

The background is a dark red, almost black, gradient with several large, overlapping, curved lines that create a sense of depth and movement, resembling a stylized wheel or a series of concentric arcs.

Wheel 2 user manual

JUNE 2023



Handmade in Holland

Wheel 2 is a turntable upside down. All delicate parts sit below the record, protected from dust or accidents. Unlike other turntables, Wheel 2 turns counterclockwise, and plays the opposite side (the side facing down) of your record. Because of its unique construction, Wheel 2 can be used horizontally and vertically.

Each Wheel 2 is hand built in our lab in Schagen, Noord-Holland.

We've gone to great lengths to build Wheel 2 to the best of our ability, using the finest materials and components, to give you many years of enjoyment.

Wheel 2 is precisely calibrated during assembly. No adjustments are needed.

Please read this manual carefully to ensure you understand all the features and functions of Wheel 2 . Enjoy!

The Miniot team



Wheel 2
Instruction video

Precautions

- Turntables, tonearms and cartridges are delicate, so please take extreme care when moving, setting-up and using them.
- Do not use Wheel 2 near sources of heat, or liquids. Don't expose Wheel 2 to moisture. Ensure ventilation around Wheel, at least 10 cm in all directions.
- Do not open Wheel 2's enclosure or force objects into its openings. Never drop small parts into Wheel 2's openings.
- Place Wheel 2 on a fixed level surface where it will not fall or trip. Don't place Wheel 2 on surfaces like carpet or fabric.
- Wheel 2 should only be used in mild climates between 5 °C (41 °F) and 35 °C (95 °F). Avoid direct sunlight to keep your records and Wheel 2 healthy.
- Keep packaging material and small pieces out of reach of small children.
- Unplug the power supply if Wheel 2 is not used for extended periods of time.
- Only clean Wheel 2 with a microfibre cloth (lightly damp if necessary). If the wooden parts of Wheel 2 lose their luster over time, a drop of furniture oil makes it look like new.
- If Wheel 2 performs erratically or emits smoke or odour, disconnect from the power supply and contact us at service@miniot.com.
- Wheel 2 and it's cartridge (excluding stylus) are warranted against all manufacturing defects. This warranty does not cover wear, tear and shipping costs.
- Any modifications or failure to follow recommended guidelines may void the warranty.
- If Wheel 2 needs to be returned for repair or inspection, the original packaging must be used to preserve your warranty.

Unpacking

Wheel 2 is shipped in a square brown shipping box. This box encloses an inner box, containing:

- Wheel's trademark transparent record
- Magnetic puck/single adapter
- Wooden stylus cleaning brush
- 2 meter power cable
- 5V DC usb power supply
- User's manual
- Wheel 2
- Two legged stand and mounting parts

Wheel 2 is securely enclosed by foam. A red clip at the bottom locks the arm in position during transport. After removal of the red clip, Wheel 2 is ready to use.

NOTE: PLEASE GIVE YOUR WHEEL A FEW HOURS TO ACCOMMODATE TO YOUR ENVIRONMENT BEFORE YOU START USING IT.

After unpacking, store the box for future use and safe transport if needed.



Wheel 2 placement

By nature, turntables are designed to make sound from even the smallest vibrations. This means that they are also very good at picking up vibrations you don't want to hear.

To minimize this, Wheel 2 is built with a carefully tuned combination of mass, stiffness, magnets and isolation. All of this helps, but it's still important that Wheel 2 is placed or mounted on a rigid, sturdy surface, away from loudspeakers or amplifiers.

Do not leave Wheel 2 exposed to heat and direct sunlight, this may affect the cosmetic finish over time, and could cause warping of records on Wheel.

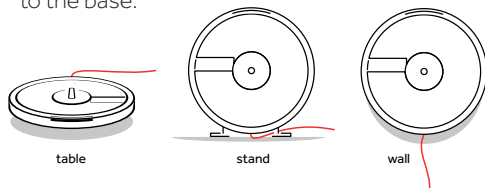
Wheel can be used in three orientations: on a table, and on a stand, and hung on the wall.

