Thales

Thales Reference
User Manual

Dear Client

Congratulations to your new Thales Reference turntable. This unit allows analogue playback on the highest level because of compact design and careful engineering in every detail. Please follow this manual carefully step by step, for getting advantage of all possibilities offered by your new turntable.

Please take your time to assemble, install and adjust the Thales Reference carefully. Your dealer will be ready to assist you. The Thales Reference is a mechanical precision instrument. Please beware of using high forces or hits to this unit.
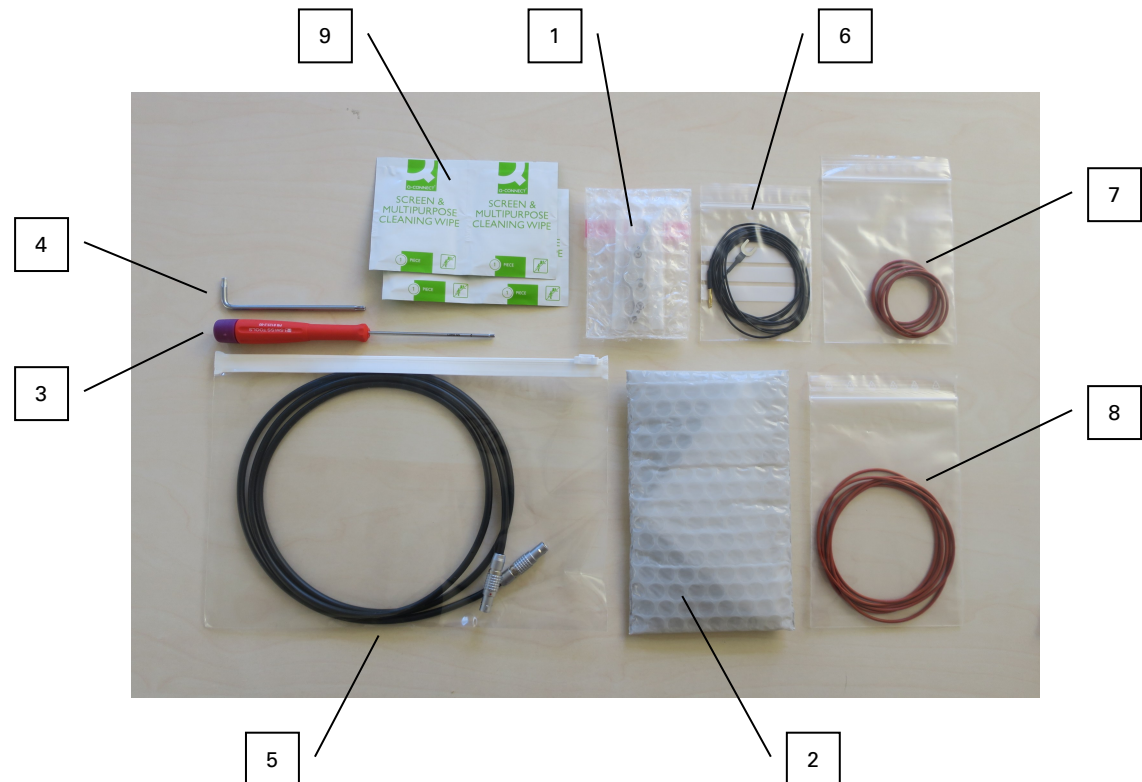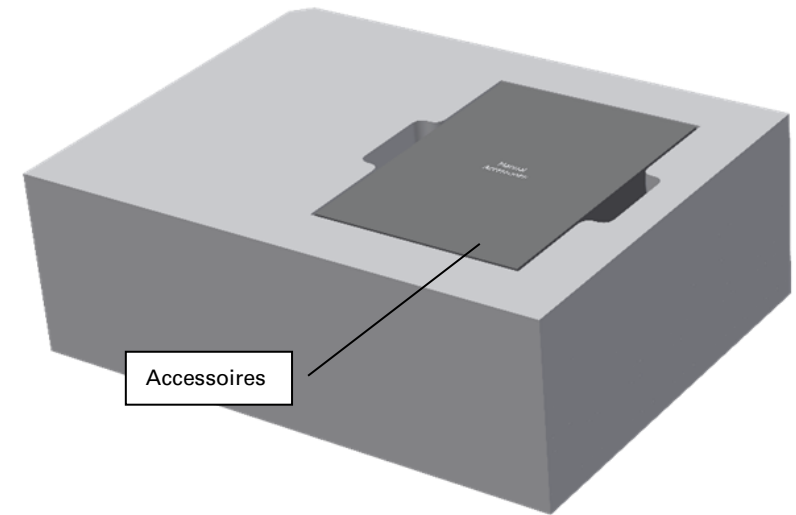
You will find actual information about our products on www.thales.swiss.

1 Unpacking Accessories

The packaging of the turntable consists of three layers. Please open the main packaging and unpack the accessories-box. Beside this user-manual, the box contains:

1. Derailleur incl. mounting-screw
2. Window
3. Hexagon-key 1,5mm for mounting-screw
4. Torx-key T15 to lock and unlock the transport protection
5. Charger cable
6. GND-cable
7. Drive belt short 5x
8. Drive belt long 2x
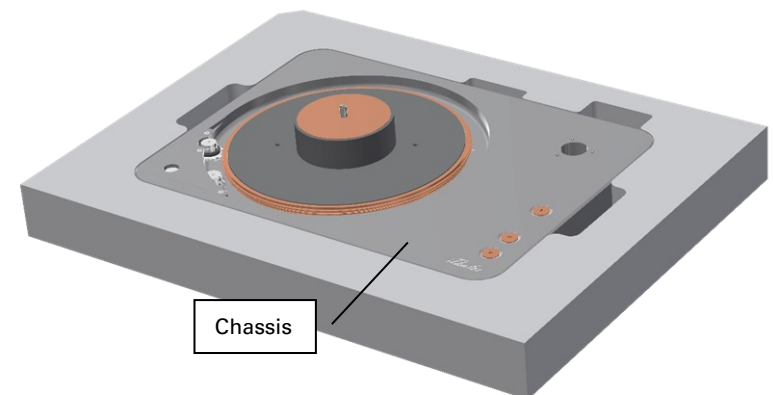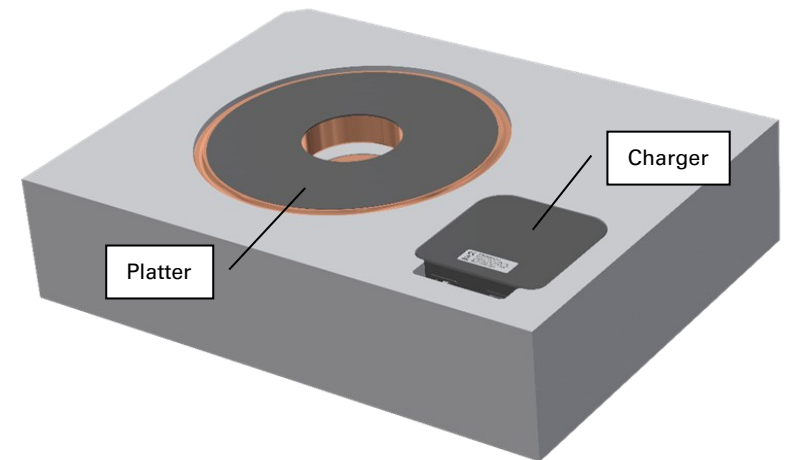9. Cleaning-cloth for the platter mat 4x

2 Unpacking Turntable

After taking out the upper layer completely, the second layer of the packaging will become visible. It contains the platter and the charger. Place these items carefully to the side, so they are ready to be used during installation of the turntable.

