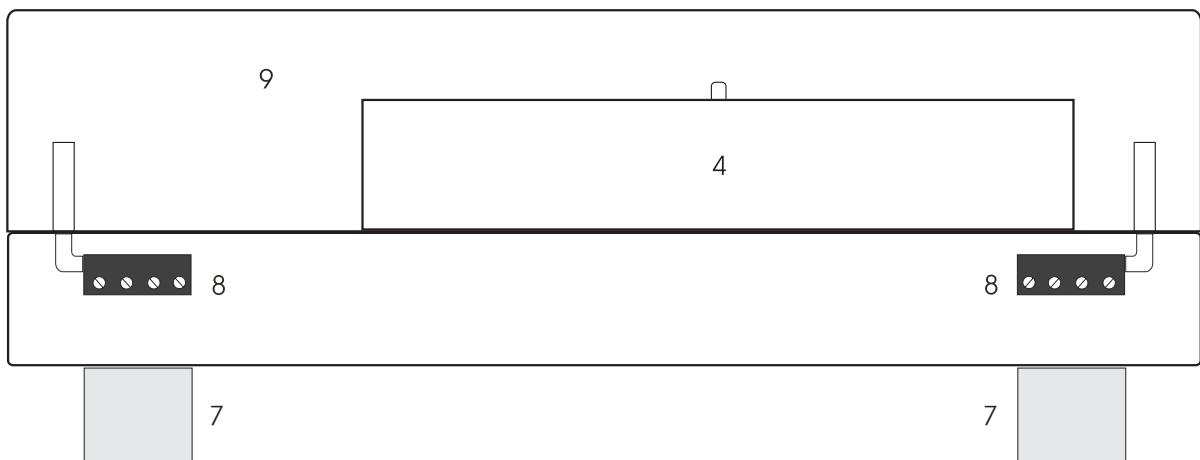
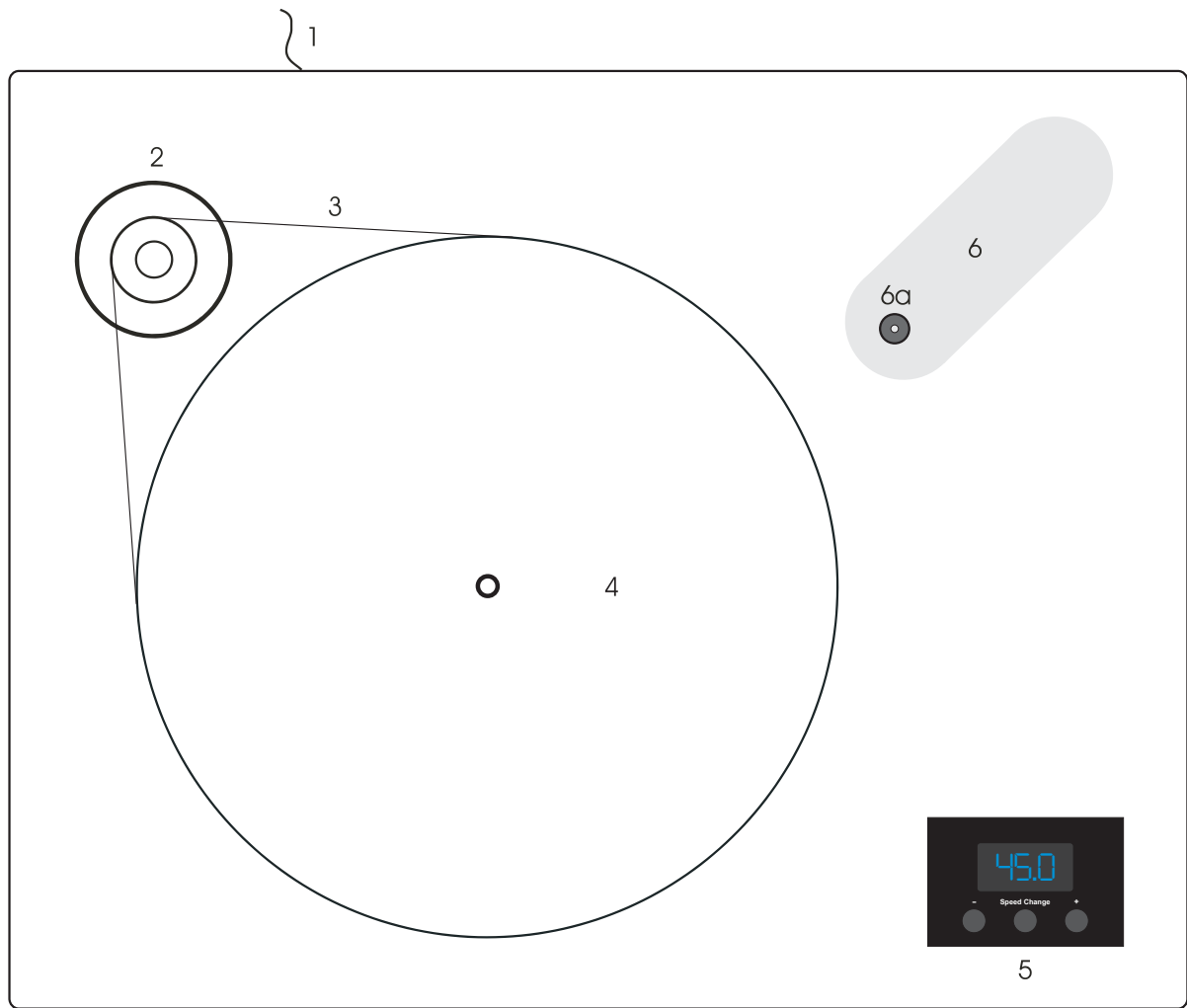
