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**PIONEER®**

**PL-61**

A professional-type stereo turntable for quality home music systems, featuring a x10 speed DC servo brushless Hall Motor.



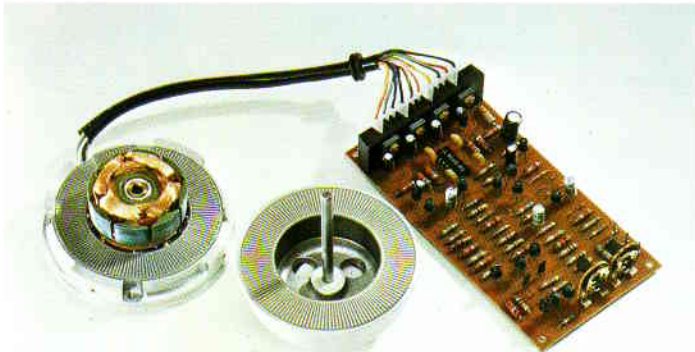
The PL-61 is the stereo turntable with a brushless DC servo Hall Motor. This motor, which utilizes a type of space-age semi-conductor called Hall elements, is an ultra-slow drive motor that is distinguished by extremely low vibration and distortion, the two factors most conducive to quality in a turntable. Wow and flutter of the PL-61 is measured at less than 0.05% (WRMS) with signal-to-noise ratio of better than 55dB. Compared to the more conventional DC motor, which powers most turntables available today, the PL-61's brushless Hall Motor has less electric or mechanical noise, a longer life for it has few mechanical friction parts. The turntable it powers

is its equal in performance. It features an electronic servo control, so that speed changes may be achieved electronically. It also employs the S-shaped high sensitive static-balance type tonearm with magnetic anti-skating device and a low stray capacity cord to prevent signal loss in the very high frequency range for the sound reproduction of four-channel records. Complete with induced magnet type cartridge and diamond stylus, the PL-61 is everything the audiophile has ever demanded in a professional turntable. Available only from Pioneer.

# PL-61

## UNIQUE BRUSHLESS DC SERVO HALL MOTOR

In a conventional DC drive-motor of most turntables, switching devices such as brush or commutator are of the mechanical type. In the PL-61, they are Hall elements, an unusual kind of semiconductors that have been used heretofore only in very expensive electronic applications. A mass production formula for these devices invented by Pioneer has not only made Hall elements possible for practical uses, but has improved their high output voltage characteristics, too. The advantages of the Hall motor are many: it has large torque, causes no electric or mechanical noise. It has a longer, useful life since it has no mechanical friction parts with the exception of the bearings. The use of Hall elements in the motor of the PL-61, is responsible for minimum vibration, a high signal-to-noise ratio and outstanding durability.



## x10 SPEED ROTATION (ULTRA-SLOW DRIVE MOTOR)

Because the rotation of the motor of the PL-61 is only x10 speed, compared with the necessary speed of 33-1/3 and 45rpm of the turntable platter, motor vibration of the turntable is extremely low. Again, the use of Hall elements is responsible for this ultra-slow drive motor, even though it employs the conventional and highly-accurate belt-drive system.



## POLISHED POLYURETHANE BELT

Contributing to the extremely low wow and flutter of the PL-61 is the use of a polyurethane belt, which connects the drive motor to the aluminum turntable. The belt is precisely polished for long hours to assure an even thickness, and then its materials are totally homogenized for smooth transmission, and so that it is unaffected by aging or heat. This choice of quality materials is another reason why the PL-61 can offer unusually low distortion with a better than 55dB signal-to-noise ratio.

## ELECTRONIC SERVO CONTROL

In conventional turntables, changes of speed are accomplished by changing the diameter of a pulley located beneath the turntable platter surface. In the PL-61, this speed change is accomplished electronically by electronic circuits, and speed control within  $\pm 2\%$  accuracy is possible for both 33-1/3 and 45rpm.



## ELIMINATES FREQUENCY CHANGING

The motor in the PL-61 is the DC type and thus there is no need to change frequency between 50 or 60Hz when you move from one area to another. A stroboscope, engraved on the outer part of turntable platter, indicates both the 50Hz and 60Hz position, and guarantees frequency accuracy.