After taking out the second layer of the packaging, the last layer will become visible. This layer contains the main chassis of the Thales Reference. Take out the chassis and place it horizontally on a suitable base.

When repacking the turntable again for transport, make sure to follow the procedure in reversed order.
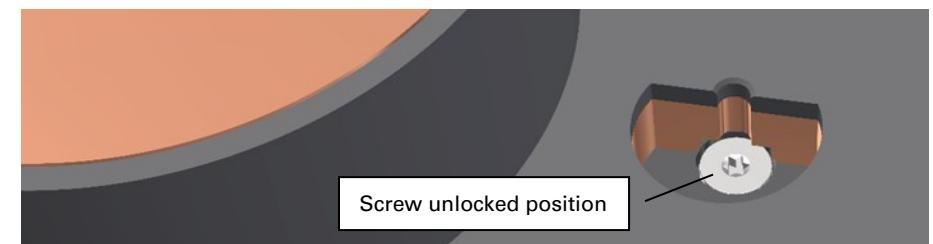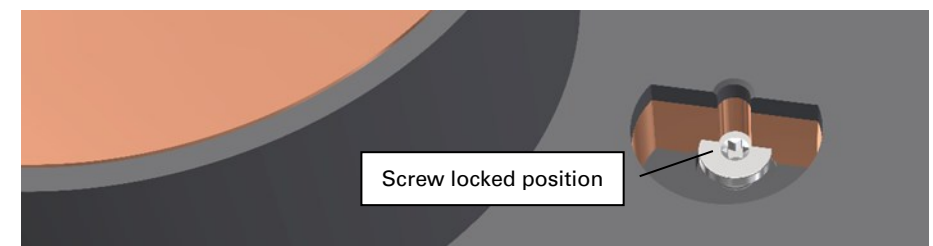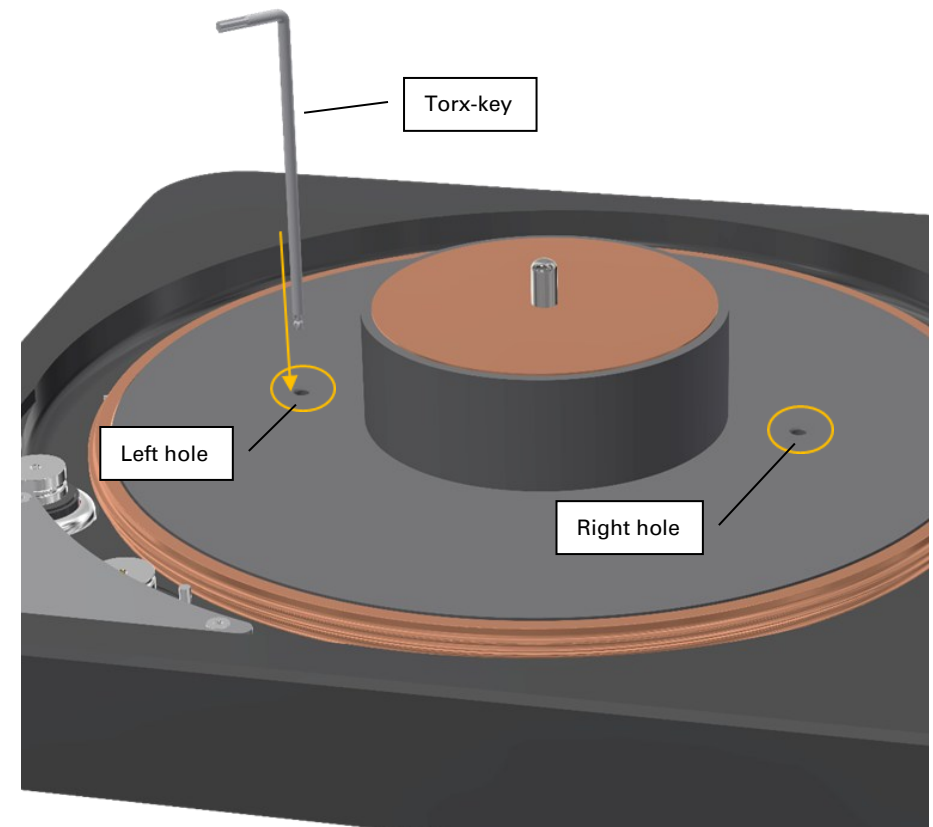
Charger

Platter

Chassis

3 Transport Protection Sub-platter

The main bearing of the Thales Reference must be locked during transport to prevent damages to the bearing caused by vibration. A locking mechanism allows to lift the sub-platter slightly and keep it in position. Release the transport protection, by following these steps:

1. Place the Torx-key as shown into the left hole
2. Fully tighten the screw underneath the sub-platter clockwise
3. Place the Torx-key into the right hole
4. Fully tighten the screw underneath the sub-platter clockwise

When repacking the turntable again for transport, make sure to follow the procedure below:

1. Rotate the sub-platter manually until the two holes are aligned parallel to the turntable's front surface
2. Place the Torx-key as shown into the left hole
3. Untighten the screw and turn it counterclockwise until noticeable resistance occurs
4. Gently continue turning the screw counterclockwise until the sub-platter is lifted to the upper end stop
5. Repeat the procedure for the right hole

