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TELEVISION
ELECTRONICS

Service Management

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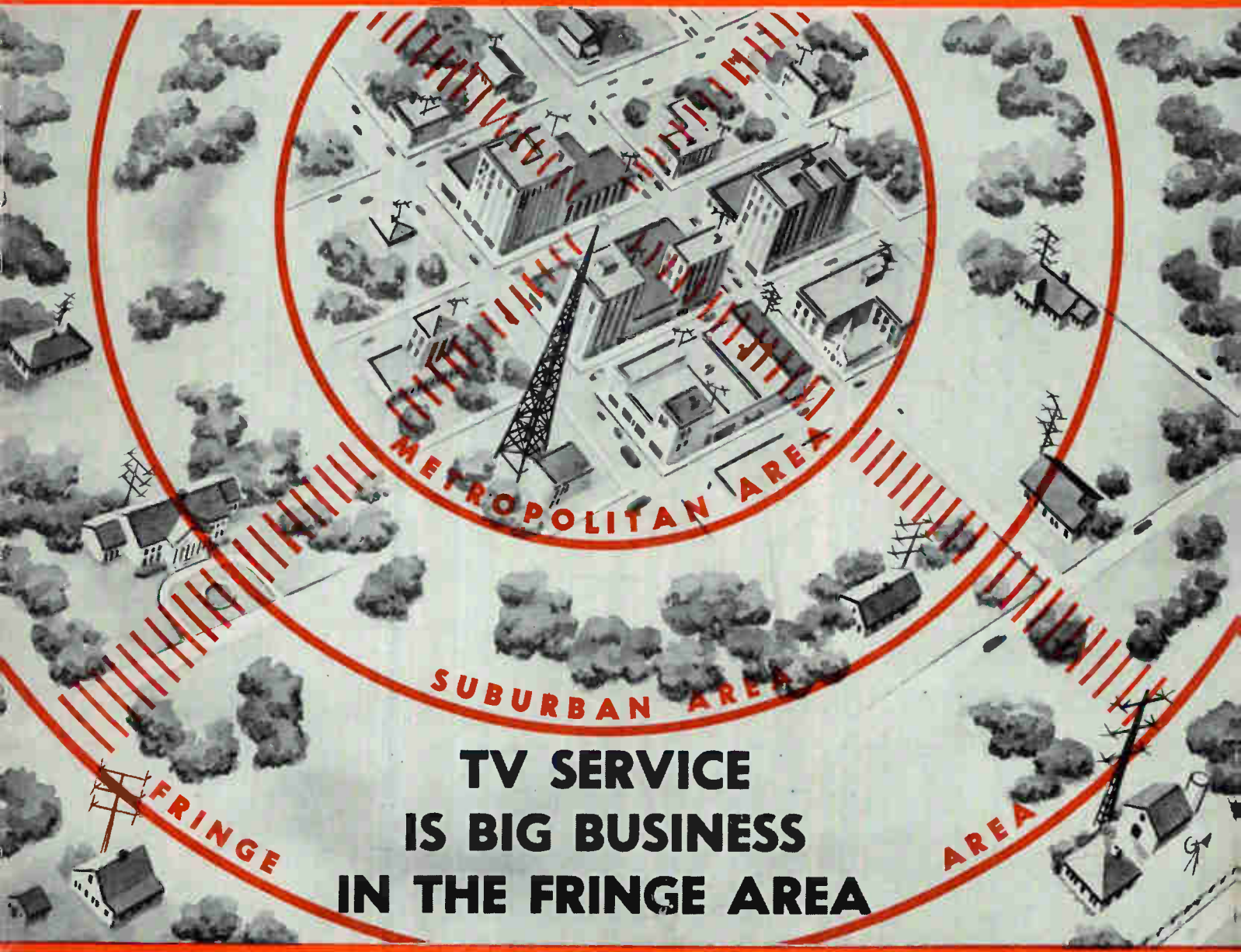

TV SERVICE IS BIG BUSINESS IN THE FRINGE AREA

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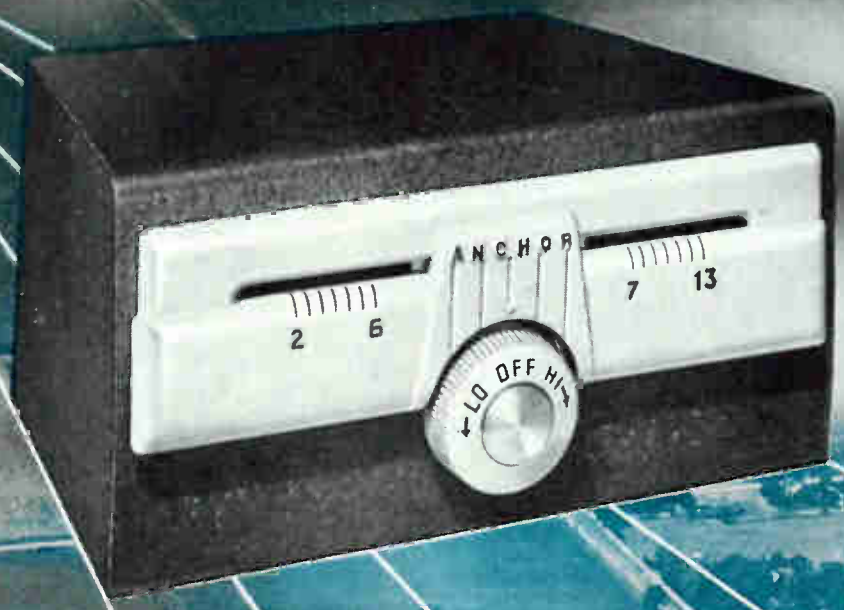

Ask your Distributor about Anchor's
Easel Presentation on successful fringe installations

ANCHOR RADIO CORP. 2215 South St. Louis Avenue, Chicago 23, Illinois

ANCHOR ENGINEERING ALWAYS A YEAR AHEAD

LOUIS B. CALAMARAS, executive vice president of NEDA, named member of a special Wholesale Trade Advisory Committee. . . . Allen B. DuMont Laboratories, Inc., has appointed **FRITZ P. RICE** manager of their Cathode Ray Tube Division. . . . A new regional office of the **RCA VICTOR DIVISION** was opened in Boston to cover the New England States and Eastern New York State. . . . **GORDEN C. LEROY** and **ELLINGER SALES CO.** have been appointed sales representatives for the David Bogen Co., Inc. The former will cover all of New York State except the NYC metropolitan area. The latter will cover the northern part of Illinois. . . . LaPointe Plascomold Corporation named **THOMAS LAMONT** assistant publicity director. . . . **ALBERT D. LEBAN,** Philadelphia manufacturers' representatives, have been appointed RMS sales agents in the Eastern Pennsylvania, Southern New Jersey, Maryland, and Washington, D. C. territory. . . . **JOSEPH MARESCA** has been appointed assistant to Bernard L. Cahn, general sales manager of the Insuline Corporation of America. . . . **L. D. SHIPLETT** has been named service manager of the Bendix Radio and Television Division. . . . Sprague Products Co. has added **R. W. "BILL" WOODBURY** to its organization. . . . **HUGH SUNDBERG,** vice president and general manager of Oxford Electric Corporation, took over the direction of the company's sales policies in addition to his other executive duties. . . . **BRUCE E. VINKMULDER** appointed distributor sales manager of the Sangamo Electric Company's capacitor division. . . . Aerovox Corporation has formed a new advertising department under the direction of **WILLIAM B. TANNER. . . .** Brach Manufacturing Corp. has appointed **WILLIAM J. SLAWSON** as distributor sales manager. . . . **FREDERICK L. TIEDEMAN** promoted to service manager of the New York Factory Distributorship of Allen B. DuMont Laboratories, Inc. . . . **WILLIAM J. DOYLE** named vice president in charge of sales of Astatic Corp. . . . Ward Products Company appointed the **GORDEN MARSHALL CO.** as their Southern California sales representatives. They also added the **KEN RANDALL COMPANY** to cover Pennsylvania, Washington, D. C., Delaware and Maryland. . . . Permoflux Corp. has named the **L. F. WAELTERMAN COMPANY** as their representatives for the Missouri Valley Territory. . . .

Du Mont Urges FCC To Lift Station Limit

The Du Mont Television Network recently filed a petition with the Federal Communications Commission urging that it amend its multiple ownership rule to provide a total of eight television stations, no more than five of which may be Very High Frequency stations in common ownership. Du Mont opposed the unlimited concentration of ownership of Ultra High Frequency stations, proposed in an earlier petition by NBC, as tending toward monopoly and undue control "dangerous to freedom of communications."

The present rule sets five stations as the limit for single ownership.

The Du Mont petition conceded that a higher limit than five stations is necessary to spread the burden of telephone cable costs and to permit control of adequate organization facilities in the several regions of the country. Eight would be the minimum to accomplish this, and no more should be allowed for monopoly reasons, said Du Mont's Washington attorney, Colonel W. A. Roberts.

Metal Picture Tubes Setting Sales Pace

Metal-shell television picture tubes, introduced commercially less than four years ago, have already won such rapid acceptance among the industry's receiver manufacturers that they currently account for nearly 30 per cent of total kinescope sales, it was revealed recently by L. S. Thees, General Sales Manager of the RCA Tube Department. In the 21-inch size, he said, they are actually outselling comparable all-glass types by a wide margin.

The television industry's trend toward larger picture tubes of the metal-shell construction developed and introduced commercially by the Radio Corporation of America in 1948, Mr. Thees declared, shows that time and usage have confirmed the metal tube's special advantages to electron tube producers, TV receiver manufacturers, and home set owners.

According to available statistics, he pointed out, the industry's major tube producers during 1950 sold approximately eight million kinescopes of all types, of which approximately two million were of the metal variety. During the first nine months of 1951, the same producers sold more than three-and-a-half million kinescopes, of which more than a million were metal types.

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Features

Departments

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Editorial

"OUR OPINION"

WHEN station WTTV in Bloomington, Indiana, boosted its power and put its new, high-gain antenna in service on channel 10, its greatly expanded service coverage put the city of Indianapolis, 50 miles away, into its fringe area. The capital city had had its own channel 6 station, WFBM-TV, for several years but like most one-station areas, TV-enthusiasts longed for the day when they could have a choice of programs.

What happened in Indianapolis when WTTV programs became available to antenna-equipped receivers may presage what we can expect across the entire country as UHF stations go on the air. Indianapolis TV set owners who had been content with their indoor and built-in antennas became interested in out-door antennas because they wanted to receive WTTV programs. The interest was so widespread that Indianapolis newspaper columnists wrote at length on the relative advantages and disadvantages of "spending ten to fifteen dollars to buy the necessary parts to erect one's own antenna or spending about fifty dollars to have a professional installation made by a competent television antenna installer." It should be noted, in passing, that the recommendations were always very much in favor of having the job done by a professional installer.

Surprising as it may seem, the fringe area business available in many television areas has not been exploited to its fullest possibilities. Once in a while an enterprising dealer will experiment by offering a "package deal" (receiver and complete installation lumped together in one price) to discover that consumers in fringe areas want television and will buy sets when they are understandably presented.

Recently a dealer in Springfield, Missouri, ran a 15-inch newspaper ad offering a "1952 Motorola completely installed in your home for $259.89" which sold all of the sets he had on hand. The ad also increased his store traffic and resulted in the sale of a number of more expensive receivers.

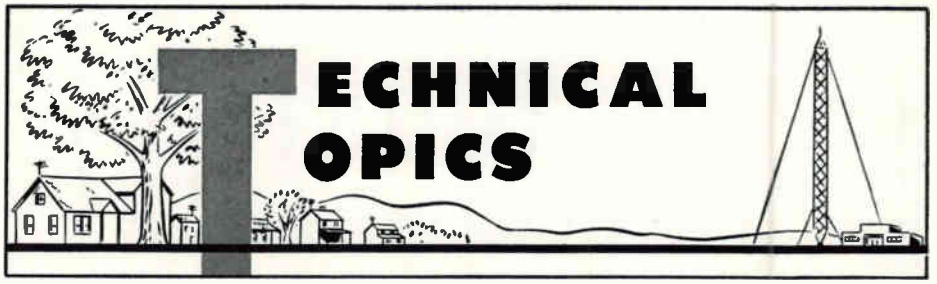
This dealer pointed out that there has been too much mis-information circulated about the cost of satisfactory installations in fringe areas. He stated that, "Customers in fringe areas, where television only now is beginning to be important, want to know exactly what the whole thing — set and installation — is going to cost. They've heard so many stories about how expensive it is to install a television set that they're pleasantly surprised at the price of a package deal."

A basic weakness that has marked practically all television merchandising has been the tendency to over-simplify this marvelous development of our time and to leave the impression with prospective buyers that they are going to get "something for nothing." Television does not need that kind of selling. It deserves the kind of sales thinking that realizes the American public is not so much "price conscious" as it is "quality and service conscious." This has been proven time and again in customer satisfaction with fringe area installations where the receiver is only a part of the "receiving system."