## HIGH SENSITIVE SUPPORT-TYPE TONEARM

Smooth operation free of vibration is ensured with the PL-61 by the new high sensitive support tonearm, that employs a V-shaped supporter. Used in combination with the low stray capacity cords, the tonearm delivers an accurate signal from cartridge to amplifier.



### UNIQUE MAGNETIC ANTI-SKATING DEVICE

So that the harmful, distortion-causing inward force can be cancelled, Pioneer has adopted the magnetic-type anti-skating device for the PL-61, which employs repulsion power of magnetism. The anti-skating control should be set to correspond with the same figure of stylus pressure of the cartridge used. The anti-skating device is concealed in the inner part of the arm. It thus never disturbs the tone arm operation and is ensured high durability.



### LIGHTWEIGHT HEAD-SHELL

Carefully chosen, precisely-designed materials have contributed to the lightweight head-shell employed in the PL-61, which helps to void unnecessary co-vibration.

### LOW STRAY CAPACITY CORDS

Low stray capacity cords are used in the PL-61 to prevent signal loss in the very high frequency range and to accurately deliver the signal picked up by the cartridge to the amplifier. These cords are especially significant for sound reproduction of new four-channel recordings.

### OIL-DAMPED TONE ARM ELEVATION DEVICE

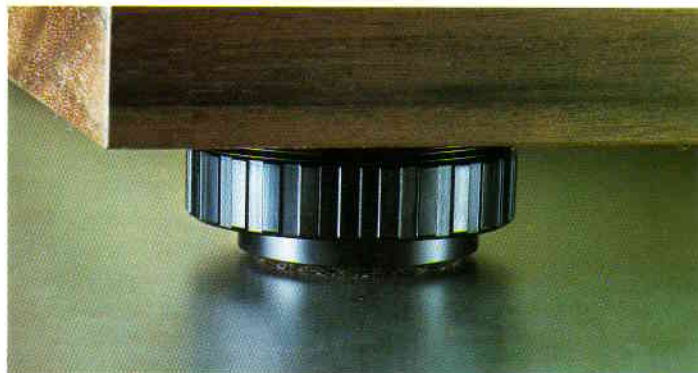
The PL-61 tonearm is raised and lowered by a button-type oil elevation device, designed by Pioneer for extremely smooth operation to help safeguard both your stylus and your records.

### FREE-STOP HINGE DUST COVER

The dust cover of the PL-61 is hinged in such a way that it may be placed at rest in any position that you desire. This feature is especially convenient when you are installing the turntable in special cabinetry.

### LARGE INSULATOR

Pioneer has adopted a new-type large insulator for use with the PL-61. It has been designed in accordance with the balance of the turntable and absorbs most of the annoying external vibration. The insulator's sensitivity and height can be freely adjusted.

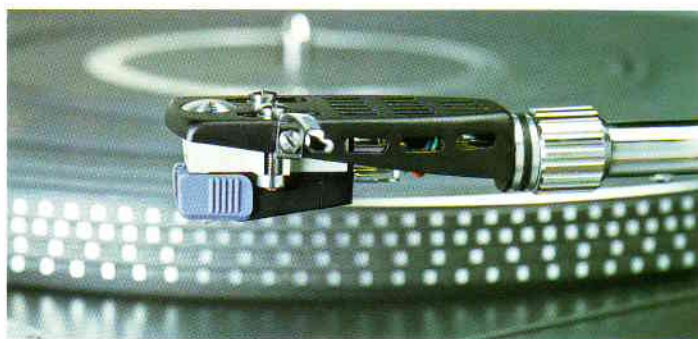


### ACOUSTICALLY SOUND WOODEN CABINET

The PL-61's cabinet is refined, oil-finished walnut, designed to perfect acoustic properties.

### PC-50 INDUCED-MAGNET TYPE CARTRIDGE

Most PL-61 turntables are equipped with the Pioneer PC-50 induced magnet type cartridge, a type that has received a U.S. patent and an excellent reputation in audio circles for quality sound reproduction.



