EINSTEIN

HANDCRAFTED
AUDIO COMPONENTS
SINCE 1988

AEROLITH

Turntable

Manual and Setup Instruction

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Please note the following information

The **Aerolith** was manufactured with the utmost precision. All assemblies have virtually no tolerances: the more careful the construction, the more precise and perfect the performance.
The slightest mechanical impact on the components can cause the entire assembly to malfunction.
We therefore ask you not to assemble the turntable alone. Two experienced and skilled persons should be present to ensure safe assembly. As a rule, the distributor or dealer should take over or supervise the assembly.

We have spent a lot of time making the set-up of the turntable as simple as possible. Nevertheless, there are still some work steps involved in the set-up. We could not avoid these due to safety during transportation.

Once the turntable has been set up, no more time-consuming readjustments are necessary. The filling level of the patented air feet should be checked once a year and topped up if necessary. In our three years of experience to date, refilling has not been necessary.

Due to its mechanical stability and precision, the **Aerolith** is maintenance and service-free for years. We are convinced of this and offer a lifetime guarantee on all mechanical components if used correctly.

Accessories

Aerolith turntable base

Graphite platter plus heavy stainless steel weight for 'suction-effect'

Adjustment cone incl. hexagon socket for positioning the turntable (already mounted on the platter axle)

Lift puck for VTA adjustment

2 foam blocks to support the turntable platter

2 drive belts

Mains cable

2 pairs of anti-slip gloves

Supersoft pure cotton cloth

Tools for the assembly

Air pump for **Aerolith** pneumatic feet

Turntable suction lifter

Hexagon socket for adjusting the cone

Hexagon socket for adjusting the bearing axle for the tonearm board

Balance

Step 1

Lift out the **Aerolith** turntable base, on which the feet and the turntable frame are already pre-assembled, from the packaging and place it in the location you have prepared for the turntable. Due to the heavy weight (80 kg) of the entire turntable and the way a turntable works, the location should not move horizontally or vertically and should be absolutely stable!

Please ensure that the base is in level. This makes it easier to adjust the turntable. Of course, you have the option of leveling the turntable with the **Aerolith** air feet during the final set-up.

Step 2

This is the most demanding step in setting up the **Aerolith** and should only be carried out by two people. The turntable main platter is very heavy and must be placed exactly centered on the guide axis of the bearing unit. Under no circumstances should it be allowed to tilt! The outer platter sits in a high-precision suction fit on the inner platter. It is therefore very important that the platter is positioned straight and centered on the bearing axle.

To ensure that the platter is placed on the inner platter as precisely as possible, a mounting/adjustment cone is included in the packaging for precise placement. Please place the adjustment cone on the plate axle or spindle of the inner plate and lightly tighten the grub screw with the enclosed Allen key.

In the next step, place the two foam blocks supplied around the inner platter as shown in the illustration. These serve to secure the heavy outer platter in place.

To remove the outer platter from the packaging, both people should put on the anti-slip gloves supplied. Before doing so, please remove the textile protection around the plate. Please note that the anti-slip gloves are necessary because the plate is highly polished and smooth. They also prevent slipping and unsightly fingerprints on the shiny platter.

After removing the platter, center it with two people over the guide axle (adjustment cone) and lower it onto the bearing unit and place it on the three plastic supports. Make absolutely sure that you do not tilt the platter on the guide axle.

Once you have centered the platter on the two supports, use the supplied platter suction lifters. One person secures the turntable with the two suction lifters and lifts the turntable slightly. The second person removes the two support blocks and now the outer platter can be lowered into its final position in a careful downward movement by the first person on the turntable axle. Please do not simply drop it, but lower it carefully. Under no circumstances should the fingers of the second person come under the turntable - there is a risk of serious crushing injuries!

Step 3

As soon as the turntable is mounted, remove the adjustment cone from the actual platter axle using the hexagon socket provided.

