

# Thorens - a long history of music reproduction

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## BACKGROUND. THE FIRST 60 YEARS

The Thorens story begins in Ste Croix in the Swiss Jura in 1883, when Hermann Thorens had the company entered in the commercial register. The listed purpose of the company was the manufacture of music boxes and musical works.

The first cylinder phonographs were produced at the beginning of the 20th century, followed a few years later by funnel gramophones, which remained in the product range for several decades until they were replaced by turntables.

Meanwhile, Thorens also produced harmonicas and lighters from their factory in Ste Croix.

In 1928, the first electric motor for gramophones was designed, and a year later a pickup based on the magnet principle. In addition, there were newly developed tonearms, based on the tangential principle, which were way ahead of their time.

At the end of the 1920s, the company had around 1,200 employees.

In the 1930s, the product portfolio was expanded to include radio receivers and music cabinets, even with built-in record players ("discophones") through cooperation with the German company Strassfurt-Imperial.

## WORLD FAME WITH TURNTABLES

Production of cutting machines for records and sound boxes begin in the 1940s, with record changers and other radio sets following later. The "Riviera" razor operated by Federwerk will also be part of the product range for a few years.

Rapid development began, especially with pickups, resulting in models with exchangeable sapphire styli and a reduction in tracking force from originally more than 100g to a tenth of that by 1952. The CD 43 record changer succeeded in gaining a foothold in the young US hi-fi market.

In 1957 the era of turntables began, which brought the Thorens brand to world recognition and fame. The, now iconic, TD 124 model comes onto the market and quickly becomes a great success. It is aimed both at the professionals in the broadcasting studios and home audio enthusiasts who want to play the newly introduced stereo long-playing vinyl records available around the same time in top quality.

In the following years, several simpler variants of turntables (TD 134, TD 135, TD 184) derived from the TD 124 were added. In 1962, an extremely complex record changer with fully automatic control of the BTD-12S tonearm, the TDW 224, was offered in small numbers.

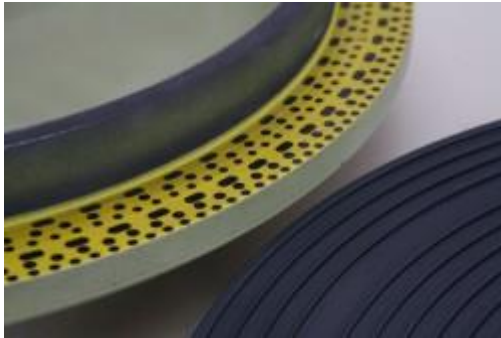
The TD 124 model was produced in two versions until 1968 and continues to enjoy an excellent reputation among album lovers today.

Ahead of their time in terms of sound and technology, the hi-fi classics built from 1957 to 1967 and sought-after today achieved cult status: the TD 124 turntable with its special design, the TD 121, the single turntable TD 134 and TD 135, the semi-automatic TD 184 and the exceptional record changer TD 224 .

The flagship - the Thorens TD 124, was created with the same precision and care used during the manufacturing of famous Swiss watches. Whether the cream-colored first version or the gray second version: The TD 124 was the status symbol of the wealthy perfectionist, for whom no other turntable would be considered.

To enter the still young hi-fi league, in 1957 the Swiss set up a production benchmark with the TD 124 model, which is still impressive today, even in the face of extremely expensive high-end players. Built under the highest precision standards, the cream-colored, light metal chassis contained a lot of mechanical refinements that would fail in the concept phase with a sharpened red pencil during quality control examination.

However, the TD 124 was also planned for professional use, which at that time primarily corresponded to the requirements of broadcasters. The term "discotheque" would only enrich the vocabulary a few years later.



Strobe markings on the underside of the five-kilogram platter made of gray cast iron

Especially for the professionals who had to play a piece of music precisely, the player got a two-part turntable. The upper plate support could be lifted off the rotating base plate using a ramp mechanism. The plate loader was thus able to lower the stylus into the standing plate with millimeter precision. Just at the last word, he then engaged the plate clutch by means of a swivel lever, with which the disengaged plate was immediately swept away by the heavy gray cast iron base plate to the set speed. The piece of music sounded like a push of a button.

Otherwise, the turntable was designed for tough continuous operation, which ultimately explains the high survival rate of the total of around 90,000 TD 124s manufactured. Many of which remain in operation to this day. With proper maintenance, this player is an acquisition for multiple generations. Many devices are now in "grandchildren's hands". Relevant wear parts such as motor, friction wheel or plate bearings can all be replaced if necessary. If an old TD 124 goes on strike, it is mostly because of dried bearing oils or because the brittle drive belt has broken.



View of the plate stroboscope. The glow lamp casts its light in alternating current cycles

Due to its great popularity, there are some specialists who are committed to maintaining the TD 124.

