



RADIO AND TELEVISION

Service News

A PUBLICATION OF THE RCA TUBE DEPARTMENT

SPRING
1953

EXTRA!

**SUPER-POWERED
RCA SPRING PROMOTION
CAMPAIGN**

**BUILD YOUR
SERVICE BUSINESS
WITH RCA**

- **TUBES**
- **KINESCOPES**
- **PARTS**
- **BATTERIES**
- **TEST EQUIPMENT**

Dynamic

Dealer Identification Your Service...



Campaign Features New, Personalized Dealer Identification Plaque

YOU now have a golden opportunity to earn greater prestige and profit by participating in your RCA Tube Distributor's Official Dealer Registration Program! This program is designed to identify and publicize the outstanding service shops in each area . . . the reputable dealers and servicemen who regularly use dependable RCA tubes and kinescopes.

NOW—you can make the most of the magic selling power in the famous RCA trademark. Here is a complete business-building program that includes everything from window displays to local and national advertising. Don't miss this great opportunity . . . see your *RCA Tube Distributor* today for full details.

DEALER IDENTIFICATION PLAQUE

Here is the handsome, personalized Dealer Identification Plaque . . . a striking, metalloid sign in gleaming gold finish, framed in a mahogany-type border . . . one of the most impressive pieces ever offered to service dealers.

This plaque features an embossed RCA trademark and two-toned lettering. *Your own store name* appears prominently on the gold-foil center portion. Displayed prominently in your window or counter area, this plaque will command instant attention. It's a symbol of the quality tubes used in your service work.



RCA TRADEMARK DECAL

Every Registered Dealer is furnished with an eye-catching 9 by 10¾-inch decal, suitable for window, door or service truck. Identifies your shop with RCA Tubes.

"RADIO AND TELEVISION SERVICE NEWS"



This valuable bi-monthly publication is automatically mailed directly to Registered Dealers at no charge.

Program Spotlights Builds Prestige and Profit!

Your RCA Tube Distributor presents the greatest prestige-building, profit-packed program ever offered to service dealers!...an Official Dealer Registration

Program, featuring a personalized Dealer Identification Plaque, and backed by a hard-hitting local and national advertising campaign.



"REGISTERED DEALER" DISPLAY SET

For your window, a three-dimensional display in full, rich colors...plus a set of 10 RCA dummy cartons...plus two companion easeled display cards. This striking display focuses attention directly upon your service work... identifies your shop with dependable RCA tubes... builds your prestige while it sells your service. Ask for form 3F115.



DIRECT-MAIL PROGRAM

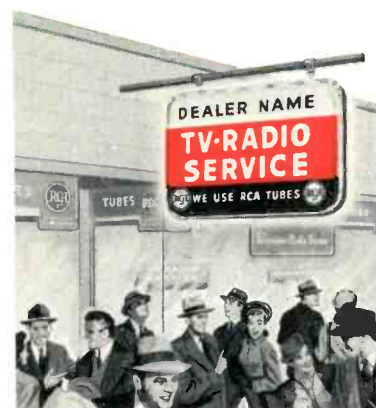
Seven brand-new and unique mailing pieces that will stimulate your service business.

To help you publicize your shop as headquarters for RCA tubes, your RCA Distributor makes available a Basic Mailing Kit at the time he registers your shop. Included in this kit are 50 each of four different mailing pieces... (a total of 200) all imprinted with your name, address, and telephone number. This mailing list is designed for use as an intensive four-month campaign. Be sure to ask your distributor for full details.

OUTDOOR ILLUMINATED SIGN FOR DEALERS

Personalized with your own store name at the top, this brilliantly glowing plastic-and-steel sign will command attention up and down the street.

This colorful, illuminated sign tells the world you've got a long-range investment in the future, and helps to inspire customer confidence. Costs less to buy and less to maintain than any other comparable sign. This 2 by 3-foot weather-resistant sign is listed by U.L. for outdoor use; it will dress up your entire storefront. Ask for form 3F101.



ILLUMINATED "SPINNING MOTION" SIGN

Action-packed 15-inch sign that sells your service. Spinning wheel creates dancing shadows and colors.

The "Spinning Motion" sign will liven up your entire window area and attract new business from the traffic that normally passes your shop. One of the most unusual, effective, eye-catching signs ever offered anywhere! Ask for form 3F89.



GET THE STORY TODAY!

Ask your RCA Tube Distributor for your copy of the colorful 16-page booklet, "A Magic Pass-Key to Customer Confidence." The complete campaign is outlined, illustrated, described in full detail. Be sure to get your copy as soon as possible. It's free!



COUNTER MERCHANDISER (3F439)

You'll see plenty of sales action with this RCA radio-battery, point-of-purchase merchandiser on your counter. Three-tier, step-back shelves for battery stock and forceful sales messages remind portable-radio owners to buy batteries—now. It is sturdily constructed of steel wire and is reinforced to support more than 50 pounds of batteries.

