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Volume 2 Number 8 May, 1953

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A NEW CBS-HYTRON CTS-RATED* TUBE

*CTS-RATED: Rated for Continuous Television Service. In TV receivers, five tubes work . . . like transmitting tubes . . . *hard!* Account for almost 90% of your replacements. You know them: rectifiers, deflection amplifiers, damper diode. Larger-screen sets aggravate this problem. CBS-Hytron recognizes your need for huskier tubes for these sockets. Brand new designs, not just improved tubes. CTS-Rated 5AW4 . . . another CBS-Hytron first . . . is your answer for the low-voltage rectifier socket. It is CTS-Rated: (1) For heavier average (250 ma. max. d-c) and peak (750 ma. max. d-c) currents. (2) With big safety margins at these currents. You can depend upon the 5AW4 for continuous, trouble-free service. Yes, more CBS-Hytron CTS-Rated tubes are coming. Watch for them.

CBS-HYTRON 5AW4†

NEW HEAVY-DUTY WORK HORSE CUTS 5U4G CALL-BACKS

Worried about slumping TV set performance, because of heavily loaded 5U4G's? Forget it. Use new CBS-Hytron CTS-Rated* 5AW4. A replacement for the 5U4G, the 5AW4 recaptures . . . and keeps . . . that new-set sparkle. Maintains full voltage, despite heavy load. Minimizes burn-outs. Avoids filament shorts while testing chassis on side. Loafs on tough jobs. Gives long, long, trouble-free life. The 5AW4 will cut your call-backs. Boost your profits. See it . . . buy it . . . soon. At your CBS-Hytron jobber's.

†Patent applied for

MECHANICAL ADVANTAGES

PLATE — Note formed A-frame construction. Each plate of 5AW4 is formed into two cylinders containing the filament. Uniform filament-to-plate spacing and uniform filament performance avoid hot spots on filament, plate . . . and bulb. Oversize radiating fins and extra large surfaces between formed cylinders dissipate heat faster. Sturdy structure is rigidly supported at eight points.

FILAMENT — Massive, heavy-duty, 20-watt filament offers generous reserve of emission. Cuts burn-outs due to ionization attack and back emission. Transmitting-tube-type filament hook and spring suspension prevent sagging — yet reduce stresses on filament. Permit mounting 5AW4 in any position. Useful filament area is contained within formed cylinders of plate . . . to minimize internal voltage drop.

COMPLETE 5AW4 DATA FREE

See your CBS-Hytron jobber. Or write direct today.

New...Free DECAL

sells for you! *Sells* your magic ability to recapture new-set sparkle. Let this decal pull customers to you. Get it from your CBS-Hytron jobber today.

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Manufacturers of Receiving Tubes Since 1921

CBS-HYTRON Main Office: Danvers, Massachusetts

A Division of Columbia Broadcasting System, Inc.

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DR. E. F. W. ALEXANDERSON, long-time associate of General Electric Engineering Laboratories, recently received a citation from the awards committee of the Radio Pioneers . . . **MILTON R. BENJAMIN** has been appointed representative for Continental Electronics Corp. of Philadelphia in New England and New York, excepting New York City and Westchester County . . . **MARTIN F. BENNETT** has been appointed west coast regional sales manager for the RCA Victor Division . . . **RONALD G. BOWEN** has been appointed Permo, Inc., representative in the Rocky Mountain States . . . **G. A. BRIGGS,** noted British audio engineer, has revised and enlarged his books: "Sound Reproduction" . . . **WALTER J. BROCK** has been appointed midwest sales manager for CBS-Hytron Division of the Columbia Broadcasting System, Inc. . . . **DR. ORESTES H .CALDWELL,** publisher, recently received a citation from the awards committee of the Radio Pioneers . . . **GAIL S. CARTER,** vice-president of Permo, Inc., says ". . . we never had it so good — business, that is" . . . **DR. FRANK CONRAD,** Westinghouse engineer until his death in 1941, has been selected as the Fourth Annual choice for the Radio Hall of Fame . . . **D. R. CREATO,** vice-president of RCA Service Co., says, "the palmy days of 1946 are over. The desperate shortage of trained technicians has been eased. People no longer find it necessary to settle for just any kind of TV service" . . . **GARRETT W. DAVIS** has been appointed south central region renewal sales manager for General Electric . . . **BARNEY EDWARDS** has been advanced to national sales manager for Recoton Corp. . . . **D. W. GUNN** has been appointed assistant sales manager for Sylvania radio and picture tubes . . . **HARVEY W. HARPER,** Tung-Sol Electric chairman, says that current auto and television demand is running well ahead of last year . . . **CARL V. HAECKER,** merchandise display manager for RCA Victor Div., says, "impact of sight appeal contributes to 87 per cent of all retail sales, which clearly indicates the value of good display" . . . **FRANKLIN P. HINMAN** has been appointed product manager for Westinghouse Elmira, N. Y. tube plant . . . **JOHN V. L. HOGAN,** president of Hogan Laboratories, Inc., recently received a citation from the awards committee of the Radio Pioneers . . . **GUSTAV HOFELLER** has been appointed general sales manager for Spirling Products Co., Inc. . . . **PRESCOTT F. HUIDEKOPER** has been named sales manager for the Shaw Insulator Co. . . . **PETER L. JENSEN,** president of Jensen Industries, was recently presented with a television set to commemorate his 50th Anniversary in the sound industry . . . **WALTER M. JONAS** has been elected vice-president in charge of production for Radio City Products of Pennsylvania . . . **BENJAMIN J. KATZ** has been named director of promotion and public relations for Jerrold Electronics Corp. . . . **HAROLD R. MAAG** is now assuming broader responsibilities in the west coast region for RCA Victor Div. . . . **DONALD MANSON,** consultant and retired general manager of the Canadian Broadcasting Co., recently received a citation from the awards committee of the Radio Pioneers . . . **MURRAY MICALOWSKY** has been named development engineer for Radio City Products Co. . . . **HANK MILLER** has been advanced to midwestern sales manager for Recoton Corp. . . . **HIRAM PRINCE** is Permo, Inc.'s new sales manager for Texas, Oklahoma, Arkansas, Kansas, Nebraska, Iowa and Kansas City, Mo. . . . **LEONARD L. ROSENFELD** has been named production manager for Jerrold Electronics Corp. . . . **OTTO H. SCHADE,** RCA engineer, has revealed a measuring system that provides a means of determining the quality of TV or photographic images with unprecedented accuracy . . . **VIC SMILEY** has been advanced to Pacific Coast sales manager for Recoton Corp. . . . **WILBUR SMITH** is now associated with the J. W. Marsh Co. of Los Angeles . . . **JOHN G. THOMPSON** has been appointed product manager for Westinghouse Bath, N. Y., tube plant . . . **DAVID B. TOLINS, JR.,** has been named publicity director for JFD Manufacturing Co. . . . **HOWARD WEST** has extended his sales managership for Permo, Inc., to Louisiana . . . **WILLIAM ZIEGLER** has been appointed junior engineer for Radio City Products Co. . . . **DR. VLADIMIR K. ZWORYKIN,** vice-president and technical consultant for RCA Laboratories, recently received a citation from the awards committee of the Radio Pioneers.

