

# THALIE



THE PHILOSOPHY BEHIND A TURNTABLE

*Jadis*

# THALIE



To understand the technical choices behind the THALIE and appreciate the resulting aesthetics, one must first understand the origins of this product.

We can talk of « CONCEPTUAL PHILOSOPHY ».

THALIE is not the result of an industrial activity but of an « artistic » one.

It is the fruit of a passion.

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There are very few working parts in the THALIE turntable, but all of them are optimised and indispensable to the main goal :

1)the highest possible level of reliability,

2)the best sound quality,

3)...and that this turntable, born from a passion, makes you dream ....

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The THALIE turntable is the result of these stringent requirements.

That is why it is unique.

At first glance, the simplicity of its design and conception is obvious yet these are expressed with strength and determination.

In short : a simple turntable which works well :

**It shows!**

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**Let's examine technical objectives and how to  
achieve them**

**How do you obtain reliability ?**

By respecting certain simple rules of conception as used in the research and development offices of Ariane Espace or ... Rolls Royce...

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## Rule N° 1 :

Statistically, the fewer pieces in a machine, the lower the risk of it breaking down.

*(As the English say : less is more).*

THALIE only has 4 mechanical rotating parts :

The motor, the pulley, the tray and the axis. (The bearing is guaranteed for 10 years).

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## Rule N° 2 :

From conception, each piece should be given a unique technical function.

On THALIE, each part has a precise job; due to the choice of materials and the rigorous way they are made, each one is optimised.

Being driven by a synchronous motor means that an electronic control is not needed. THALIE boasts a mechanical control of the highest precision.

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This choice may seem surprising by today's standards where electronic technology is dominant, however, on the contrary it is very pertinent.

In terms of reliability and maintenance, mechanics are a commonplace technique the world over and should be used where ever and whenever possible. (As the founder of Rolls Royce used to say).

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## How can the best quality sound possible be obtained?

By applying laws of physics and acoustics relevant to sound reproduction, amongst them : ...

### 1)WEIGHT, weight, weight ...

***Reminder :** In order to reproduce music, an analogue vinyl record player relies on a process of vibration transfer. Firstly from the groove to the stylus, then from the stylus to the magnet (or the coil) where it is transformed into a variable electric current.*

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*After amplification, this current is transformed back into vibrations which are transmitted to the speaker membrane via the coil, then into the air, which allows the sound to be heard in the room. Sometimes these reverberations can even be reproduced on the surface of furniture or windows.*

*This is a natural phenomenon because sound is made up of all frequencies and some of these reverberate with a great deal of energy.*

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*As a general rule, the turntable is in the same room so it is entirely possible that these reverberations are reproduced on the surface of the record.*

*Thus they create “parasite” vibrations which are also transferred into the music reproduction chain.*

*This phenomenon happens more often that you think, but at such a low level that the ear cannot detect it.*

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The solution is to put weight under the surfaces which are in contact with the air.

The THALIE turntable has been designed with weight in mind so that none of the surfaces can vibrate.

All the parts are extremely heavy, the turntable itself is uncoupled from its setting by feet which have built-in suspension.

Thus the granite base (carved from one solid block!) weighs 50kg, the machine finished base is also one solid piece weighing 20kg, and so on...

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## 2) FACTORY PRECISION :

Everyone knows the dimension of the elongation of the groove of a vinyl record : around  $1/100$  mm ; sometimes less.

A record player made with the axe of the turntable or the pivot of the arm which does not have  $1/100$  mm as it's maximum tolerance would not be able to faithfully reproduce the elongations engraved at the bottom of the grooves.

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Thanks to this precision in the factory made pieces, the THALIE turntable is capable of «looking » for the slightest contour of each elongation at the bottom of the groove and of reproducing the range just as it was when recorded.

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### 3) SPEED STABILITY

Quality sound is not just about range but also tone. In order to preserve the tone of the instruments which give the atmosphere of a concert, or the sound of the voices which stir your emotions, the musical signal must be fluid and perfectly regular.

With analogue, the amplified musical signal is the exact reflection of the signal extracted from the registration. Thus it must be equally fluid and perfectly regular.

*Jadis*

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On the THALIE, everything possible has been done to meet these demands :

From the choice of the synchronised motor, which by definition turns at a speed which is synchronised with the frequency by which it is powered (50 Hz ou 60 Hz).

*(For information : in most countries, the frequency of the electricity network is a particularly stable feature. In fact to assure a supply of electricity over the whole network, whatever the production or consumption methods, the power stations are connected to the grid (in Europe as well as the USA).*

*This is only made possible by the perfect stability of the network due to synchronising their respective frequencies. It is for this industrial reason that the consumer at home benefits from a standard value frequency. )*

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A vintage Jadois record player is shown in the background. It features a large, polished metal flywheel on top of the motor housing. A tonearm with a clear dust shield is positioned over the turntable. The turntable has a Jadois logo on its center. The entire unit is supported by a sturdy metal frame with four legs.

Therefore, the motor turns at the right speed. It is made up of a permanent magnet rotor and a 24 pole stator. During the course of one rotation (that is one whole turn) the rotor magnet will be subject to 24 variations in the intensity of the magnetic field.

All motors are made like this. To remove the risk that these variations are transmitted to the drive belt, the pulley is surmounted with a powerful flywheel weighing 1.2kg which turns at 250 t/mn thus smoothing out the motor rotation.

As well as this there is a huge motor ataxia reserve on the main pulley.

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This energy is distributed to the turntable by a straightened flat drive belt.

The weight of the turntable (20kg) acts as another enormous form of inertia as once the rotation speed has been reached it maintains absolute regularity.

The turntable is joined to the axis by a conical mount to ensure perfect concentration, as used in high precision machine tools. The 18mm diameter axis is made from special stainless steel.

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When rotating the axis is guided by ceramic ball bearings.

Technology using « high tech » ceramic materials is very performant. In order to avoid any secondary noise, the bearing is pre-stressed.

The whole thing turns on a rotation point with special high pressure aeronautical lubricant.

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## 4) THE DRIVE BELT

Using a belt is not just a choice, but technically essential.

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So the energy stored by the drive wheel is distributed to the turntable by a flat belt. The traction exerted by the pulley on the belt is studied separately.

The pulley and drive belt generate an instable action/reaction : the belt tries to move from its dedicated place on the pulley (the shift) and the pulley wants to get rid of this load (the eduction).

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The solution is to find the ideal shape for the pulley in order to stabilise the belt.

The result of this research can be seen by trying to lift off the belt whilst the THALIE is in motion.

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PHILOSOPHIE DE LA PLATINE TOURNE DISQUE



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