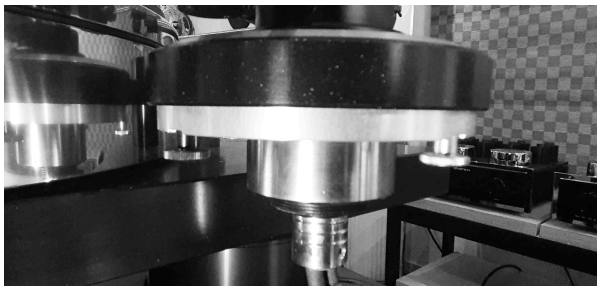
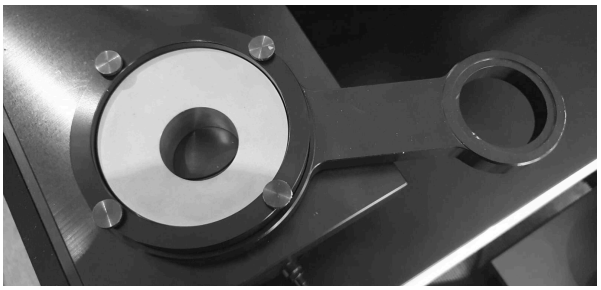
The special EINSTEIN graphite plate supplied can now be fitted. Please note that graphite is extremely hard and the graphite plate can easily break.

Step 4

Mount your tonearm on the tonearm base of the **Aerolith**. The tonearm base is always supplied without a cut-out. The appropriate cut-out for your tonearm should be made by a specialist. If an Einstein tonearm is to be mounted, the corresponding cut-out for these tonearms can be ordered in advance. If there are any problems with the holes for the cut-out, our mechanics will be happy to help you. For this we need the appropriate templates for the correct milling/drilling - these must be provided.

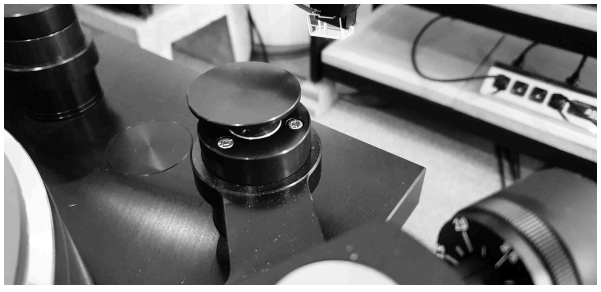
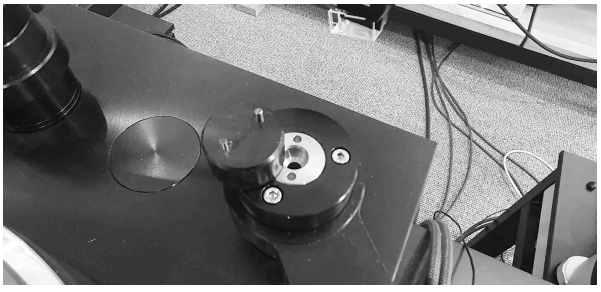
Step 5

To make mounting the tonearm easier, you can remove the tonearm board from the milled aluminum bracket. To do this, loosen the 4 knurled screws underneath the tonearm board so that you can remove the tonearm board including the clamping ring from the bracket. This type of fastening allows you to adjust and/or rotate the tonearm board continuously in the holder if the knurled screws have been loosened slightly beforehand. This makes it easier to mount the tonearm with regard to the correct geometry.

Step 6

In order to set the correct distance between the tonearm and the platter axle, the bearing axle for the tonearm board is infinitely adjustable. This means that more or less all tonearm lengths are compatible with the **Aerolith**. To adjust the bearing axle, remove the cover at the top of the end point of the bearing axle, on the other side of the tonearm board. The cover is only attached and can be easily removed. Take the enclosed hexagon socket wrench and slightly loosen the hexagon socket in the center. It is now possible to adjust the bearing axle continuously. Once you have determined the correct distance between the tonearm and the platter bearing axle, fix the bearing axle again.

This is also where the adjustment option for the VTA is located. The holders for the corresponding tool are 2 holes directly next to the holder for the hexagon socket for adjusting the bearing axis of the tonearm board.



Please note that the correct distance between the tonearm and the platter axis also depends on the position of the tonearm board and that the angles for mounting the tonearm can shift. With simple 1-hole drillings for mounting the tonearm, this is no problem. If there are several mounting holes for the tonearm, you should make sure that the tonearm is mounted more or less parallel to the turntable so that it can be guided to the outlet groove without any problems.

