# Technics
by Panasonic

# SL-1301

Quartz-Phase-Locked Control
Direct Drive Fully-Automatic
Turntable


QUARTZ

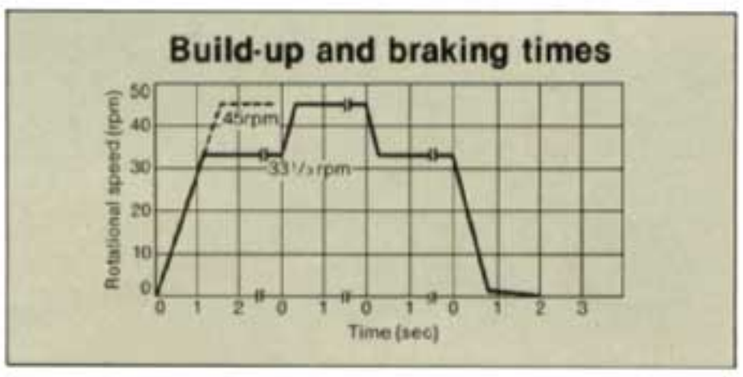
# SL-1301 Quartz-Phase-Locked Control Direct Drive Fully-Automatic Turntable

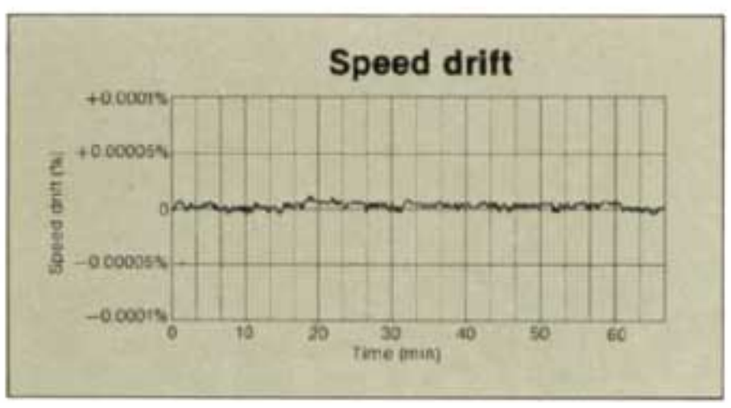
## Quartz-Locked Accuracy in the Technics Tradition

Enter the satisfying world of precision: precision drive, precision suspension, and a precision tonearm. And discover that striking quality that makes your records sound their best. Because now quartz-phase-locked accuracy can be yours at Technics' most accessible price ever.
The SL-1301 is our latest direct drive turntable with remarkable features you've come to expect from Technics. And they add up to specifications we like to boast about—speed drift ±0.002%, wow and flutter 0.025% WRMS, rumble −73 dB (DIN B). How do we do it?
By choosing only the best components and by developing a total system that performs like an engineer's dream. Starting with our superb Hetero-pole direct drive motor, we add Quartz-Phase-Locked servo control with a heavy, precision-machined platter mounted in a diecast base with our double isolated suspension system. Then we top it all off with a super-sensitive, low-friction gimbal suspension tonearm.

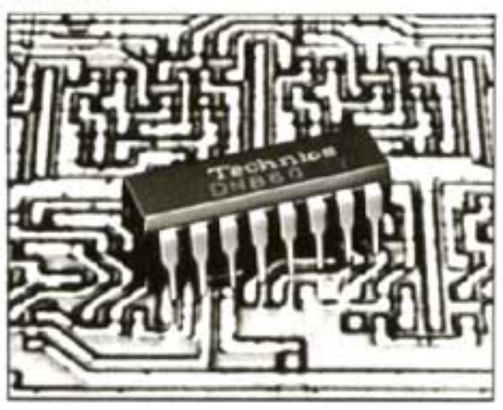
**Quartz-Phase-Locked Direct Drive**
You probably know that quartz-locked direct drive is the most precise turntable drive system available today. Because after we developed the world's first direct drive turntable, the original SP-10, we added the elaborate quartz-phase-locked control circuitry to complete the epoch-making professional turntable, the SP-10MKII. The result is incredible rotational precision. And this time-keeping accuracy can be verified in the specifications of other manufacturers' quartz-locked turntables—not just ours. But you'll also discover, if you check specs, that the SL-1301 provides high torque (1.0 kg·cm)...without torque ripple. This remarkable torque gives Technics a build up time of 1.3 seconds. It also means no perceptible slow-down with up to 180g (90 tonearms at 2g each) tracking force. What's more, to bring this rotating wonder to a smooth quick stop, we've built in an electric braking system. Perhaps we're overdoing it. But in the long run, it adds up to the kind of precision and reliability that the serious audiophile looks for. And that's a Technics tradition you can depend on.