KEEP AHEAD...SELL N

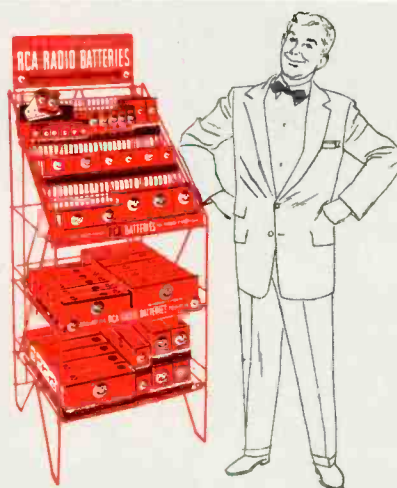
The fast-moving 1953 portable-radio season lies ahead of you. It offers RCA Radio Battery dealers a greatly increased sales and profit potential. You can capitalize on this big-time selling

opportunity by using the RCA sales promotional materials pictured on these pages. They will help you move your stock of RCA radio batteries into the portable-radio sets in your area.



WINDOW DISPLAY SHELF (3F443)

Here is a tastefully designed window display for portable radios and RCA batteries. Included with this modern unit, which measures 15 inches by 10 inches, are four easily assembled RCA battery display cartons. An attractive sign, hanging at the top of the display, features your store as portable-radio headquarters for RCA radio batteries.



BATTERY FLOOR STAND (3F438)

Supermarket techniques will pay big dividends when this striking and durable floor stand goes to work selling RCA batteries for you. Capable of holding a complete inventory of volume-type RCA batteries, it will create new store traffic for you. This silent salesman carries this merchandise in a floor space of only 18 inches by 18 inches. Front height measures 31¼ inches; rear height, 44 inches with a 6-inch high, portable-radio battery sign ready to work for you.



BATTERY GUIDE

The latest interchangeability information has been in the 1953 RCA Battery Guide. It may be slipped into your portable-radio case or used as is. It replaces old sheets. Interchangeability of top battery brands is listed. Battery type replacements for 30 prominent models are current list prices diagrams on the complete

RCA RADIO BATTERY TESTER AND TESTER COUNTER SHELF (3F441)

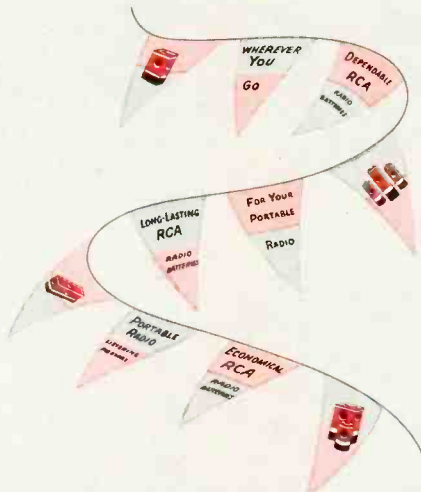
With this RCA Battery Tester displayed on your sales counter, you'll cultivate and close *more* sales of RCA batteries. You can demonstrate, on a plainly marked scale, the actual playing condition of popular types of radio batteries.



MORE RCA BATTERIES

By selling RCA batteries—the Radio Battery for the Radio Trade—you have FIVE important selling advantages. 1.) Complete top-volume line, 2.) Unsurpassed quality, 3.) Hard-hitting national adver-

tising on radio and television, 4.) Competitive prices to keep you ahead, 5.) RCA package appeal with smart design and famous RCA monogram. See your RCA battery salesman today!



BATTERY GUIDE (3F448)

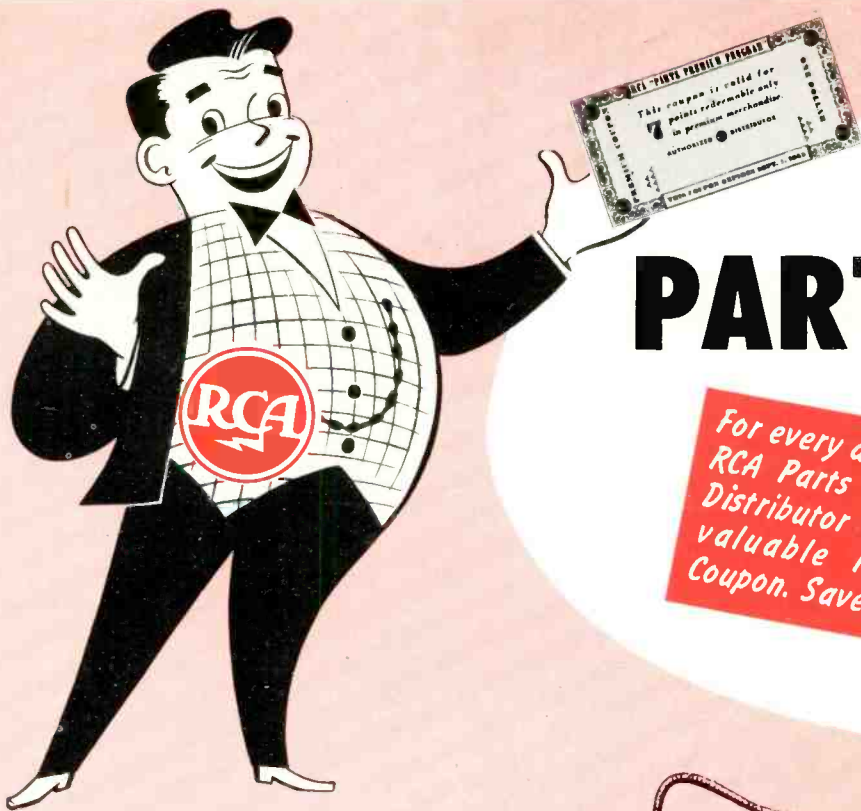
ity, replacement and bat-
compiled into the new
which is in a form that
RCA Battery Fact-Finder
places all previous filler
information on the eight
ed along with RCA Bat-
the portable radios pro-
manufacturers. Also inclu-
dimensions, and socket
RCA battery line.

