Lenco Turntable: Fully Variable Speed, Modern Arm

The Equipment: Lenco L-75, a multispeed manual turntable/arm combination. Dimensions: 17½ by 13⅞ by 6 inches including wood base supplied (for custom mounting: 15⅛ by 13 inches; 2¼-inch clearance required above top plate, 3 inches below). Price: $99.50 including base; optional hinged dust cover, $11.96. Manufacturer: Lenco, Switzerland; U. S. distributor: Benjamin Electronic Sound Corp., 40 Smith St., Farmingdale, N. Y. 11736.

Comment: The L-75, as the top model in the Swiss-made Lenco line (at one time imported by Bogen, now by Benjamin), is the first turntable ensemble to appear on the U. S. market with both wide-range speed adjustment and a modern, adjustable tone arm. Its variable-speed drive, being unique, is of course the point of greatest interest. It is achieved through the use of a tapered drive shaft, coupled to the underside of the platter by a movable idler. When the speed-adjustment lever at the left of the top plate is moved, the idler contacts a different portion of the drive shaft and consequently turns at a different speed. The drive-shaft taper allows for continuous adjustment from about 86 rpm down to something under 33; then the drive-shaft diameter diminishes abruptly to that required for the 16-rpm setting.

There are detents under the adjustment lever for the four usual speeds: 78, 45, 33, and 16 rpm. Each detent is held by a top-plate setscrew. To adjust each to perfect speed you put the strobe disc (provided) onto the platter, loosen the screw, set the lever in the detent, move both until the strobe disc indicates correct speed, and tighten the setscrew. Since these four speeds are individually adjustable, there is no need to make minor corrections when switching from one standard speed to another.

Then why do you need the in-between speeds? Perhaps you don't. They are vital, however, to a number of specialized uses with varying degrees of relevance to high fidelity. Addicts of Music Minus One records know that while the vernier adjustment on the fancier automatics will allow a tuning range of a half tone or so (important if you're playing a piano for example), a wider range would be desirable in many cases. It would be, if anything, even more desirable for collectors of antique recordings, since very few acoustic recordings were made literally at 78 rpm. Almost any "78" recording will fall somewhere within the Lenco's capabilities. (Incidentally, LP reissues often are at the wrong speed too; if you want to hear the music reproduced at the pitch and tempo at which it was recorded you must have flexibility at 33 as well as 78.) And then there are the tape-music composers whose stock in trade is familiar sounds transmuted by drastic alterations in playing speed. While whole-octave transpositions are possible on the tape recorder itself, the L-75 makes in-between speeds—including gradually changing speeds—possible. (On the basis of our tape-music composition contest of last year we're surprised to find how many readers are interested in this pursuit.)

The speed-adjustment system is not the only interesting feature of the L-75 of course. Its arm—a relatively long, tubular design that somewhat resembles the SME arm—has a full complement of adjustments. The sliding counterweight is attached (via a knurled setscrew) to the back of the arm and its mass partially decoupled from the front section of the arm through the use of a compliant connection—a feature intended to control arm resonance. Tracking force is adjusted by a smaller weight sliding on a bracket notched to calibrate it in half-gram increments. This weight too is held in place by a knurled setscrew. A third setscrew (for screwdriver this time) in the base of the arm adjusts pivot height (and therefore vertical tracking angle). A sliding cartridge mounting within the plug-in pickup shell controls stylus overhang (and therefore lateral tracking-angle error—which runs unusually low in the L-75 because of the length of the arm). A stylus-overhang template is provided, and adjustments are made using yet another setscrew to position the cartridge within the shell.

Antiskating bias is created by two weights, suspended from heavy, clear plastic threads. A table in the instruction folder tells you which weight to use and how to suspend it, depending on your stylus and tracking force setting. A loop in the thread is placed over a calibrated bracket attached to the arm pivot and the thread is run horizontally to a fixed "corkscrew," from which the weight is allowed to hang. As the arm moves, the thread rides across the corkscrew, transmitting the downward force of the weight to the bracket as a horizontal biasing force.

