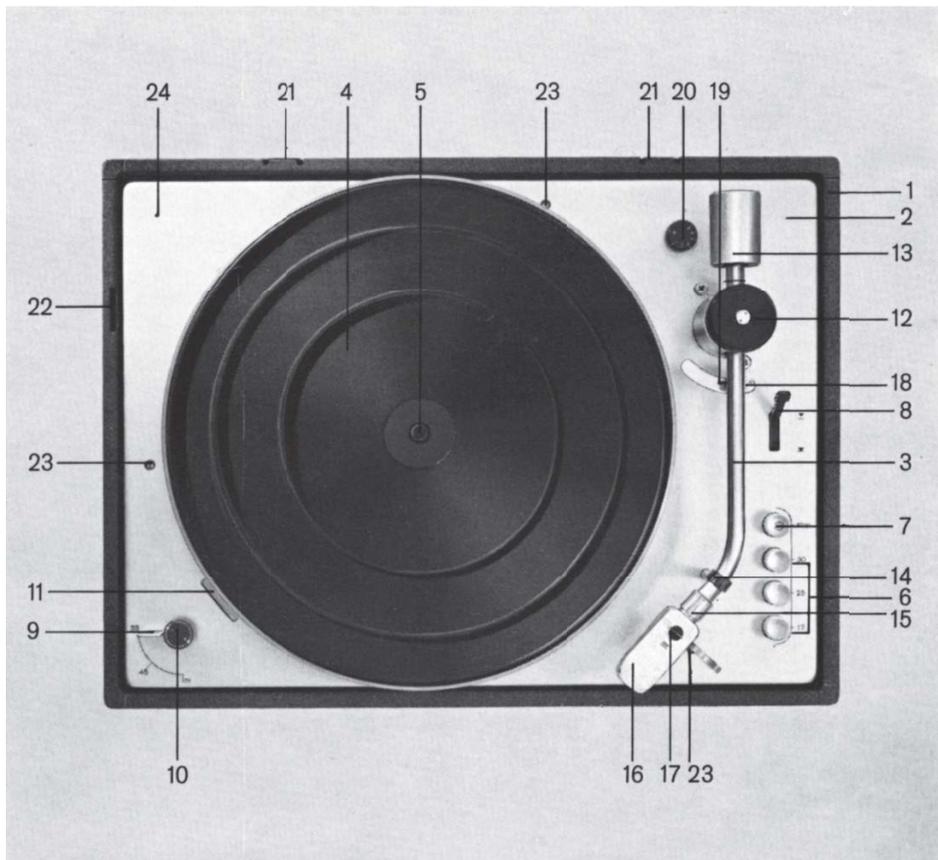


BRAUN

HiFi Stereo turntable
with automatic record changer, PS 600

User's guide



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General

The PS 600 is a HiFi studio unit with an automatic record changer. It is created for music lovers who want to have a record player, that has all the technical refinements for natural reproduction as well as, for continuous operation, offers the convenience of changing records automatically. It is driven by an electronically controlled, brushless motor. This new drive system is characterized by unusually smooth operation and independence of voltage and frequency variations in the mains.

The chassis is suspended by three oil-hydraulic dampers in the frame. This damping of the chassis is of particular value to a HiFi record player that operates with minimal stylus pressure. It protects the drive and the tone arm from vibrations, floor oscillations and even against firm thrusts.

To operate properly the turntable must be connected to an amplifier with an input for moving magnetic pickup systems.

Only quality HiFi stereo amplifiers

render justice to the excellent properties of the PS 600. Ideal combinations for PS 600 are e.g. Braun stereo amplifiers 500 CSV, CSV 1000/1 or the stereo receiver regie 501.

In changer operation mode a maximum of 10 records, with the same diameter, may be played in sequence. For this purpose, the vertical tracking angle of the pickup is adjustable.