Step 7

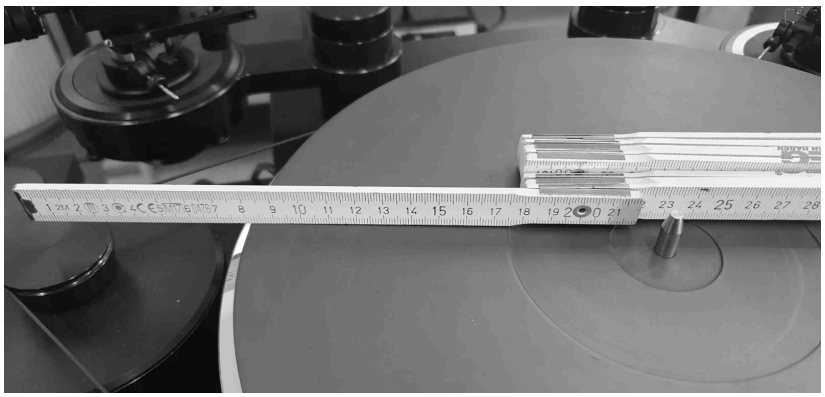
As soon as the tonearm is finally mounted and the cartridge system is installed and adjusted, you have the option of continuously adjusting the optimum VTA for the cartridge system directly on the **Aerolith**. This is done with a very special mechanism at the end point of the bearing axle for the tonearm board, which is absolutely backlash-free and precise. Insert the appropriate tool, the lift puck, into the two holders. By turning the tool in the lift mechanism clockwise and anti-clockwise, you move the complete bearing axle with the mounted tonearm up or down.

This allows the VTA to be set with absolute precision. With sufficient care, this can also be done during the playback process. Jerky, hectic turning is counterproductive.

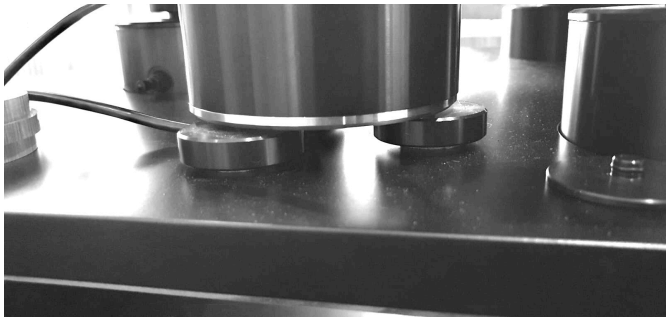
This type of VTA adjustment is much more precise and puts less stress on the tonearm bearing than the classic height adjustment on the tonearm. There is always a risk of damaging the tonearm bearing by over-tightening.

Step 8

Now remove the motor block from the packaging and place it on the left side of the **Aerolith**. The distance between the center of the motor drive pulley and the axle of the turntable should be between 23 and 25 cm. As the belt is a flexible silicone belt for technical reasons, the location of the motor unit does not have to be exact to the millimeter with regard to the distance to the turntable.



Adjust the height of the motor block so that the groove in the motor pinion for the drive belt is approximately at the same height as the groove in the turntable for the drive belt. This can be done easily and without tools by screwing the three feet of the motor unit in or out. In the optimum case, the belt runs absolutely parallel to the surface of the turntable (or at a 90 degree angle to the outer edge of the turntable).



You should also make sure that the motor unit is level with the turntable. The best way to do this is to level the entire turntable using the **Aerolith** air feet.

Step 9

Now that everything is assembled and preset, you can connect the power supply unit. The power supply is connected with 2 cables coming from the turntable. One cable is for the motor control and one cable is for the sensor control directly on the turntable.

The cables have a different number of contact pins and can therefore not be mixed up at the two inputs on the power supply unit.

The external power supply unit is a multi-talent. It not only controls the motor, but also measures the target speed using the sensors in the turntable. If there is a deviation from the target speed (due to a change in belt tension, environmental influences such as temperature fluctuations, etc.), it takes countermeasures. This is not done by a control loop that often degrades the sound, but by software developed by us. In principle, the power supply unit is also a small PC for monitoring the constant speed of the turntable.

It is also responsible for the start-up behavior of the 22 kg turntable and reduces the motor torque once the set speed has been reached in order to completely eliminate any influence of the motor on the turntable during operation.

Now please connect the power supply unit to the mains with the supplied, special shielded mains cable.

