

ELAC The life of sound.

MIRACORD 
ANNIVERSARY

An icon returns.





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ELAC LIFE IS FULL OF SOUND

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ELAC

ELAC

STEREO

TWO RECORD SET

STEREO

STEREO



MIRACORD 90

Rediscovering Our Roots

Miracord 90 Anniversary - ELAC resurrects a golden era with a turntable to mark its 90th birthday. Ninety is the new thirty, as we say at ELAC, and we are celebrating the occasion by saluting the early decades of the company's history when our turntables reigned supreme. Memories of those times live on, and not just within our factory walls in Kiel:

Dealers and customers have constantly asked when the ELAC loudspeaker family will finally include turntables again. Vinyl is popular among audiophiles and ELAC Miracord remains an iconic name from the era of the long-playing disc. The ELAC Miracord 90 Anniversary draws on this legacy and sets the highest standards in terms of sound, workmanship, and mechanical precision. It is designed to deliver what customers have come to expect from our speakers: a clever concept, flawlessly executed with superlative engineering, exquisite workmanship, and the finest materials. The 5.5 kilogram MDF chassis rests on specially developed silicone feet that decouple the deck completely from the surface on which it is placed. The aluminum platter weighs 6.2 kilograms and sits on a sub-platter whose hardened steel axis rotates on a ruby ball that minimizes friction. The axis is mounted using high-quality sintered bronze bearing bushings. The motor is double-decoupled from the chassis and, therefore, from the tonearm. Along with the rubber damping, the suspensions employed here use materials that have proven themselves in ELAC speakers. The newly developed tonearm made of carbon-fiber is a perfect match for the drive mechanism. The pickup with its MicroLine® stylus was developed specifically for ELAC in cooperation with audio-technica® and comes as standard with each model. The Miracord 90 Anniversary proves that the tradition of turntable design is very much alive in Kiel. Especially since we were able to draw on the expertise of engineers from the golden era of the Miracord. We also understand what vinyl fans are looking for. By revisiting the legendary chapter in our history, we are clearly signaling what the market can expect from us in the near future: an expanded product range and, above all, a fascinating addition to the ELAC brand.



Do You Love Vinyl? Vinyl loves Miracord!

MIRACORD
ANNIVERSARY 





ELAC
Plattenwechsler
Plattenspieler



MIRAPHONE

**DECEMBER 1948
THE FIRST TURNTABLE**



Technische Daten

MIRACORD 90 ANNIVERSARY

Height x Width x Depth	170 x 470 x 360 mm
Weight	17,1 kg
Cartridge system	Moving Magnet System by audio-technica®
Frequency range	20 Hz – 25 kHz
Tracking force	1,4 ± 0,4 g, 14 ± 4 mN
DC resistance	800 Ω ± 20 %
Coil impedance	3,2 kΩ ± 20 % bei 1 kHz
Recommended load resistance	47 kΩ
Output voltage	2,2 – 4,9 mV
Crosstalk attenuation	> 25 dB
Speeds	33, 45 U / min
Pitch	± 5 %
Outputs	2 gold-plated Neutrik RCA sockets, gold-plated grounding screw
Power supply	18 V, 18 W with Lumberg connector
Finish	High-Gloss Black Lacquer, High-Gloss White Lacquer, Oiled Walnut, High-Gloss Walnut Lacquer



Plinth

To provide high mass and effective internal damping, milled from solid MDF and fitted with anodized aluminum elements

Output Sockets

Two gold-plated Neutrik® RCA sockets

Ground Connection

Gold-plated screw terminal for grounding the plinth and tonearm

Aluminum Casing

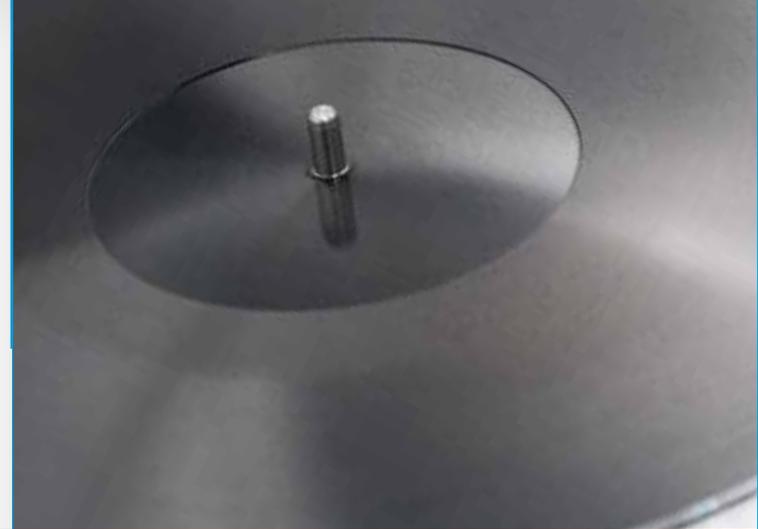
Power Supply
External 18 V power supply (18 W) with
high-quality, fabric-coated cable with
Lumberg® connectors