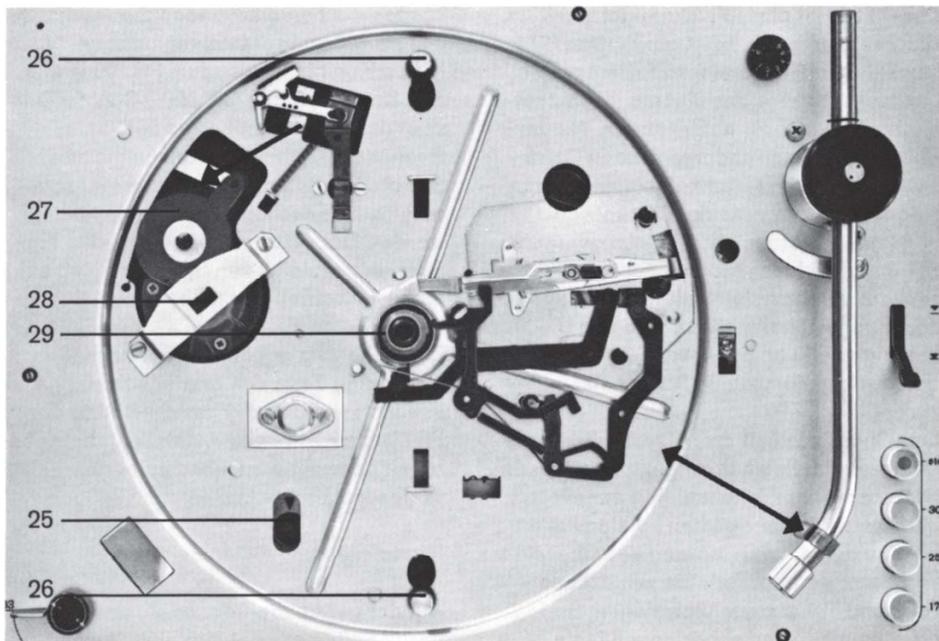
To protect against damage some parts of the record player are separately packaged and secured. How to make the PS 600 operational on its location, is described in the following section.

Please note:

On the opposite, there is a fold-out page with an overview of PS 600 with designation of all visible parts.

It facilitates the identification of the controls that are mentioned in the text with the corresponding reference numbers, without having to turn over the pages.

Preparation for playing



The turntable should be placed on a level, vibration-free and stable surface.

The cardboard strips between the chassis and frame are simply pulled out.

Check the voltage selector (25). The voltage indicated (black arrow on red dot) should correspond to the mains voltage. From the factory the voltage selector is set to 220 V; the switch over to 110 V can be done with a screwdriver.

The transport locks are released by turning the two thumb screws (26) (counter-clockwise) until they stop. When transporting the unit again these screws should be firmly retightened.

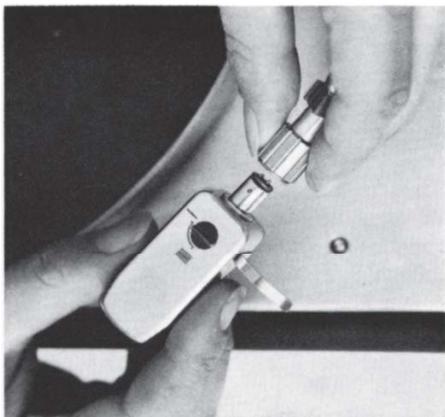
To avoid mechanical damage to the idler wheel (27), check that the changer mechanism is in the zero position, before mounting the turntable. The unit is indeed delivered in this state, but the mechanism may have been accidentally activated by pressing any of the buttons.

To check, do the following operations: Move the pickup arm a few centimeters (see figure) towards the center. If the idler wheel (27) moves in the arrow direction, and in the opposite direction when returning the arm, then the changer mechanism is in the zero position. Then gently push the idler wheel inwards towards the motor shaft (28) to its rest position and mount the turntable with a slight clockwise rotation. #1

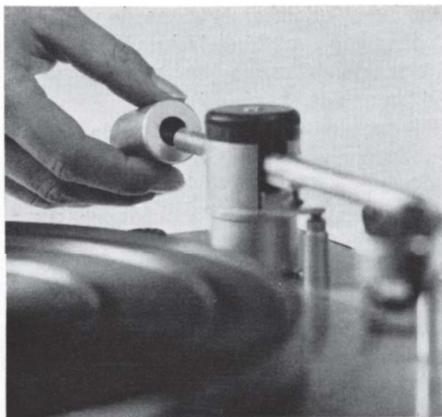
If the idler wheel is not moving, then one has to perform the following:

Put the tone arm on its rest (14) and lock it. Turn the turntable hub (29) in a clockwise direction until the idler wheel moves in the opposite direction of the arrow.

Then move the idler wheel by gently pushing it towards the motor shaft to its rest position, mount the turntable and the rubber mat.



The head shell (16) is inserted at the front end of the tone arm and tightened by clockwise rotation of the nut (15). Upon insertion, the guide pin must be fitted into the groove of the pickup arm tube. The counterweight (13) is screwed onto the rear end of the tone arm with the small bore diameter looking forward.



