THE new RCA Radiotron Broadcast Station Directory is here, awaiting your order to go to work for you! It gives the biographies and pictures of 22 well known announcers as well as the latest list of radio broadcast stations.

America's foremost radio columnist, Charlotte Geer, is co-author. Her personal knowledge of most of the announcers enables her to make each page just teem with human interest. You'll like it!

This is the Radio Station Directory your customers have been looking for. It will carry your name and your message, as well as a message on RCA Radiotron quality, into the homes of your customers and potential customers. Order now!

Price $2.50 per 100, Imprinted

Send your order to the RCA Radiotron Company, Inc., Harrison, N. J.
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A Binder for Good News

Many of our readers have asked for a binder in which they could keep Good News for future reference. We now have such a binder available, as shown in the illustration, which will hold twelve issues.

This binder is bound in black imitation leather and stamped "Good News" in the center in gold letters. The issues are held in place by an ingenious arrangement of wires, consequently, it is not necessary to punch the magazines.

Send in your order today to the Sales Promotion Dept., RCA Radiotron Company, Inc., Harrison, N. J., and a binder will be sent to you at once. The price is $1.

A magazine of radio merchandising counsel to help distributors and dealers of RCA Radiotrons make more profit.

Published Monthly by RCA Radiotron Company, Inc., Harrison, New Jersey

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We Owe It to YOU--

And to the Consumer to Produce Quality

Tubes Which Will Justify Your Faith in Us

By W. T. L. Cogger

Vice President in Charge of Manufacturing

RCA Radiotron Company, Inc.

W. T. L. Cogger is unquestionably the most experienced man in the manufacturing end of the tube industry. Under his supervision were manufactured the first commercial tubes by the General Electric Company. Mr. Cogger’s contributions to the mechanization of the industry have been many and varied. Under his able direction consistent progress can be expected in improving RCA Radiotron quality—already the acknowledged standard of the industry—and manufacturing methods.

Many dealers have the idea that they and the manufacturers have not much in common. They consider the manufacturer as an organization which converts raw material into a product for them to sell.

Once the manufacturer has fabricated the materials, these same dealers—and, in fact, some manufacturers—think that there the manufacturer’s responsibility ends. It doesn’t.

The manufacturer’s responsibility does not end until he has fabricated the best product possible from the finest materials available and then follows through to make certain that the user of his product is satisfied.

The RCA Radiotron Company’s manufacturing activities, lying as they do between research and development fields on the one hand; with sales and distribution functions on the other, afford a great opportunity to render all the services connected with a quality product to the entire trade.

Working back to one unit and forward to the other, the manufacturing division receives from the research and development section ideas and suggestions for commercialization and from the sales group all the essential information regarding distribution service.

The manufacturer’s identity in the product recognized by the trade is quality. This is not only the tangible factor resulting from proper control of materials, labor and supervision, but also the dedication of every effort to advance the art and create higher standards.

57 of 91 Known Elements Used in RCA Radiotrons

The materials which go into RCA Radiotrons are carefully selected. No amount of skilled labor can transform inferior materials into a superior product. If a high quality product is to be made, high quality materials must be used in its fabrication.

The finest raw materials are used in the construction of RCA Radiotrons. In fact, many materials were scientific rarities until the demands of our factories made them commercially available. For instance, under present existing conditions 57 of the 91 known elements are used in the manufacture of RCA Radiotrons. This, coupled with the small size of the tube, makes one realize what a really complicated and specialized product an RCA Radiotron is. It can safely be said that in no other product are so many of nature’s elements used.

Stabilized Production Assures Skilled Workers

In making RCA Radiotrons, we employ only the highest type of skilled labor. Each one of these workers is justly proud and jealous of the reputation of the product she is making.

On testers such as this RCA Radiotrons are examined for possible defects

PHOTO BY DAVIS

One of the many places RCA Radiotrons are tested. This is a life test rack for 227’s

Photo by Davis
The majority of them are experts in their particular line. By our planned system of stabilized, consistent, all-year-round production, we are able to keep the majority of our workers steadily employed twelve months of the year. This results in their putting forth constant effort to improve quality. They know that if they do good work they'll undoubtedly be on the payroll next week, next month, next year.

**Comfort of Workers**

We have also found that in protecting our workers' health, we protect our product. At all of our plants we have complete hospital facilities, a restaurant under the direction of trained dietitians, and a traveling nurse who looks after the welfare of our workers' families.

In two of our factories centralized radio systems give the workers many hours of enjoyment during the day. A short distance from the Home Office we maintain a country club, up in the mountains where they can enjoy golf, tennis, picnicking, dancing and a cool dip in a large outdoor swimming pool.

Nothing is overlooked which might add to the comfort or make the working hours more pleasant and more productive for those who are producing RCA Radiotrons.

All these things have a positive effect in maintaining RCA Radiotron quality.

**Expert Supervision a Vital Necessity**

Even skilled employees are at a loss without adequate expert supervision. Ability to supervise implies a complete knowledge of all things which come under the responsibility. For this purpose we have in our factories a group of experienced executives. In addition to this direct supervision of production, there is the necessity for engineering supervision. This requires a special

only abreast but ahead of the field, set engineers are provided from time to time with improved and new tubes. These give set manufacturers an incentive to create better sets which will fully utilize these advances in tube design.

**Quality the Keynote**

Quality, of course, is made the keynote of the RCA Radiotron Company's manufacturing policy. It is our earnest desire to instill in every dealer the feeling that he is handling a product which is really worthy of his recommendation. It is not enough that we be able to sell tubes to the dealer;
Don't Figure on Luck!