It has been noted that in the fringe areas where television sales have grown into a substantial business, independent installation and service contract companies have become important factors in the overall television sales picture. Television contractors frown on "overselling" because it results in useless service calls and user dissatisfaction. They work closely with their dealers' sales people to encourage the right kind of selling.

Where the installations of many dealers are handled by a single contractor he is able to effect economies in installations that are not possible with smaller organizations. He is able to maintain adequate stocks of replacement parts, tubes, masts, towers, antennas and antenna system accessories to avoid procurement delays and to keep his installation crews profitably occupied. Since the "standard installation package" includes the same equipment in every installation, economics in time are accomplished because of the experience of the installers in working with identically the same material on every installation.

Successful fringe area selling requires the sale of a "receiving system" — not just a television set. It is the kind of selling that UHF television will probably require even in its primary signal areas.



By EDWARD M. NOLL

Technical Problems of Fringe Area Reception

Fringe area installation work is difficult, at times, frustrating but nonetheless lucrative. There are many variables in fringe area results — variables that can even harm the reputation of the installer if the dealer, dealer sales group, *and customer* are not aware of the limitations and idiosyncrasies of fringe performance. Customer education is of primary concern in these districts — an education that can be interwoven tactfully with your local advertising. Make everyone aware of the specific problems in your locale.

A very thorough understanding of fringe performance characteristics by you and your technicians is of paramount importance. Certainly, a comprehensive knowledge of the subject is the effective way to combat so many variables. That understanding will permit you to derive the very best from each installation.

A review of the factors that influence fringe area results are:

Propagation

Signal strength level at a given fringe area site is a function of distance from station, terrain, intervening obstacles, and atmospheric conditions. Remember that fringe area results must be averaged over a period of time as signal levels change with atmospheric variations from day to night, day to day, and season to season. One of the better methods of knowing what can be expected at a given time is to have signal level information available for your installation crews.

To supply this information you can use a receiver and field strength meter set up permanently at the shop. Over a period of months take signal level measurements twice daily (morning and afternoon). File these records so you will have a record of signal levels in terms of bad, fair, good, and strong for each channel to be received. Consequently, at any time during the day an installation crew can call in and ask for a check on signal levels for that day. This can serve as an excellent guide as to what performance should be obtained for an installation just completed.

FRINGE OPERATION IMPROVEMENT CHART

1. **Signal Level Information**
2. **Customer Education and Guidance**
3. **District Performance Map**
4. **Fringe Installations in Areas with Limited Local Service**
5. **Inspection Drives**

Likewise relative signal levels for each channel should be known for various districts in the area — in most all fringe areas there are districts where all channels are weak and other sections where all signals are substantially stronger. In still other districts certain channels could be weak and others strong. We admired a map prepared by one fringe operator that showed relative signal levels for each channel as a function of city districts. Certainly, this can be a help in knowing what to expect for each installation and being able to show a customer what can be expected in relation to his home site.

So far as actual installation is concerned, we cannot overemphasize the technique of probing the location for peak signal locations. This is particularly important for high band channel reception as there are definite space loops and nodes. A light pole, simple, dipole, and field strength meter can be used to check prospective antenna mounting positions.

Antennas

Choice of antenna type is an important consideration and, at present, there is no universal antenna, within economical means, that can give peak performance in all fringe areas. Antenna choice is a function of channels to be received, signal levels, and direction of stations. In general, for near fringe

(*Continued on page* 25)

RARE GEMS BY TRABERT & HOEFFER, INC. — MAUBOUSSIN

BURTON BROWNE ADVERTISING

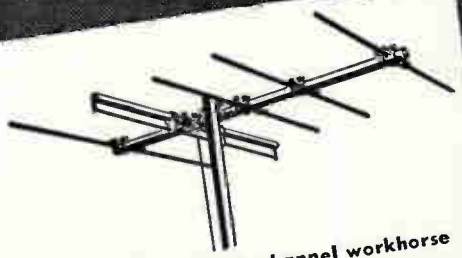
Better Fringe Area Reception

with the

EXTRA POWER

you get with

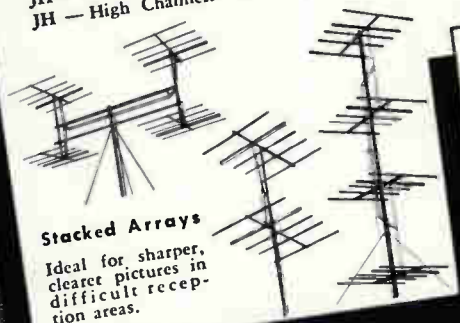
VEE-D-X



JC YAGI The single channel workhorse

Outperforms and outsells all others. The pioneer pre-assembled Yagi. Provides powerful signal at lowest cost with minimum installation time.

JC — Low Channels	$17.60 List
JC — High Channels	9.57 List
JH — Low Channels	2.30 List
JH — High Channels	1.45 List



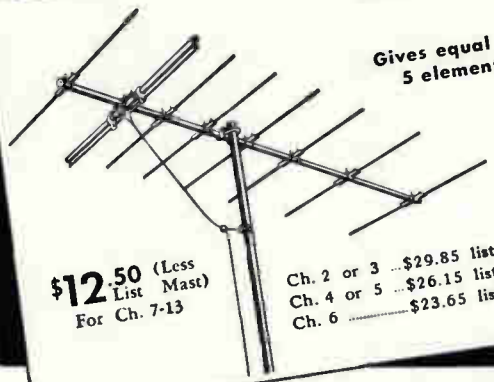
Stacked Arrays

Ideal for sharper, clearer pictures in difficult reception areas.

NEW LONG JOHN

8 Element Yagi

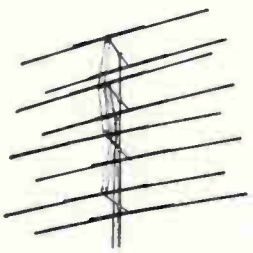
Gives equal gain to a double-stacked 5 element Yagi Array at lower cost.



$12.50 (Less Mast) List
For Ch. 7-13

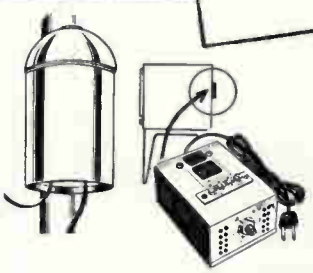
Ch. 2 or 3	$29.85 list
Ch. 4 or 5	$26.15 list
Ch. 6	$23.65 list

A new 8 element Yagi that provides 41% more gain than the best 5 element Yagi, or equal gain to a double-stacked 5 element Yagi array — yet is lower in cost, is easier to install, and provides better rooftop appearance. Famous VEE-D-X pre-assembled construction. The ideal antenna for fringe area operation.



THE SUPER

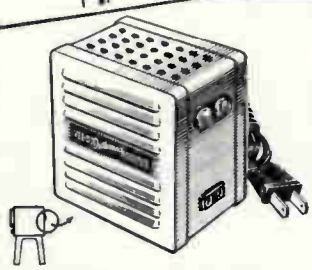
Highest gain and most powerful all-channel television antenna ever manufactured. A four-bay, full wave, 32 element stacked array of extra heavy construction. Sharp beam angle minimizes ghosts, noise, and co-channel interference. $129.50 List



ROCKET BOOSTER

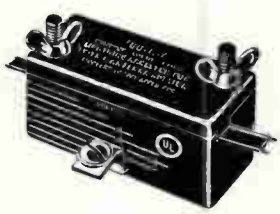
(Patent Pending)

Powerful new single channel mast-mounted booster. Amplifies signal at antenna height where most favorable signal-to-noise ratio exists. $34.95 List



OUTBOARD BOOSTER

Out of sight . . . out of the way . . . this single channel booster delivers 18 db gain with full 5 megacycle band width. Eliminates bothersome tuning. Just install it and forget it. $19.95 List



RW-200 ARRESTER

Positive protection against lightning. The full sized arrester that costs no more than a midget. Only $1.25

KEEP UP-TO-DATE on the latest TV antenna developments!

FREE . . . *this completely new catalog*

VEE-D-X MAKERS OF THE WORLD'S MOST POWERFUL ANTENNA SYSTEMS

THE LaPOINTE-PLASCOMOLD CORPORATION
Windsor Locks, Connecticut

Gentlemen:

☐ Rush information on following .....

.....

☐ Send me your new FREE catalog.

Name .....

Street ..... Zone..... State.....

City.....

"Some of the finest Television installation and service contracting businesses that have grown up with television are located in the fringe areas . . ."

Fringe Area Story

By PAUL WENDEL, *Editor, Service Management*

RECENTLY a family whose home is in the primary service area of a telecasting station, visited some friends in the country who had purchased a television receiver. In the evening the city folks were very much impressed with the excellent quality of the pictures they saw on their friends' TV set.

The city man, in commenting on the fine quality of the pictures, said he thought they were much better than he got on his receiver. To this the country man replied:

"We are about 52 airline miles from the broadcasting station. In order to get anything here on television it is necessary to have an outdoor antenna erected at some height.

"When we reached the decision to buy a TV set we agreed with the retailer who sold it to us that we would get the most good out of it if we bought the best kind of an installation for reception in this area.

"Frankly," he continued, "the antenna, tower and accessories cost almost as much as the receiver, but we feel that the results have been well worth it. The television set has been the best investment in enjoyable entertainment we have ever made. That is especially true out here 'in the sticks' where we are limited in the entertainment that is available outside of the home.

"We will never lose the thrill," he concluded, "from seeing the leading events of the day brought to us here in the comfort of our own living room in the country."

Fringe area television business has grown quietly but steadily. Some of the finest television installation and service contracting businesses that have grown up with television are located in the fringe areas of practically all of the present primary signal areas.

This is the story of one of those fringe area installation and service businesses.

The nearest television station to Harrisburg, Pennsylvania, is station WGAL-TV which is situated about 40 miles to the southeast in Lancaster. Bordering on the eastern edge of the Allegheny mountains, the rolling hills of the Harrisburg area present an unending series of installation problems. Even under the most favorable circumstances a substantial antenna installation is required to get consistently viewable pictures.

Success Story

Located in its own attractive, stone-faced building in the town of Enola, a suburb of Harrisburg, the Capitol Radio and Television service organization has grown up with video in the Harrisburg area. It is a two-fold success story. First, it is the story of a young man who abandoned railroading as a career to seek the personal opportunities that he thought he saw in the television business. Second, it is an eminent example of the success that comes from the application of good management coupled with technical know-how in creating a business in the field of television service.

The Capitol Radio and Television organization is headed by Dale J. Hildebrandt, its founder and owner. After graduating from high school he took a job with a railroad. He became interested in television back in its pioneering days and reached the conclusion it would some day provide the kind of an individual business opportunity he wanted. Taking a substantial cut in pay, Mr. Hildebrandt left his job with the railroad to work for a radio parts distributing company in Harrisburg in order to learn the business.

When the first fingers of telecast video started to reach toward Harrisburg, Mr. Hildebrandt decided that the time to get into this new industry was at its beginning. So he resigned his job with the Radio Distributing Company to start his TV installation and service business.

The business grew steadily, requiring more and more space. Finally, in order to have a location and operating layout that would be adequate for the needs of an installation and service business, Mr. Hildebrandt built his own building. It, too, is now being enlarged.

Capitol Radio and Television now services approximately five thousand TV set owners in the Harrisburg area. The operation is restricted to a radius of twenty miles of the city of Harrisburg, which they have found to be the maximum area that they can service profitably at their present prices.

Practically all of their installation work is for Set Dealers in their operating area and Mr. Hildebrandt personally handles dealer contacts and relations. He works closely with his dealers and their salesmen to minimize "over-selling" of reception possibilities and constantly encourages them to "up-grade" their customers in selling the installations. Experience has taught them that, while a full-fledged installation capable of pulling in stations in Baltimore and Washington may cost almost as much as the receiver, the customer who is sold the maximum installation is usually the best satisfied set owner in the area.

Need for Installers

A study of the organization chart (Figure 1) shows that in this fringe area operation there is a need for almost twice as many installers as there is for technicians. The standard installation service "package" sells for $69.50. This includes a 2-bay Channel Master antenna with an adequate mooring ranging from a chimney mount up to a 30-foot mast and service under the 90-day warranty contract. No effort is made to sell a 12-month contract until the 90-day warranty has almost expired. This procedure is followed because the cost of the original installation and short-time service contract represents a substantial part of the price of the receiver and the added cost of a long-term service contract made some purchasers hesitant in buying. However, once the family has become a TV family they usually do not hesitate to buy the added "viewing insurance" provided by the twelve-month contract.