Table

If you use Wheel 2 horizontally, or flat, place it on a sturdy, vibration free table.

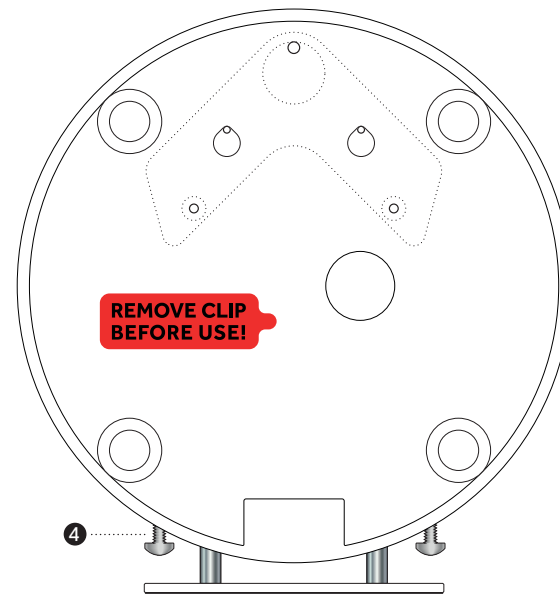
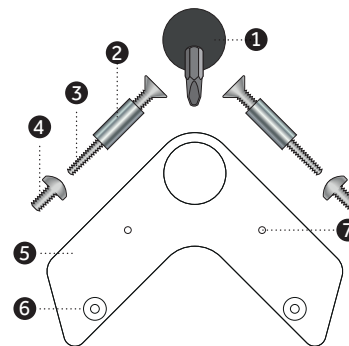
Mounting the stand

Place Wheel horizontally on a table with the connections towards you. It is easiest to place Wheel near the edge of the table. First, remove the short screws from Wheel's rear (4) with the supplied screwdriver (1). Slide the tubes (2) into the openings at the bottom of Wheel's plinth. Hold the plate (5) with the rubber lining towards you and align the countersunk holes (6) over the tubes. Use the long screws (3) to mount the plate to the base.



Wall mount

Wheel 2 can be hung directly on a wall with a single screw. Concrete or brick walls are better than box walls. The two keyholes in the bottom plate are spaced at 80 mm. The plate (5) can be used as a wall adapter by placing screws (4) into holes (7).

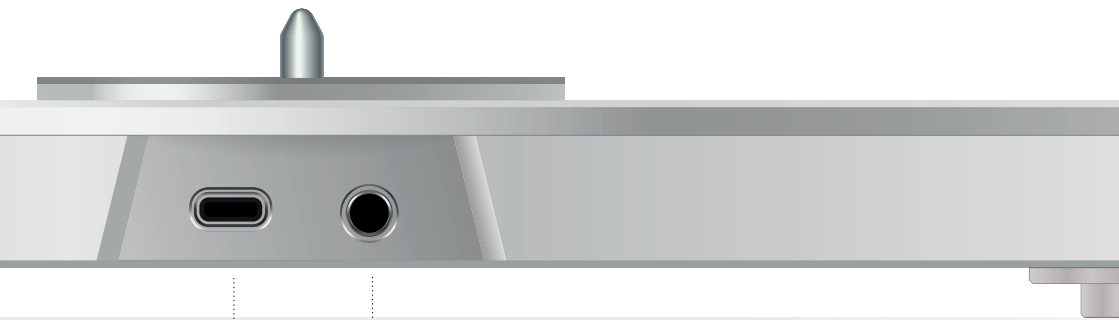


Vinyl rules

Vinyl records can be vulnerable by today's standards. A few basic rules keep your records in perfect shape.