Other features are more conventional. At the extreme right of the top plate is a damped cueing control. A knob on the arm-support bracket adjusts clearance above the record during cueing. Directly under the pickup in its at-rest position is an on/off power switch that also disengages the drive-system's idler. A plastic adapter

for large-hole 45s is provided. The four-wire arm is connected to shielded-cable outputs terminating in color-coded phono plugs; there also is a separate grounding wire to minimize hum.

Its special properties aside, the L-75's performance is very good—comparable in most respects to that of the better automatics. Speed accuracy figures shown in the accompanying table are not of course what we would expect from a synchronous motor, though at a maximum variation of 0.5% (and that at the virtually unused 16-rpm speed) they are entirely satisfactory. ARLL rumble measurement, at -56 dB, is very good; while arm friction in both lateral and vertical planes is negligible at less than 20 milligrams. Tracking force calibration is substantially accurate as documented in the accompanying data. So is the antiskating calibration though slight overbiasing can occur with extremely low tracking forces. Because of the counterweight decoupling, arm resonance can't be expressed as simply as it can for most arms. When the L-75 is fitted with the Shure V-15 Type II Improved cartridge, the arm's most pronounced resonance centers at 7 Hz, with a 9-dB rise. There also is a sharply defined (though not excessively large) peak at 17 Hz. Neither is severe enough to cause mistracking.

By contrast to the automatics, the L-75 uses a relatively heavy platter (8 lb, 8 oz.), which certainly contributes to the excellent NAB flutter measurement of 0.07% average (0.14% maximum). It also makes the unit somewhat slow to attain full speed, requiring some 2½ revolutions at 33 rpm even after the unit has warmed up. Except for possible broadcast use this would not be a notable fault were the cueing accurate. But the arm tends to drift outward on the bracket that supports it during cueing. For precise cueing we found the manual finger-hold more accurate than the cueing mechanism until we added a strip of rubber to the top surface of the cueing bracket to reduce the drift.

For users who need the wide-range speed adjustment, there is little choice. Fortunately, the L-75 does not make major quality compromises in attaining this feature. Users whose need for it is less pressing will find the L-75 an interesting alternative to the popular $100 bracket of changers; the choice boils down largely to the question of which is more attractive—the speed adjustment or the ability to change records.

CIRCLE 142 ON READER-SERVICE CARD

Lenco L-75 Additional Data

Stylus gauge accuracy:

Gauge Setting	Grams Measured
1	0.9
2	1.8
3	2.8
4	3.8
5	4.7

Speed accuracy:

Setting	105 VAC	120 VAC	127 VAC
16 rpm	0.5% slow	set exact	0.2% fast
33 rpm	0.4% slow	set exact	0.1% fast
45 rpm	0.3% slow	set exact	0.2% fast
78 rpm	0.4% slow	set exact	0.2% fast

CBS Labs' Tuner-Distortion Measurement System Upgraded

Readers of these equipment reports may have noticed a change in our procedure for listing harmonic distortion in FM tuners and the FM sections of receivers. The new listings reflect the acquisition by CBS Laboratories of two additional pieces of test equipment: an SMG1S2 Stereo Generator and AMF2 Modulation Meter, both from Radiometer Electronic Instruments.

Before these instruments arrived at the labs the best FM distortion figure obtainable was approximately 0.3% THD. In preparing the documentation for our report on the AR tuner (June 1971), CBS Labs found the distortion to be immeasurably low. A search of test-equipment specifications turned up the $1,164 Stereo Generator with less than 0.2% distortion and the $2,480 Modulation Meter with less than 0.1%. Using the Modulation Meter as a primary standard in conjunction with the Stereo Generator, the labs were able to obtain a testing system whose over-all distortion works out to 0.12% THD.

With this setup distortion of the AR tuner came out to 0.16%—well beyond the capability of the previous system. But if you studied recent reports closely you may have noticed another difference. Distortion was specified at 80, 1,000, and 10,000 Hz—rather than 40, 400, and 1,000 Hz as it had been in previous reports. The three frequencies in question are provided (crystal-controlled) on the new equipment and offer a better fix on performance across the audio band than did the relatively low frequencies used in the past.

The photograph shows Frank C. Barr of CBS Labs using the new setup. Just over his head is the Modulation Meter. To the left, at the top of the rack panel, is the Stereo Generator. The AR tuner is shown on the bench, inaugurating use of the new equipment.