It is essential for the reproduction quality and the protection of the records that the tracking force is set correctly.

The PS 600, uses a counterweight to balance the weight of the tone arm, and a tension spring to generate the tracking force.

To set the tracking force one begins with turning the tracking force knob (12) to position «0», then lifts the tone arm from the tone arm rest (14) and pull the cueing lever (8) to the position labelled  (lowering).

Now rotate the counterweight, moving it in or out until the tone arm - with cartridge shell and pickup system - is floating parallel to the horizontal axis.

For the pickup system supplied from the factory, Shure M 75-G II, a tracking force of 1.2 to 1.5 gram is set with the tracking force knob (12). This value results in maximum record protection and optimal playback quality.

Playing records create a small force pulling the tone arm in the direction of the turntable center, i.e., it increases the tracking force on the inner groove wall (skating).

The necessary counter force, for each tracking force, may be set with the anti-skating knob (20). When the value on the anti-skating knob and the tracking force on the tracking force knob agree, the correct compensation for "skating" is achieved for pickup systems with conical stylus.

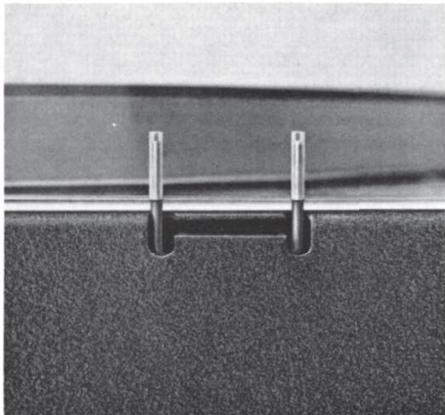
If the PS 600 is retrofitted with an elliptical stylus (e.g., N 75-E II),

the anti-skating value should be multiplied by a factor of 1.5.

The unit is now ready for connection to the mains.

The PS 600 can also be connected to 110 V, 50 Hz AC. The correct voltage is set with the voltage selector (25).

The connection between the turntable and the input jack of the amplifier is established with the standard round plug of the signal cable.



The «Dust Bug» is an accessory which may be purchased from specialist dealers.

With the three adjustment screws (23), the vertical position of the chassis within the frame may be adjusted. It is possible to do this visually, individually compensating for the conditions on the place of assembly. #2

The unit is now ready to play. For protection against dust and damages the included clear cover is mounted by fitting the eyelets in the corresponding notches (21) in the frame.

The lid support is inserted with its front end in the slots (22) in the frame. When the lid is raised the support will lock it in the open position.

A support axis for a record cleaner «Dust Bug» may be screwed into the thread (24) in the chassis.

Speeds

The desired speed is set with the speed change lever (9).

The rated speed may be adjusted continuously $\pm 3.5\%$, with the speed adjustment knob (10).

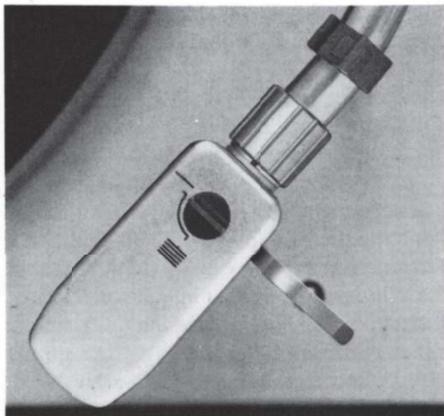
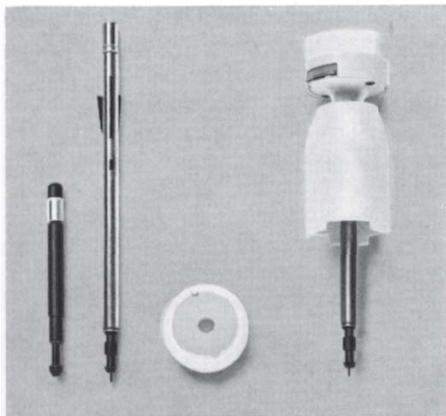
The adjustment of the speed changes the playback pitch, correspondingly. Such corrections may be desirable when the recording is to be accompanied by a live instrument, or if a listener with absolute pitch, finds that the recording is tuned too high or too low.

The strobe light indicator (11) shows, independently of any room lighting, when the turntable is running exactly at the speeds of 33, 45 and 78 rpm respectively, corresponding to the nominal values (from outside towards the centre). If this is the case, the black dots sit apparently still.