The First and Only

VHF to UHF *Signal Generator Adapter*

Here from PHILCO

Now at a mere fraction of the usual cost, you can produce UHF signals for TV receiver tests. As the output from any VHF signal generator at 60 MC is fed into this Model G8000 Adapter, the VHF sweep or marker signal beats against the UHF oscillator of the unit, producing UHF signals having the same characteristics as the VHF input signal. The most economical system ever . . . *and only Philco has it!*

Check These Philco Features

1. No expensive attenuator required —the VHF signal generator output attenuator controls the UHF output signal level.
2. Precision Vernier Dial for accurate re-set ability.
3. Can function as an external UHF converter by connecting UHF antenna transmission line to generator's output terminal and connecting lead to TV receiver tuned to 60 MC (Channel 3).
4. High UHF levels, excellent stability, no drift.

5" Wide Band TV Oscilloscope

Model 7021. Finest at the price! Provides extremely wide video response for accurately viewing complex TV wave forms. Celebrated input attenuator and gain control for peak voltage readings.

Philco Appliance Tester

Model 5007. In one compact, portable unit—everything you need to make range, refrigerator, freezer and air conditioner temperature and power measurements quickly and easily.

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TECHNICAL TOPICS

(Continued from page 21)

local oscillator mixing. The output frequency of the crystal mixer is again in the 45 megacycle i-f range, remainder of circuit functioning as per VHF reception. Thus in this type of UHF conversion, a single mixer is used instead of the usual double conversion methods.

The tuner uses a voltage regulator tube V4 to set local oscillator plate current constant at a level that provides optimum injection voltage for most stable sensitive biasing of crystal mixer over broad frequency range. Crystal current can be adjusted for optimum UHF sensitivity with the loop injection control. Proper setting of local oscillator at specified plate current permits stable operation of the tube and least drift.

VIDEO PEAKING AND CRISPENING

Look for systems of peaking in the video amplifier to come of age with the new large-picture television receivers. In such a crispening system the highs are made to dominate the middle and low frequency ranges, an amount that permits best picture quality for particular local reception conditions.

In such a circuit, Fig. 5, there is a direct conventional signal path to the, let us say, cathode of the picture tube plus a second video path to the grid of the picture tube. Over this second path only the high frequency components of video are conveyed, reinforcing original highs in a controlled manner.

In one RCA model, peaking is regulated with a four position switch and an adjustable potentiometer. Such a peaking system is helpful in improving picture quality on the **defect-too-obvious** big screens. A picture smear caused by input system variables, network resolution, antenna performance defect, or compromise antenna orientation can be compensated by additional high peaking. Peaking improves small area contrast without having to raise your overall black-dark ratio of large picture to point where it will **singe your eyes.** For a weak fringe location it is helpful to de-emphasize the highs to make the snow-effect less apparent on large screens.

INDUSTRIAL-COMMERCIAL CLOSED-CIRCUIT TELEVISION

In our associations and contacts about the country, we recognize the rising pulse of closed-circuit television. Most encouraging is the activity and watchfulness outside of our own industry — intense interest by the businesses and industries that will be the users of such equipment.

We have continued to experiment with the low-priced special purpose camera idea here in the shop, Fig. 6.

RECORDS

(Continued from page 23)

"accommodation credit" is likely to be extended to customers. Tightening up of credit and more vigorous collection procedures are called for.

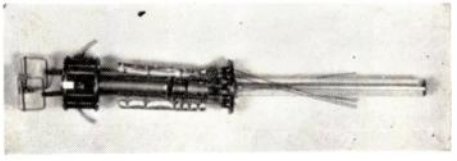
ACCOUNTS PAYABLE

If accounts payable are rising, without justification by an increase in volume, this means a serviceman is courting difficulties with suppliers. He is diverting funds which should go to creditors to other and, perhaps, personal needs. This state of affairs will not long be tolerated by creditors.

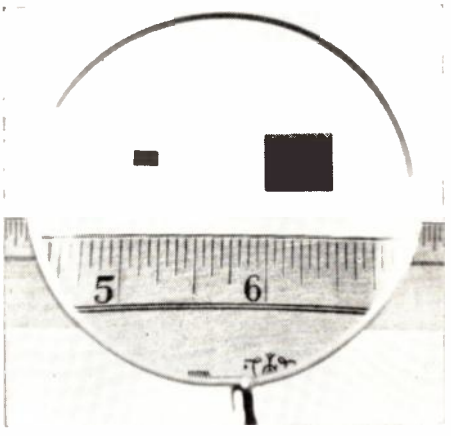
It should also be noted that accrued liabilities are reflected in the balance sheet, such as sales tax, social security tax, unemployment insurance tax and income tax collected and/or owed but not remitted, as well as interest, wages and taxes on real estate.

These items, alone, may represent a considerable amount. If not reflected in a balance sheet, these items can inflate net worth by as much as 5 per cent or more. In extreme cases, these items have represented as much as 10 to 15 per cent or more of net worth, when not taken into account.