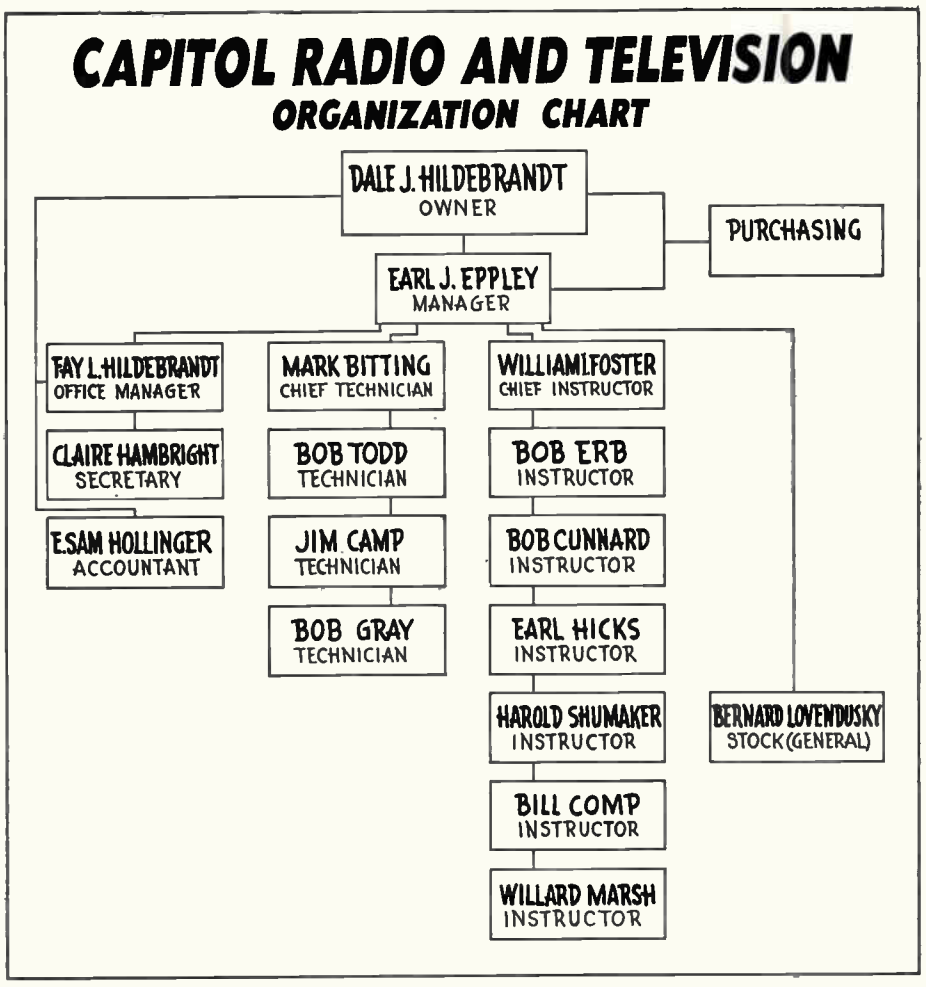
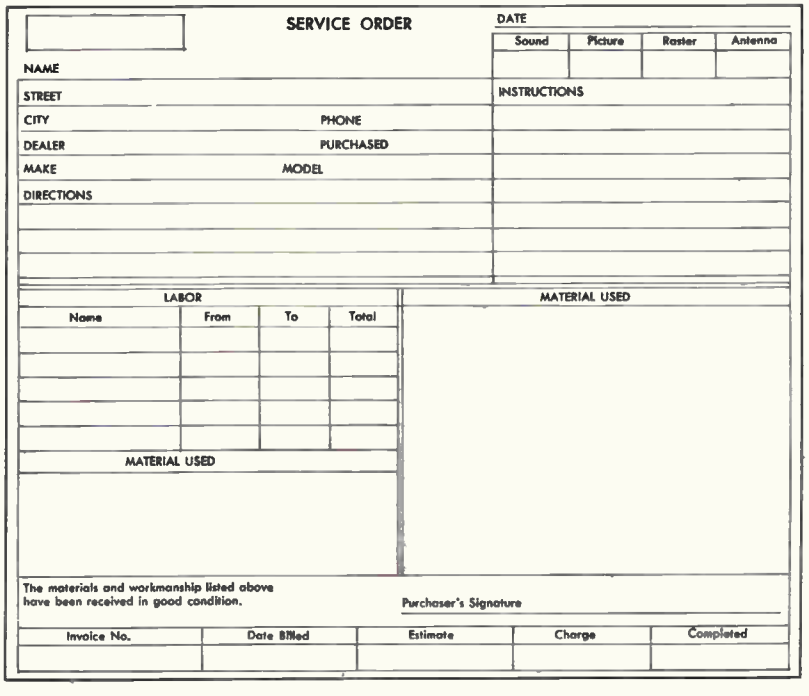


FIGURE 1


SERVICE ORDER

DATE

Sound	Picture	Raster	Antenna

NAME

STREET

INSTRUCTIONS

CITY PHONE

DEALER PURCHASED

MAKE MODEL

DIRECTIONS

LABOR

Name	From	To	Total

MATERIAL USED

MATERIAL USED

The materials and workmanship listed above have been received in good condition.

Purchaser's Signature

Invoice No.	Date Billed	Estimate	Charge	Completed

FIGURE 2

The normal operating procedure that is used by Capitol in handling new installations follows this pattern:

When a receiver sales-installation order is received from a Dealer a Service Order is made up with complete details of the installation to be made. The receiver is picked up from the Dealer whenever possible, and brought to the Capitol shop for a complete check. It is then delivered to the customer's home by the installers when they go to make the installation.

The Service Order (figure 2) used by Capitol is given an individual number

(*Continued on page* 18)

Service to Sell

By MARTIN WELLMAN

The Customer Today Wants to Be Shown — Don't Hide Your Service Facilities

The time has come for service-dealers and service contractors to stop selling the essential product of service short. Considering all the free publicity service is getting one would think that dealers would wake up to the fact that they have a commodity the customer would like to see. Every day your customer is being made conscious of the importance of service — his daily newspaper carries reams of copy on the subject in its advertising pages; the radio talks about the value of service constantly; national magazines carry sensational articles on the little known wrongs that prevail. You just can't escape the fact that the consumer is being fed servicing gospel from practically every quarter every day. The most moderate proclaimer of what is good and what is bad is the man who is in the position to know — the service operator.

Right within your grasp, within your very store you have the most obvious key to promote the level of the servicing business. You have the tools of your trade — service equipment. This property more than anything else denotes the efficiency and character of your operation. The average cost of such equipment is approximately $1,000. Certainly there's no reason why you can't put this investment to use as a business display as well as a medium for service facilities. Display this mark of quality as loudly and as eloquently as the manufacturer advertises his fixed equipment. Let your service facilities stand as your mark of prestige. Let the passer-by, the consumer that enters your store see for himself just what goes into the servicing of his set.

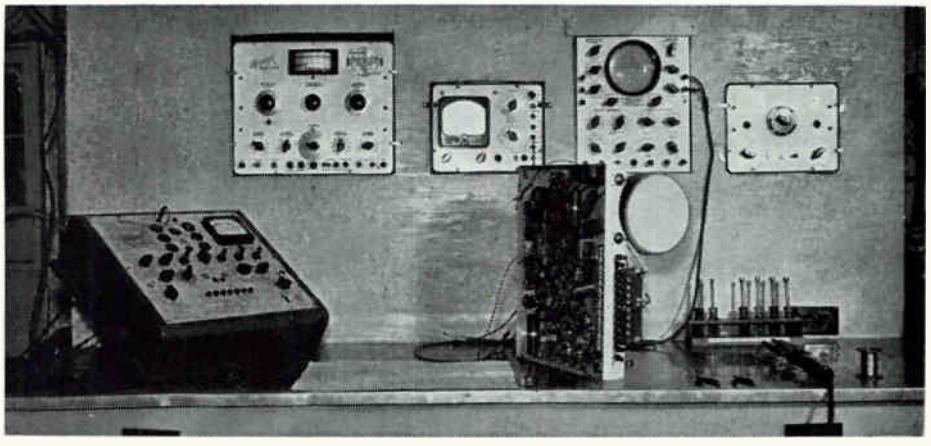
Various dealers have approached service showmanship and have found that it not only pays off in increased customer confidence, but also in increased business. One large Brooklyn dealer had all his test equipment wall-mounted right behind his main counter with the service bench in such a position as to show the customer the performance of his set after the repair had been completed. I asked the service manager what he felt was the most important advantage in the public display of service. He put it this way.

"Too many people today are suspicious of what the serviceman is doing. They think that service is a blind item and as such they feel that they are easily cheated. We not only show them what we are doing, but we also point out to them the labor and material that go into each job. After watching our technicians they realize that you just can't read a book and service your own set."

A Long Island service operator puts the principle of service display into a real eye-catcher. The repair bench runs parallel to the show window so that the passer-by can view service operations from the street. Manhattan Television Super Service Center located in Mineola, N. Y., has based its future on this form of showmanship. The organization goes a step further than most by allowing customers to sit beside the technician and watch him — like the knothole viewers participating in the construction of a new building.

To carry the pattern of service showmanship still further examine your advertising and promotion story and find out whether you haven't placed the emphasis on the wrong pitch. A Northern New York State service-dealer promoted his service department by featuring a test rack in his local advertisements. He invited the local consumer to come into his store and view his refurbished service department. Time proved his approach successful. His service operations have increased three-fold since the inception of his advertising plan.

The only conclusion one can draw from the experiences of those service operators who have used some form of service facilities display is that the customer today is anxious to be shown. Just as the ace pitcher throws his best pitch in the clutch, the service-operator should advance his status with his best pitch — service facilities.



Jay's Radio in Peoria, Ill. displays the equipment behind quality service.

How to Make Money In High Fidelity

By
ROBERT S. REISS
University Loudspeakers, Inc.

The field of high fidelity is expanding so rapidly its progress has long gone beyond the most optimistic expectations of its early proponents. In the first of this series of articles on Hi Fi, many signs of the growing interest and the market potential in which you can share were pointed out. When so solid and conservative a newspaper as the *Wall Street Journal* devotes considerable space to this amazing growth — as it did in an article in the December 26th edition — you are bound, it seems to me, to tell yourself, "This is for me!"

Besides being a money maker, Hi Fi is one of the most interesting and stimulating phases of the radio business. As a business, it rests on a higher moral and ethical plane than we find in some other branches of the electronics field. This is due to the high degree of technical skill involved and to the fact, also, that the economics of the situation prohibit unfair practices.

During an intimate connection with the field for many years, I stumbled over many of the pitfalls and discovered, the hard way, many of the do's and don't's. It is the purpose of this article to help you avoid what I now consider are unnecessary mistakes.

That there is competition, there is no question. I am sure many dealers have shied away from custom work because of it. But competition did not keep you from going into business and competition is not the reason for a dealer's failure in Hi Fi. If the energy wasted in bitter condemnation of existing conditions were conserved and directed to constructive channels, a very successful custom radio business could result. Let us analyze the problem of how you can make money in Sound.

Three Types of Customers

Custom radio customers can be put into three categories: the "Golden Ear" hobbyists, the lovers of good music, and the moneyed people with expensive, tastefully furnished homes. Hobbyists, speaking generally, do their own experimenting and building. It is the two other groups — the music lovers and people with money who want special pieces of furniture or systems built into existing pieces or into walls — who are your potential Hi Fi clients. These are in fact the very same people whose radio and television sets you may now be servicing.

Ask yourself some pertinent questions. When you think about the people with whom you do business, would they have the technical skill to —

1. Evaluate available equipment.
2. Select a balanced system for a given price and taste.
3. Allow for future developments.
4. Design the necessary cabinets and speaker enclosure.
5. Supervise the construction or alteration of these cabinets.
6. Install and wire the equipment.
7. Make the necessary adjustments to the equipment necessitated by the operation of dissimilarly manufactured parts. (I have seldom seen a system go together without at least a "grounding" problem.)

Your principal commodity, obviously then, is skill, knowledge and service. People must be and are prepared to pay for this. Purchasing equipment in cartons leaves one a long distance from having a custom installation. You, as a custom builder, are not selling parts, but an installation. You are selling a complex musical instrument free of trouble and irritations. You are also simultaneously filling an interior decorator's prescription, or satisfying that typical American craving for something different and better than what the neighbors have.

It is often difficult to realize how little people know about something with which we are on intimate terms. That lack of realization accounts for our tendency to sell our skills short. Value your special skill; remember that nobody will ever place a higher value upon your worth than you do yourself, and you will have a basis upon which to justify your place in the scheme of things.

Customer Charges

What you charge for an installation need not and should not have a special resemblance to competitive prices. The price should be based upon what the equipment cost you plus a fair profit on your investment, plus a percentage to cover your overhead, and the all-important man/hour factor spent on the job.

Time and its evaluation is, perhaps, the most important item to be determined in charging for an installation. It is not as easily determinable as, for instance, the cost of the equipment used.

