



Technics

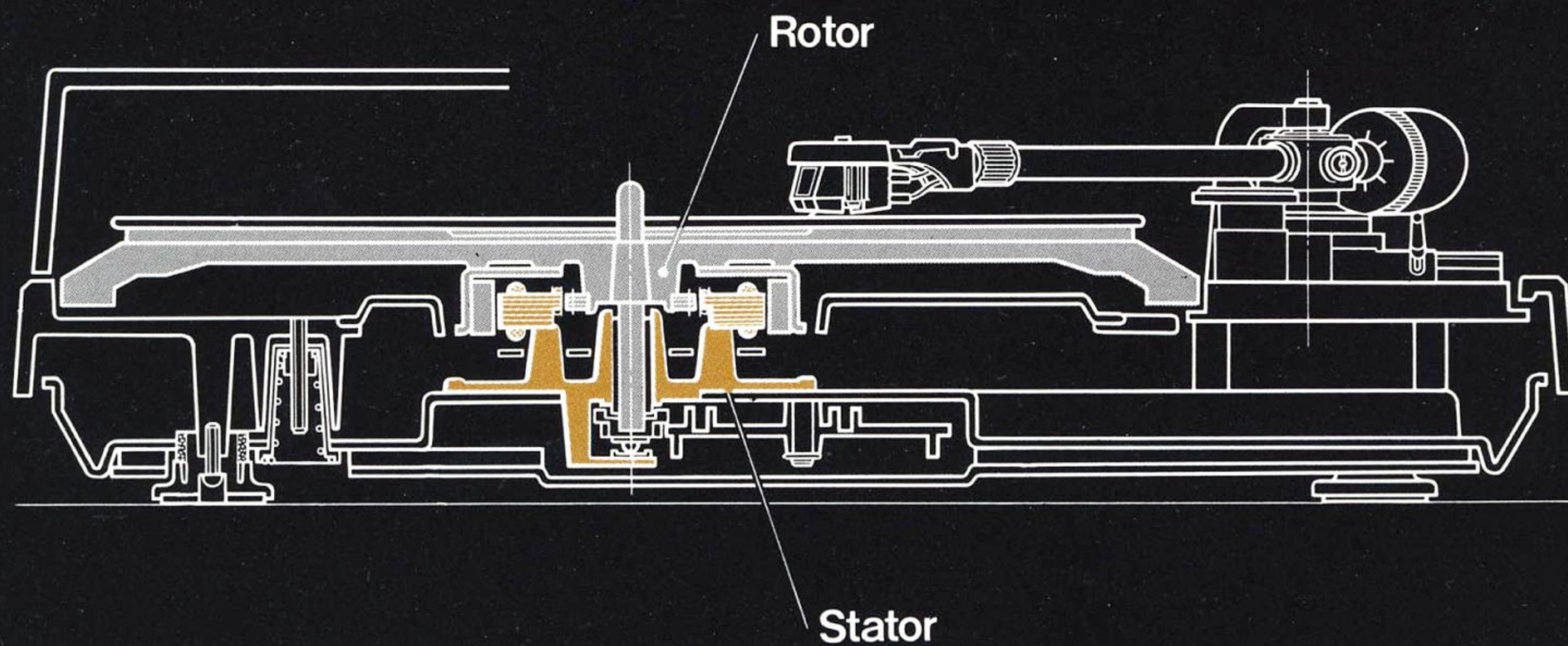
SL-1710

"One Chip" IC-Controlled Direct Drive
Semi-Automatic Turntable with
Floating Double-Insulator