Torx-key

Left hole

Right hole

Screw locked position
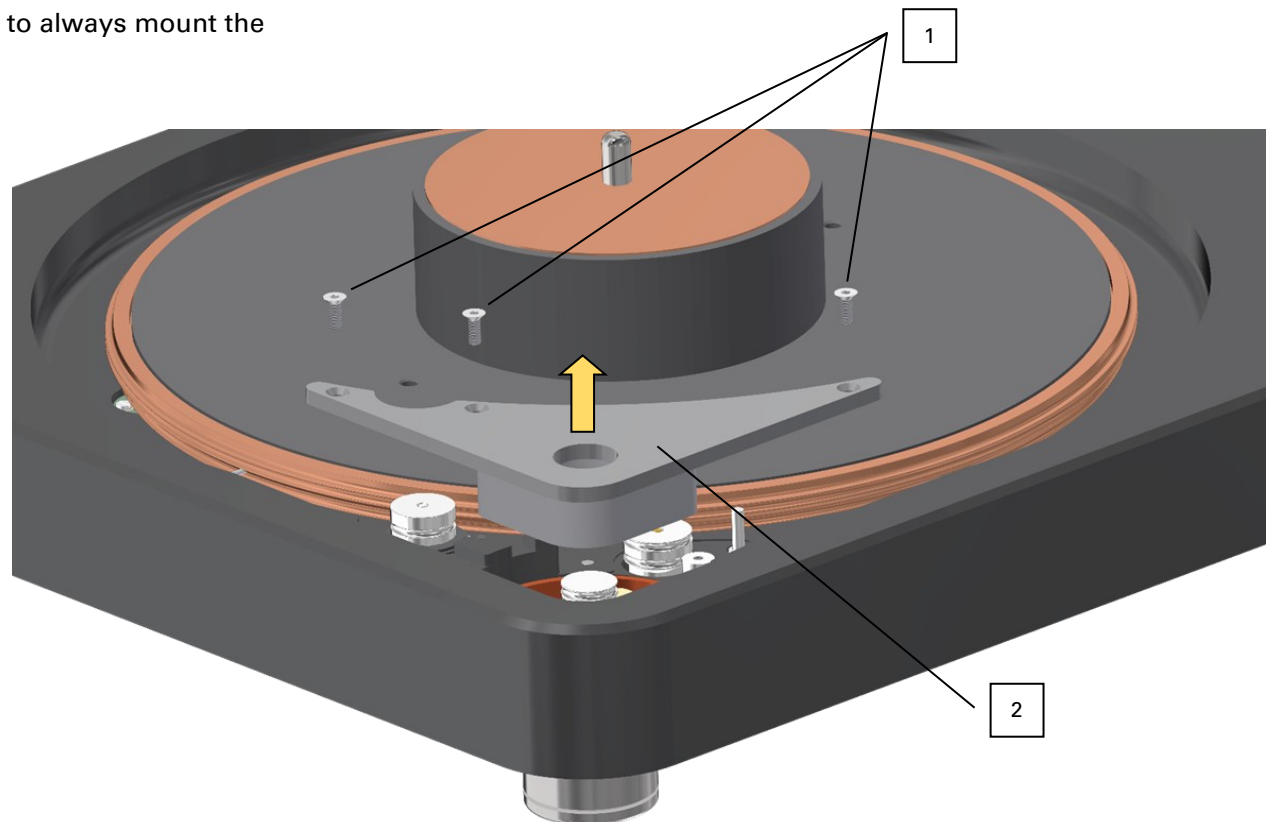
Screw unlocked position

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4 Transport Protection Governor

The Thales Reference turntable features a unique centrifugal governor for most precise speed constancy. The moving parts of this mechanical governor must be locked during transport to prevent damages to any bearing part. Release the transport protection by following these steps:

1. Release and remove the three mounting screws (1) of the protective plate
2. Put the three screws carefully aside for later use
3. Remove the protective plate (2) completely

When repacking the turntable again for transport, make sure to always mount the protective plate.

5 Prepare for Installation

During installation, the device must be connected to the mains in order to charge the battery and run the initial function procedure.

1. Connect the charger with the chassis, using the charger cable from the accessories box.
2. Connect the charger to the mains. The charger can handle all usual input voltage worldwide.
3. Choose the GND option PSU on the chassis.
4. Switch the charger to On (Position I).
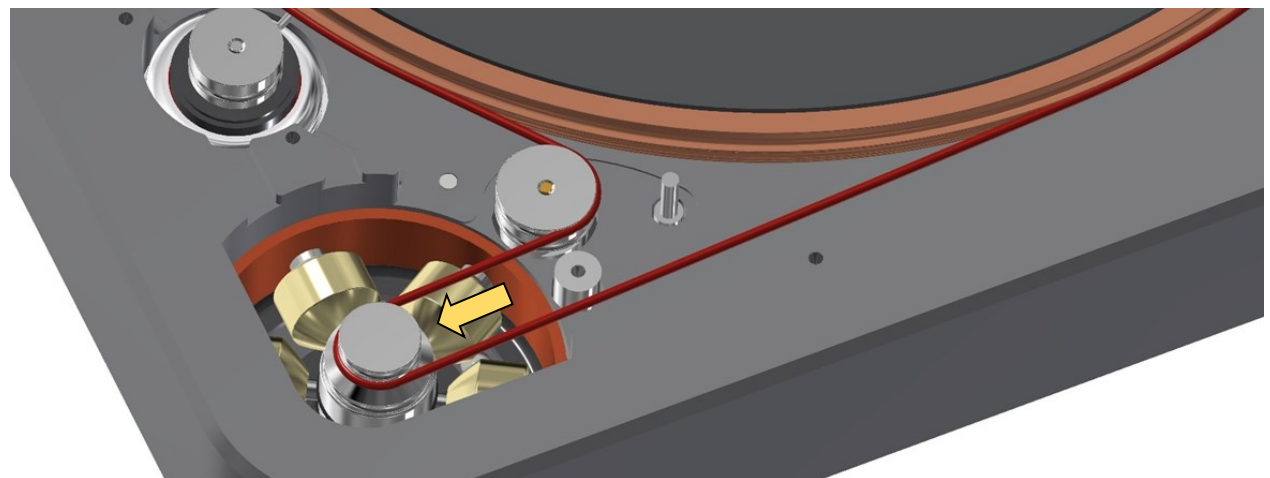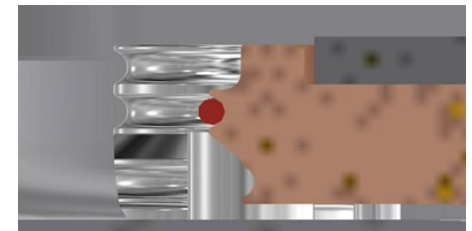5. Keep the battery charging for 30 minutes.

6a Install the Long Belt

The Thales Reference is equipped with two belts. Please use original belts only, delivered by Thales specifically for this device.

