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AUDIO
TELEVISION
ELECTRONICS

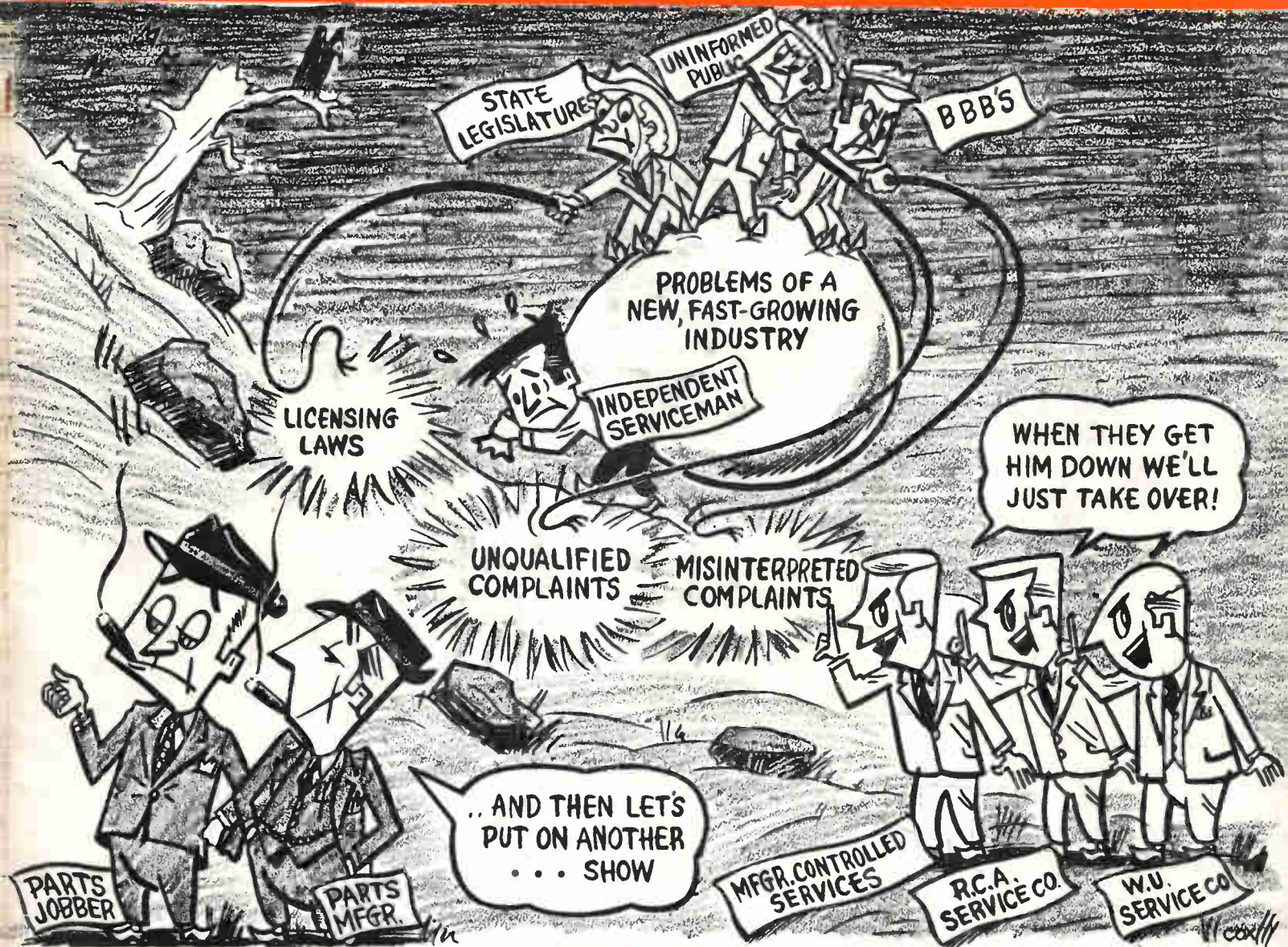
Service Management

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THE BUSINESS MAGAZINE OF THE
RADIO - ELECTRONICS SERVICE INDUSTRY

Volume 1 Number 1

October 20, 1951



DON'T LOOK NOW, FELLOWS, BUT ...

Michael J. Kujala
426 W. Union
Nashville, Pa.

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Meeting in Cleveland, during the NEDA Show, the Antenna Manufacturers Association elected **HAROLD HARRIS** as President and **KEN BROCK** as Vice-President. Mr. Harris is Sales Manager of Channel Master Corporation and Mr. Brock is in charge of advertising and publicity for the Workshop Associates and Ward Products Division of The Gabriel Company. **EDWARD FINKEL** of J. F. D. Mfg. Co. continues as Treasurer of the Association. . . .

Two new promotions in the Sales and Advertising Departments have been announced by The Workshop Associates. . . . **JULIUS FINE** has been appointed Commercial Products Sales Manager for both The Ward Products and Workshop Associates Divisions. In this position, he will direct all distributor sales. Mr. Fine is currently Sales Manager of Ward Products and has had several years' experience in the electronics field. . . . **KENNETH S. BROCK** will become Advertising and Sales Promotion Manager for the two divisions. Formerly Commercial Sales Manager for Workshop, Mr. Brock has served in sales and advertising. . . .



Julius Fine



K. S. Brock

HENRY J. ARBEITER has been named Vice-President and **DANIEL J. McCARTHY** assistant secretary-treasurer of Jerrold Electronics Corporation. Mr. Arbeiter, who will continue to serve as chief engineer for Jerrold, has had 13 years of experience as a radio and television engineer. He has been in charge of Jerrold engineering since the founding of the company. Mr. McCarthy, who will continue as comptroller and general administrator for Jerrold, was an officer of the Liberty Title & Trust Company, Philadelphia, for many years and was associated with this bank for many years before he joined Jerrold as comptroller.

JACK F. MCKINNEY SALES CO., 1330 North Industrial Blvd., Dallas, Texas, has been named sales representative for the Cathode-ray tube division, Allen B. DuMont Laboratories, Inc., Bill C. Scales, the division's general sales manager, announced yesterday. The appointment is effective immediately. McKinney Sales will cover jobbers in Texas, Oklahoma, Arkansas, Louisiana and Mississippi for the DuMont tube division. . . .

Recent appointments on the West Coast were the **HENRY FELDMAN COMPANY** and the **R. E. OSBORNE COMPANY**, both of Los Angeles. They were recently appointed sales representatives for RMS Television Accessories. The Feldman group will cover Southern California and the Osborne organization has been assigned Northern California. The significance of this move to the trade in the western regions of the country lies in the fact that for the first time, West Coast warehousing facilities have been established for the firm's line of antennas, boosters and other television accessories. Jobbers in that region can obtain quick supply directly from stocks without incurring freight differentials. . . .

(Continued on page 24)

Protect YOUR CUSTOMER'S HOME and TV SET



with an AMPHENOL LIGHTNING ARRESTOR

The National Fire Protection Association has set up the National Electrical Code to prevent needless loss of life and property by fire. The Code states: "Each conductor of lead-in from an outdoor antenna shall be provided with a lightning arrester approved for the purpose. . . ." Are you doing your part in this campaign?

The Amphenol Lightning Arrester meets all the requirements of the National Electric Code and carries the Underwriters' Laboratories Seal of Approval. It combines the best qualities of two basic arrester principles — the gap type, for unfailling protection against lightning, and the shunt-resistance type which prevents loss of signal strength and at the same time improves TV reception by carrying static discharges to ground. It is compact, easy to install inside or outdoors.

To protect the home owner, recommend a lightning arrester as part of the antenna installation. To give your customer the best installation, specify AMPHENOL!

AMPHENOL

AMERICAN PHENOLIC CORPORATION
1730 SOUTH 24TH AVENUE • CHICAGO 30, ILLINOIS

COLOR TV

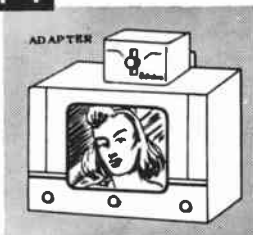
now available for all black and white television sets

Colortone

... makes color conversion a simple matter with the COLORTONE ADAPTER and the COLORTONE CONVERTER. Official specifications.

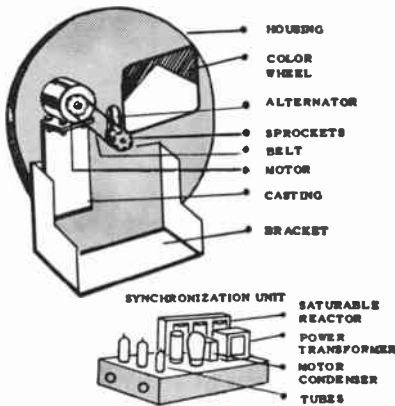
STEP No. 1

With an easily installed COLORTONE ADAPTER, color broadcasts will appear on your existing television receivers as a black and white picture. \$19.95 LIST



STEP No. 2

The COLORTONE CONVERTER is a mechanical and electronic assembly for color reception consisting of a color wheel, motor and synchronization unit.



COLORTONE ... FIRST AND FOREMOST IN COLOR TELEVISION
The COLORTONE COLOR CONVERTER ASSEMBLY is available as individual components or in complete kits. Simple to install ... complete instructions and easy-to-follow diagrams included with kit.

DISTRIBUTORS—JOBBER—DEALERS: Write for complete data ... franchise territories open.

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238 WILLIAM ST., DEPT. NA. N. Y. 38, N. Y.
CORlandt 7-5160

Service Management

PREVIOUSLY NAMED THE NATIONAL TV TUNER

VOLUME 1, NUMBER 1

OCTOBER, 1951

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"OUR OPINION"

THOSE of us who have devoted most of our working years to the fascinating business of radio are, even today, still amazed at the growth of our "baby" since World War II.

After those first ten years of growing pains, radio settled down into what we supposed was a stable pattern of operation. We deceived ourselves into believing that further developments would be taken in our stride.

And, as a matter of fact, the spectacular growth of television — manufacture and distribution — was based on the established radio facilities. True, there was notable expansion in manufacture and a prompt broadening of selling activity. But the psychology and thought-habits did not greatly change. The emphasis, particularly in the retail field, remained in the technological field; A TV set was thought of, by and large, simply as a somewhat improved radio receiver.

But television receivers and industrial electronics equipment need servicing of a high order. Without service-technicians fully competent to cope with the complex problems of TV reception, trouble loomed — in fact, it zoomed. The simple operation of the one-man radio shop suddenly became a complex enterprise. And the technician was abruptly called upon to be a business man faced with the problems of hiring and training the right kind of personnel, of accounting, purchasing, collecting, customer-relations, sales-promotion, utilization of the manufacturer's selling aids. At the same time, he found that he must, in self-protection, spend the necessary time to keep up to date with continuing improvements and developments as well as to look ahead to the coming of Color and the proposed use of the UHF range of the spectrum. Obviously, then, most of the old-style lectures and articles for service shop operators have become almost obsolete.

Inasmuch as in television sales and service we have a *major* retail operation, it naturally follows that every business tool, facility, system or element must be fully understood and used. Any and every sort of retail business must, if it is to endure, follow certain procedures. With the accent on business rather than alone on techniques, the enterpriser must include in his study an adequate consideration of how-to-make-friends-and-influence-people. One needs tact in receiving customer gripes as well as technical skill in repairs and adjustments. Owners of TV receivers, having the enjoyment of a modern miracle in common, are quick to pass along their opinions, good or bad, about the service they receive. Nothing is more important than a permanently satisfied customer who becomes your unpaid salesman, so to speak, and gives you the almost priceless word-of-mouth advertising which is vital to growth.

And then, the problem of hiring the right type of employees is near the top in importance. Employment specialists have worked out methods of selection — tests which show an applicant's skill or lack of it, which show whether he changes jobs frequently for no reason, which show his character, habits and ambitions. Once hired, there follows the task of training and supervision. Utilizing the experience of others (from your specialized reading), you can pick up many ideas which make these necessary tasks much easier than would otherwise be the case.

It is necessary to acquire some grasp of salesmanship, advertising, financing, accounting, stock purchasing, stock maintenance and all the things included in over-all management and direction.

But these and other requirements, although they may sound somewhat formidable, really need not be appalling nor discourage you in the slightest. *Service Management* Magazine is edited to fill your needs in all of the aspects of your business. News of immediate interest will be comprehensively presented; articles covering questions directly related to your business — radio, audio, television, electronics — will be prepared for you by authorities of the highest competence. We welcome you as a reader — and we hope you will welcome, with increasing enthusiasm, the ensuing issues of *Service Management*.

— P.H.W.

PHOTOFACT Users Write Our Best ADS!

Hundreds of unsolicited letters tell what the world's finest Radio & TV Data means to Service Technicians



Norman H. Otto
726 Cherry Ave.
San Bruno, Calif.

"The extent of your PHOTOFACT service amazes me more and more at each publication. Your new P.F. Index is very handy."



E. A. Randall
4710 Annette St.
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"I have all PHOTOFACT Folders and use them quite often. Your circuit diagrams help plenty and save a great deal of time. I have been in service work since 1934."



Harry Larrison
1723 Oakwood Ave.
Akron, Ohio

"In my opinion, PHOTOFACT is to radio and TV servicing what the five cent cup of coffee was to the American scene of yesterday — and this isn't idle praise, but cold facts, proved by the needs of everyday servicing."

NOW! GET THE PROOF FOR YOURSELF!

FREE

We'll Send You a **FREE** Photofact Folder on any postwar receiver listed in the PF Index.

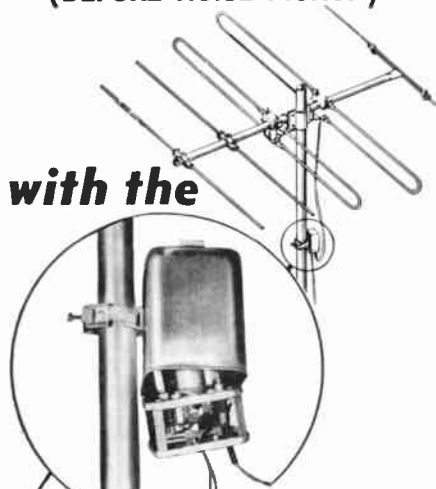
Learn for yourself — at our expense — how PHOTOFACT pays for itself by earning bigger repair profits for you! Ask for a **FREE** Folder covering any postwar AM, FM or TV receiver listed in the PHOTOFACT Cumulative Index. Examine it. Put it to work at your bench — then judge for yourself!

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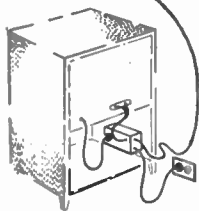
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with the

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- Operotes completely automatically. Reloy turns amplifier on when receiver turns on.
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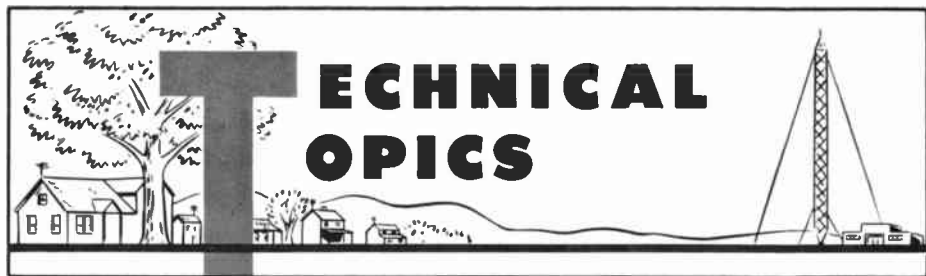
ASK YOUR
TACO
JOBBER
FOR COMPLETE
INFORMATION

TACO

TECHNICAL APPLIANCE CORP.
SHERBURNE, N. Y.

TV, FM, and AM Antennas and Antenna Systems

In Canada: Stromberg-Carlson Co., Ltd.,
Toronto 4, Ont.



The Effect of Technical Developments and Products Upon Your Present and Future Business Activities

By EDWARD M. NOLL

Television and electronics can not be confined like a kernel within a walnut shell. Television is dynamic, not static. It seems an endless task to keep pace with our immediate business activities. On occasion, we are expected to look with foresight into the future and re-view our objectives and plan our long term activities. In making these decisions there must be technical planning too. There must be a knowledge of new and pending products and a basic understanding of operation, performance and business potential of those items. We want this department to be your technical guide. We want to present information on new products and developments and link them with your business planning. We want to show you their utility and, perhaps, even show you new applications for well-established older products. In this department we can do liaison work for you — here you will find in consolidated form the technical material that should be a part of your business planning. This is a saving in time for you. We suggest you pay us a visit monthly and keep technical data on file.

Industrial Television

Industrial and commercial television systems as compared to broadcast television are basic and simple. Pictures suitable for industrial and advertising use can be constructed with a surprisingly few component parts. Even high resolution and color pictures can be formed for a wired system with no great difficulty.

Circuits are no more complex or troublesome to repair than those encountered in the modern television receiver. Industrial and advertising television is a natural for the television service establishment. You will be quite capable of handling installation, repair, and even construction of such systems.

Applications for wired television systems are many and varied. We realize there must be large and expensive systems used in elaborate and/or exacting industrial work. However, there is perhaps a greater need, in so far as volume is concerned, for a simple inexpensive

system that most any business can afford. This is the real way to give impetus to the industrial television field.

