

THE

I R C

SERVICER

VOL. I

MAY, 1933

NO 1

The International Resistance Company's Monthly Bulletin Published in Furtherance of its Program of Helping Radio Service Men Do Better Work — and Make More Money Doing it

"EFFICIENCY prefers to build a fence at the top of the cliff rather than a hospital at the bottom," says the business philosopher.

"THAT'S WHY," adds Service Sam, "the efficient service man always uses the best parts obtainable—especially when they cost no more."



Housewife: "Watch out for the hardwood floors. They've just been waxed."

Service Man: "Don't worry, lady, I won't slip. I've got nails in my shoes."

SERVICE DOPE

Mention here of trouble on any particular make of equipment should not be construed as a reflection on the quality of those products. The best of radios will require attention from time to time. This makes are mentioned only as a means of expediting prompt, efficient service on the wide variety of jobs confronting the average radio man.

Readers are cordially invited to contribute their own service kinks to this department.

When Majestics 70 and 90 Show No Plate Voltage

WHEN you are called to service Majestic 70 and 90 models which show low plate voltage or no plate voltage at all, you'll generally find that the trouble lies in a shorted condenser block. Naturally the best remedy is to replace this entirely. In other cases, however, it is possible to connect external condensers in place of those used in the condenser block. To do this, simply disconnect the defective section of the latter and connect a 2 Mfd. 600-volt D. C. condenser in its place.

In the Majestic 90 model, the detector plate by-pass condenser sometimes shorts, resulting in no plate voltage at the detector tube socket. Replacing the condenser corrects the trouble.

Fuse Trouble in Old Crosley Models

Many of the old Crosley models have fuses connected in series with the primary. These fuses sometimes blow and especially so if the electrolytic condenser is shorted or shows excessive current leakage.

Before replacing the fuses, try to find out what caused the overload. Look for shorts and grounds in the B plus circuits and be sure to test the electrolytic condenser.

A good temporary check for this trouble is to connect another electrolytic condenser in place of the original one. Sometimes corrosion develops between the condenser terminals, causing excessive leakage. This corrosion should be removed with a stiff wire brush.

When Dynamic Speakers Produce a Rattling Sound

Although an ordinary inspection indicates it is in good condition, a dynamic speaker will sometimes be found which persists in producing a rattling sound.

In cases like this, if you will examine the outer edge of the speaker cone you

MEET THE LATEST I. R. C. SERVICE HELP

HERE you are—the first issue of I. R. C.'s latest help for radio service men!

This little publication will be printed every month for distribution to I. R. C. customers and those whom we hope to have as customers in the not far distant future. It costs you nothing other than the effort involved in reading it and—well, we don't think that will be any effort at all.

The big idea is simply to make the I. R. C. Servicer just as helpful, just as interesting as we possibly can. It is by no means designed solely to boost I. R. C. products. Instead, it is built along lines suggested by the old adage: "He profits most who serves best." From the "Service Dope Column" and the various technical features to the free classified advertising section, you will find that helpfulness to the nth degree has been the editorial keynote. We feel that, by helping our readers increase their service efficiency and profits we will benefit the International Resistance Company as a matter of course.

I. R. C. products have needed no idle boasting to put them across in the past. We do not believe they need it now. What "advertising" you find will be straight-from-the-shoulder explanations of facts. With these before you in an understandable, helpful fashion we are more than glad to let you be the judge.

Thus, as a service man, this is your magazine. Not only do we want you and every member of your organization to read it but we want you to file it away for future reference. That is why it has been prepared for binding in loose leaf form. Equally important, we want you to contribute to it. Send along your own service ideas, unusual experiences and interesting photos. Other service men will do the same and that will be decidedly helpful all around.

Another thing: Drop us a line and tell us how, in your estimation, this first issue stacks up. Also tell us what kind of technical features will prove most helpful in the issues to come.

As always, I. R. C. not only aims to please, but intends to please.

MR

Service Dope

(Continued from Page 1)

will probably find hard spots which have developed in the chamois skin or soft leather. These hard spots draw the voice coil off position and, in other cases, create a resonant vibration in the audible frequency band. Rubbing them until the leather is soft and pliable will eliminate the rattle and restore the original tone.

Eliminating Hum With 56 Tubes

Having trouble with sets that produce an abnormal and distinctly annoying amount of hum? If so, you'll probably find that they are radios which employ a 26 tube in the first audio stage and a 27 tube in the detector stage. This being the case you can eliminate the hum entirely by using 56 tubes to replace both of the offenders.

This, of course, necessitates the use of a 5-hole socket in the first audio stage. Since the 56 tube draws little filament current in comparison to the 27 tube, the filament circuit of both detector and first audio tubes may be connected to the 2.5-volt filament which supplied filament voltage for the detector tube alone.

Incidentally, while you are changing the first audio tube, you might also change the detector to the bias type which will give improved operation. Generally, the only changes necessary are to remove the grid leak and condenser. The tuning condenser and coil are then connected directly to the grid of the tube and the grid return is grounded. Next, a 40,000 ohm-resistance is connected between cathode and ground, and by-passed with a .1 Mfd. condenser. The detector plate voltage should then be raised to 150 volts or more.

In the first audio stage, a 2700 ohm resistor is connected between cathode and ground for furnishing grid voltage to that tube. The grid return of this tube should, of course, be grounded.