1. Always handle the record by its edges, touching only the label. Never touch grooves of the records.
2. Buckle the record jacket when removing or replacing the record by pressing the jacket against you. This will help prevent scratches.
3. Before playing the record, wipe it slightly with a designated record cleaning brush. This helps to remove the static dust which collects on the record.
4. Always place a record back into its sleeve after you're done playing. Don't drop your record into its sleeve, always slide it in gently.
5. Vinyl records need to be stored in an upright position to keep them in good condition. Stacked or slanted records can warp over time.

Wheel 2 connections

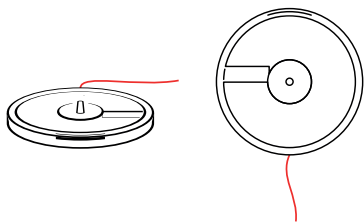
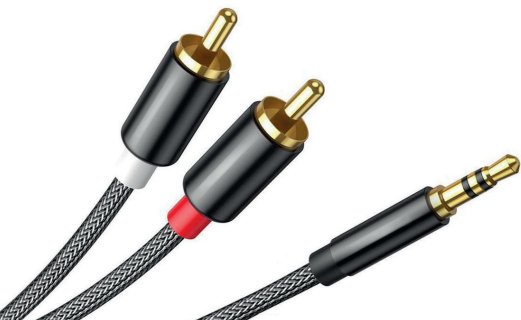


Power

Audio

Ports

Wheel 2 has a simplified port setup mounted in the base. If used horizontally, the connectors point away from you, if used upright, the connectors point downward.



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Power

Wheel 2 comes with its own 5V DC power supply. It adapts to the AC voltage in your country and connects between your wall plug and the 5V port on Wheel 2's rear panel.

Different connector types are available: Europe (EU), United Kingdom (UK), United States (US) and Australia (AU).

Ground

Because Wheel 2 has a high end phono preamp built right into the tonearm, it delivers a RIAA corrected linear preamplified signal to its 3,5 mm port. A separate ground wire is not needed.

3,5 mm minijack port

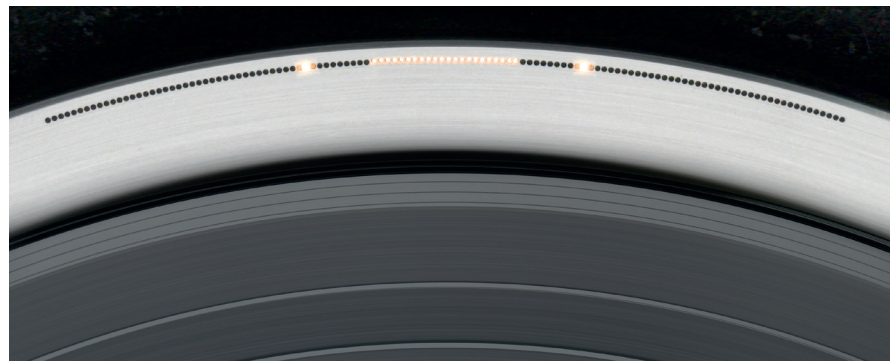
Wheel 2 has a single 3,5 mm minijack audio port and can be connected directly to an amplifier with 'aux' or 'line' input, to wired headphones, and to wired active loudspeakers.

Most amplifiers use RCA or cinch inputs. To connect Wheel 2, use a 3,5 mm to RCA cable.

IF WHEEL 2 IS CONNECTED TO AN AMPLIFIER, ALWAYS USE ITS AUX OR LINE INPUTS. CONNECTING WHEEL 2 TO AN AMPLIFIER'S PHONO INPUT MAY RESULT IN DISTORTED SOUND OR DAMAGE TO YOUR EQUIPMENT.

Wireless

To use Wheel 2 with wireless equipment, a wireless transmitter can be connected to the 3,5 mm port.