Such an instrument can be used to observe small operations, monitor shops, or simply as an advertising medium or stunt. To have it practical for such small operations it would have to be small, portable and inexpensive. It would be advisable to have it planned so it did not necessarily have its own viewer, but could use a standard commercial television receiver as a viewer.

Some of the general classifications for industrial use are as follows:

1. Observation in Dangerous or Untenable Locations
Examples — hot steam, atomic radiation, under water, rocket flights, etc.
2. Education
Examples — classroom use, demonstrations, visual training, microscopic and various types of observations and measurements, etc.
3. Production
Examples — production control, time study, quality control, etc.
4. Security and Safety
Examples — plant protection and watching, store and bank protection, railroad and traffic guidance, airport traffic control, etc.
5. Transmission of Information
Examples — business records, weather information, reservation data for railroads, buses, and airports, observation of time schedules at remote points, inter-office data in large organizations, police records, etc.
6. Advertising — department store display systems, sales promotion, sales training, etc.

The above possibilities can be either elaborate or simple to meet the specific needs of the application. There are untold numbers of uses for small inexpensive systems waiting to be explored in small business operations:

1. Window advertising displays
2. Store-room pick-up of customers as they enter shop
3. Monitoring of small plant operations

4. Remote watching of places of business when owner is called away or is working in rear of shop
5. Store-room advertising displays
6. Entertainment and useful applications for camera in the home
7. Use in service shops as a piece of test equipment. Use as source of signal for checking receiver performance
8. Estate and farm applications
9. Remote observation of recording instruments
10. Applications in various departments of local government
11. Novelty and other applications at night clubs, carnivals, fairs, auditoriums, etc.
12. Television operations study for radio amateurs, students, and experimenters

Industrial and commercial television could be a business of rapid growth once it overcomes its initial inertia (too high cost) and gains momentum.

These television systems need not be elaborate. They consist of basically — power supply and pulse generator, camera, and viewer. So far as viewer is concerned, with proper choice of rates it could be a standard television receiver. Power supply and pulse generator would supply necessary operating voltages and form the various pulses needed in a television system. Camera consists of camera tube and video signal amplifiers as well as camera tube deflection stages. The viewer is a simplified television receiver consisting of only video amplifiers, sync and sweep system, and necessary picture tube circuits. Tuner and i.f. systems are not needed for a wired system. If sound is a necessary part of television system, it can be conveyed by a small public address system.

The basic components of a typical commercial television system are de-

picted in block diagram form, figure 1. The camera tube can be one of the special types developed for this application by Farnsworth or Remington Rand, new RCA vidicon, or small iconoscope available presently for amateur and educational use. Standard broadcast camera tubes could be used but would involve added complexities and much higher costs.

Signal is amplified and has its levels stabilized by a video amplifier section, in one stage of which blanking pulses are added to video information. Horizontal and vertical deflection systems control the camera tube scanning beam. These circuits must be synchronized at rates decided upon for particular system — would, of course, preferably be 60 and 15,750 if standard television receiver is to be used as viewer.

The pulses used for synchronization of camera sweeps and video-inserted blanking pulses are generated in the pulse generator. Sync pulses from this unit are sent via wire to the viewer, keeping camera and viewer deflection systems operating in synchronism.

Video and blanking signal is applied to video amplifier section of viewer to be increased in amplitude for proper excitation of picture tube. Horizontal and vertical sync pulses from generator synchronize the respective oscillators of the viewer.

In most industrial systems it is possible to feed a number of viewers from one camera or, a number of cameras can be used and a single switched viewer as a function of the requirements that must be met. Many possible combinations can be assembled depending on the tasks to be performed.

Watch this department for more details and news on this new fascinating adjunct to the service industry.

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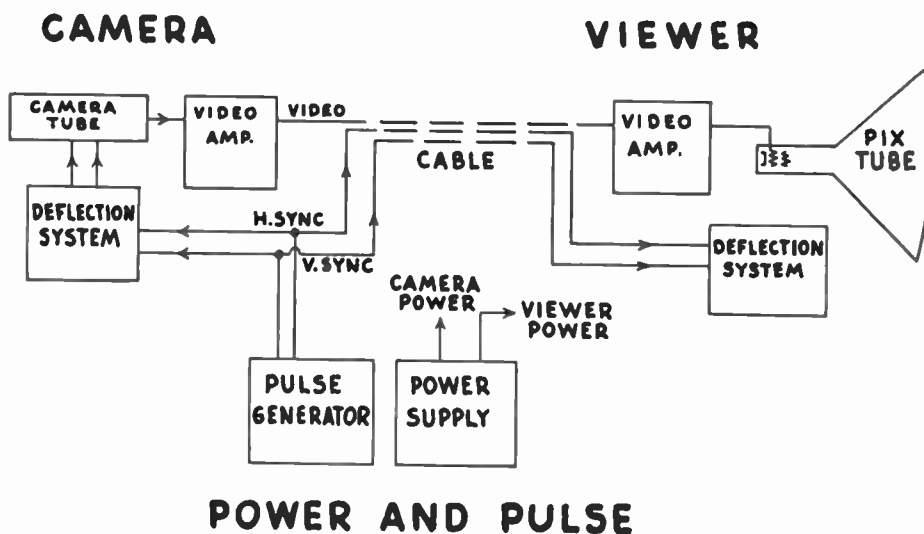


FIGURE 1. General Plan of Industrial-Commercial Television System.

Fringe Areas!

Brach Air General gives more gain than a stacked yagi, on every TV channel!

Tested... best performance. Strongest construction. Air General, Brach TA-450 is the only antenna tested to give you highest gain... withstand high winds, and ice loading. Has non-hygroscopic high-impact insulators; rugged triangular construction; quick rig assembly... and other exclusive features. Guaranteed highest DB gain on all channels... better than any yagi. Order today!

FREE Send for new booklet, "How to get the most out of fringe area installations" by Ira Kamen, leading TV antenna authority.

Brach MANUFACTURING CORP.
200 Central Ave., Newark 4, N. J.

Motorola Denies Plans for Service

Trade reports that Motorola, Inc., is planning to set up its own nationwide service organization were branded as "entirely false" by A. T. Alexander, service manager. "It's up to the distributor whether or not he wants to undertake service work," Mr. Alexander stated. "Our policy is one of local autonomy. Of course, we are ready to advise and offer suggestions to distributors on the subject if they want it."

"Probably six distributors out of our entire list are now doing some installation and service work," the service manager concluded. He named Detroit, Chicago, Philadelphia, Toledo, and Louisville as areas where Motorola distributors were doing service work.

Motorola-Chicago Co. reported that it recently added about two "outside" service men, increasing its outside staff to four men, but that its bench-staff remains at "10 or 12" service men. The distributor said that no increase is contemplated at the moment.



I'm a Little Scared of You

By HAROLD COOK
Advertising and Sales Promotion Manager,
Tung-Sol Electric Co.



Almost 1 Billion Will Be Spent for Service in the Year to Come — the Author Tells You How to Get Your Share.

We television users are apt to be jittery when we call on you — in trouble, nervous, puzzled. We're completely in the dark as to what's inside a television or radio cabinet. We want our set fixed . . . quickly. Johnny is following a serial — Mom wants to see the Goldbergs — the fight goes on at 10 P. M. and I expect to see it.

You — the TV serviceman — in less than 24 months, have become responsible for about 80% of the entertainment of my entire family. You are second in importance only to the family physician. Take a tip from the doctors: Be sure you have a good, honest, kindly "bed-side manner."

To become my serviceman the first thing you have to do is win my confidence. Once you've got my confidence, it will be hard for any other service organization to get me away from you.

Let's find out what this confidence is worth to you. In 1951, set owners will spend \$887,000,000 for television and radio service. This is four times greater than the value of all the gold mined in an average year in U.S.A., Canada and Mexico all put together.

In seven to ten years the servicing of a set often brings in as much money as its entire original cost. There is even more business on sets that need service and don't get it. To get your full share of the service business, GO AFTER IT!

If you sit back and wait for your customers to find you, some progressive competitor will find them first. Then they won't be your customers anymore, they'll be his.

How can you reach these customers? One way is to ADVERTISE your business and your services. Advertising is merely a way to multiply yourself. If you had nothing else to do all day but go around and tell people about your radio and television service, you would soon talk a lot of new people into becoming your customers. Well, you can't do that because you haven't the time, but advertising can. While you are doing your regular work, advertising can spend its time telling people about you. It can do it several ways. It can do it right in your store — in window displays and signs. It can do it in advertising sent by mail and in newspapers. It can do it in calendars you give to people — in window displays and in many other ways.

Your nearby neighbors probably buy all their services from you. Advertising is simply a way of enlarging your neighborhood. People haven't any way of knowing about you unless you tell them.

What is the market for your services:

1. You have 3 markets.
 - a. Home radio
 - b. Auto radio
 - c. Television

In home radios there is at least one in every home.

Half the cars have radios.

In TV areas there is one set to each 3 families.

2. There are only 3 places to reach people with your advertising.
 - a. As they pass your shop
 - b. When they enter your shop
 - c. In their homes

You have these three places to win your customer's confidence.

Service Volume

Now that you know your markets, here is how to estimate the volume of service work in your locality:

- A. Find out the population of your city, town, or the local area in which you expect to work. There are approximately 3½ persons per family in the U.S.A. So divide your local population figure by 3.5 to get the average number of families.
- B. Now multiply your total number of families by the various amounts which the average family spends for home radio, auto radio and TV service and TV installation.

Home radio service	
per family	\$9.04
Auto radio service	
per family	2.40
Television service per	
family living in a TV area	5.69

A WIDE MARKET FOR YOUR SERVICES



Home Radio



Car Radio



Television

PLUS

New TV installations per family living in a TV area 9.50

These are average figures that were arrived at this way: Example: We know that each TV family will spend an average of \$15.00 annually for service for each of the 10,000,000 TV sets in use. This totals \$150,000,000 for TV service in the U. S. \$150,000,000 spread over the 26,327,000 families living in TV areas means that television service averages \$5.69 per family. New TV sets installation will average \$50.00 per set to install the 5,000,000 new sets that will be bought this year. This totals \$250,000,000. \$250,000,000 divided among 26,327,000 families means that new installations will produce \$9.50 per family in TV areas. The market for home and auto radio service was arrived at by the same formula except that different base figures were used.

From these figures you can come reasonably close to figuring how much service work is in your area. Then determine how much of this business you want and feel you can get. Take a percentage of this amount as your advertising budget — approximately 3% to 5%. It is also a check as to how much advertising you can afford to do in your locality.

Plan Your Advertising

Now you are ready to lay out a definite plan that fits your particular organization. The quality of the advertising that you do reflects the quality of the work you do.

Let's start to lay out an advertising program that will do these three things:

- A. **Identify yourself.** Tell your prospects who you are, where you are, what you can do for them.
- B. **Educate your customers and prospects.** Help them to know more about their television and radio sets — to enjoy uninterrupted use of their sets. Remember, when there was radio only our ears could stand a gradual deterioration of sound because we would get used to it and we didn't know the difference. Our eyes can't accustom themselves to poor reception. Therefore, we have to have a TV set that is not adjusted properly fixed **immediately.**
- C. **Remind set owners continuously of your service.** Try to have your name and phone number handy always for them to use.

These three things are as necessary to the growth of your business as opening your front door every day.

Manufacturers of the parts that you sell will supply you with advertising and promotion material that will help you to do all of these three things. Most manufacturers spend many thousands of dollars just in the preparation of sales promotion material. They usually sell it to you for only a part of the cost of printing and shipping it to you. There is one thing for you to look for when you order this material. Make sure that it first sells **your service**, not the brand name of the manufacturer.

One of the most effective ways to identify your service in your vicinity is a big attractive outdoor sign. If illuminated it can be seen for a considerable distance at night as well as by day. Again, be sure the sign features **YOUR services** and **YOUR name.**

Our second point was to use advertising to tell and sell people while they are standing around your shop. You can put over messages to them on the front door, on the walls, shelves and counters; wall clocks, counter signs and well-written and designed literature.

Above all be courteous to a customer who takes the trouble to walk into your store. Act as if you were going to be in business the next hundred years. If possible, give your customers immediate attention. If you're busy, stop a second and say, "I'll be with you in a minute." Everybody resents inattention.

Advertise to the Home

The third, and one of the most important places to advertise, is to reach people in their homes.

There are three things you should do to induce people in their homes to come to you.

- A. Make sure they know you supply radio and TV service.

- B. Convince them you do good work promptly at reasonable cost.
- C. Keep them reminded of you and where to reach you.

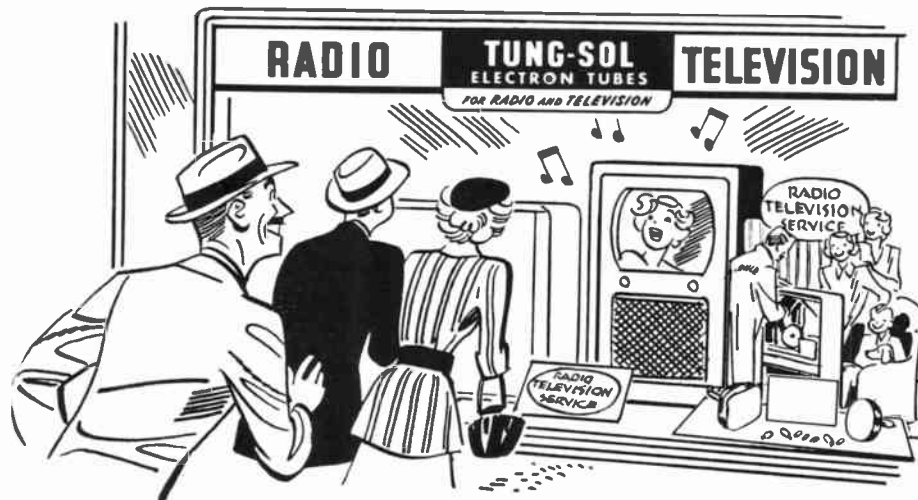
How much, how wide and how often are the questions you'll have to answer after sizing up the costs and deciding what you can afford.

How Long?

Though your advertising should be almost continuous, you can think of it in spurts of three months, six months, a year or any period you like. Since your hope is to hit each prospect at or near the time he needs service, perhaps six months is a logical period of time over which to plan your campaign, since it is estimated that the average radio or TV set
(Continued on page 24)



Sell Your Service First



Window Displays Stop the Passer-by.

WHICH WAY WILL JOHN Q. PUBLIC GO?



YOU and I

By AL STEINBERG

President, Albert Steinberg & Company, Philadelphia, Pa.

BACK IN THE days when radio receivers were the backbone of the electronics industry you and I were comparatively insignificant factors in an activity that was both "unhonored and unsung." No one paid very much attention to us. As a matter of fact, very few people knew that we existed as business men. With radio receivers and their companion products — record players and sound equipment — we struggled along as best we could in a precarious activity in which we were often referred to as "parasites" who made our living off of products which other people designed, produced and sold.

Today we are standing on the threshold of what may become the greatest business activity of all time. The things we work on which use electronic circuits have become more and more complex. The great American Public which, in the mass can't be bothered with understanding the operation of the technical equipment around which modern home life revolves, is going to have to rely more and more on ours, or someone else's, technical know-how and competence to maintain this equipment for them.

It is well then, in the light of the growing importance of our activities, to appraise our present positions in relation to the Industry and to the Public honestly and realistically. This is necessary so that we may determine what we must do to remain successfully a part of these larger opportunities that our fast-growing industry will provide.

First then, let us examine the reasons for our being in this business.

Did someone twist our arms or did we get a political directive that said, "You have got to get into the Parts Distributing or in the Radio-TV Service business?" The answer to that one is obvious — absolutely NO! We got into this business of our own free will. We got into it because we felt we were fully competent to run businesses of our own — profitably.

An Independent Business

Ours is a business of rugged individualism. We are not aligned with or controlled by an individual manufacturer. The services which we have to offer are not restricted to the products of any one manufacturer or to a limited group of manufacturers. In short, we are prepared to handle the installation, maintenance and service of the great variety of equipment made by hundreds of manufacturers.

As independent Parts Distributors we are a part of the independent servicing industry. It is our job to serve as your warehouse, parts department and clearing house for the technical information and data that you need. And in many ways we can help you with business-building ideas and suggestions for handling some of the management problems that arise in your business.

Your job is to provide the user with the best installation, maintenance and service that it is humanly possible to provide. You are not entitled to survive as a business activity just because you are in the service business. Your success or failure will be determined by

your competence in serving the needs of your customers satisfactorily and in maintaining their good-will.

As the operator of a service business in this fast-growing business you must possess a wide range of abilities. Let's list a few of them here for discussion:

1. Technical know-how is, of course, a must. Without an intimate knowledge of the technical requirements of service a service shop operator would soon bog down in a mire of complications.
2. Financial management of your business. TV has made service Big Business. The required investment in equipment and supplies to operate any service business today is substantial. A good understanding of the financial management of a business is absolutely necessary.
3. Hiring, training and supervising technical personnel. Regardless of whether you have one, ten or one hundred employees the supervision requirements become very important to the successful operation of your business.
4. Selling or merchandising your facilities so that you will maintain a uniform volume of service work to keep your employees profitably occupied. When Hubbard made the well known remark, "if you build a better mouse-trap the world will beat a path to your door," he was living in an era when people still had to seek out the sources of supply for most of the things they needed. Modern advertising and selling is so resourceful that products are often sold as "ideas" long before they are produced.