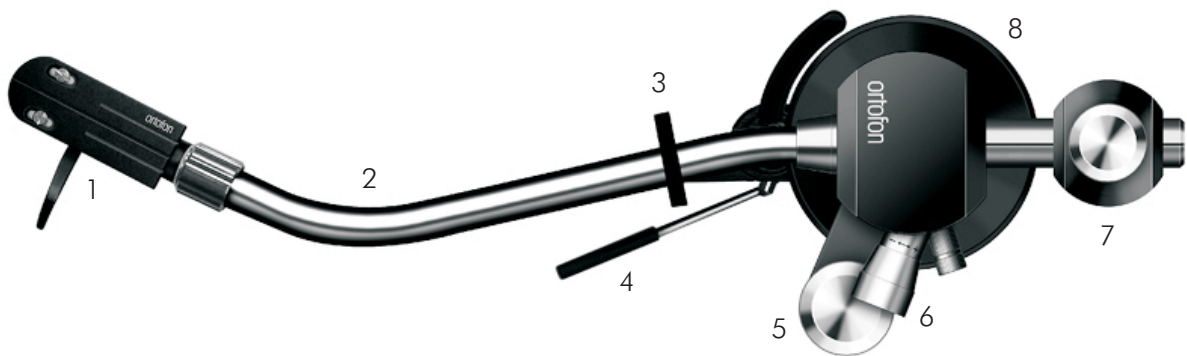




