Warning: To prevent fire or shock hazard, do not expose the P4 to moisture or rain.
Thank you for purchasing the ADS P4, a fully automatic turntable of advanced electronic, acoustical and mechanical design. The P4 brings the benefits of ADS’ \textit{DD}^a technology to analog disc playback. The combination of the \textit{Direct Drive} motor system and \textit{Distributed Damping} of the mechanical systems provides superior sound reproduction, free from colorations caused by speed variations and spurious resonances.

The P4 employs a direct drive, quartz-locked servo-controlled motor system for low wow and flutter and accurate speed control. The P4 also has a pitch control for flexibility in adjusting and correcting the absolute pitch of recordings.

The P4 employs a sophisticated subchassis suspension system for the motor, platter and tonearm. The suspension design results in the platter being recessed in the base, greatly reducing its tendency to act as an acoustic "antenna". The P4 incorporates distributed damping and tuning of the resonances of its mechanical systems, assuring that no two resonances occur at the same frequency. Taken as a whole, this tuned and damped design eliminates or significantly reduces the effect of the turntable’s mechanical and acoustical environment on the quality of the reproduced sound.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK), NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
The P4 has fully-automatic start and stop modes. The ultra low mass tonearm system assures optimum performance with state of the art cartridges of any type. The P4 can be completely remote-controlled when connected to ADS Atelier equipment designed to provide this capability.

Carefully crafted from materials ideally suited to their applications, the P4 embodies the ADS traditions of engineering excellence, precision manufacturing and enduring value.

This manual provides information on the assembly, use and operational features of the P4. Please read it thoroughly and save it for future reference.

Thank you.

ADS, Analog & Digital Systems, Inc.

Unpacking

The P4 is packed in foam shells inside a rigid carton, with a foam wrap for dust protection. The platter, mat, dust cover, counterweight, hardware, universal headshell and other accessories are packed separately in the foam shells.

Remove the foam shells containing all parts of the P4 from the carton, as a unit. Remove the dust-cover, the top shell and other parts and packing, and remove the P4 from the bottom shell. **Do not** lift the P4 by the tonearm. Place the P4 in a convenient working location, with the other parts close at hand.

Please read **Features and controls**, following, before starting assembly of the P4. This will introduce you to the various parts.

**Shipping carton**  We suggest you save the carton and packing for future use. Moving or shipping the P4 in anything other than its factory carton can result in costly damage which is not covered by the warranty.
Unpacking

4 Owner’s record  Please record the P4 serial number, and the date and place of purchase in the spaces below:

____________________________________
Serial Number:

____________________________________
Date of Purchase:

____________________________________
Place of Purchase:

We urge you to save your sales receipt for future reference; you may want to attach it to this manual. Completing and mailing your Owners Registration Card enters your purchase into our files.

Features and controls

Base  is molded of high density, mineral-filled ABS and provides support for the “floating” platter/tonearm suspension system and the operating controls. The subchassis suspension system provides the P4 with a high degree of acoustical and mechanical isolation from the external environment and from disturbances associated with turntable control operation.

Dust cover  provides protection for the platter and tonearm.

power  pushbutton switches the AC power on and off. Power-on is indicated by illumination of the mode indicator LEDs.

Speed control  provides ± 5% adjustment of the motor/platter speed when the quartz button is pushed and the lock LED is off. Speed adjustment is indicated by the stroboscope lines visible in the adjacent window. Exact speed is obtained by adjusting the speed control until the stroboscope lines appear to be stationary.

lock  LED lights when the quartz-controlled system is on and the platter is turning at precise speed.

quartz  pushbutton alternately locks and releases the quartz-controlled system for motor/platter speed.
**Stroboscope window** provides viewing of the stroboscope lines on the platter. The lines indicate the speed adjustment for both 33 and 45 RPM.

**stop** LED lights when the stop mode is selected.

**12** LED lights when the tonearm set-down for 12” discs is selected.

**7** LED lights when the tonearm set-down for 7” discs is selected.

**33** LED lights when the 33 1/3 RPM speed is selected.

**45** LED lights when the 45 RPM speed is selected.

**lift** LED lights when the tonearm is lifted using the **lift** pushbutton.

**start/stop** pushbutton initiates the automatic start sequence when the P4 is stopped or the automatic stop sequence when the P4 is playing.

