



RADIO SERVICE NEWS

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Special Edition

CAMDEN, NEW JERSEY

Vol. I, No. 4

Magic Brain is Feature of New RCA Victor Sets

CANCEL MY ORDER FOR A CHASSIS-STRETCHER. I WONT NEED IT TO GET AT THE PARTS OF THE NEW RCA VICTOR SETS



GREETINGS, RADIO SERVICE SALES ENGINEERS
An Editorial by E. M. Hartley, Manager,
RCA Parts Division

THIS issue of RADIO SERVICE NEWS has been prepared especially for the Service Meetings which we are conducting throughout the country at the present time.

We welcome you to these meetings and hope that you will find them both profitable and enjoyable.

Although I can not attend all of these meetings in person, I am at them in spirit.

You and I are parts of a great and growing industry. Your success in that industry depends on how well you do your job. We at Radio Headquarters feel that you can do your job better and we can do our job better when we know and understand each other. That is the purpose of this series of meetings.

We want you to know our products, but we also want you to know us. Perhaps you think of us as "RCA Victor—the leader of the industry." We hope that before these meetings are over, you will realize that we are regular fellows.

Better days are ahead for the radio service industry. There is much work to be done, however, to make the public realize how important the service engineer is to its radio enjoyment. By the quality of your work and by your business methods, you can make them realize that good radio service is well worth its cost.

The RCA Victor Company will help by giving you quality replacement parts, quality tools to work with, and all the information available on our new line. And, by the way, as you learn more about the Fall line you will see that each set has been designed with a view to making them easy to service. We have not forgotten your problems.

Quality work, coupled with quality parts, will restore public confidence in the radio service industry and lead to profitable prices. Profitable prices will bring a greater measure of prosperity to us all.

To achieve these things for the radio service industry, reputable manufacturers and reputable service engineers must get together and cooperate. This meeting is just one of the steps we are taking to do our part.

And so again I say—WELCOME!

SPECIAL QUALITY PARTS DEVELOPED FOR RCA RADIOS

New Type Condensers Are Non-Inductively Wound

QUALITY IN EVERY PART

Capacitors play a very important part in the construction of All-Wave Receivers. One-inch extra grid lead in short wave will produce as much effect as 100 inches on a broadcast band receiver.

Market condensers could not be used in short-wave construction, because of detrimental inductance. Before placing the 1935 Globe Trotter on the market, it was necessary to spend months of research on the subject of condenser design.

Non-Inductantly Wound

The condensers used on the new receivers are, so to speak, non-inductantly wound. Ordinarily, the small tubular condenser consists of two long strips of tin-foil, circular wound, like a roll of adhesive tape. Conductors con-

(Continued on page 10, col. 2)

SEPARATE COILS, DUAL RATIO VERNIER TUNING IN R. F. UNIT

Coils In "Magic Brain" Last Word In Development

The individual coils used in the "Magic Brain" represent the last thing in engineering development. An examination of the D coil having heavy copper winding on the high-frequency secondary compared with the fine Litz wire used on the secondary of the long-wave "X" band will give a very good idea of the advantages of separate coil construction. Specially designed coils in an All-Wave Receiver are as important as the use of different type tubes in our present-day receivers.

The All-Wave Unit of RCA Victor receivers is aptly termed the "Magic Brain" of the RCA Victor Globe Trotter. It can be compared with the human brain, for as the brain directs the body, so the "Magic Brain" is the directing force of the new RCA Victor All-Wave Receivers.

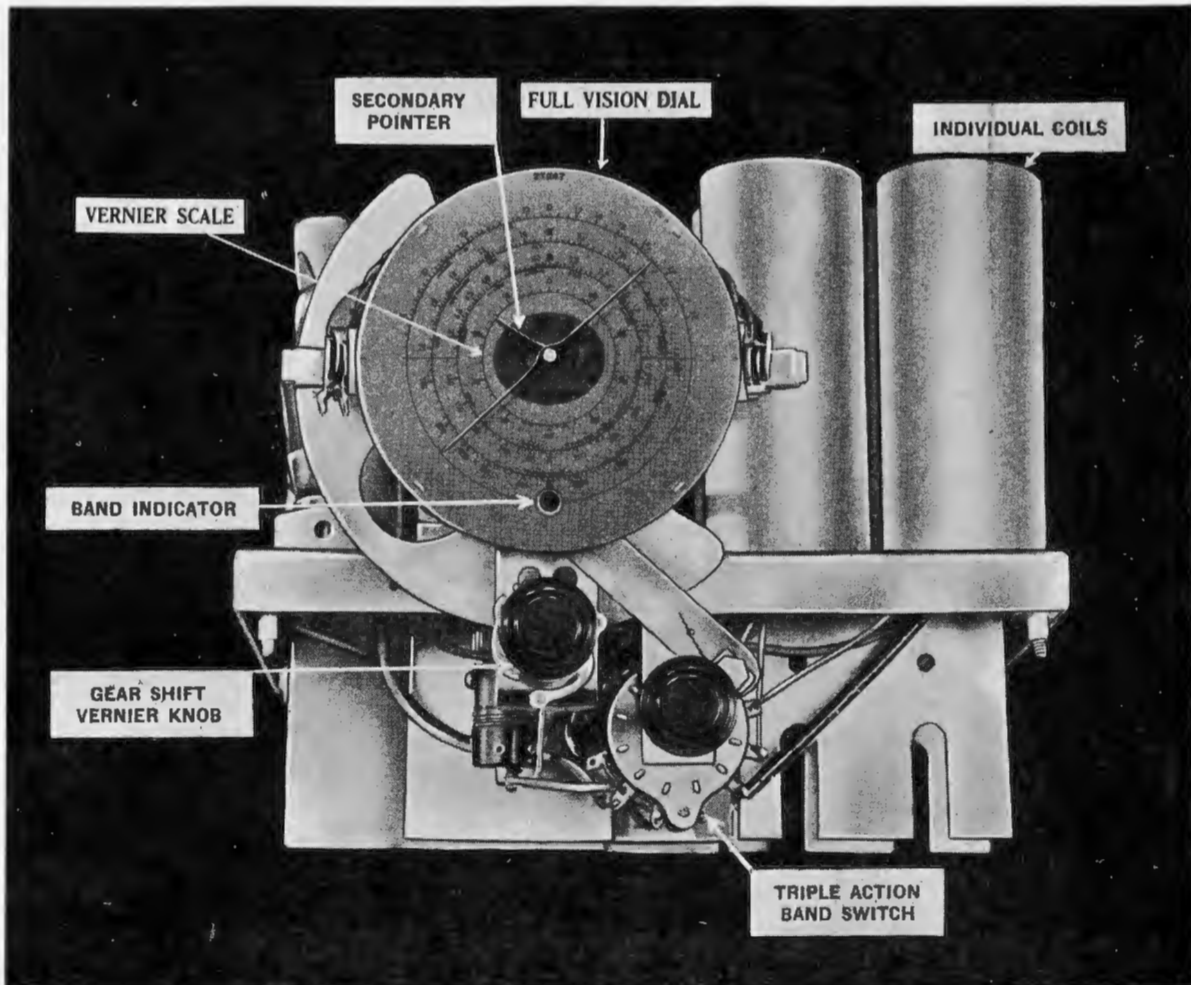
All the usual functions and radio engineering principles necessary to receive domestic broadcast reception have been thoroughly well standardized. Today, almost any fair-grade receiver is capable of bringing in local domestic broadcasts in a more or less satisfactory way. However, with the growing demand for receivers capable of world-wide reception, it has become necessary to establish a new standard of efficiency and performance, calling once more for sound pioneer engineering, the most exacting standards in manufacturing, and the development of new testing equipment costing many tens of thousands of dollars.