"Trouble" in the Oscillator Stage of Philco 90-X

A poor tube in the oscillator stage of the Philco 90-X Model will sometimes cause a cutting off which may be erroneously blamed on the set itself. It seems as though the oscillator does not function over the complete band. The real trouble, however, is not with the circuit but with the tube, the remedy being to try a number of tubes until one is found which gives normal operation.

Get a Kit of I R C Resistors — FREE!

Send us the story of your own most unusual service call. For every one published, we will present you with your choice of any one of the I. R. C. Certified Handy Resistor Kits Nos. 1, 2, 3, 4, or 5. Stories may deal with any out-of-the-ordinary jobs or incidents met with in the course of your service activities. The more unusual, interesting and helpful, the better their chance of being used. Address them to: Editor, I. R. C. Servicer, care of International Resistance Company, 2006 Chestnut St., Philadelphia, Pa.

"MY MOST UNUSUAL SERVICE CALL"

RADIO servicing can never be learned entirely by rule. It is a job that calls for keeping both eyes open and wits sharpened to detect the things that text books cannot teach.

This is proved by an incident cited by J. R. Jackson of the service department of the Philco Radio & Television Corp.: "One of my most unusual radio experiences occurred not long ago when I was called to service a microphonic short wave and broadcast combination receiver," says Mr. Jackson.

"This had a microphonic howl—and, believe me, it was a persistent one. Everything of a mechanical nature was tried as a remedy without success. The howl persisted even after the rubber suspension of the chassis and tuning condenser had been checked, tubes changed, fixed condensers tested and various resistor values changed.

"Then, largely by accident, I discovered that the howl would stop when I moved the tuning condenser to a certain position on its flexible mounting. This was a clue and it proved to be a good one.

"Upon investigation, I found that the moving of the tuning condenser to which the pilot light wires were attached caused these wires to move away from one of the wires connecting the frequency change switch with the oscillator coil. As soon as the pilot light wires were at a safe distance the howl stopped. That was the answer to my problem. All I had to do

was to fasten the wires securely in place away from the oscillator coil. Then the howl could not be started again regardless of the frequency of the reception.

"Evidently the trouble was caused by some peculiar capacity feed-back between the audio filament circuit to which the pilot light was attached and the oscillator circuit. Naturally, the solution was simple but it had me guessing for a while."

Not every job, however, is of a technical nature. Now and then Mr. Jackson is called out because some mouse has mistaken a radio set as a good safe place in which to make his home.

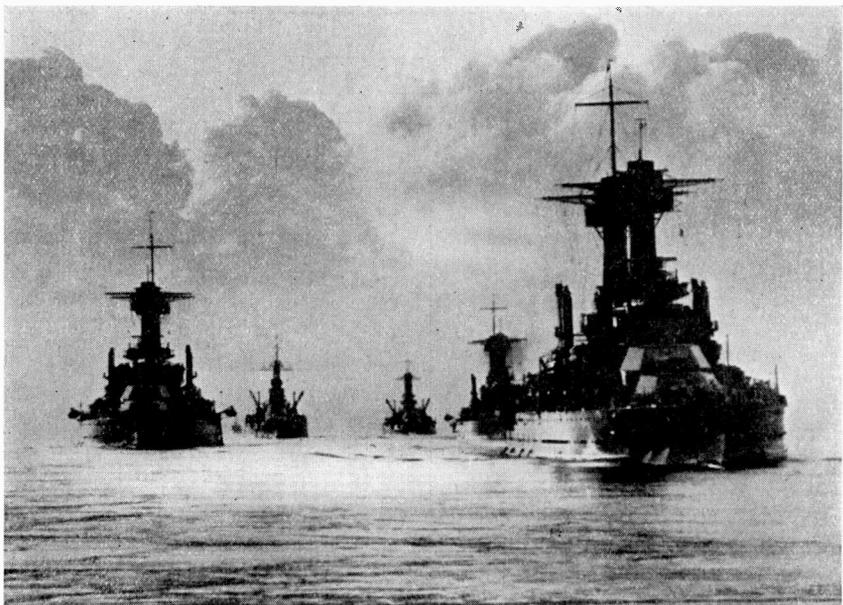
Recently, for instance, he was called to remove a mouse from a Philco 112 Chassis. Evidently the little animal had crawled in from the back of the set and gotten inside the chassis between the base plate and the sub-base. Here the high voltage from the rectifier tube spelled his doom. It was a tough break for a home-loving mouse—and it wasn't particularly pleasant for Mr. Jackson either due to the fact that he wasn't called on the job until Mr. Mouse was making his presence known in no uncertain terms.

"By that time," says Mr. Jackson, "I didn't need a set analyzer or the usual service equipment. A gas mask would have been more appropriate."

Unusually Sharp Volume Cut-off

Now and then you may find one of the Atwater Kent 85 models which has an unusually sharp volume cut-off. If so, the remedy is to try several 24 tubes in the AVC socket until one is found which permits a gradual levelling off of volume.

With I. R. C. in the U. S. Navy



Two years ago, the Navy Department installed sound equipment for talking movies in 118 battleships of the U. S. fleet. I. R. C. Resistors went into the installations—and they're there yet. Not one has yet been replaced despite consistent use under a variety of climatic conditions such as only ships cruising in all parts of the world can encounter. Not only is this a splendid tribute to the stability of these resistors but it is sound evidence of the efficiency of the Navy tests which resulted in I. R. C. units being specified.