Package the Product

We are a Nation of spenders. But we like for the things that we buy to be all done up in pretty little packages. Lots of times we buy the product just because we like the package it's in.

And that is true of service, too. The

"package" you offer in selling service is the appearance of your shop, how you handle your customers, how well you perform your work and how well you tell the public about yourself and the services you have to offer.

Since you and I are a team working together to serve the public I am deeply interested from a purely selfish standpoint in seeing you grow and prosper. I know that anything that affects your business directly affects mine. So I am very much concerned with your problems and in finding the right answers to them.

As a part of your "team" here is what we as your supplier provide for you in the way of services:

1. We maintain a representative stock of replacement parts, supplies, tools and accessories to enable you to complete practically any job that comes into your shop without undue delay.
2. Our counter men and field salesmen are trained men backed with practical experience who are able to help you establish minimum inventories for your business and in securing the correct parts for individual jobs.
3. Store stock is arranged to give you prompt and rapid service and thus reduce the time you or your employees must give in making your purchases.
4. The shelves are stocked with brand name parts and supplies. Experience has taught both of us that unbranded surplus or distress merchandise is unsafe to stock or to use. The American Public is sold on the fact that brand name merchandise is quality merchandise. The service shop operator who features his use of only brand name replacement parts in his contacts

with his service customers is a smart businessman because he is talking a language that his customers understand and appreciate.

5. The books, magazines, manuals and manufacturers' literature that are important in keeping us informed of developments in our Industry are made available to you. We endeavor to stock everything that looks good so that you will have an opportunity to examine and select what is important in your particular service operation.
6. Experience has proven that field technicians can absorb a lot of practical ideas from lectures given by experts on servicing. So we endeavor to bring you the best lecture programs that we hear of as rapidly as they are made available to us.

Team Work Important

Since our interests are so completely dovetailed it is to our mutual benefit to determine how we can be of maximum help to each other. So again for the sake of discussion, let's set down a few of the things that you can do to help your independent Parts Distributor serve you better:

1. Discourage the use of unbranded surplus and distress parts and supplies both in your own shop and among the other legitimate service operators in your area. Use only brand name replacement parts and stress this fact on your printed repair tags and invoices and in your advertising. By doing that you will up-grade the thinking of your customers on service business practices. And at the same time you will automatically discourage many of the sharp practices that are so often the end result of pricing on distress material.



The latest in technical equipment demonstrated at a distributor meeting sponsored by Albert Steinberg & Co., of Philadelphia — one of a series now being scheduled by the Television Technicians Lecture Bureau.

2. Develop and maintain a minimum stock list of the replacement items that are most commonly needed in your type of service operation.
3. Protect your own credit standing and help your supplier protect his by making the payment of your parts and supplies statement the number one "must" on your list to be paid the first of each month. Now that our Industry is back in its old groove of "winter-time boom, summertime slump" build a cash reserve during the good business months to tide you over those rough ones that are sure to come.
4. Cooperate whole-heartedly with your fellow service operators and with other industry elements in your area in developing a program of good business practices and better customer relations.

In examining the complaints that customers have made against independents who service television receivers it is interesting to note that a large percentage of them were not against the technical competence of the service technicians — they were brought on by a complete lack of understanding about how to "win friends and influence people."

We should always keep the following thoughts in the forefront of our minds:

The ability to render good and efficient SERVICE is the only justifiable reason for our existence as a business. Let's give the American Public the best service it is humanly possible to render and **CONSTANTLY TELL THEM JUST HOW GOOD THAT SERVICE IS** and our businesses will grow and prosper.



An attentive audience of more than 900 hears Edward M. Noll explain how to convert receivers for CBS color. This lecture, presented on October 4, is the first of a series of non-commercial lectures which have been scheduled by the Albert Steinberg Co., for the 1951-52 season.

Customer Relations

AN ANALYSIS

By E. C. TOMPSON, Public Relations Counsel

The First of a Series on This Important Subject

It is now a matter of record that the first five years of television have shown it to be the fastest growing industry that the country has ever known. Of all the industries that were predicted as the most promising for an expanding postwar economy, television has outpaced all others. Television has grown faster than the automobile industry grew after World War I; faster than the record growth of radio in the early twenties; faster than the circulation of *Life Magazine* in the late thirties; faster, in fact, than any other great industry since the turn of the century.

Within five years from its commercial beginning after World War II, TV has advanced rapidly to the stature of a billion dollar industry. A number of basic factors have made this outstanding record a reality. One of these factors is the tremendous job done by TV Servicemen who have faced many seemingly insurmountable obstacles.

The serviceman has invested uncounted man hours and dollars to develop specialized skills for adjusting and maintaining very complicated electronic gear with which he had little, if any previous training or experience. He has invested thousands of dollars in expensive, precision test equipments as tools for his big, new job.

But, while he has been helping to build the industry, there have been movements to grossly belittle TV servicemen as a group. Evidence of this nationwide trend is reflected in the daily press through reports of movements to license TV Servicemen or otherwise initiate regulatory measures which imply that servicemen are not reliable or fair. A recent news item in the *New York Herald Tribune* reported that The General Welfare Committee of the City Council has urged the licensing of "TV Servicers" because "the business of selling service contracts and servicing television receiving apparatus has become the subject of great abuse,

with the result that the public has been and is being victimized by irresponsible sales methods."

In Milwaukee, during the same week, a proposal by the Milwaukee Better Business Bureau, requiring the licensing of the service and repair segments of the television industry was killed after months of effort by Milwaukee television dealers, distributors, service and repair men.

Pricing Problem

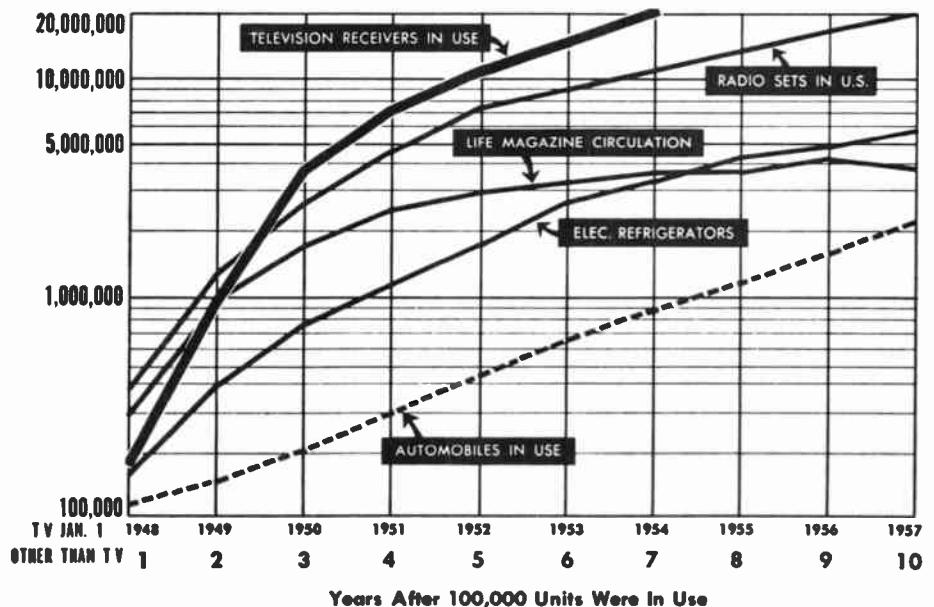
TV Guide, in a mid-September issue, warned TV set owners that the best buy in TV Service is the plan most suited to the viewer's needs and preferences at a fair price. But it also said that although Better Business Bureaus have established a code of standard prices, they do

not quote either the highest or the lowest. To determine if actual prices charged by TV Servicemen may be considered excessively high or low, *TV Guide* suggested that set owners contact the Better Business Bureau and inquire if the serviceman in question appears to be reputable.

Referring to independent TV Servicemen in specific, *TV Guide* said, "It is advisable to ascertain the cost of the call before it is made and obtain both an itemized estimate sheet and bill before and after the job is done. This is especially important when your set is taken out of your home to be repaired." It went on to say that TV set owners should realize that a competent and trained TV technician commands a salary of \$100 a week and therefore his

GROWTH OF TV RECEIVERS VS. OTHER CONSUMER ITEMS as of 1st of each year

(Estimated by NBC)





Evidence of a nation-wide trend to grossly belittle TV Servicemen as a group is reflected in the daily press through reports of movements to license TV Servicemen or otherwise initiate regulatory measures which imply that servicemen are not reliable or fair.

company must charge a reasonable figure per call.

Some manufacturers are handing out nice advertising bouquets, but at the same time at least four writers in magazines read by the general public have been lambasting TV Servicemen, implying that all of them are gyps. The result of this publicity is to create the serious crisis which now faces the TV Service Industry because the public, the customer, is both aroused and confused. If TV Servicemen do not recognize this fact and, as individuals, rally and do something about it, the public acceptance that they have so far enjoyed may turn sour and all the gains of the last five years will be irretrievably lost.

Too much emphasis cannot be placed on this critical situation. The solution of the problem will be necessary as a means of self-preservation. The problem is a challenge, the challenge of good customer relations.

Solving the Problem

To solve this important problem TV Servicemen will have to assume it as a personal responsibility. The key to the problem may be in a method of approach which they have learned well when they set to the task of solving TV service. The method used then was to learn about each part, each circuit section, each receiver design, until their total knowledge was equal to the challenge of any TV receiver problem.

To solve the problem of customer relations, TV Servicemen will have to study the reactions of customers to their service-signals. Instead of looking into the faces of TV picture tubes to get signal patterns, they will have to look into their customers' faces to determine whether or not their selling stimulus is

bringing about the desired, positive reaction. If it is not, they will have to build better signals.

There are very few professions in which positive customer reactions are more important than they are in the TV Service business. This is because a TV Serviceman's best advertising and promotion is by word-of-mouth. Good word-of-mouth advertising stems directly from good customer relations. The first step toward good customer relations is to develop ability to recognize the different types of reactions that people have to TV Service and then work out devices to bring customers around to a point where your service will be appreciated and a good word will be said for it.

Some of the reasons for difficult TV service customers may stem from the fact that the radio receiver industry began as a hobby. Millions of people "built" radios in the early days and so came with a "know-all" attitude. When television came along this was not true although a few thousand people did assemble TV receiver kits, ignoring their luck and design problems already solved for them. So TV, like radio, has sometimes become a whipping boy by the public.

Some Services Without This Problem

Now, let's take a look at the public which is not aroused or confused about the prices it pays for other types of services—for example, the automotive service, which requires none of the specialized knowledge and skill that a TV Serviceman must render. When the public takes its automobiles in for service it is told about the job that is to be done and it is told about the instruments that will be used. There is no customer

relations problem. The customer goes in for a motor tune-up and comes out with a cash paid complete overhaul of the ignition and fuel systems.

He may pay three to five times as much as he planned or really needed to spend, but he pays the bill without question because the work has been explained and he has agreed to pay for it. His bill is carefully itemized for parts and labor, the latter being set at a very high but acceptable rate.

The reason why there is no customer relations problem is simply because the transaction embodies the first principles of good customer relations. These apply equally well to TV servicing and include: (1) Sell the customer on the problem of a complicated mechanism that cannot be repaired satisfactorily or adjusted without particular knowledge which requires an appreciable investment in time, skill and trained technique. (2) Inform the customer that specialized knowledge, training and skill are not enough. Expensive precision instruments are required for satisfactory service work. In the case of TV, the serviceman's investment in instruments is comparable to that required for original design and manufacture of the TV set. (3) Advise your customer, beforehand, what your charges for professional service will be so that he will have an opportunity to agree with you.

This is the first of a series of articles stressing the importance of good customer relations to the TV Serviceman. The subject will be treated more in detail in articles to follow in future issues.

— E. C. T.

THE MAN WITH HIS FOOT IN THE DOOR

The Television Technician

He Gets in the Home—Where Sales Are Made

By JAMES LAWRENCE



The happy look . . . the feeling of contentment—phrases befitting the housewife when she sees the television technician pulling up to the door. He's the man she was waiting for, the man who would cure that television ill and put family life on a more livable plane. She welcomes him through the door and makes him comfortable, often sharing bread with him.

Consider this scene . . . the almighty customer welcomes this representative from retailism. This man who brings nothing but "service" receives a treatment only accorded family members in good standing. It's an environment of friendliness—an environment where sales can be made. The technician has not only got his foot in the door, but he's got a willing listener.

Practically nowhere else can one find such a natural sales environment. Yet, how many service-dealers are taking advantage of this potential? Too few—mainly because there is a lack of realization as to just what the TV technician could do in the home. Yet, the approach is a simple one.

The first requirement is to make the technician sales conscious. Teach him the fundamentals of selling and make him cognizant of your sales plans. Put him on the sales team and show him what "selling" could do to his income. You naturally can't expect a technician to take on sales responsibilities without additional incentives. Those dealers who have recognized the value of this "inside salesman," and followed the correct sales formula, have profited by it.

Trade-in Sales

In television dealer establishments, the television technician when properly coordinated has been invaluable in promoting "trade-in" sales. For example,

Mort Farr, in evaluating this phase of business, has said that approximately 90% of his "trade-in's" are the result of prior selling by his television maintenance men. This type of sales assistance was invaluable to his business during the recent summer slump. It was put into effect only after the television technician was properly trained. The reevaluation of service personnel has taken such strides that today they are included in all sales plans and attend the store's sales meetings.

The success of this type of thinking was never more apparent than in the sales of picture tubes. Where at one time kinescopes were scarce, they became a glut on the replacement market during the spring of '51. New sales approaches were necessary to take up the slack. The old concepts of replacing the kinescope only when it is "dead" had to be shelved if more kinescopes were to be sold.

Now a kinescope is a wonderful thing; it sells itself. You can actually see the difference between a well-operating tube and one that is slightly worn. A new picture tube placed in a set two or more years old will provide an apparent difference in picture quality. The consumer could see the difference if it was shown to him and would in most cases insist upon keeping the new tube.

Here is a new form of tube merchandising. Never before have tubes, or for that matter any related electronic product, been sold in this manner. The result has been phenomenal. And the television technician has again been proven to be a successful sales medium.

Summer Promotion

Another application of this form of selling was carried on by a Long Island dealer during the recent spring-summer slump. Recognizing the need to move

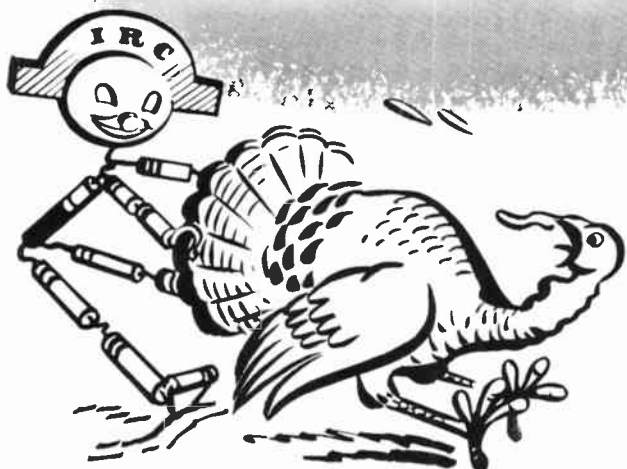
more than the usual share of summer merchandise, this dealer adopted a new mode of selling. He gave each one of his outside television servicemen a portable radio to take with them on their calls. They were instructed to take the set in the home while they were on a service job. The average consumer soon became conscious of the portable and asked the usual questions relative to it. Those consumers who did not acknowledge its existence were reminded of it by the serviceman. The results were most gratifying, with many consumers who were already portable owners asking the serviceman about battery replacements. Thus, the dealer not only expanded his portable outlets, but also opened up a new battery market.

To date, the above examples have been the exceptions rather than the rule. There has been a lack of understanding as to the place of the television technician in the home. His potential as a sales medium to any service-dealer is a great one, and as soon as the average organization recognizes this, it will be on a firmer footing. Just think of the items beyond those previously mentioned that could be merchandised through this means.

1. Batteries—for all purposes
 2. Searchlights
 3. Small radios
 4. Audio products
 5. White goods, such as ironers and toasters
 6. Records
- and many others.

An important factor to the success of this sales approach is adequate planning. By moving in too quickly, you may be ruining any possibility of its success. What you want is a television technician trained along sales lines and a sound promotional plan to support his talents.

LET'S TALK TURKEY



You have customers to please—profits to make—and a business to run. Whatever IRC does *must* help you accomplish RESULTS.

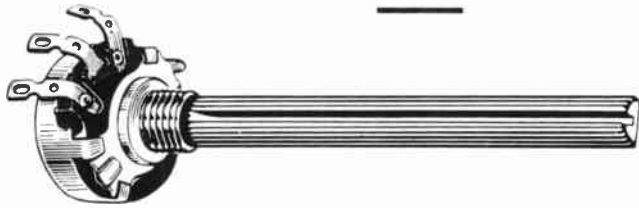
You know that the IRC Q Control Line takes care of nearly all radio needs. Now what about TV?

