ortofon anniversary

MC CENTURY

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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 Century.

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. Ortofon's world-class engineering and manufacturing continually raise the bar for accurate sound reproduction, with a vast array of products that provide both exceptionally high performance and value for all listeners – music lovers and high-end audiophiles alike.

MC CENTURY

The MC Century represents the absolute top of Moving Coil cartridges. This state of the art product is truly exemplary of the highest degree of performance possible in contemporary analogue playback technology.

The MC Century represents numerous Ortofon design elements and ideals:

- The housing and the body of the cartridge are made in Titanium with SLM technique.
- High performance iron-cobalt alloy is applied for some parts of the magnet system.
- The armature damping system provides complete elimination of unwanted resonance.
- Ortofon Replicant 100 diamond, thin and light, with an extraordinarily large contact surface, tracing accuracy unparalleled by any other needle in existence.
- The crystal structure and exceptional hardness of the new Diamond cantilever ensures the best possible interface between the stylus and the armature.

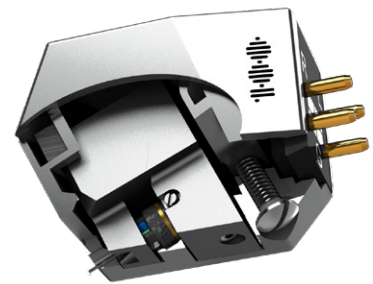
Advancements in technology

An engineering feature adding to the damping capability of the MC Century cartridge is the Selective Laser Melting process in which fine particles of Titanium are welded together, layer-by-layer, to construct a single piece body devoid of unnecessary material. Using this technique the density of the body can be precisely controlled, allowing for extremely high internal damping. The final result provides absolute freedom from resonances existing in the cartridge body material and allows for the MC Century to be perfectly matched with an extremely wide array of different tonearms.

The use of Titanium in the MC Century has provided a further improvement to the overall rigidity of the structure, the cartridge weight and its dynamic capability.

Because of the nature of SLM-based construction, each cartridge body is cosmetically unique and will show small dimples or lines under close examination.

Magnet system



One of the most significant advantages of the MC Century is Ortofon's high-efficiency magnet system originally introduced in the MC Anna cartridge. The magnet system is based on an extremely strong and compact neodymium magnet, which makes the generator system both compact and lighter. This optimized geometry combined with choice of materials like neodymium and iron-cobalt offers an unprecedented consistency of the flux density within the system's air gap. Due to an increase of active material inside of the magnet system, the magnetic field strength is delivered more uniformly, allowing each coil to sense identical flux density regardless of its position. Because of this, dynamics and impulse linearity are preserved to an overwhelming extent.

The use of this optimized magnet system allows for the use of a lightweight, non-magnetic armature, which also provides noteworthy benefit to the dynamic capability of the MC Century. The reason for this is that our high-tech polymer-based armature has almost no influence on the magnetic field during movement. Hence when combined with ultrapure oxygen-free copper coil wire, it delivers perfect reproduction of the cantilever movements without compromise.

Because the magnet system delivers a tremendous magnetic flux density, the need for design compromises is effectively eliminated. It is due to this aspect that the amount of coil windings required to achieve significant output voltages is reduced to a minimum, resulting in a further reduction in moving mass.

The magnet system has also allowed for more spaciousness within the air gap, allowing for coil windings to be done completely independent of each other, without any overlap or interaction between them. The cumulative result of these improvements simply delivers more lifelike reproduction, with nearly boundless imaging, dimensionality, and dynamics.

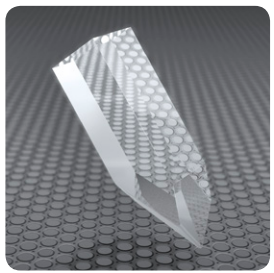
Damping

One of the important design components is Ortofon's Wide Range Damping system (WRD), in which 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 range. Because of this, distortion and resonance are virtually eliminated.

The MC Century uses an improved Wide-Range armature Damping system (WRD) that provides a higher degree of control over vibrations. By extending the armature beyond the coils, it can interface directly with the rubber dampers. This offers more consistent movement, and thereby better stereo perspective and transient delineation. System resonances are also damped by the use of TPE (Thermo Plastic Elastomer) compound which comprises the bottom cover assembly.

The WRD system, which was originally introduced in the MC 20 Mk II in 1979 and was also used in the Exclusive Series cartridges, is one significant reason why the MC Century, while achieving the linear frequency response and the high upper frequency limit, at the same time tracks a fantastic 80 µm at a vertical tracking force of 2.4 grams.

Diamond



Replicant 100 diamond on a new diamond cantilever

Another precondition 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 featured in the entire Exclusive Series, the MC Century makes use of Ortofon's Replicant 100 diamond, known for its thin and light profile and extraordinarily large vertical contact surface. Since the Replicant 100 is closest to the shape of the cutting stylus, it can trace with accuracy unparalleled by any other stylus in existence.

Special polishing of the Nude Ortofon Replicant 100 diamond along with the use of a new Diamond cantilever offer extremely transparency, speed and responsiveness beyond that of any other combination. The crystal structure and exceptional hardness of the new Diamond cantilever ensures the best possible interface between the stylus and the armature.

Stylus protection guard

The stylus guard provided for the MC Century 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.

The stylus guard is simply removed by holding the sides between the thumb and forefinger and pulling straight along the orientation of the cartridge. Affixing the stylus guard is of course accomplished by the reverse movement yet still using a straight movement.

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

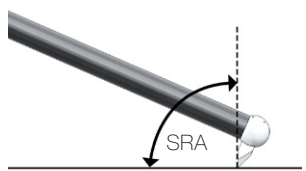
As with any cartridge, setup is absolutely crucial in order to ensure the best sound reproduction capabilities. Although there are many valid paradigms that exist with regard to cartridge setup, Ortofon does not endorse a specific methodology and encourages users to explore the options as suggested by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

In addition to alignment, consideration must be made to adjust azimuth, anti-skating and VTA 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 be 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-800S 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.

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 MC Century stylus type just set normal antiskating according to recommended tracking force.

Cartridge break-in

Although the MC Century 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.

Repair service

Ortofon MC Windfeld Ti 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-shop.com

Warning

This phono cartridge is only for mounting on tonearms and must not be used for other purposes.

MC Century Technical Data

TECHNICAL DATA	MC Century
Output voltage at 1,000 Hz, 5 cm/sec.	0.2 mV
Channel balance at 1 kHz	0.5 dB
Channel separation at 1 kHz	25 dB
Channel separation at 15 kHz	22 dB
Frequency response	20 Hz – 20 kHz +/-1.5 dB
Tracking ability at 315 Hz at recommended tracking force	80 µm
Compliance, dynamic, lateral	9 µm/mN
Stylus type	Special polished Nude Ortofon Replicant 100 on Diamond Cantilever
Stylus tip radius	r/R 5/100 µm
Tracking force, recommended	2.4 g (24 mN)
Tracking angle	23°
Internal impedance, DC resistance	6 Ohm
Recommended load impedance	> 10 Ohm
Cartridge body material	SLM Titanium
Cartridge colour	Silver/Black
Cartridge weight	15 g

Get more information about
the MC Century cartridge

Date: Approved by:

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Ortofon MC Century Userguide 06-2018/5-800155-12