General Electric Internal Magnetic Focus Picture Tube Detail



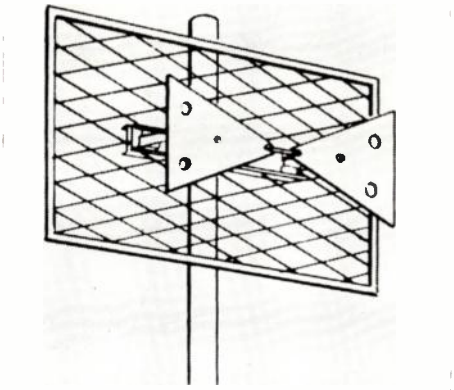
GE IMF Electron Gun.



Three Carboloy permanent magnets, ¼" x ⅝" focus the IMF tube.

Tantalum Foil Capacitors

Cornell-Dubilier Electric Corp., South Plainfield, N. J. has announced new electrolytic capacitors that utilize tantalum instead of aluminum foil that are reported to provide compactness, ruggedness and the combined advantages of aluminum and tantalum foil. Type TAN electrolytic capacitors use an electrolyte that is non-corrosive. They are available in a wide range of capacity and voltage ratings through electronic parts distributors.



Bow Tie Antenna

LaPointe Electronics, Inc., Rockville, Conn., has announced a new UHF Bow Tie and reflector that is said to be based on a completely new antenna formula. The new formula eliminates insulators and permits all metal construction. This is reported to contribute to higher gain and flatter response across the entire UHF band. The new design also provides rigid construction, an advantage at UHF.

Interaction Antenna Filter

Channel Master Corp., Ellenville, N. Y., has announced the development of an interaction filter that combines separate antennas into a single vhf-uhf antenna system. It may be used to join, at the mast, all types of vhf and uhf antennas for use with a single transmission line; at the receiver or converter, or to separate vhf and uhf signals where separate terminals are provided. The unit consists of high pass and low pass filters to provide effective isolation by holding constant impedance characteristics over the entire uhf band.

UHF Converter-Booster

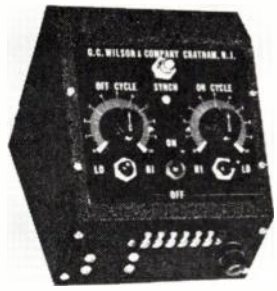
Blonder-Tongue Laboratories, Inc., 256 *North Ave., Westfield,* N. J. has announced a single-channel uhf converter that may be easily mounted at rear of the TV set cabinet and flush with the top. It is reported to produce clear, sharp, snow-free pictures and to provide more than 17 db gain with low noise factor. High gain and low noise level should make type BTU 1 "Ampliverter" ideal for dealer demonstrations and use in homes in fringe or other weak signal areas. The converter-booster has in-put terminals for uhf and vhf antennas.

Two Set TV Coupler

Snyder Manufacturing Co., Philadelphia 40, *Pa.*, has announced a two-set coupler for the operation of two television receivers from a single antenna that is reported to provide maximum gain for each receiver. It utilizes a specially-designed long-lines transformer arrangement. Model AC-800 coupler is fully automatic. It may be mounted either on receiver, between receivers, or at other points in the building.

Repeat Cycle Timer

G. C. Wilson & Co., 2 North Passaic Ave., Chatham, N. J. has announced an electronic repeat cycle timer suitable for the regulation of automatic machinery, sampling, valve pacing, heat sealing and laboratory testing. The timer uses a single electron tube to charge an RC network so that "on" cycles are adjustable from 0.2 to 200 seconds and "off" cycles range from 0.1 second to 1 minute. Output is supplied to a dpdt relay for non-inductive load up to 10 amperes at 115 volts or 2 amperes at 460 volts. Relay contacts are wired to a plug or terminal strip to facilitate installation.



RECORDS

(*Continued from page* 12)

dollar depreciation considered. Even if his net worth has risen to $5500 or $6000 he can hardly congratulate himself on the slight gains he has made for five years' close attention to business.

TAKE A HARD-BOILED VIEW

Any realistic balance sheet must take a hard-boiled view of all depreciable assets, such as office fixtures, shop equipment and trucks. If these are not written down periodically, a shop owner will fool himself into thinking his net worth is greater than the facts indicate. Such depreciable assets, when fully depreciated, should be carried at $1, and even though such assets are still in use. It is better to err in favor of too low valuation of such assets than to value them at too high a figure.

ACCOUNTS RECEIVABLE

A sharp rise in accounts receivable, without a corresponding increase in business, is an unmistakable sign that collections are lagging and that credit losses are in the making that cannot be afforded. Particularly in smaller communities a sizable amount of so-called

(*Continued on page* 24)

Trade Literature

METAL-CASED CAPACITOR DATA

A bulletin entitled: "Aerovox Miniature Metal-Cased Capacitors" contains standard listings, specifications, drawings, how-to-order and other pertinent data has been published by the **Aerovox Corporation,** New Bedford, Mass. Copies may be had by writing to Aerovox.

INDUSTRIAL PERMANENT MAGNET APPLICATIONS

A once-a-month information kit describing permanent magnet application ideas for industry has been announced by the **Carboloy Department of the General Electric Company,** Detroit 32, Michigan. The kit consists of a heavy permanent binder with six application ideas described on separate loose leaf pages. The initial kit contained six ideas on the use of magnets on conveyors of ferrous parts, sheet steel separators, floor sweepers to pick up ferrous objects, plant layouts, tool racks and shear tables for sheet metal cutting. Carboloy will issue new magnet application sheets to those who have requested the basic information kit.

EQUIPMENT CATALOG

A thirty-two page catalog pleasantly listing dozens of needs for the offices and shops of TV Service Organizations has been published by the **Precision Equipment Co.,** 3712 N. Milwaukee Ave., Chicago 41, Illinois. For a copy of this catalog, address Miss Mildred Kay, care of Precision.

BOOKLETS ON UHF AND TVISION

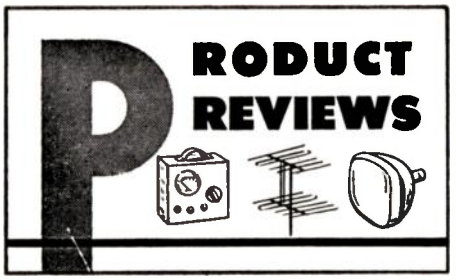
Some important facts that you should know about uhf television reception have been attractively presented in a booklet entitled: "UHF and You," recently published by the **Hoffman Radio Corp.,** 3764 S. Broadway, Los Angeles 3, California. Hoffman has also published a report entitled: "Vision, Television and **Easy-Vision."** It was prepared in collaboration between the Hoffman engineering staff and recognized authorities in the field of optical science.