- ◆ **start button** **action, display**
short press play • / pause ••
long press stops record, arm to home position
press & hold repeat mode •••
double press purist mode •◦•

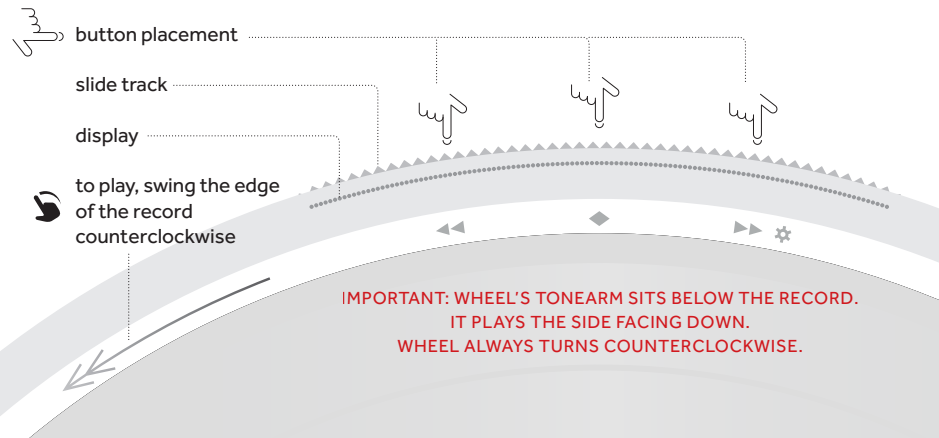
- ▶▶ **forward button**
short press next track
long press jogs forward

- ◀◀ **backward button**
short press previous track
long press jogs backwards

- ⚙ **settings button** (without record)
short press toggle auto rpm ••• /33 rpm ••••• /45 rpm •••••••••
press & hold (5 sec) service mode

- ⚙ **settings button** (with record)
press & hold (5 sec) record cleaning mode

- 📏 **slide track** volume slider
in pause mode ◆ jog
in stylus mode ⚙ stylus pressure setting
each block ••• of leds is 0,5 gram



Using Wheel 2

Starting Wheel 2

Wheel 2 doesn't have a power switch. After connecting the power supply, the display briefly shows a level indicator. If Wheel 2 is level, the indicator disappears and Wheel 2 is ready to use. If Wheel 2 is idle for 30 seconds, it automatically switches off. Any action turns it on again.

Speed - By default, Wheel 2 automatically selects 33,3 rpm for 10 and 12 inch records, and 45 rpm for 7 inch records. You can manually select 33,3 or 45 rpm by toggling the settings button. If one block of leds is displayed, automatic speed

is selected. Three blocks is 33,3 rpm and four blocks is 45 rpm.

Placing a record on Wheel 2

Just put a record on Wheel 2 and press play or swing the record to play.

IF WHEEL 2 IS USED UPRIGHT ON THE STAND, OR ON THE WALL, USE THE MAGNETIC PUCK TO PREVENT THE RECORD FROM FALLING OFF.

Operation

Wheel 2 is operated with the slide track and three buttons underneath it. All actions are confirmed by the led display.



Here's an overview of the functions.

◆ **Start** - Just put on a record and press the start button to start playing. Pressing the button again pauses the record.

◆ **Stop** - When a record is playing, a long press lifts and moves the arm to its home position. The record stops spinning.

↺ **Swing to play** - Wheel 2 also starts playing if you swing the record counterclockwise.

◆ **Pause and resume** - Pressing the start button when a record is playing pauses Wheel 2. The stylus is taken off the record but stays in position. The record keeps spinning and the display shows a pause sign (two leds). Another short press resumes playing.

⏮ ⏭ **Next or previous track** - When a record is playing, pressing the forward or backward button once moves the arm to the next or previous track. Pressing the buttons more times lets you skip a track.

⏮⏭ **Jogging with the slide track** When a record is playing, press the start button to pause the record. Moving the slide track lets you easily navigate the entire

side of the record. The display shows precisely where you are. By pressing the start button again, you can land the stylus and start playing where you want it.