Technics
Direct Drive Automatic Turntable System
SL-1710

1982

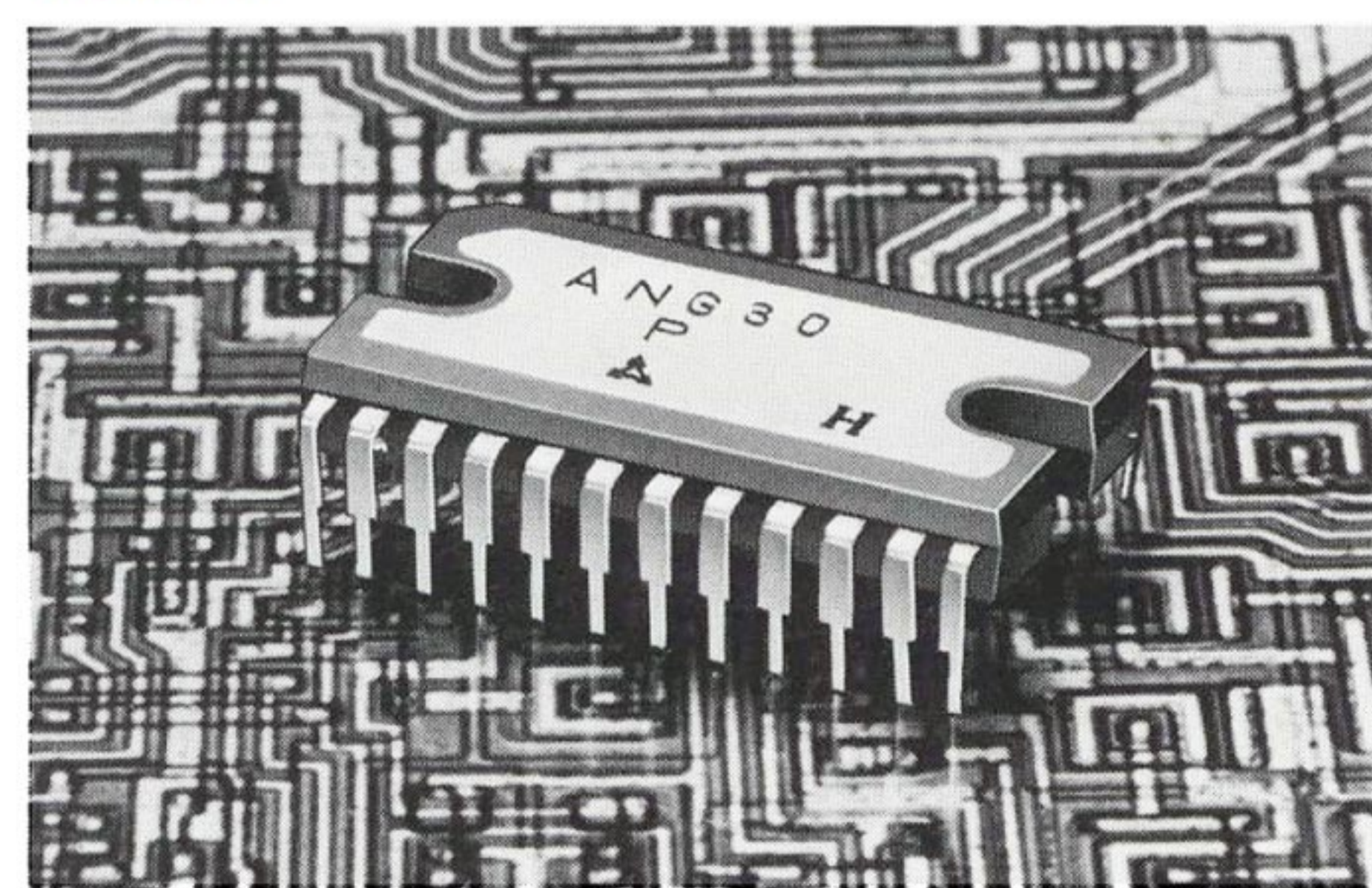


The SL-1710's Integral Rotor-Platter Structure: Only Technics Gives You This Major Advance in Direct Drive Turntables.

The direct drive turntable, first developed by Technics, eliminated complicated and inefficient belts and pulleys and established a new standard for quality turntables. Technics carries this remarkable advance one step further with the development of the Integral Rotor-Platter structure. This latest Technics breakthrough combines the turntable platter and the rotor of the motor in one piece, reducing the number of moving parts to just one to even further simplify turntable construction and at the same time raise performance standards.

The advantages of this latest Technics design are numerous. Simplified construction makes more precise and accurate speed possible as well as greater reliability. Simplified design also makes slimmer, lower, more attractive styling possible. And most important, these new developments make for performance unequalled by other drive systems. Wow and flutter are held to an amazing figure of only 0.025% WRMS, while rumble measured according to the accepted DIN B (weighted) method amounts to -73 dB.