BATTERY STORE PENNANTS (3F442)

Give your store a gala sales look with these bright and versatile store banners. They excite new interest in portable radios and RCA radio batteries. Ten in all, these triangular store banners are printed on sturdy index-card paper and measure 12 inches high by 10 inches wide. They are mounted on a 13-foot cord to simplify your decorating problems! Excellent for wall, store, or window use. You may want more than one set when planning your portable-radio promotion.

REPEAT BUSINESS STAMP AND PAD (3F413)

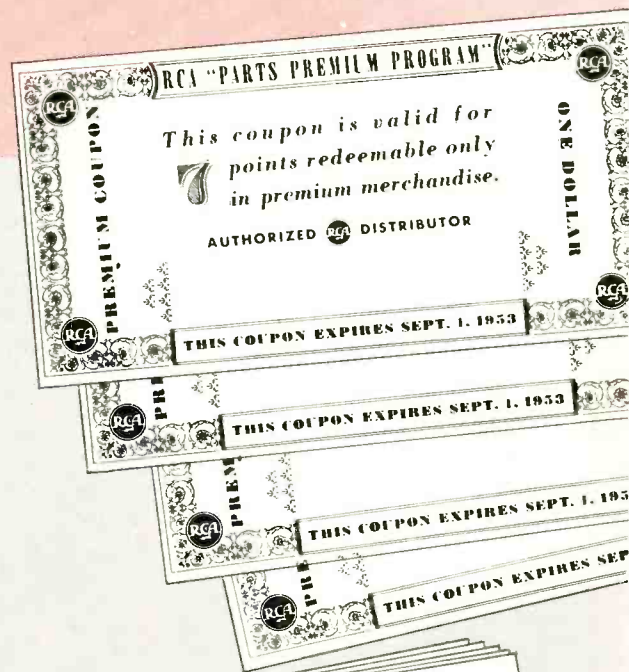
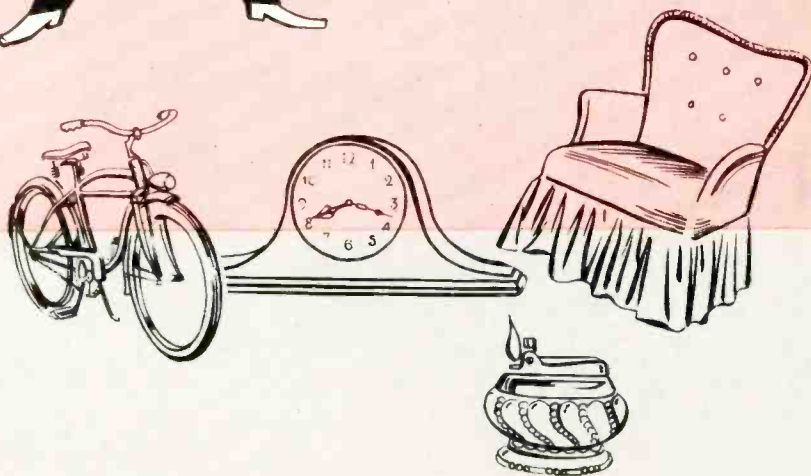
By using this handy stamp, you can capitalize on RCA's national advertising and promotion which directs portable-radio, battery-replacement business to you—the RCA Battery Dealer. Prominent space is provided on top-volume RCA portable-battery types so that you can imprint your name and address with this handy stamp which carries your three-line imprint. It is mailed to you, complete with inking pad, by RCA.



POWER-PARTS PREMIUM OFFERS

For every dollar purchase of RCA Parts your RCA Parts Distributor will give you a valuable RCA Premium Coupon. Save your coupons.

Over 300 beautiful premiums to choose from! Ask your RCA Distributor to let you see the RCA "Parts Premium Program" Catalog.



NOW

YOU can have wonderful premiums like these for you and your entire family. Get valuable RCA Premium Coupons from your RCA Parts Distributor with every dollar's worth of RCA parts you purchase.

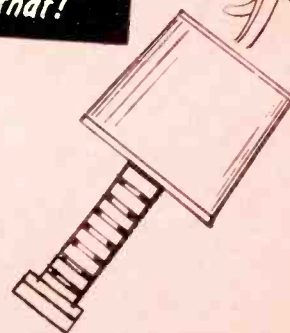
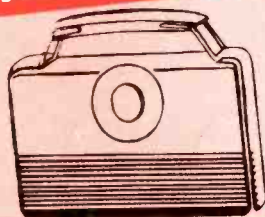
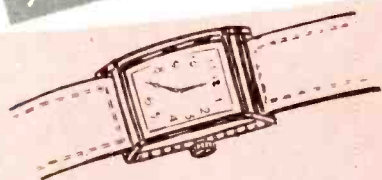


PACKED PROGRAM BIG PRIZES

Catalog shows premiums in full color and states how many points you need for each.

When you have the necessary amount of Premium Coupons for your "dream-premium" ... take them to your RCA Distributor!

Your RCA Distributor will get you the premium of your choice ... simple as that!



Questions and Answers on the RCA "Parts Premium Program"

WHEN IS IT?

The RCA "Parts Premium Program" started on February 1, 1953 and ends July 31, 1953.