Multi-coil System Important

The multi-coil system is responsible to great degree for the superiority of performance of RCA Victor Globe Trotters. Other coil systems, making the single coils perform more than one function, can be developed with less engineering difficulties, cost decidedly

(Continued on page 10, col. 3)

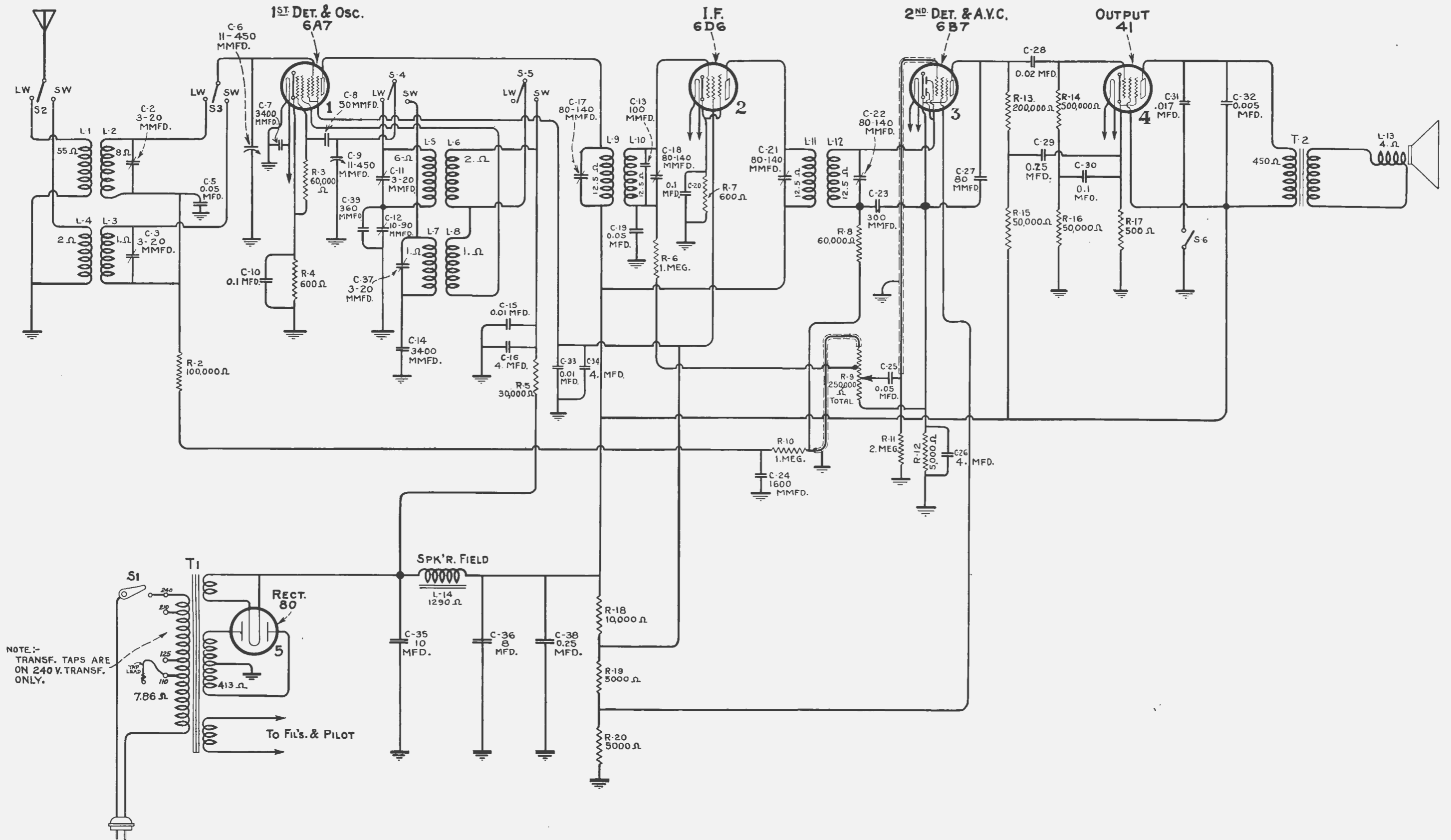
Almost Human—The Magic Brain!



The R. F. Unit of RCA Victor Globe Trotter Radios is called the "Magic Brain." It is almost human in its capabilities for both long and short-wave reception.