- 60 Fixed Shaft Controls practically cover your radio and TV needs **PLUS...**
- 13 Interchangeable Fixed Shafts **PLUS...**
- 20 Multisections for Standard Duals **PLUS...**
- 39 Base Element Assemblies **PLUS...**
- CONCENTRIKIT for quick assembly of a wide variety of Concentric Duals with only a few basic parts **PLUS...**
- 34 2-Watt Wire Wound Controls **PLUS...**
- Handy Kits for easy stocking—arranged for minimum stock, maximum utilization **PLUS...**
- TV Control Manual—full listings and cross reference **PLUS...**
- A line designed to require minimum inventory for maximum speed in replacement **PLUS...**
- Well-stocked Jobbers **PLUS...**
- A huge stockroom of all items at IRC for 48-hour delivery to your Jobber **PLUS...**
- Standard prices.

IT'S THE LINE THAT SAVES TIME!

PLUS a special offer of a new device that will solve many of your tough installation problems. See the next two pages for a complete listing of IRC controls. See the last page of this insert for IRC's latest contribution to TV servicing. Take your coupon and an order for IRC controls to your jobber and get one **AT NO COST.**

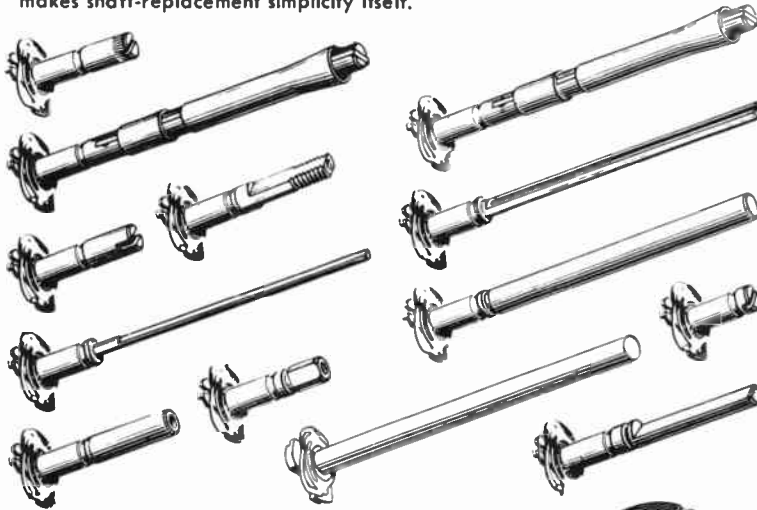
DESIGNED WITH YOU IN MIND



Here's the versatile IRC Type Q Volume Control—specially designed for radio and TV technicians. 60 plain and tapped Q Controls give widest coverage of your TV, AM and FM requirements. Knob Master Fixed Shaft and Interchangeable Fixed Shaft feature let you service replacement needs with only a nominal control stock. Type Q is small, compact, only 1 3/16" in diameter and has short 1/4" bushing. You can use it in small sets where space is at a premium—yet it meets the requirements of larger receivers just as efficiently.

SMALL STOCK - WIDEST COVERAGE

You'll need far fewer controls to service replacements when you have these Interchangeable Fixed Shafts on hand. It's so easy to remove the IRC Knob Master Fixed Shaft (which handles most knob requirements) and replace with one of 13 Interchangeable Fixed Shafts. And that's the most convenient way to get widest coverage of replacement needs with fewest possible controls; the original IRC Resilient Retainer Ring makes shaft-replacement simplicity itself.

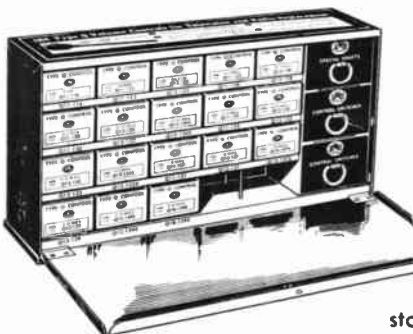


SPECIALLY ENGINEERED FOR IRC Q CONTROLS

IRC's new Type 76 Switch is quickly, easily attached to Q Controls because it is made for them. Available in two types—76-1 Single Pole Single Throw and 76-2 Double Pole Single Throw.



HANDY BENCH SUPPLY OF Q CONTROLS IN CONVENIENT CABINET



When you need a control in a hurry, it's there—in this handy, handsome metal volume control cabinet. Stocked with 18 new Type Q Controls, plus switches and special shafts, this compact kit covers over 90% of all TV, AM and FM control replacements. This stock is basic—and you pay nothing extra for the sturdy, good-looking cabinet. Dealer net price only \$18.54.

60 PLAIN & TAPPED Q CONTROLS GIVE WIDEST COVERAGE OF TV, FM and AM REQUIREMENTS

RESISTANCE OHMS	TAP	IRC STOCK No.	TAPER	USUAL USE
500	—	Q11-103	A	4, 18—L
1K	—	Q11-108	A	4—L
2K	—	Q13-110	A	4, 16—L
2.5K	—	Q13-111	C	0
3K	—	Q11-112	A	L
5K	—	Q11-114	A	1, 4, 8, 13, 16, 17—L
7.5K	—	Q11-115	A	4—L
10K	—	Q11-116*	A	4, 16—B, L
10K	—	Q13-116	A	
10K	—	Q14-116*	C	D
20K	—	Q11-119	A	8, 9—L
20K	—	Q16-119*	Spec. B	
25K	—	Q11-120	A	3, 4, 8, 9, 10, 11, 12—L
25K	—	Q14-120*	D	K
30K	—	Q11-121	A	4, 9, 10—L
50K	—	Q11-123	A	3, 9—L
50K	—	Q13-123	C	N
50K	—	Q14-123*	D	B
0.1 meg	—	Q11-128	A	2, 3, 15, 17—L
0.1 meg	—	Q13-128	C	E, N
0.25 meg	—	Q11-130	A	3, 6, 9, 17—L
0.25 meg	—	Q13-130	C	E, N
0.25 meg	0.125 meg	Q13-130X	Spec. F	
0.25 meg	60K	Q18-130X	H	G
0.25 meg	60K-0.12 meg	Q18-130XX	Spec. H	
0.35 meg	—	Q13-132	C	E, N
0.35 meg	35K	Q17-132X	Spec. G	
0.35 meg	75K	Q18-132X	H	G
0.5 meg	—	Q11-133	A	3, 4, 9, 12, 15, 17—L
0.5 meg	—	Q13-133	C	E, N
0.5 meg	0.125 meg	Q13-133X	H	G
0.5 meg	—	Q14-133	D	M
0.5 meg	25K	Q17-133X	Spec. G	
0.5 meg	50K	Q18-133X	Spec. G	
0.5 meg	0.25 meg	Q19-133X	Spec. G	
0.5 meg	0.1 meg-0.2 meg	Q18-133XX	Spec. H	
1.0 meg	—	Q11-137	A	3, 12, 15, 16—L
1.0 meg	—	Q13-137	C	E, N
1.0 meg	0.25 meg	Q13-137X	H	H
1.0 meg	—	Q14-137	D	N
1.0 meg	35K	Q17-137X	Spec. G	
1.0 meg	50K-0.1 meg	Q17-137XX	Spec. H	
1.0 meg	0.1 meg	Q18-137X	Spec. G	
1.0 meg	0.25 meg-0.5 meg	Q18-137XX	Spec. H	
1.0 meg	0.5 meg	Q19-137X	Spec. G	
1.0 meg	0.5 meg	QVC-539X	Spec. J	
1.5 meg	—	Q11-138	A	15
2.0 meg	—	Q11-139	A	4, 5, 6, 7, 12, 14, 15, 17—L
2.0 meg	—	Q13-139	C	E, N
2.0 meg	0.5 meg	Q13-139X	H	G
2.0 meg	0.5 meg-1.0 meg	Q13-139XX	Spec. H	
2.0 meg	0.15 meg	Q17-139X	Spec. G	
2.0 meg	1.0 meg	Q18-139X	Spec. G	
2.0 meg	0.25 meg-0.5 meg	Q18-139XX	Spec. H	
2.0 meg	50K	Q19-139X	Spec. G	
2.5 meg	—	Q11-239	A	5, 6, 17—L
3.0 meg	—	Q11-140	A	5, 7, 14—L
3.0 meg	—	Q13-140	C	E
5.0 meg	—	Q11-141	A	5, 7, 14, 15, 16, 17, 18—L
10.0 meg	—	Q11-143	A	6, 16, 18—L

TELEVISION USES

- 1—A. G. C. Automatic Gain Control
- 2—A. F. C. Automatic Frequency Control
- 3—Brightness Control
- 4—Contrast Control
- 5—Focus Control
- 6—Height Control
- 7—Horizontal Centering Control
- 8—Horizontal Drive Control
- 9—Horizontal Hold Control (Sync.)
- 10—Horizontal Linearity Control
- 11—Horizontal Peaking Control
- 12—Horizontal Size Control
- 13—Sensitivity Control
- 14—Vertical Centering Control
- 15—Vertical Hold Control (Sync.)
- 16—Vertical Linearity Control
- 17—Vertical Size Control
- 18—Width Control

RADIO USES

- A—Antenna Control
- B—Antenna Grid Bias Control
- C—Antenna Grid Bias of 1 tube
- D—Antenna Grid Bias of 2 tubes
- E—Audio Volume Control
- F—Audio Control with AVC Tap
- G—Audio Control with Tone Tap
- H—Audio Control with Two Tone Taps
- J—Fader Control
- K—Grid Bias Control
- L—Potentiometer Voltage Divider
- M—R. F. Plate Control
- N—Tone Control
- O—Panel Section for L & T Pads

*—These controls are supplied with 270 ohm BW-1/2 (1/2 watt) insulated wire wound resistor.

STOCK NUMBERS. IRC stock numbers are the same as used on D and DS controls—only the prefix letter is changed to Q.

VOLUME CONTROL CABINET Assortment #9

QUANTITY	Q CONTROL NO.	RESISTANCE VALUE	QUANTITY	Q CONTROL NO.	RESISTANCE VALUE
1	Q11-116	10 K	2	Q13-133	0.5 meg
1	Q11-123	50 K	1	Q13-133X	0.5 meg
1	Q13-123	50 K	1	Q11-137	1.0 meg
1	Q11-128	0.1 meg	1	Q13-137	1.0 meg
1	Q13-128	0.1 meg	1	Q13-137X	1.0 meg
1	Q11-130	0.25 meg	1	Q13-139	2.0 meg
1	Q13-130	0.25 meg	1	Q13-139X	2.0 meg
1	Q13-130X	0.25 meg	1	Q18-139X	2.0 meg
1	Q11-133	0.5 meg			

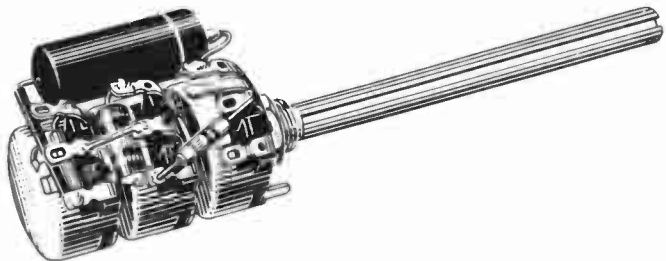
SWITCHES

- 6 76-1 SPST Quickly attached switch.

SPECIAL SHAFTS

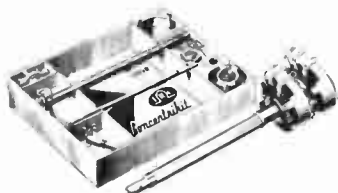
- 1 BQ Shaft—Universal slotted and tongued—3 1/2" long.
- 1 GQ Shaft—Short slotted shaft—1 1/2" long.
- 2 HQ Shaft—Flatted and grooved shaft—1 1/4" long.
- 1 NQ Shaft—Universal flatted and slotted shaft—3/4" diameter.

NEW IRC CONTINUOUSLY COMPENSATED LOUDNESS CONTROL TYPE LCI



Here, at last, is a continuously compensated loudness control that does what tapped volume controls, bass and treble boost circuits, and stepped type loudness controls have tried to do. Installed as easily as a volume control, the new Type LCI is a continuously compensated control that actually boosts lows and highs as volume is decreased—maintains depth and brilliance of tone. For television, radio, record players, amplifiers. Here's a real business builder—the loudness control your customers have been waiting for.

FULL CONCENTRIC-DUAL COVERAGE WITH FAR LESS INVENTORY



No more searching or waiting for exact duplicates—no more overloaded inventories! IRC's CONCENTRIKIT™ of universal parts lets you assemble over 90% of all the replacement concentric duals for TV, auto radios, home receivers. Easy to put together, too, and your investment is small. CONCENTRIKIT actually covers more than 682 TV models in the new IRC TV Control Manual!

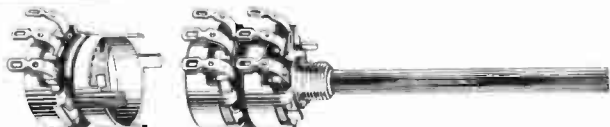
YOUR CONCENTRIKIT STOCK ASSORTMENT IN A HANDSOME METAL CABINET

Here's everything you need for fast assembly of concentric duals for TV and home and auto radios. This handsome metal cabinet contains 94 separate parts, including 4 complete CONCENTRIKITS—covers RCA, Admiral, Air King, Belmont, Emerson, General Electric, Motorola, Philco, Westinghouse, Zenith and many others. Dealer net price only \$24.78.



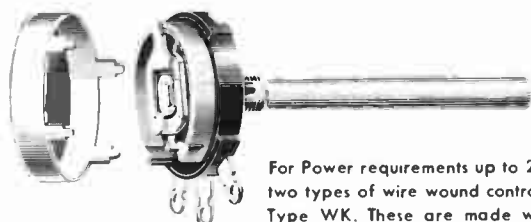
Concentrikit ASSORTMENT #13			
Complete Concentrikits	4	Base Elements	3
Base Elements		Inner Shaft Ends	3
B11-108	1	E187	1
B11-114	1	E190	1
B11-115	1	E202	2
B11-116	1	Sleeve Bushings	
B17-116	1	S4	1
B11-119	1	S5	1
B11-120	1	Resilient Retainer Rings	10
B11-121	1	Switches	3
B11-123	2	76-1	
B11-128	2		
B11-130	1		
B13-130	2		
B13-130X	1		
B18-130X	1		
B18-132X	1		
B11-133	2		
B13-133	2		
B13-133X	1		
B18-133X	1		
B19-133X	1		

STANDARD DUALS ARE EASY, TOO, WITH IRC MULTISECTIONS



With IRC Multisections, you can assemble an endless variety of duals, triples, even quadruples. Simply attach these versatile rear sections to IRC Q Controls as you would a switch. A full range of 20 Multisections gives you coverage of values from 500 ohms to 10 megohms!

DEPENDABLE 2-WATTS



For Power requirements up to 2 watts, IRC offers two types of wire wound controls—Type W and Type WK. These are made with tight, uniform windings, to assure accuracy. Diameter is 1 1/4", shaft length 3" from control face, shaft 1/4" full round. Type WK differs from Type W only in that it is equipped with Knob Master Shaft for fitting to both knurled and flatted knobs used in TV sets.

IRC BASE-ELEMENT ASSEMBLIES FOR CONCENTRIKIT

RESISTANCE	STOCK No.	TAPER	TAPS
1K	B11-108	A	
2K	B17-110	Spec.	
3K	B11-112	A	
5K	B11-114	A	
5K	B17-114	Spec.	
7.5K	B11-115	A	
10K	B11-116	A	
10K	B17-116	Spec.	
20K	B11-119	A	
25K	B11-120	A	
30K	B11-121	A	
50K	B11-123	A	
.1 meg	B11-128	A	
.25 meg	B11-130	A	
.25 meg	B13-130	C	
.25 meg	B13-130X	Spec.	.125 meg
.25 meg	B18-130X	H	60K
.35 meg	B13-132	C	
.35 meg	B17-132X	Spec.	35K
.35 meg	B18-132X	H	75K
.5 meg	B11-133	A	
.5 meg	B13-133	A	
.5 meg	B13-133X	C	.125 meg
.5 meg	B18-133X	Spec.	50K
.5 meg	B19-133X	Spec.	.25 meg
1.0 meg	B11-137	A	
1.0 meg	B13-137	C	
1.0 meg	B13-137X	H	.25 meg
1.0 meg	B17-137	Spec.	
1.0 meg	B18-137XX	Spec.	.25 and .5 meg
1.0 meg	B19-137X	Spec.	.5 meg
1.5 meg	B11-138	A	
2.0 meg	B11-139	A	
2.0 meg	B13-139	C	
2.0 meg	B13-139X	H	.5 meg
2.0 meg	B17-139	Spec.	
2.0 meg	B18-139X	Spec.	1.0 meg
2.0 meg	B18-139XX	Spec.	.25 and .5 meg
5.0 meg	B12-141	Spec.	