WHO IS ELIGIBLE TO PARTICIPATE?

All recognized customers of Authorized RCA Distributors are eligible to participate in this program.

HOW DO I OBTAIN RCA PREMIUM COUPONS?

Your RCA Parts Distributor will give you an RCA Premium Coupon for each dollar's worth of RCA Parts* you purchase. Each RCA Premium Coupon is worth seven points. Save your Coupons.

HOW DO I REDEEM MY COUPONS FOR MERCHANDISE?

After you have selected the premium(s) you desire from this catalog, refer to the enclosed prize point list which indicates how many points you need for the various premiums. It is not necessary to wait until the end of the program to order the items you choose! They may be ordered at any time during the contest. You may order as many as your accumulated points show you are eligible to receive. You can, if you wish, hold your Premium Coupons and order your premiums at any time up to the expiration date of the Coupons, which date is September 1, 1953.

HOW DO I ORDER MY PREMIUMS?

Take your RCA Premium Coupons to your authorized RCA Parts Distributor. He will take your coupons and order the premiums you select.

Note:

All RCA Premium Coupons are void after September 1, 1953.

In the event of certain premiums becoming unavailable during this campaign, the right is reserved to withdraw such premiums without prior notice. Where substitution must be offered, no guarantee will be made as to the same point value.

The right is reserved to increase or decrease the number of premium points offered for dollar sales. However, any such changes will not be retroactive.

The right is reserved to discontinue this program without prior notice; however, all points accrued prior to such a time will be honored within the expiration date of the Coupons.

The right is reserved to change or alter these regulations without prior notice. No such change, however, will affect rights which have already accrued during the program.

*RCA Parts are hereby defined and limited to RCA Service Parts, RCA Electronic Components (including speakers, lightning arresters, etc.) and RCA Accessories. No premium points accrue for the purchase of any other RCA Renewal Product.

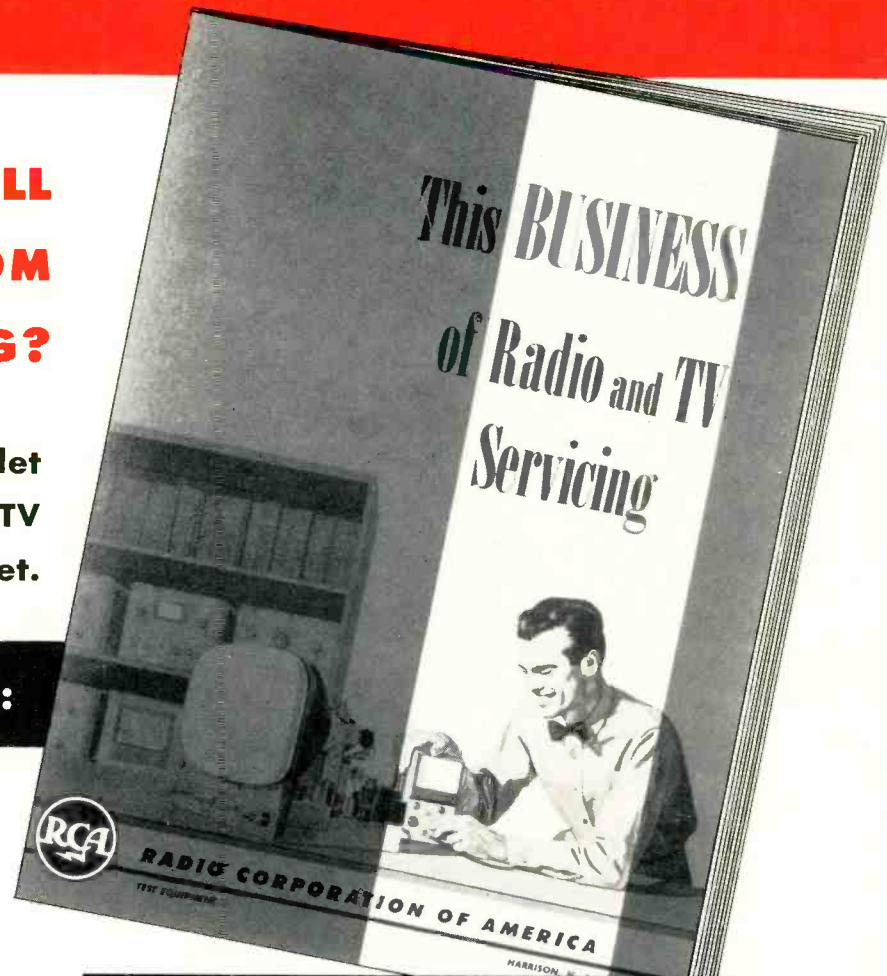
How efficient is YOUR SERVICE BUSINESS?

**ARE YOU MAKING THE FULL
PROFITS POSSIBLE FROM
RADIO AND TV SERVICING?**

If not, you'll find the new RCA booklet entitled "This Business of Radio and TV Servicing" a valuable business asset.

CHECK THESE VALUABLE SECTIONS:

- HOW TO PLAN AND USE A BUDGET
- HOW TO CONTROL WAGES
- MAKING A DAILY TIME REPORT
- PLANNING GOOD SUPERVISION
- TRAINING YOUR MEN
- GOOD CUSTOMER RELATIONS
- CONTROLLING STOCK AND MATERIALS
- REDUCING OPERATING COSTS
AND EXPENSES
- WHICH BUSINESS FORMS TO USE



HERE ARE THE ANSWERS:

ALL THIS PLUS +

A complete description and specification of
all RCA's accurate test equipment.

