

## Dual's Least Expensive

## Changer Is No "Cheapie"



**The Equipment:** Dual 1215, a three-speed (33, 45, 78 rpm) automatic record changer. Dimensions: 15½ by 13½ by 7½ inches including wood base; for custom mounting: minimum mounting-board dimensions 15¼ by 13<sup>37</sup>/<sub>64</sub> inches, approximately 5 inches clearance required above mounting board surface, 2¼ inches below. Price: \$99.50 with automatic spindle, manual spindle, and large-hole 45 adapter, but less base; WB-12 wood base, \$10.95. Manufacturer: Dual, West Germany; U.S. distributor: United Audio Products, Inc., 120 S. Columbus Ave., Mt. Vernon, N.Y. 10553.

**Comment:** The 1215 is the least expensive Dual in the present U.S. line, though at \$100 it would fall closer to the middle than the bottom of most changer lines. (Dual does offer lower-priced units in Europe, but only the three top models, plus one modular ensemble, are imported for the components market here.) The 1215, therefore, should be classed among the "better"—rather than "budget"—changers.

The controls are grouped at the front of the top plate, flanking the platter. At the left is the three-position speed lever with the fine-tuning vernier knob beside it. To the right are the start/stop lever that triggers automatic arm motion and the three-position (7-inch, 10-inch, 12-inch) record-size lever. When this lever is in the 12-inch position, a fine-tuning screw for precise adjustment of the record set-down point is accessible through a small hole near the arm support post.

When the left-hand side of this post is squeezed inward, the arm is locked in position on the support. At the pivot of the arm is the continuously variable tracking-force adjustment, which automatically sets anti-skating bias. Beyond the pivot is the counterweight, adjusted by turning it on its threaded mount. At the front of the arm-mount base plate is a screw that adjusts cueing height. And to the right of the arm support post is the damped cueing control lever itself.

Records can be played in several ways—from manually to automatically. With the manual spindle in place, the stylus may be set into the groove by hand or lowered by means of the cueing control. In either event the motor starts automatically when the arm is moved over the record. Or, the arm may be positioned on the record automatically by pushing the automatic control to

"start." No matter how play is begun, it may be interrupted and resumed by use of the cue control, and the arm will return to rest and the entire unit shut off automatically when the stylus reaches the leadout groove or the automatic-operation lever is pushed to "stop."

With the automatic spindle in place, record-changer operation (an 11-second cycle at 33 rpm) is added, but without preventing manual options. The cue control may be used to interrupt the music temporarily, for example, and the stylus may be positioned by hand just as in manual play. We had no trouble with the change cycle using a variety of discs from burly mono antiques to the new slimmed-down records. If you want to repeat the top record in the stack, you can do so by placing the 45-rpm adapter on top of the automatic spindle.

A special word is in order about the cartridge-mount system of the 1215. The finger hold on the mount doubles as a locking lever to hold a slip-in cartridge bracket in place. Swing the finger hold toward the arm pivot, and the bracket is released. A variety of screws and spacers are supplied so that cartridges of varying dimensions can be positioned with the stylus a given distance from the bracket to standardize for vertical tracking angle; the screws fit in slots in the bracket that allow the cartridge to be slid forward or back to adjust overhang and therefore minimize lateral tracking angle error. A plastic gauge is provided as a guide to cartridge positioning on the bracket. Leads attached to the bracket fit the cartridge connection pins and run to spring contacts that mate with others in the fixed mounting of the arm. While this system requires a little more fussing than some when you're mounting a cartridge, it allows maximum refinement of cartridge positioning with minimum costly elaboration in the unit itself—an excellent approach if maximum performance is to be provided at minimum price in our judgment.

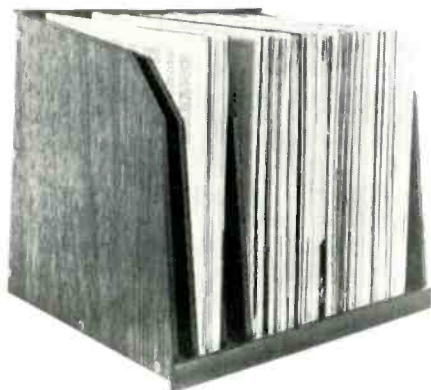
And the performance is undeniably good for a changer in this price class. Speed accuracy figures, derived by fine-tuning the 33 speed for 120-volt AC power, are shown below. Note that any and all of the speed/voltage combinations can be set precisely by using the supplied strobe disc, since the vernier adjustment has more than enough range ( $\pm 3.5\%$ ) to correct the relatively minor errors involved. Flutter, at 0.1%

average is within desirable limits. Rumble, measured with CBS-ARLL weighting, is -52 dB—that is, virtually inaudible with most program material.