The Thorens platter is driven by a belt / friction wheel combination. A magnetic brake, with which the rotation speed of the plate can be finely adjusted, acts on the very compact belt drive. As befits players from the early days of high fidelity, the TD 124 also offers a total of four speeds. In addition to the single and LP speeds of 45 / min and 33 / min, there is also a 16 / min for the training plates used at the time and 78 / min for old shellac records. The player is started, and the desired plate speed is selected at the same time using the rotary switch on the front left of the chassis.

In line with professional standards, the TD 124 was delivered as a built-in drive. This means that the customer could order the drive on its own and then insert it into a console if they wanted. The choice of the tonearm was also left to the customer's wishes. For this purpose, a wooden board was fixed to the light metal housing with three screws on the right. The tonearm then had to be installed on this board at the prescribed distance to the platter axis. Of course, a specialist took over this work and also sold complete, ready-to-play devices. When the number of hi-fi fans increased significantly in the 1960s, Thorens supplied complete turntables directly. The combination of the black lacquered wooden base type ST 104 and Thorens' own tonearm BTD-12S was typical.



Dream combination of the sixties: TD 124 with EMT tonearm. Still in a class of its own today

The customer also had a free hand in the way the player was suspended. As standard, the chassis could be docked to the support bracket using the height-adjustable suspension sleeves either with springs or by means of rubber mushrooms. However, there is also the option of screwing the drive firmly to the console and thus firmly coupling the drive to a heavy mass, such as a thick solid wood frame. The later Thorens turntables, with their sub-chassis made of sheet steel suspended on soft springs, followed the principle of the most sensitive vibration decoupling possible. In this context, critics also like to speak disrespectfully of "buffoons". The TD 124 still comes from an era when everything was a bit more tangible.

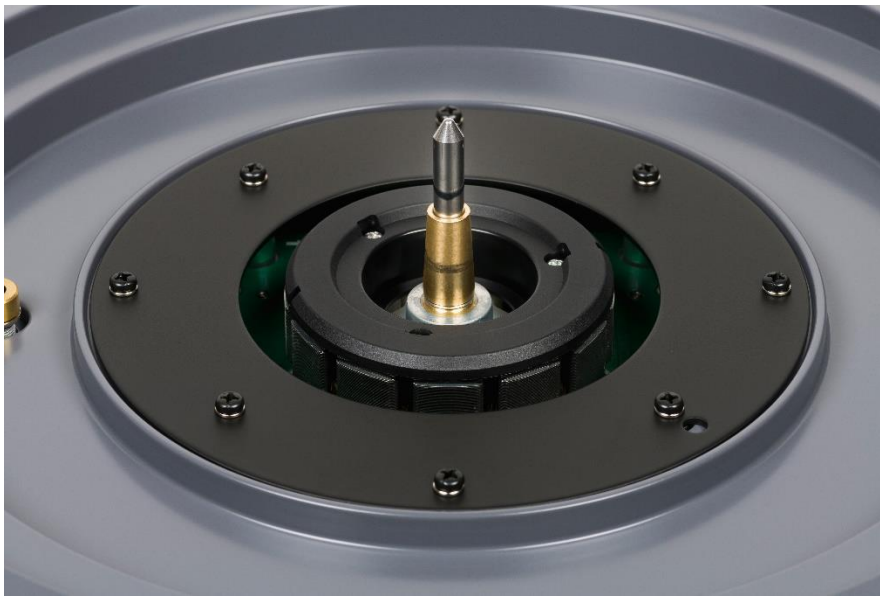
Here we show a dream combination for demanding home use from the 1960s. The drive used in the simple ST 104 wooden frame is combined with the English SME 3009 tonearm. At that time, it was more than 1,000 marks expensive, but this combination was a princely wish-fulfillment in circles of real record lovers. And that is ultimately true to this day. With an appropriate system configuration including a high-quality scanning system, even half a century after production of the classic turntable was discontinued, the black gold can be tasted at a high level. A technically perfect device is required.

The TD 124 was built from 1957 to 1967. Remaining inventory continued to be delivered until 1968. From 1965, the TD 124 / II version was available with an improved motor suspension and a minimally modernized design in the details of the turntable support and control switches. In addition, the chassis was now painted in a neutral gray color.

## THE PRESENCE, THE ALL NEW TD 124DD



Thorens is now building on this tradition with the completely newly developed TD 124 DD and continues it with innovative technologies. The purist design and basic construction are based on the original, but the height-adjustable diecast aluminum chassis now rests on vibration-damping rubber elements. Instead of the original drive with friction wheel and belt, the new TD 124 DD uses a new developed THORENS 12 pole "High Precision" Direct Drive motor with "Delrin" bearing mirror. This provides powerful torque, allows precise speed control, and keeps unwanted vibrations from the drive away from the platter. The weighted IEC W&F is  $\geq 0,04\%$  and because of the tolerances of the recording record, it is in the barely measurable range. The double platter with mechanical platter brake was replaced by a 3.5 kg heavy nonmagnetic aluminum platter with electronic motor brake.