**12/7** pushbutton alternately selects the correct automatic tonearm set-down for either 12” or 7” analog discs.

**33/45** pushbutton alternately selects 33 1/3 RPM or 45 RPM platter speed.

**lift** pushbutton alternately selects the lift and drop of the tonearm for cueing to a desired groove or band of the disc. Both lift and drop of the tonearm are motor-driven.

**< > ** rocker pushbutton controls the lateral motion (indexing) of the tonearm over the disc by means of a linear motor. Pushing the button down lightly on the left side moves the arm slowly to the left. Pushing the button firmly on the left moves the arm rapidly to the left. Similarly, pushing the button lightly or firmly on the right moves the arm to the right. Pushing the rocker during disc play causes the arm to lift before it moves.

**Universal headshell** holds a cartridge with 1/2” mounting centers for use with the P4. The headshell is low in mass and is non-resonant.

**Tonearm** is an ultra low mass, straight tube design with dynamic balancing in all planes and ball-bearing pivots in both axes to provide the friction-free environment necessary for superior tracking characteristics.
Features and controls

**Tracking force control** provides precise vertical tracking force for the cartridge. The scale is calibrated in grams.

**Counterweight** moves to exactly balance the tonearm and cartridge. The counterweight accepts additional weights to balance heavier cartridges.

**Lift height screw** adjusts the height of the tonearm and stylus above the disc when the lift button is pushed. Turning the screw counterclockwise lowers the tonearm, turning it clockwise raises the tonearm.

**Anti-skating control** has two scales which correspond to vertical tracking force. The outer scale is the reference for elliptical styli, the inner scale for spherical styli.

**Tonearm rest and locking clip** support and secure the tonearm when not in use. To unlock the tonearm, push the clip toward the outside of the base. To lock, push the clip over the tonearm toward the center of the base.

**Platter** friction-fits on the center spindle, which is an extension of the motor shaft. The platter is cast with most of its weight in a ring at the edge of the platter, providing a large moment of rotational inertia for low wow and flutter.

**Rubber mat** cushions the disc, makes the platter acoustically inert and damps resonances within the disc itself.

**Transport screws** lock the platter/tonearm subchassis for shipping. They must be removed before operating the P4.

**Transport screw storage holes** in the platter-well store the transport screws during use of the P4.

**Overhang adjustment shaft** mounts in the platter-well to serve as a cartridge overhang adjustment guide.

**Overhang adjustment mounting hole** in the platter-well holds the overhang adjustment shaft during adjustment of cartridge overhang.
**Dust cover mounting slots** receive the legs of the dust cover hinges.

**Power cord** plugs into an unswitched convenience outlet or wall socket. Power consumption of the P4 is 12 Watts, maximum.

**Audio cables** consist of left and right channel cables terminated in "phono" type plugs and a ground wire with a spade-lug terminal. The left channel plug is black, the right channel red.

**45 RPM disc center adapter** provides the correct spindle diameter for 7", 45 RPM discs.

**Note:** Please complete all other assembly steps before installing the dust cover.

If you are installing a dealer-prepared P4, please turn directly to **Placement and connection**, page 12, following. If you are assembling the P4 yourself, follow the directions in this section.

**Transport screw removal** The turntable/tonearm subchassis is locked in place by three brass-colored screws located in the platter-well. Unscrew these screws completely with a screwdriver or coin-edge and store them in the three holes provided in the platter-well.

**Cartridge connection and mounting in headshell** ADS recommends that you consult your ADS dealer for assistance in mounting and aligning the cartridge. The sonic performance of the system depends upon correct cartridge mounting. Your dealer has the necessary experience to do the job correctly. Many dealers have a variety of mechanical and electronic instruments to check the cartridge orientation. Use the following instructions to do the installation yourself:

The P4's universal headshell accommodates cartridges which have the following specifications:

- 13mm/½" mounting centers.
Assembly and adjustment

- Total weight, including mounting hardware, from 2 to 11 grams.

- Height, from stylus to mounting surface, of 18.5mm/47/64”.