Helpful Pointers On

Auto Radio Installations

By F. L. SPRAYBERRY

TWO all-important things must be considered in an Auto-Radio installation. One is the antenna and the other is the problem of overcoming ignition interference.

Let's consider the antenna first. Further, let's take the advice of a well-known manufacturer about this matter on the correct assumption that a concern of this type has ample facilities for considerable experimental work on such problems and that we will do well to follow his advice. Thus the following is taken from the Philco Manual:

CARS WITH SLAT TOP CONSTRUCTION

"The headlining should be lowered from front to back so that a copper screen antenna can be installed in the roof.

"1. Use a good grade of copper screen. No. 14 or No. 16 mesh, 36 inches wide is satisfactory for almost all installations.

"2. Maintain three inches clearance between the screen and the car body and all metal work in the top. Cut out a section of the screen to get this clearance around the dome light.

"3. The wiring in the top to the dome light and switch must be run along the side of the top frame, then along the top edge of the side of a bow to the dome light fixture.

"4. An 18-gauge stranded copper, rubber and cotton covered antenna lead-in should be soldered to a front corner of the antenna screen. If the receiver is to be located on the right side of the car, solder the lead-in to the right front corner of the antenna. If the receiver is to be located on the left side, the lead-in should be soldered to the left front corner. It is a good plan to solder or bond the whole front edge of the antenna screen.

"5. The copper screen must be tacked securely so that it cannot come loose.

"6. The headlining and all trim must be carefully replaced. Tack the screen



I. R. C. Motor Radio Suppressors are solidly designed in one piece to stand up under all the unfavorable elements of car operation. Illustration shows Type MD Distributor Suppressor.

to the farthest bow in the rear that will give three inches clearance from the rear metal apron. With the edge of the screen lined up with the bottom front edge of the bow, the screen is tacked against the face of the bow, close to the top. It is necessary to tack the screen in this manner, so that the listing strip used to support the headlining can be tacked to the face of the bow.

"On bows on which the listing strip is not tacked, it will be quite all right to

F. L. SPRAYBERRY who contributes this as the first of a series of articles needs little introduction to radio men. His writings in numerous publications have proved helpful to thousands throughout the country and, as instructor with the National Radio Institute, he has given practical advice and encouragement to many more. More recently, he inaugurated the Sprayberry Radio Data Sheet Service. "Frank," as he is familiarly known, began his radio career "way back" in 1921 with the opening of WSB in Atlanta, Georgia, later enlisting in the U. S. Marine Corps where his radio studies were continued. He now heads his own business.

tack the screen along the bottom of the bow. Tack the screen to each bow from the back to the front of the screen. Do not come closer than three inches to the metal aprons along the sides and the metal frame above the windshield.

"The lead-in should be concealed behind the windshield moulding, or if the front corner post is hollow, it can be run down the inside of the post. In a few cases, it may be necessary to bring the lead-in down through the wind hose and along the side of the corner post.

"After antenna and lead-in have been installed, test the antenna for grounds. Use a high resistance voltmeter and a 45-volt battery, testing between the antenna lead-in and the body of the car. Do not hold the test connections to the antenna and the car body with your fingers as the leakage across your body will cause a high reading on the meter.

CARS WITH POULTRY WIRE REINFORCEMENT

"The poultry wire when cleared of grounds, may be used as an antenna. This may be done in either of two ways. The top deck may be removed and the netting cleared where the edges ground on the car body. The more practical way is to drop the headlining the entire length of the car and clear from beneath.

"A strip three inches wide is cut from the poultry wire reinforcement around the four sides. The poultry screen is then laced securely in place, using double strands of number six waxed linen cord. Use short lengths of cord and fasten securely. The poultry wire must be held taut so the top will not sag. Care must be taken to keep the sharp ends of the screen bent back so they will not puncture the padding and the top deck material and will not extend through the lining.

"On standard installations, the antenna lead-in must be soldered across the front end of the screen and brought down the front right corner post. In cases where the post is solid, the lead-in may sometimes be brought down inside the windshield moulding or down the hollow rubber wind hose used in many cars.

"Rearrange the dome light wiring so that there is a minimum coupling between the wires and the poultry wire antenna. Test for grounds, using a 45-volt "B" battery and a high resistance voltmeter.

"In a few cars, the top padding is supported by muslin strips stretched over wood bows. An antenna can be easily installed in these cars in much the same manner used in cars with the slat top construction. Instead of tacking the screen under the bows, however, the screen can be placed over the bows and tacked only at the rear and the front. Otherwise, the procedure is the same.

"In case there are metal diagonal braces in the top, the braces must be freed of grounds or efficiency will be impaired.

"Usually the rear ends of the braces



I. R. C. Type MS Spark Plug Suppressor

are fastened to the wood top frame while the front ends are fastened by means of brackets to the front corner posts.

"Drop the headlining and work from the inside of the car. Release the front end of the braces. Ream out the hole in the bracket and use fibre washers and sleeve bushings to insulate the cross brace bolts from the brackets.

"Usually the dome light is connected to one of the braces. Disconnect the lead from the brace and run a new ground.

"When both braces have been insulated, the antenna can then be installed.