STOCK VALUES OF IRC MULTISECTIONS

RESISTANCE IN OHMS	TAPER	IRC STOCK NO.
500	A	M11-103
1K	A	M11-108
2K	A	M11-110
5K	A	M11-114
10K	A	M11-116
25K	A	M11-120
50K	A	M11-123
0.1 meg	A	M11-128
0.1 meg	C	M13-128
0.25 meg	A	M11-130
0.25 meg	C	M13-130
0.5 meg	A	M11-133
0.5 meg	C	M13-133
1.0 meg	A	M11-137
1.0 meg	C	M13-137
2.0 meg	A	M11-139
2.0 meg	C	M13-139
3.0 meg	C	M13-140
5.0 meg	A	M11-141
10.0 meg	A	M11-143

IRC Control No.	Resistance Ohms	Max. Current (Amps.)	IRC Control No.	Resistance Ohms	Max. Current (Amps.)
W-2	2	1.000	W-300	300	.083
W-3	3	.815	W-400	400	.071
W-5	5	.630	W-500	500	.063
W-6	6	.560	W-750	750	.052
W-8	8	.500	W-1000	1000	.045
W-10	10	.450	WK-1000	1000	.045
W-15	15	.370	WK-1500	1500	.036
W-20	20	.320	W-2000	2000	.032
W-25	25	.285	WK-2000	2000	.032
W-30	30	.260	WK-2500	2500	.028
W-40	40	.225	W-3000	3000	.026
W-50	50	.200	WK-3000	3000	.026
W-60	60	.183	W-4000	4000	.022
W-75	75	.164	W-5000	5000	.020
W-100	100	.142	W-7500	7500	.016
W-200	200	.100	W-10000	10000	.014
WK-250	250	.089	WK-10000	10000	.014

TELEVISION CENTERING CONTROLS

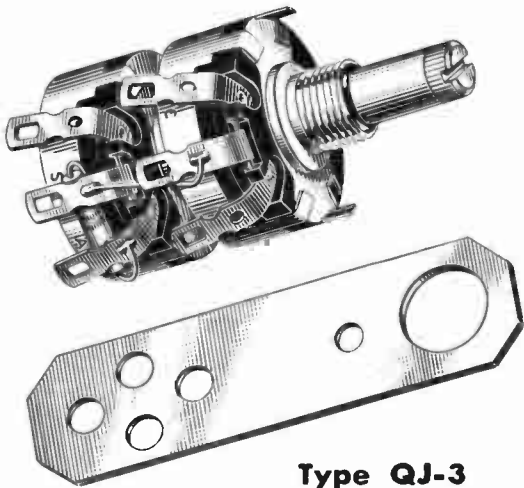
W10X5 10 ohms—center tapped at 5 ohms
 W20X10 20 ohms—center tapped at 10 ohms
 W30X15 30 ohms—center tapped at 15 ohms
 W50X25 50 ohms—center tapped at 25 ohms

TYPE W SWITCHES

No. 51—S.P., S.T. No. 56—S.P., D.T.
 No. 52—D.P., S.T. at clockwise
 No. 53—S.P., D.T. position
 No. 54—Three Point No. 57—S.P., S.T.
 No. 55—Four Point with dummy lug

*IRC trademark for a kit of parts for concentric dual controls.

...AND HERE'S THE BIG NEWS



Type QJ-3

IRC'S NEW TV ATTENUATOR

For Ready Adjustment of Signal Input to TV Sets

- Reduces overloading effects on TV sets in strong signal areas.
- Diminishes inter-station interference caused by nearby or powerful stations.
- Minimizes buzz due to high signal level in inter-carrier systems.
- Permits easy adjustment of signal right at set.
- Frequently prevents mismatch of antenna load to set.

Where excessive signal strength has a bad effect on picture and sound—Type QJ-3 TV Attenuator may reduce those effects or cure them completely. Here are some of the results of excessive signal strength often corrected by the QJ-3:—Adjacent channel interference, background pictures on weaker stations, horizontal or vertical patterns in

picture, poor picture definition, annoying hum or buzz, and picture and sound breakover. Easily installed, the QJ-3 readily permits adjustment of signal level to overcome these undesired effects in the majority of installations. You'll find it useful, also, in duplicating fringe area signals when shop is near strong local stations.

SPECIAL OFFER

NEW TV ATTENUATOR AT NO EXTRA COST

To every customer ordering \$30 (dealer cost) of IRC Controls, we offer—at no extra cost—one of these rugged, efficient TV Attenuators, Type QJ-3. This attenuator sells regularly for \$3.30 list price. To get yours, simply take or send your order, with the coupon at the bottom of this page, to your nearest IRC Jobber.



INTRODUCTORY OFFER COUPON

This coupon, when presented to an IRC Distributor before Jan. 1, 1952, and accompanied by an order for \$30 (dealer cost) of IRC products listed on two preceding pages—entitles the customer to one (1) IRC Television Attenuator, Type QJ-3, at no additional cost.

Customer's Name _____

IRC Distributor _____

INTERNATIONAL RESISTANCE COMPANY
PHILADELPHIA, PENNSYLVANIA



INTERNATIONAL RESISTANCE COMPANY

401 N. Broad Street, Philadelphia 8, Pa.

In Canada: International Resistance Co., Ltd., Toronto, Licensee

Wherever the Circuit Says



ACCOUNTING FOR THE TELEVISION SERVICE CONTRACTOR

By

BENJAMIN HANDLER, C.P.A.

An Analysis of One of the Most Important Tools of Modern Business

"No man can use yesterday's tools today and expect to succeed tomorrow." I do not recall the author, or the time and place but the significance of that sentence is most apparent, especially to the television service contractor. The technical demands of the electronic medium in which he works require the best in testing instruments and tools and without them he will surely fail in his efforts to serve the public and stay in business.

Besides being a technician he is also a business man. If he is to be a successful business man, he must quickly realize that one of the most important tools of modern business is the accounting system. The man on the bench needs a fine electronic testing instrument in order to diagnose the ailment in the television set he is working on. He also needs blueprints showing circuits and hook-ups. In like manner the television service contractor must have an accounting system in operation that will give him information essential to the successful management of his business.

The average business man is primarily interested in the answer to these five questions.

1. What do I own?
2. What do I owe?
3. How much profit have I made?
4. How much tax do I owe?
5. What am I worth?

These questions are basic and sometimes a simple memorandum type of bookkeeping will furnish the answers. But the television service contractor requires much more in order to run his business efficiently. He must have up-to-date information, arranged in comparative form so that he can compare the operations of the current month with that of the preceding month or the same month of the preceding year. By analyzing these comparative figures and observing the trends, the television service contractor will be able to ascertain the specific causes that have contributed to the success or failure of the current month's operation.

Because of the keen competition with which he is faced, the television service contractor cannot rely on his memory when making decisions as to management policy. His decisions must be based upon experience as reflected by operating statements compiled from his accounting system. The television service contractor needs and the proper accounting system can give him a diagnosis of current and past performance. Such a blueprint will enable him to efficiently control the operations of his business.

Knowledge of Business Needed

Lack of such information can easily lead to the failure of the television service contractor. Too many times, a large "Cash in Bank" balance, but lack of accurate information as to operating results has deluded management and resulted in over-expansion which was unwarranted by past performance or which did not take into consideration the impact of Federal Income Taxes, etc.

The proper accounting system is one which will enable Management to receive information as to the condition of his business and the results of operations, presented in such a manner that he will be able to determine the best policy for the future.

The accounting system has three major purposes—(1) to record business transactions (2) to safeguard assets, and (3) to control operations. The accounting system must also provide "tax control" so that business policies and methods of recording transactions, although

in strict conformity with Federal, State and local tax law, will nevertheless result in the minimizing of the tax burden.

Such an accounting system is not necessarily one which is expensive to install and maintain. Although larger in scope than the one-man radio repair shop of yesteryear, the average television service contractor does not maintain an extensive organization and the accounting system must be designed to give him the required information at the minimum cost. A happy medium must be reached between the extreme of "too much system" or "not enough system" with the result that the system installed is both adequate and never needlessly complicated.

It is not my purpose here to set forth a complete double entry system. The needs of a television service contractor can be satisfied with the proper use of only a few journals, ledgers and supplementary records. My experiences with television service contractors indicate that the necessary books are usually present, but it is seldom that proper use is made of them.

Analysis Important

The fault lies chiefly with the absence of a chart of accounts that will provide the variety of breakdowns, classifications and analysis of business transactions. All too frequently revenue from all sources will be lumped together in one account called "SALES" or one payroll account is provided for all employees regardless of their various functions. A comparison of sales or payroll in one period with those of a preceding period has no meaning if there is no breakdown of the sales or payroll into specific categories. An "Office Expense" amount is of little significance if into that account is placed telephone, stationery and printing, dues and subscriptions, insurance and sundry other expenses.

Such comparisons are of absolutely no value to Management because any

significant changes or trends in sales, payroll and expenses will not be revealed by such comparisons. Thus the sales volume for the month of September of 1951 and 1950 may be identical but actually important changes may have occurred; annual contract renewals may have decreased 50% but C.O.D. Service Call revenue may have increased sufficiently to make up the difference. Does a change of this nature indicate an important trend? If installation revenue has decreased 40%, has there been a corresponding decrease in wages paid to installation men and in truck operating costs? If the number of outstanding service contracts and C.O.D. service calls has decreased or increased 50%, what changes have taken place in the amount of wages paid to servicemen?

In considering future policy has provision been made for the unearned income on warranty contracts which are outstanding? The answers to these and

similar questions are important to management but they cannot be answered unless the Classification of Accounts is adequate and the journals are properly set up.

The first essential is to set up an organization chart which gives a graphic picture of the ranking of authority and departmental functions within the business. The chart shown is a simple but typical one, which can be expanded whenever the need becomes apparent.

Having determined the basic organization, the next step is to set up a chart of accounts properly classified, without which there can be no satisfactory system.

The following classification of accounts is not necessarily final or comprehensive. It is illustrative and therefore does not include every possible account, but it does provide the basic detailed information previously commented on.

CLASSIFICATION OF ACCOUNTS FOR A TELEVISION SERVICE CONTRACTOR

- Assets*
- CURRENT ASSETS**
1. Cash on Hand
 2. Cash in Bank
 3. Accounts Receivable — Dealers
 4. Accounts Receivable — Service Contracts
 5. Accounts Receivable — Sundry
 6. Loans and Exchanges
 7. Inventory — Material and Supplies
- FIXED ASSETS**
10. Automotive Equipment
 11. Estimated Depreciation to Date
 12. Shop Equipment and Instruments
 13. Estimated Depreciation to Date
 14. Furniture and Fixtures
 15. Estimated Depreciation to Date
- OTHER ASSETS**
17. Prepaid Insurance
 18. Deposits with Others
- Liabilities*
- CURRENT LIABILITIES**
20. Notes Payable Bank
 21. Notes Payable — Others
 22. Accounts Payable
 23. Loans Payable
 24. Accrued Payroll
 25. Accrued Expenses
 26. Accrued Federal Payroll Taxes
 27. Accrued State Payroll Taxes
 28. Accrued City Payroll Taxes
 29. Accrued Federal Income Taxes
- OTHER LIABILITIES**
30. Unearned Income on Warranties
- Net Worth*
40. Net Worth, John Doe
 41. Personal Drawings, John Doe

- Revenue and Costs*
- SALES**
50. Outdoor Installation and Warranty
 51. Indoor Installation and Warranty
 52. Outdoor Installation Only
 53. Indoor Installation Only
 54. 2nd Year Warranty Renewals
 55. 1st Year Warranty
 56. Service Calls
- PAYROLL AND PURCHASES**
60. Shop Foreman
 61. Benchmen
 62. Installations — Service Manager
 63. Servicemen
 64. Installation Men
 64. Office Manager
 65. Office Help
 66. Purchases — Materials and Supplies
- Operating Expenses*
70. Employees Auto Expense
 71. Auto Expenses — Company Trucks, etc.
 72. Depreciation on Company Trucks, etc.
 73. Insurance — Company Trucks, etc.
 74. Rent
 75. Depreciation — Shop Equipment
 76. Depreciation — Furniture and Fixtures
 77. Insurance — General
 78. Electricity and Heat
 79. Telephone and Telegraph
 80. Repairs and Maintenance
 81. Shop Expenses
 82. Stationery, Printing and Postage
 83. Advertising
 84. Professional Fees
 85. Traveling Expense
 86. Entertainment
 87. Dues and Subscriptions
 88. Payroll Taxes
 89. Sundry Taxes
 90. General Expenses

- Other Income*
100. Discount on purchases
 101. Sundry Income

- Other Deductions*
110. Interest Paid
 111. Sundry Other Deductions

The preceding classification follows closely the manner in which the accounts would be shown on a Statement of Condition and a Statement of Operations. The operating expenses can be exhibited to better advantage under these two headings. Fixed Expenses and Controllable Expenses as follows:

- Fixed Expenses*
70. Depreciation — Company Trucks
 71. Insurance — Company Trucks
 72. Rent
 73. Depreciation — Shop Equipment
 74. Depreciation — Furniture and Fixtures
 75. Insurance — General
 76. Electricity and Heat
 77. Telephone and Telegraph
 78. Professional Fees
 79. Dues and Subscriptions

- Controllable Expenses*
80. Employees Auto Expenses
 81. Auto Expenses — Company, trucks, etc.
 82. Repairs and Maintenance
 83. Shop Expenses
 84. Stationery, Printing and Postage
 85. Advertising
 86. Traveling Expenses
 87. Entertainment
 88. Payroll Taxes
 89. Sundry Taxes
 90. General Expense

The *Fixed Expenses* are fixed in a literal sense and ordinarily they will not vary from month to month. The *Controllable Expenses*, however, will vary with the sales volume or according to management policy. Thus auto expenses will increase as sales volume increases and advertising will be greater or less as per decisions of management on advertising policy. The distinction between these two categories is important since the Fixed Expenses do not require the amount of attention from management as the Controllable Expenses.

The cash and other journals will necessarily be columnarized in accordance with the agreed upon Classification of Accounts. The provision of special columns in the sales journal will make possible the compilation of statistics which can be useful to management.

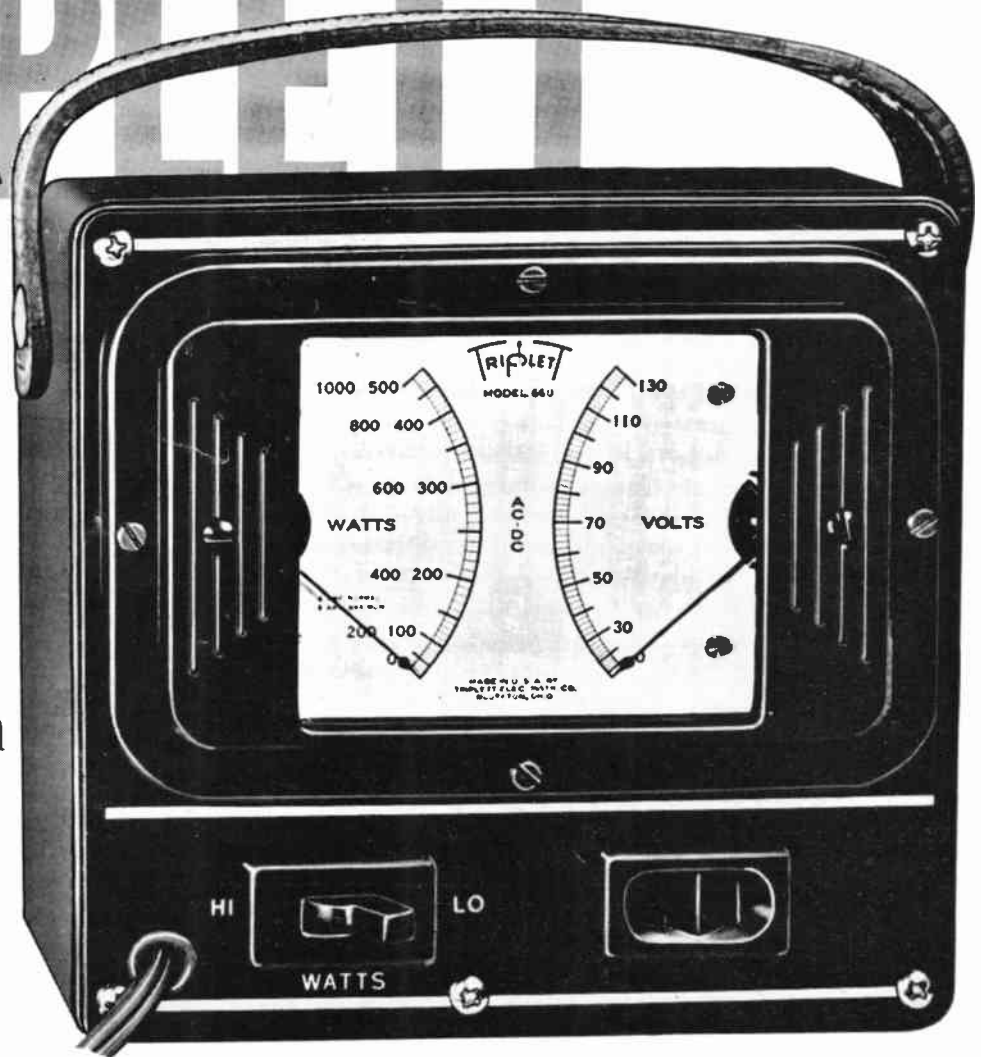
If it be true that accounting is the "language of business" then every television service contractor owes it to himself to have and cherish this language.

TRIPLETT

Load-Chek

introduces
Servicing
by
Power
Consumption

MODEL 660



LOAD-CHEK for the first time makes it possible for every technician to utilize what is perhaps the simplest and quickest of all service methods—Servicing by Power Consumption Measurements.

Power consumption measurement has long been proved by auto-radio servicemen as a rapid method of localizing troubles in auto radios. But Triplett's new **LOAD-CHEK** is the first Wattmeter to be produced at moderate cost, and with the proper ranges, to bring this short-cut method within the reach of every radio and TV service man.