Build Your Business Firmly so You Can Ride Out the Storms of Depression

By "Al" Levine
Arrow Electric & Radio Co., Jersey City, N. J.

During the six years I have been in the radio business there have been big ups and downs. But through it all, my business has shown a steady increase in sales and profits.

People tell me I'm lucky—lucky nothing! Every business man can be compared to a golfer. The golf champion doesn't worry about his opponents. He just plays to par. So do I. What the man across the street does is of little interest to me.

The trouble with most dealers is that they are forever indulging in "business condition" propaganda. My contention is that "conditions" don't exist for the radio dealer who is working along the right lines.

Every dealer should have sufficient intelligence to foresee the natural effects of major movements in the general business structure. Seeing them, he should plan for them.

As an example, what gave more warning of its approach than the radio and the profit that I made on it quickly offset my losses. It gave me a chance to clear out all the dead wood and junk that had accumulated on my shelves.

Many dealers spent their time spreading propaganda to the effect that something shocking had happened to business. Instead, they should have mentally scourged themselves for their deplorable unpreparedness to take advantage of perfectly natural and logical business sequences.

I remember my teacher in school telling me, "If this is the first time you have made that mistake, I shall overlook it, for it is not discreditable to make a mistake—onece. But when you repeat a mistake it ceases to be a mistake, and is simply a bonehead play!"

This simple dictum has been recalled many times in my radio career.
Do More Advertising

Our problem now is to build anew and, if possible, to build more firmly than before. Radio dealers who wish to stay in business will have to work harder than ever. In this effort they will find advertising an indispensable part of their sales development program.

In a broad analysis, the function of advertising is to accelerate business in the face of changes that are constantly going on. It isn’t as though we radio dealers had to bear the brunt of paying for all the advertising.

That’s where I tie-in with makers who use plenty of national advertising. Now people listen-in all the year round.

I think that people listen-in even more in the summer. They hate to get all dressed up and go to a show. They’d rather sit around in the cool house in some comfortable, light clothing and get their entertainment by radio.

I have found that consistent, year-round advertising is necessary to stabilize retail business. I advertise the year-round in newspapers, by car cards and direct mail. The many buses that pass my store all carry a car card of mine. The results speak for themselves.

Service Men Check Sets in Summer

My service department takes over the load during the summer. I have three trucks and seven service men who have been with me for many years. The men are more than service men; they are really service-salesmen.

When business is slow they have a list of customers who have bought radio sets, and they call on these customers frequently—very often they make as many as twenty calls a day! They are all young, efficient, and look very snappy in smart, well pressed uniforms. If they come across a particularly knotty problem, they bring the radio set back to the store where we have a well equipped laboratory with a radio specialist in charge.

They are happy in their jobs and are eager to find new customers. They are never laid off. I keep a complete crew all the year round. That gives me confidence in my crew. I depend on having help I need, ready at all times.

I don’t regard my service men as an expense. They more than support themselves even when business is considered slow.

Each man has his own district. Customers have a lot of confidence in a service man who has called on them two or three times. They realize that he knows his business, otherwise he wouldn’t have been with me for so many years.

I might say one of their particular summer duties is given over mainly to building good will. And there isn’t a better business getter than good will.

I get customers from over three counties mainly through the fact that people know that from me they’ll get the finest service with their radio set.

Uniformed Service Men Suggest Complete Renewal of Tubes

Customers feel flattered when a snappy, uniformed service man calls on them, and they respect his advice in radio matters. When the service man suggests a complete renewal of tubes at least once a year they listen to him. (That is where the big money in the tube business is—in the tube renewal market!) It’s easy for the service man to explain that all the tubes must be of equal strength—that one weak tube will mar the performance of the rest—and that the best way to insure the set against distortion is to start all the tubes off at once!

When you figure out how many radio sets there are in three counties that my business covers—and that for every radio set there is approximately $15.00 worth of tube renewal business a year—it’s no wonder that I do a nice tube business! And it’s steadily increasing.

But remember, it isn’t luck. It’s careful, intelligent planning and hard work that bring results.
FROM amidst the roar of the waves, the clatter of feet on the boardwalk, and a series of interesting and helpful activities, the RCA Radiotron Company rose like a meteor in the night and, despite its youth, scored a successful and impressive appearance at the recent Radio Manufacturers’ Association Trade Show held in Atlantic City from June 2 to 6. The entire effort of the Company was directed toward making the dealer more comfortable and his stay more pleasant. Dignity, forethought, and courtesy, not sensationalism, were the keynotes of the RCA Radiotron Company’s success.

Our displays and demonstrations, however, were not lacking in impressiveness and importance. Each one of them was the product of considerable thought and careful planning, and judging from the comments of the visitors, they were also unusual successes.

On the ocean side of the boardwalk, twenty-four loud-speakers were mounted, one on every other post, thus covering more than a mile of boardwalk. These speakers were housed in huge metal castings shaped like helmets and were sufficiently powerful to be heard distinctly by the hosts that continuously crowded the boardwalk. Each evening, just prior to the regular presentation of Floyd Gibbons and Amos ‘n’ Andy, the crowds were brought to an abrupt halt by announcing:

Every night the crowds were given a treat through the centralized radio system which brought to the boardwalk, through the courtesy of Atlantic City and the RCA Radiotron Company, the broadcast of Floyd Gibbons and Amos 'n' Andy
that two of radio's most popular features were about to be brought to them through the courtesy of the RCA Radiotron Company and Atlantic City. Interested crowds heard the rapid fire conversation of Floyd Gibbons and the slow drawing of Amos 'n' Andy.