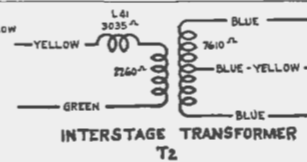
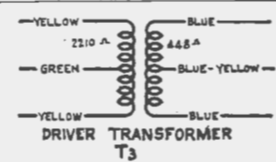
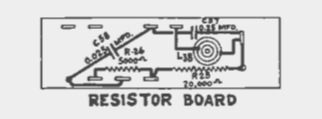
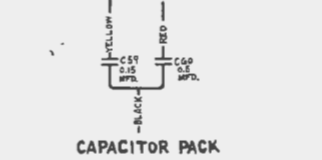
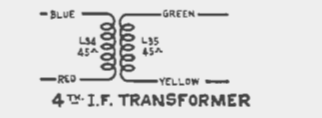
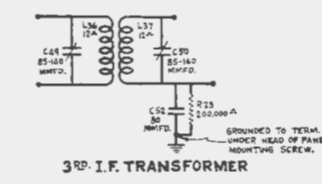
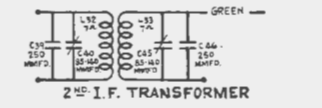
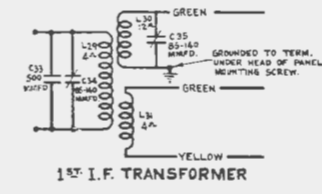
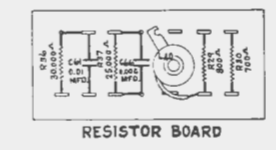
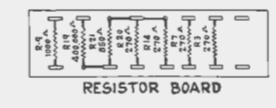
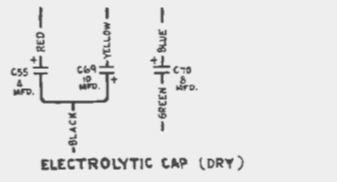
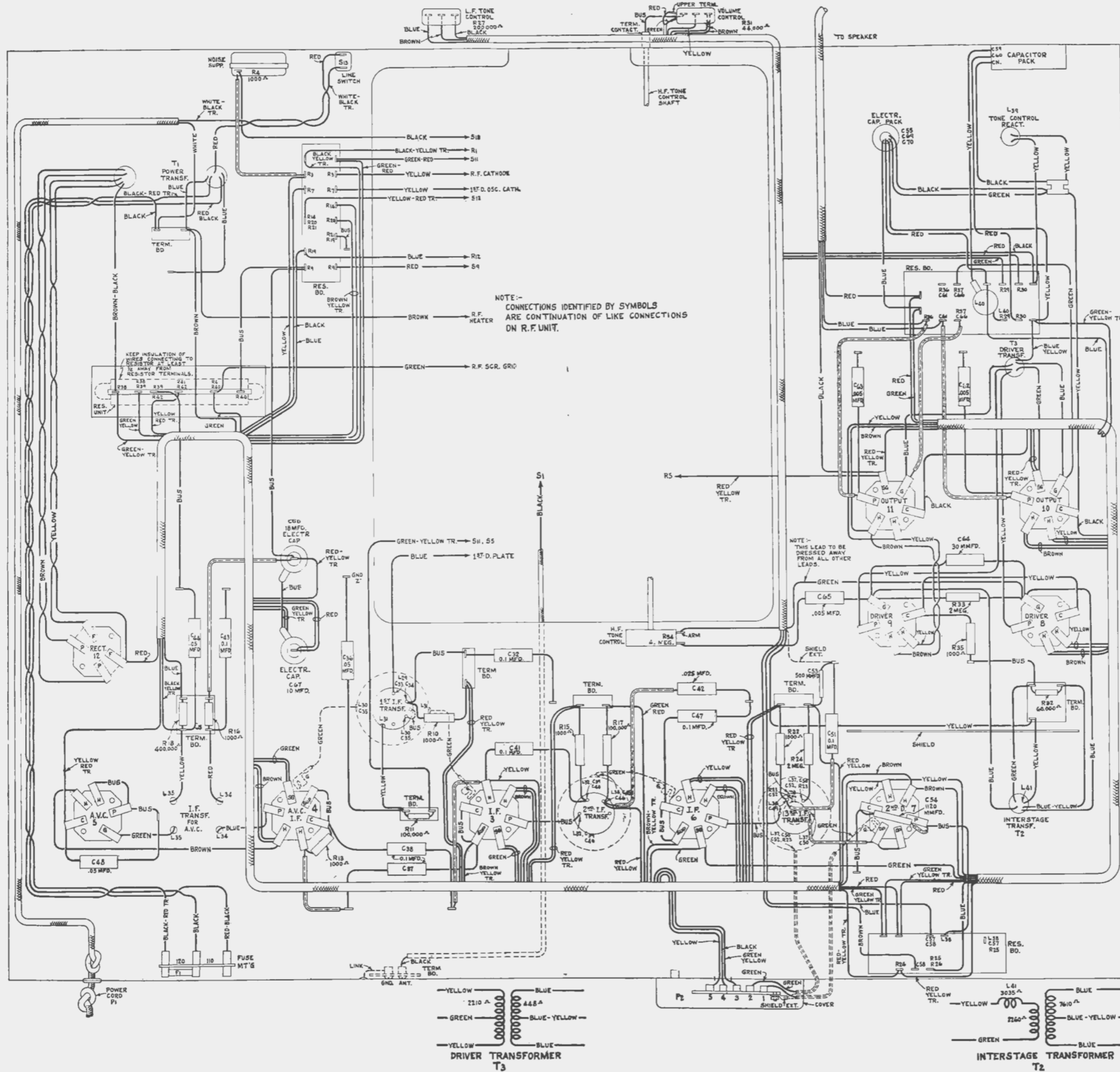
Ask Your RCA Victor Distributor for the date of NEXT SERVICE MEETING

Schematic Diagram – RCA Victor Models 118 and 211



Wiring Diagram — RCA Victor Model 281

(Chassis Less R. F. Unit)



Here They Are—4 of the Brilliant



GLOBE TROTTER 281

This beautiful model has 12 tubes, superior superheterodyne chassis, 16 watts output, cascade automatic volume control applied especially to the high frequencies to prevent fading and blasting, high-low tone control, and superb audio compensation—all these contribute to the masterful performance of this instrument, whose mirror finish, six-legged cabinet and beautiful woods make it an object of especial beauty.

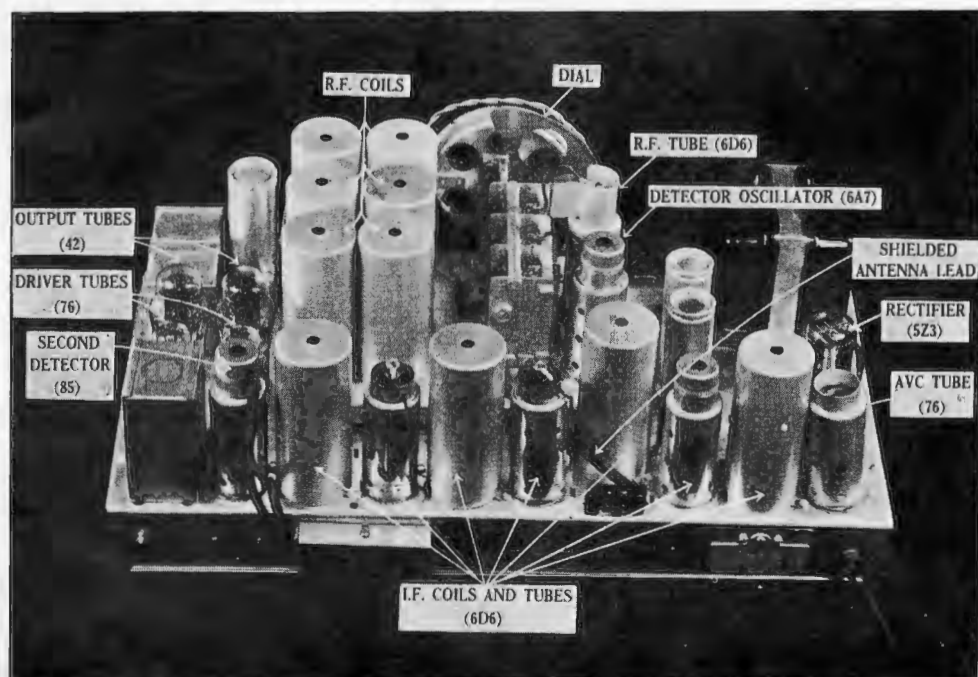


DUO 381

Incorporates a superior 12-tube superheterodyne circuit. In addition the splendid phonograph is automatic with a non-jamming device—offers home recording, neon “modulator,” and two-button microphone. The luxurious cabinet is neo-classic in style.