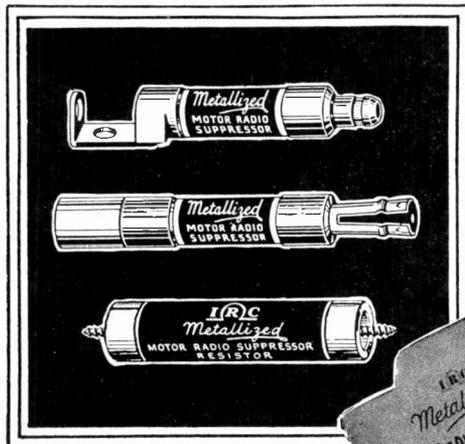
CONVERTIBLE MODEL CARS

"The tops of the open and convertible models are designed to fold back. Since the antenna must not interfere with this, a wire antenna is the only practical one.

"Remove the top material and lay it back, leaving the side flaps in place. Secure a piece of top fabric, matching that removed, and fasten it properly in place over the cross ribs and over the side flaps.

"Cut a piece of drill cloth or muslin approximately three inches smaller than the width of the top and about the length of it. Punch holes in the drill cloth through which the antenna wire is to be woven. The holes should be in rows, three inches apart, parallel to the cross ribs. Space the holes about ten inches apart in each row. In case metal bows are used, be sure to space the wires 3" from each bow. (Continued on page 8)

IRC MOTOR RADIO SUPPRESSORS
One Piece Construction—Low Resistance Contact



I. R. C. Suppressors are solidly constructed to withstand the most severe shock and vibration. No springs, rivets or steel wool to loosen or corrode. Low capacity insures extreme noise suppression efficiency. New low resistance contact feature eliminates sparking under high voltages. Moisture-proof, humidity-proof—unaffected by heat. Insure the utmost in auto radio satisfaction!



LIST 35c EACH
NEW NET PRICE TO
SERVICEMEN

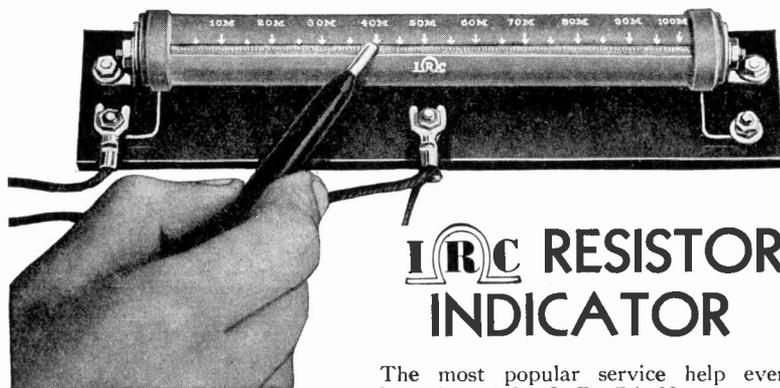
21c each

Sold singly or in Handy Certified Kits for 4-, 6- and 8-cylinder cars.

SOLD BY ALL I. R. C. JOBBERS
Free Booklet "Suppression of Motor Radio Noises" with every Kit.



Instantly Tells Correct Value for ANY Resistor!



LIST PRICE \$4.00
NET TO SERVICE MEN
\$2.40

IRC RESISTOR INDICATOR

The most popular service help ever brought out by I. R. C.! No meter or circuit information is required to tell the correct value for any resistor in any radio. Simply turn the set on until tubes are heated and connect the Indicator in place of resistor to be tested. Your ear will tell—quickly and accurately. Many service men use the Indicator to check the accuracy of all the resistors in a set. The Indicator can also be used as a temporary voltage divider. Solidly constructed. Each one packed in a neat box with complete instructions for use.

INTERNATIONAL RESISTANCE COMPANY
PHILADELPHIA, PA.

New Additions to the
I. R. C. Family



NO better proof of the popularity of I. R. C. Resistors is needed than may be found in the rapidly growing list of well-known jobbers who are featuring them throughout the country.

Following are the names of those who have been added since the first of the year. Welcome to the family!—

- 555 Incorporated
Little Rock, Ark.
- The Auto Equipment Co.
Denver, Colo.
- D'Elia Electric Co., Inc.
Bridgeport, Conn.
- United Radio & Television Service
New Britain, Conn.
- Radio Parts Distributing Co.
Atlanta, Ga.
- Triangle Electric Co.
Chicago, Ill.
- Western Radio Mfg. Co.
Chicago, Ill.
- P. I. Burke & Co., Inc.
Louisville, Ky.
- R. H. Kyle & Co.
Charleston, W. Va.
- Radio Electric Service Co.
Baltimore, Md.
- Northeastern Radio Inc.
Boston, Mass.
- Ware Radio Service
Brockton, Mass.
- People's Outfitting Co.
Detroit, Mich.
- Radio Shop
Gulfport, Miss.
- West Distributing Co.
St. Louis, Mo.
- B & O Radio, Inc.
Newark, N. J.
- Baldwin-Hall Co.
Syracuse, N. Y.
- Ignition Service & Supply Co., Inc.
Albany, N. Y.
- Radio Servicemen's Supply Co.
Cleveland, Ohio
- The Schuster Electric Co.
Cincinnati, Ohio
- Pittsburgh Auto Equipment Co.
Pittsburgh, Pa.
- The Greer Drug Co.
Spartanburg, S. C.
- J. Harper Stoddard
Memphis, Tenn.
- Straus-Frank Co.
Houston, Texas
- Straus-Frank Co., Radio Dept.
San Antonio, Texas
- Radio Service Laboratory
Wheeling, W. Va.
- Benike & Culver, Inc.
Madison, Wis.