On every fifth post covering a distance of approximately three miles a cut-out of a gigantic RCA Radiotron was mounted together with a red and black banner inviting the crowds to listen to Amos 'n' Andy and Floyd Gibbons every evening. The intervening poles were decorated with banners similar in design to those accompanying the loudspeakers. They read "Atlantic City Welcomes RMA June 2 to 6."

Booth Attracts Widespread Interest
The booth, too, attracted considerable attention. Considerable forethought and planning were necessary to bring the many dealers and jobbers who constantly crowded the world's largest auditorium to the display. However, the plans were unquestionably successful, and a constant stream of enthusiastic dealers poured into the RCA Radiotron exhibit to take advantage of the many conveniences it offered and to be told swiftly and interestingly the story of RCA Radiotron leadership. In the booth the merchandising activities of the company were told in short, concise messages.

Humorous Letters Find Appeal
Fast communication letters were provided for those who found it impossible to write home, together with pens, ink, stamps, envelopes, tables, chairs, and a mail box. From the beginning to the end, each feature was carried through with precision; every need of the dealer was anticipated and fulfilled.

For those who were interested in the latest news and stock prices a Dow-Jones ticker was installed

A Dow-Jones news ticker kept pouring its never-ending stream of news flashes and stock reports into our booth through every day of the convention. Most of the time it was surrounded by interested groups. It was just another convenience for our guests.

Dealers Enjoy Comforts of Home
At headquarters in the Traymore Hotel everything possible was done to make the visiting dealer feel at home and at ease. New and rather unique inventions by RCA Radiotron engineers featured the display in the suite and each of them proved exceedingly popular and entertaining. The dealers were all in accord concerning the development that detected lies when a customer brought in an old, worn out tube for replacement, and the set that threw the tubes out of their sockets when a false note was struck and agreed they should be in every radio store in America.

Giving the visitors the information they wanted, without pills, made the RCA Radiotron debut a most successful and appreciated one. Dealers everywhere commented on the efficiency of the organization and the giant tube at the Traymore. The loudspeakers on the boardwalk, and the booth at the great convention hall will prove a decidedly pleasant remembrance for many dealers in the days to come.

These fast communication letters, which had a map of Atlantic City in colors on the reverse side, as was published in the June issue of "GOOD NEWS," were sent out by the thousand.
If I tell you that the automobile that I make is good, and you buy one, and you find out that it isn’t good, you’ll never buy another one.

If I tell you that my apple pies are good, and you try them and find out that they are not good, somebody else will sell you apple pie.

If I advertise and tell you that my service is good, and you find out it isn’t good, I will soon cease to exist.

If we are to live, we must fulfill our promises. Every advertisement, every sales talk, every expression, is a promise.

This does not disturb me, because anybody who is anybody knows that if anybody’s business piles up, he must be fulfilling his promises.

Also, you will find the successful people are never afraid to face the facts; so let you and I face a few.

Up to and including the time of this writing we have called on nearly 2,000 dealers, studying the way radio tubes are sold and what can be done to present the possibilities of the tube renewal market.

So far, our earnest and sincere young seekers of the facts have found 625 dealers, selling radio tubes, of which only 272 have shown any evidence of any advertising supplied by the manufacturers of tubes, in other words to any given millions of customers 353 of these retailers register their stores as anything but a place to buy tubes.

The first—very first—idea in any selling plan is to tell people that you have something to sell.

During the time of the calls, only 131 of the 625 dealers showed any indication of tubes in the windows of their stores, and only 21 of these 625 had any prices on radio tubes.

Dealers are just beginning to realize that tube renewals can be money; that they are reminder purchases.

To an old experienced merchandiser that word “reminder” means a lot. It means that we cannot expect a customer or prospective customer to remember during the middle of the day that he will need tubes.

Amos ‘n’ Andy that night.

Smart salesmen know that there is not that much foresight in all the customers. A good merchant must remind his customers every day because he never knows when a good tube will end its useful life.

We need good merchandising sense—and good salesmanship. One man said to me, “I have never looked at Radiotrons that way.”

It’s just a platonic friendship.

IN RCA Radiotrons we have the best radio tube that the best brains and the best hands can make.

Experienced, money making merchandisers stop and pause when dealers fail to recognize the line to push.

The first law of merchandising in existence since Eve sold Adam the crabapple, is to let people know what you have to sell and—as the scarab said to the ant, “It’s not what you have, but the way you use it.”
They Always Come Back to RCA Radiotrons
By MILT GROSS

SEE FIDO, ALL SCREEN GRID TUBES SELL FOR $4.00 LIST. JINGO TUBES COST ME LESS, HA HA! IS THAT A WAY TO CLEAN UP? WATCH!!

JINGO TUBES
$4.00
$3.00

CUT PRICES MEAN BIGGER SALES FOR ME.

JINGO TUBES
$4.00
$3.00
$2.00
SIX BITS
2 FOR 12
TAKE 'EM

NO TANKS
RCA RADIOTRONS

A CLUTTERIN' UP TH' STREET WITH RUBBISH!! AND YE AIN'T GOT THE PRICE OF A FINE.

WELL, DID HE MAKE BIGGER SALES WITH CUT PRICES?

BANANA OIL!!

RCA RADIOTRONS
The Iron Horse Adopts Radio

The Modern Luxurious Pullman Finds Radio an Additional Comfort to Passengers

By H. M. Sims
Executive Assistant, Great Northern Railway

"Radio on trains? Bunk! It isn't practical and the passengers don't want it!"

