



The RCA V-225 with automatic record changer.

SHEER MAGIC IN AUTOMATIC RECORD CHANGER

*New Model Approaches Human Intelligence
In Action*

RIGHT: Close-up of the mechanism.



THE "Magic Brain" with the Tandem Tone Arm, a revolutionary new type of automatic record changer which plays both sides of phonograph records without turning them over, has been perfected in the RCA Research Laboratories and is being introduced in the new series of 1942 RCA Victrola Phonograph radios. The new instrument provides two hours of uninterrupted music at the touch of a button. Further, the "Magic Brain"

mechanisms eliminate the use of old fashioned needles, extend record life indefinitely, and set a new standard in tone quality for home entertainment instruments. One of the Magic Brain Changers, equipped with the Tandem Tone Arm, makes it possible to play both sides of a record without removing it from the turntable.

The "Magic Brain" is really a combination of several important developments perfected by RCA research engineers after many

years of study and experiment. That it represents one of the major advances in the 43-year history of the phonograph is evident. As a matter of fact, the only development of comparable importance in that time was the introduction of electric recording and phonograph methods a number of years ago.

Among the other new features of the device are the Magic Tone Cell (the pickup cartridge), the Flexible Tone Bridge and the

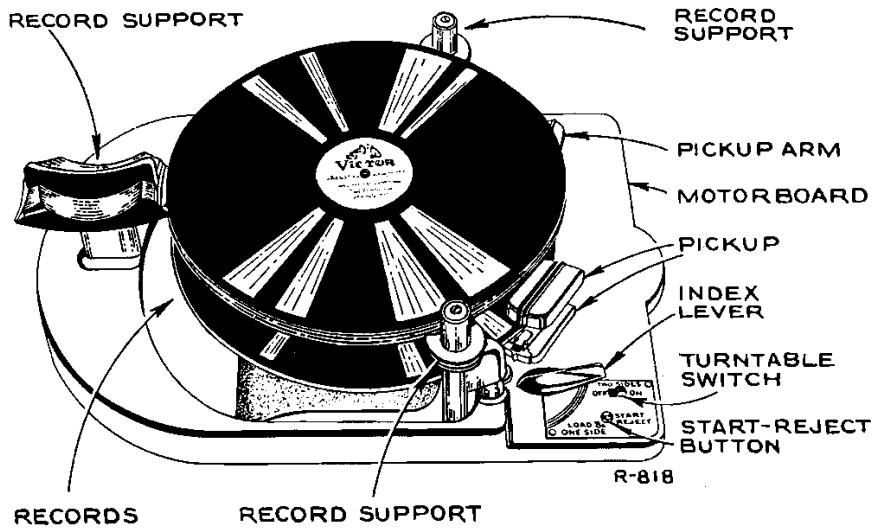


Figure 1—Automatic Record Changer

Jewel-Lite Scanner. The new model equipped with these innovations and the Tandem Tone Arm will play both sides of 15 records without attention once a starter button has been pressed.

How the Magic Brain With Tandem Tone Arm Works

To operate a Magic Brain record player equipped with the Tandem Tone Arm it is only necessary to stack the records on the automatic mechanism and press the starting button. The Tandem Tone Arm, which is actually two arms and two pickups (one for playing the top side of a record and the other for reproducing the lower side) shaped somewhat like a tuning fork, swings over and plays the top side of the bottom record of the stack which has been dropped to the turntable. After reaching the end of the record, the Tandem Tone Arm swings clear of the record while the direction of the turntable's revolution is reversed. Then it rises far enough to make contact with the bottom side of the record.

When the under side has been played, the Tandem Tone Arm swings away so that the record may be deposited gently into a felt lined compartment, after which another record from the bottom of the stack drops into place. The cycle is repeated until all the records have been played. The Magic Brain then automatically shuts off the mechanism.

Secret of the remarkable tone quality achieved with the new in-

strument is the Magic Tone Cell, which is an important part of each tone arm. The cell is made up of Flexible Tone Bridge and the Jewel-Lite Scanner. The former is a fine wire filament scientifically designed to eliminate at the source all objectionable needle chatter. The scanner is a carefully ground sapphire point which replaces the needle. The perfectly balanced Magic Tone Cell exerts a minimum of pressure on the record which combined with perfect tracking, assure indefinite life for the sapphire point and the records and avoids chatter. Grueling laboratory tests, running into many hundreds of hours, have indicated the life-span of the Scanner and Bridge to be far beyond the heaviest demands imaginable.

With the phonograph compartment open and the "Jewel-Lite Scanner" running in the record

groove without amplification, the Magic Tone Cell creates substantially less sound from mechanical vibration than the sound which escaped past the very effective Tone Guard in last year's instruments. With the instrument in normal playing position and the minimum amount of amplification, there is no distortion from needle chatter. This is a tremendous forward step, as needle chatter until today has been one of the biggest negatives remaining in the reproduction of recorded music.

The vibrating parts of the Magic Tone Cell weigh less than a postage stamp despite their effectiveness and rugged construction. The Magic Tone Cell exerts approximately one-half the pressure on the record of ordinary pickup mechanisms, and there is no difference in the pressure regardless of whether the top or the bottom of the record is being played.

The Magic Brain has been incorporated in the 1942 RCA Victrola Model V-225, the most advanced home entertainment instrument ever to leave the RCA Victor laboratories. Housed in a Chippendale Style cabinet with the Magic Brain and all controls available from the front, the instrument incorporates a highly efficient chassis with 12 watts of output through a push-pull audio system. The new RCA Victor Teletube for increased R-F amplification provides increased sensitivity. All other radio features are of the most advanced design.

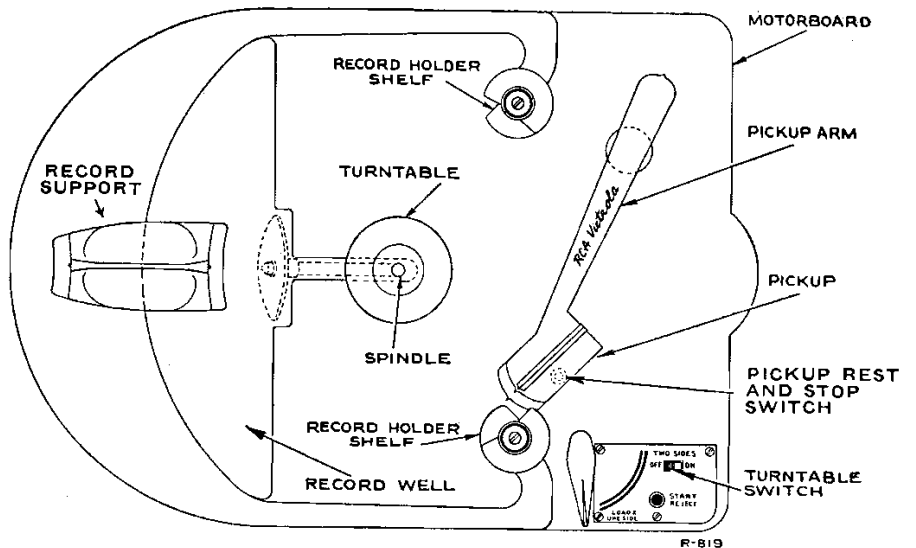


Figure 2—Phonograph