The long belt connects the governor with the sub-platter. Its loading is very low in any operating mode, and its expected lifetime is more than 2'000 hours. We recommend changing the long belt once a year.
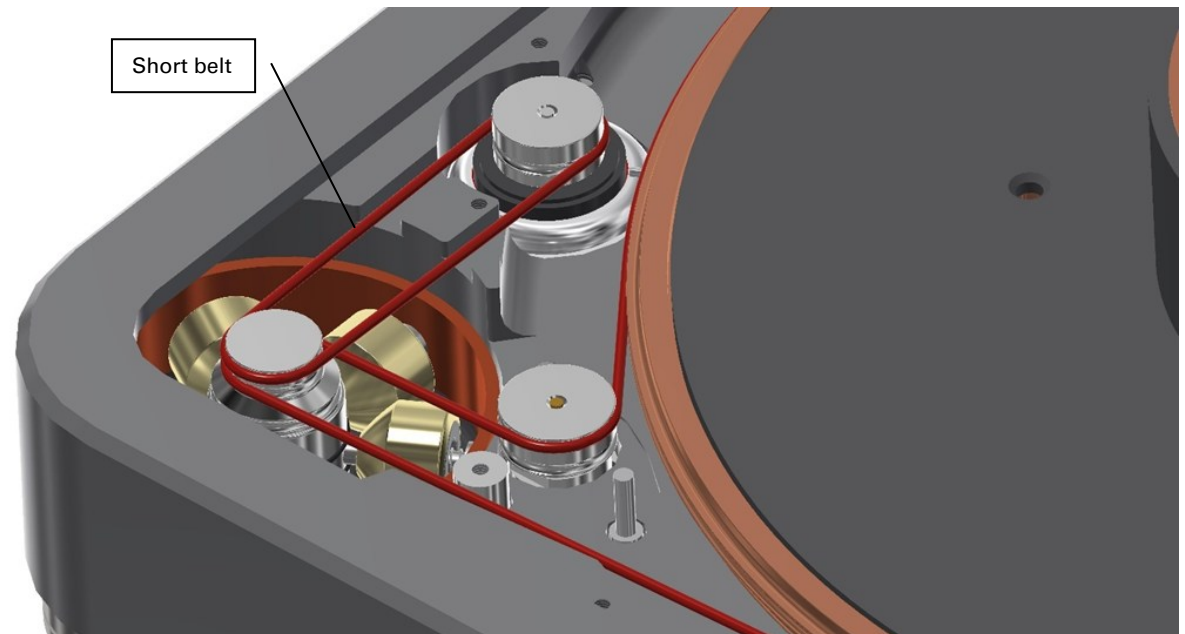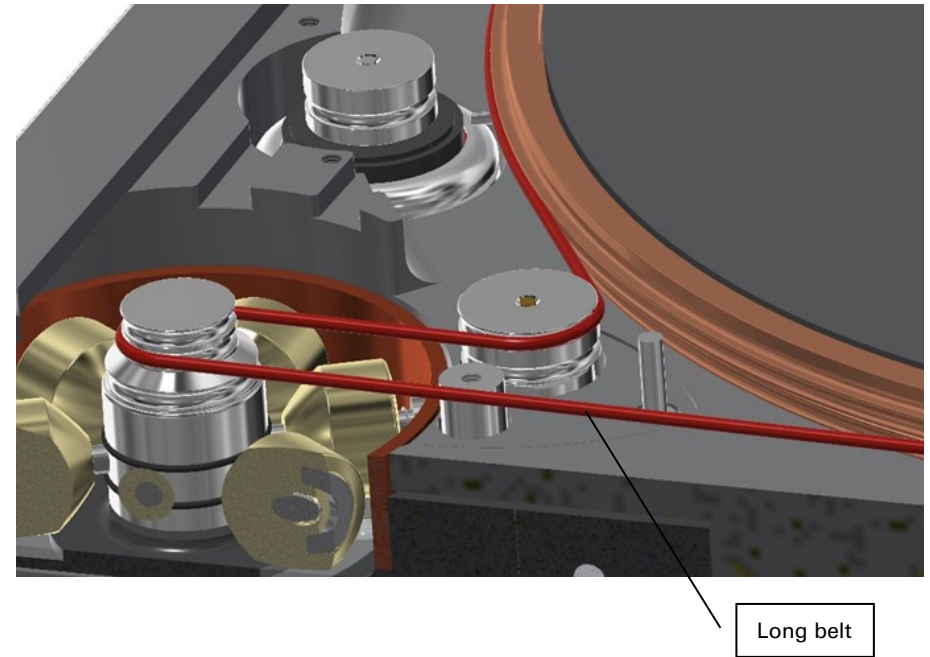
1. Install the long belt on the largest diameter of the sub-platter.
2. Pull out the belt partly from the sub-platter and guide it around the pulleys as shown in the picture.
3. Make sure the positioning of the long belt in the grooves is correct according to the pictures.

6b Install the Short Belt

The short belt connects the drive motor with the centrifugal governor. Because of the self-regulating eddy-current brake, this belt is constantly under substantial tension while the platter is turning. The expected lifetime of the short belt is 500 hours. Please change the short belt once signs of abrasion become visible or noisy transmission occurs.

1. Install the short belt from the motor pulley to the centrifugal governor.
2. Start the drive by pushing the button 33 and let the drive run until the LED around the button stops blinking and glows steadily.
3. Stop the drive by pushing the button 33 again.

Long belt

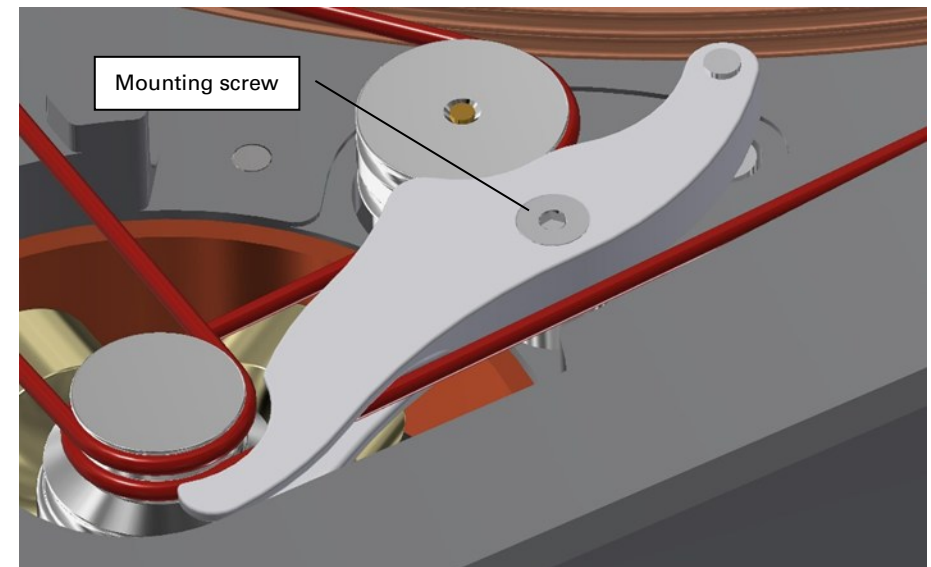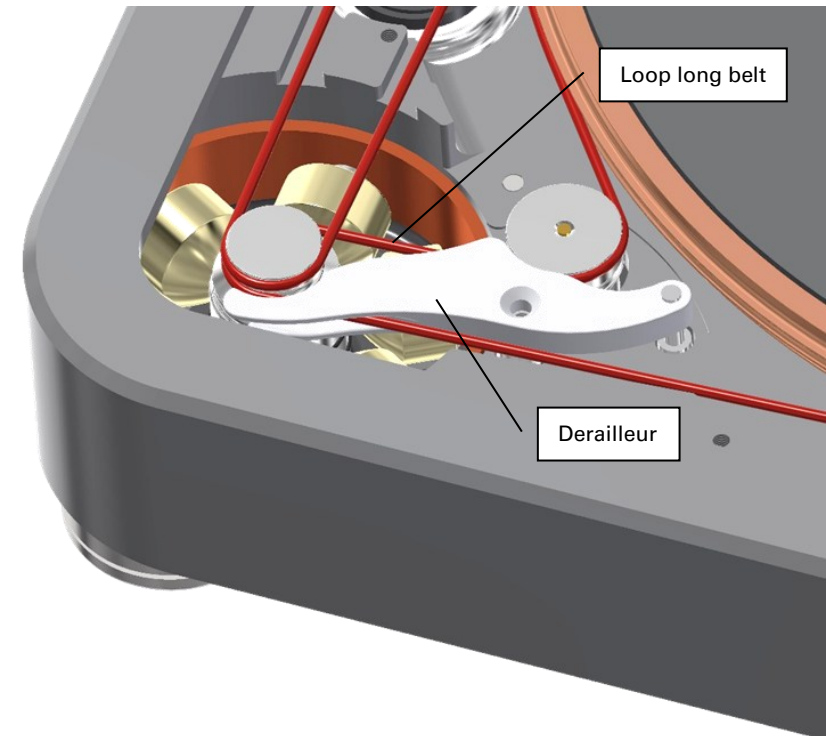Short belt