NOTE: TRACK SELECTION MIGHT NOT BE ACCURATE ON COLOURED OR TRANSPARENT RECORDS, OR RECORDS WITH VERY NARROW TRACKS. YOU CAN ALWAYS USE THE SLIDE TRACK FOR ACCURATE POSITIONING.

Repeat mode - Press and hold the start button ◆ sets Wheel 2 in repeat mode. It endlessly plays one side of the record until you stop it. In repeat mode, the stylus position is displayed as three leds.

🔊 **Output volume** - The slide track can be used as volume control by sliding to the right (louder) or to the left (quieter).

Record cleaning mode - Normally, Wheel stops the record when it is slowed down by hand or cleaning brush. In cleaning mode, Wheel runs in high torque, with the arm in pause position. You can now brush off your record with a light anti-static carbon brush. To activate Cleaning mode press ⚙ for 5 seconds when a record is on. When done, any button resets Wheel. Flip your record after cleaning.

Service mode - Over time, the stylus picks up dust from the record grooves. This affects audio quality. To clean the stylus, remove the record, press ⚙ for 5 seconds until the tonearm moves to its service position. Carefully clean the stylus with the included brush. When done, any button homes the arm.

Stylus pressure - Wheel 2's automatic tracking system controls groove contact with much more precision than conventional balanced systems do.

Almost all records will play flawlessly with the 2,1 gram preset pressure. Moving the slide track in service mode ⚙ (arm out) allows you to set stylus pressure between

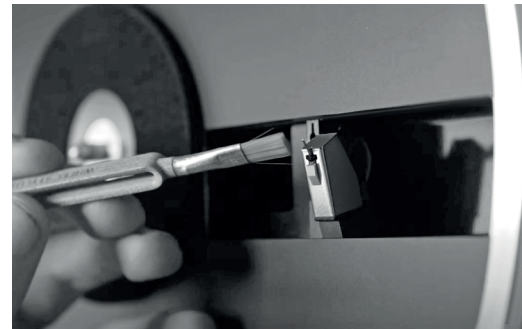
0,5 and 4 gram. Each led block is 0,5 gram. If Wheel has been idle for 30 seconds, stylus pressure is reset to default.