**Complete Servo Control in Three IC's**
Technics' Hetero-pole direct-drive motor is governed by a full cycle integration-type FG servo system with three-phase, full wave bi-directional DC drive. This servo system applies corrective torque quickly, yet smoothly. The reference frequency is provided by a quartz oscillator, the most reliable speed-reference device ever used in a turntable. All the servo circuitry is packed into three IC's that combine the functions of over 1100 discrete circuit components. In fact, these integrated circuits are the same ones used in our SL-1300MK2 with the exception of the SL-1300MK2's special synthesizer based digital pitch control IC.

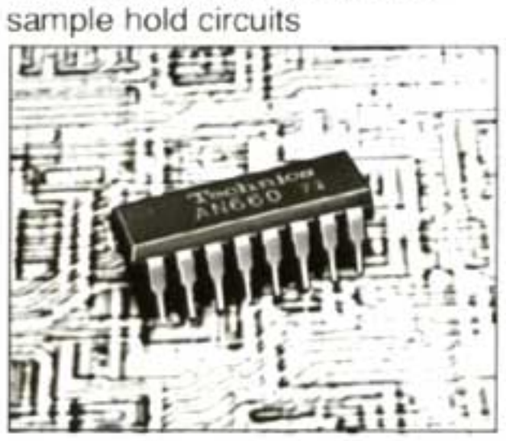


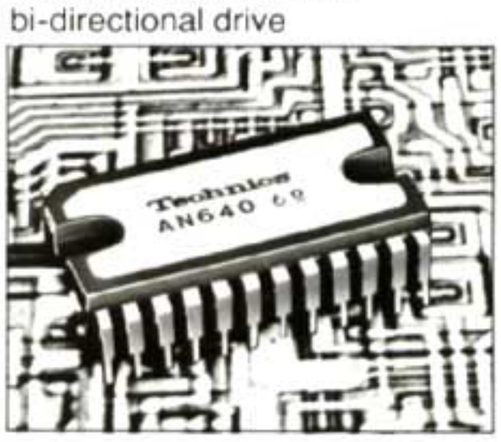

**DN 860 (380 elements)**
I² L•ECL equipped frequency divider




**AN 660 (427 elements)**
Phase and speed control via sample hold circuits



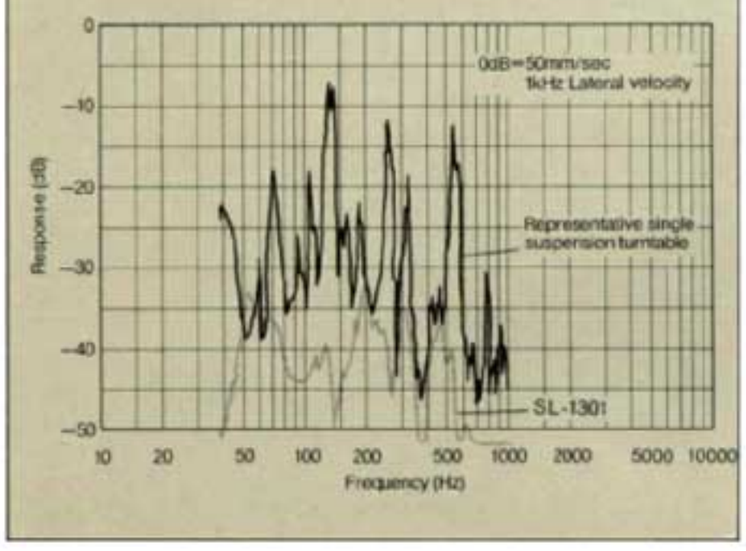

**AN 640 (340 elements)**
Three-phase full-wave bi-directional drive



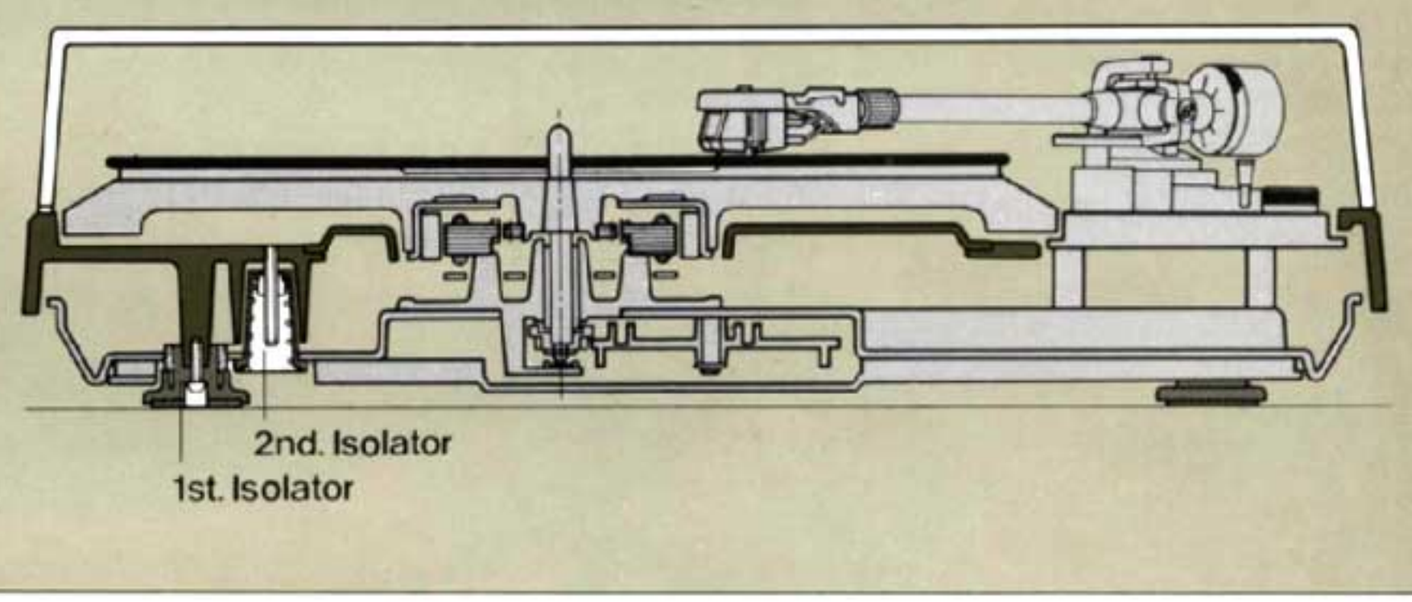
# Precision Crafted Highly Sensitive Gimbal Suspension Tonearm

After coming up with such an outstanding turntable we had to build a tonearm to match. Technics designed this gimbal suspension tonearm with total performance in mind. That is, no one feature—such as resistance to resonance—is sacrificed for another—such as effective mass. The effective mass is neither too high nor too low. So you can use a wide variety of cartridges without worrying about tonearm resonances occurring in troublesome areas.
The suspension system is a masterpiece of engineering. With a gimbal configuration employing Technics-built ball bearings finished to a tolerance of ±0.5μ, the tonearm will respond to as little as 7mg of force in *both* vertical and lateral directions.
We've even covered details like the headshell terminals—gold plated for optimum contact. And the base—precision zinc diecast to protect against vibrations.
Furthermore, our S-shaped tonearm features superb lateral balance, with headshell and cartridge interchangeability. This high-quality S-shaped arm requires careful design and manufacturing, but you'll discover that the advantages are well worth it.