7 Install the Derailleur

Since the centrifugal governor is working on one speed only, the Thales Reference turntable features a mechanical gear stage between the governor and the sub-platter. A derailleur automatically moves the long belt from one gear stage to the other once the user is changing the platter speed. For installing the derailleur, follow the steps below:

1. Unpack the derailleur including its mounting screw from the accessories-box.
2. Carefully install the derailleur on the lifting cylinder within the loop of the long belt.
3. Make sure the derailleur is oriented correctly and the belt is guided properly around it.
4. Install the mounting screw and tighten it gently to keep the derailleur in position.

Check the correct function of the gear stage by pushing the button 33 respectively button 45:

1. Let the drive run on 33 rpm for 60 seconds
2. Let the drive run on 45 rpm for 60 seconds
3. Let the drive run on 33 rpm again for 60 seconds

Once the device shall be repacked again for transport, the derailleur and both belts must be de-installed in revised order to allow the application of the transport-protection-plate.

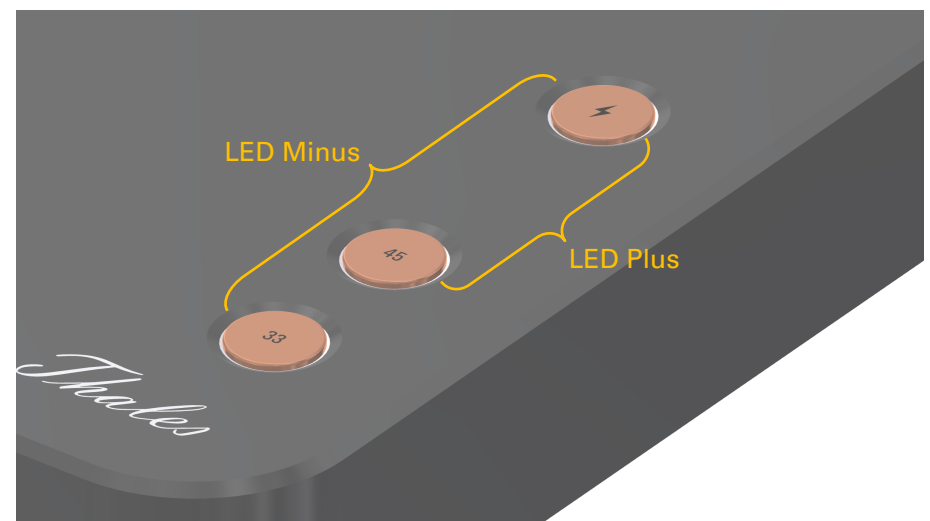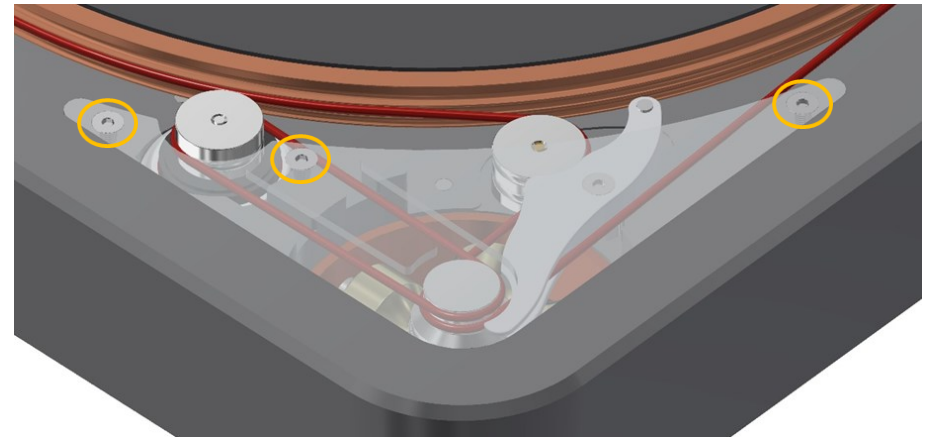Loop long belt

Derailleur

Mounting screw

8 Window

The centrifugal governor and belt-drive are covered by a window. This window allows free view on the outstanding mechanical solution of the Thales Reference. The governor can be illuminated by a white LED with adjustable brightness.

Installation Window

1. Unpack the window from the accessories-box.
2. Install the window using the screws the transport-protection of the governor was installed with.
3. Tighten the screws gently.

