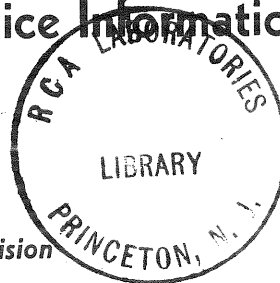


RCA Victor
SERVICE NOTES
for
1929 — 1930

RCA Radiolas
RCA Loudspeakers
Victor Radio Receivers
Victor Radio - Electrolas
Miscellaneous Service Information



Service Division

RCA Victor Company, Inc.

Camden, N. J., U. S. A.

INTRODUCTION

The Service Notes and Data Sheets contained herein are for the radio receivers and phonograph combination instruments sold by the Radio Corporation of America, the Victor Talking Machine Company and the RCA Victor Company during the years 1929 and 1930. These booklets have been compiled for RCA Victor Distributors and Dealers for use by their personnel in conjunction with the servicing of the instruments listed.

Proper operation of any radio instrument is dependent upon correct service methods and replacement of defective parts. We earnestly recommend that you follow the instructions given, use the equipment recommended and replace defective parts with Genuine RCA Victor Factory Tested Replacement Parts. Your Distributors will be glad to obtain for you any part or service equipment described in this book and give you any possible assistance in the performance of your work.

SUCCESS IN RADIO SERVICE WORK

The most valuable asset of any business is GOOD WILL. And Good Will is nothing more or less than public confidence in you and your business; confidence to the point that your customers are willing and glad to recommend you and your services to acquaintances and friends.

That kind of Good Will does more to build business than all other forces combined. Three factors are involved in building Good Will for a radio service business, in gaining the confidence of your customers to the point that they will do a selling job for you. These three essentials of success are:



Technical Ability

Business Methods

Parts and Test Instruments

Technical Ability. Your technical ability is reflected in the test instruments you employ, by the appearance of your shop and work bench, and by the "kit" that you carry into customers' homes. Like the successful members of any of the professions, the radio service engineer must continually study to keep up with the times.

Business Methods. Insofar as your customers are concerned there are just two indices to your business methods: The way you handle yourself on the job and the quality of the Parts and the Test Instruments you use.

Contrast the picture of the two Service Men shown on this page. Each is about to make a call. Each is a good service man, so far as ability goes. But there the likeness ends. One has *business* written all over him. One has built his success on the foundation of fair prices for good work and highest quality parts. The other wonders why his business is slow even though he offers "cut prices" as a result of the bargain replacement parts he uses.

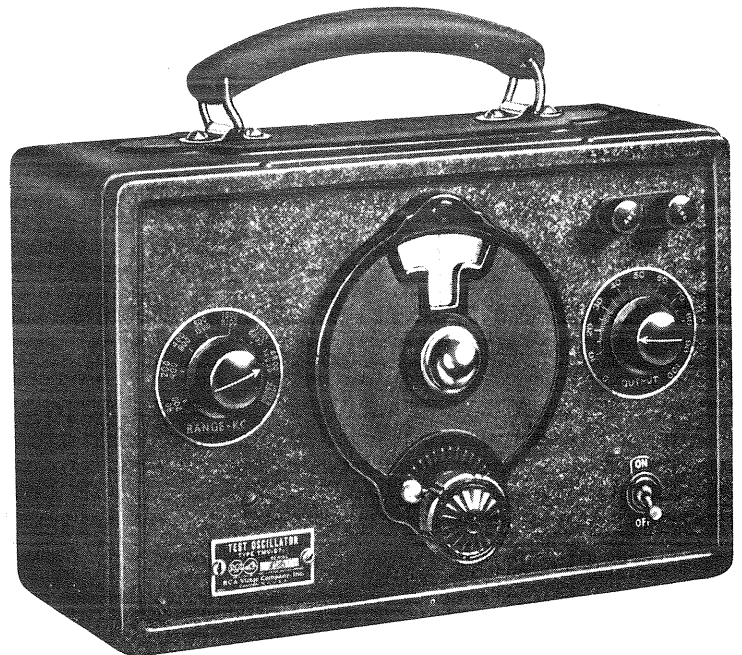
Which one would you do business with?

Parts and Test Instruments. The most tangible of the three factors essential to success in service work are the Parts and Test Instruments used. By these you are judged immediately and permanently, as the job holds up or fails to stand up.

Parts and Test Instruments may be made in either one of two ways. They may be built *up* to a *standard* or *down* to a *price*. No single Part or Test Instrument can be built both ways. It must be done either one way or the other.