One particular job with which I am familiar serves as a good example. The work consisted of remodeling a pre-war radio phonograph. It was necessary to add an FM tuner and three-speed changer, re-wire sections of the old AM tuner, add a special custom made-to-fit-the-cabinet amplifier and pre-amplifier, and to add a new coaxial 12" speaker. A considerable amount of cabinet work was involved. The complete installation was quoted at $600. This seemed to be a good figure, assuring a good profit. Two men put the equivalent of two weeks' work into the job. After all bills were paid, including labor, it was discovered that the installation was a financial failure. The evaluation of the man/hours spent on

the job is where the loss occurred. It took one more commercial loss to teach those involved a solution to this problem of preventing unpaid time.

In spite of the fact that the work is custom and that all customers want something different in the way of cabinets and equipment, it is a good idea to standardize procedure and equipment as much as possible. Three differently priced combinations were worked out and as much as possible, these were adhered to. In this way, all the common technical problems were ironed out beforehand. It was then necessary only to design cabinet equipment around standardized templates.

Recent articles which have appeared in magazines such as *The Atlantic Monthly* and *The Consumer's Union* publication have listed typical combinations. You will also find suggested systems listed in special High Fidelity catalogues put out by different distributors. These can serve as a guide around which to build your systems.

Working with a cabinet maker who is acquainted with your work means less frequent check-up visits to him and, of course, fewer errors. Another time-saver is the systematic purchasing of parts and equipment. The larger basic pieces of equipment, such as loudspeakers, tuners and amplifiers, can usually be purchased economically in reasonable quantities. It is best when purchasing the smaller components, to also buy in workable quantities. The small additional investment pays itself back many times in time saved.

Saves Time

Standardization means then not only a saving of your time, but the cabinet maker's time too — a saving which will be passed on to you as increased profit. But the most important thing is that through standardization, a more exact estimate of the time required to complete a job can be made. I cannot overemphasize the importance of this. Your time will be your chief source of profit.

Perhaps you have noticed that the better quality amplifiers and tuners are frequently not made by the same manufacturer. This often presents problems which can be exploited. In many cases the result of combining one make of tuner with another make of amplifier results in a duplication of tone and volume controls. This, to say the least, is undesirable. Many custom builders will strip the audio out of the tuner and then mount the amplifier tone controls below the tuner in such a way as to make a more easily controlled, compact installation. Besides this contribution, there are other technical problems that arise not only because of the dissimilar nature of the equipment, but also because the more complex the installation, the more complex the problems arising become. Hum caused by grounds which are not at the same potential is one example of the problems to be solved in an installation.

Location is also an important factor. In some locations, I have noticed that one well known tuner suffered from cross modulation effects, probably the result, in part, of its extreme sensitivity. Another tuner often suffers from hum in the audio. Due to rough handling during transit, they almost always need to be realigned slightly. As a builder of finished systems, it is necessary for you to iron out all problems that arise. All of this work more than justifies receiving a legitimate price for the equipment.

Keeping material costs as low as possible can mean bigger profits. University Loudspeakers has recently been featuring three interesting 3-way speaker systems. They vary in their complexity and, of course, in performance.

The first is called the Utility 3-Way. This is shown in Fig. 1. It consists of a 12" speaker, model 6200, operating as a woofer up to 600 cycles. At 600 cycles the Model 4408 horn takes over and operates up to 4000 cycles at which point the Model 4401 tweeter takes over, carrying the range up to 15,000 cycles. The cabinet is an easy-to-build bass reflex system. Fig. 2 shows the Low Boy System. In this system two woofers (which together gives a greater radiation resistance than even a single 15" speaker resulting in greater bass response) operate to about 400 cycles at which point the Model Cobra-12 midrange horn takes over. The two tweeters operate from 4000 cycles up. This enclosure is a completely sealed box. The corner cabinet shown in Fig. 3 is electrically similar to the Low Boy system but takes advantage of the properties of corner rear horn loaded systems resulting in superior bass response.*

* Detailed prints may be obtained by writing to the manufacturer at 80 S. Kensico Ave., White Plains, N. Y.

The important fact about these systems to the custom builder is that these systems are not available as completely assembled units. The custom builder can make the networks himself, putting together his own systems. Thus, the chance for bigger profits exists. By as-

(*Continued on page* 21)

FIG. 1

FIG. 2

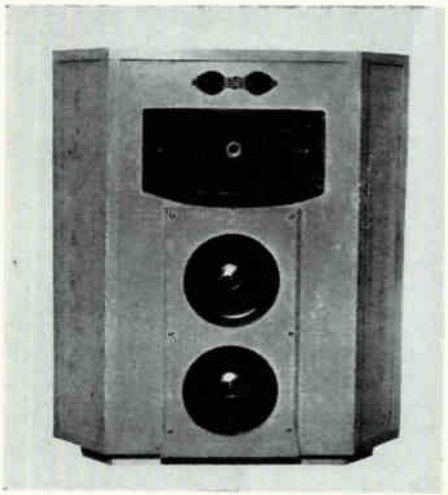


FIG. 3

Be Prepared

For the Unexpected!

By ERNEST W. FAIR

"We Can Erect Reasonable Safeguards to Protect Ourselves"

"I had it all figured out . . . couldn't miss . . . then look what happened!"

Many a bankrupt has summed up his experience in much the same words. The proven practices in good radio and television service shop management are so well known any reasonably intelligent person can have an excellent chance for success by following them. But it is the "x" factor . . . the unexpected . . . that enters into the situation and causes losses and often business failures.

There's no sure formula whereby we can prepare for the unexpected and be certain that no matter what happens our service shop business will ride safely through. But we can erect reasonable safeguards to protect ourselves against "the unexpected" and the presence of these safeguards may be of the utmost importance during the business year we have just entered.

This may be the year of many difficulties and unexpected changes, growing out of situations which cannot be foreseen clearly at the present moment. Mobilization — changing allocation of materials and manpower — the ever-present threat of another global war — all of these things affect us as a nation and in so doing have a direct effect upon each of us in the radio-TV service business no matter where we may be located or how big or small our operations may be.

In 1952, the shop owner who is to survive will have to be more on his guard than ever before for already the year bids fair to hold its full share of "the unexpected."

What safeguards can we take? Again, there is no "magic formula" we can follow with assurance of absolute success. But there are a number of things we can do in the operation of our individual service shop itself that will provide reasonable safeguards against "the unexpected."

Bulwarking Our Financial Position is a must first step for every shop owner. The shop with large outstanding indebtedness and heavy loan payments is never in a safe position to combat any unexpected adverse condition. As the dollar value continues to change, this position becomes more precarious. The firm whose financial position is sound, very liquid, and is always in a position to take advantage of unusual opportunities or safeguard its interests, is the one best able to weather any unexpected financial condition in our national life, locally or in the service business itself.

Close Study of Business Trends, particularly those that affect the radio-TV service business, has never been a bad business policy but today it becomes an absolute necessity to every reader of these pages. In the past we could operate our business with very little such study . . . in the future a great deal of such study may be the very bulwark that will give us the information we need to steer our business ship through an unexpected storm.

It's no longer safe to chart the course on past experience and accumulated business wisdom; now we need knowledge and information of everything that is happening today in the radio-TV business everywhere and judgment as to how these events will affect the immediate future of not only the service business but of our own particular enterprise as well.

Exacting Inventory Control. One of the surest ways to "go broke" in the service business is to be caught with a terrific inventory when a sharp price break occurs. Sometimes this is indeed an advantage but in other times it can be "the unexpected" that results in our downfall.

The slight advantage to be gained by an upward price break today in no way compensates for the terrible results that may follow a drastic downward price slide.

A heavily unbalanced inventory with respect to our own customer demand is

Survival in 1952 will depend more on pre-planning than ever before

just as harmful. One of our best safeguards against disaster from "the unexpected" is exacting inventory control tied in with our own customer demand all down the line.

Check Our Insurance Protection against "the unexpected." Fire protection has become a habit with us for we never know when this unexpected factor will hit our business. But how about the other "unexpected's?" Are we protected with insurance against the other business disasters?

This is a good year to work closely with our favorite insurance agent in creation of a balanced program of protection against "the unexpected" in every possible avenue of approach to our business. There is certainly a point where one can get into a dangerous position carrying too much insurance but the more prevalent condition in the service business is "too little insurance" protection against "the unexpected."

Increased Knowledge of our Local Area is an absolute essential in any such program. It will avail us little to be thoroughly informed of developments in the national picture of the service business if we completely ignore those close at home.

Unexpected local conditions are much more apt to drive service organizations to the wall during this year than any national condition. The closer study each shop owner gives to his own area the safer will be his position.

This same study should be directed toward the problems of one's own customers. What happens to a shop owner's customers very much affects his own business! Our knowledge of changing trends in the radio repair business itself had better be supplemented by an up to date knowledge of everything that affects the welfare of one's local area.

Closer Contacts With Customers are always an additional safeguard in good times or bad. A wise and courageous shop owner can generally make satisfactory progress against any unexpected situation with his own resources. But if he has built up a tremendous reservoir of goodwill among his customers, he has their aid and assistance in pulling through any "unexpected" event that may affect his business.

It's always comforting to know that we as individuals are towers of strength and able to stand on our own two feet without help from anyone. But that's the hard way to protect ourselves against the unexpected. It's a lot easier to have a lot of loyal and steadfast customers always with us to help us pull through "the unexpected" whenever or wherever it may occur.

Nine Positive Points!

1—Bulwark Financial Position

2—Study Business Trends

3—Keep Exacting Inventory Control

4—Be Properly Insured

5—Know Local Area

6—Maintain Close Contact with Customers

7—Cement Relation with Sources of Supply

8—Make Certain Records Are Safe.

9—Have a Well-Worked-Out Plan for the Future

Cement Relations With Sources of Supply. The shop owner who has been hit by unexpected disaster of any kind can always give glowing testimony to how good it felt to have his sources of supply step forward and lend a helping hand.

We may sometimes feel such goodwill to be of only passing importance. It never is that way. Only in times of disaster can we fully appreciate how much goodwill among our sources of supply can mean toward the survival of our business.

The reader who doubts this point has only to look up some business man in his area who has been hit by "the unexpected" in one form or another recently. Ask him how much the goodwill of his sources of supply meant at that time!

Making Certain Records Are Safe against any unforeseen disaster is an absolute must. The safe place in which our records are kept should be capable of withstanding any unexpected calamity. During such a time one's records are of the utmost importance to one's business. Losing even a small part of these records can cause delays in getting the business back on its feet. Record protection equipment is no place on which to hedge or attempt to save money.

Have A Well-Worked-Out Plan developed as to what we shall do no matter what may happen to our business in the future. Sitting down and cataloging each of these possible "unexpected" occurrences and then working out the procedure we will follow to meet them is wise indeed.

When this has been done the only element of mystery involved is the time of occurrence; we have a plan ready made to follow in detail when the unexpected event does occur.

The creation of such a plan gives us a program that can be put into effect immediately and opportunities are not lost while we formulate the plan during a state of chaos and confusion; no advisable period in which to attempt to do any sane thinking.

Once the situation is recognized, the plan can be developed as to how it will be handled and each detail worked out. We can, when these details are catalogued, plan in advance to have the necessary "tools" to implement them.

We can defeat the challenge of "the unexpected" when it occurs by being ready to meet it in combat the moment it strikes. There's nothing like following the Boy Scout motto all the way and "Be Prepared"!

By E. C. TOMPSON
Public Relations Counsel

Customer Relations

AN ANALYSIS

A few years ago, when we had a little customer relations problem, we decided to explore our customer's activity in the radiation detection field. So we promptly took off on a trip to a New England plant. There we sought Herb. Herb was a very learned guy who had charge of the engineering design and production of gamma ray tubes.

After discovering Herb, we introduced ourselves in our most disarming manner, to build a solid friendship. We soon found that Herb was very friendly, and very patient with our elementary questions. After giving us a liberal education in nucleonics, he took us into the plant and showed us test equipment for gamma ray tubes.

The equipment, as we recall, consisted essentially of an electronic flip-flop circuit arranged so that input pulses were fed from a gamma ray tube mounted so that its "window" could be expcsed to a radio-active sample at measured distances. The flip-flop circuit and a simple electronic computor counted pulses against time.

Though we were just customer relations guys, we had looked into ring counters and flip-flop circuits. So we were able to appear conversational with Herb while we inspected the test set. But before Herb could give us a demonstration, we found ourselves baffled. This is what baffled us.

We noticed that before the radio-active sample was brought close to the gamma ray tube, the tube would detect pulses which were registered by the counting device. The pulses were irregular. Sometimes a couple would come along in rapid succession followed by a long interval followed by a group of three pulses. At other times, single pulses would be counted at varying intervals.

We asked Herb, "How come we get a count without radiation?" "Well," said Herb, "the equipment is counting cosmic rays that have penetrated to this area. Cosmic rays are everywhere. They reach the earth at irregular intervals, according to the *random law* of nature. But no matter how irregular the rate of their appearance, the total number that comes during a given period, say a year, will be found to be the same as for any other year."