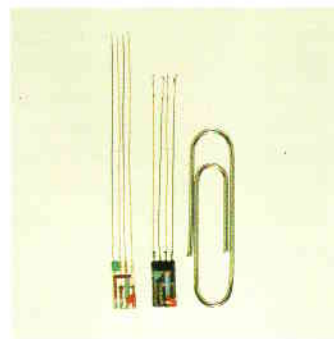
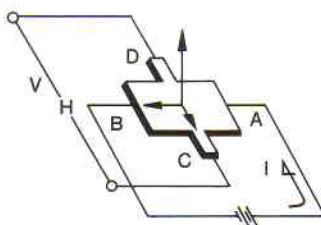
### HORIZONTAL LEVEL METER FOR PRECISE SETTINGS

For additional stability, the PL-61 includes a horizontal level meter that assures you that the turntable is balanced and installed precisely. It is used in accordance with the height-adjustable insulator to give you perfect turntable operation and balance.



## HALL ELEMENTS

Hall elements are a kind of semiconductor—and in the PL-61 motor are four terminals attached to a cross-shaped base, then coated with a thin membrane of indium antimony. The terminals are divided into two inputs and two outputs; when electric current is supplied to the input terminals, and magnetic power is applied from a vertical direction, voltage appears at the output terminals. The voltage changes according to the magnetic strength. This phenomenon is called the "Hall effect," and is used for all PL-61 switching elements.



## SPECIFICATIONS

### MOTOR AND TURNTABLE

Motor:	Brushless DC servo Hall Motor
Drive System:	Belt-driven
Speeds:	33-1/3 and 45 rpm
Speed Control Range:	Within $\pm 2\%$ (Individual control for 33-1/3 and 45 rpm)
Speed Change:	Electronic type
Wow and Flutter:	Less than 0.05% (WRMS)
Signal to Noise Ratio:	Better than 55dB
Turntable Platter:	12-1/4 inch (31cm) diameter aluminum alloy die-cast (weight: 3 lb. 14 oz./1.4 kg)

Channel Separation:	Better than 25dB (at 1,000Hz)
Output Voltage:	3mV (at 1,000Hz, 5 cm/sec or 2 ips)
Load Impedance:	50 Kohms
Stylus:	0.5 mil diamond (PN-50)
Compliance:	12 x 10 <sup>-6</sup> cm/dyne (at 100Hz, dynamic) 22 x 10 <sup>-6</sup> cm/dyne (static)
Tracking Force:	1.5 to 2.1 g
Weight:	0.21 oz./6 g
Mounting:	Conforms to the EIA standards 1/2 inch (12.7 mm) mounting center

### MISCELLANEOUS

Power Requirements:	U.S.A. and Canada model; 120V 60Hz only or 110, 120, 130, 220, 240V (switchable) 50–60Hz
Power Consumption:	6 watts (rated consumption)
Dimensions:	19-19/32(W) x 7-29/32(H) x 16-7/8(D) inches 498(W) x 201(H) x 429(D) mm
Weight:	24 lb. 4 oz./11 kg
Furnished Devices:	Push-button type oil-damped tonearm elevation, Strobe-scope, Height and flexibility-adjustable large insulator, Horizontal level meter

### TO NEARM

Type:	Static-balance type, pipe arm (S-shaped)
Effective Arm Length:	8-13/16 inch (224 mm)
Tracking Error:	+3°, -1°
Tracking Force Range:	0.5 to 8 g
Max. Usable Cartridge Weight:	31 g
Additional Features:	Magnetic anti-skating force control, lateral balance control, stylus-pressure direct reading counter weight, height-adjustable feet

### SEMICONDUCTORS

Transistors:	22
Diodes:	15
Hall Elements:	2
IC	1

### CARTRIDGE

(U.S.A. and Canada models are not equipped with a cartridge.)	
Type:	Induced magnet type (PC-50)
Frequency Response:	10 to 25,000 Hz

**NOTE:** Specifications and design subject to possible modification without notice.



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