Check the specifications of the cartridge you intend to use for conformity with these requirements. If your cartridge has a height specification less than 18.5mm, it can be shimmied with spacer bars to the 18.5mm height. If the cartridge height is considerably greater than 18.5mm, it may not have adequate clearance of the disc during cueing or automatic start and return. If you have any questions about cartridge suitability, consult your dealer.

Push the terminals at the ends of the colored wires of the headshell onto the cartridge pins as follows:

**White** wire to left channel signal pin.
**Blue** wire to left channel ground pin.
**Red** wire to right channel signal pin.
**Green** wire to the right channel ground pin.

Many cartridges have color coding of the pins which matches the color coding of the wires. Other cartridges will be marked with letters such as L, LG, R, and RG to denote the connections. See the instructions supplied with your cartridge. Leave the stylus guard in place during this procedure.

A hardware assortment is supplied with the universal headshell. Select hardware appropriate for the cartridge you are using.

Insert the proper length screws through the holes in the fingerlift of the headshell, and hold the heads of the screws and the fingerlift against the top of the headshell. Place any necessary spacer bars over the screws and then place the cartridge over the screws. Run the nuts down the screws and lightly against the cartridge so that the cartridge, fingerlift and screws can slide on the headshell for overhang adjustment.

**Cartridge/Headshell mounting** Keep the tonearm locked on its rest. Loosen the small knurled retaining screw under the end of the tonearm without removing it completely. Hold the headshell in normal playing position just in front of the end of the tonearm. Gently insert the receptacle end of the headshell straight into the end of the tonearm. Push the headshell fully into
the end of the tonearm until it will go no further. Tighten the retaining screw into the tonearm until you feel resistance. This screw does not need to be very tight to adequately secure the headshell.

**Cartridge overhang adjustment** If they are installed, remove the mat and platter and place the overhang adjustment shaft in the overhang adjustment mounting hole in the platter-well.

Plug the P4's power cord into a convenient AC outlet and turn on the P4. Release the tonearm locking clip. Push the *lift* button so that the *lift* LED is on. If the tonearm tube does not lift above the tonearm rest, adjust the lift height screw. Turning it clockwise will raise the tonearm. Move the cartridge and tonearm toward the center of the platter-well by hand. Stop when the cartridge is just above the end of the overhang adjustment shaft.

Align the cartridge by sliding it on the headshell until the stylus tip is precisely over the point of the overhang adjustment shaft. Align the cartridge so that its horizontal centerline is exactly parallel to the centerline of the headshell and tighten the screws which hold the cartridge on the headshell. Return the tonearm to its rest and remove the overhang adjustment shaft from the platter-well.

**Counterweight mounting** The counterweight comes with two additional weights. One of the weights must be added to the counterweight for cartridges that weigh between 2 and 6 grams. The second weight must be added for cartridges that weigh between 6 and 11 grams. To add the weight(s), unscrew the threaded plastic core from the rear end of the counterweight, using a coin edge in the slots in the core. Screw one or both of the accessory weights as needed onto the core, then screw the core back into the counterweight.

Hold the counterweight near the rear end of the tonearm tube, with the end opposite the recess for the extra weights facing the end of the tonearm. Place the hole in the counterweight over the end of the tonearm tube and, turning the counterweight clockwise, screw it onto the tube. Run the counterweight about half-way onto the tonearm’s rear tube.
Assembly and adjustment

Tonearm balance adjustment  Be sure that both the tracking force control and the anti-skating control are set to their "zero" positions. Unlock the tonearm from the rest. Move the tonearm by hand horizontally over the empty platter-well to a point half-way between the tonearm rest and the turntable center spindle. Push the lift button to turn off the lift LED and lower the tonearm.

Cage the fingerlift between thumb and forefinger and release the tonearm. If it moves upward, screw the counterweight further onto the arm a little at a time until the tonearm "floats" exactly parallel to the top of the base. If the tonearm moves downward, unscrew the counterweight a little at a time until balance is achieved. Adjust the counterweight carefully so that exact balance is achieved. Return the tonearm to its rest.