12-Tube Superheterodyne Chassis—Models 281 and 381





**-CALL FOR MR. GO-GETTER!
-CALL FOR MR. GO-GETTER!
-CALL FOR MR. GO-GETTER!**

Mr. Go-Getter? Yes, sir! I have an important message for you from your RCA Parts Distributor. He wants you to come to his show room so that he can show you a line of RCA test equipment and accessories that will

HELP YOU SELL SETS AND KEEP THEM SOLD!

FOR EXAMPLE:

The sale of a set is not complete unless the customer is satisfied. Noisy reception makes a dissatisfied customer . . . a customer who more than likely will go elsewhere the second time for his merchandise and his service. When you sell a set, sell the makings of a satisfactory installation along with it . . . sell an RCA World-Wide or Shielded Antenna System. The RCA Auto Radio Lock and Instrument Panel Control Unit are two other items that make for permanently satisfied customers.



RCA Auto Radio Lock. Foils the auto-radio thief. Similar in principle to a spare-tire lock, fitting over the bolt holding the receiver to the bulkhead of car. Good on all radios in any make of car. List price, \$1.35. Stock No. 4575.

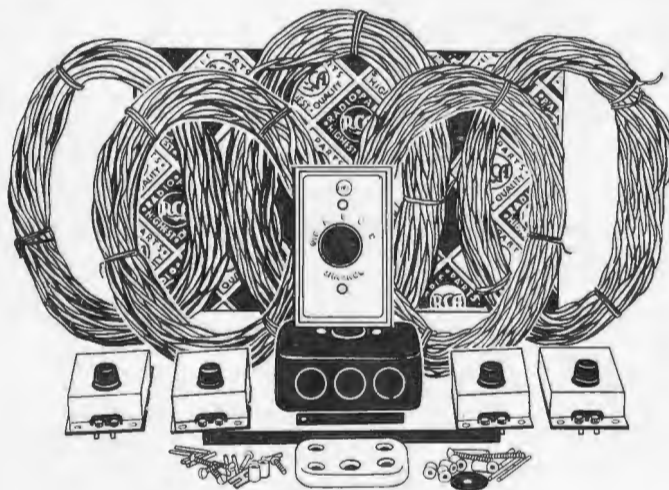


Instrument Panel Control Unit. Often preferred to steering column control. Designed for RCA Victor Models M-107 and M-123, on Ford and Chrysler-made cars. May be adapted to other cars. Chromium finish. Suggested net price to dealers, \$1.50. Stock No. 4476.

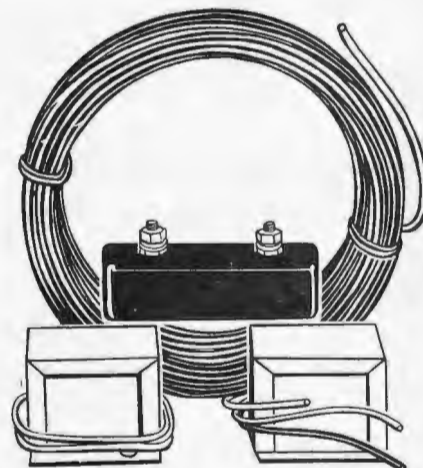
THE FAMOUS RCA ANTENNA SYSTEMS



RCA World-Wide Antenna System. Provides, primarily, an efficient means of collecting the shorter-wave signals on a special "double doublet." Excellent for stimulating sales of short-wave and all-wave receivers—and for keeping the customer satisfied after they are installed. Stock No. 9500. List price, \$6.00.



Store Demonstration Antenna System. Possesses all the advantages of the World-Wide Antenna System, and also includes a four-way switch, mounted on the wall, for rapid changes of antenna from one receiver to another, accommodating up to four receivers. Stock No. 9504. Price, \$9.85 net to the dealer or service engineer.



RCA Standard Shielded Antenna System. For installations where the utmost in efficiency throughout the broadcast and police bands only is desired. Stock No. 7718 Antenna Kit has both an antenna transformer and a receiver coupling transformer. List price, \$5.00. Stock No. 7717 contains no receiver coupling transformer. List price, \$3.50.

REMARKABLY ACCURATE TEST OSCILLATOR FOR ONLY \$34.50

THE PROFESSIONAL TOUCH

PRECISION TOOLS FOR USE WITH THE TEST OSCILLATOR



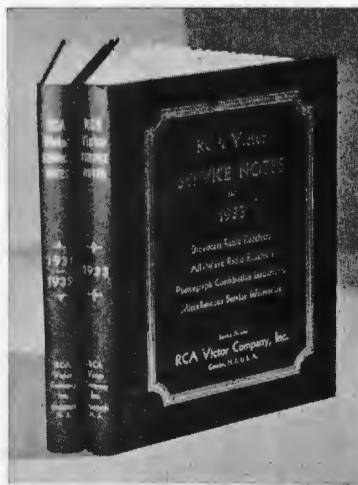
RCA Oscillator. Type TMV-97-B. An excellent oscillator at a low price. Features include an extremely wide frequency range (90-25,000 K. C.), a direct-reading dial marked in kilocycles and a direct-reading range switch. Light, compact and reliable. \$29.50 net to service sales engineers.

Individual Calibration Chart. The Individually Calibrated RCA Oscillator may be obtained for only \$5.00 additional, giving a remarkably accurate test oscillator for only \$34.50.

You can make your work easier, give your customers the best and at the same time impress clients with your professional equipment and workmanship, by owning the items shown here. Bound Volumes of RCA Service Notes eliminate guesswork. RCA Test Equipment and Special Tools will assist you in building a local reputation that in turn will increase your profits.



RCA Output Indicator. Type TMV-121-A. Consists of a Neon lamp, a transformer and a potentiometer, all mounted in a bakelite case. Has no delicate parts. Ideal for "peaking" receivers. Stock No. 4317. Price, \$4.00 net.



RCA Victor Service Notes. Two bound volumes, 1931-32 and 1933. Each volume contains all the Service Notes printed for the receivers manufactured during the year, or years, indicated. Net price per volume, \$1.00.

