

Technics

by Panasonic

SL-1401

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



QUARTZ

SL-1401 Quartz-Phase-Locked Control Direct Drive Semi-Automatic Turntable



Quartz-Locked Accuracy in the Technics Tradition

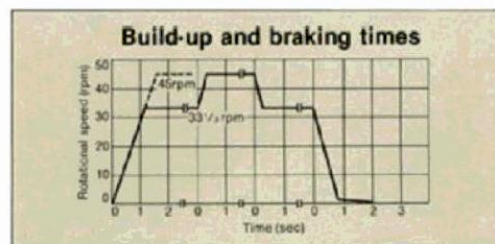
Enter the satisfying world of precision: precision drive, precision suspension, and a precision tonearm. And discover that striking quality that makes your records sound their best. Because now quartz-phase-locked accuracy can be yours at Technics' most accessible price ever. The SL-1401 is our latest 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 $\pm 0.002\%$, 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

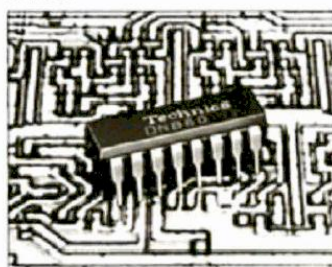
You probably know that quartz-locked direct drive is the most precise turntable drive system available today. Because after we developed the world's first direct drive turntable, the original SP-10, we added the elaborate quartz-phase-locked control circuitry to complete the epoch-making professional 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-1401 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 audio-ophile 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)

I²L-ECL equipped frequency divider



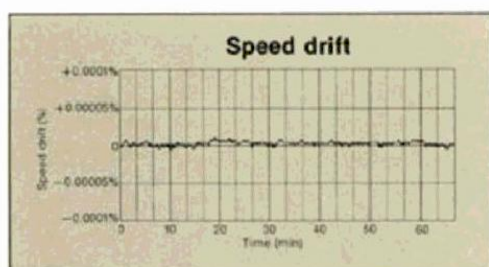
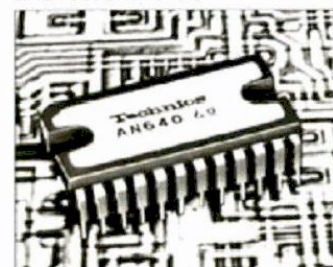
AN 660 (427 elements)

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

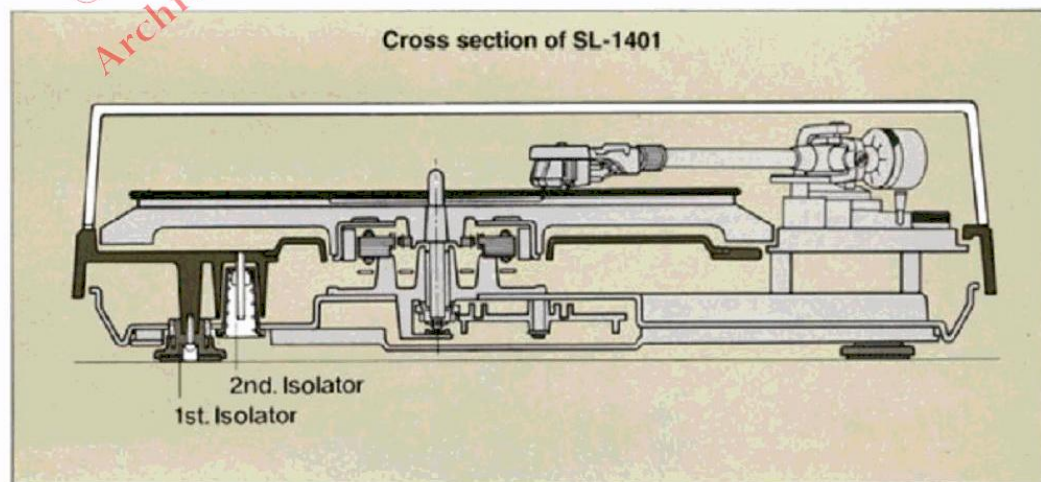
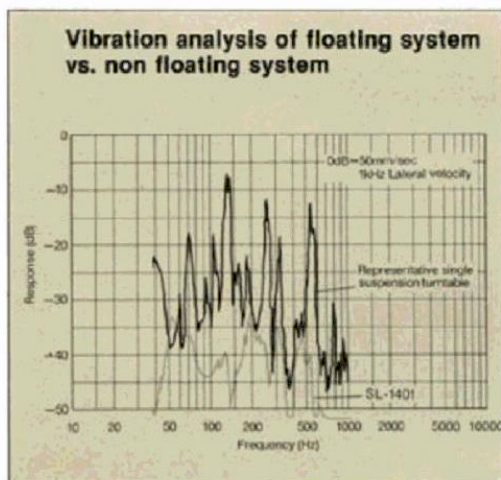
After coming up with such an outstanding turntable we had to build a tonearm to match. Technics designed this gimbal suspension tonearm with total performance in mind. That is, no one feature—such as resistance to resonance—is sacrificed for another—such as effective mass. The effective mass is neither 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 $\pm 0.5\mu$, 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.



Double Isolated Suspension System Protects Against Acoustic Feedback

Acoustic feedback keeps its distance from the SL-1401 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.



Auto-Cut, Auto-Return for Convenience

When the end of the record is reached, an electronic (rather than mechanical) detection circuit triggers the auto-return mechanism which lifts the tonearm and returns it to the arm rest automatically. Or, if you wish to stop play in the middle of a record, just press the stop button. The tonearm will rise and return to the arm rest in the same way. These auto-cut and auto-return features are not only convenient; they also protect your records and stylus from needless wear, and the accidental mishandling. If you prefer, you can also operate the SL-1401 as a manual turntable by using the cueing lever. Either way, you are assured of all of Technics' famous reliability and precision.

Technical Specifications

TURNTABLE SECTION

Type	Quartz-phase-locked control direct drive semi-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·in ² (310kg·cm ²)
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)

TONARM 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)

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Panasonic Company

Division of Matsushita Electric Corporation of America

EXECUTIVE OFFICES: One Panasonic Way, Secaucus, New Jersey 07094 (201) 348-7000
 PANASONIC NEW YORK: 50 Meadowlands Parkway, Secaucus, New Jersey 07094 (201) 348-7000
 PANASONIC NEW JERSEY: 50 Meadowlands Parkway, Secaucus, New Jersey 07094 (201) 348-7000
 PANASONIC BOSTON: C.C. & F. Industrial Park, 31 Suffolk Road, Mansfield, Mass. 02048 (617) 339-9115
 PANASONIC BALTIMORE: 11 Azar Court, Baltimore, Md. 21227 (301) 247-4300
 PANASONIC CHICAGO: 363 N. Third Avenue, Des Plaines, Ill. 60016 (312) 299-7171
 PANASONIC ATLANTA: 1 Meca Way, Duluth, Georgia 30136 (404) 448-1100
 PANASONIC DALLAS: 1825 Walnut Hill Lane, Irving, Texas 75062 (214) 258-2828
 NEWCRAFT, INC.: 8383 Wilshire Blvd., Beverly Hills, Calif. 90211 (213) 655-5160
 PANASONIC SALES COMPANY: Ave. 65 de Infanteria, Km. 9.7, Victoria Industrial Park, Carolina, Puerto Rico 00630 (809) 769-4320
 PANASONIC HAWAII, INC.: 320 Waiakamilo Road, Honolulu, Hawaii 96817 (808) 847-5361