"One-Chip" 321-Element IC for Motor Control

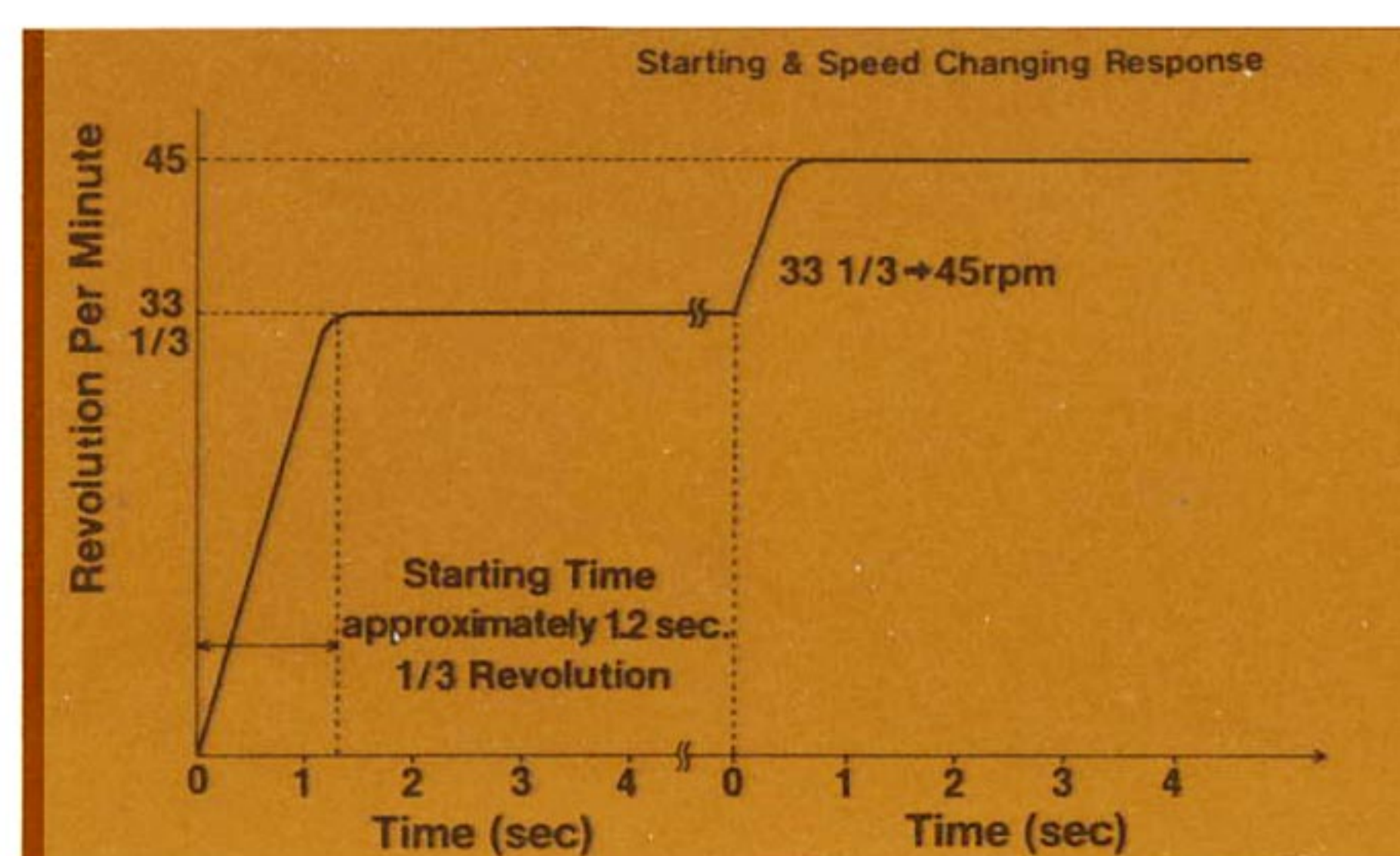
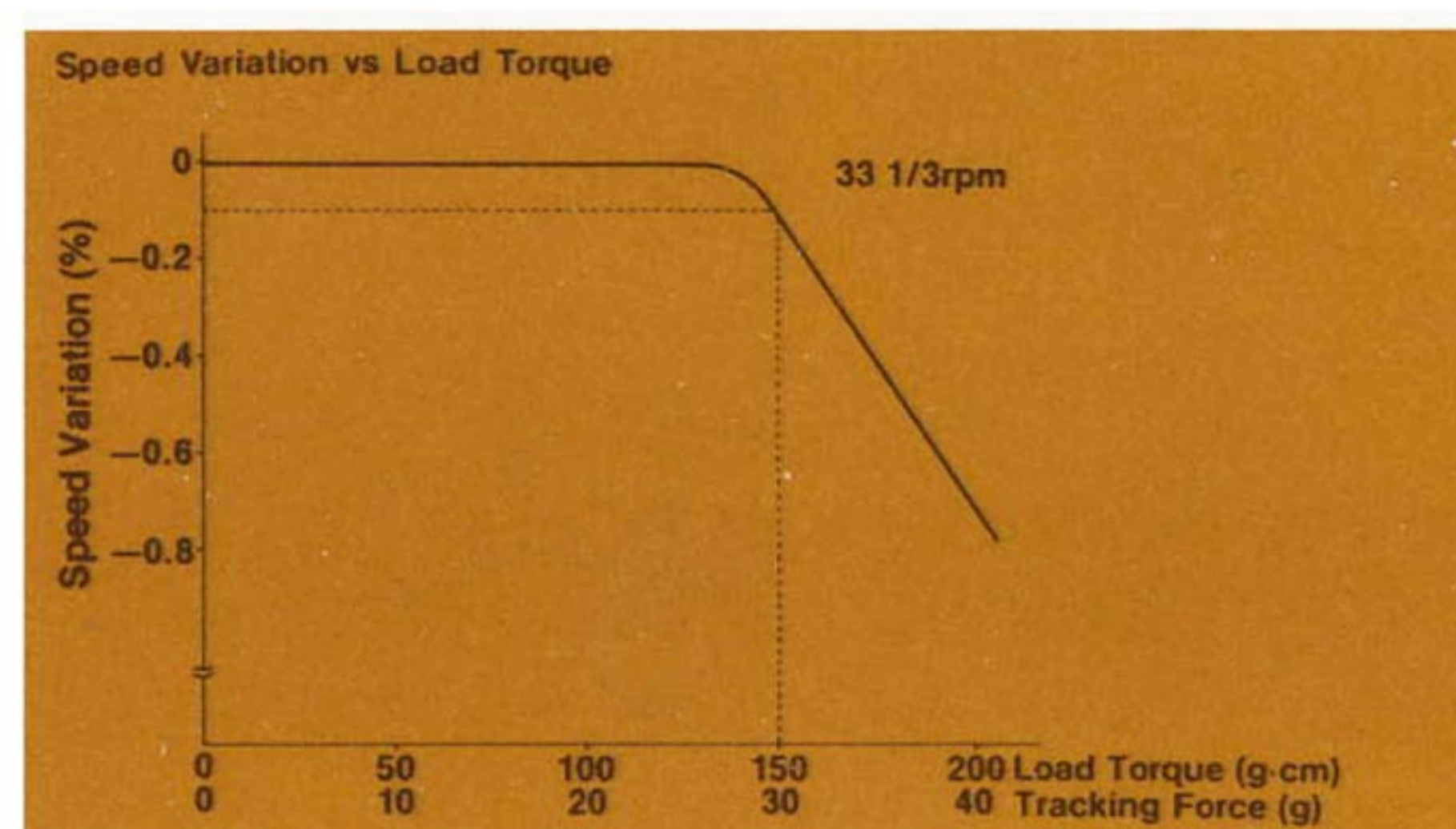