THE RMS TV FORUM

A magazine published by *Radio Merchandise Sales, Inc.*, 2016 *Bronxdale Ave., New York* 60, *N. Y.* is available to TV Service technicians on request.

T-V SERVISET BULLETIN

A bulletin describing a very compact circuit analyzer that is said to be a precision engineered, professional quality electronic test set for field or bench servicing of radio, radar, communications and allied equipment has been published by *Lee Electronic Laboratories, Inc., Boston* 19, *Mass.* The bulletin includes line drawings showing how to use the instrument in signal tracing and checking a TV receiver.



Bar Generator

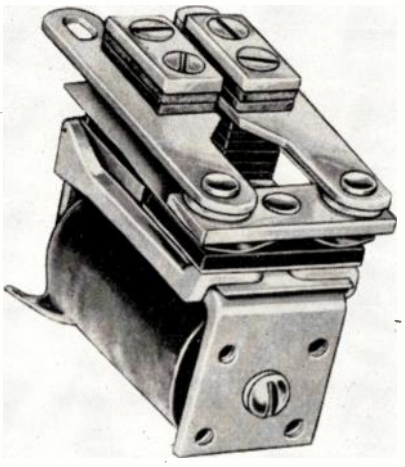
Radio Merchandise Sales, Inc., 2016 Bronxdale Ave., New York 60, N. Y., is manufacturing a low-cost portable bar generator for accurate on-the-spot linearity adjustment of television receivers. It transmits a modulated carrier on channels 4, 5 or 6 to produce vertical and horizontal bars on the receiver screen so that accurate linearity adjustments can be made when no video signal is available. RMS type BAR-1 generator is available through parts distributors.

VHF TV Booster

Electro-Voice, Inc., Buchanan, Michigan has announced a new low-noise broadband circuit unit that multiples the vhf signal at the antenna. The unit is self-tuned to all vhf channels and is turned on or off by the TV receiver switch. It contains three tubes in balanced stages including a power multiplier stage to provide adequate gain for clear, sharp signals. It is mounted ahead of the lead-in and will amplify only TV signals to the exclusion of local noise from automobiles, neon signs and diathermy. It may be used with or without an antenna rotator.

Explosion-Proof Units for Industrial Sound Systems

RCA Victor Division of RCA, Camden, N. J., has announced new explosion-proof speaker-driver units for indoor and outdoor industrial audio systems where inflammable liquids, gases or dust explosion hazards exist. Type MI-12461-1 has been approved by the Underwriters' Laboratories for use in dyeing, dry cleaning, paint spraying, plastic, chemical and gas manufacturing industries. UL approval for type MI-12461-2 has been given for applications in flour, feed, grain, starch processing, coal pulverizing and coal mining industries. These units are reported to provide excellent frequency response between 90 and 7000 cycles and high power handling capacity for good performance under difficult acoustic and climatic conditions.

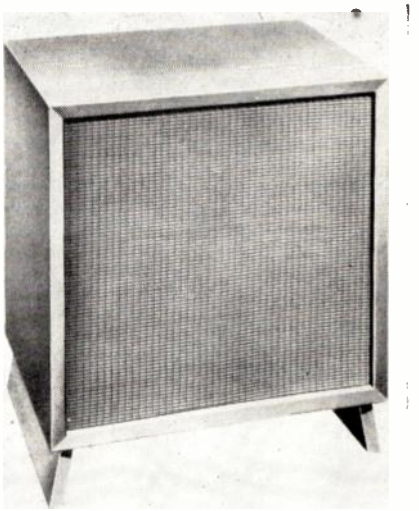


Miniature DC Power Contactors

Potter & Brumfield, Princeton, Indiana have announced a new line of miniature d-c power contactors that are available as open units measuring $1^{3}/_{16}$" x $1^{5}/_{8}$" x $1^{3}/_{8}$" or in hermetically sealed "K" cans $1^{13}/_{32}$" x $1^{5}/_{8}$" x $2^{1}/_{8}$". Open units are supplied with $^{1}/_{4}$" silver contacts and solid silver shorting bar rated at 60 amperes, 28 volts d-c, non-inductive load. Contact arrangement is single pole, single throw, normally open, double make.

Voltage Booster

Service Instrument Co., 422 South Dearborn St., Chicago 5, Ill., has announced an "up-down" voltage booster — that adds or subtracts ten volts of television receiver line voltage input, for correction of poor synchronization, oscillator drift, excessive tube failures or low sensitivity in fringe areas.



Floor Loudspeaker Enclosure

R-J Audio Products, Inc., 164 Duane St., New York 13, N. Y., has announced the availability of a smooth-sanded unfinished mahogany floor model speaker enclosure to fit any standard 12" or 15" loudspeaker. The enclosure permits realization of the full potential of any speaker with clean, smooth bass fundamentals, without peaks, down to low organ pedal notes. Distorting cabinet resonances have been eliminated.

Guy Wire Tightener

Ohio Aerial Company, 4561 Lewis Ave., Toledo 12, Ohio, is manufacturing an inexpensive guy wire tightener that is said to require about one tenth of the time required for turnbuckle installation. The device is called a *Slakout;* requires no tools for installation; may be applied to any unbroken line by tightening a wing nut. An aluminum tie wire insures positive, permanent locks even under conditions of severe vibration.

High Wattage Wirewound Resistors

Shallcross Manufacturing Co., Collingdale, Pa. is producing resistors wound with glass-insulated, low temperature coefficient wire that is silicone-impregnated for stable high temperature operation. This design permits "G" type resistors with a conservative rating of 150° C. rise above 25° C. ambient. Shallcross type G-196E resistors will dissipate 8 watts which is approximately five times the rating of commercial precision wirewound resistors of the same dimension.

New Switches

Tele-Matic Industries, Inc., 1 Joralemon St., Brooklyn, N. Y., has announced four new switches for antenna, phonograph, audio, tape recorder, microphone and other circuit selection where two to four position switching is required.

order houses git within a few cents of what you can sell 'em for and if you'll take the time to give the customer a good lecture on how much better your antenna is, chances are you'll make the sale!