Vertical tracking force adjustment  The scale on the tracking force control is inscribed with numbers running from zero to 2 which correspond to the vertical tracking force range, in grams, from the zero balance point. The control is also inscribed with lines in fine increments to aid in precise adjustment. The base of the control is inscribed with an index line.

Turn the tracking force control so that the line corresponding to the tracking force you desire is aligned with the index line inscribed on the control base.

Anti-skating adjustment  The anti-skating control below the tonearm is inscribed with two scales of numbers which correspond to the tracking force used with the cartridge. The outer scale is for use with an elliptical stylus. The inner scale is for use with a spherical stylus.

Adjust the control so that its index is aligned to the number corresponding to the tracking force and stylus tip shape you are using.

Platter and mat mounting  Pick up the aluminum platter by its two finger-holes. Carefully place the platter, smooth side up, over the spindle. Do not force the platter down onto the spindle. It will seat itself.

Place the rubber mat, matte-finished side up, over the spindle and onto the platter.
**Cartridge orientation** Place a standard LP disc on the turntable and bring the tonearm to the center of the grooved area of the disc. Bring the stylus into contact with the surface of the disc by using the tonearm lift pushbutton. Check the orientation of the cartridge and stylus to the surface of the disc as follows:

Check that the horizontal, long axis of the stylus cantilever (or cartridge body) is parallel to a line tangent to the circle of the disc groove at the point of stylus contact. This tangency is most critical at the inner grooves of the disc.

Some cartridges are supplied with a gauge, template or other system for obtaining proper cartridge orientation. To use such systems, bring the stylus into contact with the disc and then unplug the power cord of the P4. This will stop the platter motor and leave the stylus in contact with the disc. Move the arm by hand, as needed.

Check that the tonearm tube is nearly parallel with the surface of the disc. Use spacer bars between the cartridge and headshell as needed to adjust the arm for nearly parallel position.

Look straight into the end of the cartridge and check that the vertical centerline of the cartridge is exactly perpendicular to the surface of the record. If you can see the stylus clearly, check that it also is perpendicular to the disc surface.

Once correct orientation has been established, recheck the tonearm balance and adjust as needed.

**Dust cover mounting** Remove the protective covering from the dust cover and hold it so that the hinge legs at the rear corners are directly above the mating slots in the rear corners of the P4’s base. Carefully place the legs in the slots and push them in fully. The cover is closed by bringing the front edge down to the base.
Placement and connection

Use this section to guide you in placing and connecting the P4. If you have completed the assembly and adjustment of the P4 as directed in the instructions above, skip the Transport screw removal and Platter and mat mounting paragraphs below. If you are installing a dealer-prepared P4, follow all of the directions in this section.

When you have completed the procedures in this section and your P4 is working, please read the Operation section following. The Assembly and adjustment section contains information on mounting a cartridge and adjusting the tonearm if you change cartridges.

Placement The surface on which you place the P4 must be level, rigid and stable so that the P4 is isolated from severe bouncing or shaking. All four of the P4’s feet must be in contact with the surface.

Place your P4 adjacent to your receiver, preamplifier or integrated amplifier and within the length of the P4’s cables. You may stack your P4 on top of any of the other ADS Atelier series components.

Choose a location for the P4 which provides clearance for the dust cover to fully open. You will need approximately 400mm/15 3/4” above the surface on which the P4 is placed. You may use the P4 without its dust cover, if necessary. Avoid doing so if at all possible.

Connection to receiver (or amplifier) The audio cables attached to the P4 provide color coded left and right channel phono connectors and a ground lead. If you are using a moving-magnet type cartridge or one of the high-output moving coil cartridges, plug the P4 phono connectors into the “MM” or “Mag. Phono” input jacks on your receiver. If you are using a moving-coil type cartridge, plug the P4 phono connectors into the “MC” or “Moving-Coil” input jacks on your receiver. Plug the black connector into the left channel jack and the red connector into the right channel jack; connect the ground lead to the ground post (or screw) on the receiver.

Note: Follow the cartridge manufacturer’s recommendations for which input to use.

When the above connections are complete, turn your receiver on, select the appropriate phono input, and turn up the level control while listening for hum and noise. The cartridge and headshell must be attached to the tonearm for this step. If your connections are secure, you should hear no hum or noise until the level control is at a high setting. If you hear significant hum or noise, turn the level control down and check the
connections, particularly of the ground wire. If the problem persists, consult the In case of difficulty section of the manual.