If the turntable runs faster, the black dots move in the direction of the turntable rotation; if it runs slower, they move in the opposite direction.

Please note: The desired possibility to change the speed, i.e. fixate it at different values, has nothing to do with the undesirable speed variations, caused by irregularities in the drive for devices which are of inferior quality. Such speed variations for PS 600 are so minimal (flutter $< 0.07\%$), that they always remain below the human perception threshold.

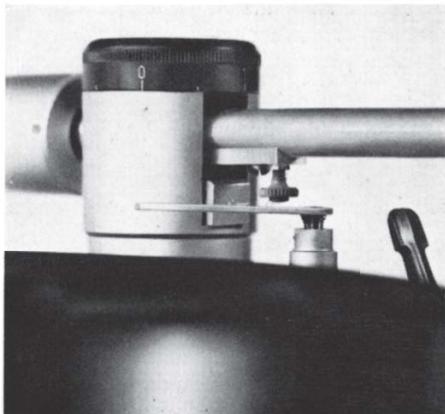
Playing records



The PS 600 comes with two axes of different lengths. The short axis is used for single record playing, the long axis for changer mode operation. For playing 17 cm records without the standard axis hole, a center piece is provided.

Should one also need to play records without the standard axis hole in changer mode, a corresponding axis is available as an accessory.

To achieve the best reproduction quality the diamond of the cartridge should travel the record grooves at an angle of 15° to the normal of the record surface. In changer mode this angle will change when the record stack grows. To maintain the angle of 15° in both single record operation, as well as for the medium stack height in changer mode, the tracking angle knob (17) may be set corresponding to the mode. With the player operating in single record mode the knob is turned to the symbol — and in changer mode to ☰.



The large lift height of the cueing device is due to the changer operation (with maximum stack height). This results in a long time lowering the stylus onto the record, when playing single records.

With the support adjustment screw (19), the lift height can be shortened. To do this put the tone arm on the tone arm support (cueing lever in the lifting position ) and rotate the support adjustment screw in or out until narrow slit remains between it and the tone arm lift (18).

If the PS 600 should be used again in changer mode operation (i.e. 10 records could be stacked on the turntable) the support adjustment screw should be set so that the stylus is about 5 mm over the stack when the cueing lever is in the position  (lifting).

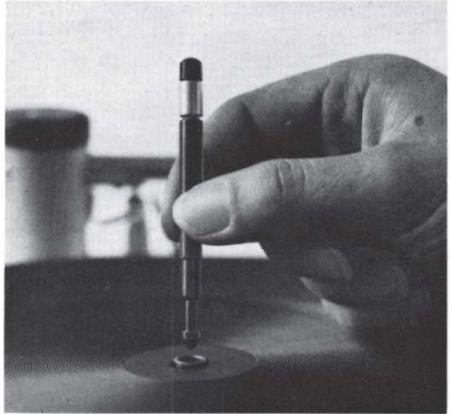
Manual player mode

To play a single record in manual mode, you first stick the short axis with the pointed end into the hollow turntable axis (5).

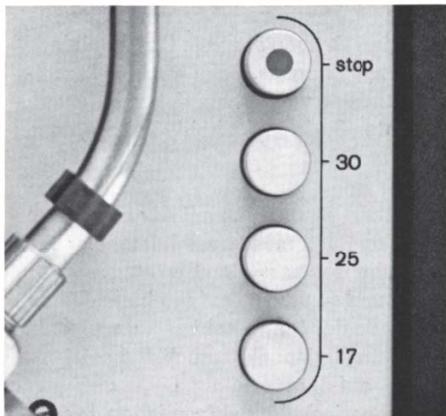
The tone arm is lifted by hand from the arm rest. The unit turns on at the same time. Bring the arm to the desired play position, and lower it with the cueing lever (8) onto the record (▼).

At the end of the record the tone arm lifts up automatically and returns to the arm rest and turns off the unit, whereby a brake prevents the turntable from rotating for a longer time. The playback operation can be interrupted with the red stop button at any time. When the button is pressed, the tone arm raises from the record, turns to the arm rest and the unit is turned off.

The stop button works in the same way for the other three modes: automatic player, record changer and continuous playing.



Automatic player mode



In automatic player mode all functions are controlled with the four buttons.