It wasn't long ago that a good many railway officials held that opinion.

But today, to quote J. C. Rankine, who had general supervision of the selection and installation of the radio equipment on the Empire Builder, and is assistant to the operating vice president of the Great Northern Railway, "a crack train isn't such if it hasn't radio equipment!"

As A. J. Dickinson, passenger traffic manager of the Great Northern, puts it: "After trying out radio equipment for a year on our deluxe transcontinental train, the Empire Builder, we are now equipping the fine Oriental Limited with radio sets. That shows how successful we have found radio in our passenger service."

A New Advertising Medium

The Great Northern, which operates from Chicago to the north Pacific Coast cities of Seattle and Portland, has made a particularly careful study of radio, not only for use on trains, but as an advertising medium.

It was the first American railroad to go into national radio advertising, and it is still the only American (United States) railroad sponsoring a program on the national networks. Its weekly programs over the National Broadcasting Company's coast to coast
network have been running for two
winter seasons now, and its "Empire
Builders" has become one of the best
known dramatic features on the air.
"When we inaugurated our new
fleet of Empire Builder trains from
Chicago to the North Pacific Coast a
year ago this summer," said Mr.
Dickinson, "we determined it must
offer the traveler every possible con-
venience and pleasure. Accordingly we
installed a combination radio and
phonograph set in every observation
car.

\textbf{Convinced the Skeptics}

"At first there were quite a few who
were skeptical concerning the value of
radio equipment. 'Our travelers who
go into the observation cars to lounge
or read want quiet,' these men argued.
'They won't like a radio going all the
time.'

\begin{center}
\textbf{Special Music Cars Built}
\end{center}

"We are so well satisfied as to the
desirability of equipping our trans-
continental trains with radio that we
have decided to install sets in the observation
car of the Oriental Limited as well, even
at the expense of re-
modeling the cars to
provide a music room.

"As there are seven
trains in the Empire
Builder fleet and eight
in the Oriental Limi-
ted fleet, this will give
us radios on fifteen trains operating
between Chicago and the North Pacific
Coast."

There are many difficulties in satis-
factory radio reception to be overcome
on a moving train which the ordinary
householder never encounters.

However, from a technical stand-
point, our results have been fully as
satisfactory as we expected. A radio
set installed in a train is situated above a
large mass of heavy metal, which helps
make up for the imperfect grounding
offered by the rails. We use a wire
antenna looped about the car roof,
giving approximately 120 feet of anten-
a.

It is surprising how much difference
in reception is caused by geographical
features of the country. If a train
merely runs through a cut
with the sides on a level
with the top of the cars,
there will be a noticeable
diminution in volume.

A high bluff will shut
down volume immediately,
and mountains likewise
disturb reception.

There are some stretches
in Montana and in the
mountains where it is diffi-
cult to bring in any station
satisfactorily, and for these
spots we have the phono-
graph combination, which
permits high class record
music when it is wanted.

Radio has pleased our
passengers. We are con-
vinced radio should be an important
part of the equipment of any deluxe
train. The passengers want it.
Even the Humble Bulb is Made With Craftsman’s Skill

Specially constructed freight cars swiftly transport the silicon sand.

The entrance to the inferno wherein the many batches of raw material are fed.

Simultaneously four arms swiftly extract the molten glass from the furnace.

Each mold rebaked for twenty minutes after being refined to insure perfection.

Every bulb is checked and does specially light.
ill—Another Assurance of RCA Radiotron Quality

This hungry furnace consumes 2700 gallons of oil daily.

Special electrically controlled dampers automatically take care of the furnace.

The rough edges are taken off, and the finishing touches put on by the burnoff machine.

The bulb molds have to be scraped, tested, and recoated every eight hours.

It takes more than expert handling to take care of, and pack this endless stream of bulbs.
Haunting Strains THAT Halt the Nation

Each Evening the Theme Song of the Amos and Andy Broadcast is the Signal to Hold Everything

By J. J. Wilson
Sales Promotion Dept., RCA Radiotron Co., Inc.

—and thus each week-day evening the nation is warned to pause in its deliberations and cease in its activities. When these few notes are heard from a National Broadcasting Company hook-up, dinner tables are deserted, theaters interrupt their programs, and millions of people lean toward their loudspeakers. It is the time for Amos 'n' Andy, peers of all blackface comedians.

How many sit each night and rave about the droll humor of Amos 'n' Andy, but how few—even the most devout followers of the Amos and Andy broadcasts—are conscious that the certain selection that opens and closes the presentation every evening is as popular as the noted performers themselves?

Now here is something for Pepsodent hour fans to attempt. We are willing to stake considerable on the fact that not more than one-fourth of one per cent of all the radio listeners in the country can answer these questions: "What is the name of the selection which introduces and terminates the Pepsodent program every night?" "Who wrote it and by whom is it played?"

Well, let us ease your troubled brain by telling you that the name of the composition is "The Perfect Song" and was written by Joseph Carl Briel.

were considered before "The Perfect Song" was finally chosen.

Played originally as part of the musical score accompanying the motion picture, "The Birth of a Nation," it was further popularized by the Amos and Andy program and published last year as "The Musical Theme of the Pepsodent Hour featuring Amos and Andy." It was recorded, too, Victor records sharing in increasing its widespread acceptance.

Beauty and melody blend in "The Perfect Song" yet there is more than that to it. Somehow it is a tune difficult to catch hold of. The air seems hard to memorize. How many have listened to it twice nightly for the past 285 days or so, but how few are able to whistle or hum it. It seems to evade the common appeal of current music. Its strange something, its elusiveness, makes it entirely different from the popular selections of the hour. That is one of the reasons why it was chosen.