**Vibration analysis of floating system vs. non floating system**




**Cross section of SL-1301**




# Double Isolated Suspension System Protects Against Acoustic Feedback

Acoustic feedback keeps its distance from the SL-1301 thanks to Technics' double isolated suspension system. It's different from most suspension systems because we use *two* separate isolation stages. The first stage effectively damps harmful external vibrations which may reach the unit through the surface upon which it rests. Then a second stage supports and protects the all-important turntable, motor, and tonearm assembly. These isolators are carefully designed with anti-resonant materials and springs of tuned elasticity to absorb external vibrations traveling both through the air and through solid materials. Your ears, and your component system are well-protected against the sound-degrading effects of acoustic feedback, even at high volume levels.

**Diecast Turntable Base**
Maybe we could get away with using a cheap, flimsy turntable base. But then we wouldn't be Technics. Instead we chose quality. You'll appreciate its striking appearance, superb resonance characteristics and of course durability.


## Fully-Automatic Operation Plus Memo-Repeat

The SL-1301 provides completely automatic operation—auto-start, auto-return, and memo-repeat—without sacrificing its exceptional performance and the simplicity of the turntable drive system.To start play, just pull down the start/stop lever. The tonearm will automatically move from the arm rest to the lead-in groove, and the record will begin playing.
When the end of the record is reached, the tonearm rises, returns to the arm rest automatically, and the turntable stops rotating. Auto-cut may be engaged at any point on the record by simply pushing the start/stop lever upward. For repeat play, set the memo-repeat dial at the number of repetitions desired (1 to 6, "R" for continuous repeat), and pull the start/stop lever downwards. After playing for the number of cycles chosen, the turntable will stop automatically. If you prefer, you can operate the SL-1301 as a manual unit.
Either way, you are assured of all of Technics' famous reliability and precision.

# Technical Specifications

**TURNTABLE SECTION**

| | |
|---|---|
| Type | Quartz-phase-locked control direct drive fully-automatic turntable |
| Motor | Ultra-low-speed brushless DC motor |
| Turntable platter | Aluminum diecast, diameter 13" (33cm), weight 4.86 lb. (2.2kg), moment of inertia 106 lb•in² (310kg•cm²) |
| Turntable speeds | 33-1/3 and 45 rpm |
| Starting torque | 0.87 lb•in (1kg•cm) |
| Build-up time | Within 1.3 sec. |
| Speed fluctuation due to load torque | 0% within 0.78 lb•in (0.9kg•cm) |
| Speed drift | Within ±0.002% |
| Wow and flutter | 0.025% WRMS (JIS C5521) ±0.035% peak (IEC 98A weighted) |
| Rumble | −50 dB DIN A (IEC 98A unweighted) −73 dB DIN B (IEC 98A weighted) |

**TONEARM SECTION**

| | |
|---|---|
| Type | Gimbal suspension universal S-shaped tubular arm, static-balanced type, with anti-skating force control device, oil-damped cueing device in both directions |
| Effective length | 9-1/16" (230mm) |
| Overhang | 19/32" (15mm) |
| Tracking error angle | +1° at the inner groove of record +3° at the outer groove of record |
| Friction | 7mg (lateral, vertical) |
| Effective mass | 22g (with a cartridge weighing 6.0g at 1.75g tracking force) |
| Offset angle | 21.5° |
| Adjustable tracking force | 0∼3g |
| Headshell weight | 9.5g |
| Cartridge weight range | 5∼11g |

**GENERAL**

| | |
|---|---|
| Power consumption | 8W |
| Power supply | AC 120V, 50/60Hz |
| Dimensions (H×W×D) | 4-15/16"×17-12/16"×14-9/16" (12.5×45.3×36.9cm) |
| Weight | 20.5 lb. (9.3kg) |

**Technics**
**by Panasonic**

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Specifications subject to change without notice. Printed in Japan 47850M1