CHECK NOISE CAREFULLY

One more thing you gotta do before you set up as a car-radio man. Study all the possible things that can make noise in a car-radio, and learn how to eliminate them completely. There's nothing more annoying to the customer than a car-radio with a lot of poppin' and screechin' in it when he tries to play it. Last thing you do before you declare the job finished, start th' engine, and assure yourself that there is no noise in it. Might be that he's got a bad antenna in addition to the bad tube you just took out, and didn't know it. There's where you can sell him a nice new antenna, and build up the job five or six dollars.

Then, too there's the old problem that is always with us, and always will be, I guess; the intermittent. Only thing about an intermittent car-radio, it's so dang hard to git to. Nine out of ten of 'em don't show up on the bench. They wait till you git 'em all back in the car and bolted down. About the only cure for these is to give them especial care while servicing them; beat up on all the coupling condensers, tubes, resistors solder joints, and the like. See that there isn't anything left that can give you trouble.

ONCE UPON A TIME

That brings to my mind another little story that I first heard quite some time ago, and you probably have, too, but you're gonna git it again, so git ready. Seems there was a certain serviceman died and went to the place below. Don't know why, unless the Recording Angel had been reading some of these reports on us. Anyway, there he was, and Satan met him at the gates. After all the preliminary forms had been filled out in quadruplicate, the devil conducted the serviceman down the fiery halls to a big well-lighted room, and showed him in.

There was a great long bench, with leather stools, and the biggest assortment of test equipment the serviceman had ever seen. Stacked up on shelves along the walls were hundreds of radio and TV sets, waiting to be fixed. A complete set of the finest hand tools hung on handy racks. waiting for his hand. The devil turned the serviceman into the room, and told him that all he had to do for the rest of the time was fix all those sets.

Then he smiled a devilish smile, and left. Outside in the hall, one of the imps asked him, "Satan, why did you put that serviceman in there? Don't you know that that's just the kind of thing he likes? Why, you might have just as well sent him upstairs!" The Devil wiped a drop of brimstone off his brow and grinned again. "No, son," he said, "I don't think so. You see, every one of those sets is an **intermittent!**"

I'll see you around. I hope.

SERVICE TRENDS

(*Continued from page* 11)

RADIO IS GOING STRONG

In the first place, the auto radio set and the television industry has grown so rapidly that it is almost impossible to conceive, in the light of prewar experience, what has happened during the postwar. Prior to World War II, there never was a year in which the industry sold more than 10 million radio sets. Sales in a normal year were nearer 7 or 8 million.

Now lets see what happened in five typical postwar years. In 1948 the home radio business sold 12 million, 300 thousand sets to the public. Since then sales have been running from 7 to 10 million sets per year. If we think we have had a depression in the radio business, we are wrong. We have just as big a radio business today as we had in any normal prewar year.

HIGH LEVEL AUTO RADIO SALES

Super-imposed on top of the home radio business in an automobile set business which has been running between 3½ and 5 million sets a year. This compares with prewar auto set sales of between 1 and 2 million a year. Add to this the extremely healthy television "baby" which has grown at a phenominal rate — approaching saturation faster than any other appliance:

1948	900,000
1949	2,700,000
1950	6,200,000
1951	5,700,000
1952	6,100,000

Though the television industry sales are now running at approximately $1,-300,000,000 a year, at the factory, an important thing to remember is that it is not digging very deeply into the public's pocketbooks. Americans, collectively were spending at the rate of $215 billions a year in 1952.

This is the total spent for everything by the public: food, clothing, vacations, amusements, automobiles. Everytime John Q. Public spend $100 there is 63¢ left for the kinds of things that we manufacturers make. There is plenty of room for growth, believe me.

This is the first part of Mr. Mansfield's discussion of Service Trends and Statistics. He will sharpen focus on TV Service Industry facts in another feature in SERVICE MANAGEMENT.

TACO Super-Power Antennas

Technical Appliance Corporation, Sherburne, New York, exhibited a complete line of super-power antennas covering the entire VHF and UHF spectrum at the May Parts Show in Chicago. Many of these antennas were shown to the trade for the first time, after extensive field testing.

Among the new antennas exhibited were the Taco Silver Streak Bazooka, an 11-element, Bazooka-Tuned Yagi that covers the entire VHF high-brand with a flat, high gain; and the new Triple-Driven, Tri-Tuned 1840. The 1840 covers the entire low-band from channel 2 through channel 6.

This antenna is said to be the first offered featuring three driven elements and gain comparable to single-channel yagi designs, on all five channels. Another Triple-Driven version of the low-band antenna was shown for channels 3 through 6.

To complement the line of super-powered VHF antennas, Taco introduced two new cascode-type, antenna-mounted amplifiers. The new amplifiers are broad-banded, model 1660 amplifying the entire low-band, channels 2 through 6. Model 1665 amplifies the entire high-band, channels 7 through 13. Taco amplifiers provide a very low noise factor, assuring better pictures. Antenna mounting results in a far higher signal-to-noise ratio than that obtained with conventional at-the-receiver boosters.

For UHF areas, Taco has increased the number of models in its matching unit Bow-Tie line. Starting with the basic Bow-Tie, the installer uses either an X-type or a screen-type reflector, and make stacked arrays — single, double, or four bay, to fit the requirements of the installation.

A radically, new Twin-Driven Taco UHF yagi antenna offers the technician ultra-high gain with a novel stacking arrangement. The antenna is based on a yagi design utilizing 10-elements. It is expected to be effective in areas where reflected signals cause ghosts, or noises are picked up with the signal.

TECHNICAL TOPICS

(*Continued from page* 17)

nects to the crystal mixer. The injection voltage to the crystal mixer can be regulated to operate the crystal with peak sensitivity and best noise factor for reception of the UHF signal. On the much higher UHF frequencies, small capacitors are switched across the local oscillator tank circuit to form series resonant tank circuits at the ultra high frequencies to be generated for

(*Continued on page* 24)

Regardless of what type inventory record is maintained, a comparison between the file data and actual stock quantity must frequently be made to prevent mistakes in paper work from erroneously influencing the reordering procedure. It should be satisfactory to take a physical inventory only once a year, if all persons who go into the stockroom are thoroughly indoctrinated with the importance of correctly recording the movement of the stocked items.