Adjust Illumination

While the drive is running, the brightness of the illumination is adjustable in three steps. While the platter is turning, press and hold the Charge button while using the 33 (minus) or 45 (plus) button to set the desired brightness or switch the lightening off completely.
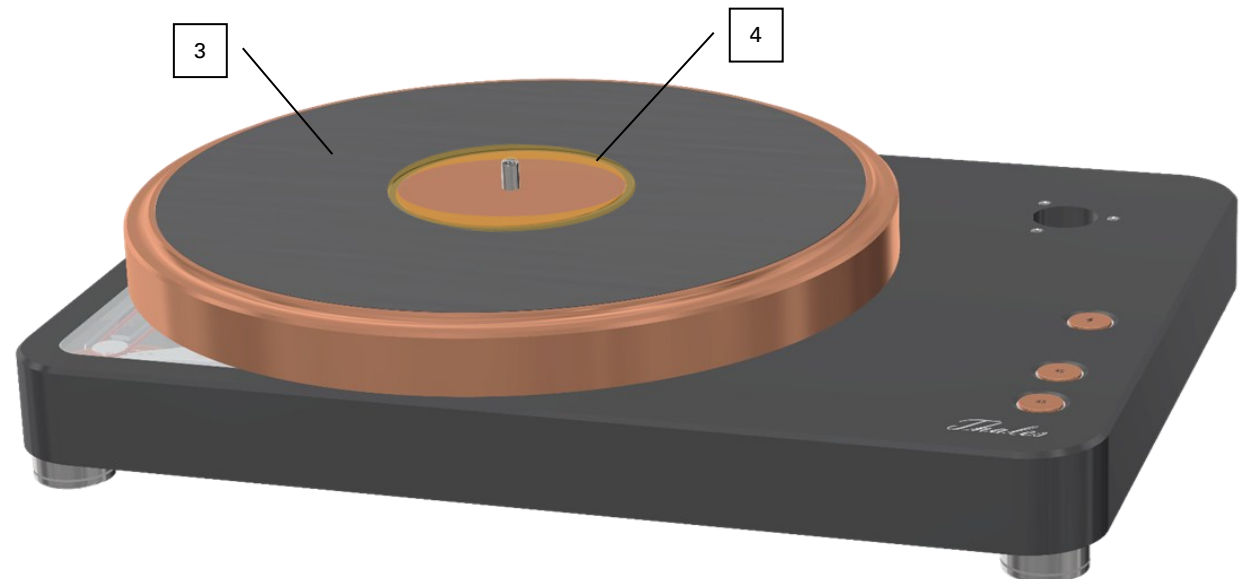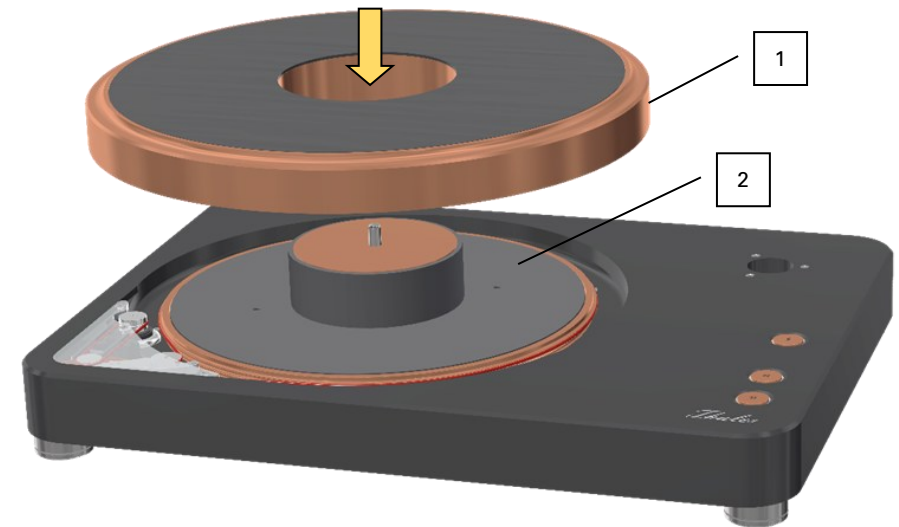
9 Install the Platter

The main platter (1) is bearing freely on the sub-platter (2). During assembling, please make sure to guide the main platter exactly vertically on the sub-platter. The main platter has an inlay of a specified high-density mat (3). Please take care on this mat for not destroying it during installation.

1. Guide the main platter (1) carefully from above on the sub-platter (2).
2. Make sure the main platter is bearing completely on the sub-platter.
3. If needed, dress the inlay-mat (3) around the centre (4) carefully, so the record will lay on an even surface.

When removing the platter for any reason, make sure to lift it exactly vertically and take care not to tilt it.

10 Prepare the Turntable

Tonearm

For mounting the tonearm on the chassis, please follow the manual of the tone-arm itself carefully. The base-ring of the tonearm shall be fastened to the three mounting-bolts (1) of the chassis.

If the turntable is ordered as a package with the tonearm, the base-ring will be installed at the Thales manufactory already.

Set the level

Place the unit on an even and horizontal base. The chassis of the Thales Reference features one fix foot (red marked) and three adjustable feet (green marked). Use the three adjustable feet to ensure the chassis stands stable and horizontal on the surface.

The feet are guided not only by a fine pitch thread but by a cylindrical fitting as well. Therefore, no locking of the spike is needed. The maximum range of adjustment is 5mm.

Interconnects

Connect the ground wire deliverd with your turntable to the golden jack of the chassis (2) and connect it to the GND-terminal of your preamplifier. If the tonearm is connected and grounded by a DIN-cable, no separate ground-wire is needed.

Connect the external power supply with the power plant and with the fitting jack (3) of the Thales Reference.

Switch the GND Option to EXT for grounding the chassis to your preamplifier. Alternatively, you can ground the chassis to the protective ground of the mains by switching the GND Option to PSU. Choose the position with lower hum level.

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11 Power Supply

The Thales Reference features an integrated Li-ion-accumulator, allowing more than 12 hours operation driven by the battery. The external power-supply is used to charge the battery. A charge button integrated into the turntable chassis allows to remotely connect the charger to or fully disconnect it from the mains.

An amber coloured LED at the front panel of the external charger glows once the charger is connected to the mains.

The main switch of the external charger has three positions:

0 – Off
The charger is always disconnected from the mains. This position is recommended only if the devices shall not be used for a long period of time.

I – On
The charger is always connected to the mains, and the battery of the turntable is constantly being charged. This mode is recommended only if the device has been disconnected from the mains for a long period of time.

II – Remote
An internal relay handles the connection of the charger to the mains. This position is recommended once the turntable is in regular use.

Important notes on the battery:
The accumulators of the Thales Reference do have no memory-effect. This means, you are free to charge them no matter what the actual charge state is. The battery can be recharged for at least 1'000 full cycles. The micro-processor of the device is handling the charging-management to expand the lifetime to the maximum.

The battery-pack can provide power up to 125 Watts. High energy could accidentally be set free by incorrect handling of the accumulator. Therefore, the battery must be exchanged by qualified professionals only.

Main Switch

Power LED

12 Charging Procedure

Press the charge button (1) to remotely switch on and off the external charger.

For most puristic sound properties, it is recommended to switch the charger off while listening to music. Once the turntable is not in operation, we recommend to always switch the charger on.