The short axis is mounted as in manual player mode. Depending on the record size (17 cm, 25 cm, 30 cm) one pushes the corresponding diameter selector button. Then, the unit turns on, the tone arm lifts off from the support (please open the latch on the arm rest!) and rotates to the lead-in groove of the record and lowers itself slowly on to the record. The shutting down process is the same as for manual player mode.

Changer mode

Changer operation is possible for all three records sizes. First, the long axis is placed with the pointed end into the hollow turntable axis.

Up to 10 records with the same diameter can be played in sequence. The maximum stack height of 19 mm is limited by the red ring on the long axis. To start, the button with the corresponding diameter value is pressed. The unit turns on and at the same time the first record is released. After it has landed on the rubber turntable mat, the tone arm lifts off from the support, rotates and descends into the lead-in groove of the record.

After playing the first record, the tone arm lifts off and swings back to the support; the next record is released and the playback process is repeated.

After playing the last record the tone arm swings itself back to the support, lowers onto it and the unit turns off. Simultaneously, the turntable is braked.

Continuous playing mode

It is possible to add records during operation, if initially the stack height was not up to the color marking.

It should be noted that the entire stack of records (on the axis and on the turntable) must not exceed the maximum stack height.

However, adding records must be made before playing the last record. If one puts records on the empty axis, they will be dropped, but not played. By pushing any start button, the PS 600 will resume operation again.

The PS 600 can be used with an individual record, of all three sizes, as a continuous repeating player. For this, the short axis is reversed, i.e. the blunt end is stuck into the hollow turntable axis.

The unit is started by pushing the corresponding diameter selector button. The tone arm goes through the normal start process and descends into the lead-in groove. At the end of the record, the tone arm lifts off, swings back to the starting point and lowers itself onto the record. This playback process is repeated until either the stop button is pushed or the tone arm is lifted and guided by hand to the arm rest.

Maintenance

The turntable itself does not need any maintenance. The stylus wear depends largely on the contact force of the system. With the low contact forces, which your PS 600 use, you can expect at least 500 hours of playing time. Then you should check the degree of wear with an authorized dealer.

To replace the stylus its carrier is pulled out of the cartridge. It is not necessary to replace the entire cartridge system.

The stylus also has to be taken out and replaced when records with larger grooves (78 rpm) will be played. The required stylus for the cartridge Shure M 75-G II has the type designation N 75-3.

The stylus wear is increased by dust on the record. To avoid this, the dust should be removed by suitable means before playing records. There are a few substances and devices that achieve a satisfactory cleaning effect and also are suitable for delicate record playing systems. In contrast to anti-static cloths,

whose chemical preparation is easily transferred to the record surface, the substances of the cleaning device Disc Preenner, also called "Parostatik", remain in the velvet cover of the roll, when used properly.

The "Dust Bug" has also an anti-static effect, without passing its substance to the record surface.

Heavily contaminated or accidentally contaminated records by antistatic agents may be cleaned by using a soft, lint-free cloth with a mixed solution of double-distilled water and purified alcohol. Although records are almost unbreakable, they may become deformed. Therefore, they should be stored vertical, tightly (but not pressed) together in narrow compartments. You can (less good) store them horizontal when they are resting entirely on a flat surface. Especially should larger records not be stacked on smaller records. More than 10 records should not be stacked on top of each other. It is also understood that records should always be kept in their sleeves, when they are not being played.

Specifications

Pickup system
Shure M75-G II

Speeds
33⅓, 45, 78 rpm

Wow and Flutter
< 0,07%

Rumble, DIN A weighting
> 45 dB

Rumble, DIN B weighting
> 65 dB

Speed fine adjustment range
± 3,5%

Tangential tracking error
max. 0,2° per cm radius

Mains connection
110/220V, 50 (60) Hz

Stacking axis
for 10 records (max. 19 mm)

Electronic components
9 transistors, 8 diodes,
1 Selenium rectifier

Measurements
43 x 19,5 x 32 cm (w x h x d)

Weight
11,7 kg

Translator's notes

#1 To remove the turntable it may be necessary to first remove the securing ring on top of the turntable axis.

#2 The german text reads “Je nach den Gegebenheiten des Aufstellungsortes ist diese optische Korrektur individuell möglich.”. I do not really understand the meaning and/or purpose of this sentence.

The motivation for translating this user´s guide is to better understand my own unit. I welcome any suggestions improving this text. If you found any errors, exclusions misunderstandings in the text, please send a message to henning.bjorn@gmail.com.

Hopefully this translation will also be useful for other non-german owners of the Braun PS600...