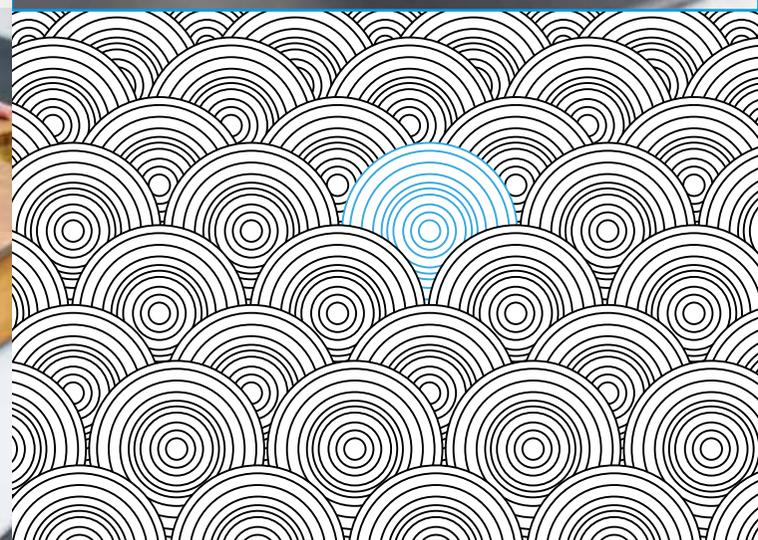
Platter and Platter Bearing

The solid bearing housing uses two bronze bushings to center the platter spindle horizontally. The platter rotates as a point load on a ruby ball with a diameter of 8 mm. The platter speed is measured from the underside of the 6.2 kg platter and precisely regulated by a micro-controller circuit with PID control characteristics.



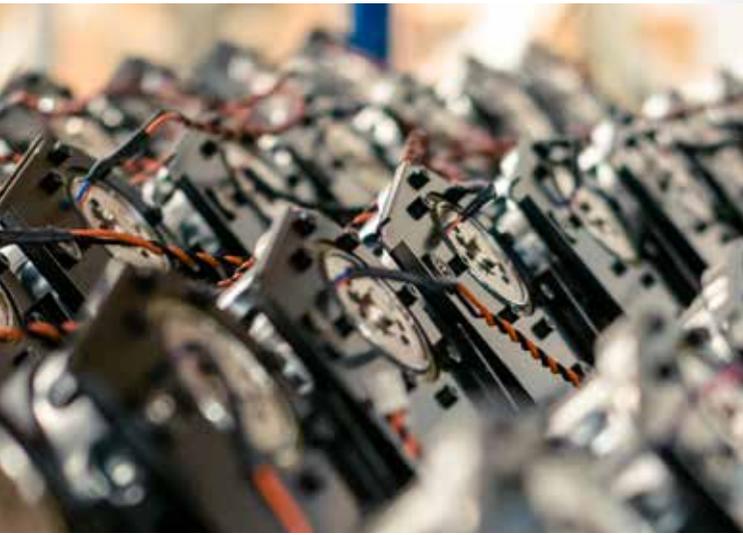
The Plinth

The plinth is machined from a solid block of MDF (Medium-Density Fiberboard), which provides high mass and effective internal damping. This construction avoids undesirable resonance effects. To suppress external mechanical vibrations that could influence the quality of reproduction, the plinth rests on four elastic feet.



The Drive Unit

The Miracord 90 drive system is elastically connected to the MDF plinth at three points. The motor itself is encased in an aluminum housing and further decoupled by two textile spiders. The motor shaft is fitted with a cambered pulley that automatically centers the belt as it drives the platter.