Basis of the **LOAD-CHEK** method is the tag or label on every radio and TV chassis which shows the normal power consumption. The following examples are only two of many time-saving uses of this new instrument.

LOCATING A SHORT—The chassis tag may show a normal consumption of 225 Watts. Simply plug the power cord of the chassis into **LOAD-CHEK** (there are no loose ends to connect or be in the way). Note the reading—which should be possibly 350 Watts. By removing the

rectifier tube you can determine at once which side of the tube the short is on. With a soldering iron and long-nosed pliers you can check through the chassis, locate and correct the trouble without having to lay down tools or to check with lead wires!


REPLACING BURNED OUT RESISTORS—With the chassis to be repaired plugged into a **LOAD-CHEK MODEL 660**, note the wattage reading with the burned out resistor circuit open. Now replace the resistor. Should the increase in watts be greater than that of the resistor rating being installed, it indicates that an extra load has caused the trouble which has not been cleared.

LOAD-CHEK is made-to-order for the busy service man and can help stop costly "come back" repair jobs. It's a profit-maker because it's a Time-Saver. And at its moderate cost **LOAD-CHEK** can be standard equipment on every service bench. *By all means, inspect this versatile instrument at your distributor and place your order, for under present conditions we must fill all orders on a basis of "First Come, First Served."*

SEE MODEL 660 LOAD-CHEK AT YOUR DISTRIBUTOR'S



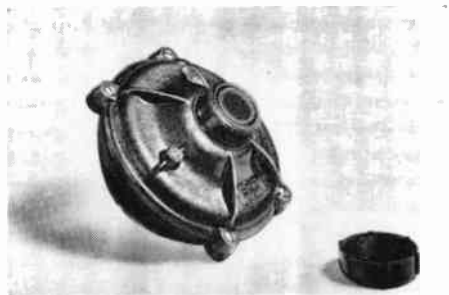
P RODUCT REVIEWS



DIAPHRAGM ASSEMBLY

The Model DQ driver unit, first of a line of public address trumpets, driver units and paging speakers introduced by Audicraft Inc., 77 South 5th Street, Brooklyn, N. Y.

The DQ is a heavy duty unit handling 30 watts of program material, withstanding peaks of 80% over this figure.



One of the exclusive features of the unit is a frequency response to the upper limit of the audio range, achieved

for the first time in public address. Sound becomes strikingly brilliant and familiar through reproduction of the overtones and harmonics to which we have unknowingly become accustomed in live music and speech.

To assure long life and service under all conditions, to the rugged, waterproof construction of the DQ is added another revolutionary first, the patented "Self-Instal" Diaphragm Assembly. In this simple compact part have been incorporated all elements of the vibrating system. Instant replacement of the Assembly may be made at the point of speaker operation with only a screw-driver.

Terminal corrosion has been eliminated through use of a completely enclosed terminal block integrally molded into the high impact phenolic case. The head of the unit is a zinc alloy casting processed to resist corrosion and improve adhesion to the baked enamel hammertone finish.

The unit is universal and may be coupled to any standard straight or re-entrant trumpet.

NEW ANTENNA KITS

Ward Products Corporation, 1523 East 45th Street, Cleveland, Ohio, has announced the introduction of two new TV antenna kits. Called Ward Installation Kits, they make available, in a

single package, all the components required for a TV antenna installation.

For local installations, there is the single stack package, Model TV-105 and, for fringe areas, the double stack Model TVS-103. Each package includes a conical antenna, mast, lead-in, stand-offs, pipe strap, base, and other installation material. The double stack package has an additional antenna bay and mast.

Ward is featuring the kits as a way to "stop hidden costs and make plus profits." They are now available through radio distributors everywhere and free literature can be obtained from Ward Products Corporation.

COMMERCIAL TV AMPLIFIER


Blonder-Tongue Laboratories, 38 N. Second Ave., Mt. Vernon, N. Y., has just introduced a new type commercial TV amplifier.

Their new unit, called the Commercial Antensifier, is a 4-tube, 4-stage TV signal amplifier that will supply the spectacular gain of 30 times (30 db.) on all channels simultaneously. Operation is automatic, without tuning or adjustment. It is the only all-channel TV amplifier available that fulfills all commercial installation requirements.

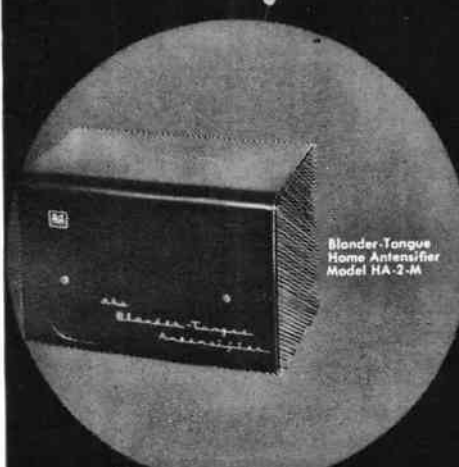


This unit can be used with the Blonder-Tongue, and every other master antenna distribution system, to overcome line losses at any point in the system. In weak signal areas, it can be used as a pre-amplifier for the distribution system. It will now be possible to supply up to 2000 TV sets, in a master antenna installation, by the use of B-T Commercial Antensifiers.

The ordinary screw-type terminals on the Commercial Antensifier make installation faster and easier, since no special connectors are needed. Built-in transformers provide a superb line match for both 75 and 300 ohm transmission lines, at input and output terminals. The four dual-triode tubes (2 6J6 and 2 6BQ7) yield the greatest gain and the lowest noise factor. These exclusive features make the B-T Commercial Antensifier a necessity for any TV distribution system now operating, or



1 x BTA = 12 x Ord U *



* One Blonder-Tongue antensifier replaces 12 ordinary boosters. Automatically amplifies all channels 16 times

Blonder-Tongue Home Antensifier Model HA-2-M

TV boosters and master antenna systems

BLONDER-TONGUE LABORATORIES • 38 n. second ave., mt. vernon, n. y.

being planned.

It is housed in a ventilated metal cabinet, finished in gray hammertone, and is equipped with On-Off switch and signal light. This unit has been submitted for U. L. Approval.

SERVICE TOOL

Hytron Radio & Electronics Co., Salem, Massachusetts, recently introduced a Pick-Up Stick for service use.



Its special wax tip picks up screws, nuts, etc., dropped into inaccessible spots in radio chassis. It also holds head of screw in those impossible-to-reach spots while starting nut. Just a slight pressure of the special wax tip does the trick. Pick-Up Stick doubles in brass as a pencil too.

Servicemen may get their Pick-Up Sticks from their Hytron jobber or distributor.

BRIGHTNESS RESTORER

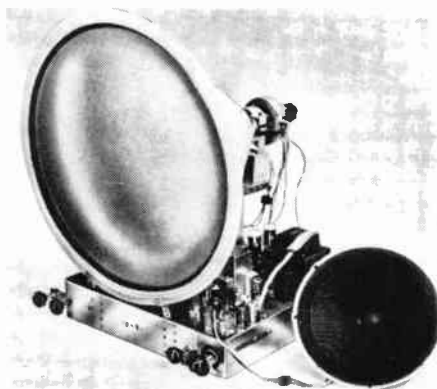
Electro-Steel Products, Inc., 641 Arch Street, Philadelphia, Pa., introduced a new device that restores brilliance to worn out picture tubes. PICBOOST is easy to install in the television receiver and supposedly brings back the brightness that was lost because of low emission.



NEW TV CHASSIS

Tech-Master Products Co., 443 Broadway, New York 13, N. Y., announces the addition of three new custom built models for 24-inch picture tubes to their line of TV chassis. These are Models 2430, 2431P, and 2431C.

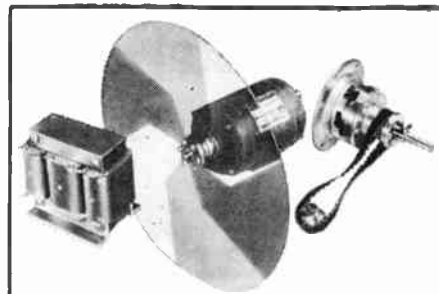
Model 2430 has been designed specifically for all picture tubes requiring from 65 to 70 horizontal degrees deflection (such as 24AP4, 20CP4, 19AP4, etc.) and is supplied with a 5" x 7" PM speaker and Universal Picture Tube Mounting Brackets. Model 2431P is similar to Model 2430 but contains in addition Push-Pull Audio and a phono input jack. 2431P is supplied with a 12" PM speaker and Universal Picture Tube Mounting Brackets. Model 2431C is basically the same as 2430, but with continuous tuner, Push-Pull Audio, and phono input jack, allowing for complete coverage of both TV and FM bands. 2431C is supplied with 12" PM speaker, and Universal Picture Tube Mounting Brackets.



All three models include an AFC horizontal hold, employing sync discriminator transformer; three stage sync amplifier, separator, and clipper circuit; and FM sound systems employing discriminator type audio detector. Also featured are noise saturation circuits; three stage audio IF system; four stage, stagger tuned video IF system; full 4 Mc band width; adjacent channel traps; and direct coupling for use with keyed AGC circuits.

Special color converter connections are provided for adoption to any color TV system, and ultra high frequency channels can be accommodated by simply interchanging tuner strips. A sensitivity of better than 15 Microvolts for 1 volt DC at the detector load is provided through the most advanced 12 channel turret type tuner and the four stage video IF system operating on a normal AGC bias. The keyed AGC will provide stable contrast level, regardless of transmission conditions, and the new TECH-MASTER "High Sweep" System, along with 15 to 16 KV, gives full horizontal electromagnetic deflection of 70 degrees. Horizontal linearity is assured by the new type ferrite core HV transformer.

All chassis are supplied completely wired, aligned, and tested with all tubes, less picture tubes. Available at all leading radio and electronics part jobbers.



COLOR CONVERTER KITS

Convert TV set to receive CBS Color



NEW!

COLOR TIMING GENERATOR

Provides sync pulses for adjusting color wheel control and sweep circuits to new frequencies. . . .

Write today for complete data

COLOR SALES CO.

576 West Merrick Road, Lynbrook, L. I., New York
First Manufacturer of Complete Color Converter Kits

"PRE-FAB" AUDIO UNITS



The Collins Audio Products Company, Inc., P. O. Box 368, Westfield, N. J., has introduced a number of "Pre-fab" units which allow the individual to construct his own FM Tuner by merely assembling the units into the punched chassis and wiring up the power supply.

There is presently available two tuning units, the FMF-2 and FMF-3; three IF amplifiers, IF-3, IF-4, and IF-6; and a universal chassis kit UC-1. Made of precision components, each unit is pre-

(Continued on page 25)

SCARED OF YOU

(Continued from page 9)

should be serviced or checked every six months. (The request for service for the average radio set, however, comes only once a year. But it should be oftener, and you can help make it oftener.)

How Often?

Reaching your customers and prospects about once every two weeks is usually sufficient to keep them thoroughly reminded of your service. But don't let more than one month go by without getting in touch with them.

Intervals between advertising should be shorter at first than later. It takes more effort to start things than to keep them rolling. It takes more effort to get people to know your service than to keep them reminded of it.

How Wide?

Don't try to spread your advertising over too wide an area. You may spend your money too fast, or spread the intervals too much. It's essential to be well known first by people near your shop because of the lower cost of servicing.

When to Start?

The time to start an advertising campaign into homes is as soon as possible. Advertising can do a great deal to help you banish seasonal ups and downs in your service business.

How Much Will It Cost?

Make a plan and estimate the cost on an "if" basis at first. "If" you use certain window and store-interior display items — "if" you mail certain pieces to 500 names once a month for six months — "if" you use 100 calendars — "if" you use a two-inch ad in the phone book — "if" you use a 5-inch ad in one newspaper once a week — how much will it add up to? Then you can increase or cut down your plans to fit your pocketbook.

For monthly budgeting: say you are figuring on a six-months' basis, divide the total by six.

Set Definite Dates for Your Advertising

When you start your advertising, keep it up on a set schedule. Put down dates for the various ads, mailings, etc., and don't get careless about keeping your dates.

Advertising will pay you if you will believe in it and will keep at it faithfully. At times it may not seem to be getting results, but it will work like magic if you keep hammering away.

Advertising works by erosion — not explosion.

Should Advertising Be Followed by Phone and Personal Calls?

It is doubtful that it pays to call prospects by phone or call on them in person to secure service business, unless you also sell sets and appliances.

However, phone follow-up of old customers to ask if their sets are working well is always a good-will builder. Also, if you have something special to offer in service and equipment, phone calls pay off. Usually a girl with a nice voice gets the best results. Your phone company may help you to get such a girl.

A dealer or service organization selling auto radio repair service can often profit by calling on car dealers. And a service organization which wants to sell service on radio or TV sets through set dealers who do not provide service can often profit by calling personally on such dealers (big department or main street stores, for example). There may also be profit in calls on institutions, such as hotels, clubs, hospitals, schools, etc., where there may be many radio or TV sets in one location.

Don't Stop Advertising

Start planning your advertising campaign now. Keep it going, keep trying new ideas. Advertising is like seed and fertilizer — you have to keep sowing and spreading it if you want to keep on reaping crops.

All of this is to help you to build the priceless asset of neighborhood confidence. Over-selling, unfair selling, even certain forms of high-pressure selling are slow poison; their effects are deadly. Straight-forward, honest selling, with the customer's interest at heart, backed by liberal, intelligent service and superior merchandise, coupled with honest advertising, will create for your business this priceless asset of neighborhood confidence. This confidence will produce more customers and get each customer to call on you for more service. These are the only two basic ways to increase business.

PEOPLE & PLACES

(Continued from page 3)

WILLIAM W. CONE has resigned as vice-president and director of sales of Krick-New Jersey, Inc., distributor of RCA Victor radio, television and records. . . . **HENRY C. GIVAN** has been elected president of C. R. Rogers Corp., distributor of electronic products. Mr. Givan was formerly vice-president in charge of sales for the Rogers concern. **HENRY W. BURWELL** was named president, **E. L. HOLLINGSWORTH**, vice-president and **FRANK C. NICKERSON**, secretary-treasurer of the Dixie Chapter of "The Representatives." . . . **E. K. ROGERS CO.**, of Seattle, Wash., has been appointed a Raytheon television distributor. . . . Federal Telephone and Radio Corp. has announced the election of **RAYMOND S. PERRY** as vice-president and director. Mr. Perry has been general sales manager of Federal's sales and commercial activities since 1949. . . . **JAMES GREER** appointed sales training manager Motorola, Inc., Chicago. He will direct all sales activities for company's distributor salesmen and for retailers. . . . **JAMES F. SCANLAN**, traffic manager, General Electric Supply Corp., named sales manager of television, radio and traffic appliances. . . . **EDWARD HUBER**, sales staff National Union Radio Corp., appointed district sales manager for New Jersey territory. He will make his headquarters in New Market, N. J. . . . **COLEMAN LONDON** appointed manager of electronics service, Westinghouse Electric Corp. . . . **HOWARD ROWLAND** has been appointed as chief research engineer of the Workshop Associates, a division of the Gabriel Co. He will direct a selected group of engineers in new products and advanced research into antenna problems. . . . **RICARDO MUNIZ** appointed vice-president in charge of operations at the Trad Television Corp. . . . **E. H. WILSON** has been named sales manager of Schiffer Distributing Co. of Atlanta. . . . **HURLEY F. BRADY** has been appointed radio, television and specialty sales manager for the Westinghouse Electric Supply Co. in the midwest district. . . . **JOHN S. LANAHAN** has been named assistant eastern states regional sales manager for the receiver sales division of Allen B. DuMont Laboratories, Inc. He will open a DuMont sales office in Washington, D. C. . . .

PRODUCT PREVIEWS

(Continued from page 23)

wired, aligned and factory tested.

Tuning Units

The FMF-2 and FMF-3 tuning units both employ permeability tuning, which is known for its superior performance at FM frequencies. The FMF-2 has two tuned stages using an SAK5 converter and 6C4 local oscillator. The FMF-3 has three tuned stages which include a 6J6 RF amplifier, 6AK5 converter, and 6C4 oscillator. Naturally, the RF stage provides great additional gain and this unit is more sensitive than the FMF-2.

IF Amplifiers

The IF-3 I.F. amplifier employs three tubes terminating in a new type ratio detector circuit. The IF-4 also employs a ratio detector but has an extra I.F. stage for added gain. The IF-6 is our de luxe I.F. amplifier having three IF stages, two limiters, and a discriminator type of detector. The IF-6 amplifier has, we believe, the highest gain and sensitivity of any such amplifier on the market today. In combination with the FMF-3 tuning unit, the highest order of sensitivity can be attained, reaching 6 microvolts or better. All these units have very low distortion and full frequency audio response from 20 cycles to over 20,000 cycles per second. All units are beautifully constructed and will add a professional touch to your receiving equipment.

Chassis Kit

The UC-1 chassis kit comprises a punched chassis, handsome slide-rule tuning dial, oversize power transformer, filter condenser, rectifier tube and socket, hardware, volume control and switch, knobs terminal strips, AC line cord and plug.

Complete specifications on each "Pre-Fab" unit are available from the company on request.

MULTIPLE CONTROL FOR PRECISION ELECTRONICS

Simultaneous control of from 2 to 20 circuits or functions with a high degree of precision is made possible by Clarostat's Series 42A potentiometer. Introduced early in World War II as Series 42, and serving as an essential factor in electronic computing equipment, the multiple control unit has been further refined and is now offered in tandem assemblies made to order by Clarostat Mfg. Co., Inc., Dover, N. H.