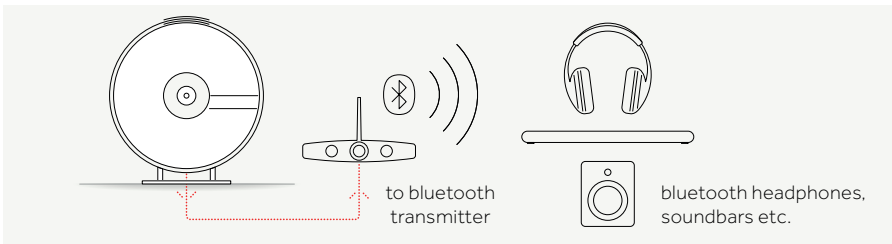
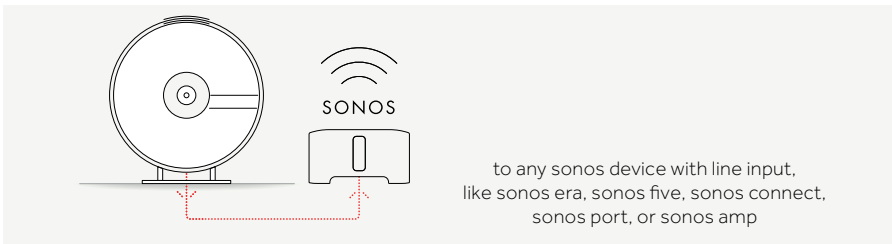
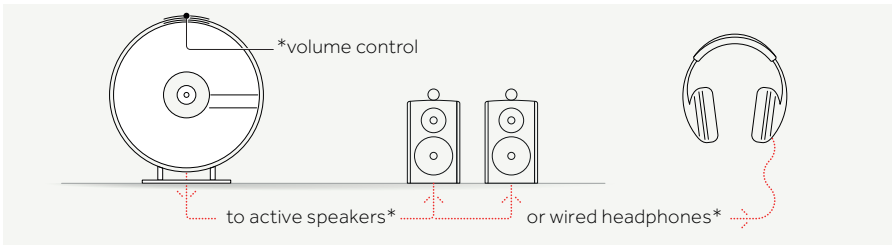
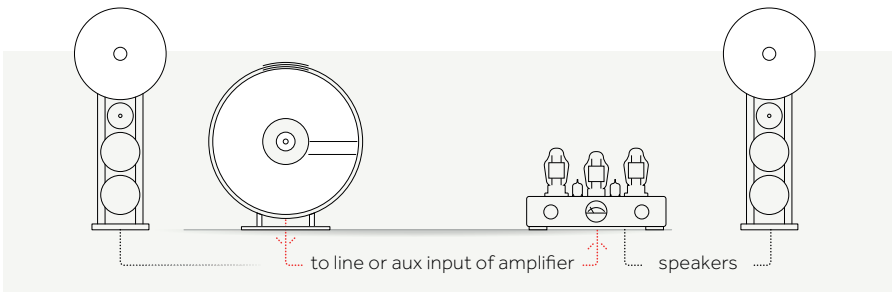
Purist Mode - If a record is severely out of balance or alignment, or if the lead-in groove is too short, calculations aren't finished when the music starts playing. In Purist Mode, Wheel 2 plays a few seconds of a record silently. After processing, the stylus moves to the lead-in groove again and audio starts. This takes up to 10-15 seconds. Purist mode is set per record by double clicking the start ◆ button. Stylus position is shown as two leds.

PLEASE NOTE: PURIST MODE IS ONLY MEANT FOR RECORDS WITH AUDIBLE DEFICIENCIES. NORMALLY, YOU CAN LEAVE PURIST MODE OFF.

Constant Groove Speed

Constant Groove Speed is what sets Wheel 2 apart. All variables of the drive systems are analyzed: alignment, weight, balance, position, etc. These values are used to calculate a constant 33,3 or 45 rpm only where the stylus tip touches the groove. Motor speeds are recalculated every millisecond. Once the record spins, profile is being built, and a self learning algorithm optimizes speed on the fly.





Wheel 2 specifications*

Wheel 2 dimensions

Wheel base Ø x H	330 x 42,7 mm
Total Weight	2850 gram

Audio Technica AT95E

Type	Moving magnet, dual magnet cartridge
Frequency Response	20-20,000 Hz
Channel Separation	>20 dB at 1 kHz
Tracking weight	2,1 grams, horizontal/ vertical setup
Channel Balance	within 2.0 dB
Stylus	0.4 x 0.7 mil elliptical diamond stylus
Replacement Stylus	Modified ATN95E, user replaceable
Cartridge is factory fitted to tonearm, not user replaceable	

Phono preamplifier

Built into tonearm	
RIAA accuracy	+/-0.2dB @20Hz - 20kHz

Audio output

3,5 mm stereo jack for Headphones, or Hi-Fi amplifier's line input, not suitable for Phono inputs
Minimum Load Impedance 12.8 Ω
Output Power 138 mW per channel, drives every modern headphone
Harmonic Distortion 0.0055% @1kHz (Typical)

Miniot Linear tonearm

Electromagnetic stylus pressure
Closed loop position control
Tangential tracking
Servo controlled stylus tracking

Drive system

Self learning closed-loop speed control, speed 33,3 and 45 rpm

Power

Power supply 100-240V AC - 5V 2A Plug type is based on country or user preference
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* All product specifications and data are subject to changes without notice



Wheel 2 by Miniot

Handmade in Holland

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