To drive and control the direct drive motor, the SL-1710 employs a "one-chip" IC (integrated circuit) which can perform the functions of up to 321 elements such as transistors, diodes, resistors, etc. With this IC as its brain, the motor control circuit supplies precisely the correct amount of drive current to the motor to maintain the proper speed under all conditions. Compared with conventional

servo control circuits, this "one-chip" control system contains a number of refinements which assure unvarying rotational speed free from "lag in corrective response" that sometimes causes short-term speed irregularities in other turntables.

B•FG Insures Lag-Free Detection of Rotational Speed

B•FG stands for "Back Electromotive Force Frequency Generator." To monitor the speed at which the platter is rotating at any given moment, the reverse electromotive force induced by the rotor in the stator field coils is utilized. The waveform obtained from this back electromotive force becomes the reference for the frequency generator. Its output is compared with the standard calibration frequency obtained from the reference oscillator and then, when needed, a correction signal instantly changes the motor drive current in order to maintain precise rotational velocity. And it does this without the time lag conceivable in other systems.



In terms of actual performance, the B•FG principle considerably improves speed stability, gives a shorter build-up time, and maintains accurate speed under varying loads.

Strobe Lamp

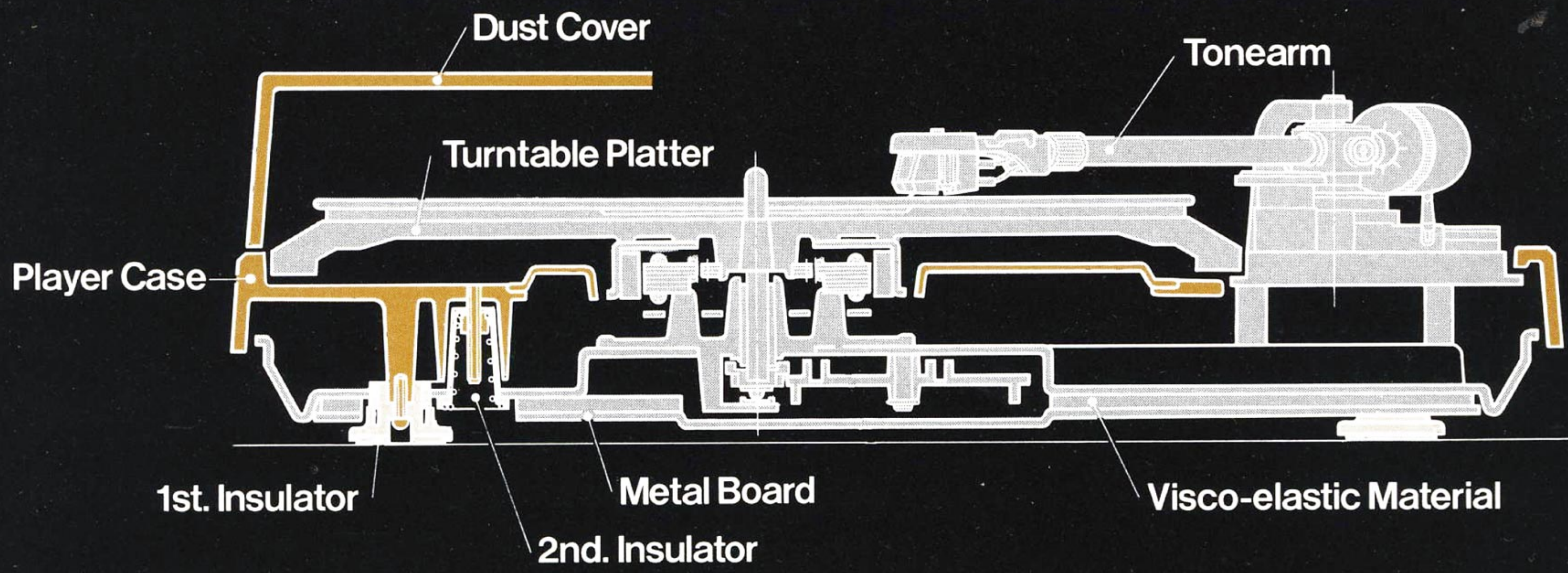
A built-in strobe lamp illuminates stroboscope markings on the platter edge. When the line of markings for the selected speed seems to stand completely still, the platter is rotating at exactly the right speed.

Pitch Control

Separate variable pitch controls for each speed permit independent fine adjustment of platter speed within a range of 10%. Neither adjustment affects the other.