The Trio That Plays It

As presented by the National Broadcasting Company the signature of the Amos and Andy program is played by

Franz Pflau,
the pianist of the Pepsodent trio

Joseph Gallicchio who is the violinist and Director of the trio

Johan Lingemann plays the cello for the famous trio
the Pepsodent Trio and much of the credit for the astonishing success of the number must go to Mr. Joseph Gallicchio, under whose deft hand the music was arranged for broadcast presentation.

Joseph Gallicchio, who conducts the trio and performs on the violin, is aided by Johan Lingemann, cellist, and Franz Pfau, pianist. All three of these men are noted and talented musicians.

At present Mr. Gallicchio, besides leading the Pepsodent trio, is the WMAQ (Chicago Daily News Station) orchestra director. His violin, made over two hundred years ago by the renowned Joseph Gagliano, is noted for its marvelous tone quality.

Johan Lingemann, cellist with the Pepsodent trio, was born in Amsterdam, Holland and studied music, under the famous Gerard Hekking. His first attempts were with the flute but love for the cello made him alter his original intentions. He has appeared as soloist with many concert and symphony orchestras and has been a member of Emil Saurett’s string quartet in London and of the Chicago String Quartet.

Franz Pfau, the third member of the trio, was born in Vienna and studied the violin.

Later, however, he switched his efforts to the piano and is widely recognized as an outstanding and gifted musician. He has concertized Europe and has given numerous successful recitals in both Chicago and New York.

And now we know more about something that has been coming to us each day, heard and admired, yet almost unheeded. What would Amos and Andy be if the music were omitted? What an eruption of protest, wonderment and objection there would be if for one evening the famous “theme song” was left from the broadcast? It is the key that opens and closes a treasure box of drollery.

Yet it is but one of the many theme songs which herald the coming of entertainment programs to which all America listen. In every program, regardless of type, RCA Radiotrons play a vital part.

INTRODUCING to you Milt Gross . . . the man who hands you a laugh each month while giving some sage advice on the policy of long discounts and blue sky promises.

Milt’s cartoons, “They Always Come Back to RCA Radiotrons,” have won warm words of praise from all readers of Good News. But, what he has done so far is only a sample of what he is going to do. Watch for his new series which will start in September. "Keep your eyes on your customer—not on your competitor." You’re going to like ‘em.

S-s-h! Listen to This

But here is the real dirt. We found out that Milt once lived in Harrison, now the home of the RCA Radiotron Company. At once we asked Milt for more information . . . here is what he gave us—

"I don’t know just how or why I was born. I’ll let the guy who writes my obituary worry about that. I went to Kearny High School for a brief spell and can’t spell yet. I flew from Harrison to New York in 1916, completing the trip in 15 hours flat, a record for that time.

"There I originated the comic strip ‘And then the fun began.’ In 1917 I asked for a raise and then the fun began. The next day war was declared. We sailed into Brest, France, with a gentle breeze approaching hurricane viscosity. I found the Mayor of Brest wearing my Sunday suit which my Mother donated to the Red Cross the year before.

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"There I originated the comic strip ‘And then the fun began.’ In 1917 I asked for a raise and then the fun began. The next day war was declared. We sailed into Brest, France, with a gentle breeze approaching hurricane viscosity. I found the Mayor of Brest wearing my Sunday suit which my Mother donated to the Red Cross the year before.

Later, however, he switched his efforts to the piano and is widely recognized as an outstanding and gifted musician. He has concertized Europe and has given numerous successful recitals in both Chicago and New York.

And now we know more about something that has been coming to us each day, heard and admired, yet almost unheeded. What would Amos and Andy be if the music were omitted? What an eruption of protest, wonderment and objection there would be if for one evening the famous “theme song” was left from the broadcast? It is the key that opens and closes a treasure box of drollery.

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AND now the motion pictures will carry the message of RCA Radiotron quality. A new sound movie, "The Earth's Four Corners," is ready for release. Hundreds of thousands of people the nation over will be presented with an interesting and unforgettable picture of what goes into their radio tubes and from what distant points that material comes.

Beautiful scenes of foreign localities will provide an insight into the immensity of the exacting task of manufacturing RCA Radiotrons, while John S. Young, popular National Broadcasting Company and RCA Radiotron hour announcer, will lend added impetus to this entertaining and educational production by accompanying the scenes with a vivid and interesting explanation of the film. Much labor was put into its production and its message is as complete as it is entertaining.

In hundreds of theaters throughout the nation this picture will be seen and enjoyed by the millions of interested and enthusiastic persons who look to radio as their leading source of entertainment. It is not a series of mechanical diagrams and technical illustrations, but a living, understandable tour of the industrial world from which come the raw materials for RCA Radiotrons.

"The Earth's Four Corners" is a tremendous and extraordinary thing and presents retailers with a sensational means of tying in some truly effective advertising. Find out from your local theater manager just when this production will be featured on his bill and play up its presentation in your local newspapers and in your store. If by any chance your theater manager has missed this golden opportunity, describe its possibilities to him and have him write to Sales Promotion Dept., RCA Radiotron Company, Inc., Harrison, N. J. We will be glad to furnish him, or you, with details of "The Earth's Four Corners."
Mathew L. Bergin

Of genial personality and one to whom everyone takes an instant liking is Mathew L. Bergin. Matt's experience in radio dates way back to the old Marconi days when he was a wireless operator on transatlantic liners.

During the war he was made Communication Officer attached to the U.S.S. Louisville.