This struck us as being very interesting. In fact, it is one of a very few things that we remember about our excursion into the realm of the science of nucleonics. This *random law* governs, we understand, the immediate aspect of many things in nature, the weather, for example. The weather tomorrow may be unpredictable but it is a pretty sure bet that, during a year in a given locality, the average weather will be very predictable.

We think that this observation may have a bearing on customer relations. The radio business that most of us have known and the TV business that we are trying to understand sometimes reflects the effect of the *random law*. We know, for example, that most portable radios will be much more active during the summer months than they will be during January and February. We also know that the TV Serviceman can't expect business from sets that have not been manufactured and sold. Therefore the total serviceman's opportunity is predictable, like the local climate.

But when we take a look at the other part, the opportunity for an individual TV Serviceman, we hit that *random law* again. We do not know how many of those portable radios will provide work for a particular serviceman. Nor do we know how much business from the now unmanufactured and unsold TV sets will benefit a particular serviceman.

Yet, he can get an answer to these interesting questions, if he wants to. All he has to do is to establish a check on the presence of portable radio and new TV set business as it passes into his community. This need not be a time-consuming, painful or expensive project. And, just as Herb let us count those random cosmic rays, the TV Serviceman can let himself count the new business that he would ordinarily let slip by.

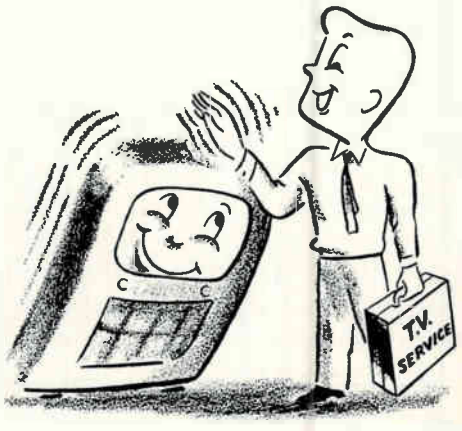
This should be encouraging, particularly to TV Servicemen who, like any other group of people, are not uniformly given to doing the proverbial fifteen minutes a day to improve their lot and their businesses. If nature can make things add up so regularly, in a random fashion, why can't the TV Serviceman benefit from random activity?

We are going to make a suggestion. Instead of waiting for the customer's call, why not call him? Instead of waiting for TV sets to get out of whack, like people used to wait for a toothache, why not initiate the idea of scheduled visits, for a nominal fee, to perform set-checkups? The service might include regular chassis cleaning, face-washing, and operational check.

Promotion of the service is something that the TV Serviceman can do at random. It need not be a chore but it should be followed up when he feels like it or when the slackness of regular business permits. Even approached in this random manner, the total results in a year can be very appreciable. The TV Serviceman can make money because time required can be gauged and sold on an hourly basis, including mileage and travel time.

Aside from the immediate revenue, this random effort can be invaluable in long term business promotion if the TV Serviceman will use these visits to research business he is not getting from his customers. During these "preventive maintenance" calls, he will find many random opportunities to increase his customer relations. In fact, for

(*Continued on page* 26)



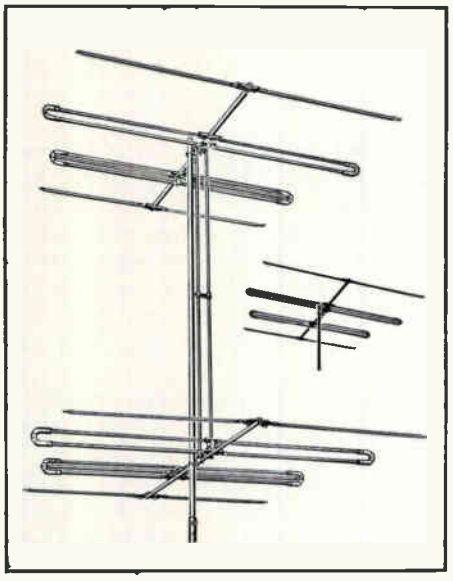
All Affection Appreciated

PRODUCT REVIEWS

DUAL-CHANNEL YAGI

Channel Master Corp., Napanoch Road, Ellenville, N. Y., has introduced a new 2-channel Yagi antenna, Z-Match Dual Yagi, Model 645.

Covering both channels 4 & 5, this antenna provides 100% perfect match to 300 ohm line, in both single and stacked arrays. Performance has been improved by new element and reflector lengths, and a single bay gives over 8 DB measured gain on each channel. Stacking provides 100% additional gain. Four stacked Model 645's furnish actual gain of over 14 DB on each channel.

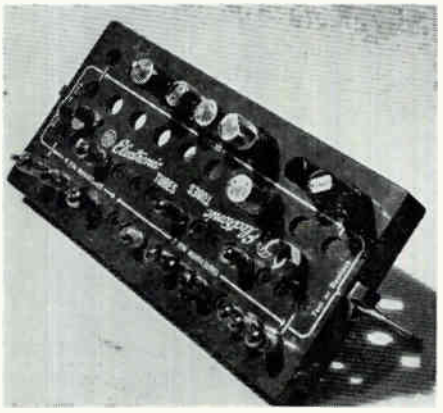


The installation man does not have to buy stacking bars for Channel Master's Dual Yagi. In stacking, the center bar is removed from the larger folded dipole of each antenna. These center bars are then used as stacking bars. This action also reduces the impedance of each 300 ohm antenna, so that a 300 ohm match for the entire stacked array is obtained.

A unique Phasing Harness keeps gain flat on both channels 4 and 5. Antenna has a front-to-back ratio of over 20 DB. The Z-Match impedance-matching feature is now standard on all Channel Master Yagis. Complete literature, with technical details, gain curves, and 4 bay stacking information, will be sent on request.

SERVICE BENCH TUBE RACK

General Electric Company, Electronics Park, Syracuse, N. Y., has announced a new tube rack for receiving type tubes, designed for test bench use so that correct order may be maintained when testing tubes from a TV receiver; to separate shop tubes from customer's tubes; and to reduce tube breakage. The new tube rack or "tubesaver" will ac-



commodate up to fifty-two tubes including twenty-two seven-pin miniatures; ten nine-pin miniatures; and twenty octal base types. Tubes are secured in the rack by means of a tempered rubber insert. The "tubesaver" is available through General Electric tube distributors.

DISPLAY FOR DISTRIBUTORS

Telematic Industries, Inc., 1 Joralemon St., Brooklyn, N. Y., has announced a new "Silent TV Salesman" display for counter or wall use for promotion of twelve Telematic TV accessories including: WT 300 triple trap TV filter; WT-14, WT-15, WT-17 wave traps; WT-29 a-c line filter; AM-20 Add-A-Set TV coupler; AS-18 antenna switch; CR-33 crt hi-voltage extension lead; and CR-35 crt socket extension harness. The display is supplied in two sections: one including products for eliminating TV interference, and the other for use with TV accessories.

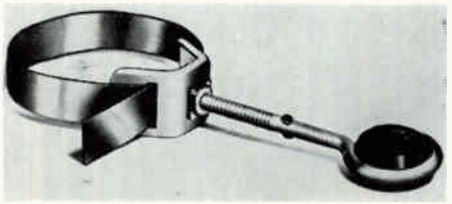
ALL-PURPOSE VOLTOHMYST

RCA Tube Dept., RCA-Victor Div., Radio Corporation of America, Harrison, N. J., has announced a new all-purpose, all-electronic voltmeter for direct measurement of peak-to-peak voltage values in complex waveforms and rms values of sine waves. Provision is made for reading d-c voltage, resistance and d-c current. It is supplied with a direct probe and cable; d-c probe; ohms probe and cable; a negative current cable; a positive current cable; and a ground cable. Circuit design used in the instrument features a negative feedback bridge for good linearity and freedom from effect of line-voltage variations. Type WV-87A Master VoltOhmyst is supplied with a carrying handle

and measures 10 inches high, 13½ inches wide, 7 inches deep and weighs only eight pounds.

SCREW-EYE STAND-OFF

JFD Manufacturing Co., Inc., 6101 *Sixteenth Ave., Brooklyn* 4, *N. Y.*, reports a new strap-type, screw-eye stand-off said to be the first produced with six machined threads. The new stand-off is designed with a new arched bridge for the buckle area that pre-



vents clamp bending or screw-eye loosening. Type NUT stand-off is supplied in heavy-gauge steel, bright zinc plated to resist corrosion, and is supplied with low-loss polyethylene insert and sturdy electro-galvanized steel strap for masts up to 2½ inches, outside diameter.

NEW 17-INCH KINESCOPES

RCA Tube Department, Harrison, N. J., has announced two 17-inch all-glass rectangular television picture

(*Continued on page* 20)

FRINGE AREA STORY

(*Continued from page* 10)

in consecutive sequence and when completed it contains all information about everything that was accomplished on that installation.

The installers make the complete antenna installation but they do not make any adjustments on the receiver. When the installation is completed the installers fill in their names and the time employed in the installation, a complete list of material used and note the condition of the set as to Sound, Picture and Raster in the spaces provided on the Service Order.

Technicians Make Adjustments

When the installers have completed their work and have filled in the required information on the Service Order they must get the purchaser's signature of approval. In the event the set needs adjustments this is shown on the Service Order. Later the technician who follows up to adjust it will get the customer's signature again for a satisfactory picture. Having the customer sign the Service Order every time a service call has been completed has been found to eliminate contentions about set performance at a later date.

When the installation has been completed an invoice is made up and its number and date noted in the spaces provided on the Service Order. Each customer is given an individual file folder — Capitol uses 8½ x 11 folders — and all Service Orders are accumulated in this file. This provides a complete, detailed history of every installation with customer's signatures to verify work done and condition of the receiver when it was completed.

Nothing is left to chance, or to having later to juggle a customer's claims against a technician's word for material used or work accomplished. If an installation is to be made on rented property the owner's permission is procured by having him sign the Landlord's Permission form, figure 3, before any work is done on the installation.

On non-contract service calls (COD business) Capitol uses a minimum service charge of $5.75 which includes one hour's work on the set in the home. While some competitors in the area have a lower minimum service charge they also charge mileage. The Capitol price includes mileage charges.

There is nothing static about the television installation and service business in Harrisburg. There is keen competition for the business, and the pit-falls of cut prices to stimulate sagging service volume have caught some competitors during lull periods.

Mr. Hildebrandt lives with the profit-and-loss statement that his accountant provides regularly every month. When business fell off so badly during the summer of 1951 several of his competitors cut their prices in the hope of getting more business. In analyzing his costs of operation, Mr. Hildebrandt realized that he could not reduce prices without taking a loss on every job performed at lowered prices or cut corners and reduce the quality of installations and service. So he maintained his standard prices throughout the slack season.

When the fall up-swing in business occurred, those who had cut their prices found that it was much easier to cut prices than to restore them to the proper levels. Consequently, these service businesses were saddled with prices that would not allow them to give the best quality of service. It was continually necessary to cut corners to break even.

The business flowing into Capitol Radio & Television has since gained immeasureably from the decision to maintain prices and quality of service.

LANDLORD'S PERMISSION

(I, We) the owners of .....19....

Street .....

City .....

do hereby grant permission to

Capitol Radio and Television

Lemoyne, Pa.

to install and maintain a television antenna on the roof of (my, our) property above located. Installation to be used by

.....

Landlord's Signature .....

FIGURE 3

NEDA Announces Plans for 1952 Convention Program

Program arrangements to date for the 1952 convention sponsored by National Electronic Distributors Association are announced by Aaron Lippman, Aaron Lippman & Co., Newark, N. J., convention chairman.

Third Annual Meeting sponsored by N-E-D-A will feature a two-part program — the NEDA Convention and a Manufacturers' Conference to be held this year in Atlantic City, N. J., popular resort spot, September 22 through 25.

Annual Board Meeting will begin the series of business sessions for the Association and is scheduled for 10:00 A.M., Monday, September 22, convention headquarters. The Annual Membership Meeting will be held 8:00 P.M., September 22.

An extraordinary Educational Program is being arranged and will be held September 23 and 24 from 10:00 A.M. to 12:00 noon. The conference floor will be open each afternoon from 1:00 P.M. to 6:00 P.M., during September 23 and 24. For the final day, September 25, the conference floor will be open from 10:00 A.M. to 6:00 P.M.

The Industry Cocktail Party is scheduled for 5:30 P.M. to 7:00 P.M., September 23.

Ladies' Entertainment Program is being arranged by the wives of the NEDA Keystone Chapter members who will work under the supervision of Morris Green, Almo Radio Co., Philadelphia, Pa.

Registration-Credentials Committee is headed by Al Steinberg, Albert Steinberg & Co., Philadelphia, assisted by Frank Kearns, Kearns, Inc., Atlantic City. Dahl W. Mack, Scranton Radio & Television Supply Co., Scranton, Pa., is in charge of the Convention Directory.

