

## Dual Model 1219 Automatic Turntable



Fig. 1

### MANUFACTURER'S SPECIFICATIONS:

**Speeds:** 33 $\frac{1}{3}$ , 45, 78 rpm. **Motor Type:** Hysteresis-synchronous. **Platter Diameter:** 12". **Platter Weight:** 7 lbs. **Wow and Flutter:** .05%. **Max. Tracking Error:** 1.5 deg. **Max. Stack Records:** 6. **Arm Resonance:** 8 to 14 Hz. **Change Cycle (at 33 $\frac{1}{3}$  rpm):** 13 secs. **Cartridge Weight Range:** 1 to 12 gms. **Dimensions:** 14 $\frac{3}{4}$ " x 12" x 5" above

motor board and 3" below. **Weight:** 15 $\frac{1}{2}$  lbs. **Price:** \$159.50.

The 1219, introduced recently, is full of features which make the unit a joy to use and a fine instrument for playing records. It is provided with nearly every refinement one could imagine—pitch control, single-lever

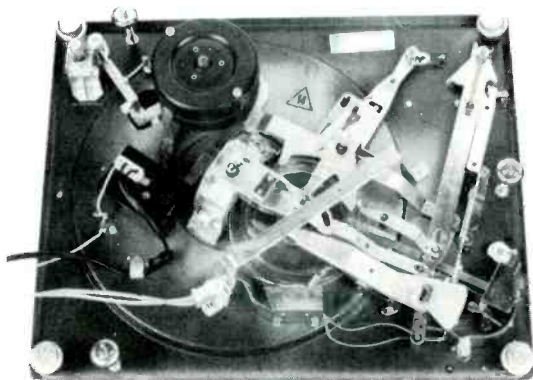


Fig. 2—Underside of the Dual 1219 indicates a neat, uncluttered mechanism. Phono jacks are on a bracket for attachment to the output leads, and a separate plug accommodates the 117-volt supply and the chassis ground connection.

operation, adjustable arm height, dial adjustment for stylus force, separate calibration on the skating-force adjustment for conical and elliptical styli, arm-lift lever, single-play and multiple-play mode selection, rotating single-record spindle, adjustable overhang, and a counterbalance with click-stops representing .01-gram changes

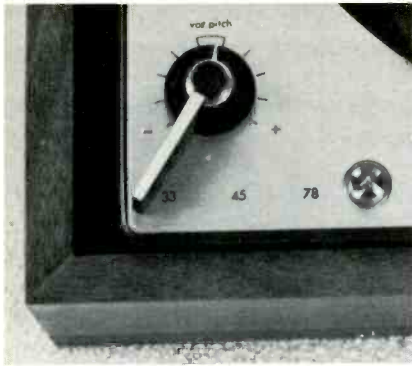


Fig. 3—At the left-front corner of the chassis is the speed-control lever, with the vernier speed control under it to provide a 6 per cent speed variation.

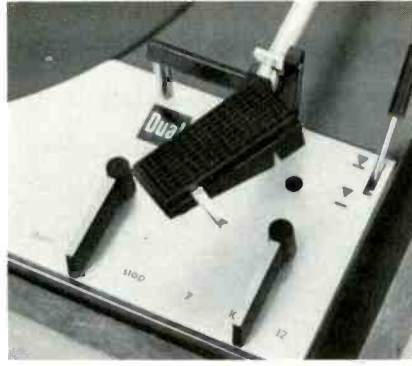


Fig. 4—The right front corner of the chassis mounts all operating controls—Master Operating Lever at left, and record size selector at right. Above is the Cue Control Lever, which raises and lowers the stylus to the record when the turntable is switched to the single-play mode.

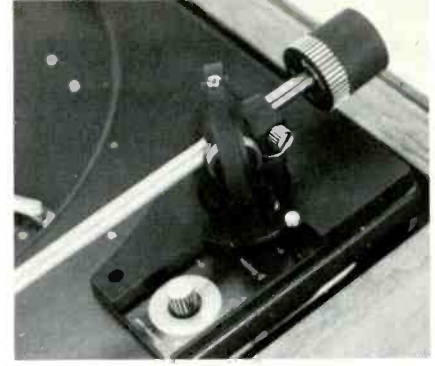


Fig. 5— Skating force is set for either conical or elliptical styli by the dial on the platform. The arm base is raised or lowered—for single- or multiple-play—by the lever under the pivot assembly, setting the vertical tracking angle to 15° for the former and 15° for the middle-of-the stack record for the latter.

in balance weight. At \$159.50 (plus walnut-finished base and dust cover) it is one of the highest priced automatic turntables on the market.

