

# 2M Moving Magnet Cartridges



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# 2M

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## THE STORY BEHIND THE 2M SERIES

The 2M Series was developed in conjunction with the Danish designer Moeller Jensen Design. Inspired by the facets of a diamond, whose contours gracefully trace the grooves on a record's surface, the 2M's handsome elegance establishes a great combination of form and functionality. Of course the 2M isn't just another pretty face. It has been engineered to the highest standards and is congruent with Ortofon's unrelenting commitment to providing the most precise and accurate reproduction possible without coloration.

The name "2M" was chosen as it represents the abbreviation for moving magnet, MM.

The four-model 2M line was originally introduced in 2008, and since then the range has been extended to include True-mono models 2M MONO and 78. Also available are models with expanded mounting options, such as Verso for bottom mount headshells and PnP for direct mounting on arms with universal mount.



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## 2M 78



for play back of 78 r.p.m.  
shellac records

## 2M MONO



for playing microgroove  
vinyl records

## APPLICATIONS



2M standard model for top mount headshells. We have optimized the design for ease of mounting the cartridge; the weight and dimensions fit the most common turntables on the market today.



2M Verso configuration for bottom mount headshells. 2M Verso allows for easy mounting on tonearms which do not allow the screws to pass through the top of the headshell.



2M PnP is designed for direct mount on s-shaped arms with universal mount. 2M PnP provides correct Baerwald alignment with the majority of tonearms with universal mount.

## EASE OF USE

The weight and dimensions of the 2M Series have been optimized to fit the most common turntables on the market today. The cartridge body has also been streamlined to provide easy mounting and alignment.

2M cartridges provide excellent compatibility in an assortment of playback systems and with a wide variety of phono preamps.

*"The 2M line has become a de facto reference for moving-magnet cartridges... and it is due to both the sound quality of the various 2M models as well as the wide price range across the line."*

as Mark Michelson wrote in the review for The AudioBeat.

## 2M RED



is an all-purpose cartridge that delivers open, dynamic sound

## 2M BLUE



adds more dynamics and resolution, sounds more open

## ADVANCEMENTS IN SOUND

The differences among the 2M variants concern three primary areas: engine, body material and stylus profile.

The entire 2M Series features Ortofon's trademark split pole pins, an invention which enables moving magnet cartridges to have a flat frequency response as with a moving coil cartridge. Split pole pins were invented by Ortofon, and were originally presented in the 500 and Ortofon OM Super Series.

The 2M 78, 2M Mono, 2M Red and 2M Blue use an improved engine, which provides an optimized sound reproduction and a high level of sonic accuracy.

The 2M Bronze and 2M Black use a special upgraded engine, featuring split pole pins with a silver plated copper wire. The cartridge body material used for the 2M Bronze and 2M Black is manufactured from Lexan DMX Piano Black, a revolutionary material which ensures high rigidity while eliminating unwanted resonances.

## STYLI TYPES

All of the 2M cartridges feature diamonds which are polished to the highest standards of the industry.

The 2M Red features a bonded Elliptical diamond, while the 2M Blue features a Nude Elliptical diamond.

The 2M Bronze features a Nude Fine Line diamond stylus, which is particularly suited for demanding applications. The slim profile of the Fine Line stylus will track even the highest frequency information, making it a must for discerning listeners. Additionally, its larger footprint ensures reduced distortion and record wear.

The 2M Black is the moving magnet flagship from Ortofon. The 2M Black is graced with a Nude Shibata diamond stylus – the same diamond as on the acclaimed MC Cadenza Black. Its slim, highly polished profile allows an exceedingly wide contact area to the groove walls and ensures notably detailed reproduction throughout the spectrum, including even the most high frequency groove information. Users of the 2M Black will enjoy the benefit of impeccable sound quality, along with reduced record & stylus wear and reduced distortion and phase error as a result of the diamond's improved tracking geometry.

The 2M 78 features a 65 µm Spherical stylus that is perfect for playback of 78 r.p.m. records, which require a larger stylus profile for proper playback.

The 2M Mono features an 18 µm Nude Spherical stylus that is an optimal solution for playing mono microgroove vinyl records. Both 2M Mono and 2M 78 feature an optimized engine for superior sound quality and use a strapped output to deliver the same output signal from both sets of terminal pins. This



## 2M BRONZE



adds even more resolution and details  
in an evenhanded way

## 2M BLACK



the best of the range,  
true to the groove

effectively eliminates the need for mono-specific equipment, making it easily possible to enjoy true mono reproduction on any stereo playback system.

The 2M Blue, Bronze, Black and Mono's diamonds are mounted directly onto the cantilever, rather than being mounted on a metal shank which is affixed to the cantilever. Nude mounting reduces tip mass, enabling the stylus to respond more quickly to rapid changes in groove modulation. This improves portrayal of strong transients.