Tuning Wand



Alignment Tool



Alignment Wrench



Knurled Nut Wrench

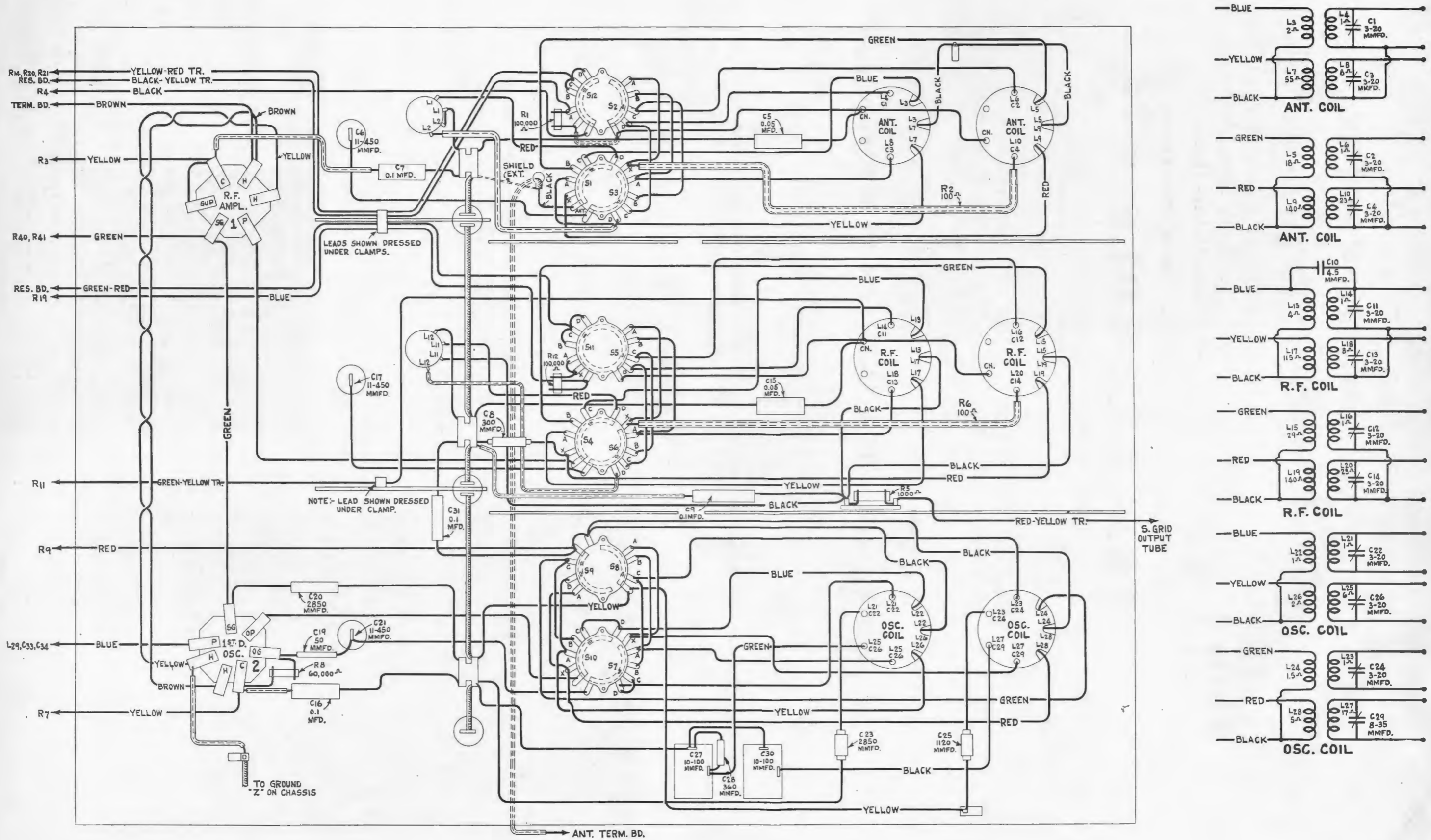


Off-Set Screwdrivers



Tuning Wand, Stock No. 6679, net price \$1.10. Alignment Tool, Stock No. 4160, net price 60c. Alignment Wrench, Stock No. 7065, net price 50c. Knurled Nut Wrench, Stock No. 10982, net price \$1.20. Off-set Screwdrivers, Stock Nos. 3064 (short) and 2930, net price each, 50c; Oscillator Adapter, Stock No. 4316, net price 45c.

Wiring Diagram - RCA Victor Model 281 R. F. Unit



New RCA Victor Radios for Fall

GLOBE TROTTER 118

This is a five-tube Globe Trotter with airplane dial, two dial scales, 50-to-1 and 10-to-1 vernier tuning, which covers the short-wave bands from 5400 to 18000 KC. Two-point tone control. Automatic volume control. Six-inch electro-dynamic speaker. Receives some police calls. Beautiful mirror-finished cabinet. A masterpiece of modern design and performance, in a size adaptable to all types of living quarters.