Series 42A potentiometer is encased in a mineral-filled bakelite housing designed to lock together with similar units to form a single tandem assembly that is held together by metal end-plates and threaded tie rods. The contact arm of each unit can be readily

SAVE

THAT GOOD LOOKING OLD CONSOLE REPLACE YOUR OBSOLETE RADIO with a modern, easily installed ESPEY AM/FM CHASSIS

and your favorite console is "right-up-to-date"



Rated on excellent instrument by America's foremost electronic engineers. Fully licensed under RCA and Hazeltine patents. The photo shows the Espey Model 511-B, supplied ready to play. Equipped with tubes, antenna, speaker, and all necessary hardware for mounting.

NEW FEATURES — Improved Frequency modulation circuit, drift compensated • 12 tubes plus rectifier, and pre-amplifier pick-up tubes • 4 dual purpose tubes • High quality AM-FM reception • Push-pull beam power audio output 10 watts • Switch for easy changing to crystal or variable reluctance pick-ups • Multi-tap audio output transformer supplying 4—8—500 ohms.

Write for literature NT-10 for complete specifications on Model 511-B and others.

Makers of fine radios since 1928.

ESPEY TEL. TRafalgar 9-7000
MANUFACTURING COMPANY, INC.
528 EAST 72nd STREET, NEW YORK 21, N. Y.

adjusted on the common shaft that slips through all the tandem sections, to synchronize with reference to the common shaft or with the contact arms of other units. Mechanical rotation may be continuous or limited. Electrical rotation is 345 degrees and can be adjusted to within plus/minus 1 degree. This can be increased to as much as 359 degrees for special requirements. There is no backlash or play in any of the tandem units. Also, tracking of all units is positively assured.

Resistance range of each Series 42A potentiometer is 100 to 100,000 ohms for linear windings. Tapered windings are also available. Linear controls are rated at 3 watts, while tapered controls depend on the nature of their taper. Standard overall resistance tolerance is plus/minus 5%. Ratio of voltage at any point on the potentiometer to total impressed voltage can be within 0.5% of the theoretically correct value.

Service Men Offered TV Philco Repair Plan

The Philco Corp. has developed a television check-up campaign for independent TV technicians, tying in with its factory-supervised service program.

The Largest Selling LIGHTNING ARRESTER At Any Price!



NO. AT102



APPROVED

Protects Home and TV
Set Against Lightning
Hazards **\$225**
LIST

U.S. Patent No. D-4664

- Installs anywhere
- No wire stripping, cutting or splicing

(Complete with strap and ground wire.)

OVER 1,000,000 IN USE TODAY!

See Your Jobber or Write for
Form No. 84



MANUFACTURING CO., Inc.
6127K 16th AVENUE, BROOKLYN 4, N. Y.
FIRST in Television Antennas and Accessories

TECHNICAL TOPICS

(Continued from page 7)

DIRECTRONIC* ANTENNAS

Directronic antenna types permit improved performance in many localities. Its versatility makes it a fine item in localities of difficult orientation and/or high noise and interference levels.

The Directronic type consists basically of three quarter-wave elements spaced 120 degree relation with respect to each other, figure 2. One wire of a

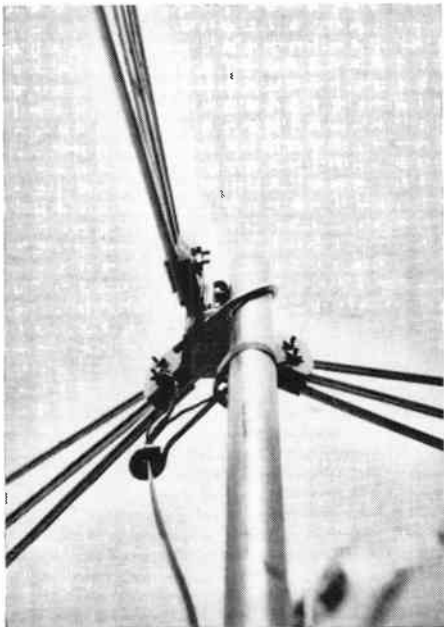


FIGURE 2

three-wire line attaches to each quarter-wave element. Transmission line runs to a small three-position switch at receiver. Switch selects wires in pairs and feeds signal into receiver. Inasmuch as each switch selects a different set of elements up at the antenna, each switch position represents differing directions of peak signal pickup with no physical orientation of antenna whatsoever.

You are given the benefits of optimum signal from each station although stations are in different directions.

The Directronic is a simple antenna to install in so far as orientation is concerned. In fact, even in difficult areas (interference, weak signals or reflections) antenna in most cases needs only to be erected and *must not be oriented physically by installer*. For an obstinate case of interference or very weak signal, slight orientation by installer (while set on best switch position) is helpful. In strong signal areas absolutely no orientation is necessary.

Installation time is minimized and antenna system performance is good. This reduces call-backs because of antenna complaints.

What is of importance, you do have a switch choice that permits choice of

*Snyder Mfg. Co., Phila., Pa. T.M.

best picture under variable noise conditions. Best or strongest signal position is not always best picture position in the presence of noise and interference. Likewise best picture position will vary from channel to channel as a function of the direction of the station and the direction from whence the noise or interference is arriving. It is also possible to have noise from one direction for an hour or so and, perhaps some time later have industrial noises from another direction. Directronic is able to handle these variables.

For example, local oscillator interference in a built-up area can come from any direction and with changing intensities as different receiver types are switched on and off certain channels. In presence of such interference it is possible to switch for best appearing picture. Fine signal-to-noise ratio have made it a good fringe area performer.

For all its performance features, antenna is small and neat. In urban and suburban installation it requires little space and has a balanced appearance. To obtain more gain Directronics can be stacked as illustrated in figure 3. Its light weight and balanced construction permits convenient mounting on high masts for fringe area operation.

Economy Features

1. Good performance. It permits a stable clear picture — good performance on each channel for a given location. It is not a miracle antenna but it permits efficient use of what signal there is. No one channel must be compromised for another. There is control of picture quality under variable and intermittent interference conditions.

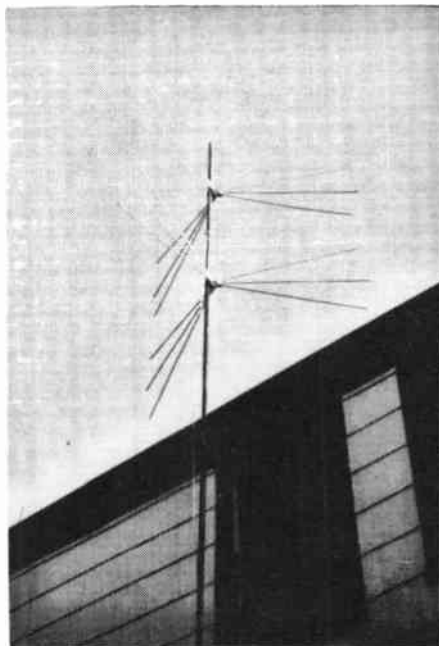


FIGURE 3

2. Fewer Man-Hours. The orientation problem is minimized. Use of antenna can speed installations. Call-backs are reduced.
3. Appearance, Weight and Cost. Antenna has orientation features with less weight, cost, and complexity. Antenna is small in size, has neat appearance, is balanced, and has weight centered. It lends itself to simple and permanent erection on high masts.

HYDRAULIC ANTENNA MAST

A serious disadvantage of most fringe area antenna installations is the difficulty of servicing the antenna. This is of primary importance in fringe operation — an antenna should be serviced rather frequently for peak operation. Line should be replaced, contacts cleaned and tightened, elements replaced and tightened, and antenna re-oriented if any side-slip has occurred. There is, however, a natural reluctance, both physically and economically, to taking down a high mast, servicing it, and then putting it up again.

If this task could be performed quickly by one man, fringe installations could be kept operating nearer peak efficiency. A hydraulically controlled mast such as that recently announced by Thomas Mold and Die, Wooster, Ohio, figure 4, is an answer to the problem. Mast can be raised or lowered very quickly with a small oil pump and ¼-HP motor.

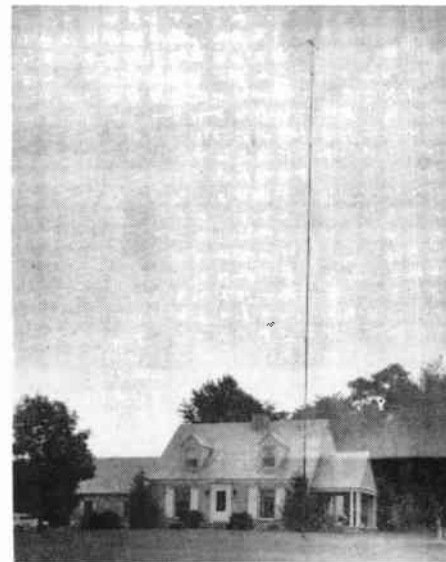


FIGURE 4

Mast sections are in 20-foot lengths — five sections permitting a peak height of 100 feet. Mast raises in sections and as each 20-foot section locks into position guy wires can be set before raising the next section. A better idea of the potentialities of the mast can be gotten by reviewing the recommended erection procedure.

1. First mast is fastened to base in a tilted position and antenna and lines attached.
2. Next it is raised to upright position.
3. Now pump and motor are attached to orifice at bottom of mast. A small drum holding 15 to 20 gallons of #10 oil serves as an oil reservoir.
4. Mast is now pumped up in 20-foot sections — as each 20-foot section locks into place guy wires are attached.
5. After mast is erected and last section locks in, oil is drained back into drum.
6. Opposite procedure is used to lower mast. Two men are required to make installation while only one man is required to service antenna after initial installation has been made.

This plan shows great possibilities for the fringe area installer in terms of time saved, ease of erection, no high mast climbing, and ability to service and keep a satisfied customer. A single motor, pump, and oil drum can be used to erect and service a great many of these masts in a given area—these units can be carried in service truck. If you serve a fringe area where high masts are common and necessary such a plan deserves some consideration. It serves as a fine quality installation in most areas.

ANTENNA-MOUNTED BOOSTERS

The development of more sensitive receivers keeps moving fringe reception areas further away from stations. The development of tuners with lower noise components makes the signal-to-noise performance of the antenna system increasingly important. A method of improving signal-to-noise performance of the antenna system is to use an antenna-mounted booster—some are available for peak single channel reception; others, for wideband operation.

The antenna-mounted booster amplifies the received signal right at the antenna before it can be contaminated with the noise picked up in the transmission line. This is particularly true of fringe area installations and the long span of line normally used between antenna and receiver. Thus signal is much stronger when it leaves booster and overrides the noise picked up in the line.

When booster is located at the receiver the very weak signal at the antenna is combined with the noise picked up in the line and both are amplified by the booster. However, for the antenna-mounted type, booster has only amplified the signal and not the noise and signal has a much better chance of coming out on top of the noise. This

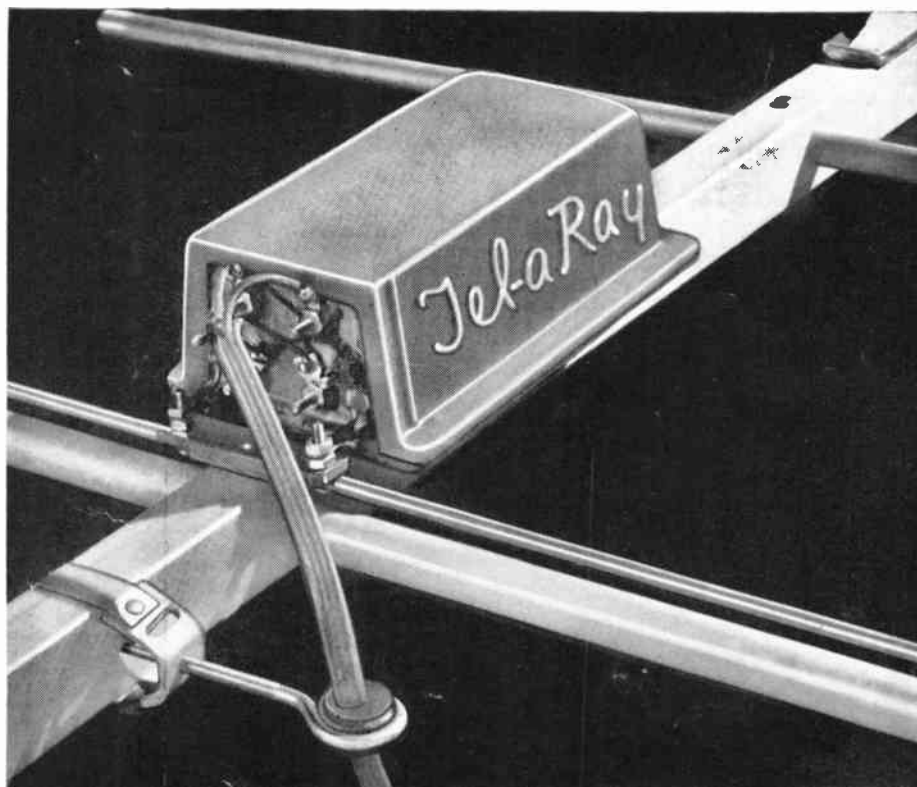


FIGURE 5

means a cleaner picture and less snow effect.

An example of the antenna-mounted single channel type is the Tel-A-Ray figure 5. This type has specific adaptability to use of a Yagi which is a high-gain single-channel antenna. It permits a cleaner picture from a single channel in those far fringe areas. It is a boon in terms of noise rejection in those noisy industrial fringe areas.

With the advent of color television and the need for a still cleaner signal, such a booster type will become more important in the reception of fringe color telecasts.

As shown schematically in figure 6, booster is a single push-pull amplifier and receives its power through a single two-wire line. This line supplies 6.3 volts a.c. from the receiver filament circuit or, a separate 6.3 volt filament transformer can be mounted along with a switch on the back of the set. The 6.3 volt a.c. is used as filament power for the booster and after proper step-up by a transformer mounted in the booster develops the B-supply voltage for the booster.

It has been nice talking with you. See you next month. —E.M.N.

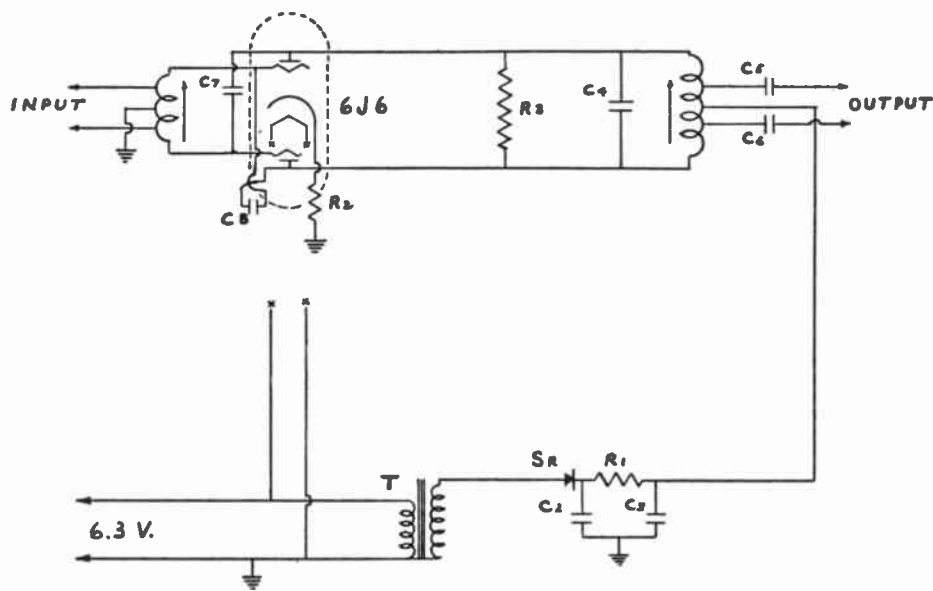


FIGURE 6

They Say...

CONCERNING RTMA REPORT

"We are happy you recognize that the suggestions offered by NATESA at the June meeting were intended to improve the service of your products. It is nice to know you realize the interdependence of the various segments of the industry. It is, however, unfortunate that despite the apparent awareness of mutual problems, RTMA has taken almost four months to say nothing on the major problems of the industry."

FRANK J. MOCH, Pres.
National Alliance of Television & Electronic Service Associations

"Its broad phraseology and completely inadequate attempts at solution of the many points and problems presented by the servicing industry to your committee at the meeting in Chicago, exemplify a complete lack of any attempt of the radio and television industry at the manufacturing level to do any more for the service industry than they have done in the past—a big blank zero."

DAVE KRANTZ, Chairman
Federation of Radio Servicemen's Association of Pennsylvania

SEVEN-POINT PROGRAM

"1. Stop being hoarders. Buy only for the market you honestly feel will be there a reasonably short time from now.

"2. Put credit in the best possible shape.

"3. Become a better, more aggressive salesman and have every man in your sales and service organization follow suit.

"4. Treasure every customer by giving him fast, courteous service.

"5. Get and earn full markups. Use price as the appeal on promotional items only. Sell quality and service above all else as the backbone of our business.

"6. Get creditors' money out of operating capital, even if it means cutting back on the size of the business. That way additional capital will be available as a reserve, and the habit of doing business on other people's money will be broken.