Wow & Flutter
0.025% WRMS
Rumble
-73dB or below
(DIN B)



The SL-1710's Floating Double-Insulator: A Unique Construction Innovation for Obtaining Crystal-Clear Sound from Your System



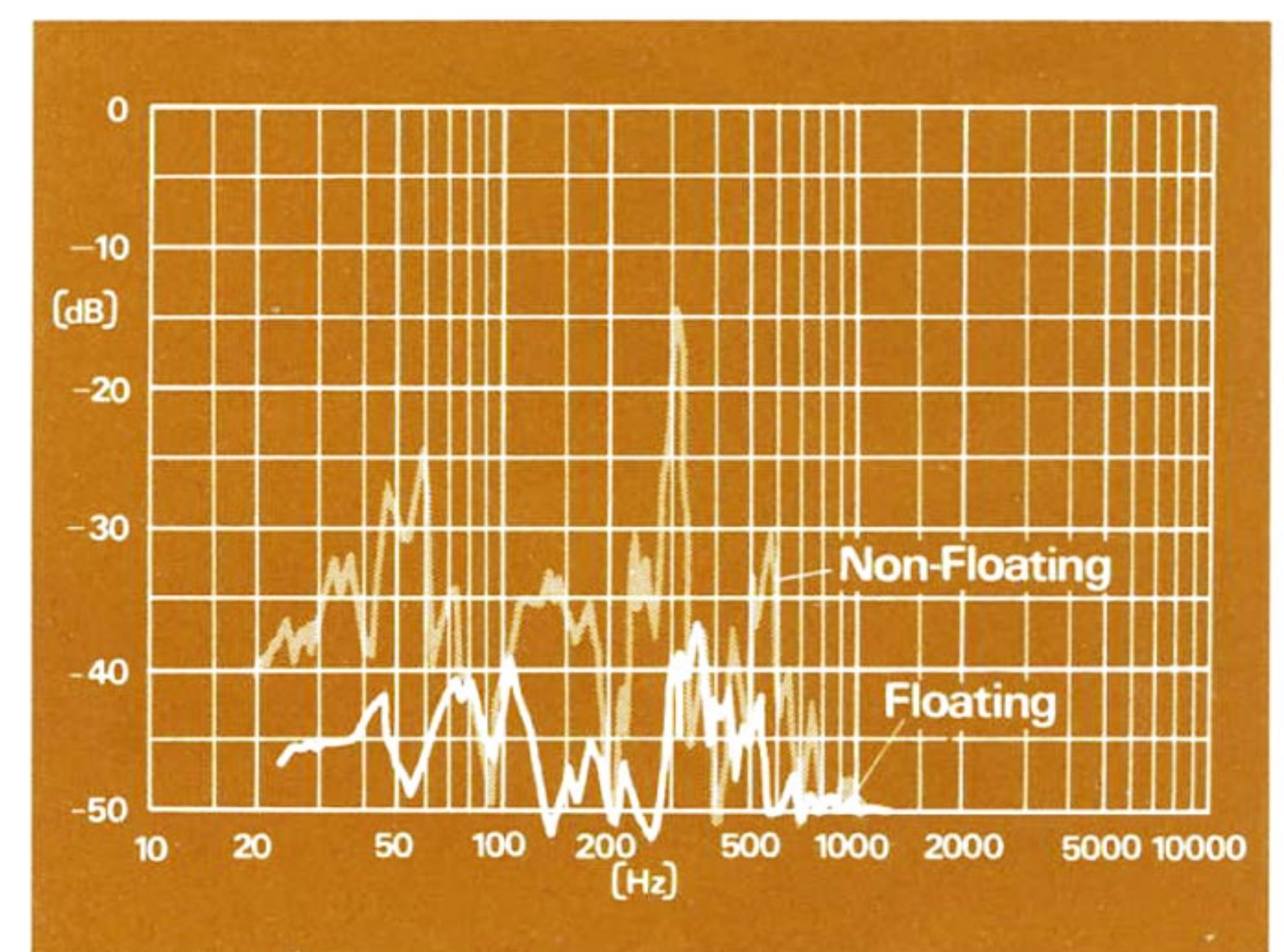
Technics' Floating Double - Insulator Fights against Acoustic Feedback.

As they have done in so many other areas of turntable design, Technics engineers have come up with an ingenious and unique method of coping with the acoustic feedback problem: the floating double-insulator. External sounds and vibrations that reach the SL-1710—either through the air or through the unit's resting position—are met by two separate insulators constructed of metal springs and special vibration-absorbing material. The all-important turntable, motor and tonearm assembly are mounted on a main base which actually floats on these insulators, and this allows these parts to remain far removed and isolated from harmful vibrations. We feel confident that this system used in the SL-1710 goes further than any other turntable in combating this difficulty.