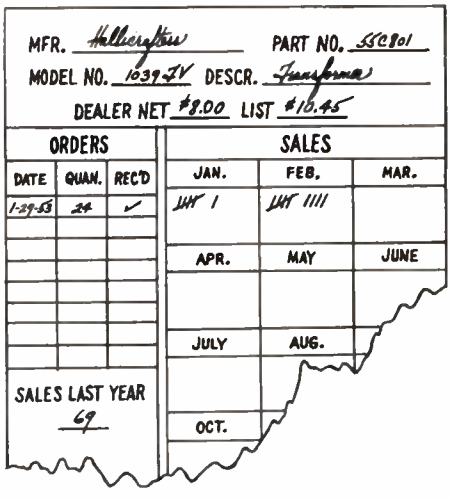


FIG. 2. *Example of inventory card suitable for dealer and service center stock parts.*

From what we have just discussed, it can be seen that the basis of reordering merchandise to maintain a specific level of service replacement parts includes:

1. An up-to-date "order key" or minimum stock figure at which reordering is to take place.
2. A decision of the volume of merchandise to order, based on the previous sales pattern (usually a three months to one year supply).
3. A periodic inventory check to reconcile stock records.

Using this reordering arrangement, and coupling it with an appropriate inventory control and stocking system, sales concerns will find that part replacements can serve as profitable goodwill transactions.

Table I

RELATIVE STOCKING PERCENTAGES OF SERVICE REPLACEMENT PARTS

HIGHER THAN NORMAL

- Conventional receiving type and picture tubes
- Special tolerance, valve, or rated resistors or condensers
- Horizontal and vertical output and oscillator transformers
- Deflection yokes, electromagnetic focusing coils
- Contrast, brightness and volume controls
- Dial glass, dial scales
- Plastic cabinets
- All control knobs
- Electrolytic condensers
- Standard size resistors and condensers, and parts easily available from other local sources (service organizations and dealer stocks only)

LOWER THAN NORMAL

- Mica and plastic condensers
- Most coils
- Mechanical parts, brackets
- Sockets, plugs
- Standard size resistors and condensers, and parts easily available from other local sources (distributor stock only)

OUACHITA PHILOSOPHER

(*Continued from page* 13)

you can do to set up for speedy service. In the last few years, there have been numerous helpful papers published on this subject, so they ain't much use goin' into details here. Look up your files there's a lot of valuable material in there.

ABOUT CHARGES

'Nother thing to remember is the service charges: Y' can't quite git along on car-radios if you don't charge any more than you do for house radios. F'rinstance, you can check the tubes in a home radio and get by on a four-bit service charge, if it's a counter job; you can't pull a car-radio and check the tubes for the same fifty cents! Nope, you gotta get a little more for the work, and it's worth it.

Although there are a few cars that are mighty near reasonable to get the radios out of, there are a heck of a lot more where it looks like the unsung genius who designed the radio installation was going out of his way to make it hard to get out! I mind one particular very well-known car, a few years back, that it was impossible to get the radio out of, after they put in the heater, and some other gadgets. You had to drain the radiator, pull the heater, and some other stuff, before you could even begin to remove the set!

Fortunately for our sacro-iliacs, they ain't but a few of them that are like that, but you'll have to make allowance for them, in setting up your service charges. I kinda like a slidin' scale on removal and replacement charges; 'tain't fair to make the owner of a 1952 Plymouth, for instance, which can be pulled in approximately 90 seconds, with a pocket screwdriver, pay the same price as a man with a set that takes you an hour to get out.

THE DARR DROP TEST

Kinda takes a mite more care in service work, too. For instance, when you replace a condenser, you better hang 'er in there under some wires, or tape it in place; that set's gonna get lots more joltin' and jarrin' than a house set, so you better be sure your parts are gonna stay there! Good way to check it when you git all through, leave it playin,' and pick it up an' drop it about a foot! If'n it's good, it won't hurt it, and if there's any loose parts, this'll help to find 'em!

ABOUT SELLING PARTS

'Nother place to make money is sellin' parts, accessories, and the like, for car-radios. Antennas, vibrators, suppressors, condensers, and such like stuff. You've got to have 'em to do the business. So get yourself a good assortment and be ready. Auto-antennas are a good profit making line, too. You can replace an antenna in about ten minutes, and get a buck service charge. Only one thing here; get yourself a good line of antennas, and stick with 'em. You can buy 'em cheaper if you stock more of less models.

By golly that don't sound very clear, does it? What I meant was, you can buy a dozen of one kind of antenna, and only pay for eleven, by the quantity discount, and make one free antenna. Another thing, don't try to carry too many different types.

One good "top-cowl-fender" mount, and one good "side-mount," the old-fashioned two-post antenna, in reasonable length, will do 99% of all work. Leave the fancy antennas for the mail-order houses. Be sure and settle down on a dang good one, though. If you get a good one, you can give your customers a guarantee of service with 'em, and they'll appreciate it to the extent of comin' back and tradin' some more with you!

DISPLAYS AND LECTURES

Manufacturers will be happy to furnish a real nice lookin' display board for their antennas, so you can set 'em up on the counter. They'll sell a lot of antennas. Keep 'em dusted off and shined, and they'll help do the job. Price ain't much of a holdback, either. Way they are now, the chain stores and mail-

spread understanding among its stockholders, its employees, and the people of the communities where it does business? This is the simple method. Because of its very simplicity, it is more likely to produce results.

Our political leaders have learned by experience that when the precincts are organized, the national election takes care of itself. I am confident that if business managements tell their story in the business precincts, where they have the respect and confidence of their own people, our system will have the understanding, sympathy and support of all the people of the United States.

If all management will meet these obligations, the brilliance of American industrial achievement is only a dull sheen compared to the promise of the future. In the short period of half a century, we have substituted tools for manpower to obtain greater production so that the five-day, 40-hour week has taken the place of the six-day, 60-hour week common at the turn of the century.