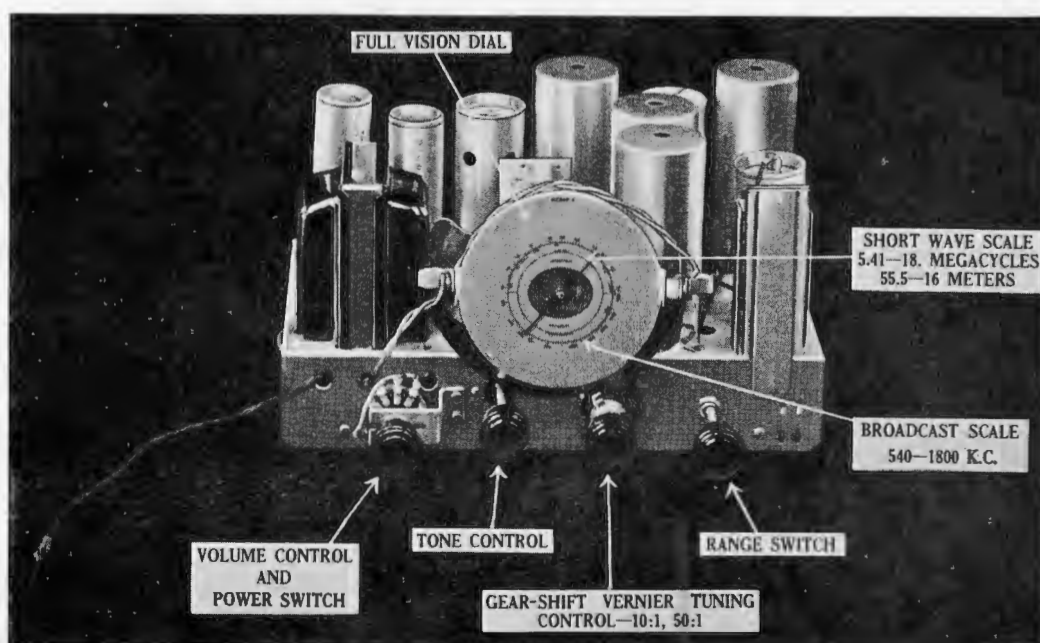


GLOBE TROTTER 211

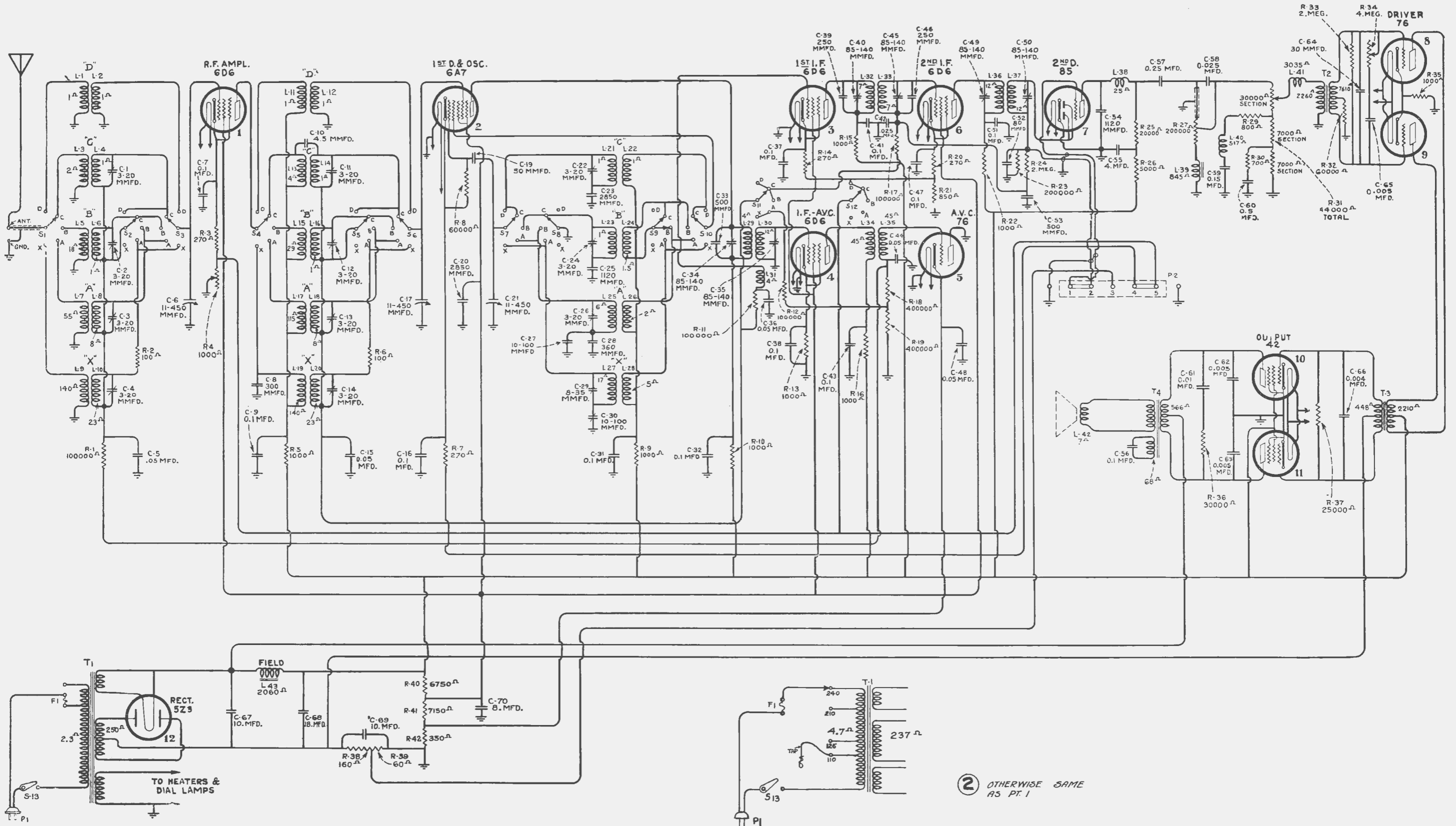
This is the console equivalent of Model 118. The chassis is the same, but a full 10-inch speaker is housed in the commodious cabinet of luxurious woods. Authentic modern lines are combined with a reproduction unit of ample capabilities in the Globe Trotter 211.



5-Tube Chassis in Models 118 and 211

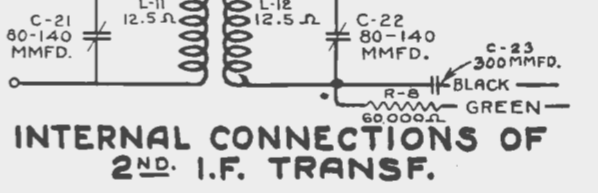
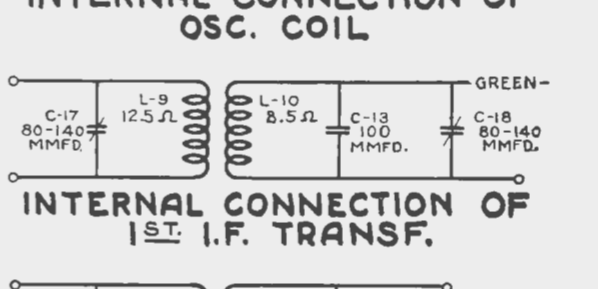
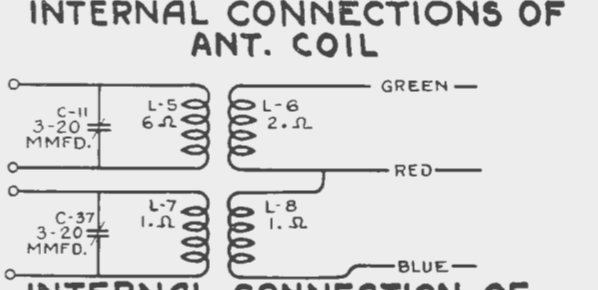
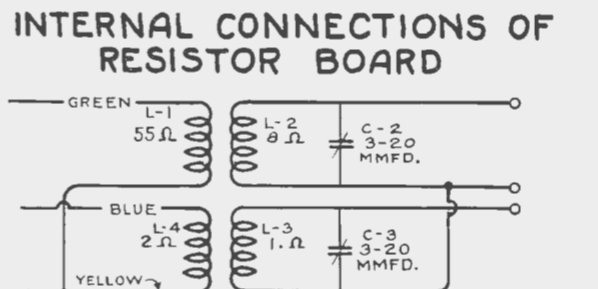
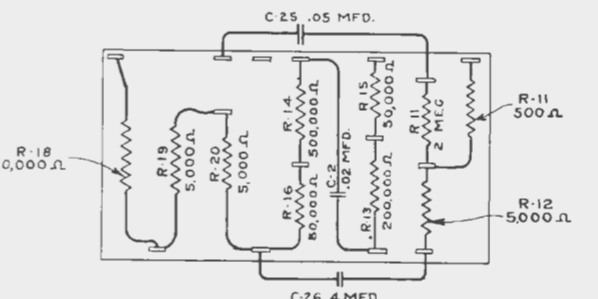
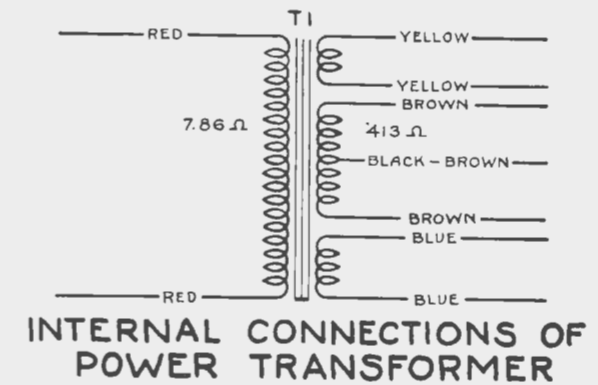
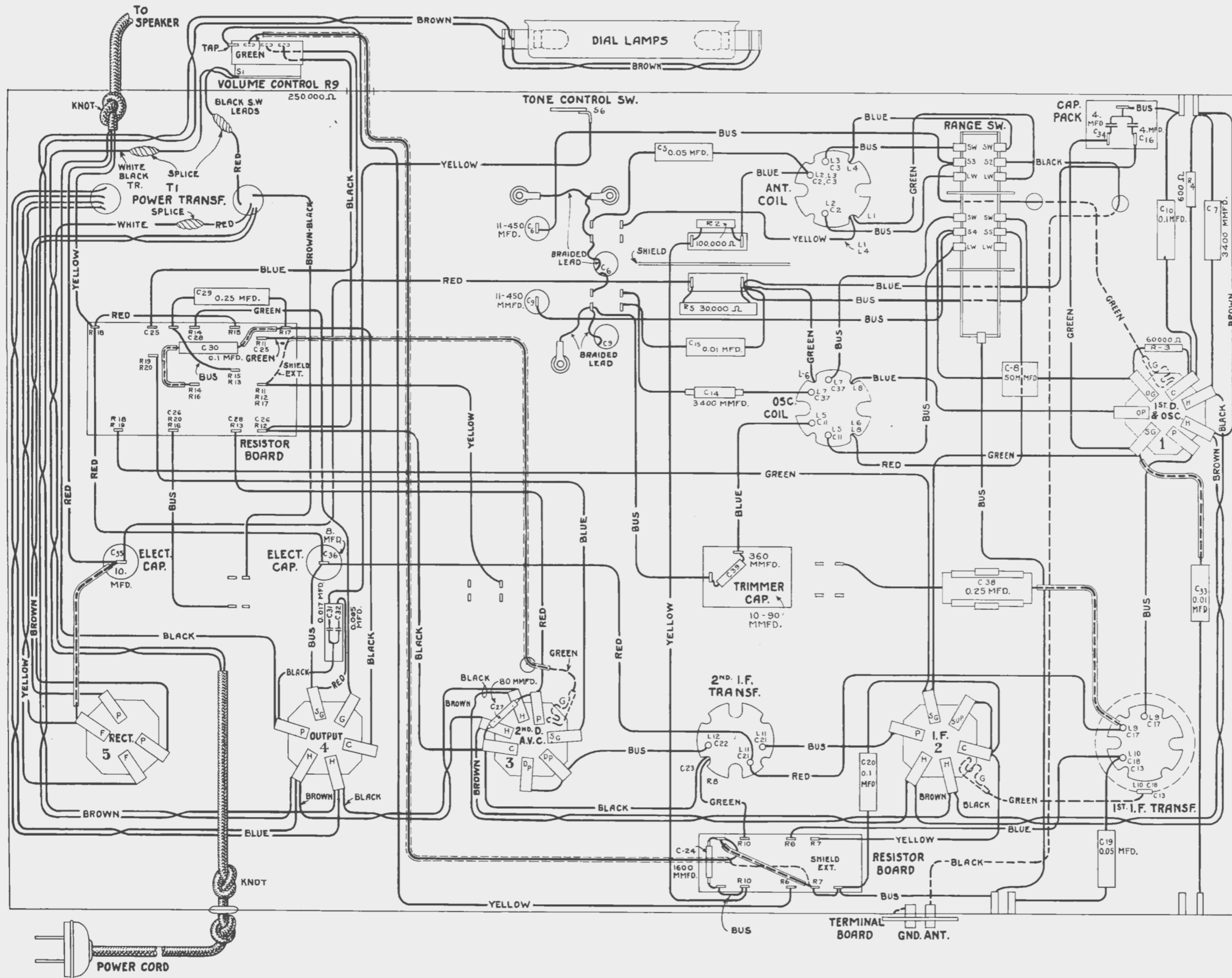


