



MANUFACTURER'S SPECIFICATIONS

Speeds: Three, 16 $\frac{2}{3}$, 33 $\frac{1}{3}$, 45 rpm. **Wow and Flutter:** 0.06%, weighted according to DIN 45507. **Rumble:** -48 dB unweighted, -68 dB weighted according to DIN 45539. **Drive System:** Electronically controlled, 16-pole synchronous motor with belt drive. **Power Requirements:** 110-130 V or 220-250 V, 50/60 Hz, 15 watts. **Dimensions:** 18 in. W x 14 in. D x 5 in. H. Length is increased by 2 in. when fitted with 16 in. tonearm. **Weight:** 32 lbs. **Prices:** \$310.00; TX-44 dust cover, \$15.00; TX-25 hinged dust cover, \$30.00.

We reviewed the original Thorens TD-125 more than three years ago, in June 1969 to be precise, and we placed it in the highest category then, an opinion which has been confirmed by the many thousands of enthusiastic owners of this deluxe turntable. A few months ago, Thorens released the TD-125 AB Mk II which has some significant improvements—not in overall performance, because that would be nearly impossible—but rather in facilities. For instance, there is an automatic arm-lifting device, and the arm itself is the new lightweight, TP-16, which has a plug-in cartridge shell and a magnetic anti-skating system. The adjustment control is at the right of the arm pivot, and there are four scales calibrated for conical and elliptical styli and for wet and dry records. (There's Swiss efficiency and thoroughness for you!) Stylus pressure is adjusted by a small thumbwheel located at the top of the arm pivot. Calibration is from 0.5 grams up to 4 grams in quarter gram steps.

At the front of the unit are three sliding-bar controls; the one on the left controlling the speed (16 $\frac{2}{3}$, 33 $\frac{1}{3}$, and 45 rpm), the second the ON/OFF switch, and the third the cueing device. A strobe indicator is at the center with a vernier speed control just in front. The 12-in. non-ferrous platter is in two parts with the drive belt going into the smaller inner section. Both are dynamically balanced, and they fit together precisely. Like its predecessor, the Mk II uses a long sleeve bearing with two highly polished contact surfaces and a single steel-ball thrust bearing. The motor and arm are mounted on springs, isolating them from the controls and base. Motor speed is low—25 rpm at 33 $\frac{1}{3}$ rpm record speed—which permits the use of a large motor pulley for a good drive ratio, as well as reducing rumble.

Now for a look at the electronics: in essence, this consists of a Wien bridge (see schematic) connected in a positive feedback circuit with a power amplifier. The frequency, or speed, is determined by changing the values of components in the bridge arms. As the motor presents an inductive load, its reactance increases with frequency, so the voltage has to be increased too. At 16½ rpm, the motor input voltage is 6.4 V, but at 45 rpm, 12 volts are required. The original 125 used all discrete transistors, but the Mk II employs two 709 IC's

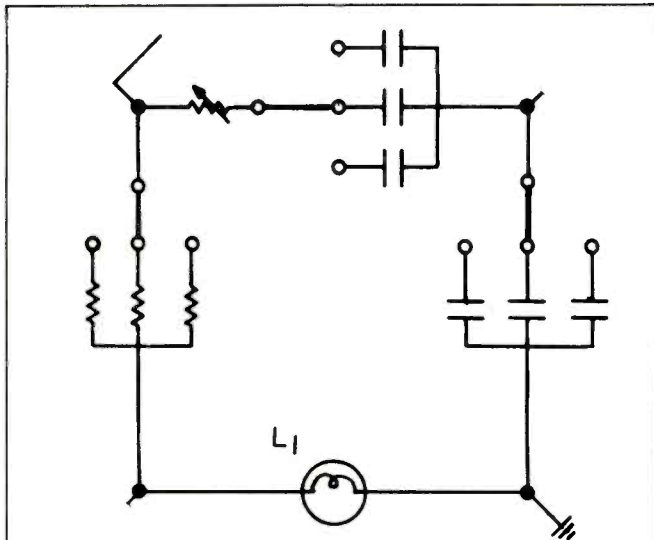


Fig. 1—Showing the basic Wien bridge arrangement as used in the TD-125AB Mk II. The variable control is the speed adjustment. L₁ is a stabilizing lamp.



Fig. 2—Closeup of arm mounting.

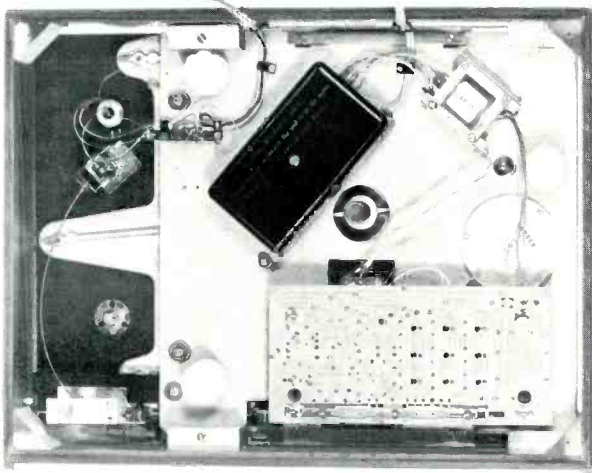


Fig. 3—Underside of the machine with the protective cover removed.

with four power transistors that easily supply the five watts or so for the motor. This, incidentally, is a 16-pole synchronous type.

Measurements

The rumble level was approximately the same as the older model, -46 dB unweighted using the NAB standard. This corresponds to -64 dB by the ANSI "A" weighting or about -66 dB with ARLL weighting, which certainly puts it into the professional class. Wow and flutter came out at 0.07 per cent, again an exceptionally good figure. Arm resonance with an ADC-XLM cartridge was just under 8 Hz, and the rise in output was only 3.5 dB. Calibration of the tracking pressure dial was extremely accurate—being only 0.1 gram out at 3 grams. As might be expected, there was no discernible speed change with variation in line voltage from 95 up to 120 V. The speed control gave a variation of +3% and -2.5% at 33½ rpm and +4.5% and -3.5% at 45 rpm. Maximum tracking error was a shade under 0.5 degrees per inch, the average being nearer 0.3 degrees per inch—a remarkable achievement. The arm lifting device worked very smoothly with positive cueing—in fact, all the controls performed as they are supposed to and the unit was a real delight to use. Styling is clean and completely functional and workmanship is first class. For most of the tests, a Shure V-15 Mk II and ADC-XLM cartridges were used. Some tests were also carried out with CD-4 discs using an Audio-technica AT-20SL cartridge, and here I ran into a problem. The lead capacitance of the 125 is around 270 pF—ideal for most stereo cartridges but too high for CD-4 models which must maintain a response up to 50 kHz. So owners of these cartridges must change the connecting leads for special low-capacity types, otherwise operation may be erratic. Apart from this small criticism, which applies to the majority of turntables and changers anyway, I have nothing but praise for the Mk II. It is a worthy successor to the Mk I, and it can be recommended with complete confidence. At \$400.00, it is not cheap but in my opinion, it is worth every cent.

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