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Technics SL-1350

by Panasonic

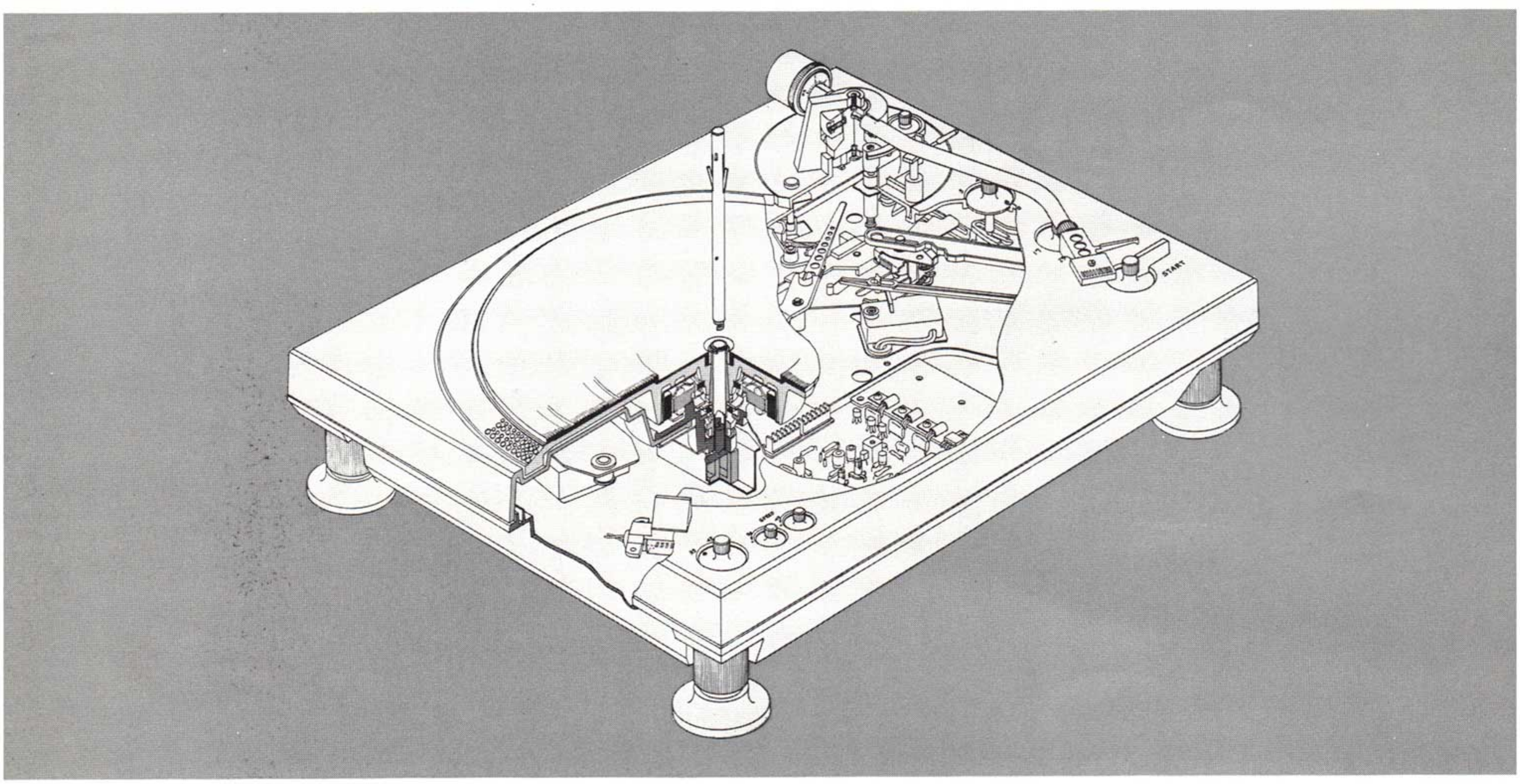
Direct Drive Automatic Changer/Turntable

Direct-drive performance and automatic changer convenience—that's the unique combination of the SL-1350! Because until now, high-performance DD turntables were either manual or single-play automatics and it was prevalently thought that record changers had to have comparatively inferior operating characteristics.

In our continuing efforts to meet the ever-varying needs of serious audiophiles, we have met this problem in an unordinary manner. Technics has combined the inherent superior operating characteristics of a direct-drive motor with a precisely engineered multi-disc changing mechanism. The result is an innovative, automatic changer/turntable with wow/flutter and rumble figures which compare favorably with the finest manual belt-driven turntables.

The SL-1350 also features automatic start, set-down, return and shut-off for a stack of up to six discs; a sensitive, gimbal-suspended universal tonearm of longer length than average; an innovative Memo-Gram dial control that permits flexible programming for the number of records in the stack, for repeat play of a single side, or for a combination of record-changing and repeat play; variable pitch controls; an integral strobe indicator/on-off lamp; an integral base; hinged, removable dust cover; and deluxe styling.