"7. Prepare for the future by studying market conditions, product trends, and shifting tides of customer response."

MORT FARR, Pres.
National Appliance and Radio Dealers Association

RE: MATERIAL SHORTAGES

"This is the situation which I said would arise six months ago. There will be fewer radios, television sets, refrigerators, autos and other consumer products in the coming three months than there have been in the past."

CHARLES E. WILSON
Office of Defense Mobilization

"We are entering a very, very serious time in the last part of this year, and the first quarter of next. It will be a time of shortages. We cannot hope to correct the deficits to any substantial degree earlier than 1953."

MANLY FLEISCHMAN
Defense Production Administration

DOWN THE ROAD

"While we are not recession-proof, if we do get into one, it will be our own fault. We can talk our way into a recession; muddle our way; or dis-sell our way.

"The first error is confusing billing with consumption. The second error is in confusing back orders with demand. In March, Sylvania had enough back orders on picture tubes to keep the plan going for five months. That was the situation on a Monday morning. On Tuesday morning we did not have enough orders to keep us busy five minutes. No order written cannot be cancelled.

"For the first time in our history, the consumer is saving as high as 12½ per cent of his income. It is up to the manufacturer, distributor and retailer to part him from his money in exchange for needed TV sets or washing machines."

FRANK W. MANSFIELD
Director of Market Research
Sylvania Electrical Products, Inc.

FUTURE LOOKS BRIGHT

"There are good common-sense reasons for believing that the television industry is going to enjoy a thriving, profitable fall season and beyond that, years and years of solid and substantial growth and development, making an immense social and economic contribution to our country. The market has unquestionably firmed up during recent weeks, and there is every reason to believe it will continue to improve through the remainder of the year. The inventory problem of last summer is being rapidly dissipated."

J. B. ELLIOT, V.-P.
RCA Victor

About the AUTHORS



HAROLD F. COOK
Advertising Manager
Tung-Sol
Lamp Works, Inc.

Mr. Cook studied art at the Art Student's League in New York and also was a student of marketing and advertising at Rutgers and New York University.

Joining the Advertising Staff of Tung-Sol in 1934, he later became Assistant Advertising Manager in 1938 and Advertising Manager in 1945.

A great believer in marketing principles, Mr. Cook uses marketing analysis as a basis to direct all of Tung-Sol's advertising and sales promotion activities.



BENJAMIN HANDLER
C. P. A.
Philadelphia, Pa.

Mr. Handler is a graduate of the Wharton School, University of Pennsylvania (1930), a member of the Pennsylvania Institute of Certified Public Accountants and the American Institute of Accountants. During the past 21 years, he has been a practicing accountant in Philadelphia and has had a wealth of experience in various types of business enterprises. He is currently servicing several of the larger television service contractors in the Philadelphia area and thus has a first-hand knowledge of the diverse problems of the television service contractor. These problems are approached in a matter-of-fact, business-like manner; his writing is lucid and devoid of technical accounting expressions, thereby making the following (and forthcoming) articles of great interest to the television service contractors.



AL STEINBERG
President
Albert Steinberg & Co.
Philadelphia

Al Steinberg, who heads up the Parts Distributing Company which he started a little over two years ago, Albert Steinberg & Company in Philadelphia, has had the enjoyable experience of an expanding business that required much larger quarters within a year after it opened.

Mr. Steinberg has always been a strong supporter of technical lecture programs for the service industry and one of the first things he arranged for after he "got his feet on the ground" in his own business was a series of technical lectures for his customers.

Steinberg introduced the "coffee and doughnuts" for his customers when they dropped in for supplies which saved the boys that extra ten minutes they usually spent in a coffee shop along the way. The Steinberg coffee urn is a good substitute for the old cracker barrel in picking up news about what's doing in service in Philadelphia.

For Better Distributor Relations

"Life Is Too Short to Be Little." This was the theme of a talk by Mort Farr, President of the National Appliance and Radio Dealers Association, delivered before Delaware Appliance Dealers. As a primary need, he cites the importance of steadfast loyalty to one or a very few brands, adding, "above all, let's not be petty in our dealings with distributors and manufacturers. If we make minor adjustments ourselves, we stand a better chance of obtaining major adjustments. The strength of our organization will grow if we are co-operative and constructive; it will fade if we concentrate on criticism, gripes and abuse. By raising our thinking above the grouch level, the greater the respect and influence we can command from suppliers. So, let's first set our houses in order and concentrate on service to the public. Then correction of our difficulties will come more readily. In organization, there is strength; used constructively, this strength will convert almost all suppliers into loyal and efficient allies; used negatively, we tend to destroy the prestige, goodwill and community faith in appliance and television retailing."

To Study TV Servicing

Among the decisions reached during the three-day conference in New York of the Radio-Television Manufacturers Association was the agreement to set up a committee to investigate television servicing. The hiring of a full-time staff member to concentrate on servicing problems and practices was approved.

Another development was the recommendation that advertising copy for television should tell the public to attend sports events whenever possible — and to view games through television only when personal attendance is not possible. Distributors were urged to set up committees to give practical aid to sponsors and promoters of sports events.

It is also the expressed intention of the Association to publicize frequency modulation broadcasting in areas where FM stations exist, including vigorous co-operation with the National Radio and Television Broadcasters Association through a special advertising and promotion committee.

The Board of Directors also accepted the invitation of the Canadian RTMA to attend their meetings at Niagara Falls, Canada, April 24-25.



3 MONTHS 100,000
4 MONTHS 150,000
5 MONTHS
200,000

Snyder
 PHILADELPHIA

Directronic
 MOTORLESS
TV AERIAL SYSTEMS
 360° ELECTRONICALLY-SWITCHED BEAM

SNYDER MFG. CO.
 PHILADELPHIA

NEW YORK: H. L. DALIS, INC., 175 Varick St.
 PHILADELPHIA: ALMO RADIO CO., 412 N. 6th St.
 CHICAGO: RADIO PARTS CO., 612 W. Randolph St.
 CLEVELAND: CHAS. FRESHMAN & CO., 4015 Prospect Ave.
 SAN FRANCISCO: KAEMPER & BARRETT, 1850 Mission St.
 BALTIMORE: WHOLESALE RADIO PARTS CO., 311 W. Baltimore Ave.
 EXPORT: ROBURN AGENCIES, INC., 39 Warren St., New York
 CANADA: VAN DER HOUT ASSOCIATES, LTD., 90 Richmond St., W., Toronto

No Converter Needed For Color?

Production is promised soon for a television tube which, it is said, receives telecasts in both black-and-white and color without the need of a converter or color wheel. On a mass production basis, this tube, invented by Prof. Ernest O. Lawrence, would cost only "slightly" higher than present black-and-white tubes.

Furthermore, the new tube, developed for Paramount Pictures, will receive both the RCA electronic and CBS mechanical systems of transmission.

Chromatic Television Laboratories, Inc., Paramount subsidiary, promises production to begin late in October or early in November. While trade observers are reserving judgment, both manufacturers and retailers generally seem to feel that such a tube, if successful, will be a definite sales stimulus. The effect on price, it appears, is the major consideration of the retailer—a matter more or less definitely answered by Paul Raibourn, Chromatic Chairman, who says the tube would be priced from 10% to 20% more than the black-and-white television tube. At the same time, retailers recognize that potential customers need no longer wait for color sets if they are assured they can get color simply by adding an inexpensive new tube. Chromatic points out that the tube developed by the California scientist is quite simple to produce which makes its cost so low compared with estimates by other tri-color producers.

The Lawrence tube consists, according to those who have attended demonstrations, of a conventional metal envelope with a single electron gun inside, within half an inch of the viewing screen, is a color-viewing glass plate lined alternately with many lines in the three primary colors. A wire grid is connected to this plate, consisting of multiple electronic lenses. This grid is electronically registered with the color strips on the viewing plate. The wire grid reflects the electrons from the gun to the right strips on the plate, at a rate equal to the color switching rate of transmission. An enthusiastic observer declares that the tube reproduces colors with lifelike fidelity without fuzziness.

VT Policy Criticized

Designating Radio-TV training courses as "avocational or recreational" is called indefensible by the House Veterans Select Investigation subcommittee. Under the existing Public Law

346, veterans are prohibited from taking other than listed vocational courses unless they can "justify" their training. When broadcasting is arbitrarily grouped with "entertainment" rather than with courses which contribute to the veteran's occupational advancement, veterans are deprived of tuition, subsistence and other benefits.

Canadian Dealers Given Special TV Service Course

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TELEVISION DATA CHART

(Compiled by National Broadcasting Co.)

ESTIMATED TV SET OWNERSHIP
as of Sept. 1, 1951

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CITY	NBC STATION	TOT. STA.	SETS INSTALLED	CITY	NBC STATION	TOT. STA.	SETS INSTALLED
Ames	WOI-TV	1	62,900	Omaha	WOW-TV	2	82,700
Atlanta	WSB-TV	2	126,000	Philadelphia	WPTZ	3	883,000
Baltimore	WBAL-TV	3	314,000	Pittsburgh	WDTV	1	312,000
Binghamton	WNBF-TV	1	42,000	Providence	WJAR-TV	1	162,000
Birmingham	WBRC-TV	2	63,400	Richmond	WTVR	1	87,100
Bloomington	WTTV	1	17,400	Rochester	WHAM-TV	1	88,100
Boston	WBZ-TV	2	766,000	Salt Lake City	KDYL-TV	2	51,500
Buffalo	WBEN-TV	1	214,000	San Diego	KFMB-TV	1	105,000
Charlotte	WBTV	1	86,400	San Francisco	KRON-TV	3	233,000
Chicago	WNBQ	4	960,000	Schenectady	WRGB	1	166,000
Cincinnati	WLW-TV	3	269,000	St. Louis	KSD-TV	1	306,000
Cleveland	WNBK	3	494,000	Syracuse	WSYR-TV	2	129,000
Columbus	WLW-C	3	156,000	Toledo	WSPD-TV	1	107,000
Davenport-Rock Island-Moline	WOC-TV	2	62,300	Utica	WKTV	1	50,000
Dayton	WLW-D	2	136,000	Washington	WNBW	4	281,000
Detroit	WWJ-TV	3	534,000	Wilmington	WDEL-TV	1	77,700
Erie	WICU	1	51,500	NBC INTERCONNECTED NETWORK (52) 12,839,400			
Grand Rapids	WLAV-TV	1	79,600	Albuquerque	KOB-TV	1	9,600
Greensboro	WFMY-TV	1	73,900	Dallas	WFAA-TV	2	130,000
Huntington	WSAZ-TV	1	50,600	Ft. Worth	WBAP-TV	1	
Indianapolis	WFBM-TV	1	154,000	Houston	KPRC-TV	1	88,400
Jacksonville	WMBR-TV	1	38,800	Miami	WTVJ	1	76,000
Johnstown	WJAC-TV	1	107,000	New Orleans	WDSU-TV	1	61,200
Kalamazoo	WKZO-TV	1	44,500	Oklahoma City	WKY-TV	1	92,300
Kansas City	WDAF-TV	1	133,000	Phoenix	KPHO-TV	1	38,600
Lancaster	WGAL-TV	1	109,000	San Antonio	WOAI-TV	2	50,400
Lansing	WJIM-TV	1	60,000	Seattle	KING-TV	1	92,600
Los Angeles	KNBH	7	1,012,000	Tulsa	KOTV	1	77,500
Louisville	WAVE-TV	2	97,500	TOTAL NBC STATIONS OPERATING (63)			
Memphis	WMCT	1	93,200	TOTAL OPERATING STATIONS (107) IN 63 MARKETS			
Milwaukee	WTMJ-TV	1	258,000	TOTAL TV SETS 13,556,000			
Minn.-St. Paul	KSTP-TV	2	273,000				
Nashville	WSM-TV	1	37,000				
New Haven	WNHC-TV	1	177,000				
New York	WNBT	7	2,490,000				
Norfolk	WTAR-TV	1	75,300				

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ideas, the short-cuts, the continuing technical advances. With television, "experience" is **NOT NECESSARILY** the best teacher — because it may take months to discover (through hit-and-miss, trial-and-error) what top-flight experts can now tell your men through condensed, easy-to-read text and clear diagrams.

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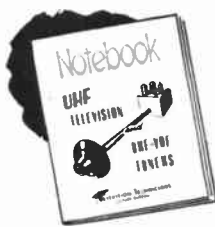
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"Life Is Too Short to Be Little." This was the theme of a talk by Mort Farr, President of the National Appliance and Radio Dealers Association, delivered before Delaware Appliance Dealers. As a primary need, he cites the importance of steadfast loyalty to one or a very few brands, adding, "above all, let's not be petty in our dealings with distributors and manufacturers. If we make minor adjustments ourselves, we stand a better chance of obtaining major adjustments. The strength of our organization will grow if we are co-operative and constructive; it will fade if we concentrate on criticism, gripes and abuse. By raising our thinking above the grouch level, the greater the respect and influence we can command from suppliers. So, let's first set our houses in order and concentrate on service to the public. Then correction of our difficulties will come more readily. In organization, there is strength; used constructively, this strength will convert almost all suppliers into loyal and efficient allies; used negatively, we tend to destroy the prestige, goodwill and community faith in appliance and television retailing."

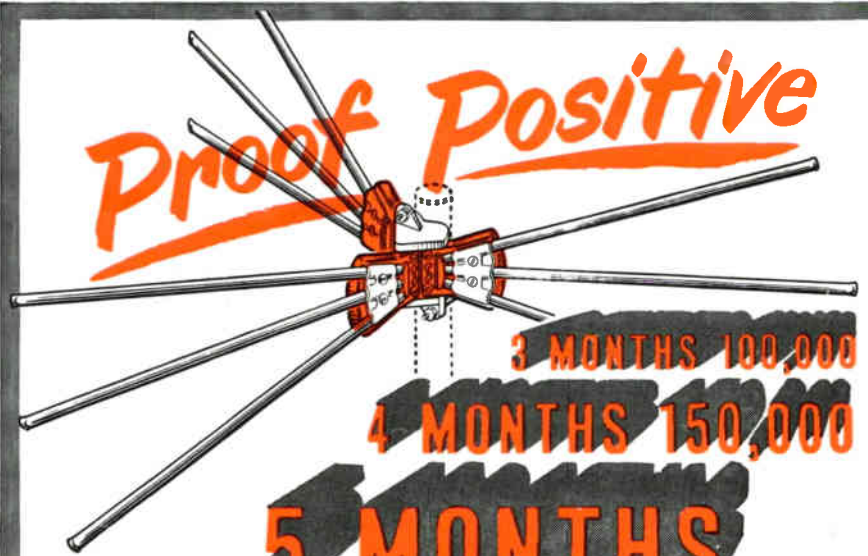
To Study TV Servicing

Among the decisions reached during the three-day conference in New York of the Radio-Television Manufacturers Association was the agreement to set up a committee to investigate television servicing. The hiring of a full-time staff member to concentrate on servicing problems and practices was approved.

Another development was the recommendation that advertising copy for television should tell the public to attend sports events whenever possible — and to view games through television only when personal attendance is not possible. Distributors were urged to set up committees to give practical aid to sponsors and promoters of sports events.

It is also the expressed intention of the Association to publicize frequency modulation broadcasting in areas where FM stations exist, including vigorous co-operation with the National Radio and Television Broadcasters Association through a special advertising and promotion committee.

The Board of Directors also accepted the invitation of the Canadian RTMA to attend their meetings at Niagara Falls, Canada, April 24-25.



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No Converter Needed For Color?

Production is promised soon for a television tube which, it is said, receives telecasts in both black-and-white and color without the need of a converter or color wheel. On a mass production basis, this tube, invented by Prof. Ernest O. Lawrence, would cost only "slightly" higher than present black-and-white tubes.

Furthermore, the new tube, developed for Paramount Pictures, will receive both the RCA electronic and CBS mechanical systems of transmission.

Chromatic Television Laboratories, Inc., Paramount subsidiary, promises production to begin late in October or early in November. While trade observers are reserving judgment, both manufacturers and retailers generally seem to feel that such a tube, if successful, will be a definite sales stimulus. The effect on price, it appears, is the major consideration of the retailer — a matter more or less definitely answered by Paul Raibourn, Chromatic Chairman, who says the tube would be priced from 10% to 20% more than the black-and-white television tube. At the same time, retailers recognize that potential customers need no longer wait for color sets if they are assured they can get color simply by adding an inexpensive new tube. Chromatic points out that the tube developed by the California scientist is quite simple to produce which makes its cost so low compared with estimates by other tri-color producers.

The Lawrence tube consists, according to those who have attended demonstrations, of a conventional metal envelope with a single electron gun inside, within half an inch of the viewing screen, is a color-viewing glass plate lined alternately with many lines in the three primary colors. A wire grid is connected to this plate, consisting of multiple electronic lenses. This grid is electronically registered with the color strips on the viewing plate. The wire grid reflects the electrons from the gun to the right strips on the plate, at a rate equal to the color switching rate of transmission. An enthusiastic observer declares that the tube reproduces colors with lifelike fidelity without fuzziness.

VT Policy Criticized

Designating Radio-TV training courses as "avocational or recreational" is called indefensible by the House Veterans Select Investigation subcommittee. Under the existing Public Law

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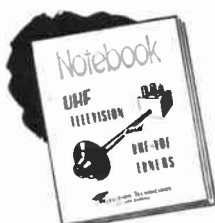
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