**AC power connection** Plug the P4 power cord into an unswitched convenience outlet on your electronic equipment or directly into a wall socket. Using an unswitched outlet prevents the possibility of turning the system off in mid-disc and leaving the stylus in the groove. The P4 will return the tonearm to its rest and turn off its motor at the end of the disc.

**Transport screw removal** There are three brass colored screws in the platter-well, beneath the platter, which lock the platter and tonearm subchassis securely to the base for shipping. Unscrew these screws completely with a screwdriver or coin edge and store them in the three holes provided in the platter-well.

**Platter and mat mounting** Pick up the aluminum platter by its two finger holes and carefully place it, smooth side up, over the spindle in the center of the platter-well. Do not force it down on the spindle; it will seat itself.

Place the rubber mat, matte-finished side up, over the spindle and onto the platter.

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**Playing a standard LP disc** Set a disc on the platter and push the power button to turn on the P4. Power-on is indicated by illumination of the mode LEDs on the top edge of the front panel. Push the 12 button to set the P4 for correct set-down. Push the 33 button and unlock the tonearm locking clip on the tonearm rest. Push the start/stop button to set the P4 into automatic operation.

As the disc plays, turn up the level control of the receiver. If you hear no sound, or weak or distorted sound, consult the In case of difficulty section of the manual, following.

The speed control provides ±5% adjustment of the platter speed when the quartz-controlled system is turned off using the quartz pushbutton. Turning the knob to the left, toward +, increases the speed and turning the knob to the right, toward −, decreases the speed. Exact speed adjustment is indicated by stationary lines of the stroboscope ring visible in the adjacent window.
The *lift* pushbutton provides for pickup and setdown (cueing) of the tonearm without damage to the disc or the stylus. When the tonearm is lifted, the stylus may be set above the desired band of the disc and then lowered to play the selection.

The tonearm may be moved either by hand, or by using the  

| ←  | →  | ↑  | ↓  |

control. The  

| ←  | →  | ↑  | ↓  |

rocker pushbutton controls the lateral motion of the tonearm over the disc by means of a linear motor. Pushing the button down lightly on the left side moves the arm slowly to the left. Pushing the button firmly on the left moves the arm rapidly to the left. Similarly, pushing the button lightly or firmly on the right moves the arm to the right. Pushing the rocker during disc play causes the arm to lift before it moves. Return the stylus to the disc by pushing the *lift* pushbutton. The *lift* LED will go out and the arm will descend smoothly.

The P4 automatically returns the tonearm to its rest and turns its motor off at the end of the disc. If you want to stop disc play, push the *start/stop* pushbutton and the stop sequence will begin.

**Playing a 45 RPM, 7" disc** Follow the procedure described above, but push the 45 button for correct speed and the 7 button for correct set-down. Use the 45 RPM disc center adapter with large-hole 7" discs.

**Remote control** Because it has microprocessor control of all modes, the P4 may be remotely controlled. The P4 receives its coded remote control signals from the remote controlled Atelier receiver to which it is connected. Please see the Owner’s manual for the receiver for instructions on using the remote control functions.
In case of difficulty

Some of the common difficulties you may encounter are discussed below, with possible remedies. If you are not successful in solving your problem, consult your ADS dealer. If you want factory assistance, write or call:

Customer Service Manager
ADS, Analog & Digital Systems, Inc.
One Progress Way
Wilmington, MA 01887
617 658-5100

Acoustic feedback  Acoustic feedback is the source of many problems in disc playback. If you experience “muddy” sound, “growling” or “roaring” sounds or gross distortion during high level playback, acoustic feedback may be to blame. The suspension system of the P4 is specifically designed to reduce or totally eliminate this problem which is caused by acoustic modulation of the stylus/cartridge system by energy from the loudspeakers. Acoustic feedback usually occurs during heavy bass passages and is made worse by using bass-boost or loudness compensation controls on the receiver.

Some remedies are to increase the physical distance between the loudspeakers and the P4 and to reduce the amount of bass-boost and/or loudness compensation used.