How You Can Help Us Help You

OBVIOUSLY the service man who waits for business to come to him is missing an opportunity. Chances are he'll not get one job in ten as compared to the fellow who goes aggressively after them—who has learned the secret of paving the way for regular set inspections with an eye to keeping them in A-1 operating condition *at all times*.

There is no monopoly of good ideas in this respect. Many have been developed from time to time. Now I. R. C. is anxious to round up as many as possible and print 'em for the good of the trade at large. Your ideas may help some other service man. His ideas will help you. It's a matter of co-operation all around.

A RADIO "TUNING SERVICE"

For instance, one service man gets to repair a lot of sets by offering a "tuning service" for a nominal charge. Under this plan he makes minor adjustments such as rearranging tubes for better reception, cleaning dirty volume controls, etc. Of course, the work doesn't pay him directly but it does indirectly. He makes dozens of new customer contacts. He gains their confidence and can very often sell new tubes, parts or complete overhaul jobs—work which, even though needed, may not have been done otherwise and certainly not until the radio sets had broken down altogether.

So write I. R. C. a letter telling what you are doing to build service business along this or any other line. Any plan that has meant *creating* trade rather than merely waiting for it will prove interesting.

HOW DO YOU CHARGE FOR SERVICE?

Another thing—let's get down to the bottom of this problem of proper charges for various types of radio servicing jobs. This is a puzzling phase of the work for many service men and with the scale of prices used by a number of concerns, we can strike a good, helpful average.

Send in your scale of prices, either for yourself as an individual or the suggested scale prepared by your local service organization. This information will, of course, be treated as confidential if desired but all will prove helpful for purposes of comparison. Take your pen in hand and let us hear from you today. List your hourly outside charges, shop labor charges, tube delivery service, flat rate prices for neutralizing, transformer replacements, condenser jobs, resistor replacement charges, etc. Address: Editor, I. R. C. Servicer, 2006 Chestnut St., Philadelphia, Pa.

Making a Screw Adhere

To make a machine screw adhere to the end of a screw driver while getting it started in one of those difficult places so frequently found in radio sets, first rub the blade with a little rosin.

Noisy Volume Control

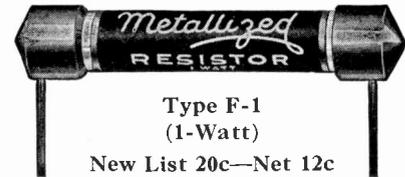
Noisy volume control in a set frequently results from dirt and corrosion on the resistance winding which is easily corrected. Simply remove the volume control from the chassis and clean it thoroughly with cigarette lighter fluid.

IRC RESISTORS

Higher Quality at Lowered Prices

Look at these new prices on I. R. C. Resistors. They've been substantially reduced—yes—but that is only part of the story. More important is the fact that, thanks to exclusive new processes and equipment, the resistors themselves are the finest we have ever offered *at any price*. I. R. C. has always led in establishing quality standards. Now, more than ever before, these resistors are your assurance of the utmost accuracy, exceptional performance under load, absolute uniformity and dependability under all atmospheric conditions.

Metallized



Type F-1
(1-Watt)

New List 20c—Net 12c

Type F-1/2 (1/2-Watt)
New List 20c—Net 12c

Type F-1/3 (1/3-Watt)
New List 20c—Net 12c



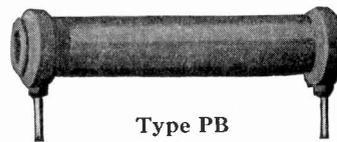
Type F-2
(2-Watts)

New List 30c—Net 18c

Type F-3 (3-Watts)
New List 40c—Net 24c

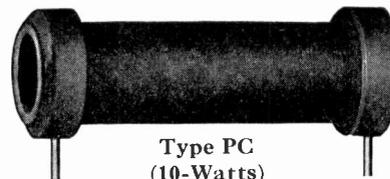
IRC

POWER WIRE WOUND



Type PB
(5-Watts)

New List 35c—Net 21c



Type PC
(10-Watts)

New List 50c—Net 30c

Type PD (15-Watts)
New List 65c—Net 39c

HANDY KIT PRICES ALSO REDUCED

The important reductions on I. R. C. Metallized and Power Wire Wound Resistors have been reflected in prices of all I. R. C. Certified Kits—the handiest, most convenient method of keeping resistor stocks either for shop use or out on the job. I. R. C. Kits contain values most frequently required. Free formula booklets tell how to obtain thousands of additional values by combining the units in series or in parallel.

BUY THROUGH YOUR NEAREST I. R. C. JOBBER—
USE THE WORLD'S FINEST RESISTORS ON EVERY JOB

INTERNATIONAL RESISTANCE CO.

2006 CHESTNUT ST.,

PHILADELPHIA, PA.

In Canada, 74 Wellington St., W. Toronto, Ont.

STRAIGHT TALK ABOUT RESISTOR TESTS

Before Judging a Resistor by a Single "Test" First Ask "But Just What Does it Signify?"

BY SERVICE SAM

WE have needed a can opener at our house for a long time. Consequently, when I saw a fellow selling them from a little street corner stand the other day, I bought one. Besides being a can opener it had an attachment for bottles, another for cutting glass, still another for sharpening knives and a couple more that I've since forgotten. The salesman made a beautiful fifteen minute demonstration and I marched home sure that the family would be more than pleased with my fine purchase. But it didn't work out that way.

