



82 **Technics by Panasonic
SL-1350 Automatic Changer/Turntable**

MANUFACTURER'S SPECIFICATIONS

Speeds: 33 1/3 and 45 rpm.
Motor: Ultra low-speed d.c. motor.
Drive Method: Direct.
Platter: 13 in. (33 cm) diameter.
Speed Change Method: Electronic.
Variable Pitch Controls: Individual for

each speed, 10 per cent range for each speed.
Wow and Flutter: 0.04 per cent, W rms.
Rumble: -45 dB, DIN A; -70 dB, DIN B.
Tracking Force Range: 0 to 3 g.
Tracking Angle Error: With +3° at a

point 5-1/8 in. (150 mm) from the center; with +1° at a point 2-3/16 in. (55 mm) from the center.
Dimensions: 17-3/4 in. (45.3 cm) W by 14-3/8 in. (36.6 cm) D by 7-7/8 (19.9 cm) H.
Weight: 20.7 lbs. (9.4 kg).
Price: \$349.95.

The Technics SL-1350 can be considered as being the automatic version of the SL-1300 direct-drive, single play machine, and is one of the first (if not *the* first) automatic turntable to have direct drive. The diecast, dynamically balanced platter has the motor's rotor ring at the center of the chassis plate and the stator coils on top. The motor itself is a d.c. brushless type with switching for 33 1/3 and 45 rpm. The platter has an angled edge on which the strobe markings are located—the illumination provided by a neon lamp mounted below a prism. Each speed has variable adjustment and the two controls are located on the left, at the front with a rotary speed change switch.

On the right hand side are three controls—the front one with the lever is the *On/Off* switch, and behind it is a three-position record size selector. The third switch is marked "Memo-Gram" with positions from 0 to 6 to select the number of records to be played in the automatic mode, or the number of times a single record is to be played. The turntable includes two center spindles, one for manual play and the longer one for automatic. The multi-play spindle is the umbrella type, with a larger "umbrella" for 45 discs. Behind the "Memo-Gram" control is the cue-lift lever and a small knob to adjust the anti-skating force. The tonearm balance

is controlled by a calibrated weight at the rear of the S-shaped arm measuring just over nine inches.

The turntable is finished in black and dark gray, and is mounted on four large resilient feet. The unit comes with a detachable, hinged dustcover. The various accessories are packed away in a neat container. Styling is clean and functional with the angled platter edge giving it a streamlined effect, and making a pleasing contrast with the base which, incidentally, is made of cast aluminum.

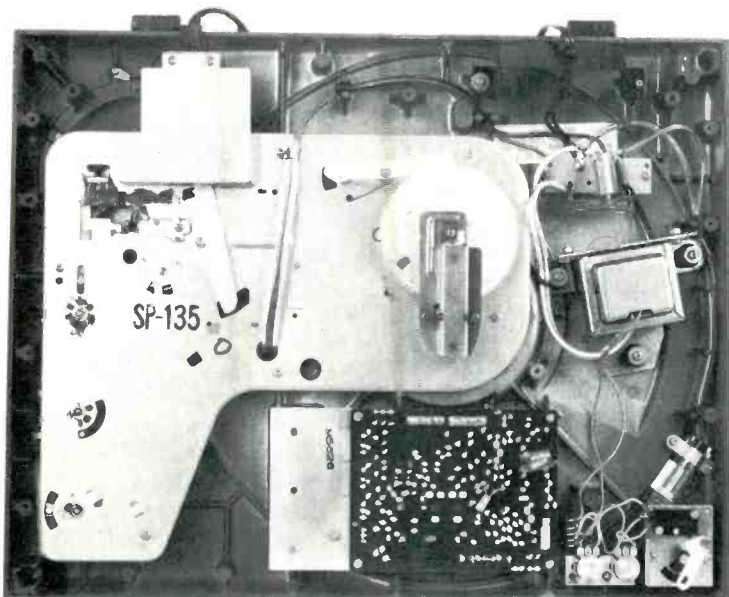
Measurements

A very accurate cartridge mounting template is supplied, and a Shure M24H CD-4 cartridge was used for most of the tests, as the capacity of the connecting cable was below 80 pF. Wow and flutter was a low 0.04 per cent (DIN 45-507), and rumble measured -62 dB using the ARRL (formerly RRL) weighting. A DIN B figure of -70 dB is quoted, but that particular weighting curve rolls off at 12 dB per octave below 315 Hz compared with the ARRL's 6 dB per octave attenuation from 500 Hz. So if the rumble is concentrated in the lower frequencies there could be more than a 10 dB difference between the two measurements. It must be noted that the ARRL figures are taken at a 3.54 cm/sec reference



level, while the DIN B (and the DIN A for that matter) use a 10 cm/sec level so these figures will come out some 9 dB higher at the outset. As the rumble components are mostly in the 25 to 40 Hz band, the DIN B figure would be around 75 dB—in other words 5 dB better than the specifications. (If you think this sounds like a plea for standardization, you would be right!)

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The arm resonance with the Shure cartridge was between 7 and 8 Hz, showing a rise of about 3 dB. Arm friction was less than 20 mg in both the lateral and vertical modes, and the tracking error was slightly lower than average at less than 0.4 degrees per inch. The calibration of the tracking force scale was found to be extremely accurate—well within 5 per cent over the range from one gram to 3.5 grams. The speed control range was somewhat greater than usual, with

a variation of +8 to -5 per cent for 33 1/3, and +6 to -5 per cent for 45 rpm. Speed was not affected by variations in the line voltage as the d.c. motor is servo-controlled. However, fluctuations in frequency could affect the neon strobe, although this is not likely.

In the automatic mode, the change cycle took about 10 seconds and the motor reached its correct speed three seconds after being switched on. The optimum tracking angle is obtained when three records are on the turntable, but the maximum error either way was judged to be insignificant—certainly less than that between the cartridges and the record cutting heads.

Listening Tests

For manual operation, it is only necessary to lift the arm off the rest and the motor starts—the arm can then be gently lowered onto the record by the cueing lever. Optimum tracking for the Shure M24H was found to be 1-1/4 grams, with the anti-skating dial set at just over 1-1/2 grams for best results.

The instruction manual recommends that the dustcover be lifted off if acoustic feedback occurs, but I didn't find that necessary. I did have to stand the turntable on a rubber mat since the mounting feet did not give sufficient isolation. However, it must be noted that my loudspeakers are quite close, so in most cases this precaution would be unnecessary. (*Editor's Note:* Quite another installation, one with loudspeakers a minimum of five feet away and with rather trampoline-like floors, gave radically different results. There was no difficulty with feedback, and the SL-1350 was, in fact, the only turntable tried to that point which sufficiently damped normal footfalls so that the stylus was kept in the groove. No, I'm not that fat!—E.P.)

Summing it all up, the Technics SL-1350 has all the basic performance and top quality of a direct drive, single play turntables, but it is worth considering if you, or a member changer. It costs about \$150.00 more than most automatic turntables, but it is worth it considering if you, or a member of your family, occasionally wants to play several records at one time.

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