Graduation at RCA Institutes

One hundred and eighty-one students, including one co-ed, were graduated recently by RCA Institutes, Inc., one of the oldest radio technical training schools in America, at commencement exercises held in the auditorium of the Western Union Building, 160 West Broadway, New York. Mrs. Joyce B. Tenney of 1508 Burnette Avenue, Union, N. J., the co-ed, was graduated from the radio and television broadcasting course.

Among the graduates of this winter term class were residents of 12 states as well as students from France, Italy and Puerto Rico. Sixty per cent of the class are veterans of World War II.

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Yes, your money back if this booster does not give you as fine a picture as any booster on the market! **(1)** New, balanced input and output circuits for greatest gain. **(2)** Built-in power transformer (not AC-DC) with long-life selenium rectifier. **(3)** Utilizes finest turret tuner ever designed. **(4)** Fine tuning control. **(5)** Smart metal cabinet finished in wear-resisting mahogany enamel. **(6)** Pilot light illuminates selected channel.

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MALDEN, MASSACHUSETTS

PRODUCT PREVIEWS

(*Continued from page* 17)

tubes utilizing special Filterglass faceplates designed to improve picture contrast, and reduce reflections.

Identical but for their focusing arrangements, the two new tubes are the RCA-17QP4, with magnetic focus and deflection; and the RCA-17LP4, with low-voltage electrostatic focus and magnetic deflection. Voltage for the focusing electrode of the latter tube can be obtained from the low-voltage dc supply of the television receiver.

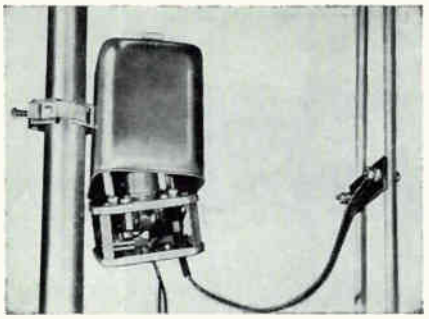
The Filterglass faceplate used for these two new RCA kinescopes has a cylindrical surface, which effectively reduces reflections in the vertical plane. In addition, the Filterglass faceplate incorporates a neutral light-absorbing material which reduces ambient-light reflections from the phosphor and reflections from within the faceplate. The result is improved picture contrast.

HIGH "Q" TRAPS

Jerrold Electronics Corporation, 26th & Dickinson Sts., Philadelphia 46, Pa., has announced a new line of high "Q" traps designed for use between the TV antenna and receiver, to eliminate adjacent-channel and f-m interference. Model TLB is supplied for low-band vhf channels 2 thru 6 or from 54 thru 88 mc.; Model THB, to trap adjacent-channel interference on high-band vhf channels 7 thru 13 or from 174 to 216 mc.; Model TFM for f-m station interference between 88 and 108 mc.; and Model "T Special," custom built on order, to eliminate interference in any bands other than those used for vhf TV and f-m.

CHANNEL SEPARATOR

Technical Appliance Corporation, Sherburne, N. Y., introduced a new Channel Separator for use with the Tacoplex Master Antenna Distribution System in community installations. The new unit is available as a two-channel model designated as Cat. No. 1512, or a three-channel model designated as Cat. No. 1513.



The new Channel Separators feature a high transfer of energy with extremely low loss. The purpose of these units is to separate the television channel signals traveling along a common transmission line and feed the separated signals through individual outputs to their respective amplifier strips. Such units are employed in a community system at all "booster stations." The basic principle of the unit is to provide proper termination of the transmission line and to select the proper channel without amplification of adjacent channels. Adjacent-channel amplification results in distortion of both video and audio.

The Tacoplex Channel Separators are housed in a compartmented metal housing that completely shields each individual channel filter. Each channel section is a pi section type bandpass filter. This circuitry has extremely sharp cutoffs on both sides of the specified 6 mc bandwidth, resulting in clear, undistorted separation.

Units are available for any combination of two or three low-band channels, not including adjacent channels, except 4 and 5.

DIRECT-MAIL PIECE FOR PARTS JOBBERS

Electronic Instrument Co., Inc., 84 Withers St., Brooklyn 11, N. Y., has announced a new direct-mail piece attractively printed in two colors, with adequate imprinting space. It is suitable for enclosure in a standard #10 or #6¾ envelope that is used for jobber mailing of statements, letters or literature. For details regarding Form JB-152-100M, write directly to Electronic Instrument Co., Inc.

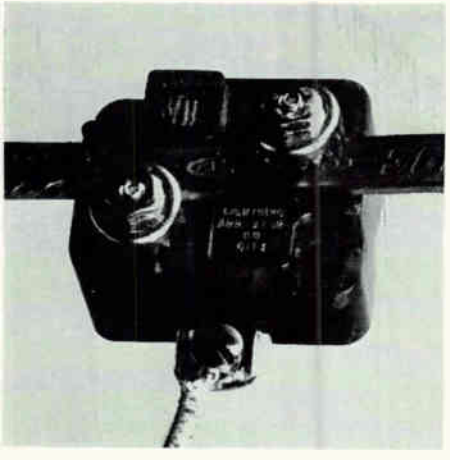
ANTENNA-AMPLIFIER

Technical Appliance Corporation, Sherburne, N. Y., is now offering a new Antenna-Amplifier located at the antenna. Designed for use in fringe-area installations, the new unit provides a signal amplification of 14db of the clear signal received by the antenna before noise pickup in the transmission line. This provides a much higher signal level in the transmission line, thus greatly increasing the signal-to-noise ratio.

The TACO Antenna-Amplifier is powered by means of a 24 volt transformer located at the receiver. A relay automatically energizes the transformer when the receiver is switched on. No separate electrical connections are necessary as an outlet is provided on the lower unit for the television receiver. A power cord from the lower unit plugs into a 110-volt wall outlet. The Amplifier is designed for use with standard 300 ohm leading from the antenna to the transformer.

LIGHTNING ARRESTER

Insuline Corporation of America, Long Island City 1, N. Y., has introduced a molded phenolic television lightning arrester (U. L. Approved), designed to withstand all extremes of weather. It can be installed in a few minutes without requiring cutting of the TV lead-in. Contact to the latter's wires is made by means of cup-shaped washers with serrated teeth.



The new arrester is made in two styles: the No. 6113, which has a binding post for a ground wire, and the No. 6114, which has a grounding strap that fits around the usual metal pipe of the

(*Continued on page* 22)

HOW TO MAKE MONEY IN HIGH FIDELITY

(*Continued from page 13*)

sembling relatively inexpensive speaker and network components into an elaborate, top-performing system rivaling commercially available products costing several hundreds of dollars. This price differential can be a part of *your* legitimate profit. These three systems, remember, are only suggestive and can be altered to suit individual preferences in furniture styling. The systems you develop can be the base upon which to build your reputation. Your reputation, built upon the quality and performance of your installations, will determine your value to those for whom you do work. Your labor rate is directly affected by this set of values.

There are several ideas concerning the financial arrangements with your clients, which I feel will bring this article to a useful conclusion.

There is often a delay of as much as two months between the receipt of an order for an installation and its completion. It is too easy for your customer to forget important details concerning what he is to get, how much it is to cost and how it is to be paid for. An order should be taken and made up in contract form. One copy should be given to the customer. This contract should list the equipment to be installed together with a total price of the equipment, or a break-down of items only when necessary. A complete description of the equipment's operation should be included, especially if specials such as remote speakers, or remote ON-OFF controls are installed. This is to prevent people from saying after you are finished, "But I thought I'd be able to do so and so with it." Such misunderstanding can be costly. Payment terms should be clearly expressed. For example, "25% deposit, balance upon final installation of equipment." Your obligations to the installations should be stipulated. The RTMA 90-day guarantee is widely misunderstood. This guarantee is only on parts and makes no allowance for the labor involved in replacing them. But how many lazy people know this? Make sure your customers know what your guarantee will do for them.

It is a very good idea to visit an installation about a week after it is completed as an extra service to show that your interest in the job extends beyond the day you are paid. By this time your customer has also had time to show off his system to his friends. This very often pays off by an introduction to these interested friends. Recommendations can be the soundest method of building up a Custom Radio business.

Some people insist that you learn only by making your own mistakes. It is more true, it seems to me, that the sum total of human progress rests upon what one man has learned by the experiences of others. It was with that thought in mind that this article was written. If reading about the mistakes made by other Custom Radio builders helps you to avoid those mistakes, I think you will agree with me that my article is successful.

FM Promotion Proves Successful

More than 5,000 radio sets equipped for FM reception have been moved by North Carolina distributors during the month-long FM promotion test which closed Feb. 25, it was estimated by the National Association of Radio and Television Broadcasters and the Radio-Television Manufacturers Association, co-sponsors of the campaign.

Final reports have not been made as yet by all of the 18 participating distributors in the state, but on the basis of present reports, indications are that the figure may well go over the 5,000 estimate. Complete reports from the three largest distributors and partial reports from other distributors now show 3,345 FM sets moved during the month.

The North Carolina FM promotion, which was conducted jointly by FM broadcasters, manufacturers, distributors and dealers, is credited with reversing the trend of radio sales during a normally slack retail season. Dealers generally consider December the best month in the radio business and January the worst, with 85% of the yearly radio sales made during the last three months of the year.

Test Prod Product Folder

A new two-color illustrated folder describing eleven **Klipzon** test prod products used by experimental and product development laboratories, radio-TV servicemen, and sold by radio-TV retailers and distributors, is available on request to: United Technical Laboratories, Morristown, New Jersey.

Each product description included brief text, illustration and unit prices. Listings include: high frequency crystal probes; streamlined test prods and leads; heavy-duty test prods and leads; a-f and r-f shielded leads; mini-prod connectors; test prod handles; heavy-duty test prod handles; mini-prod adaptors; heavy-duty adaptors; longie adaptors, and laboratory test leads.

LaPointe Plascomold Expansion

Jerome E. Respess, Vee-D-X president, has announced two steps in the long range expansion program of the LaPointe Plascomold Corporation: the acquisition of Press Wireless Manufacturing Co., Inc., of Hicksville, N. Y., and the purchase of the Springville Mill in Rockville, Connecticut. Purchase of the Springville Mill, Respess explained, was to house the operation of Press Wireless which is being moved from Hicksville.

The Springville Mill property, Respess said, will provide 156,000 square feet of production space for many electronic products including radio, telegraph and telephone transmitting equipment, radio-photo receiving equipment, frequency shift and associated terminal equipment such as amplifiers, filters, oscillators and antenna multicouplers.

Initial production at Rockville will also include a radically new 24-hour recorder reproducer that will continually record or transcribe voice frequency for an entire day. By means of a voice-actuated relay, this equipment will record, intermittently for several days, the equivalent of 150,000 words on a single magnetically sensitized sheet.

Press Wireless Manufacturing Co., Inc., will remain a separate corporation for electronic product development and production, primarily for the Air Force, in its Rockville, Conn., and West Newton, Mass., plants.

PRODUCT PREVIEWS

(*Continued from page* 20)

TV Antenna. Distribution is through regular jobber channels.

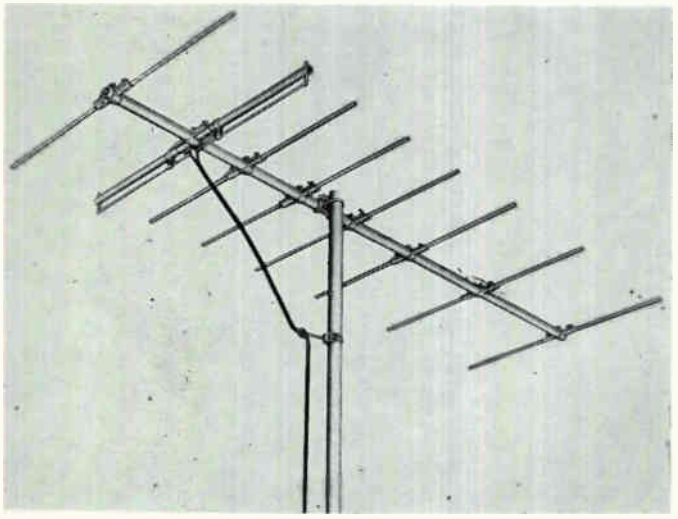
PHASING HARNESS

LaPointe Plascomold Corp., Windsor Locks, Conn., announced a specially engineered phasing harness (Model LJH) for stacking VEE-D-X Long Johns, their new 8-element Yagi.

The usual half-wave spacing cannot be used with the LJ because of the excessive coupling effects between the 2 bays. In order to minimize this coupling effect and maintain 300 ohm match, it was necessary to design an entirely new type of harness. Due to this unique phasing method, a double-stacked Long John will produce 50% more gain than a single LJ.