### STYLI INTERCHANGEABILITY

2M Series styli are engineered for a tight fit to minimize coupled vibrations, thereby improving sound reproduction. Physically 2M styli will fit on alternative 2M cartridges bodies, but 2M Series cartridges' engines, coils and magnets configurations are not quite identical: Red and Blue are identical, so are the Bronze and Black and so are the true mono variants 2M Mono and 2M 78.

2M series styli are interchangeable within the below combinations:

- 2M Red and 2M Blue
- 2M Bronze and 2M Black
- 2M Mono and 2M 78

### STYLI LIFETIME AND CARE

With proper care we find that up to 1,000 hours is possible without degradation of performance. The stylus does begin to exhibit changes after 1,000 hours, but the stylus life as a whole is expected to top 2,000 hours.

Proper care is comprised of the following:

- Cleaning of record by means of fibre brush before and after every use. Cleaning of record by using record cleaning machine once in a while.
- Cleaning of stylus by means of a fine antistatic brush. Please remember to remove dust from the diamond tip before and after playback of each record. Use the brush in the forward direction from the rear of the cartridge towards the stylus tip, never from stylus tip to the rear of the cartridge and never from side to side.
- Proper adjustment of alignment, antiskating, azimuth and tracking force.
- Ortofon do not recommend the use of solvents of any kind for cleaning of either record surface or stylus.

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TECHNICAL DATA	2M 78 2M 78 Verso 2M 78 PnP	2M Mono 2M Mono Verso 2M Mono PnP	2M Red 2M Red Verso 2M Red PnP	2M Blue 2M Blue Verso 2M Blue PnP	2M Bronze 2M Bronze Verso 2M Bronze PnP	2M Black 2M Black Verso 2M Black PnP
Output voltage at 1 kHz, 5cm/sec.	4 mV	4 mV	5.5 mV	5.5 mV	5 mV	5 mV
Channel balance at 1 kHz	-	-	1.5 dB	1.5 dB	1 dB	1 dB
Channel separation at 1 kHz	-	-	22 dB	25 dB	26 dB	26 dB
Channel separation at 15 kHz	-	-	15 dB	15 dB	15 dB	15 dB
Frequency range at -3 dB	20-20,000 Hz	20-22,000 Hz	20-22,000 Hz	20-25,000 Hz	20-29,000 Hz	20-31,000 Hz
Frequency response	20-20,000 Hz +3/-1 dB	20-20,000 Hz +3/-1 dB	20-20,000 Hz +3/-1 dB	20-20,000 Hz +2/-1 dB	20-20,000 Hz +2/-0 dB	20-20,000 Hz +2/-0 dB
Tracking ability at 315 Hz at recommended tracking force	70 µm	70 µm	70 µm	80 µm	80 µm	80 µm
Compliance, dynamic, lateral	18 µm/mN	18 µm/mN	20 µm/mN	20 µm/mN	22 µm/mN	22 µm/mN
Stylus type	Spherical	Nude Spherical	Elliptical	Nude Elliptical	Nude Fine Line	Nude Shibata
Stylus tip radius	R 65 µm	R 18 µm	r/R 8/18 µm	r/R 8/18 µm	r/R 8/40 µm	r/R 6/50 µm
Tracking force range	1.6-2.0 g (16-20 mN)	1.6-2.0 g (16-20 mN)	1.6-2.0 g (16-20 mN)	1.6-2.0 g (16-20 mN)	1.4-1.7 g (14-17 mN)	1.4-1.7 g (14-17 mN)
Tracking force, recommended	1.8 g (18 mN)	1.8 g (18 mN)	1.8 g (18 mN)	1.8 g (18 mN)	1.5 g (15 mN)	1.5 g (15 mN)
Tracking angle	20°	20°	20°	20°	20°	20°
Internal Impedance, DC resistance	0.7 kOhm	0.7 kOhm	1.3 kOhm	1.3 kOhm	1.2 kOhm	1.2 kOhm
Internal inductance	350 mH	350 mH	700 mH	700 mH	630 mH	630 mH
Recommended load resistance	47 kOhm	47 kOhm	47 kOhm	47 kOhm	47 kOhm	47 kOhm
Recommended load capacitance	150-300 pF	150-300 pF	150-300 pF	150-300 pF	150-300 pF	150-300 pF
Cartridge colour, body/stylus	Black/Grey	Black/White	Black/Red	Black/Blue	Black/Bronze	Black/Black
2M / 2M Verso cartridge weight without screws	7.2 g	7.2 g	7.2 g	7.2 g	7.2 g	7.2 g
2M PnP cartridge weight	20 g	20 g	20 g	20 g	20 g	20 g
Replacement stylus unit	2M 78	2M Mono	2M Red	2M Blue	2M Bronze	2M Black
Interchangeable with	 2M Mono	 2M 78	 2M Blue	 2M Red	 2M Black	 2M Bronze