SL-1350 Direct Drive Automatic Changer/Turntable



Design Innovation: The Turntable Becomes the Motor

In the revolutionary direct-drive motor first introduced by Technics, the separate turntable platter rested directly on the rotor. On the SL-1350 the platter is part of the motor. In fact, it is the rotor. And the attractive base is no longer an inactive element used only to house the motor. The housing is the motor stator. All together, this simplification of parts and hardware gives the benefits of extreme precision with utmost reliability and stylishly compact appearance. The automatic mechanism because it is linked to this precise motor, is also exceptionally reliable.

Efficient, Low-Power Operation

Following the success of the first Technics direct-drive turntables, many other manufacturers have begun to announce direct-drive designs of their own. However, none has matched our high-efficiency energy conversion, which results in a drastically lower figure for power consumption—a factor that is most important in terms of longer life and reliability.

Less than 0.1 watt is consumed to drive the turntable platter, compared to AC motors that consume 100 times as much.

Total power consumption—including circuitry, transformers and the strobe lamp—is less than 5 watts. The important thing is not the saving of a few pennies of electrical power, but the following: less heat, less vibration, less stress on the control circuitry and less evaporation of lubricants. The result is not merely longer motor life, which has been achieved in other direct-drive designs, but longer life of the entire component assembly.

Automatic Changing with Memo-Gram Dial Control

The SL-1350 can stack as many as six disc recordings of the same size on an umbrella-type spindle and play them in sequence, then shut off automatically. This is programmed by the simple Memo-Gram selector knob, which is set to the number of records in the stack.

Actually, the versatile Memo-Gram selector can be used to combine changing and repeat-play functions. For example, assume a stack of three records has been placed on the spindle. If the dial is set to "4", the stack will be played in sequence and the last side will be repeated once before shut-off. Conversely, it is possible to have the mechanism shut off before playing a full stack and resume playing of the remaining records later. For example, a full stack of six records can be placed on the spindle, with the selector set at "4". The mechanism will play the first four records and then shut off, holding the last two records in reserve. The user can then return to his system a while later and resume playing the remaining records by setting the selector to "2" and activating the start lever. In the single-play mode, the Memo-Gram dial can be used as a repeat-play device: it will play the disc the number of times to which it is set, up to "6".

Automatic Start, Stop and Return

When the function lever is moved to "Start", the tonearm automatically lifts and sets down at the start of any standard 12", 10" or 7" record, once the proper record size has been selected. At end of play, the tonearm automatically returns to rest position and power is turned off. The system works smoothly and with minimal mechanical noise. Automatic shut-off may be initiated at any time during the play cycle. The minimal load of the return lever on the arm imposes no restrictions on arm operation during play or on cartridge selection: the lightest-tracking cartridges may be selected.

Unlike some automatic-play turntables, completely versatile manual operation is possible. The turntable begins to rotate whenever the arm is manually operated, and a cueing lever makes it easy to start at any point on the record.

The powerful drive system for the mechanism, in conjunction with the excellent torque characteristics of the direct-

drive motor, enable the entire system to operate from a single motor. This offers an advantage over two-motor systems in which a smaller motor is used, in addition to the turntable motor, to operate the automatic cycling and changing mechanism. There are fewer parts to cause trouble and there is avoidance of the tendency toward erratic and occasionally sluggish operation due to the smaller motor.

Superb Specifications

Technics means uncompromised performance. Wow and flutter are at the low figure of 0.04% W.R.M.S. that has been associated with direct-drive turntable performance. Rumble figures continue to rank among the world's finest: depending on the system of measurement, −45 dB (DIN A), −70 dB (DIN B) or −58 dB (IEC B). Rotation accuracy of the servo-controlled direct-drive motor is completely unaffected by power-line frequency variations.

Large, Dynamically Balanced Platter

The turntable platter is dynamically balanced and carefully coordinated with the torque of the motor for optimum performance. The turntable diameter is a generous 13 inches, with full disc diameter plus a tapered rim.