After the war, he was appointed Director of the Radio Institute of America. Then, in 1922, we find him busy organizing the RCA Distribution and Sales Department in San Francisco. Later he helped to establish the Chicago Office.

Matt has been in the RCA Radiotron business since its inception and now has one of the most important positions in the Home Office Sales Organization. His wide knowledge of radio, combined with his keen appreciation of good merchandising methods, will be added to the fountains of knowledge and effort bursting forth from Harrison to aid jobbers and dealers to make more money from RCA Radiotrons.

F. H. Troup

F. H. Troup is a typical American, born and raised on a farm in Upper Sandusky, Ohio.

Upon his graduation from Heidelberg College, Ohio, in 1915, of course, being an Ohioan he just could not stay out of the rubber puddle. After bouncing along merrily with the Miller Rubber Co., later to Firestone Tire and Rubber Company, he tossed aside his pen and reached for a sword. In 1917 he enlisted with the 112th Engineers 37th and went to France. In 1921 we find him firmly entrenched with the National Lamp Works at Nela Park in charge of the Balance Sheet, where he remained until 1930. His reputation in accounting work reached the ears of the RCA Radiotron Company whereupon he was invited to climb upon the band wagon and take over the responsibilities of Assistant Secretary and Treasurer.

Charles McClair

Our ever alert Patent Attorney, Charles McClair, is a graduate of the far famed University of Kansas.

He was selected to the important post of Examiner of Patent Applications at the greatest patent office in the world, namely, the United States Patent Office at Washington, which position he held for five years. All his important duties were not enough to keep him thoroughly occupied so he attended the George Washington University for three years, where he graduated from the Law Course after specializing in Patent Law and Practice. His next important step led him to the Patent Department of the General Electric Company at Schenectady, where he concentrated on the inventions made in the Research Laboratory on incandescent lamps. He came to Harrison ten years ago as Patent Attorney for the Edison Lamp Works, where he recently distinguished himself legally in a test suit on the fundamental tube patents.

His long experience in matters of this nature fits him ideally for the key post he now holds.

J. L. Bartlett

Out of the wide open spaces (Partridge, Kansas, in fact) comes J. L. Bartlett for Head of Equipment Activities Dept.

A graduate Engineer of Pratt Institute in 1912. A genial husky chap who made quite a reputation in school athletics.

Mr. Bartlett joined the Edison Lamp Works' manufacturing organization in 1912. The list of important jobs he has held would fill the page. Here are a few highlights of his career: in 1920, Superintendent, Belleville Lamp Factory; later, 1924 we find him in a similar capacity at Harrison Lamp Factory. Then Assistant Manager of Harrison Vacuum Tube Works. His energies are now devoted to seeing that RCA Radiotron factories have the last word in machinery equipment.

C. P. Boggs

The Home Office Manufacturing Department is mighty lucky to have as its Cost Engineer

C. P. Boggs

In 1919 he went to work, a graduate technical engineer from Purdue University, for the National Lamp Works at Nela Park, Cleveland. He came to the National with a good background of public utility training and an excellent two-year army record.

During the past eleven years his determined application has yielded thorough experience in nearly every phase of the lamp and tube business.
Not So Long Ago

"Dog gone"

"Guess Who I've Got"

High Frequency

The "Shaker" Set

A Waste of Time?

The Original Push-Pull

"Don't Let It Go to Your Head!"

What's Behind the Mike?

Just Another Fish Story
Evolution of the "Mike"

From a Very Crude Affair the "Mike" Has Become, in a Short Time, a Highly Developed Instrument

By C. W. Horn
National Broadcasting Company

The story of the evolution of the microphone is one of steadily increasing power and sensitivity. The first microphone was an ordinary telephone variety. It was totally unlike the present day microphone and had little of the sensitivity and high frequency range for which today’s instrument is noted.

It had a resonance period at 1,000 cycles and had very poor response to both low and high audio frequencies as compared to the latest model which has a flat response curve from 30 to 7,000 cycles.

First Used by the U. S. Navy
That microphone was first used in 1915 in a radio telephone transmission test from Arlington, West Virginia by the U. S. Navy.

This telephone microphone formed the basis for most of the early day experiments in broadcasting. It was not replaced by the zealous pioneers of radio until about or just before 1920.

Answering the Need for Quality
Rather intensive work was started immediately after broadcasting came into being in 1920. Until then microphones were primarily for speech and were not required to reproduce the musical scale.

Simultaneous development work was carried on by those organizations interested in the development of radio, notably the General Electric, the Westinghouse Electric and Manufacturing and the Westinghouse Electric Companies.

Some of the first microphones were rather unique in design. Some used paper diaphragms to overcome the disturbing resonance. Then thin metal diaphragms, under tension, were used, so as to raise the resonance period above the usual audio frequencies used.

Carbon Grains Improved
Improvements were made in the carbon, both as to shape and hardness, as well as the cups holding the grains.

As the diaphragm was accused of being the part that caused distortion, one of the manufacturers conceived the idea of the microphone which did away with this seemingly important and necessary part. This device, conceived by the Westinghouse Company, was called a "Glow microphone." Then came in rapid succession the types illustrated below.

Ahead of the Radio Set
Just what may be the next step in microphones is a question NBC engineers are unable to answer. At the present moment, these experts say, the microphone, as regards quality, is ahead of other broadcast equipment. In other words the microphone has quality characteristics superior to the ability of the average radio receiving set.

