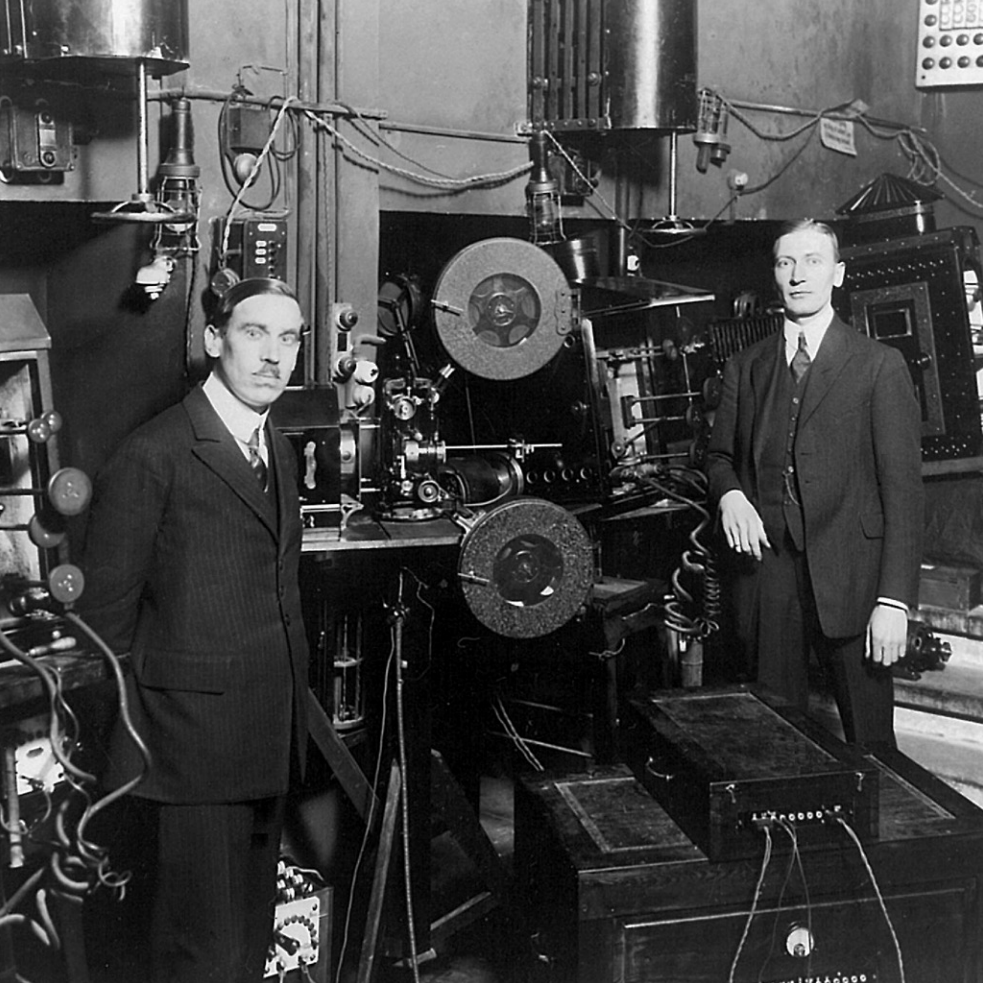


ortofon

AMONO



Ortofon

A century of accuracy in sound

Ortofon has always been a leading company in the field of sound reproduction. Founded in Copenhagen in 1918, Ortofon started by creating technology which served as the basis for adding a soundtrack to the silent movies of the early 1920s. In 1948, the company developed the first moving coil cartridge, and since then Ortofon has developed and manufactured more than 300 different cartridges with our latest being the MC A MONO.

Today Ortofon is the world leader in cartridges. This is the result of combining design with technology and the highest level of engineering in the audio industry. Acoustics, materials technology and micro mechanics are key competences in the company's technological prowess. Ortofon has its research and manufacturing facilities in Denmark: the production of cartridges and components is carried out at the factory in Nakskov. Production is based on experienced operators with a high level of craftsmanship. This assures the high uniform quality of Ortofon products.

Ortofon is today recognized among consumers and industry professionals as a quality brand. Our products concentrate not only on providing the best sound, but more importantly the faithful and correct reproduction of the recorded sound.



The MC A MONO

- a TRUE MONO cartridge for play-back of MONO recordings

If you play a MONO record with a stereo cartridge you will not achieve the same signal in the two channels due to imperfections such as crosstalk, noise, phase errors, tracking error, antiskating and distortion. This difference between the channels will result in an unstable and partially fuzzy image. A mono switch, to some extent, can improve this.