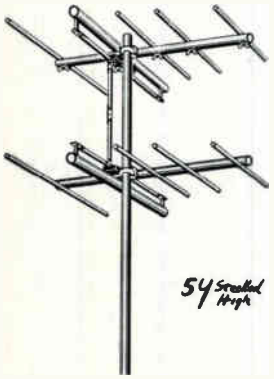
Fringe Antenna Products

For extended fringe reception, there is a definite trend toward still higher gain Yagi types. Vee-D-X has developed an eight element type that has the same gain as the con-



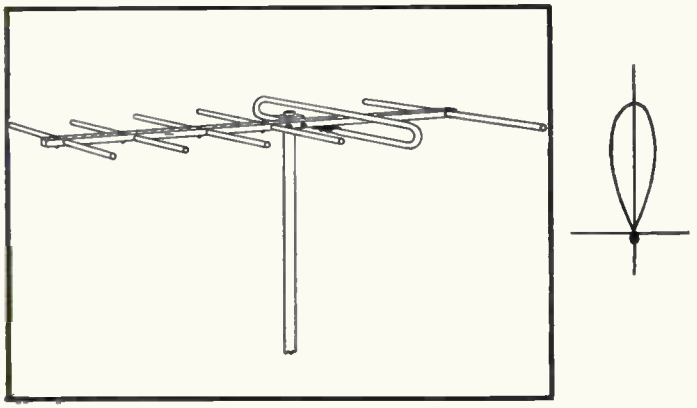
Vee-D-X Eight Element Yagi

ventional stacked five element Yagi. Fretco produces a six element type. JFD manufactures a fringe area line of Yagis that runs from three element types to five element types, for either low or high bands. As elements are added gain in-



JDF Five Element Yagi

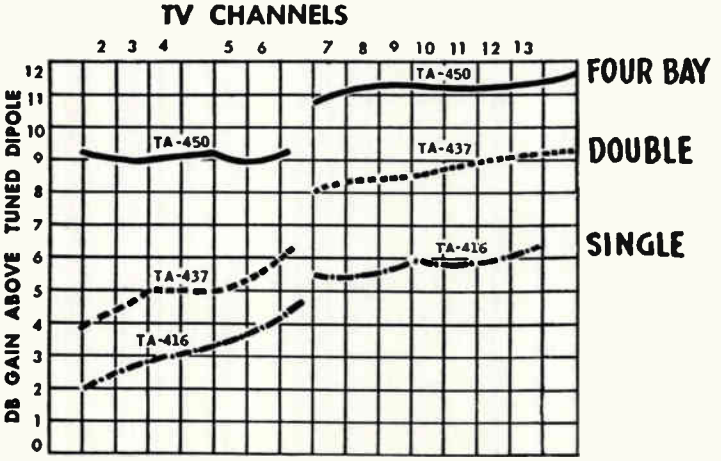
creases, front-to-back ratio improves, and pattern narrows. To take advantage of a narrow pattern, antenna must be oriented carefully and antenna must be designed critically if proper bandwidth is to be retained.



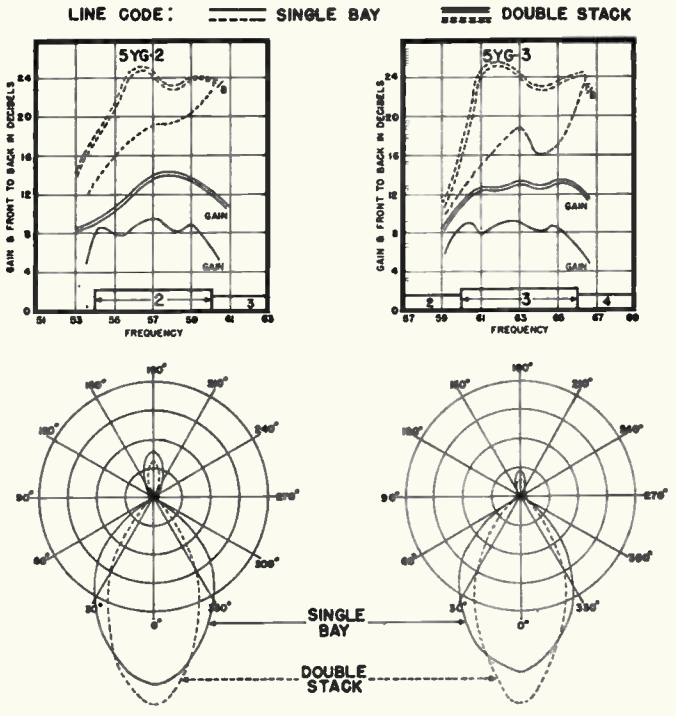
Fretco Six Element Yagi

A Yagi antenna has an excellent pattern which is of importance in improving picture signal-to-noise. There is less pick up of interference and a reduction of co-channel blinds and adjacent channel spill-over. Typical patterns and gain figures for single bay and two bay Radiart yagis show excellent pattern and peak gain.

Although more elaborate physically and with a less regular pattern, wideband conicals can be stacked for multi-channel reception. As indicated on the Brach gain charts, a four stacked conical has gain figures comparable to some Yagi types.

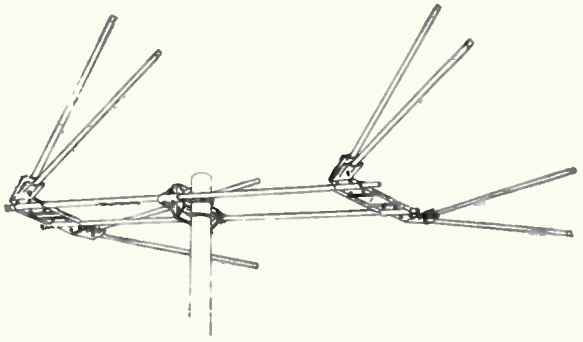


Brach Conical Gain Charts



Radiart Yagi and Typical Patterns

A recent model introduced by RMS known as the Fringe-Master is a broad-band, end-fired array that has exceptionally high gain on the high channels. Provision of extra long dipoles compensates for the gain on the low frequencies.



RMS Fringemaster

Charles (Cap) Kierulff Appointed

Kierulff & Company has moved its general offices and main warehouse to 6058 Walker Ave., Maywood, California. The store it formerly occupied at 820 West Olympic Blvd., Los Angeles, has been taken over by Kierulff Electronics, Inc., and Kierulff Sound Corporation, two allied companies.

Charles T. (Cap) Kierulff, formerly manager of dealer parts and Webster-Chicago sales departments in Kierulff & Co., has been appointed store manager for Kierulff Electronics, Inc., and Kierulff Sound Corporation. Bill Cavanaugh has been appointed sales manager for Kierulff Electronics. Dave Gury has been appointed sales manager for Kierulff Sound.

Sylvania TV-Radio Promotion

Sylvania will continue its national promotion of TV-radio servicemen through advertisements in the *Saturday Evening Post, Life, Colliers* and *Better Homes & Gardens,* according to Terry P. Cunningham, Sylvania's director of advertising.

Predominant in these advertisements, Cunningham said, will be attractive illustrations of Jane Russell, Ann Blyth, June Havoc, Laraine Day and Leo Durocher who will testify that TV-radio servicemen, who display the Sylvania seal, do a good job.

Supplementing national advertising in magazines, Cunningham said that Bill Shipley, crack CBS-TV announcer, will dramatize the importance of TV service with an actual TV set chassis. Bill Shipley will appear as part of Sylvania's popular "Beat the Clock" TV show, every week over 34 CBS-TV stations.

Point-of-sale promotion kits are available without charge, except for postal cards, direct from the advertising department, Sylvania Electric Products, Inc., Emporium, Pennsylvania. The kits include new two-cent government postal cards; giant 6" x 9" postcards; imprinted folders; six-color window displays; six-color counter cards; two-color window streamers, and Sylvania's 8" and 12" fluorescent service emblems.

New Edition of Socket Manual Announced by RCA

The RCA Tube Department has released a revised edition of its novel, "Triple Pindex" socket manual, in which are compiled, for ready reference by radio and television service dealers, socket-connection diagrams for more than 660 receiving tubes and kinescopes, including recently announced types.

The new "Triple Pindex" is priced at 75 cents, and is available from all RCA tube distributors and from the Commercial Engineering Division, RCA Tube Department, Harrison, N. J.

TECHNICAL TOPICS

(*Continued from page 6*)

areas (within 65 miles from stations) wideband types such as stacked conicals (figure 1), Directronic, fans, etc., are preferred when multiple channels are to be received. These types can be rotated for peak reception when stations are in differing directions or, as in case of Directronic, pattern shifted with switch at receiver.

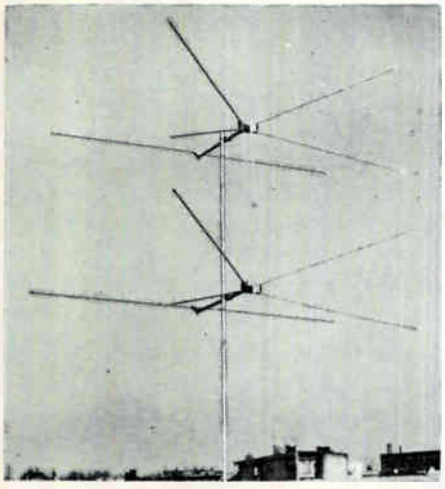


FIGURE 1. *Brach Stacked Conical*

For far fringe areas, the Yagi types are preferred (if not too many channels are to be received) because of their peak sensitivity. The usual Yagi has peak gain on a single channel although gain is quite high over two or three adjacent channels. For peak results, a separate transmission line should be used for each Yagi. Yagi arrays can be used in the far fringes, figure 2.

In areas where more than two or three channels are to be received and it is too elaborate and costly to use a Yagi for each channel, the basic single channel Yagi can be modified to receive a reasonably strong signal over a number of channels. *If you are interested in these modifications and techniques,* write to us in care of SERVICE MANAGEMENT, 501 Fifth Ave., N. Y. C.

The advent of more sensitive low noise level receivers, higher station powers, and high antenna heights have opened and will open additional fringe areas. In many localities where there is some local service, *fringe reception and extra income possibilities have been neglected.* For example, in northeast Philadelphia and suburban sections north and east of Philadelphia it is now possible to receive rather dependable signals from New York with a good fringe installation. There are many prospective customers in this area who would be interested in consistent New York reception, particularly of the high band stations that are not associated with networks now serving local Philadelphia stations. For a simple installation, stacked Directronics do a reasonable job (orient for New York peak at time of installation). For a very peak signal, modified Yagi types with separate lines and switch at receiver are advisable. These same modified types can be used as New York fringe antennas.

In some areas where many channels can be received, the more elaborate wide band types are used, figures 3 and 4.

Transmission Line

A few important considerations in regard to transmission line are:

A. Use as little line as possible — just enough to follow a reasonable straight line path from antenna to receiver.

B. Do not have excess line curled up in a roll in cellar or in back of set. In fact, the best rule is not to have excess line. If you must allow extra line for movement of set, manage to stretch it out.

C. Don't forget the tin-foil trick to peak high band channels.

D. Use low-loss high quality lines. If coaxial line must be used for a bad interference problems, use low-loss type and run as direct as possible from antenna to set.

