

# The "NEW LOOK" In Popular Records

By  
**TOM GOOTÉE**

Closeup of the new RCA record player and its 45 r.p.m. record. The 7" vinyl plastic record has 1½ inch center hole.



***RCA's 45 r.p.m. system combines a compact record player with 7" plastic discs to provide a small phone unit for use in new or existing equipment.***

**A** NEW and important trend toward high fidelity and the distortion-free reproduction of recorded music and entertainment in the home is indicated by the radically new system of 45 r.p.m. records and matched record players developed by the RCA Victor Division of Radio Corporation of America.

Establishing new standards of size and speed as well as improved fidelity, the 45 r.p.m. system is designed to provide mechanical simplicity, small size, light weight, and lowered costs.

## The Records

The new 45 r.p.m. records are wafer-thin, non-breakable discs of the vinyl plastic, which is known commercially as *Vinylite*. All records are of uniform size—slightly less than seven inches in diameter. All of the records have a large center spindle hole which measures one and one-half inches in diameter.

The playing surface on each side of a record is confined to a single band, about one inch in width (maximum), which represents a maximum of 275 grooves. This band represents a playing time of about five minutes. A three-minute record would have a narrower band of grooves and correspondingly fewer grooves.

Between the band, or playing surface, and the large spindle hole is a slightly raised collar which carries the record label. The primary purpose of

this raised circular area is to prevent any contact between the playing surfaces of proximate records when they are stacked together. In this way, scratches due to friction with other records is effectively minimized.

The *Vinylite* used in the records is a hard and durable material and stands considerable abuse. Essentially a vinyl-acetate resin, *Vinylite* is molded with heat and pressure like other synthetic resins. *Vinylite* is unaffected by water, oil, gasoline, acids, or

alkalies. It is thermoplastic, but no appreciable change in shape can be detected when the record is subjected to normal heat. The material can be produced in a variety of colors and because of its high refractive index the colors are brilliant and clear.

Illustrative of the relatively small size of these new records is the fact that a stack of 1000 discs can be housed in an ordinary console cabinet. Thus the problem of record storage in the

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Comparison in size between the 78 r.p.m. and the new 45 r.p.m. discs. The new 7" vinyl record plays 5 min., 15 sec. per side.



Over-all view of the record player in operation. The new unit can be used with any type of available audio system.

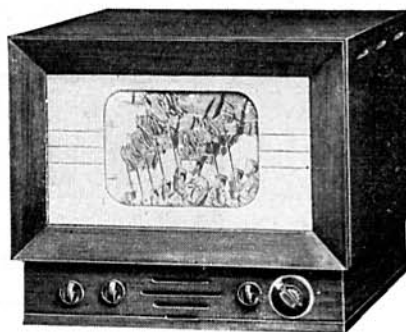


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### "New Look"

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average home is considerably alleviated.

The heart of the new 45 r.p.m. system is a simple and unique type of automatic record changer developed exclusively for use with the new 45 r.p.m. records. Housed in a small plastic case is a single-speed motor which drives the turntable. The shaft of this motor is precision-built to insure constant running speed and the elimination of turntable "wow."

The turntable is mounted on top of the plastic case. The feature of this turntable most likely to interest the radioman is the large, red plastic-capped center spindle which houses the fast-dropping changer mechanism. As many as eight of the 45 r.p.m. records may be stacked on the center spindle. The action of the drop mechanism is normally automatic but can be accomplished manually by means of a small touch-button. Metal fins emerge from narrow horizontal slots in the spindle to hold the upper portion of the stack while latch-type projections below the record recede to drop the bottom record.

This record-changing mechanism is exceptionally fast. Immediately upon completion of a record, the tone arm swings out, the next record drops in place, and the tone arm settles into the first groove, all in the time required for the turntable to complete one revolution. In other words, the actual time between the conclusion of one record and the start of the next record is about 1/45 minute. The action of the turntable and drop mechanism is noiseless, and even the drop of each record is scarcely audible.

The tone arm, which is located on top of the plastic case, contains a "Silent Sapphire" permanent point pickup. The stylus has a 1 mil. radius (45 degree included angle). A tracking pressure of only 5 grams is exerted on the playing surface of the record.

The pickup and the record have a matched frequency response which results in improved fidelity (a flat response characteristic). With a low voltage output, the frequency range of the pickup, and therefore the entire system, extends as high as 8000 cycles.

During the brief period of the change cycle when the tone arm is in motion, a muting switch opens the circuit automatically so that no voltage leaves the changer.

The record changer has only two simple adjustments—small screws—which can easily be reached from the top of the instrument. One is a height adjustment for the tone arm while the other is a landing adjustment to make certain that the pickup settles into the first groove of each record.

The automatic changer (without amplifier) is expected to retail for around \$10.00 net, thus bringing the cost of such an instrument well within the range of the most modest budget.

**RADIO & TELEVISION NEWS**

Because of the small physical size of the record player, it can be installed in existing phonographs. The output of the unit can be fed into any amplifying system.

Formal announcement of the new 45 r.p.m. system is the culmination of nearly a decade of research and development on the problem by RCA.

The majority of the problems encountered arose from a lack of standardization in the industry, particularly in the records themselves, in the matter of thickness, diameter, groove depth, and other dimensions and record characteristics.

According to the company, the new record meets the requirements of all types of recorded material whether it be popular, folk, semi-classical, or classical.

#### The Future

Since many customers are reeling from the multiplicity of records and recording systems now being offered, it might be well to dwell briefly on the future of the art as it affects the consumer.

Columbia Records plans to continue releasing its 33½ r.p.m. long-playing Microgroove records in three sizes; the 12" record which runs an uninterrupted period of about 25 minutes; the 10" size which provides approximately 15 minutes of program material; and the 7" plastic record which runs about 7 or 8 minutes. Classical and popular works from their 78 r.p.m. catalogue are to be re-recorded for issuance on the 33½ r.p.m. discs.

Present plans by RCA call for the creation of an extensive catalogue of the 45 r.p.m. records in order to stimulate sales among all classes of record buyers. Classical records of the "Red Seal" series are to be released on the 7" Vinylite disc as well as many old and all new recordings in the "Black Label" series. Records sold under the "Bluebird" label will be issued on the new 45 r.p.m. discs in addition to a new series of records for children. These latter two will appear later in the year.

Because there are, at present, 16 million record players which are equipped to handle only 78 r.p.m. records in the hands of the public, RCA plans to continue the release of 78 r.p.m. discs in addition to the new 45 r.p.m. units.

RCA has completed arrangements with Decca Records and Capitol Records to issue releases on the 7" Vinylite 45 r.p.m. discs. In addition, to expedite production on the automatic changer, the company has released blueprints and specifications to all interested manufacturers on a royalty-free basis. Thousands of these changers are now in production and will be sold individually or as part of radio-phonograph combinations. Admiral, Crosley, Emerson, Stewart-Warner, and others, are planning to incorporate the new changer in their fall and winter lines of combination instruments.

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