Groove skipping  The principal causes of groove skipping and jumping are flimsy support for the turntable, acoustic feedback, gross departure of the turntable from “level,” or poorly pressed or scratched discs.

Some possible remedies are to use better quality discs and to thoroughly clean discs which cause problems. If acoustic feedback is the culprit, see the remedies above. The P4 should be reasonably level. Use a bubble level on the top of the base to check level, and shim under the feet of the P4 as necessary. Groove skipping often occurs when someone walks across a “springy” floor. If possible, reinforce the floor. Placing the P4 on a shelf attached to the wall will help isolate the P4 from floor movement.

Distortion or noise  The most common causes of distortion in disc playback are worn or damaged discs, a worn, damaged or dirty stylus, insufficient vertical tracking force and incorrect alignment of the stylus in the groove.
In case of difficulty

Some remedies are to use new discs and to thoroughly clean discs which cause trouble. Keeping the stylus clean, the tonearm in proper balance and the tracking force correct are important; see Maintenance, following. If you suspect a damaged stylus or incorrect alignment of the stylus in the groove, consult your ADS dealer.

Noise in disc playback usually occurs as “hum” or “buzz.” Scratches and pops from worn or dirty discs, annoying as they are, are not malfunctions of the playback system. Hum and buzz are the result of loose or poor connections or of radio-frequency interference (RFI).

Check all connections at the cartridge and the connections of the audio cables and ground wire at the receiver. If the problem occurs in only one channel, try swapping the channel connections at the receiver to identify the source of difficulty. Incorrect connection of the headshell wires to the cartridge pins can cause a bizarre variety of difficulties, from the loss of soloists or bass response to loud hums and buzzes. RFI is characterized by rasping buzzes or actual voice or music pickup. RFI is minimized by correct and secure connections in the audio system. Solutions to RFI problems are beyond the scope of this manual. Please consult your ADS dealer for assistance.

Use of the P4 by children or party guests will occasionally result in damage to the stylus or its cantilever. If you experience very scratchy or distorted sound, or the stylus will not track the groove, inspect the stylus tip and cantilever carefully. A small magnifying glass is helpful. If the cantilever is bent or if the stylus is broken or missing, consult your ADS dealer.

No power If the turntable platter does not turn, or turns erratically, check the quality of the connection of the power cord to the AC socket or outlet. Check to see that the outlet is “live” with a lamp or tester. In the rare event that the P4 is defective, consult your ADS dealer. There are no user serviceable parts inside the P4. Do not remove the bottom cover of the P4 as you will be exposed to possibly lethal voltages.
Maintenance

Maintenance of your P4 involves keeping the unit clean, dust-free, and in proper adjustment.

**Stylus** Inspect the stylus regularly for build-up of dirt and vinyl around the tip. Use a small brush or commercial stylus cleaner to keep the stylus clean. Always brush the stylus in the direction of normal disc movement to avoid damage to the stylus or cantilever.

Have the stylus microscopically inspected for wear on a regular basis. Typical stylus life ranges from 500 to 2000 hours of actual use. Checking the stylus every two or three months of normal use will catch wear before it becomes serious.

**Tonearm** Check the adjustment of the tonearm balance regularly by following the procedure given in Assembly and adjustment. Tonearm balance adjustment, above. Check the setting of the anti-skate disc at the same time. The tonearm can be dusted with a soft brush.

**Dust cover** Clean the dust cover periodically with a damp cloth. Static build-up on the cover can be eliminated by use of one of the commercial preparations sold for this purpose. Fine scratches can be removed with commercial plastic polishes. Do not use any type of cleaning solvent or cleaner that is not approved for use on plastics.

**Rubber mat** Remove the mat and dust it regularly with a soft brush. It can be wiped with a damp cloth to remove stubborn material. Following this procedure will greatly reduce transfer of dust from the mat to the disc.

**Base** The base can be dusted with a soft brush. Do not use any solvents or strong cleaners on the base. Do not allow moisture to enter the P4. Wipe up any spills immediately with a soft cloth.
Moving the P4

If you are moving the P4 for cleaning or just across the room, lock the tonearm to the rest. You do not need to remove the platter or mat.