A three-colour LED (2) shows the status of the battery-pack and the related charging process:

White glowing
The battery is fully charged, and the maximum charge level is hold by the external power supply.
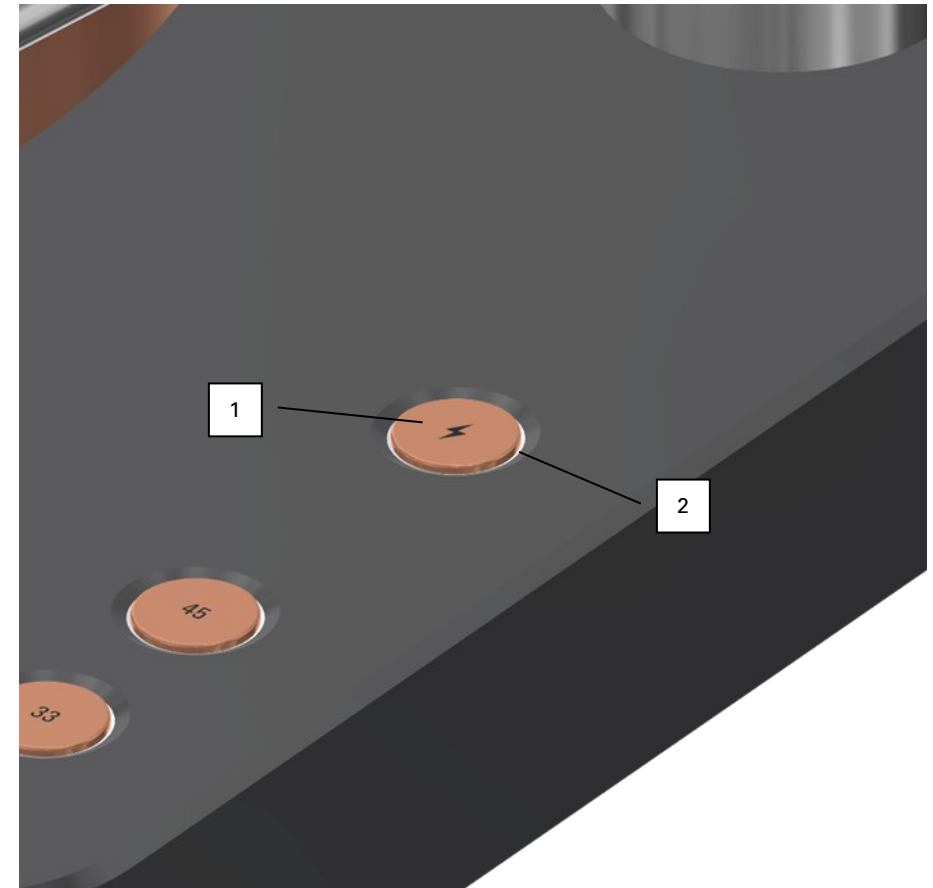
Green glowing
The battery is being charged

Red glowing
The battery is low and requires charging soon.

Red blinking
The internal controller of the battery-charger is expecting power from the external device but cannot get any. Please connect the external charger correctly and switch it to position II (Remote).

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13 Operate the Drive

By pushing one of the buttons labelled with 33 and 45 you can start the platter on the speed indicated. By pressing the active button on the active speed again, the platter will stop. You might also change the speed from one value to the other without switching the drive off in between.

LED indicator

An LED indicator around each button shows the operation condition of the drive:

Red blinking

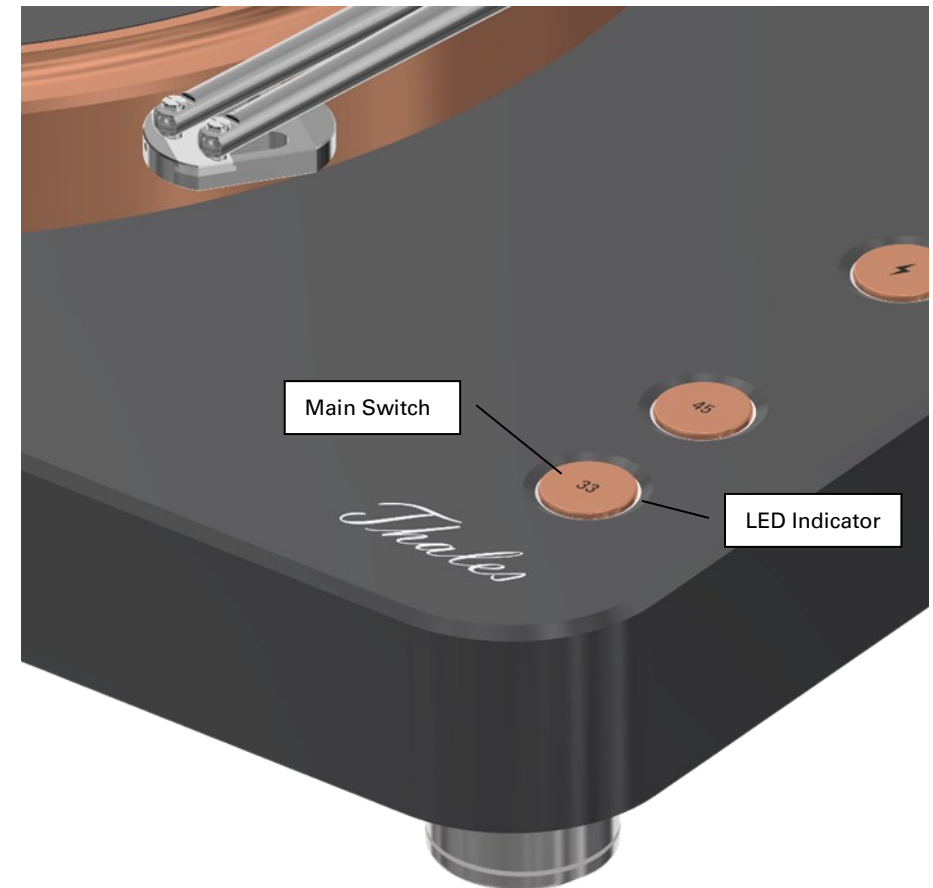Start-up phase, platter speed is not constant

Red glowing

Platter speed is constant; its value is audible out of the desired tolerance-field and will be corrected automatically according to the internal quartz reference.

Green glowing

Platter speed is constant; its value remains perfect by applying corrective actions automatically from the electronics

White glowing

Platter speed is constant; its value remains perfect without applying any corrective actions from the electronics. The speed is kept constant by the centrifugal governor mechanically.