It seems that what we needed was a can opener—a good smooth acting one that would split the tops off cans quickly and without danger of metal particles falling into the food. We were already well supplied with knife sharpeners, etc., and now that I come to think of it, I've never yet had need for a glass cutter. Even that wouldn't have been so bad, however, if the gadget I bought had really been a first-class can opener. But it wasn't. It's inventor had added so many other attachments with an eye to a flashy demonstration that he had neglected the business of opening cans.

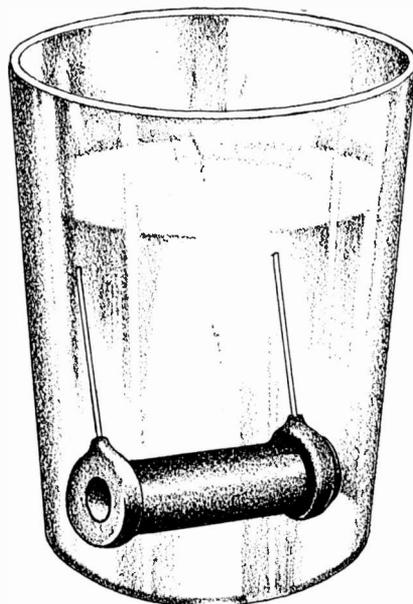
But what, you ask, has this to do with radio resistors? The answer is that it may have a great deal to do with them—in principle at least.

Obviously, the requirements for a good resistor will depend on the specific use to which it is to be put. For example, we do not expect a precision wire wound resistor to do the things that a radiant heater element will do even though they are both wire wound resistors.

Generally speaking, the best piece of merchandise whether it be a can opener or a resistor is the one that has been specifically designed for the one all-important purpose for which it will be used. Others may give flashy demonstrations along more or less unrelated lines. The wise buyer, however, will reply: "Sure—it's an interesting demonstration. But just how does it apply to the true function of the product?"

WHEN IS A TEST A TEST?

In some cases, power wire wound resistors for radio use have been "tested" by connecting them across a 110 volt line and heating them to a red heat. However, this test really means very little as far as the use of such a unit as a radio power resistor is concerned. No one would dream of using a power resistor in this manner and the possibility of such an occurrence in actual set operation is remote to say the least. A reflector type radiant heater also gets red hot when connected across line voltage, yet no service man would consider it satisfactory for power resistance use. If you want a heater unit, that is what you will buy and not a power resistor which may be raised to red heat.



Just a Glass of Hot Water

One of the best and truest tests for power resistors is illustrated here. Simply obtain a tumbler of warm or hot water and immerse the resistors in it for fifteen minutes. This test is merely a quick duplication of hot humid weather and shows what may happen to resistors under actual operating conditions. I. R. C.'s will show no change of resistance value and their durable cement coating will not be touched.

Get an I. R. C. Power Wire Wound Resistor and try the test—today!

Thus, although this can honestly be called a "red hot" test, it really tells you nothing about the resistor as far as its specific use is concerned. Briefly stated, the important points to be considered in choosing radio power resistors are these:

1. They should come within the accuracy limits required or stated by the manufacturer. Also, they should retain this accuracy under all conditions.
2. They should be fully capable of carrying their rated load.
3. They should be unaffected by weather conditions.
4. They should be made of materials whose lasting qualities cannot be questioned.

Far more important than standing up under a few minutes of the 110 volt test is the ability of a resistor to retain its value and be impervious to changes in climate whether they be wet, dry, hot or

cold or what have you. This is a test that really counts for the simple reason that it represents a very real and ever present danger that confronts every radio set. Almost any service man can check back and find that every prolonged period of damp or humid weather has brought a rush of calls resulting from resistors that have failed in this all-important respect.

AN EFFECTIVE TEST

A simple test to determine the climatic durability of resistors is simply to take a tumbler of warm or hot water and let the resistor soak in it for fifteen minutes or so. What happens then really matters. The test merely duplicates in a quick way what actually happens to resistors in hot humid weather.

A good resistor will come through unimpaired. An I. R. C. power wound unit, for instance, will not only show the original resistance value but furthermore its tough cement coating will not be touched. Other types, even though they may stand heating to redness under the 110 volt "test" may have their coating softened and run off. Others will change more than 50% in value and, in some cases, may even open up due to electro-chemical action. Still others will—

But see for yourself. Get an I. R. C. power wire wound resistor today and run your own test. Compare it with any resistors in the field and be your own judge. All we ask is that the tests simulate actual set operation and not be based on mere theory which may make a pretty demonstration but that actually tells you little or nothing about the resistor.

Allied Radio Moves

ALLIED RADIO CORP., prominent Mid-West distributor of I. R. C. products is now in attractive new quarters at 833 W. Jackson Blvd., Chicago. This location is in the heart of the Lakeside City's electrical district and A. D. Davis reports that their City Sales Division is progressing by leaps and bounds as a result. He adds: "We are anxiously awaiting visits by many hundreds of our customers who will undoubtedly come to Chicago during the Century of Progress."

This concern staged an extensive exhibit at the I. R. S. M. Convention at the Hotel Sherman. Needless to state, I. R. C. products played a prominent part.

Van Sickle Features Parts

WELCOME to the I. R. C. family! One of the latest additions to the I. R. C. national jobber organization is the Van Sickle Radio Company of 28 S. 10th Street, Saint Louis, Mo. This concern was formerly the Geo. W. Van Sickle Co., the name having been changed with the recent addition of tubes, parts, accessories and auto radios to its lines.