All of which makes it of utmost importance that not only the finest receiver should be used but also tubes of the best quality in order to insure reception that will do justice to modern transmission. After all it’s what you get that counts. The best microphone in the world is of no avail if inferior receiving equipment is used.
EVERYONE is outdoors these days, so now is the time when your windows are most important. This is the period when your show windows should be your most valuable salesman. Here are some sales-stimulating ideas which will make any window alive and attractive.

Now that hot days are here everyone is wishing that they could loaf comfortably. Bring their wishes to an actuality by making your window a perfect replica of their fondest dreams. Now for the aforesaid haven. For the background, blue skies are always appropriate. Then add a few paper roses (so easily made of crepe paper). Then we have a fitting background: Some wicker porch furniture can be borrowed from a nearby furniture store. This will give you a chance for reciprocation later on. Put a small radio on the wicker table. Next to the radio place a tall glass of amber liquid (of course complete with two straws).

But wait—the final touch is yet to come—!

From the top of the window hang long green fringes of crepe paper. Then have an electric fan play upon this to effect an impression of a “cool breeze!” Talking signs complete the display.

GOSH! What I could do to a drink! This is one of the most frequently heard sentences during the summe spell. You are probably wondering how a window can be tied-in

with this. Well just peruse the following suggestion. Stone grey paper will make a nice cool background. Then, in the center of the window place a giant RCA Radiotron carton. From the front center of this have a spigot protruding, thus giving the impression that there is something on tap!

Streamers of amber crepe paper should be suspended from the tap to give the impression that the amber stream is over-flowing. To lend added effectiveness to this display—bunch some cotton wool on the top of the carton thus suggesting that the carton is brimming with good stuff!

The show cards tell the rest of the story. They read “On Tap! The Finest Performance with RCA Radiotrons!” and “Get Your Full Measure of Enjoyment with RCA Radiotrons!”

Six Reasons Why They Should Buy

THERE are any number of reasons why people should buy RCA Radiotrons. We have picked six at

Emphasize the reasons why customers should buy RCA Radiotrons

Make them stop, look and get the story of RCA Radiotron quality

An attractive summer window
random, and put them in the form of a window display.

The window in the finished form will have a radio set in the center, with a symbol of a heart (telling the story of "The Heart of Your Set"). From this have six streamers going out to six show cards that are placed in the front of the window. These cards will stress the points that you wish to bring out.

For the background use black, red, and white crepe paper.

**Tie-in with Station Directories**

RED! Stop! A terse command that automatically halts the passer-by! A traffic halter! And this is just what you want for the center of your window. This display may be made to tie-in with the new Broadcast Station Directories. This may be done by attaching paper streamers to the center traffic sign. These same streamers are then fastened at the other end to individual log books which can be pasted on the inside of your show window. The show cards tell the passerby to: "Step in for a Free Broadcast Directory!" and "No Detours to Happiness with RCA Radiotrons!" Order your directories now!

**Perfect Hits with RCA Radiotrons**

HERE'S something different! The main idea of this window is to have for the center a big red, black, and white bull's-eye with two arrows sticking in the center and "RCA Radiotrons" printed on the arrow's tail. These show cards tell the slogans "Best Hits and Scores with RCA Radiotrons!" and "Bull's-eye! the Target of Enjoyment with RCA Radiotrons."

The good obtained from this window by far outweighs the cost of construction. For your target, cut out three different circles of red, black, and white cardboard respectively. For the center use an RCA insignia. Then cut out your two cardboard arrows and paste them on the target.

**Feature the International Yacht Races**

JULY! This is the month which features the greatest classic of the water, the Lipton Cup Races, the yacht race of the year! You can tie-in your window with this great event with a minimum amount of time and effort.

The background should be of blue crepe. Then a foot in front of the background place a piece of beaver board the top of which should be cut so as to resemble rolling waves. Behind this screen place two model sailboats so that they appear to be riding the waves. One should bear the American flag and the other the British flag. An electric fan may then be turned on from the floor so that the current of air strikes the sails of the boats. This gives the onlooker the impression of a stiff breeze at sea.

On either side of the display material place show cards. These convey messages which tie-in with the spirit of the display. On one, letter, "Always First with RCA Radiotrons" and on the other inscribe, "Waves of Enjoyment with RCA Radiotrons." This window is not only unique but unusually clever.
Service Slants—
THAT Build Sales

A Reliable and Cheap Testing Panel for the Service Department

By E. C. Hughes, Jr.
RCA Radiotron Company, Inc.

A Testing panel which will help to quickly locate and diagnose faults in radio receivers is the dream of every service man. One which has the above qualifications and in addition is reasonably cheap is the dream of every radio store owner and manager. A panel which fills this need is used by the Aeolian Company, of New York City, in its service department.

The panel was built in the shop of the Aeolian Company by its service men to satisfy their needs as experienced from the servicing of a great many radio sets. It was built from materials which are readily available and, for the results obtainable, reasonable in cost. It is sufficiently flexible for the usual testing encountered in radio repair jobs. Due to the convenience of such a testing panel the time of testing is reduced to a minimum, thus speeding up the passage of sets through the repair department.

A close-up of the testing panel is shown above. The nucleus of this equipment is a Weston No. 537 set tester mounted in the center of the panel as shown.

The lead for the adapter plug is brought through the front of the panel so that it may be conveniently plugged into the sockets of the set under test. A UY base is mounted just above the set tester and it is connected in parallel with the UX socket on the tester. Into this socket are plugged the tubes having the UY base for testing. The set tester is operated in the usual manner so no details need be given here.