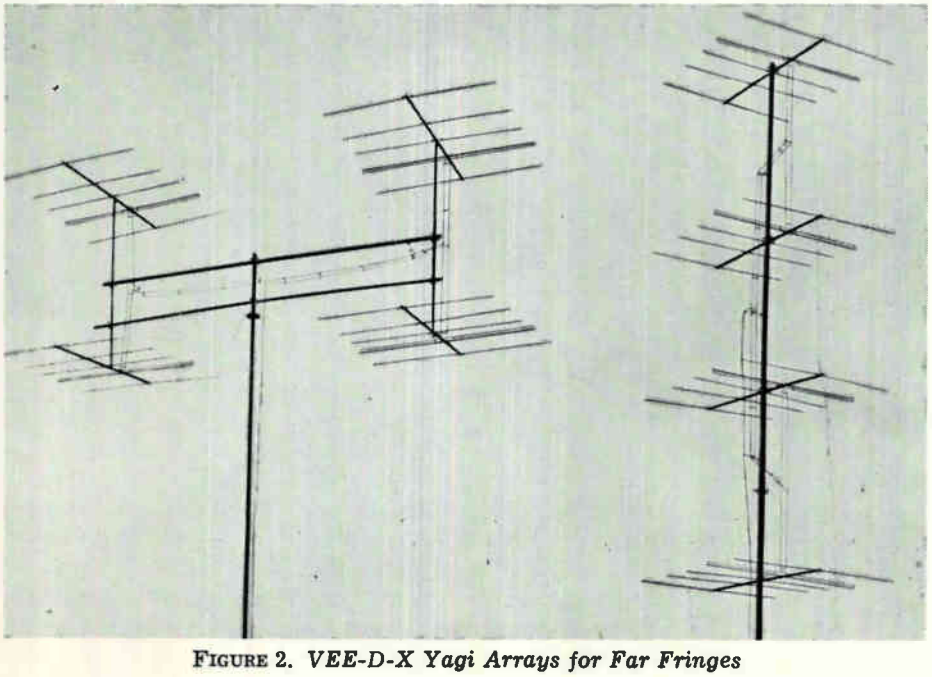


FIGURE 2. *VEE-D-X Yagi Arrays for Far Fringes*

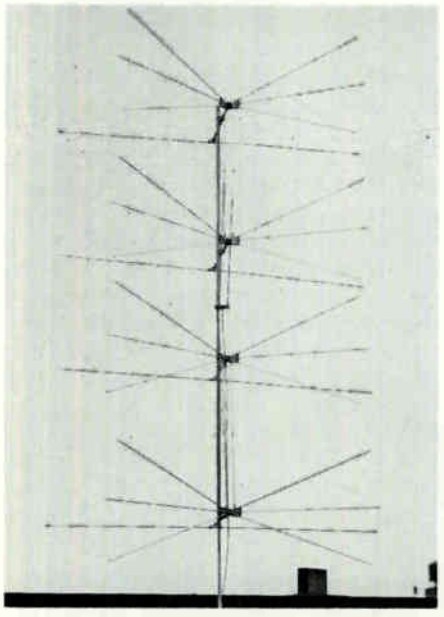


FIGURE 3. *Brach Double-Stacked Conical*

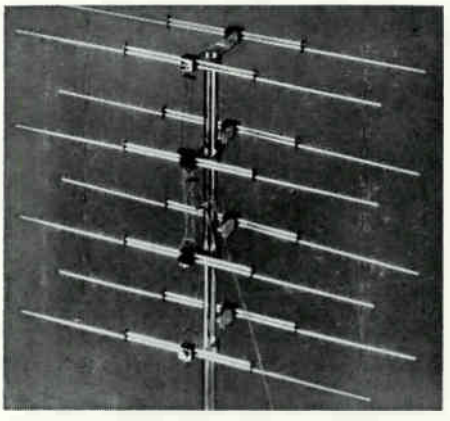


FIGURE 4. *VEE-D-X Collinear Broadside*

Receivers and Boosters

Performance of receiver has much to do with fringe area results. You as a service organization have the opportunity to observe various receivers under like conditions and each year you soon have been able to pick out the best models of the year. It is your responsibility to so advise your customers when they contemplate a new receiver purchase and come to you for guidance. This requires tact and salesmanship and should be presented in form of a

(*Continued on page 26*)

recommendation and not as a criticism of other models. Defects in receiver general performance you have noted should be taken up in confidence with respective dealers.

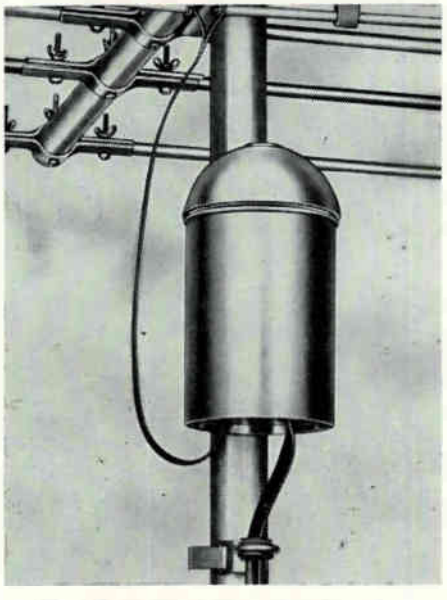
In fringe areas more so than in primary or near-fringe areas, putting a sensitive low noise level receiver into the house is of great significance in having a satisfied customer. The new cascode r.f. stages have done much to improve and extend fringe area activity. If an insensitive, high noise level receiver is installed, a good low noise level booster of cascode or push-pull triode design should be used with receiver. The antenna-mounted booster permits a picture with a higher signal-to-noise ratio and less subject to interference in the far fringes, figure 5.

Interference

Interference problems are prevalent in fringe areas and can be tabulated into a number of basic types.

a. Electric impulse noises
b. Local oscillator radiation
c. Co-channel interference
d. Adjacent channel interference

Your technician should make a thorough study of each type of interference and how it best can be combated. We have noted excessive adjacent channel interference during evening hours in many fringe areas. In most cases spill-over was eliminated or minimized by an on-the-spot adjustment of adjacent channel traps. The usual trap is sharply tuned and if crystal calibration is not employed with marker generator, we seldom set traps correctly for the tight restrictions of fringe operation. The best way to set traps is to first get traps near correct adjustment with instrument and then make a fine adjustment by observing interference on actual picture.



Vee-D-X Mast-Mounted Booster

Do this by first tuning in desired station for best sound and bright picture (regardless of amount of spill-over present). Now adjust traps until framing or sound bars disappear or are minimized. For example, if receiver is set on channel 3, spill-over from channel 4 would cause framing (vertical and horizontal blanking bars from channel 4 passing through channel 3 picture). Adjust adjacent channel picture trap for minimum framing. Spill-over from channel 2 causes a fine regular pattern and/or shifting sound bars on channel 3 picture. Adjust adjacent channel sound trap for minimum disturbance.

Often a receiver is subject to spill-over defects because of improper tuner alignment. A shift of tuner response on a given channel could move top portion of response curve into adjacent channel sound or picture spectrum. This is likely to occur because of inaccurate markers. Teach your technicians to be certain of their marker generator frequency accuracy.

Inspection

An active fringe service organization should organize an antenna system inspection period twice a year and for a small fee during this period will inspect, repair, or replace defective components. The television antenna, once installed, often becomes the neglected unit of the television installation. Yet, it is beaten by the wind and its component parts deteriorated by moisture, heat and cold. An antenna system that has lost its vitality can cause weak signal, shaky picture, high noise level, and/or picture smear. What is attributed to aging of the television receiver is often aging of the antenna system. Such defects as moisture and dirt-laden transmission line, loose or corroded connections, missing and bent elements, wind-shifted orientation, rust, etc., can have a sudden and severe influence on fringe performance.

Likewise, the above defects can have a slower, more subtle influence on receiver performance. It can be a defect that just disturbs picture on one channel or raises noise level on some other channel. An antenna defect can affect one channel and not others depending on frequency and signal levels.

Organize an inspection drive. Replace bad parts and elements, correct orientation shift, and establish new clean connections. Replacement and modernization of antenna systems can improve general performance and perhaps peak a bit more those channels more difficult to receive.

CUSTOMER RELATIONS

(*Continued from page* 16)

once, he may find that he is welcomed by the set owner, not as a correcter of trouble but as a thoughtful person soliciting the welfare of TV entertainment in the home.

A discreet opportunity will therefore appear permitting him to suggest some other possible ways of serving his customer. Among the ways that come to mind are the possibility, particularly during the spring, that there may be a portable radio gathering dust and worn batteries that will be important to the customer's happiness during the summer and particularly during vacation. With an apt suggestion, there is a good chance of scheduling a portable check and the sale of new replacement batteries.

In this way, new business can be picked up at random but for future delivery when the normal pulse of TV Servicing begins to slacken. In other customer's homes, the alert serviceman will find many opportunities to schedule modification of small-screen sets for large-screen performance. Promotion of this new business can be done in a random fashion as a result of promotion of "preventive maintenance."

Properly handled, TV set conversions can be promoted in the spring for work to be done during the ordinarily slack summer months. The TV Serviceman's customer will appreciate suggestions of this sort because it is obvious that they are seeking greater TV performance. The suggestion that work be done while they are on vacation latches in very neatly with the idea that a real service is being rendered.

In some instances a random promotion to regular customers may result in two scheduled jobs. The first will be the portable, tidied up for the vacation while it is not needed during the late spring. The second will be the TV set conversion, performed while the customer is enjoying the portable radio and vacation.

You can get an answer to your customer-potential if you will set up to check the presence of business opportunities and check each opportunity. Just as Herb let us count those random cosmic rays, while watching for something else, so can you find profitable random business while watching your regular TV Service business.

RADIO & TELEVISION NEWS

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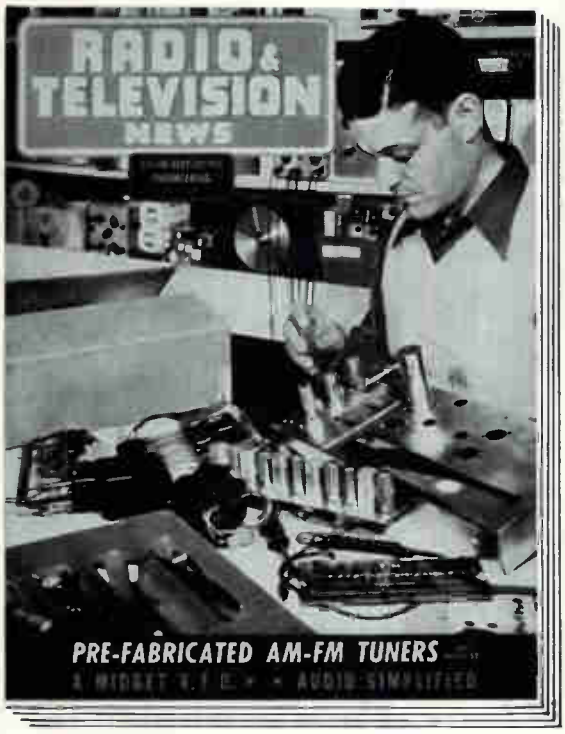

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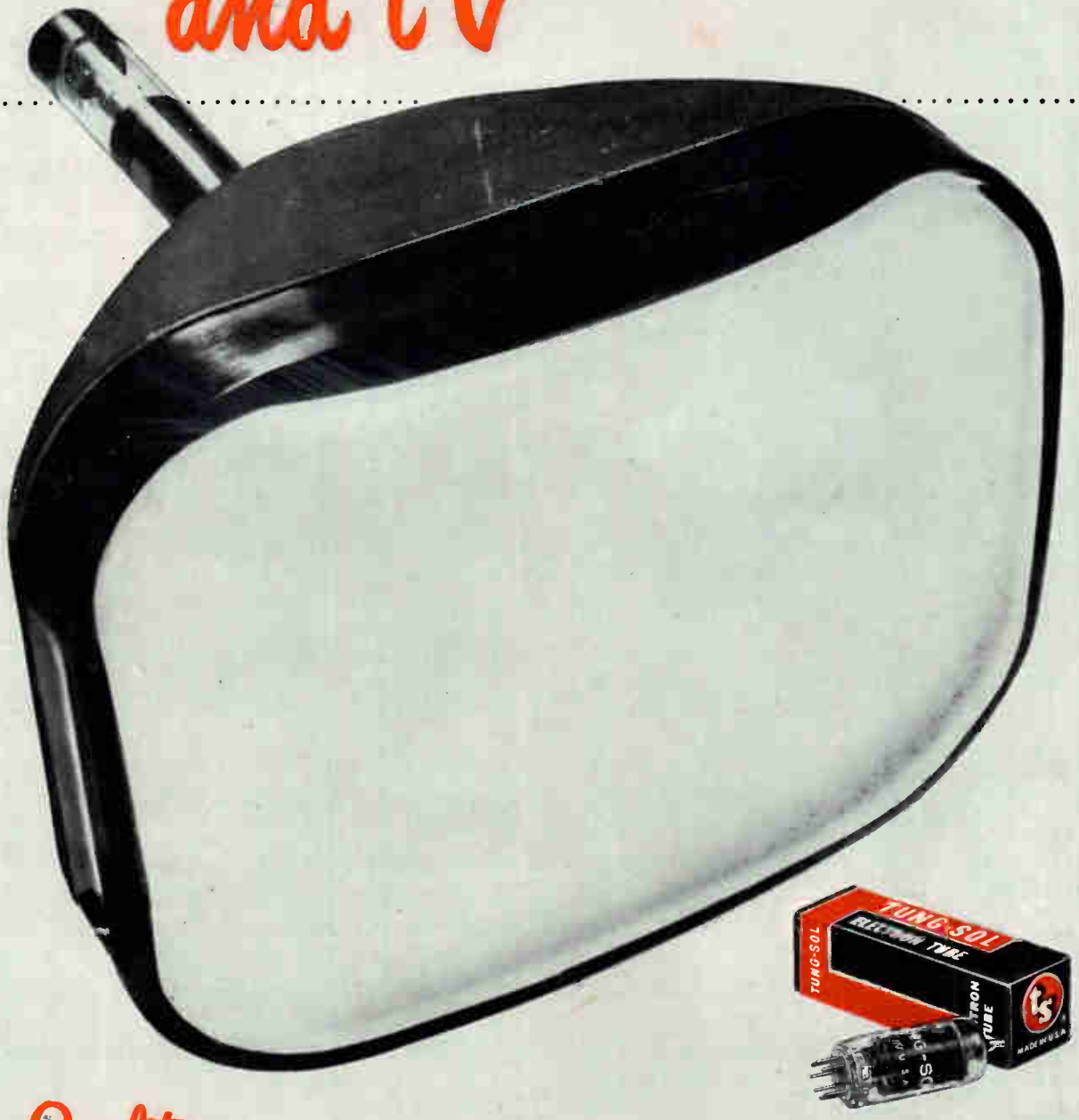

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