**ASK YOUR RCA DISTRIBUTOR SALESMAN
FOR A COPY OF THIS IMPORTANT BOOKLET!**



RADIO SERVICE NEWS

VOLUME XIII, No. 4

EDITORIAL OFFICES, RCA, HARRISON, NEW JERSEY

July-August, 1948

RADIO SERVICE NEWS TO PUBLISH SPECIAL ISSUE ON TELEVISION

Entire September-October
Issue To Be Devoted To
Television Data

An all-Television issue of RCA's RADIO SERVICE NEWS is in the making and will be on the press soon. In response to an overwhelming demand for authoritative TV information, this special issue will be devoted entirely to television and servicing.

Here are a few of the subjects you will find in the Sept.-Oct. issue: Television Service—Part III, by John R. Meagher, RCA Renewal Sales TV expert; New Test Equipment, by Arthur Liebscher of RCA's Test and Measuring Equipment Section, an authoritative discussion of the new RCA TV-FM-AM Test Instruments; a resume of RCA Television components and accessories; and an article by John Rider on TV Antenna Installations. These, plus a host of other items of equal interest, will combine to make up an issue of RADIO SERVICE NEWS that everyone will want to keep in his permanent file.

Be on the lookout for the next RCA RADIO SERVICE NEWS. Have your RCA, RCA Victor, or Cunningham distributor put you on the mailing list or reserve a copy for you.

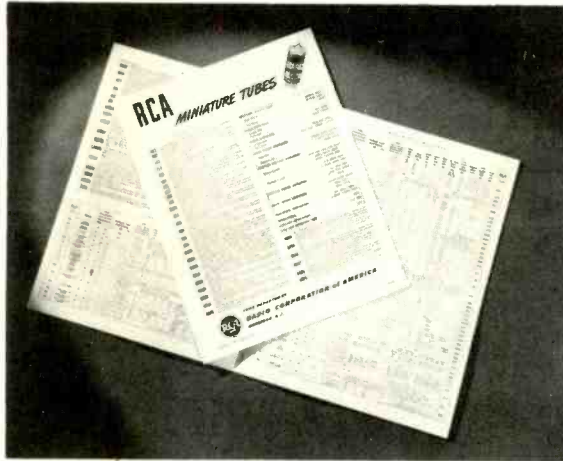
HOW TO GET YOUR RADIO SERVICE NEWS

Many inquiries are received at the Editorial Offices about where and how RCA SERVICE NEWS can be obtained, regularly. Here's the answer.

RADIO SERVICE NEWS is published bi-monthly by the Editorial Offices of the RCA Tube Department in the interest of radio servicemen and dealers everywhere. It is sent to the trade through RCA Distributors, who give it to their customers either by mail, or over-the-counter. Ask your RCA Distributor to put you on his regular mailing list or, if he passes it out in the store, to save you a copy.

If you are now receiving a copy from your local RCA Distributor, don't forget to notify him when you change your address.

THE NEW RCA MINIATURE TUBE FOLDER



This is the new MNT-30B Miniature tube reference folder just released by the RCA Tube Department. It's a "must" for every serviceman's box and bench.

NEW FOLDER DESCRIBES RCA'S COMPLETE LINE OF MINIATURE TUBES

Large Demand for Publication
Seen in Television and
FM Servicing

A new technical data folder listing RCA'S comprehensive line of miniature tubes—the MNT-30B—has just left the press. Covering 64 miniature tube types, it supersedes the Tube Department's MNT-30A and includes sixteen recently announced additional types.

Designed for quick and easy reference, the new folder lists miniature tubes numerically and alphabetically giving descriptions of each tube opposite the listings together with metal and GT equivalents. Tubes are classified by type and function in a simplified chart on the first page.

Complete characteristics and typical operation characteristics on each tube are provided in a characteristics chart which is also arranged for at-a-glance reference. Socket diagrams furnish a quick guide to terminal connections.

Ask your RCA Distributor for a copy of the new RCA-MNT-30B, it's a reference booklet you'll want to keep by your bench or in your tool box for ready reference.

NEW RCA "ISOTAP" TRANSFORMERS TO BE AWARDED IN SAFETY CONTEST

A new and exclusive group to be known as the RCA "Shock of the Month Club", whose membership will be limited to those who have had an unpleasant experience with electrical shock, is being inaugurated this month by RCA RADIO SERVICE NEWS. Members will be awarded one of the unique RCA Isotap Transformers. Here are the details about joining.

At one time or another, you have undoubtedly served as the electrical path between a hot ac/dc chassis and ground, or from one peewee radio to another, or even from such a receiver to a piece of ac/dc test equipment. If you have, you probably remember it, because it's an experience comparable to practically no other servicing mishap.

We'd like the story of that "shocking incident"—just a plain-facts letter telling us all about it. Make it as humorous or serious as you wish. We don't want fiction, and if it's the "real McCoy", it will be a story not lacking in color.

The three letters which, in the opinion of the editors, are most original and which contain the best "safety first lesson" accounts will be published in each issue of RCA RADIO SERVICE NEWS. The writers of each will automatically become members in good standing of the RCA "Shock of the Month" club, receiving as an award one of RCA's latest cures for shock hazard—the new RCA Isotap High-Low Isolation Transformer.