INSTRUCTIONS FOR USE
Pro-Ject **X**tension



Ortofon RS tonearms



- 1 Detachable headshell with finger lift
- 2 Tonearm tube
- 3 Tonearm rest and removable transport lock
- 4 Tonearm lift lever
- 5 Anti-skating force adjustment knob
- 6 Downforce adjustment knob
- 7 Tonearm counterweight with securing screw*
- 8 Tonearm base
Stylus pressure gauge (not shown) *

Cartridge downforce adjustment

Remove the transport lock (3) from the tonearm. Store it in the original packaging so they are available for any future transportation. Set the knob (5) to 0.

Place the counterweight (7) halfway along the counterweight support rod at rear of arm, being sure to have the counterweights (7) securing screw uppermost. Lower the armlift and position the cartridge in the space between tonearm rest (3) and platter. Carefully move the counterweight (7) along the support rod, until the armtube (2) balances out. The arm should return to the balanced position if it is moved up or down. Do not forget to remove the cartridge protection cap if fitted.

With the power off, and the platter static, place the supplied stylus pressure gauge onto the platter.

Carefully lower the armlift and position the tip of the stylus on the pressure gauges measuring tongue. The downforce will be displayed digitally.

Adjust the Downforce, using the knob (6), to the cartridge manufacturer's recommendations. This adjustment must be done with the tonearm resting on the tonearm rest (3). Finally secure the counterweight with the securing screw (7).

The counterweight (7) supplied is suitable for cartridges weighing between 18 - 40g.

Anti-skating force adjustment (Ortofon RS and AS tonearms)

The anti-skating force must be adjusted corresponding to the downforce. Rotate the knob (5) to adjust the Anti-skating force. One mark on the scale represents 5 mN (= 0,5g / 0,5 Pond) of downforce.

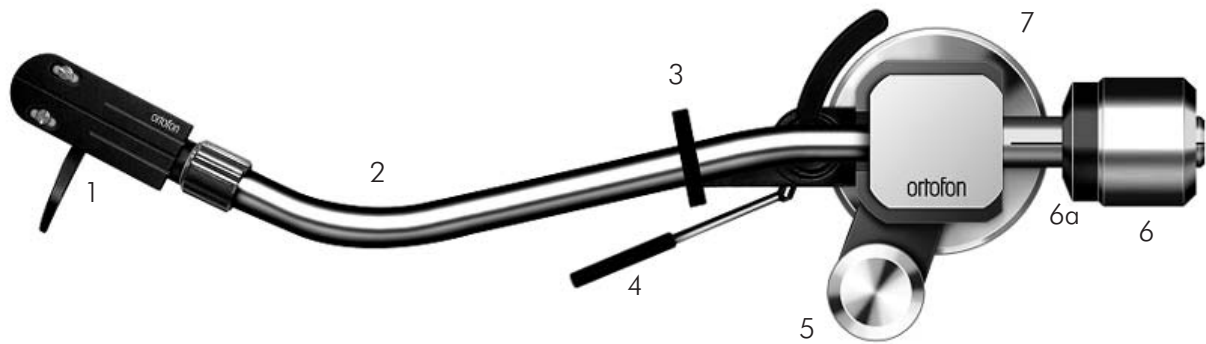
Adjusting the vertical tracking angle -vta- (Ortofon RS and AS tonearms)

Put a record on the platter. When the needle is lowered into the record groove and the tonearm is not resting on the tonearm rest (3), the surface of the cartridge body should be parallel to the surface of the record.

If it is not loosen the hexagon screw in the tonearm base (8 RS tonearms or 7 AS tonearms) just enough to allow vertical movement of the arm pillar without force and slide the arm up or down until it is parallel.

Carefully retighten the hexagon screw without applying excessive force (which would deform the arm pillar) – finger tight is quite sufficient.

Ortofon AS tonearms



- 1 Detachable headshell with finger lift
- 2 Tonearm tube
- 3 Tonearm rest and removable transport lock
- 4 Tonearm lift lever
- 5 Anti-skating force adjustment knob
- 6 Tonearm counterweight * 6a Downforce scale
- 7 Tonearm base

Cartridge downforce adjustment

Remove the transport lock (3) from the tonearm. Store it in the original packaging so they are available for any future transportation. Set the knob (5) to 0.

Pushing carefully, turn the counterweight (6) onto the rear end of the tonearm tube (2), so that the downforce scale (6a) shows towards the front of the player. Lower the armlift and position the cartridge in the space between arm rest and platter. Carefully rotate the counterweight (6) until the armtube balances out. The arm should return to the balanced position if it is moved up or down. Do not forget to remove the cartridge protection cap if fitted.

Once the arm is correctly balanced return it to the rest (3). Hold the counterweight (6) without moving it, and gently revolve the downforce scale ring (6a) until the zero is in line with the black line at the rear end of the tonearm tube (2). Check whether the arm still balances out.