Schematic Diagram - RCA Victor Model 281



② OTHERWISE SAME AS PT. I

Wiring Diagram - RCA Victor Models 118 and 211



NEW CABINETS NOTABLE FOR SUPERB FINISH

Sturdiness and Beauty are
Characteristics of Set Line

It is not too much to say that this year's cabinets are the most beautiful ever designed by RCA Victor or any other manufacturer. Not only from the standpoint of outward design is this beauty apparent. It can be seen in the sturdiness of construction, in the superb glow of the veneers, and in many other phases of the woodworker's art. Here are a few of the facts:

Mirror Finish

The finish on all cabinets for the 1934-35 line is in lacquer, and the advantages of this type of finish are manifold. Hard lacquer finishes not only bring out natural beauty of woods but are impervious to damage by sun, heat or cold. Hand rubbing removes "orange-peel surface" found on ordinary sets.

Lacquer will not "check" or crack in any temperature from 130° Fahrenheit to below zero. The "reflection" test illustrated demonstrates the mirror-like depth of the finish.

Polish with Dry Rag

In short, it is a rubbed finish, hard, non-brittle, dust free, easily kept alive, and it can be polished with either a dry rag, or a cloth moistened in water with Ivory soap; this is all that is ever needed to keep this finish at its best.

A slight scratch can be rubbed out with oil and very fine Tripoli—again, the top is back in its original beauty.

Glue-Blocks Insure Strength

Never before have instrument cabinets, even from Radio Headquarters, been built so solidly, with such advanced knowledge and application of acoustical values, and with such beauty of line and finish. The new finishing process provides a mirror-like lustre and brings out the beautiful natural colors of the rare woods employed in their construction.

Compare RCA Victor's cabinetry for 1935 with that of the finest grand pianos, and you will find that the same high principles of construction and workmanship have been observed rigidly. Note the glue-blocks... the absence of screws... the inherent strength. Even if dropped from a height these cabinets, though they would perhaps break in the wood, would not pull apart.

Design

All new cabinets were designed by John Vassos, one of the country's foremost artists. Note the definite family resemblance between these new models!—and at the same time, the subtlety with which the designer has maintained a very definite character in each cabinet and yet designed it to harmonize with every type of home furnishing.

Service Man Logical Seller of Duo Jrs.

There is a satisfied smile on the faces of service engineers as they read the instruction book that is packed with each



The Duo Jr. Model R-93

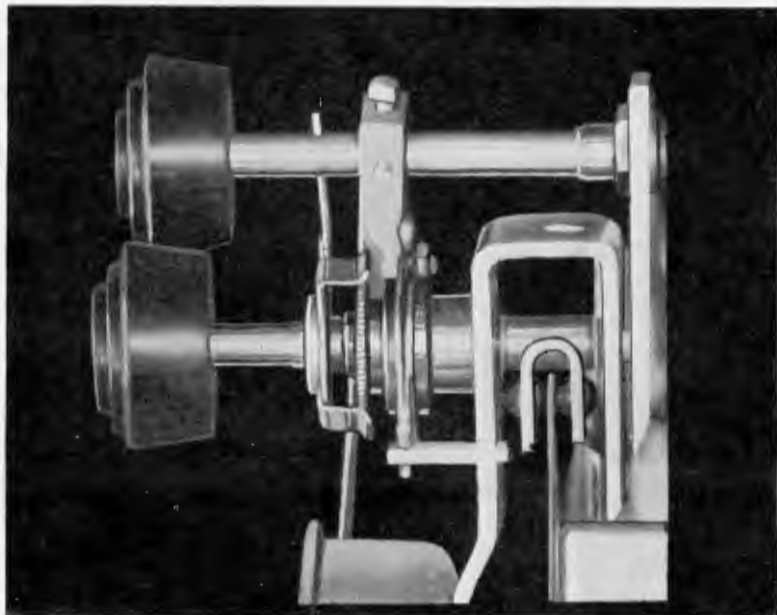
RCA Victor Duo Jr., Model R-93, the neat little turntable-and-pick-up device that makes a radio-phonograph

combination out of any radio set. Nowhere in the instruction book are there any directions for making the connections to the radio chassis. That is properly a job for a radio service engineer, and purchasers of the Duo Jr. must call in a service engineer to install the instrument.