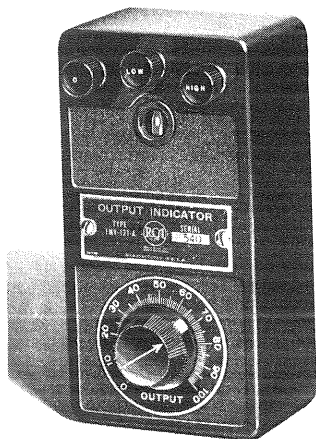
And in the long run Parts and Test Instruments built *down* to a *price* cost you more than those built *up* to a *standard*—cost you more in disgruntled customers, prestige and loss of *GOOD WILL*.

Quality pays. Hundreds of leading radio service engineers attribute their success to their adherence to the following pledge:



The RCA Oscillator TMV-97-B, ideal for all service work

In our service work we pledge—



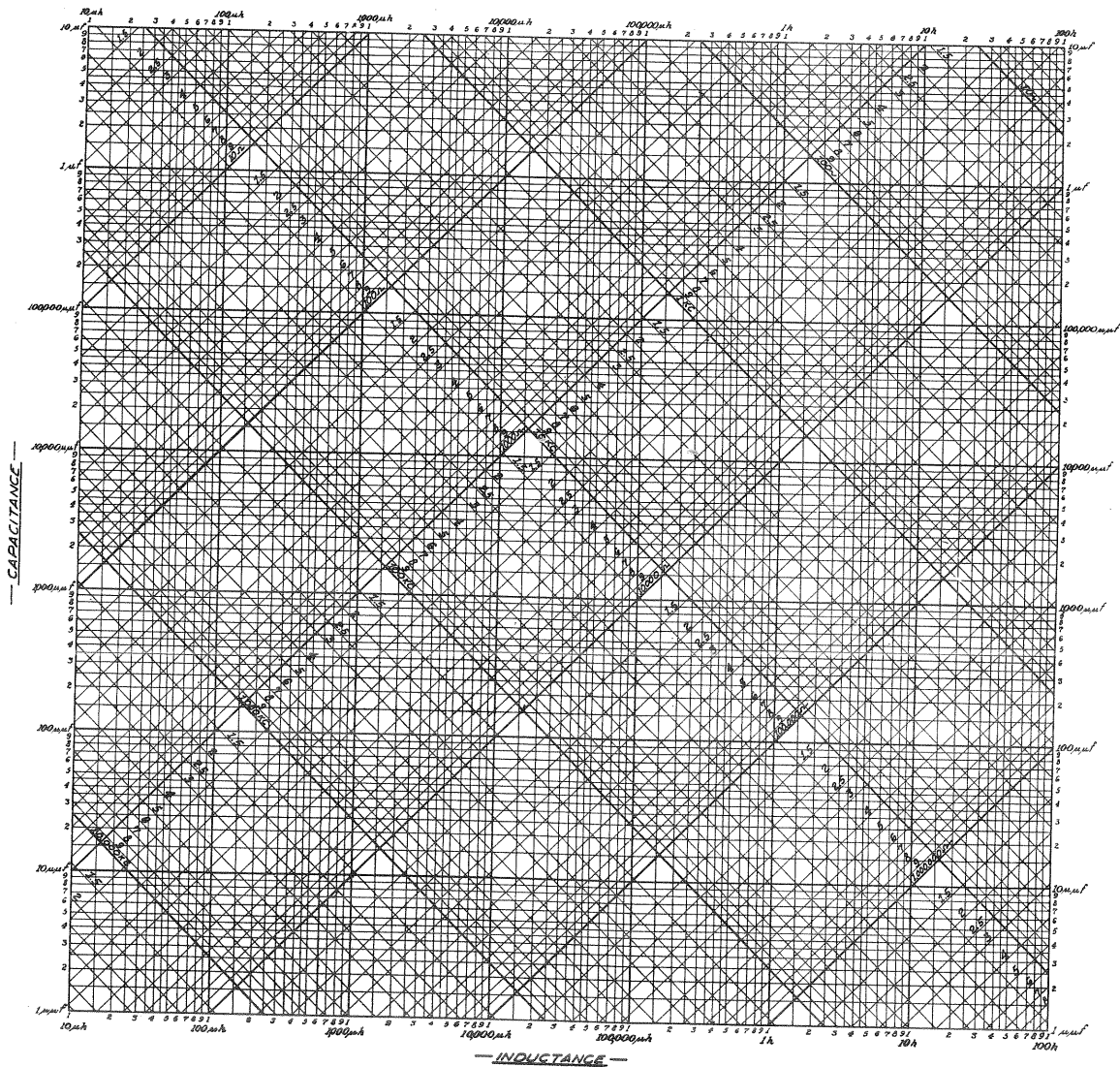
An output indicator that does not burn out, RCA Type TMV-121-A

1. To use the highest quality materials.
2. To be thorough in all our work.
3. To handle your property with care.
4. To make reasonable promises and keep them.
5. To charge a fair price for our services.