Rotate the counterweight counter clockwise (seen from the front) to adjust the downforce according to the cartridge manufacturer's recommendations.

The counterweight (6) supplied is suitable for cartridges weighing between 18 - 25g. An alternative weight for cartridges weighing between 26 - 38g is available as an accessory part.

Anti-skating force adjustment and Adjusting the vertical tracking angle -vta-

See Ortofon RS-tonearms

Fitting and connecting the cartridge

All cartridges with half inch mounting holes can be fitted. Leaving the needle's protection cover on, fit the cartridge to the headshell using the screws supplied with the cartridge by passing one screw through each slot in the headshell (1). Do not tighten the nuts yet.

Connect the tonearm wires to the cartridge pins as follows:

white	left channel positive (L+)
red	right channel pos. (R+)
green	right channel return (R -)
blue	left channel return (L -)

The full sound quality of the record player can only be achieved if the cartridge is correctly adjusted. Particular tools like the PRO-JECT alignment tool are required to accomplish this job properly. If you are not well acquainted with the adjustment of cartridges you are advised to call upon the willing help of your PRO-JECT dealer to accomplish this task for you.



Please note: adjusting a cartridge and tonearm calls for the greatest care in order to avoid damaging the cartridge or tonearm bearings. Leave this work to your dealer if you are in any way unsure of the necessary steps and precautions to be taken.

Connection to the amplifier

Connect the tonearm cables to the Phono input (sometimes labelled gram, disc or RIAA) on your amplifier. Make sure that the phono input offers correct matching and amplification for the type of cartridge used. Line inputs (such as CD, Tuner, Tape or Video) are not suitable.

Take care to connect the left and right channels correctly. The right channel is usually marked red, the left channel black or white. Check the manual supplied with your amplifier for relevant information. An earthing wire may be connected to the screw terminal between the sockets if you encounter hum problems when using the record player.

If your amplifier does not have an input suitable for phono cartridges you will require a separate phono amplifier stage for MM or MC cartridges such as the PRO-JECT PHONO BOX or the PRO-JECT TUBE BOX which is then connected between the record player and a free line level input of the amplifier.

For detailed product information please refer to the Pro-Ject web site www.project-audio.com.

Mains power connection

The turntable is supplied with a power supply suitable for your country's mains supply. Check the label before connecting to ensure compliance with the mains rating in your house.

Connect the low voltage plug from the power supply to the socket (1) on the rear of the record player before connecting the power supply to the mains.

Fitting the lid

Fit the lid (dust cover 9) carefully over the hinge prongs and adjust the screws (8) until the lid stays open where you want it to without being too stiff to open or close.

Starting the motor, Stand By

Pressing the button **Speed Change** will switch on the player from stand by. Press and hold the button **Speed Change** to put the unit into stand by.

Changing replay speed

The belt must be on the smaller (50Hz models) larger (60Hz models) diameter part of the motor pulley.

Press the button **Speed Change** to switch between 33 and 45 r.p.m.. The selected speed will be displayed digitally.

To replay records at 78 r.p.m. perform the following steps: Remove the pulley cover. Using the tool (3a), fit the belt (3) around the larger (50Hz models, for 60Hz models the smaller diameter has to be used) diameter step of the pulley (2). Start the turntable by pressing the button **Speed Change** and switch the speed to 45 r.p.m., the platter will then revolve at 78 r.p.m.. The display still shows 45 r.p.m..



Pitch control

Repeatedly pressing the + or - buttons increases or decreases the replay speed in twenty steps of 0,1 r.p.m. respectively. The adjusted speed is displayed digitally.

Maintenance and cleaning

Your record player requires little or no regular maintenance. Remove dust with the supplied antistatic cloth. It is recommended to fit the needle cover before cleaning or maintenance is carried out to avoid damage.

If the player is not used over a long period of time the drive belt can be removed to prevent unequal stretching.



Always disconnect the record player from the mains power supply as a precaution before maintenance!