Voltage Test

Mounted in the upper left hand corner is an 0-50, 0-250 voltmeter which can be connected through an additional external resistance giving an 0-750 volt scale reading. The circuit arrangement is shown in the schematic diagram. The 50,000-ohm resistance and the 200,000-ohm resistance are internally connected to the meter, while the 500,000-ohm resistance is externally connected. The arm selector switch provides a convenient method of selecting the desired scale. Test leads to the meter are plugged into the jacks on either side of the selector switch.

Resistance Test

Mounted in the upper right hand corner is a 0-25 milliammeter.
With the external shunt of the value shown, 0-250 milliamperes can be read. This meter is to be used for resistance measurements exclusively as the dry cells are permanently connected. In making a resistance measurement, leads from the resistance to be measured are plugged into the jacks, and the milliammeter is read. It is not necessary to read the voltage of the dry cells at the time of each measurement as they hold constant voltage for a considerable length of time. However, it is a good plan to note the voltage of the batteries from time to time so that they can be replaced as soon as their voltage begins to fall off appreciably. Thus with the values of shunts shown and a meter of approximately one ohm resistance, the value of the unknown resistance will be given by the following equation:

\[ R_u = \frac{1000 E}{I_{ma}} - R_i \]

where \( R_u \) is resistance to be measured in ohms.

\( E \) is the potential of the batteries in volts.

\( I_{ma} \) is the milliamperes read.

\( R_i \) is the fixed resistance in the milliammeter circuit.

With the switch open \( R_i \) will be 60 ohms. With the switch closed \( R_i \) will then be 6 ohms.

**Condenser Test**

At the top of the panel in the center is mounted a small neon lamp used in testing low capacity condensers. To obviate the difficulty experienced in making accurate tests on low capacity condensers (below 0.1 mfd.) without elaborate equipment, this system was devised. By connecting the neon lamp in series with the condenser and an alternating-current supply a glow will be obtained. If by shorting the condenser an increase in intensity of the glow is observed the condenser is all right. If there is no increase in the intensity upon shorting the condenser, it is shorted. An open lead in the condenser will be indicated by no glow at all. In making this test with direct current only one terminal in the neon bulb will flash as the condenser is charged. Either alternating or direct current for the test is obtained by changing the selector switch below the lamp.

**Continuity Test**

Continuity tests are made using either the lamp or the voltmeter from the jacks on either side of the "on" and "off" switch at the bottom of the panel. The supply to these jacks can be made either alternating or direct current by means of the selector switch mentioned above.

**"A," "B" and "C" Supply**

Just below the set tester are three sets of jacks supplying direct current at the voltages commonly used. These jacks provide ready sources of "A," "B" and "C" supply for a set under test. In the lower right-hand corner are two convenience outlets supplying 115 volts alternating current and at the right are two more supplying 115 volts direct current.

**Layout of Table**

Antenna and ground connections are made to the small battery clips mounted on the right front leg of the table.

A view of the complete testing table is shown. Everything has been arranged for maximum convenience and accessibility. A complete set of RCA Radiotrons is kept in the compartment on the left for use in operation tests on receivers. The large numbered stickers affixed to each tube facilitate quick identification of the different types. At the right is mounted a loudspeaker which can be hooked up to a set on the table for an operation or tone test. The lower shelves on the right provide a handy place to keep parts and tools. Notice the complete set of socket wrenches and screw drivers in their rack at the right. Pliers, soldering iron, and the like are kept within easy reach of the repairman at the front of the table.

This testing panel has been used by the Aeolian Company with great success. It has speeded work. Changes can be made to suit individual needs.
Make It Inviting

Lavish displays of RCA Radiotrons are the feature of window of the Spad Store, located at Summerville, N. J.

Proper display of merchandise is the secret of Warner Brothers continued success in San Francisco and Oakland, Calif.

This window is typical of the sales compelling windows successfully used by the Swords Electric Co. of Rockford, Ill.

Dignity and simplicity are the keynote of this RCA Radiotron display of Hansch Radio Inc., Weehawken, N. J.

This display of F. D. Pitt Co., Boston, Mass., tells the story of RCA Radiotron quality.
A New Portfolio of Sales Letters

Picture this—12 interesting, sales producing letters—just the kind you would write to your customers. Letters that build good will, sell your organization and help you to increase your profits from the tube renewal market—letters with a real sales appeal.

Schedule one of these letters to go to your customers every two weeks. Then you'll be bound to get your message across to them at the time they'll need new tubes. And when they do, why they're going to get them from you!

You can get this series of letters by writing to the RCA Radiotron Company, Inc., Harrison, N. J. or to our nearest district office. Or, ask your jobber's salesman! No charge.

RCA Radiotron Co., Inc.  HARRISON, N. J.
"The Best Insurance Against Tube Troubles ... RCA Radiotrons"

says

JOHN S. GORMAN
Vice-President and General Manager
GULBRANSEN COMPANY

"We strongly recommend that every Gulbransen Radio owner use RCA Radiotrons. Our engineers use RCA Radiotrons in laboratory work and for testing, as they are of uniformly high quality and give the best results. We find that RCA Radiotrons not only safeguard sensitivity and selectivity and insure Gulbransen realism, but act as the best insurance against vacuum tube troubles. It's good common sense to demand RCA Radiotron quality for both first equipment and replacement."

RADIO ENGINEERS ADVISE:
Replace all the vacuum tubes in your radio set with RCA Radiotrons at least once a year. This is the only sure way to maintain good performance and minimize disagreeable noises and other troubles caused by inferior tubes. RCA Radiotrons will give you the maximum in selectivity, sensitivity and tone quality.

Old tubes may impair the performance of the new

RCA RADIOTRON CO., INC., HARRISON, N. J.