Playing MONO record with a TRUE MONO cartridge will have none of the aforementioned problems, as this cartridge only produces one signal, which afterwards is directed to both channels in the system. This will provide a much more forceful and stable image with a fuller sound.

Another significant advantage of using a TRUE MONO cartridge to play MONO records is the absence of response to vertical movement. This means that a TRUE MONO cartridge is essentially impervious to the pinching effect which comes into action when the stylus is pushed vertically upward in very narrow grooves. In addition, the response to dust, dirt and wear will be reduced substantially as the vertical component will not be heard. The final result will be a much more clean and noiseless reproduction of the MONO record. These effects simply cannot be achieved merely by the use of a mono switch.

High-end materials and advancements in technologies

The housing of the cartridge is made in Titanium with the **Selective Laser Melting manufacturing technique**

(SLM). The SLM process welds fine particles of Titanium together, layer-by-layer, to construct a single piece body devoid of extraneous material. This technique allows for precise control of the density of the body material, allowing for extremely high internal damping. The final result provides freedom over vibrations within the cartridge body material.

The use of **Titanium** has provided a further improvement to the internal damping capabilities as well as to the overall rigidity of the structure.



Using Ortofon's **Aucurum coils of gold-plated, 6NX oxygen free copper** allows for zero-loss transmission of the diamond's movements via its boron cantilever. This configuration combines low moving mass with an extremely high degree of rigidity.

A specially designed armature is used to attain extreme precision in each coil turn in all layers. This enables the MC A MONO to achieve a higher degree of channel separation, while simultaneously offering lower distortion and better channel balance. The armature is made in a metal alloy which is much less magnetic than normal iron, which boosts the dynamic capability of the cartridge.

Coil wire protection has been made from our special high damping proprietary Thermo-Plastic Elastomer (TPE) material, which enhances the total damping properties of the cartridge.



Magnet system

The magnet system is based on an extremely strong, compact neodymium magnet, which makes the generator system both compact and lighter through its minimal dimensions. Inspired by the elements of MC A95 design, the MC A MONO makes use of a specially designed armature comprised of a metal alloy which is much less magnetic than normal iron. This provides noteworthy benefit to the dynamic capabilities of the cartridge since the armature has almost no influence on the magnetic field during movement. When combined with the Aucurum coils, it delivers perfect reproduction of the cantilever movements without compromise.

Any trace of remaining magnetic influences that would create distortion is prevented by the use of a Field Stabilizing Element (FSE). Ortofon's FSE, a small cylinder of conductive material strategically placed inside the magnet system, guarantees that the force field remains stable regardless of the movement of the armature. FSE improves the channel separation, while at the same time minimizing dynamic distortion and intermodulation.

Damping

Enhanced damping capabilities

Adding to the list of important components is Ortofon's Wide Range Damping (WRD) system. In this system, a small, heavy platinum disc is sandwiched between two rubber absorbers, both with different properties. This ensures not only an exceptional tracking performance, but also creates a perfect damping through the entire frequency spectrum. Because of this, distortion and resonance are virtually eliminated entirely.

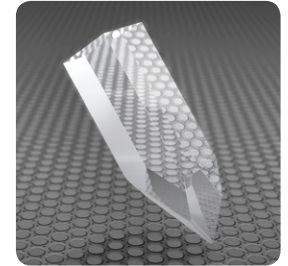
The WRD system, which was originally introduced in the MC 20 Mk II in 1979 and then was also consequently used in the entire Exclusives series cartridges, is one significant reason why the MC A MONO, while achieving the most linear frequency response and the highest upper frequency limit ever, at the same time tracks a fantastic 90 μm at a vertical tracking force of 2.3 grams.

Diamond

Ortofon Replicant 100 - the finest diamond in the world

One of the preconditions for linear reproduction with a wide frequency range and optimal tracking performance is a diamond - the shape of which is as close as possible to the original cutting stylus.

As in the entire Exclusives series cartridges, the MC A MONO makes use of Ortofon's Replicant 100 diamond, known for its thin and light profile and extraordinarily large contact surface.



Since the Replicant 100 is closest to the shape of the cutting stylus, it can trace with accuracy unparalleled by any other needle in existence. Special polishing of the diamond along with the use of a Boron cantilever offer remarkable transparency, speed, and responsiveness beyond that of any other combination.

Protection

The stylus guard provided for the MC A MONO is designed to be easily replaced and removed without risking contact to the fragile stylus assembly. To avoid accidental damage to the stylus or cantilever please mount the enclosed stylus guard onto the cartridge whenever the cartridge is not in use. The stylus guard should also be attached during mounting or removal of the cartridge.