The Isotap Transformer not only eliminates the chance of accidental shock from the foregoing causes, but speeds detection of many faults by permitting high-low line tests, and prevents damage to ac/dc test equipment. There's a complete story of the Isotap on page 3-S of this issue—be sure to check the outstanding features of this new service-aid.

And that's not all! The writer of the best letter at the end of this year will be further rewarded with an RCA Battery VoltOhmyst Electronic Meter. This is the famous model WV-65A, with its own power supply.

Get your facts down on paper today and send them in to the Editorial Offices, RCA, Harrison, New Jersey. All letters become the property of RCA RADIO SERVICE NEWS, and may be reprinted as desired to pass along valuable available anti-shock hints to our readers. The first set of letters will be published in the September-October issue of RSN. Get those letters in early for a crack at the first trio of Isotap Transformers to be given away.

A TEST RACK FOR THE MODERN SHOP

A new custom-built Test Equipment Rack, attractively designed as an efficient and ultra-modern cabinet for housing any six of RCA's matched units of test and measuring equipment, has been introduced by the RCA Tube Department.

The new rack (WS-16A), serves not only as an ultra-efficient test equipment service rack for the high-speed servicing of TV, FM, and AM receivers, but it also communicates an atmosphere of technical authority and prestige.

A full-color photograph of the RCA Test Rack was featured on the front cover of July "Radio News" together with a lead article on the use of the test equipment. A reprint of the article will appear in the next issue of RCA SERVICE NEWS. Meanwhile, ask your RCA Distributor for the facts on the new WS-16A service rack and instruments.

DBM CHART EXPANDS USEFULNESS OF RCA-VOLTOHMYST METERS

Servicemen Active in Sound and Public Address Work Will Find This DBM* Chart Extremely Handy

RCA VoltOhmyst electronic meters are practically universal test instruments in themselves. For example, the WV-95A Master model measures dc voltages up to 1000 volts rms at frequencies to 20 kc; rf rms voltages at frequencies to 250 Mc; dc currents from a few microamperes to 10 amperes; resistance values from 0.1 ohm to 1000 megohms; and capacitance values from 4 micro-microfarads to 1000 microfarads. The diode probe of the WV-95A is designed to measure voltage values which are proportional to peak-to-peak values of any wave form.

Sound specialists find the 195-A model especially useful because it has a decibel scale instead of the low-range ac scale of the WV-95A. This db scale reads from -20 db to +62 db in six ranges, and indicates dbm values when the diode probe is placed across a 600-ohm resistive load. DBM values are defined as the number of db above or below a reference power level of 1 milliwatt in 600 ohms at 1000 cps.

Servicemen who wish to measure

values of dbm with other VoltOhmyst meters which do not have a db scale will find the accompanying dbm chart useful. DBM values are particularly useful in audio work because they condense the power range into convenient units which have a tie-in with hearing abilities. This tie-in is maximum at 1000 cps, but becomes less accurate at higher or lower frequencies.

Because dbm values are referred to a 1-mw power level, this indicates definite power levels; the difference between two dbm values also shows the gain or attenuation in decibels and indicates whether a certain power increase will be worthwhile. Straight listening tests prove that unless the output has been raised several db, the resulting benefit is judged to be unimportant by the listener. Gains or losses of less than 2 db are usually unimportant.

For example, if the output of an amplifier is increased from 1 watt to 1.58 watts, the power output has

(Continued on Page 3, Column 3)

Talking Things Over

With W. L. ROTHENBERGER
Manager, Renewal Sales

Where do your customers get their first impression of your place of business? Your store front, naturally; and the impression is a lasting one. What they see in the first few seconds as they approach your store or shop is, quite often, the factor governing their opinion of you as a business man. The first glance can attract attention and interest, or it can repel just as easily.

Experts on retail business methods rate store front and show window space as chargeable to approximately one-third rental value. In other words, if you pay \$90.00 a month rental, \$30.00 of that amount is for the front of your store. Viewing this analytically, are you realizing full returns on your monthly rent payments?

In comparison

Let's sharpen our perspective on this matter of storewindow house-keeping. Suppose you are in the market for a suit of clothes. It's quite doubtful that you'd patronize a store which displayed its merchandise in show windows by hanging or laying it haphazardly on the handiest hook or chair. It doesn't take a

long stretch of the imagination to associate a sloppy window display with inefficient management and poor value of the wares being sold.