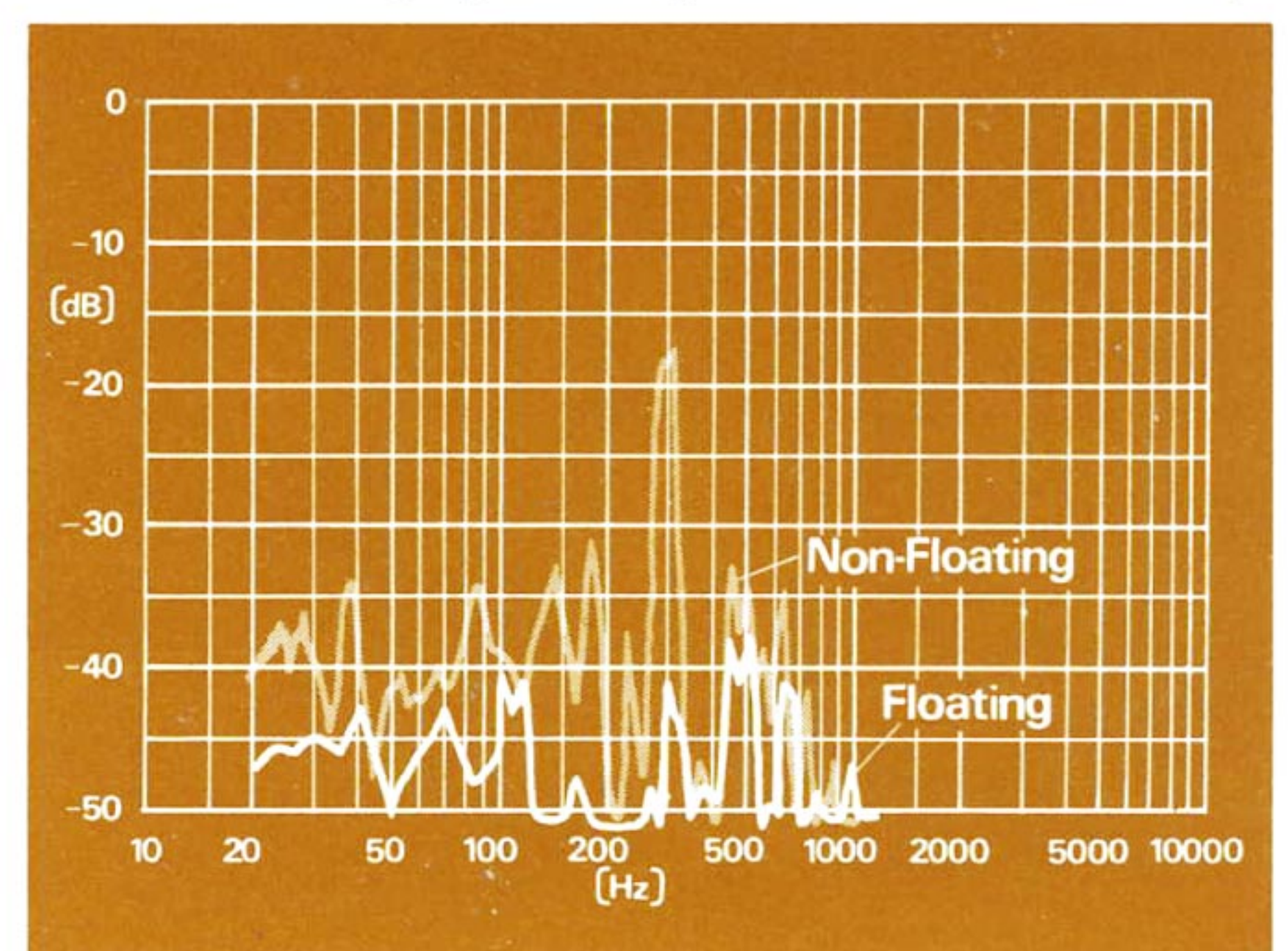
But we haven't stopped here. The SL-1710 was designed from the bottom up with the prevention of acoustic feedback in mind. The main base is made heavier with extra metal weights and the base itself is lined with visco-elastic material to help eliminate these unwanted vibrations. In addition, the tonearm base is constructed of a zinc alloy, whose weight also fights against sound-distorting acoustic feedback. A newly-designed turntable mat to provide full, gentle record support, and a precision-made, die-cast aluminum cabinet are also features which offer important assists in the battle against acoustic feedback.