If you are moving the P4 some distance unpacked, lock the tonearm, remove the dust cover, the mat and the platter, and re-install the transport screws which are stored in the platter-well. Remove the headshell and counterweight from the tonearm and replace the dust cover. Place the stylus guard over the stylus to protect it.

Removing the dust cover before removing the platter will prevent the platter from suddenly popping off the spindle and striking the dust cover. If the platter does not lift easily off the spindle, do not rock it from side to side. Pull up on the platter using the finger-holes and gently tap the end of the spindle with a screwdriver handle until the platter pops free.

If you are shipping the P4 by truck, UPS or moving van, repack the P4 exactly as it was shipped from the factory in the original packing materials. Incorrect repacking will result in damage to the P4 which is not covered by the warranty. Your ADS dealer may be able to help you replace any missing packing material.

Specifications

<table>
<thead>
<tr>
<th>Drive system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor: Direct Drive, frequency generator servo-controlled. Quartz phase-locked loop servo system.</td>
</tr>
<tr>
<td>Speeds: 33 1/3 and 45 RPM.</td>
</tr>
<tr>
<td>Speed accuracy, quartz-lock on: ± 0.05%</td>
</tr>
<tr>
<td>Speed drift, quartz-lock on: ± 0.005%</td>
</tr>
<tr>
<td>Speed adjustment range, quartz-lock off: ± 5%</td>
</tr>
<tr>
<td>Speed indication: Stroboscope with green display Viewing angle approx. 50°</td>
</tr>
<tr>
<td>Wow and flutter: ± 0.025% WRMS / ± 0.035% DIN</td>
</tr>
<tr>
<td>Rumble: 75 dB DIN B/53 dB DIN A</td>
</tr>
<tr>
<td>Platter: Die-cast aluminum</td>
</tr>
<tr>
<td>Platter diameter: 300 mm/11 3/4&quot;</td>
</tr>
<tr>
<td>Platter weight: 1.1 kilograms/2 lbs., 7 oz.</td>
</tr>
</tbody>
</table>
### Tonearm

**Tonearm material:** Straight, rigid aluminum tube.

**Bearings:** Four precision cone/ball-race assemblies, two in each axis.

**Effective length:** 221 mm/8 1/16".

**Cartridge overhang:** 17.9 mm/4 5/64".

**Headshell offset angle:** 24° 30'.

**Tangential tracking error:** 2.2", maximum.

**Vertical tracking force adjustment range:** 0 to 2 grams.

**Anti-skating:** Precise, constant force supplied by tonearm-drive linear motor. Adjustable to the tracking force range for elliptical and spherical styli.

**Tonearm lift:** Motor driven lift and drop.

### General cartridge requirements

**Mounting centers:** 13 mm/1/2".

**Total Weight:** 4 to 11 grams, including mounting hardware.

**Height:** 18.5 mm/4 5/64", from top mounting surface to stylus tip.

### Suspension system

**Suspension type:** Motor, turntable and tonearm are mounted to a subchassis which is suspended from the base assembly at four points. Suspension through tuned, damped vibration absorbers.
## Audio cables and connectors

**Signal cables:** Low-capacitance cables with "phono" type connectors for left and right channels. Ground connection by a separate ground wire with spade-lug terminal.

**Total signal-path capacitance:** Approx. 150pF including tonearm wiring.

## Remote control

**Type:** Remote functions implemented by microprocessor system internal to the P4. Coded control signals from hand-held remote unit must be relayed through companion Atelier receiver.

**Connection:** Multi-pin DIN cable from Atelier receiver to P4.

## Power supply

**Voltage/Frequency:** 120 Volts, 50/60 Hertz.

**Power consumption:** 12 Watts, maximum.

## Base and dust cover

**Base material:** High density, mineral-filled ABS.

**Dimensions:** 445 mm/17 1/2" W x 115mm/4 1/2" H x 362mm/14 1/4" D, with dust cover.

**Total height, dust cover fully open:** 380 mm/15".

**Dust cover:** Clear Acrylglass, detachable. Dust cover will remain open at any angle from 40° to fully open (approx. 60°).

**Total Weight:** 5 kg/11 lbs.