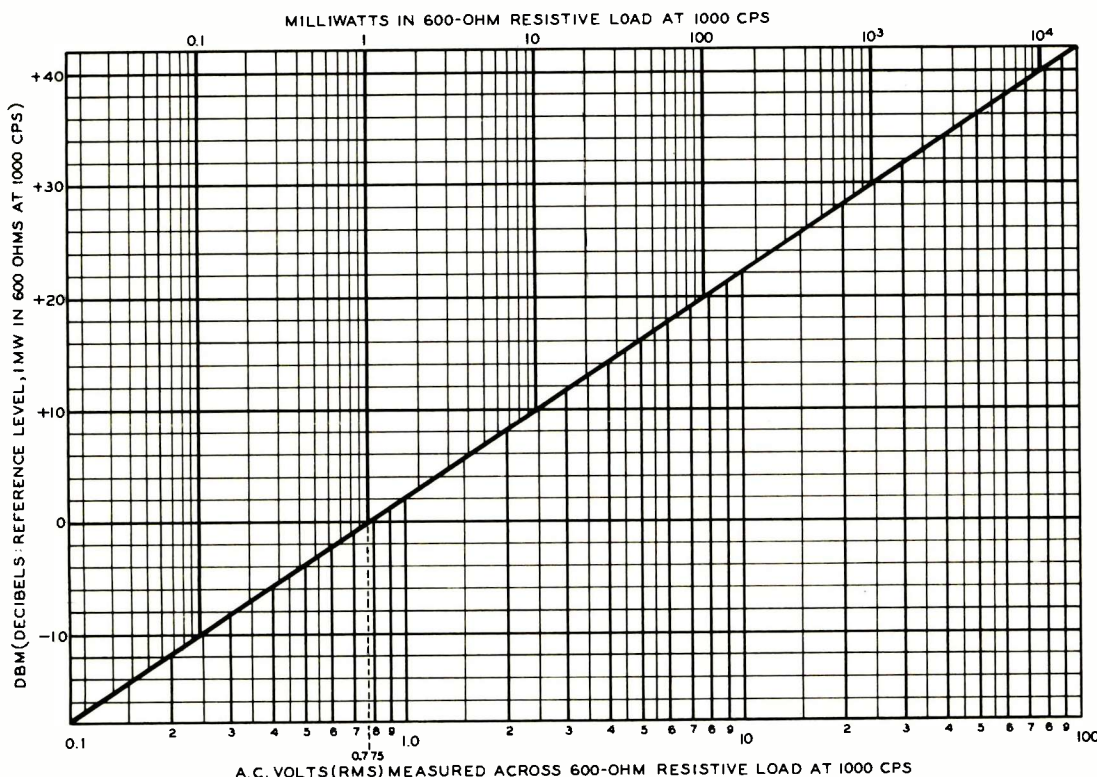
The impression a passerby receives from your store is also determined largely by what he sees in your window. Perhaps this potential customer passes your store every morning on the way to his office. Assume, also, that he possesses, as an average American, anywhere from two to five or six radios in his home and car. If his eyes fall repeatedly on a not too artistic display of dust and cobwebs casually draped around wrecked sets, warped records, empty coke bottles, and the like, he is not likely to be impressed to the point where he'll stop by on Saturday with his ailing radio.

Looking at the other side of this hypothetical picture, perhaps there's another shop a few blocks or a few doors away. If our passerby sees a trim, clean window, it's a safe bet that he will note it as a direct reflection of the class of workmanship done within, and remember the place when he needs service.

Put your window to work

It isn't difficult to make show-window space support itself—and the effort really pay dividends. The show window need not have an elaborate display. Just a clean window glass, maybe a coat of paint or varnish around the woodwork, and a simple but neat arrangement of your products. If you sell radios or records, it's a good opportunity to plug your line. If you sell only service, there are many interesting ways of attracting attention. Old and new tubes, featuring a kinoscope, for example. Or an inner view of a radio set with a few cards denoting simple functions. And there are a wealth of posters, commuras, banners, decals, and many other attractive items prepared by RCA that will add color and sparkle to your window. Your RCA, Cunningham, or RCA Victor distributor will be glad to help you obtain these free, or inexpensive promotional materials.

No matter how small the show space, it's your business face to passersby. Put your window to work—let it speak your message, and invite more business. The results will be well worth the effort.



*DBM values are defined as the number of decibels above or below a reference level of 1 milliwatt in 600 ohms at 1000 cycles. Accordingly, 0 DBM indicates a power level of 1 milliwatt; 10 DBM, 10 milliwatts; 20 DBM, 100 milliwatts, etc.

Note: For ac volts (RMS) measured across a 500-ohm resistive load, add 0.792 DBM algebraically to values read from chart. For ac volts (RMS) measured across other resistive loads, use formula: $\Delta \text{DBM} = 10 \log \frac{600}{R}$

where R is the load in ohms, and ΔDBM is the corresponding increment to be added algebraically to the DBM value read from the chart. (If $R > 600$, ΔDBM is negative).

REPLACEMENT PARTS

Section

Here are values available in limited quantities only. Many are hard-to-get items for use in the older RCA Victor models. At these special prices, our stock will soon be depleted; orders will be filled in the sequence they are received.

RCA TEST EQUIPMENT ACCESSORIES

The following list of accessories for RCA test equipment is published in response to numerous requests.