As illustrated by the drawing, the stylus guard is easily removed by grasping the sides using the thumb and forefinger, tilting down (Fig. 1) and pulling straight along the orientation of the cartridge (Fig. 2).

Affixing the stylus guard is of course accomplished by the reverse movement: hold the stylus guard obliquely, push it into place, and tilt it up as indicated by the arrows.

Fig. 1

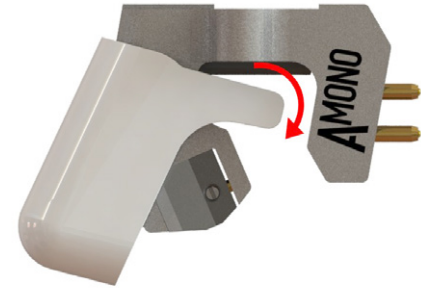
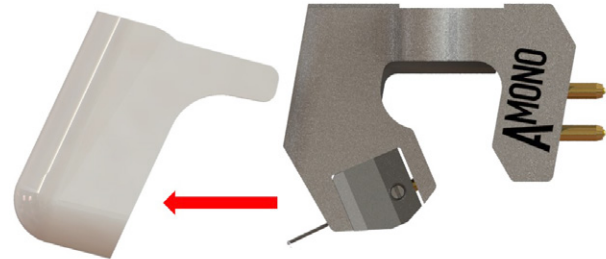


Fig. 2



Please read our recommendations for stylus care on our HiFi FAQ:
www.ortofon.com/support/support-hifi/faq-installation.

Stylus guard is available in Ortofon webshop:
www.ortofon.com/hifi/products/styli-guards.

Set-up

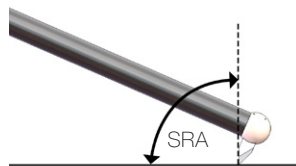
As with any cartridge, setup is absolutely crucial in order to ensure the best sound reproduction capabilities. Although there are many valid paradigms that exist with regard to cartridge setup, Ortofon does not endorse a specific methodology and encourages users to explore the options as suggested by their High-End Audio dealer, including professional setup.

In addition to alignment, consideration must be made to adjust azimuth, anti-skating and VTA/SRA in order to maximize the potential performance of any high-end cartridge.

Please find our recommendations for set-up and alignment on our HiFi FAQ: www.ortofon.com/support/support-hifi/faq-installation.

Stylus Rake Angle (SRA)

With a complex stylus shape like the Replicant 100, there must be special attention paid to positioning the diamond in the groove.



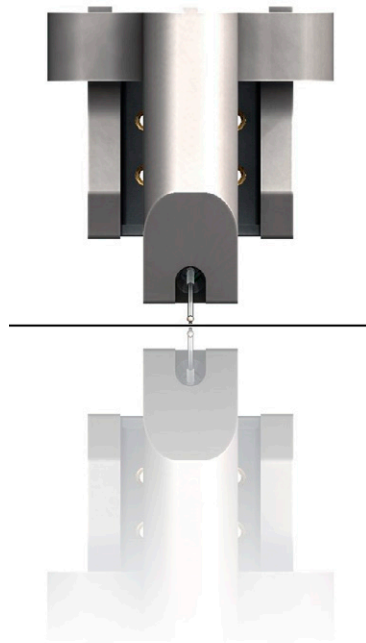
The Stylus Rake Angle (SRA - see figure) is very important to the performance of the Replicant 100 stylus, and the long contact surface (the sharp edge) of the diamond should be almost perpendicular to the record surface when viewed from the side. The angle between the record surface and the cantilever is close to 23 degrees when SRA is 90 degrees.

A perfect starting point is to set the tonearm parallel to the record surface and to use the recommended tracking force. The contact surface will be close to perpendicular to the record surface with this setting. The SRA can now gradually and carefully be changed by adjusting VTF and, if necessary, the tonearm height. The target should be an SRA around 92 degrees, determined by the listening experience. In other words, the point of the stylus should point slightly towards the tonearm base.

Azimuth adjustment

In order to attain maximum channel separation, it may be possible to adjust the azimuth. Should the cartridge not be perfectly perpendicular to the record's surface, the tonearm or headshell may require to be tilted a few degrees.