James P. Broadwell has joined Mr. Van Sickle as head of the company's purchasing department while Dan P. Buckley holds the dual office of secretary-treasurer. The service department will be supervised by John Devereux.

Cleaning Socket Prongs

Dirty socket prongs on tubes may be cleaned effectively with a short wire brush. One service man who uses this method says that the brush does the work just as well as sandpaper or a scraper.

I.R.C. SERVICER

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What About the Independent Service Man?

There has been considerable talk as to the status of the independent service man. Words have flown pro and con as to his future—but. . .

Such discussions have really meant little. Whatever else may be said, the fact remains that there will always be radios to repair in ever-increasing number. *And someone is going to repair them.*

In the final analysis these discussions do no more than point to the increasing necessity for better salesmanship in the merchandising of service work. It is simply that it is no longer enough to be a good technical man. The fellow who makes the real money must be a real salesman as well. The other day I heard of a radio department employe whom the depression knocked out of a job. He couldn't land another one but he did know something about radio servicing so went to work at that. The sets he couldn't fix, he turned over to the friend who was more experienced.

That gave him an idea. Soon he was spending most of his time selling service jobs and hiring other men to do the work. He contacted department stores and independent dealers, selling them on the idea of having their service handled by specialists. He advertised consistently and in a variety of ways for business. He followed up jobs to see that they had been done right and that customers were satisfied. He trained his men in selling service in the home. He evolved a system of "Set Inspection" that got him into a lot of homes and gave him an oppor-

tunity to sell numerous important jobs. He featured set modernization and a dozen other things all designed from a merchandising angle. Today he has a profitable business employing half a dozen men.

This incident is mentioned merely as a means of showing what sales ability can do.

Good work and a good reputation may bring you a certain amount of business. But these things in themselves aren't enough. Success in any line demands more.

That is why it will pay service men in general to give more thought to *merchandising* their activities—to *building* business rather than just hoping for it.

No, the service man is not slipping. His opportunities today are greater than ever before. His place is just as secure as that of the automobile repair man, the watchmaker or a dozen other tradesmen who are prosperous and prominent factors in the business world and who form the very backbone of many an important industry. And his opportunity for real profit is just as great. The point is that individual salesmanship is highly essential if it is to be fully realized.

Ernest Searing

Why "C. A." Boosts I. R. C.'s



This photo shows one good reason why C. A. Anderson is an enthusiastic I. R. C. booster—his young daughter. Mr. Anderson is well-known to Western service men as treasurer of the Vreeland Radio Corp., an old I. R. C. distributor of Denver, Colorado.

R. N. Swanson, vice-president of this concern is also strong for I. R. C.'s. "We have just mailed notice of the new low prices in I. R. C. Resistors," he writes, "and as far as our service men and radio dealers are concerned, reports indicate that there will be no other resistors used."

Radio His Hobby, Too

Next time you service men who operate amateur radio stations hold a talk fest with WIEZW of West Barrington, R. I., give W. H. Edwards, its owner, an I. R. C. handshake via the ether waves. WIEZW is now operating on 160 meter phone and no doubt many I. R. C. service men have already had contact with it. You may not have realized, however, that when Mr. Edwards isn't following his hobby you'll likely find him hard at work at radio as a vocation. He is head of W. H. Edwards & Co., I. R. C. jobbers of Providence.

SERVICE SAM'S BUDDY SAYS:



Sam says that one drink makes him dizzy—usually the ninth or tenth.

* * *

Research shows that Yale graduates have 1.3 children while graduates of Vassar and Bryn Mawr have 1.7 children. All of which proves that women have more children than men.

* * *

A Mid-Western service man writes that, with the price of eggs so low, hens no longer cackle when they lay one. They blush.

* * *

"Stand behind your lover," said the Scotchman when he came home unexpectedly and caught his wife cheating. "I'm going to shoot you both."

* * *

Bill McToot says that his girl is one of those suicide blondes. Dyed by her own hand, y'know.

* * *

The boss gave his sixteen year old daughter a copy of "What Every Young Girl Should Know."

Next day when he came home she was writing a letter to the author suggesting several dozen corrections and the addition of four new chapters.

* * *

Jimmy the I. R. C. Office boy is always tinkering with new inventions. Just now he is trying to cross a collar button with a homing pigeon.

* * *

Mrs. Glotz almost fainted when the keeper of the zoo showed her a stork.

"Take it away!" she screamed. "It gives me the Willies!"

* * *

"Are you hurt?" asked the excited motorist after the accident.

"No," replied the butcher boy, "but I can't find my liver."

* * *

Fun is like life insurance. The older you get the more it costs you.

* * *

Service Sam knows a guy who plays the saxophone by ear.

But that's nothing. We know an old fellow who fiddles with his whiskers.

* * *

A service man rushing out on a call to one of his best customers had an accident with his truck. He hurried to the nearest telephone and called his garage.

"Hello," he shouted into the receiver. "I've turned turtle. Can you help me?"

"I'm afraid not," came the sweet feminine reply. "You've got the wrong number. What you want is the zoo."

* * *

Wife (to returning husband at seaside resort): "Oh, darling, I'm so glad you've come. We heard that some idiot had drowned and I felt sure it was you!"

Auto Radio Installations (Continued from page 3)

"Use 18-gauge stranded rubber covered wire and weave it back and forth through the holes in the cloth. The cloth is then fastened to the front and rear bows only.