BE ON THE SAFE SIDE . . . USE GENUINE FACTORY-TESTED RCA PARTS AND TEST INSTRUMENTS . . .

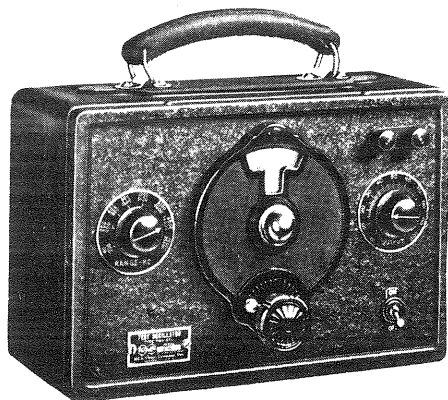
CHART OF FREQUENCY OR IMPEDANCE VS. INDUCTANCE AND CAPACITY

The Chart shown below provides a quick method of determining several unknown factors when one or more are known. The Chart covers a very wide range, namely, from 10 micro-henries to 100 henries inductance, 10 cycles to 50,000 kilocycles, 1 ohm to 10 megohms and 1 micro-microfarad to 10 microfarads. If, for example, one wishes to know the capacitance to use with a 10 henry inductor to have it resonate at 50 cycles, it can be readily seen that it would be a 1 mfd. capacitor. This is determined by finding the intersection of the vertical line representing 10 henries and the oblique line representing 50 cycles. The intersection occurs at the horizontal line representing 1 mfd. The other oblique line at this intersection represents the impedance at this frequency. This is approximately 3000 ohms.

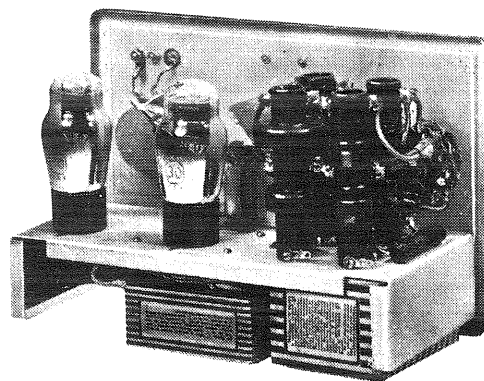


RCA Full Range Test Oscillator

Type TMV-97-B



Front View



Rear View of Chassis

The RCA Full Range Type TMV-97-B Test Oscillator is a modulated R. F. oscillator which supersedes the Type TMV-97-A. New features are a wider frequency range, an improved calibrated tuning dial (reading in frequency) and a direct-reading range switch. All older features such as small compact size, light weight, self-contained batteries, etc., of the Type TMV-97-A are retained.

The frequency range extends continuously from 90 K. C. to 25,000 K. C. (3300-12 meters) and is divided into eight bands. This covers all intermediate, broadcast, police and short-wave frequency line-up points of all makes of receivers. An eight-position range switch provides for the selection of any desired band. An attenuator (output control) gives a means of adjusting the output to any level. This is very important in modern receivers, due to the increasing practice of combining the automatic volume control with other tubes.

Of special interest to amateurs and experimenters is the simplicity with which the modulation may be eliminated. This may be done by the use of a special adapter in the modulator socket. The oscillator then may be used as a heterodyne oscillator for short-wave superheterodyne receivers or for heterodyning the I. F. frequency of all-wave receivers to permit reception of pure CW signals.

SPECIFICATIONS

CIRCUIT—A tuned-grid, plate-modulated circuit is used, which gives good stability over a wide range of voltage and climatic conditions. The output is modulated 50% at 400 cycles.

RADIOTRONS—Two Radiotrons RCA-30 are used, one as an R. F. oscillator and one as an A. F. modulator.

BATTERIES REQUIRED—One 22½ volt "B" battery and one 4½ volt "C" battery are used. The "C" battery provides filament power for the Radiotrons, the filaments of which are connected in series.

SIZE—Height 8½ inches (including raised handle), case alone 6½ inches, width 9¾ inches, depth 4½ inches.

WEIGHT—3½ lbs., including batteries.

SWITCH—A toggle-type operating switch for turning the oscillator "on" and "off" is mounted on the front panel.

FREQUENCY RANGE—90 K. C.—25,000 K. C. by eight bands. The Range Switch is located on the front panel and marked directly in frequency.