Component	Stock No.	Component	Stock No.
AUDIO VOLTMETER WV-73-A			
Input Cable with Plugs, Clips.....	53676	CHANALYST	
Power Cord with Connectors.....	53678	ELECTRONIC ANALYZER 162-B	
Crystal Probe.....	400263	AF Test Cable Assembly.....	35263
VOLTOHMYST		Interchannel Cable Assembly.....	46685
ELECTRONIC METER WV-65A		Oscillator Cable Assembly.....	35266
DC Test Lead Assembly (Blue)....	48994	RF/IF Cable Assembly.....	35264
AC/OHMS Lead Assembly (Red)....	51960	Voltmeter Cable Assembly.....	35265
Ground Test Lead (Black).....	48996	Clip Attachment Assembly.....	35267
Crystal Probe.....	400263	Testpoint Adapters.....	400260
Clip for AC/DC Probes.....	35267	Crystal Probe.....	400263
Testpoint Adapters.....	400260	Flexible Connector.....	35710
Locking Pin Plug.....	47089	CHANALYST	
Binding Post.....	47062	ELECTRONIC ANALYZER 162-C	
VOLTOHMYST		AF Test Cable Assembly.....	35263
ELECTRONIC METER WV-75A		Ground Lead Cable Assembly.....	47080
DC Lead, Shielded, with Probe.....	48994	Interchannel Cable Assembly.....	46685
Ohms Lead, Pin Plug and Probe.....	51960	RF/IF Cable Assembly.....	35264
Ground Lead, Clip, and Pin Plug ..	48996	Oscillator Cable Assembly.....	35266
Diode Probe.....	400275	Voltmeter Cable Assembly.....	35265
Crystal Probe.....	400263	Clip Attachment for Probe.....	35267
Clip for AC/DC Probes.....	35267	Testpoint Adapters.....	400260
AC Probe Clip Attachment.....	52821	Crystal Probe.....	400263
Testpoint Adapters.....	400260	Flexible Connector.....	35710
Pin Plug for Gnd., Ohms Lead.....	47089	Locking Pin Plug.....	47089
Binding Post.....	47062	Binding Post.....	47062
VOLTOHMYST		TEST OSCILLATOR 167-A	
ELECTRONIC METER 165-A		Low Capacitance Test Cable.....	46748
DC Volts Lead with Probe (Blue)....	43915	Testpoint Adapters.....	400260
AC/OHMS Lead, with Probe (Red)....	43913	TEST OSCILLATOR 167-B	
Common Lead with Clip (Black)....	43914	RF Output Cable Assembly.....	52524
Crystal Probe.....	400263	Grounding Connector.....	52525
Clip for AC/DC Probes.....	35267	Testpoint Adapters.....	400260
Testpoint Adapters.....	400260	AUDIO CHANALYST	
VOLTOHMYST		ELECTRONIC ANALYZER 170	
ELECTRONIC METER 195-A		AF or VOLTS Cable & Test Clips ..	44842
DC Lead with Probe (Blue).....	48994	Ground Cable, Clip, & Pin Plug ..	44844
AC/OHMS Lead, with Probe (Red)....	48995	Cable, Probe, & Connector (Red)...	44845
Ground Lead with Clip (Black)....	48996	Clip for Probes.....	35267
Crystal Probe.....	400263	Testpoint Adapters.....	400260
Clip for AC/DC Probes.....	35267	Crystal Probe.....	400263
Testpoint Adapters.....	400260	AUDIO CHANALYST	
Pin Plug for Ground Lead.....	47089	ELECTRONIC ANALYZER 170-A	
Binding Post.....	47062	Shielded Cable Assembly (Green)...	35263
OSCILLOSCOPE WO-79A		Shielded Cable Assembly (Black)...	49320
Attenuating Cable (less clip lead)...	53842	Shielded Cable Assembly (Blue)...	35265
Direct Cable (less clip lead).....	53843	Test Lead (Black).....	49321
OSCILLOSCOPE 158		Test Lead (Red).....	49322
Input Cable, complete.....	33873	Power Cord.....	52536
CHANALYST		Clip for Probes.....	35267
ELECTRONIC ANALYZER 162, 162-A		Testpoint Adapters.....	400260
AF Test Cable Assembly (Green)....	35263	Crystal Probe.....	400263
Interchannel Cable Assembly.....	43977	Locking Pin Plug.....	47089
Oscillator Test Cable Assembly.....	35266	Binding Post Pin.....	47062
RF/IF Test Cable Assembly.....	35264		
Voltmeter Test Cable Assembly.....	35265		
Clip Attachment Assembly.....	35267		
Testpoint Adapters.....	400260		
Crystal Probe.....	400263		
Flexible Connector.....	35710		

DBM MEASUREMENTS

(Continued from Page 2, Column 2)

been increased 58%. This increase of 0.58 watt is appreciable from the standpoint of power, but the chart shows the corresponding gain in db is only 30 to 32, or 2 db. This gain of 2 db does not justify the expenditure of much effort. However, if a gain of 2 db can be obtained at three points in a system, the total gain of 6 db is worth considering.

Since dbm values are defined with respect to a 600-ohm resistive load, power levels also correspond to voltage values, and dbm can be therefore measured in terms of rms ac voltage. For example, the chart shows that 0.775 volt rms corresponds to 0 dbm or 1 mw; 7.75 volts corresponds to 20 dbm or 100 mw, etc. While dbm can be measured at any frequency within the range of the VoltOhmyst meter, it is necessary to use a frequency free of harmonics. If harmonics are present readings will be incorrect.

Decibel units are convenient to work with because they need only be added and subtracted. For example, if an input of 1.5 dbm is fed into an attenuator which steps the input down to -2 dbm and is then supplied to an amplifier which steps the output of the attenuator up to 18.5 dbm (0.071 watt), the overall gain in decibels is $18.5 - 1.5 = 17$ db. The amplifier gain is $18.5 - 1.5 + 2 = 19$ db.

The chart is applicable to resistive loads other than 600 ohms when a suitable term is added algebraically to the dbm value found on the left-hand edge of the chart, as explained in the chart footnote. Don't make the common mistake of measuring dbm across resistors other than 600 ohms without using the necessary correction term.

For example, if 10 volts is measured across 500 ohms, the chart indicates a value of 22.22 dbm, to which a correction term of 0.79 dbm must be added, giving a round figure of 23 dbm (200 mw).

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