Main Switch

LED Indicator

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14 Service

Running-in procedure

After the turntable has been shipped or not being operated for more than six months, we recommend running the following procedure:

1. Switch the charger on
2. Start the drive by pushing the button 33
3. Let the platter run for 12 hours
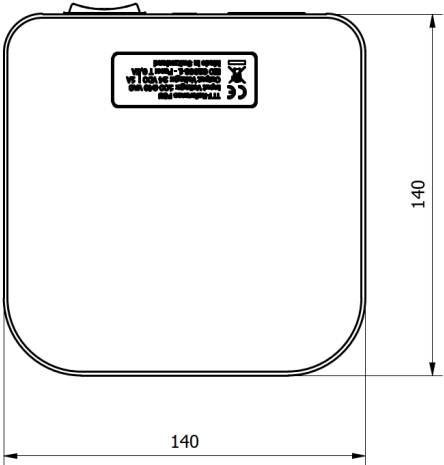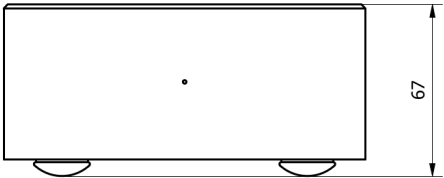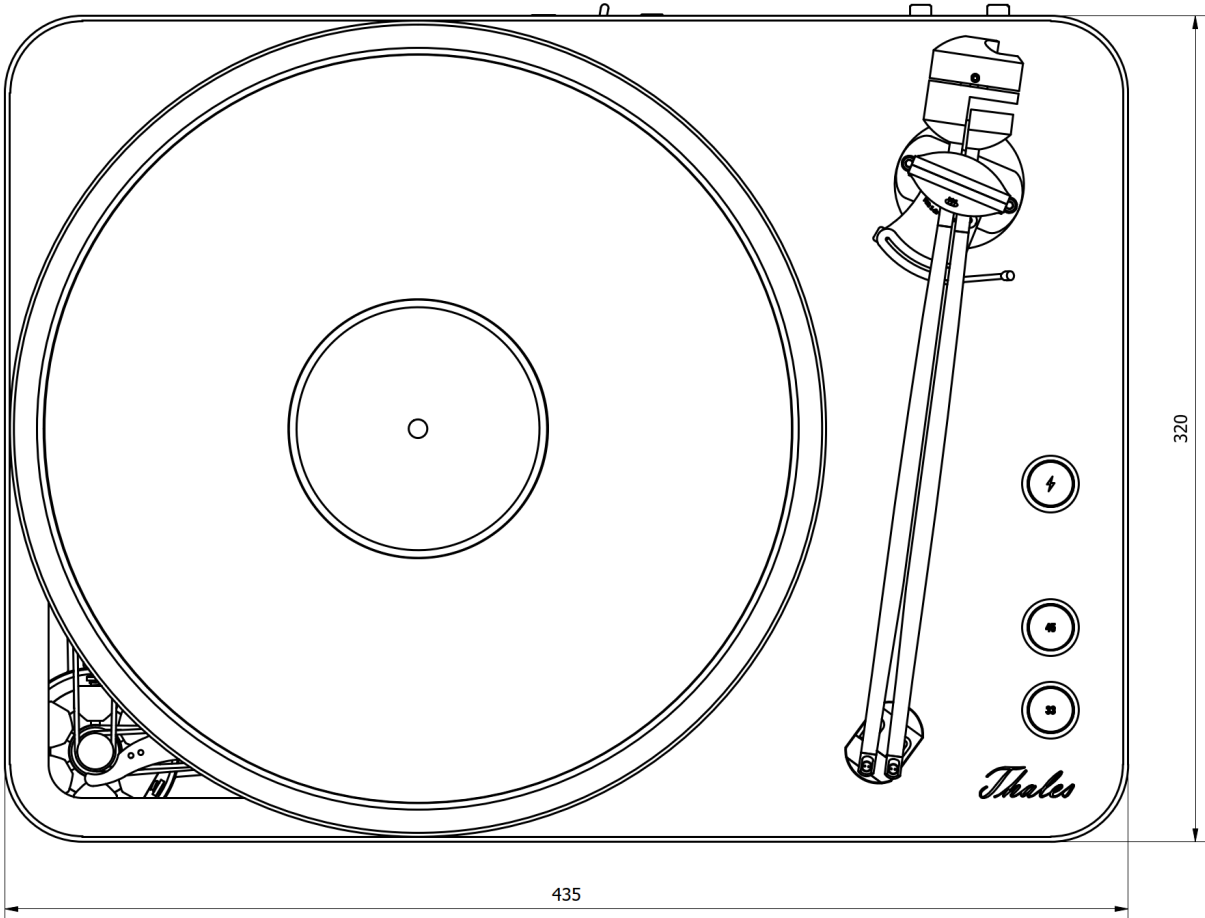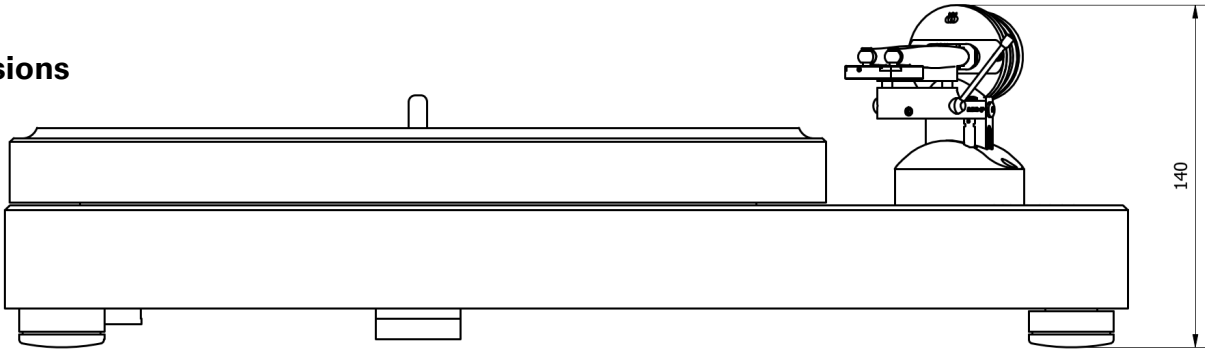4. Switch the drive off

Cleaning

For cleaning the Thales Reference, please use a soft and clean microfibre cloth. The high-density inlay of the platter must be cleaned with the dedicated cleaning-cloth delivered with the turntable.

Reset

To reset all internal software of the device to their default values, press and hold all three push buttons (33, 45 and Charge) simultaneously for more than three seconds. All LEDs of the device will glow for a second, and the turntable will be reset to factory conditions.

15 Dimensions

140

140

320

435

67

140

140

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16 Specifications

Platter Speed	33⅓rpm | 45rpm (Quartz Reference)
Wow and Flutter	0,04% (IEC 386 weighted)
Rumble	-80dB (IEC 98 weighted)
Rumble	-60dB (unweighted)
Battery service life	12h
Weight Turntable	20kg
Weight Charger	2g
Input Voltage Charger	100…240VAC, 50…60Hz
Mounting distance tonearm	230mm

Available Accessories Products
– TTT-RCA-Terminal
– TTT-XLR-Terminal
– TTT-Cable-Holder
– Thales Silencer \| Platter Clamp

Thales Spare Parts
– Belt-Set Thales Reference
– TTT-Battery 18V

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