We have witnessed the creation of air-conditioned trains, super-highways traveled by powerful automobiles, and dawn-to-dusk flights across continents and oceans in luxurious transport planes. We are able to wear fine fabrics fashioned from air, water and natural gas. Our wives have been emancipated from household drudgeries by the automatic washing machine, the vacuum cleaner, the electric refrigerator, and pre-processed foods.

LUXURIES BECOME NECESSITIES

These are not luxuries for a favored few. They have become necessities for the majority of our people. Under our system, all people share the benefits of the steady rise in the standard of living achieved by initiative and technology.

Let's make sure that they do. Our productive machine is the greatest in man's memory, but it is still in infancy. Our scientists and technologists can look back with pride, but they have barely knocked on the outer door. If we do not miss our chance, a new and wonderful world awaits us.

ASSOCIATIONS

(*Continued from page* 15)

Plans for combating unfair propaganda now directed at the TV-Radio servicemen were suggested by Mr. Calamaras while addressing a meeting called by the Dallas Radio Sales and Service Association.

Industry trends, problems and policies were discussed when NEDA's Yankee Chapter met in Boston, Mass. Mr. Calamaras also discussed the forthcoming convention-conference to be sponsored by NEDA in St. Louis, Mo., during the week of September 14-17.

"An education program aimed at the consumer is required to correct the public's misconceptions concerning the television serviceman, but it is up to service groups to initiate the programs," declared Mr. Calamaras at a meeting of the newly organized Chicago Certified TV Installation and Service group. The CTIS group is being sponsored by NARDA.

On April 12, he appeared before the national convention of the National Alliance of Television and Electronic Service Associations, in Kansas City, to address the group on the subject of licensing of radio-television servicemen.

His current schedule will wind up with a meeting with the Tri-State Chapter of NEDA in Youngstown, Ohio.

NATESA AWARDS

(*Continued from page* 15)

examine a wide range of products displayed in the exhibition hall.

The program was financed by Kansas City Parts Distributors, manufacturers and more than two hundred service executives and personnel that paid a ten dollar registration fee.

John T. Thompson receives "Friends of Service Management" award for the General Electric Company.

Officers of TSE, which includes twenty-eight service companies in the Greater Kansas City area, are Albert A. Richards, president; J. B. McDowell, vice president; Ray Crawford, secretary; Robert Hester, treasurer; and M. D. Thompson, sergeant-at-arms.

GE PUBLIC RELATIONS

(*Continued from page* 16)

duced cartoon and campaign addressed to parts distributors.

General Electric is a business operation, not a philanthropy. We have an obvious selfish motive in the public relations activity. But our over-all approach to promotional aids, sales campaigns and programs has been to help the industry itself, although we naturally plan to secure our fair share of the business at same time.

Philco VHF-TO-UHF Signal Generator Adapter

Developed, engineered and produced by Philco, the Model G8000 VHF-TO-UHF Signal Generator Adapter is the first low cost instrument of its kind designed to prevent obsolescence of VHF signal generators.

The highly dependable and stable Philco UHF Tuner is the heart of Model G8000 Adapter. Immediate and wide acceptance is predicted due to its simplicity and flexibility, and because it permits measurements at UHF while controls. Markers and attenuators are operated with the usual convenience at the common VHF frequencies.

The adaptation of signals from VHF to UHF is achieved quickly and efficiently. As the output from any VHF signal generator at 60 mc is fed into the Adapter, the VHF sweep or marker signal beats against the UHF oscillator, producing UHF signals with the same characteristics as the VHF input.

Outstanding design features include: precision vernier dial for extremely accurate re-set ability; Adapter functions as an external UHF converter by connecting UHF antenna transmission line to generator's output terminal and connecting lead to TV receiver tuned to 60 mc; no expensive attenuator required — VHF signal generator output attenuator controls the UHF output signal level; and, UHF levels are obtained with excellent stability and no drift.

Philco's Accessory Division has embarked on an expanded program to meet the urgent need for quality engineered and low priced UHF service equipment. New UHF models from Philco will be announced as they are made available to service technicians throughout the country.

In this issue of SERVICE MANAGEMENT a full page advertisement features the Philco Model G8000 VHF-TO-UHF Signal Generator Adapter and two other outstanding Philco test equipments.

PARTS PROGRAM

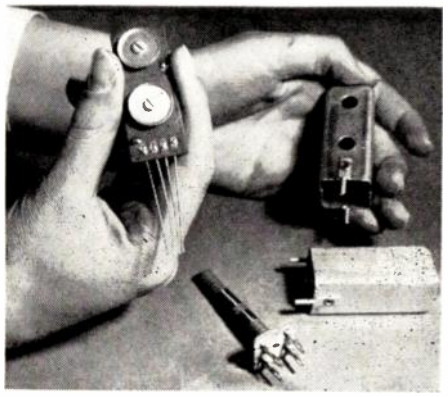
(*Continued from page* 9)

Instead of maintaining a perpetual inventory figure, the part supervisor merely makes a check in the appropriate monthly box each time an item is removed from stock. A periodic review of the movement of merchandise will provide the means for an intelligent reordering system. Using this simplified control arrangement, however, it will be necessary to keep a very close watch on the quantity of each component in stock, so that new parts may be procured before the supply becomes exhausted.

NEWS BRIEFS

(*Continued from page 7*)

nounced printed-circuit components that should point to more compact radios, TV sets and other communications equipment (see cut); reports de-



RCA Printed-Circuit TV Component.

velopment of measuring techniques to determine adherence of phosphors to TV picture tube faceplates . . . **ROHN MANUFACTURING CO.** has announced a new mailing address: 116 Limestone, Bellevue, Peoria, Illinois . . . **RTMA** recently hosted southern California electronic manufacturers during a three-day gathering in Los Angeles . . . **SOUTHWESTERN DISTRIBUTORS, INC.,** has been appointed distributors for Olympic Radio & Television . . . **SUN RADIO & ELECTRONIC CO. INC.,** recently celebrated the opening of its new headquarters in New York City with Hon. Robert F. Wagner, Jr., president of the Borough of Manhattan as guest of honor (see cut) . . . **MARK**

Samuel Gerard & Hon. Robert F. Wagner, Jr.