The damped coupling between arm and counterweight smooths arm resonance to a mere 2-dB rise at 6 Hz, measured with a Shure V-15 Type II cartridge—a figure well below the level at which you need worry about mistracking caused by arm resonance—and bearing friction in both horizontal and vertical planes is negligible. A tracking force of only 0.35 grams is needed to trip the changer mechanism. Stylus gauge accuracy, detailed below, is good, and the automatic antiskating bias at each setting matches theoretical values for a conical stylus very closely and is within acceptable limits even if you are using an elliptical stylus. No side drift is encountered in using the cueing device.

All things considered, Dual has done an excellent job of reducing costs while giving up very little in terms of performance and convenience.

CIRCLE 146 ON READER-SERVICE CARD



## Antiwarp Record Cabinet

**The Equipment:** Classic Compact 100, a record storage unit sold in knockdown form, with built-in antiwarp feature. Dimensions: 15¼ by 13¼ by 13¼ inches. Price (postpaid): \$19.95. Manufactured in England; distributed in the U.S. by Audio Import Corp., 1010 Vermont Ave., N. W., Washington, D.C. 20005.

**Comment:** This is a record storage cabinet with a difference: The vertical spacers not only may be arranged at varying intervals from one another to accommodate different groupings of records, but the spacers are provided with small springs that exert pressure against them. The pressure is adequate for holding the records upright gently but firmly. This not only makes it easy to insert and remove discs, but it also helps reduce their tendency to warp as a result of casual or incorrect storage. Since the pressure-loaded panels are permitted to "float" between a fixed partition, they become self-adjusting and exert virtually the same amount of pressure regardless of how many discs are stored. A single Compact 100 will hold up to 100 records.

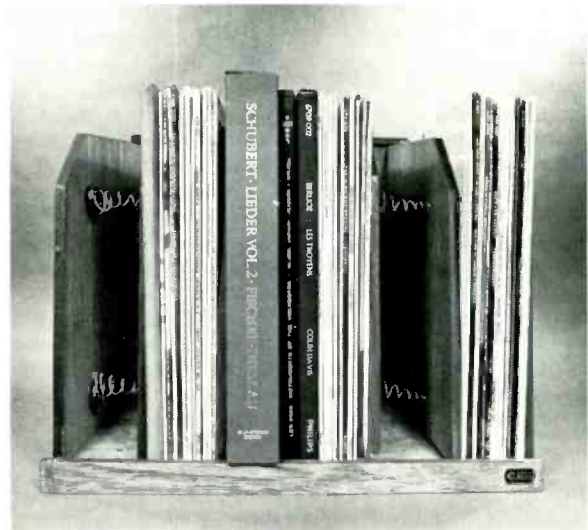
### Dual 1215 Additional Data

Speed accuracy, 33 rpm	105 VAC: 0.7% slow
	120 VAC: set exact
	127 VAC: 0.1% fast
45 rpm	105 VAC: 1.8% slow
	120 VAC: 1.1% slow
	127 VAC: 1.0% slow
78 rpm	105 VAC: 1.2% slow
	120 VAC: 0.6% slow
	127 VAC: 0.4% slow
Stylus-force gauge accuracy	
gauge setting	grams measured
1	1.2
2	2.3
3	3.5
4	4.5
5	5.3

The unit is supplied in knockdown form and goes together quickly; an ordinary screwdriver is the only tool you need. Once assembled, it may be placed on a shelf or cabinet top where, with its neat mahogany finish—contrasting with the colorful patches of typical record liners—it presents a pleasant appearance.

Rubber feet under the unit protect the surface on which it rests; they also help the loaded unit to sit securely. A raised strip along the bottom front of the unit requires you to lift records slightly to insert or remove them, but it also helps to hold them snugly and it provides a space to attach little tags (of your own devising; not supplied) to identify specific groupings of records. All told, the Classic Compact 100 is a useful and attractive accessory for the serious record collector. After using one for several weeks, our only question is: How come no one thought of this before?

CIRCLE 148 ON READER SERVICE CARD



Compartments of Compact 100 need not be full to hold records upright. Spring loading provides the gentle pressure needed to keep stored records from warping.