The intentional omission of installation instructions makes the Duo Jr. the radio service sales engineer's "baby." He always gets a job when one is sold. Furthermore, the service engineer is the logical man to sell the Duo Jr. Recorded music is growing in popularity, but most radio set owners do not realize that for only \$16.50 they can have record reproduction of the same tone-quality as their radio reception.

The Duo Jr. is a portable turntable adapter which attaches to any 60-cycle A. C. radio and plays 10-inch or 12-inch records through the loudspeaker and radio tubes. It is equipped with a synchronous motor, a pick-up of great fidelity, and volume control. It can be operated at long distance from the radio set, depending on the length of connecting wire used.

DUAL RATIO VERNIER CONTROL



There is no back-lash in the RCA Victor Dual Ratio Vernier Tuning Control. The 10-to-1 ratio gives quick action; the 50-to-1 ratio gives precise tuning.

QUALITY PARTS

(Continued from page 1)

connected to the inside and outside curves served as leads. The objection to this type of construction in short-wave work is two-fold, i. e., the condenser charging current in flowing through the long strips of circular tin-foil produces a magnetic field, which adds undesirable inductance to the circuit.

MAGIC BRAIN

(Continued from page 1)

less to manufacture, and require less perfecting and testing. The compromise in performance resulting from such cheaper methods of construction would not measure up to the standard expected in the RCA Victor Products.

The second great RCA Victor All-Wave feature is the RF tube incorporated in the "Magic Brain." Prior to the advent of all-wave reception, the use of a radio-frequency stage, ahead of the first detector, was almost standard practice in all superheterodyne receivers, with the possible exception of some of the low-priced sets. The functions for which the RF stage are used in domestic broadcast receivers are all of vitally greater importance in all-wave reception.

RF Stage Efficient on All Bands

To develop an RF stage that will give good performance on all bands, necessarily required top-notch engineering skill, extreme care and accuracy in production, and the development of considerable new test equipment. Again, RCA Victor engineers stood at the cross-roads between compromising performance and doing the job right. It would have been far simpler, technically, to abandon the use of the RF stage and accept the compromise in performance, but RCA Victor standards permit no such compromises.

Unit Has Many Features

The front view of the "Magic Brain" shows some of the mechanical features which play so great a part in its efficient operation: the efficient triple-action switch arrangement, the accurate dual ratio vernier tuning device, the convenient vernier shift knob, the new band indicator, and a particularly valuable new feature—the vernier pointer micrometer and scale.

The "Magic Brain," as a unit, is a separate part of the twelve-tube receiver and is a component part of other receivers to be released at a later date.

IT'S A DOG'S LIFE



In RCA Hall at the World's Fair, the famous RCA Victor dog opens his mouth and responds to visitors who whistle at him. And who would not respond to such charming visitors!

NO BACK-LASH IN ALL-WAVE TUNING

Dual Ratio Vernier Knob
is Another Indication
of RCA Accuracy

Note how carefully the RCA Victor all-wave tuning arrangement guards against back-lash or lost motion. No belts or other uncertain arrangements are employed in transmitting the action of the tuning shaft to the variable condenser. Note the large disc mounted on the condenser shaft which, at its outer circumference, runs between two balls definitely and accurately adjusted. Here is a positive drive, in both directions, which overcomes all possibility of slippage, lost motion, or back-lash, which would make short-wave tuning exceedingly difficult if not impossible.

Another achievement is the dual vernier shift arrangement. When a tuning knob is in, the vernier ratio is approximately 10 to 1, adequate for tuning over the long-wave or domestic bands and which can be used for quickly mov-

ing the indicator from one position of the dial to another.

50-1 Vernier for Accuracy

But, on short-wave bands, where the highest degree of accuracy in tuning is required, we switch into a 50-1 vernier ratio by the simple process of pulling the tuning knob out from the cabinet. We are then in a position to move the tuning indicator slowly with almost microscopic accuracy.

Vernier Pointer Separates Stations

Several changes have been made in the familiar face of the RCA Victor full-vision, all-wave dial.

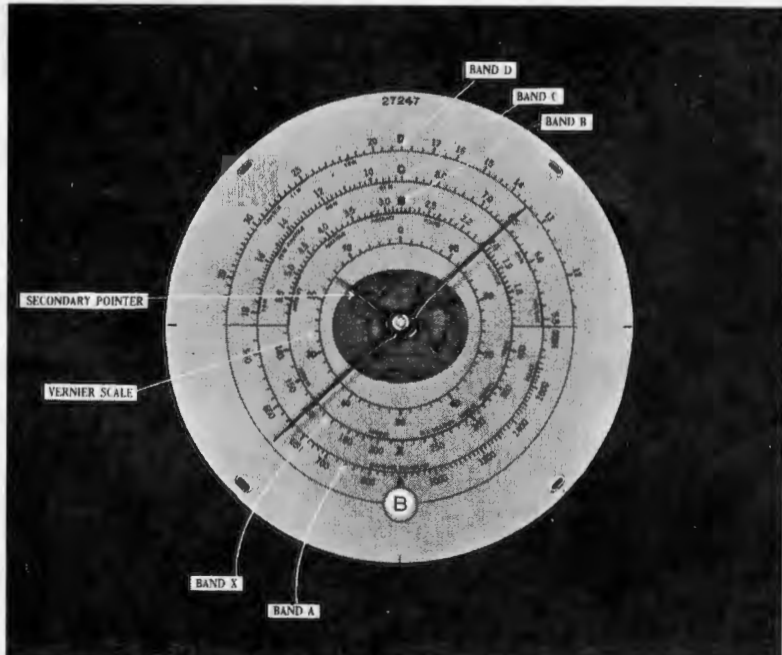
A new improvement is the small vernier pointer micrometer, which, in effect, opens up the tuning scale approximately ten times. This pointer travels continuously around an arbitrary scale calibrated from 0 to 100 and makes possible the actual logging of the various short-wave stations that come in over a given meter wave-band.

LACQUER FINISH ADDS BEAUTY



The "reflection test" illustrates the beauty of the new lacquer finish on RCA Victor sets. The neo-classic cabinets harmonize with all interiors.

MAGNIFIES THE TUNING SCALE



Now short-wave fans can log foreign stations as accurately as domestic stations. The Micrometer Pointer of the Magic Brain dial separates even the short-wave stations.