••••• ● Tonearm and Tonearm Geometry

A great deal of attention is always paid to the tonearm due to its complex geometry and because it is the primary intermediary between the vinyl record and the downstream components. It must extract from the record groove all of the information that was stamped or cut into it. The MIRACORD 90 has an extremely lightweight tonearm tube made of carbon fiber. The other parts of the arm are made of aluminum and brass. The vertical and horizontal axes are mounted on ball bearings. The cables running from the cartridge run inside the tonearm tube and through the hollow vertical axis. The tonearm's low friction radius ensures that movement of the bearing is exceptionally smooth. The complexity of the tonearm geometry is determined by the manner in which the record groove is created. The cutting stylus moves precisely at a vertical angle relative to the surface of the disk and exactly tangential to the center of the disk. However, the tonearm moves radially across the disk. These differing cutting and scanning procedures result in one or two geometric anomalies that can lead to confusion. The terms are explained below.

••••• ● TA Center-Line and TA Effective-Line (TA=Tonearm)

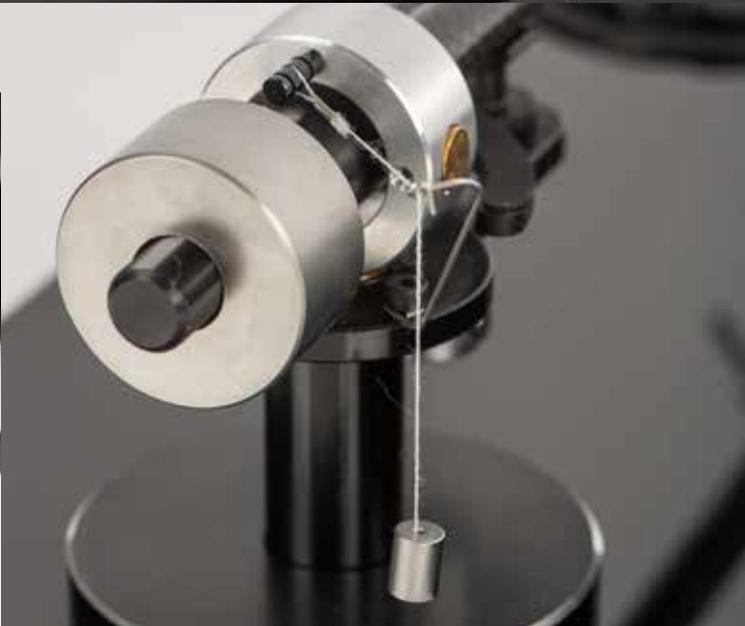
The TA center-line runs through the tonearm tube towards the center-line of the vertical bearing. The TA effective line runs horizontally from the tip of the stylus to the center-line of the vertical bearing. This means that both lines intersect in the vertical bearing. As a force component, this line represents the shortest distance between both points - „as the crow flies“ so to speak. Due to the offset design of the TA, in our case, the oblique position of the cartridge system, the effective line runs at an angle past the TA center-line. In our case, the angle is very low (approx. $1^\circ - 1.5^\circ$) and it influences the skating force, among other things.

••••• ● The Elliptical Diamond

It has a sharper contour on its elliptical side, which gives it a longer vertical contact surface. This creates better contact with the very fine modulation structure of the record groove. The audio-technica® system fitted to the MIRACORD 90 features a own MicroLine® diamond stylus.

••••• ● Skating Force and Anti-Skating Force

The skating force is the force that drives the tonearm towards the center of the platter. The magnitude of the force depends on the friction between the stylus diamond and the vinyl record, and on the angle of the offset to the TA effective line. (The friction is a product of the tracking force and the friction coefficient. It also varies due to the modulation (mechanical resistance) of the record groove, and due to the type of stylus used, conical, or elliptical). The value can be calculated using the parallelogram of forces. It amounts to approximately 1/10 of the tracking force; at 1 g tracking force, this equates to approx. 0.1 g. Looking at the TA stylus from the front, the left wall of the record groove would always be under greater pressure than the right wall. Reproduction of the left and right channel would be distorted. This is countered by the anti-skating force, which is designed to keep the TA in the middle of the record groove. On the MIRACORD 90, the anti-skating force is generated mechanically by a small weight.



WHO ARE YOU?

High-Gloss White Lacquer



Oiled Walnut



High-Gloss Black Lacquer



High-Gloss Walnut Lacquer





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