For manual operation, the single-record spindle is inserted in the turntable platter, a record placed on the turntable, and the arm lifted from its rest and placed anywhere desired on the record, or just placed over the record and the cue-control lever used to lower the stylus to the record with viscous-damped gentleness. Or if you want to start at the beginning of the record, you can move the Master Operating Lever to the **START** position, and the device does it all for you—lifts the arm, moves it to the proper radius as set by the three-position Record Size Selector (7, 10, or 12 in.), and lowers the arm—still gently. To stop the play, you can lift the arm and return it to its rest, which will stop the motor quickly, or you may move the operating lever to **STOP**, and the machine will go through a cycle and return to the arm to the rest, switch off the motor, and lower the arm to the rest—which takes a little longer.

Setting up the turntable requires first mounting the cartridge on the removeable platform in the head of the arm. Then the counterbalance is set roughly to the balance position and locked in place by a thumbscrew. Fine balancing is done then by rotating the balance weight. The .01-gram click stops make it easy to get a perfect balance. The stylus force is then set by a dial at the arm pivot point, and the anti-skating adjustment made to

the same number as the stylus-force setting. If you are using an elliptical stylus, you use the black scale; the red scale is for conical styli. In either case, the dial is set to the same number as the stylus force. For purists, there is a table in the instructions for the correct settings for conical styli of different radii than the usual 0.7 mils.

If you are playing a single record manually, you will set the mode selector at the base of the arm at "s.p." (single play), which moves the base vertically so that tracking is at the preferred 15-deg. vertical angle; for a stack of six records the arm is raised ¼ in. by moving the lever to "m.p." (multiple play), which gives the 15-deg. angle for the middle records, and is the best compromise for a whole stack.

At the left front of the motor board is a lever for selecting the desired speed—33 ⅓, 45, or 78 rpm. Around its base is a dial which permits a vernier adjustment for faster or slower speed.

The hysteresis-synchronous motor runs at 1800 rpm, and is not affected by voltage over a range from 80 to 150 volts. It is, of course, affected by the line frequency, as is any synchronous motor, but line frequencies are well controlled throughout the country these days, so you may be sure of a constant speed. The vernier control operates by raising or lowering the idler wheel slightly, and its contact with the tapered motor shaft provides the speed variation. Each of the three steps on the motor shaft is similarly

tapered, and when once set for the exact speed on one step, the speed is exact on the other two. The high torque of the motor brings the platter up to speed in less than half a revolution (at 33 ⅓).

The arm is pivoted in the center of a ring for vertical motion, and the ring is similarly pivoted inside another ring for lateral motion, with the whole resembling a gimbal in operation. All bearings are of the low-friction pivot type. The effective length of the arm from pivots to stylus is 8¾ in., which results in the low tracking error of not more than 1.5 deg. The head is a magnesium structure with a waffle-like open construction to reduce weight which still retaining strength. The cartridge holder is locked to the head by a simple lever, and the necessary four contacts are made when the holder is placed in the head. The cartridge mounting holes are slots so the proper stylus position can be achieved. A plastic gauge is provided so the tip of the stylus may be set exactly. The gauge slips over the cartridge holder with the cartridge mounted, and the stylus is positioned at the tip of a "V" in the gauge.

## Performance

The 1219 met its excellent specifications. Wow and flutter measured .05 per cent in the 6-to-250-Hz range (it was closer to 0.15 in the range below 6 Hz, but down this far is of no real interest). Arm resonance is specified as falling between 8 and 14 Hz, with the range the result of different car-

tridge weights, and it measured 11 Hz with the cartridge we used. The range of the vernier control was measured against a 1000-Hz tone, and verified as a 6 per cent range. Motor speed remained constant over the range from 80 to 150 volts, with no apparent variation whatsoever. With a variable-frequency source, however, the speed varied—as expected—in proportion to the frequency.

Rumble measured 43 dB below a peak stylus velocity of 5.0 cm/sec at 100 Hz, unweighted, while the weighted measurement (using the standard “A” weighting network) was -61 dB. This certainly puts this turntable in the upper classes of automatic units. All of the rumble appeared to be in the range below 100 Hz, as would be expected.

While it would appear that there

are many adjustments and controls, it must be pointed out that the majority of these are one-time settings, and once they are made, the 1219 is as simple to operate as any automatic could be. The instruction book tells all there is to know about operating the unit, but many people do not read such manuals thoroughly. If one does he will learn that the cue control is deactivated when the mode selector is in the “multiple play” position. Also, if one changes the selector from multiple play to single play, but does not change the single-play spindle to the automatic-play spindle, the record drop mechanism will not operate. Either one of the above operating oversights might lead an uninformed user to believe the unit is defective when it isn't.

The 1219 proved itself to be a great

turntable in every respect. Whether or not the advantages of exact settings for vertical tracking and for anti-skating can be identified by the average listener, it must be admitted that measurements show that there are improvements—in the first case, in the reduction of distortion, and in the second, in reduced wear on the record grooves, particularly on the side of the groove nearest the center of the record. Any improvement in record playing equipment that adds even a tiny bit of reduction in the distortion or reduces record wear is worth incorporating in the equipment, and in the Dual 1219, it is done as admirably and as completely as we've seen to date.