Taken together, these measures add up to a considerable accomplishment, one that can make the difference between mediocre and truly exceptional sound.

Vibration analysis of floating system vs non-floating system (with dust cover on)



Vibration analysis of floating system vs non-floating system (without dust cover)



Sensitive Gimbal Suspension Tonearm

For the finest tracking sensitivity, the tonearm rests in a gimbal suspension equipped with two pairs of low friction pivot bearings. With enhanced rotational sensitivity, the tonearm is allowed free, gyroscopic movement to ensure flawless balance during tracking. The longer than usual effective tonearm length (230 mm or 9½", stylus to pivot) contributes to the arm's low tracking error, and this in turn facilitates the design on the anti-skating control for precise and reliable tracking. With this design, a single precise anti-skating scale counteracts side thrust for all types of styli.



Auto-Cut, Auto-Return Auto-Shut-Off

The SL-1710 provides the three most desirable automatic features without sacrificing its nearly unsurpassed performance or its great simplicity. All the operator has to do to start play is position the arm over the lead-in grooves and flick the cueing lever. At the end of the record, the tonearm automatically lifts up and returns to the arm rest, shutting off the power. Or, if you wish to stop play in the middle of a record, a simple flick of the stop lever lifts the tonearm wherever it is and returns it to the arm rest, shutting off the power automatically. This is not only a handy feature from the standpoint of operator convenience, but it also prevents useless, irritating play on the lead-out grooves and the accompanying wear of your valuable stylus.

New Type MM Cartridge

The EPC-270C-II moving magnet cartridge employed in the SL-1710 features the new CKS magnetic material, a low effective mass, and high compliance matched with good stability and linearity, assuring accurate tracing.

Technical Specifications

TURNTABLE SECTION

Type	Direct-drive semi-automatic turntable
Motor	Electronically controlled brushless DC motor
Turntable platter	Aluminum diecast; 33 cm (13") diameter
Turntable speeds	33 $\frac{1}{3}$ and 45 rpm
Speed change method	Electronic change
Variable pitch controls	Individual adjustment controls, 10% adjustment range
Wow and flutter	0.025%(JIS C5521)WRMS \pm 0.035% (DIN 45507), weighted, zero to peak
Rumble	-50 dB (DIN 45539A) -73 dB (DIN 45539B)

TO NEARM SECTION

Type	Universal "S" shaped tubular arm, static-balanced type, direct
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	reading tracking force adjustment, with anti-skating force control device, oil-damped cueing device
Effective length	230 mm (9 $\frac{1}{16}$ "')
Overhang	15 mm (19 $\frac{19}{32}$ "')
Friction	7 mg (horizontally and vertically)
Effective mass	22 g (6.0 g cartridge weight, 1.75 g stylus pressure)
Tracking error angle	Within +3° (at edge of 30 cm or 12" record), +1° (at center of 30 cm or 12" record)
Offset angle	21.5°
Adjustable tracking force	0—3 g
Cartridge range	5—11 g
Headshell weight	9.5 g

CARTRIDGE SECTION

Type	Moving magnet stereo cartridge
Output voltage	3.2 mV at 1 kHz,

	5 cm/sec, zero to peak lateral velocity (4.5 mV at 1 kHz, 5 cm/sec, zero to peak 45° velocity)
Channel separation	25 dB at 1 kHz
Channel balance	Within 2 dB at 1 kHz
Recommended tracking force	1.75 \pm 0.25g
Load impedance	47k Ω —100k Ω
Stylus tip	Diamond
Cartridge weight	6.0 g
Replacement stylus	EPS-270ED

GENERAL

Power supply	AC 110V/120V/220V/240V, 50/60 Hz
Power consumption	7 W
Dimensions (W x H x D)	45.3 x 12.5 x 36.9 cm
Weight	8.8 kg



Technics
Matsushita Electric