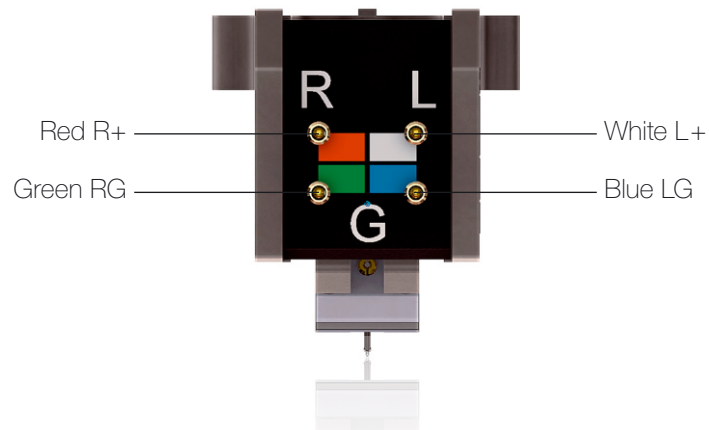
Correct azimuth is established by observing the reflected image of the 2 parallel cartridge front lines. The cartridge's front lines must form a straight line with the reflected lines. A flat mirror may also be used to facilitate this process.



Terminal connections

Please correlate the colour code for the terminals on the drawing with the colour coding on the cartridge.

The terminals for right and left channel have the same position as normal for Ortofon cartridges. We recommend the enclosed LW-7N leadwires to be mounted on the cartridge and tonearm before aligning and calibrating the cartridge. The length of the enclosed lead wires will fit a distance between cartridge and tonearm terminals of 35 mm, which will work with most headshells.



Mounting

There are 4 sets of screws included for mounting the cartridge to your tonearm. It is of great importance to choose the correct length of screws when mounting the cartridge. Using too long screws may stop the screws inside the cartridge resulting in insufficient mounting in the headshell.

The choice of screw length depends on the thickness of the headshell, and a maximum of 2.5 mm free screw length under the headshell.

Mount the cartridge loosely to the headshell during this procedure.

Antiskating

Correct bias or anti-skating adjustment is important in order to achieve optimal tracking ability and thereby minimum record wear and distortion. For the Ortofon Replicant stylus used in MC A MONO just set normal antiskating according to recommended tracking force.

Cartridge break-in

Although the MC A MONO will provide top reproduction right out of the box, the cartridge may slightly change character during the first tens of hours of use. This is completely normal and you may, in fact, find that this adds further refinement to your listening experience.

Maintenance

Stylus care

Ortofon does not recommend the use of solvents of any kind for cleaning of either the record surface or stylus. If necessary, records may be washed in lukewarm demineralized water with a dash of sulphonic soap. Remove dust carefully from record surfaces by using a fine antistatic brush or cloth before every use. The use of solvents on the stylus and cantilever may damage stylus cement; interior parts of the cartridge can be affected seriously by the intrusion of solvents. The Ortofon warranty will not be valid in cases where such treatment has caused malfunction.

For cleaning the stylus, use the enclosed fiber brush a few times along the cantilever in the direction of the stylus, whenever you play a new record or change sides. Record care should also be performed regularly and is of paramount importance to prolong the life and condition of the stylus. Because of this, a record cleaning machine may be considered for ease and quality of record cleaning.



Repair service

Ortofon MC A MONO is an exclusive cartridge of very high quality. To support our customers who have accidentally damaged their cartridges, Ortofon offers a special Repair service and/or Exchange service. Should you have a need for any service, please contact your local Ortofon authorized HiFi partner for further assistance:

www.ortofon.com/where-to-buy

Special Repair service is also available through the Ortofon webshop:

www.ortofon.com/hifi/products/repair-service

Warning

Ortofon MC A MONO cartridge is only for mounting on tonearms and must not be used for other purposes.

MC A MONO Technical Data

TECHNICAL DATA	MC A MONO
Output voltage at 1 kHz, 5 cm/sec.	0.2 mV
Frequency range at -3 dB	10 Hz – 50 kHz
Frequency response	20 Hz – 20 kHz +2 dB/-1 dB
Tracking ability at 315 Hz at recommended tracking force	90 μ m
Compliance, dynamic, lateral	13 μ m/mN
Stylus type	Special polished Nude Ortofon Replicant 100 on Boron Cantilever
Stylus tip radius	r/R 5/100 μ m
Tracking force range	2.0 – 2.5 g (20 – 25 mN)
Tracking force, recommended	2.3 g (23 mN)
Tracking angle	23°
Internal impedance, DC resistance	7 Ohm
Recommended load impedance	> 10 Ohm
Coil wire material	Aucurum, gold-plated, 6NX oxygen free copper
Cartridge body material	SLM Titanium
Cartridge colour	Silver
Cartridge weight	6 g



Get more information about
the Ortofon cartridges

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Date:	Approved by:
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