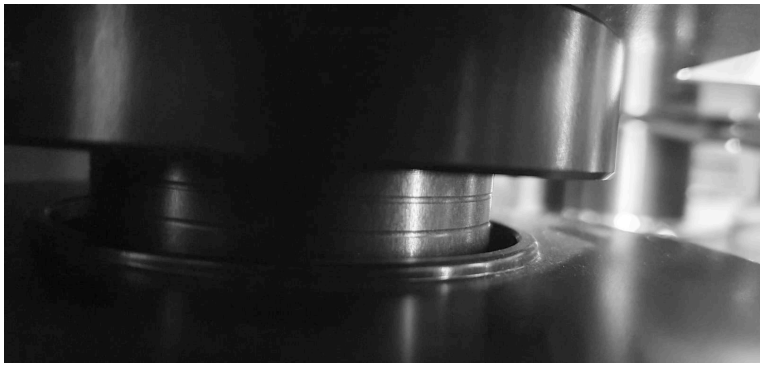
Step 10

Once everything is connected, please start the final level process using the three air feet. This is extremely important that the **Aerolith** is perfectly in level so that the scanning process in the groove can take place precisely.

The three air feet are inflated and, if necessary, deflated again using the enclosed air pump. The air feet have two markings in the upper collar which show the optimum amount of air in the feet. The lower marking ring is for the minimum air volume and the upper one for the maximum air volume. The Aerolith can be optimally balanced between these two marking rings.



To do this, connect the air pump to the valve of the air feet one after the other and pump the corresponding amount of air into the **Aerolith** feet until the upper ring mark appears on the upper edge of the housing. Proceed in this way for each air foot. The sequence is not critical. For practical reasons, start with the rear air foot.



Finally you set the turntable exactly in balance. To do this, place the supplied circular level on the lower chassis of the Aerolith and check whether the turntable is already level or whether additional air is required in one of the feet. As soon as the turntable is level and all three air feet are within the two ring markings, you can complete the process.

Once this is done, continue with the motor unit. The groove of the motor pinion must be at the same height as the groove for the belt in the turntable. If this is not the case, adjust the height using the three feet of the motor unit. At the same time, check that the motor unit is level. The best way to do this is to place the supplied circular level on the motor pinion and level the motor unit perfectly using the circular level.



Once this is done, you can use the belt to connect the motor unit to the turntable.

Now you can start the turntable by setting the left toggle switch on the power supply unit to the ON position. The turntable will slowly start to move and the blue indicator light in the middle of the power supply unit will flicker. As soon as the indicator light lights up continuously, the record player is ready to play. The right-hand toggle switch on the power supply unit is for switching between 33 rpm and 45 rpm. The 33 rpm speed is selected in the left-hand position and the 45 rpm speed in the right-hand position.

Step 11

The record is placed directly on the graphite plate. Please do not place any other damping mat between or on top of the graphite plate. This will significantly impair the sound quality.

With the heavy stainless steel weight, you can place sufficient weight on the record for the vacuum effect. The slightly concave cut of the graphite platter presses the record against the graphite surface. This minimizes tremors on the record and prevents resonance between the record and the platter. This is a similar principle to vacuum suction of the platter, only realized purely mechanically. As a result, there is no background noise and/or additional mechanical resonance from the compressor.

TECHNICAL DATA

TOTAL DIMENSION	650x558x180 mm
TOTAL WEIGHT	80kg

Turntable

Transport	Belt driven
Chassis	massive Aluminum T-frame, anti resonant, pneumatic decoupling
Bearing	Maintanancefree EINSTEIN Double bearing
Wow&Flutter	<= 0,02%
Speed	33,33/ 45 rpm without tolerance
Dimensions	
Weight Main Platter	22 kg (Rotating Mass 25kg)
Platter construction	Outer Platter Aluminum, Inner Platter Stainless steel, Flywheel Design, Subplatter Aluminum

MOTOR AC Synchronos Motor, controlled by DC class A amplifier, digital measuring for highest longterm precision

EXTERNAL POWER SUPPLY UNIT

Power consumption	30 W
DIMENSIONS	390x140x68mm
WEIGHT	3,8kg

AEROLITH BASE

Construction	Resonance optimized Sandwich construction
DIMENSIONS	650x558x85mm
WEIGHT	20kg

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CERTIFICATE

AEROLITH

Turntable

We hereby confirm that the EINSTEIN
AEROLITH record player
was developed and built in Bochum.

Bochum,

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