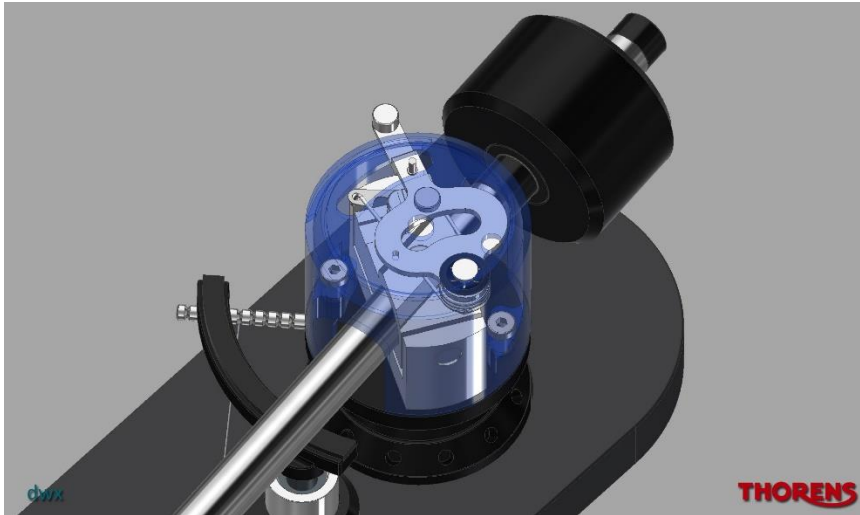


Also new is the tonearm TP 124. It can be precisely adjusted in all parameters to the cartridge of choice and features an innovative anti-skating solution with a ruby bearing and a patented electric tonearm lift to facilitate gentle placement and removal of the stylus. The completely newly developed TP 124 is a cardanic suspended tonearm with Löfgren geometry. A high-precision Japanese ball bearing with special oil is used as the horizontal bearing.





In addition to the extensive adjustment options, the enclosed head shell with SME connector provides a great deal of flexibility when it comes to selecting a cartridge. The TD 124 DD also comes with an additional, slightly heavier counterweight that matches the Thorens SPU TD 124 pickup, which is available separately.



When changing a pickup, the arm only needs to be adjusted to the 0 point. The adjustment of the tracking force is generated by a spring which is located below the encapsulation of the tonearm. The azimuth angle is also set below the cover with a 2.5 mm Allen key. The internal highly flexible copper OFC wires were selected after careful hearing tests.



Thorens has paid attention to every detail when developing the new TD 124 DD to ensure that it meets the highest aspirations in sound performance. A high-quality external power supply unit ensures interference-free power delivery. In addition to the unbalanced outputs, balanced XLR connectors are also provided, which guarantee optimal signal transmission and thus the best possible sound when connecting the TD 124 DD to a high-end system with an appropriately equipped phono preamplifier.

## SPECIFICATION

- Drive System direct drive
- Mains 115 V / 230 V (AC)
- Mains frequency 60 / 50 Hz
- Power consumption 5 W
- External power supply TPN 124
- RPM 33,3 , 45 U / min
- Wow & Flutter DIN / WRMS  $\leq 0,04$  %
- Platter Aluminium 3,5 kg
- Tone arm TP 124
- Effective length 232,8 mm
- Offset angle 23,66°
- Overhang 17,8 mm
- Effective mass 15 g
- Anti Skating with a ruby-mounted counterweight
- Cartridge optional Thorens - Ortofon SPU 124
- Dimensions 425 x 350 x 185 mm (W x H x D)
- Weight without power supply 17 Kg
- Scope of delivery external power supply, 2 tonearm counterweights, tool to adjust the tonearm, instruction manual
- Flight Case optional



## THE NEW THORENS / ORTOFON SPU 124



The SPU 124 modernizes the classic SPU design with several optimizations designed for optimum compatibility to the new Thorens TD 124 DD.

The SPU 124 features a revised generator system which allows for a maximum output of 0.5 mV, relaxing the requirement for high gain transformer or active preamplification systems.

While still making use of a highly polished Nude Elliptical stylus, the stylus tip mass has been reduced significantly, resulting in reduced VTF and higher tracking ability.

### SPECIFICATION

- Output voltage at 1000 Hz, 5cm/sec. - 0.5 mV
- Channel balance at 1 kHz < 1.5 dB
- Channel separation at 1 kHz > 23 dB
- Channel separation at 15 kHz > 15 dB
- Frequency response - 20-20.000 Hz  $\pm$  2 dB
- Tracking ability at 315Hz at recommended tracking force \*) > 70  $\mu$ m
- Compliance, dynamic, lateral - 8  $\mu$ m/mN
- Stylus type - Nude elliptical
- Stylus tip radius - r/R 8/18  $\mu$ m
- Tracking force range - 2.5-3.5g
- Tracking force, recommended - 3.0g
- Tracking angle - 20°

\*) typical value

Internal impedance, DC resistance - 2 ohm

Recommended load impedance - 10 - 50 ohm

Cartridge weight - 30 g