"The antenna lead-in must be brought down in the rear so the top may be lowered easily. While it is hardly probable that the antenna is grounded, check it with a voltmeter to make sure."

IGNITION INTERFERENCE

The next important step in an Auto-Radio installation is overcoming electrical interference from the ignition system of the car.

The standard procedure is to use a special resistance in series with each spark plug and another one in series with the main lead to the distributor. *Ordinary resistors are not satisfactory for the suppression of interference and should never be used for this purpose.* Elsewhere in this issue will be found illustrations of several different I. R. C. suppressor resistances of the type recommended for the elimination of ignition interference. These are sturdily, scientifically designed for absolute suppression of noise under all the unfavorable elements of motor car operation such as vibration, heat, etc.

Simply connecting resistances in series with leads as mentioned above does not overcome all interference in many cases. Frequently, it is necessary to ground the metal rods, tubing, etc., which extend through the dash board. Heavy copper braid should be used in grounding and should be just long enough to allow freedom of motion to moving parts. In very obstinate cases of interference, it may be necessary to move the ignition coil to another part of the car.

At least two special condensers are required to reduce interference still farther. One condenser is connected between the brush side of the generator cut-out and the chassis of the car. The other condenser is connected between the battery terminal of the ignition coil and the chassis.

In some ignition systems, it may be necessary to connect another condenser



Here we see Harry P. Tozier, Manager of the radio department of the James Bailey Co., jobbers of Portland, and Salesman E. H. Wright, starting out for a hunting trip in the Rangeley region of Maine. If their ability to sell radio equipment (including I. R. C. resistors) is any criterion of their hunting ability, we'll wager dollars to doughnuts they didn't come back empty handed.

from one terminal of the ammeter on the dash board to ground or chassis. The condenser should be tried at both ammeter terminals to see which connection gives best results.

Condensers are sometimes needed on fuse blocks and on the dome light lead where this enters the front corner post. The Philco manual states that, in some installations, it is more important to by-pass the dome light lead at the corner post than to connect the condenser to the ignition coil.

PEENING THE ROTOR ARM

Frequently it is necessary to peen the rotor in the distributor in order to reduce the gap between rotor and the high tension contacts. This gap should be held to about .004 inches maximum, but care should be taken to see that the rotor does not brush any of the contacts.

Place the rotor on a flat steel block and hammer the end of it carefully with a small machinist's hammer. Repeat this operation until there is just sufficient clearance between rotor and contacts. Then dress the end of the rotor to its original shape with a file. If a double end rotor is used, both ends should be treated alike. Extreme caution should be exercised in this operation so that the distributor will not be damaged. Never give final approval to an installation if the rotor brushes the contacts, as this affects the timing. Rotors on the Ford V-8 are not easily removed, so instead of peening, build them up with solder.

Almost every auto-radio installation presents different problems. In some cases, interference is easy to overcome. In others, it is extremely difficult. With some cars, it will pay you to separate the high tension leads from the rest of the car wiring. With others, it is necessary to bond parts of the engine carefully to the frame by means of copper braiding.

Each time a new scheme is tried out for interference elimination, the radio should be placed in actual operation. The reason for this is that, in trying to overcome noise, you may inadvertently cause more through the coupling or shielding of a certain part. It has been found that excessive shielding sometimes creates more interference than no shielding at all.

SWAP or SELL SECTION

FREE—
FOR SERVICE MEN ONLY!
Send in Your Sell or Swap Ad

Whether you are looking for a business partner or want to dispose of anything from used testing apparatus to an overstock of parts for 1924 vintage radios, a little ad here should pull surprising results—and at no cost to you. We'll run it free with compliments of I. R. C.

WILL TRADE silver-plated Eb Alto Saxophone for some good radio servicing equipment. What have you to offer? Sax (in case) cost \$110 new. Box A-1, care of I. R. C. Servicer.

TUBE CHECKER FOR SALE. Almost as good as new. Has eight sockets and tests all tubes completely without adapters. Cost \$22.50 new. Will sell for \$12.50 cash. Box A-2, I. R. C. Servicer.

WILL TRADE OVERSTOCK of tubes for service parts that I can use. Write for list, stating what you have to offer. Can use a good microphone. Box A-3

New Service Jobs New Profits



WITH
SPRAYBERRY DATA SHEETS

THERE are countless radio modernization jobs just waiting to be done by service men who know how—big jobs of the most profitable kind which are brought within your easy reach by Sprayberry Data Sheets. This unique NEW service by one of radio's best known engineers tells exactly how to re-wire old standard receivers such as A. K., Philco, Majestic, etc., for modern tubes and circuits—also how to land these big-paying jobs. New sheets every month—a sure tonic for business. Cost only \$3.50 a year—satisfaction guaranteed.

"Already," writes Chas. Peroz of Highland Falls, N. Y., "I have re-wired receivers on which I made a profit of \$35." And that was only a starter! He adds: "I'm sure that every radio man can earn extra money by using this Sprayberry service."

Send check or money order or write for free details.

(Plans for re-wiring any set or tube analyzer only \$1.)

F. L. SPRAYBERRY
132 Bryant St., N. W.,
WASHINGTON, D. C.

THIS MONTH'S BRAIN TWISTER



A service man who took time off for a little revolver practice used this target. On it he scored an even 100 in the fewest possible shots. How many shots did he fire and in what sections of the target did they land? (Answer next month)