Useful tips

The base and the record player should be positioned on a low-resonance surface such as wood or multiple layer ply board to avoid structural vibrations disturbing replay.

Technical specifications PRO-JECT Xtension

* Electronic speed change	* 33,33/* 45,11 and 78 r.p.m.
Speed variance	±0,09 %
Wow and flutter	±0,01 %
Signal to noise	-73dB
Power consumption	2W
Outboard power supply	16V/1.000mA AC, suitable for your country's mains supply
Dimensions (W x H x D)	550 x 250 x 450mm, dust cover open 550 x 550 x 560mm
Weight	20kg

Technical specifications Ortofon RS-212D and Ortofon RS-309D

Tonearm	medium mass
Supplied counterweight	cartridge weight 18 - 40g (including headshell)
Downforce range	0 - 50mN
Effective tonearm length	RS-212D - 229mm / RS-309D - 326mm
Overhang	15mm
Offset angle	RS-212D - 22 Grad / RS-309D - 19 Grad
Tonearm cable length	approx. 120cm
Weight	RS-212D - 655g / RS-309D - 725g (plus headshell and cartridge)

Technical specifications Ortofon AS-212S and Ortofon AS-309S

Tonearm	medium mass
Supplied counterweight	cartridge weight 18 - 25g (including headshell)
Optional counterweights	cartridge weight 26 - 38g (including headshell) AS-212S - weight C / AS-309S - weight D
Downforce range	0 - 50mN
Effective tonearm length	AS-212S - 229mm / AS-309S - 326mm
Overhang	15mm
Offset angle	AS-212S - 22 Grad / AS-309S - 19 Grad
Tonearm cable length	approx. 120cm
Weight	AS-212S - 483g / AS-309S - 535g (plus headshell and cartridge)

Potential incorrect use and fault conditions

PRO-JECT turntables are manufactured to the highest standards and undergo strict quality controls before leaving the factory. Faults that may possibly occur are not necessarily due to material or production faults but can sometimes be caused by incorrect use or unfortunate circumstances. Therefore the following list of common fault symptoms is included.

The platter doesn't turn although the unit is switched on:

- The unit is not connected to the mains power supply.
- No mains at the socket.
- Drive belt is not fitted or has slipped off.

No signal through one or other channel or both channels:

- No signal contact from the cartridge to the internal tonearm wiring or from that to the arm lead or from that to the phono box or between that and the amplifier. This could be due to a faulty plug, broken wire or solder joint or simply loose plug/socket connection.
- Phono input not selected at amplifier.
- Amplifier not switched on.
- Amplifier or speakers defective or muted.
- No connection to the loudspeakers.

Strong hum on phono input:

- No earth connection from cartridge or arm or arm cable to amplifier, or earth loop.

Distorted or inconsistent sound from one or both channels:

- Record player is connected to wrong input of amplifier, or MM/MC switch incorrectly set.
- Needle or cantilever damaged.
- Wrong r.p.m., drive belt overstretched or dirty, platter bearing without oil, dirty or damaged.

Service

Should you encounter a problem which you are not able to alleviate or identify despite the above information, please contact your dealer for further advice. Only when the problem cannot be resolved there should the unit be sent to the responsible distributor in your country.

Guarantee repairs will only be effected if the unit is returned correctly packaged. For this reason we recommend keeping the original packaging.

Never return a record player without making sure that it is safely disassembled and correctly packaged in the original packaging according to the diagrams on the last page of this user guide. Please remove these parts and pack them separately: feet, counterweight, platter, cartridge and belt. Fit the cartridge protection cap. Insert the transport lock for the tonearm prior to carefully packaging the record player.

Warranty



The manufacturer accepts no responsibility for damage caused by not adhering to these instructions for use and/or by transportation without the original packaging. Modification or change to any part of the product by unauthorized persons release the manufacturer from any liability over and above the lawful rights of the customer.

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The information was correct at the time of going to press. The manufacturer reserves the right to make changes to the technical specification without prior notice as deemed necessary to uphold the ongoing process of technical development.