OUTPUT—Two binding posts on the front panel, together with an attenuator, give an easy means of connecting and adjusting the output.

DIAL—Variable vernier dial adjustable from 6:1 to 20:1 speed reduction. The dial glass has been made thicker so that the indicator line is very close to the dial, thus avoiding a possible parallax.

CALIBRATION—The dial is calibrated directly in frequency to an accuracy of ±3%. Complete individual calibration may be obtained at an additional cost of \$5.00.

CASE—The entire oscillator is enclosed in a black wrinkle-finished aluminum case provided with a leather handle.

Net Price \$29⁵⁰

(WITH RADIOTRONS—LESS BATTERIES)

Order Stock No. 9050

RCA Tools and Accessories

The following tools and accessories are useful for servicing Radio Receivers, Combinations and Short-Wave Instruments of all types and manufacture.

Alignment Tool



Stock No. 4160

Net Price \$0.60

The Stock No. 4160 Alignment Tool is a bakelite shaft combination screwdriver and socket wrench. The metal screwdriver bit is so shaped that the increase in capacity caused by its touching a trimmer screw is offset by the reduction in inductance caused by its shape. This is very important when making adjustments on all-wave receivers where the screwdriver must be inserted through the end of the coil. The socket end fits the main tuning capacitor trimmer adjustment screws used on numerous RCA Victor Receivers. The bakelite shaft is $\frac{3}{32}$ " diameter, which gives entrance to $\frac{1}{4}$ " holes, used on older model Radiola receivers.

Tuning Wand



Stock No. 6679

Net Price \$1.10

The Stock No. 6679 Tuning Wand is a special alignment tool which makes possible the checking of alignment in all-wave receivers without disturbing the adjustment of the trimmer capacitors. The tool consists of a bakelite rod having a brass cylinder at one end and a special finely divided iron core at the other end. Inserting the brass cylinder into a coil lowers its inductance, while inserting the iron increases the inductance. From this it is evident that before adjusting trimmers, the adjustment may be checked by inserting each end of the wand into the coil. Proper adjustment is evidenced by a reduction in output with either end of the wand inserted into the coil.

Alignment Wrench

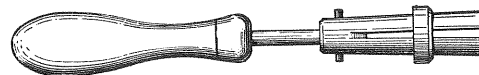


Stock No. 7065

Net Price \$0.50

The Stock No. 7065 Alignment Wrench is a combination screwdriver and alligator jaw end wrench. The metal screwdriver bit is shaped so that it will have a minimum effect on the alignment of the set when it touches a trimmer screw. The end wrench is suitable for adjusting trimmer screws that are accessible only from the side. The shaft is of bakelite, $\frac{7}{32}$ " diameter and the overall length is $5\frac{1}{2}$ ".

Knurled Nut Wrench



Stock No. 10982

Net Price \$1.20

The Stock No. 10982 Knurled Nut Wrench is a special wrench designed for tightening or removing the knurled nuts such as are used with toggle type switches. These nuts are ordinarily impossible to remove or tighten without marring. The wrench will hold a nut from $\frac{5}{8}$ " to $\frac{1}{2}$ " diameter. The overall length is $8\frac{1}{2}$ ".

Riveting Punch



Stock No. 10987

Net Price \$0.50

The Stock No. 10987 Riveting Punch is a special metal punch for use with a riveting anvil. The punch may be used with the rivets usually used on radio receivers and permits the service man to make a factory type repair, instead of using machine screws to replace rivets. The punch is $\frac{5}{16}$ " in diameter and $5\frac{1}{2}$ " long.

Off-Set Screwdrivers



Stock No. 3064
Net Price \$0.50

Stock No. 2930
Net Price \$0.50

The Stock Nos. 3064 and 2930 Off-Set Screwdrivers are useful for making adjustments to remote control units and other small screws that are inaccessible with an ordinary screwdriver. The No. 3064 screwdriver is $2\frac{1}{2}$ " long while No. 2930 has an overall length of $4\frac{3}{8}$ ".

Riveting Anvil



Stock No. 10988

Net Price \$0.70

The Stock No. 10988 Off-Set Riveting Anvil is a special anvil that permits riveting in places ordinarily inaccessible. It is to be used in conjunction with a riveting punch such as Stock No. 10987. The Anvil is $\frac{5}{16}$ " in diameter and $3\frac{1}{2}$ " long.

Socket Wrench



Stock No. 10983

Net Price \$1.80

The Stock No. 10983 Socket Wrench is a special flexible end socket wrench designed for adjusting the alignment screws of the 1929 and 1930 Victor Receivers, Models R-32, R-35, etc. The overall length is $8\frac{3}{4}$ ".