response and sensitivity of each individual microphone within a tight tolerance of ± 1.5 dB.

DID YOU KNOW THAT?

As all **M Series microphones**, the **MM 1** is measured carefully at the end of the production process. In addition, we will provide the individual **calibration data for 0° and 90°** free-field measurement upon request.

By the way, the **MM 1** is anything but a one-trick pony. It delivers good results as an unconventional alternative for instrument recordings – perfect for spontaneously recording song ideas.

#beyerdynamic



www.beyerdynamic.com

beyerdynamic GmbH & Co. KG

Theresienstraße 8 · 74072 Heilbronn / Germany
Phone +49 7131 617-300 · info@beyerdynamic.com