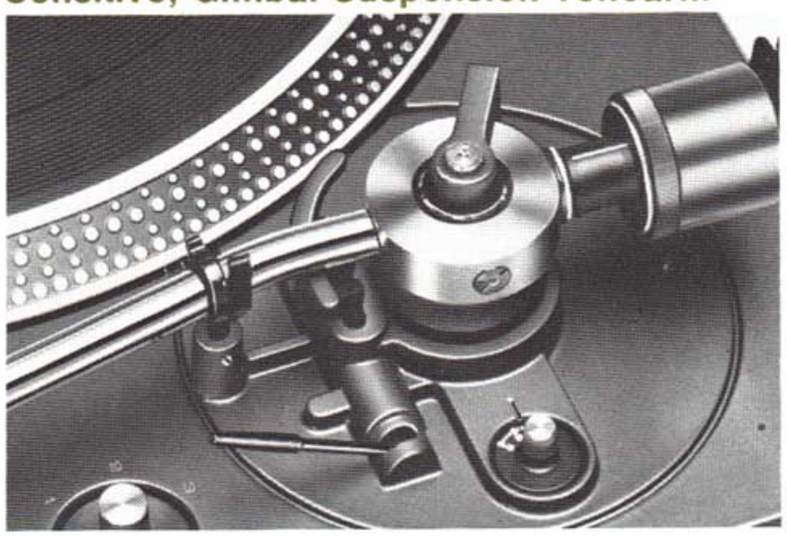
Easy-View Strobe

Two sets of strobe markings appear on the tapered rim for 33-1/3 and 45 RPM, at both 50 and 60 Hz synchronization, with either type of AC source. The prism strobe lamp lights when power is turned on, thus serving as a pilot lamp. The combination of prism lamp and tapered strobe rim results in easy viewing from any position.

Two-Speed Selector plus Variable Pitch Controls

A rotary switch selects either of the two record speeds. In addition, separate variable pitch controls for each speed permit adjustment over a range of 10% for each speed without affecting the other.

Sensitive, Gimbal Suspension Tonearm



Two pairs of pivot bearings enhance the rotational sensitivity of the gimbal-suspended tonearm. Its free, gyroscopic movement ensures flawless balance during tracking. The effective (pivot-to-stylus) length is 9-1/16" (230 mm)—the world's longest, as far as automatic and record-changing turntables go—and a principal factor in the arm's outstandingly low tracking error.

This is not only important with respect to lateral tracking error, but equally important in the vertical plane. The angular error that results from differences in depth of the cartridge used or differences in the thickness of the record stack on the turntable platter is minimized, without auxiliary adjustments, as is the error produced by warped records (warp wow), for which no practical means of auxiliary adjustment has been developed.

The low horizontal tracking error facilitates the design of the anti-skating control for precise and reliable tracking, unlike the erratic action of some systems. With this design, a single precise anti-skating scale counteracts side thrust for all types of styli, eliminating the need for more than one such calibrated scale. Effective arm mass has been kept very low to accommodate premium high-compliance cartridges with optimum reproduction quality and without problems of low-frequency resonance. The precision-crafted, low-mass head shell is of die-cast aluminum and employs the universal-type 4-pin connector. Gold-plated contacts prevent hum and other problems. The easy insertion adjustment for exact stylus overhang permitted by the design avoids the problems of slide-in type head shells.

The SL-1350 accommodates cartridges weighing between 5 and 11 grams. Tracking force is adjustable between 0 and 3 grams in increments of 0.1 gram.

Other Features

NOISELESS AUTOMATIC OPERATION
The SL-1350 automatic cycling operates so quietly, there's no need for any muting switch to cancel out noise.

HINGED, DETACHABLE DUST COVER
Operation is possible with dust cover closed or the cover may be removed altogether.

FEEDBACK-INSULATED LEGS
The four legs are audio-insulated to block outside vibration and prevent audible feedback.

LOW-CAPACITANCE PHONO CABLES
High-frequency audio losses are eliminated and discrete 4-channel (CD-4) discs can be played through a suitable cartridge with no deterioration in carrier frequencies.

OPTIONAL 45-RPM CHANGER SPINDLE
An adapter for single play of 45-rpm records is included as well as a fully automatic spindle for changer operation with 45-rpm records.

FUNCTIONAL STYLING
The integral, diecast base, in black and silver design, contributes to the deluxe, low-silhouette styling.

Technical Specifications

TURNTABLE SECTION

Type	Automatic changer/turntable
Driving method	Direct drive
Motor	Ultra-low-speed brushless DC motor
Turntable platter	Aluminum diecast; 13" (33 cm) diameter
Turntable speeds	$33\frac{1}{3}$ and 45 r.p.m.
Speed change method	Electronic change
Variable pitch controls	Individual adjustment controls, 10% adjustment range
Wow and flutter	0.04% (JIS C5221) W.R.M.S. ±0.055% (DIN 45507) w. zero to peak
Rumble	−58 dB (IEC 179B) −45 dB (DIN 45539 A) −70 dB (DIN 45539 B)

TONEARM SECTION

Type	Universal "S" shaped tubular arm, static-balanced type, direct reading tracking force adjustment, with anti-skating force control device, oil-damped cueing device
Effective length	$9\frac{1}{16}$" (230 mm)
Overhang	$\frac{19}{32}$" (15 mm)
Tracking error angle	Within +3°(at the point $5\frac{1}{8}$" or 150 mm from the center) +1°(at the point $2\frac{3}{16}$" or 55 mm from the center)
Offset angle	21.5°
Adjustable tracking force	0~3 g
Cartridge range	5~11g
Tonearm friction	6~8 mg
Head shell weight	9.5 g

GENERAL

Power consumption	5.0 W 6.5 W (While automatic mechanism is operating)
Dimensions (W×D×H)	$17\frac{3}{4}$" × $14\frac{3}{8}$" × $7\frac{27}{32}$" (45.3×36.6×19.9 cm)
Weight	20.7 lbs. (9.4 kg)

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