SIMPSON MFG. CO., INC., reports that it is doubling production of Masco Concert Master high fidelity equipment . . . **SYLVANIA ELECTRIC** has reported the use of a radioactivity method for the purification of germanium for transistors; has announced an improved method for producing multiphosphor screens for color TV picture tubes . . . **TALK-A-PHONE CO.** recently an-

UHF converters for WTVI Signals leave Mallory plant.

nounced a new two station intercom system for plug-in at any electrical outlet . . . **TRYLON RADIO LABORATORIES** of Philadelphia has joined the Phonograph Manufacturers Association . . . **TUNG-SOL ELECTRIC** reports a net sales increase of 34 per cent during the first thirteen weeks of 1953; $10,745,129 compared with $8,011,074 in the same 1952 period . . . **UTAH RADIO**

RCA Promotion Campaign Material.

PRODUCTS CO., INC., has announced a new series of wall baffles and a new rear deck auto kit . . . **WARD PRODUCTS CORP.** has announced a new promotion for auto antennas including booklets, newspaper mats, radio announcements, counter displays, streamers, postcards and envelope stuffers . . . **WESTERN ELECTRONIC SHOW & CONVENTION** reports 316 booths assigned compared with a total of 224 last year.

MANAGEMENT

(*Continued from page 10*)

businesses so that they will earn a return on capital investment. This is just as essential to the life of business as breathing is essential to human living. If we stop breathing, we die. A business dies when it becomes unprofitable.

But in the relatively brief existence of management, we have learned the formula for profit-making. We know we must offer goods or services that the public wants at a price which the public is willing to pay. We know that to do this and make a profit, we must strive constantly to improve our product or service. We must develop processes and tools which will cut costs and increase productivity. We can never be content with what we have.

Throughout the United States, business managers have been following the formula, but too many in the past seemed to feel that this was the extent of their responsibility. Business was business, and there the sun rose, and there the sun set. Only recently has there been growing realization that business can never be sealed off in a vacuum. It involves vital and delicate human relationships.

To accept the opportunity, and to meet the challenge which confronts management in 1953, there are two other obligations.

The conduct of all segments of business must be such that it cannot be subjected to justified criticism. We know that one rotten apple can spoil a barrel. We know that the proponents of punitive and restrictive legislation at times conceded it wasn't justified for all business, but only because there was a fringe of wrongdoers. All business suffered, nevertheless. In the future, let us make sure, by action and deed, that even the excuse is lacking for criticism and retaliation.

SCRAPE AWAY THE BARNACLES

This still isn't enough. Management plainly has the obligation to take affirmative steps to scrape away the barnacles of misunderstanding. It must not only demonstrate; it must explain. It must shed light so that the people will become aware of inherent values in our business system. The people are entitled not only to know what we are doing, but why we do it.

Now how can we create this understanding? How can we educate the man in the street to distinguish between what is sound, and what is unsound, what is good, and what is bad? How can we win the people away from false economics and re-educate them in the fundamental values which have made this country great?

SPREAD UNDERSTANDING

What could be more effective than a mutual effort, cooperative only in the sense that we all are participating, in which every management takes steps to

TECHNICAL TOPICS

(*Continued from page 9*)

The plate of the first section of the cascode stage is direct-coupled to the cathode of the second section. An i-f trap of 43.5 megacycles, center of video IF spectrum, connects from plate to ground. Inductor L6 and capacitor C15 prevent reactive feedback into the input circuit of the cascode amplifier, keeping input impedance and termination constant.

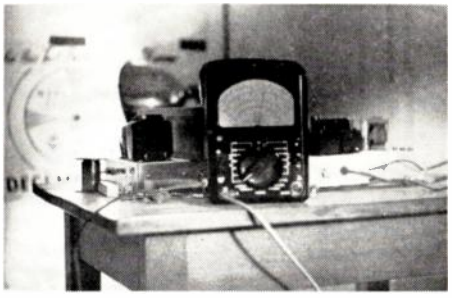


FIG. 2. *Signal and d-c measurements with a VTVM.*

A double-tuned transformer couples signal between the plate of the last section of the cascode stage and the input of the crystal mixer, terminals 8, 9 and 11 of the turret. A bandwidth capacitor C40 is connected across the high impedance side of the winding and permits a broad flat bandwidth with a sharp selective skirt for the interstage response curve.

Local oscillator injection to the crystal is made at the low impedance side of the resonant secondary via inductive loop and resistor R16. Additional injection voltage on the low band VHF channels is obtained with capacitors C42 and C39 on the insert strip. The local oscillator is an ultra-audion using a 6AF4 and turret switched inductors. These inductors are placed across the oscillator tank circuit and have the proper value to resonate on the desired channels.

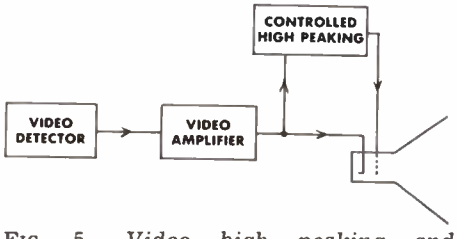


FIG. 5. *Video high peaking and crispening.*

The mixer crystal output is applied through transformer T1 to the 45 megacycle i-f amplifier tube V3 — also a cascode amplifier stage that increases the level of the difference frequency and conveys it via transformer T2 to the video i-f strip. An alignment test point is provided at the low side of transformer T1 primary to permit application of scope or to measure crystal current. AGC bias is applied to the grid of the input cascode stage, pin 7, and also changes cathode bias of second section because of the direct-coupled voltage drop across resistor R11. Plate voltage is applied to the plate of the second section by way of the decoupling circuit and choke L8.

On a UHF position of the turret, the input r-f stage V1 does not function, terminals 3, 4, 5 and 8 are idle. Instead, if same antenna is used for UHF and VHF reception, the UHF signal is transformer-coupled via terminals 1 and 2 to the primary of the double-tuned UHF input transformer on each insert. If separate UHF antenna is used, the signal is attached via UHF antenna jack and is applied across low impedance section of primary resonant circuit. Two windings of transformer are separated physically and are coupled via a link and its bandwidth adjustment capacitor — to permit peak off-frequency rejection and maximum transfer with proper bandwidth for the UHF channel to be received.

The input transformer secondary con-

(*Continued on page 21*)

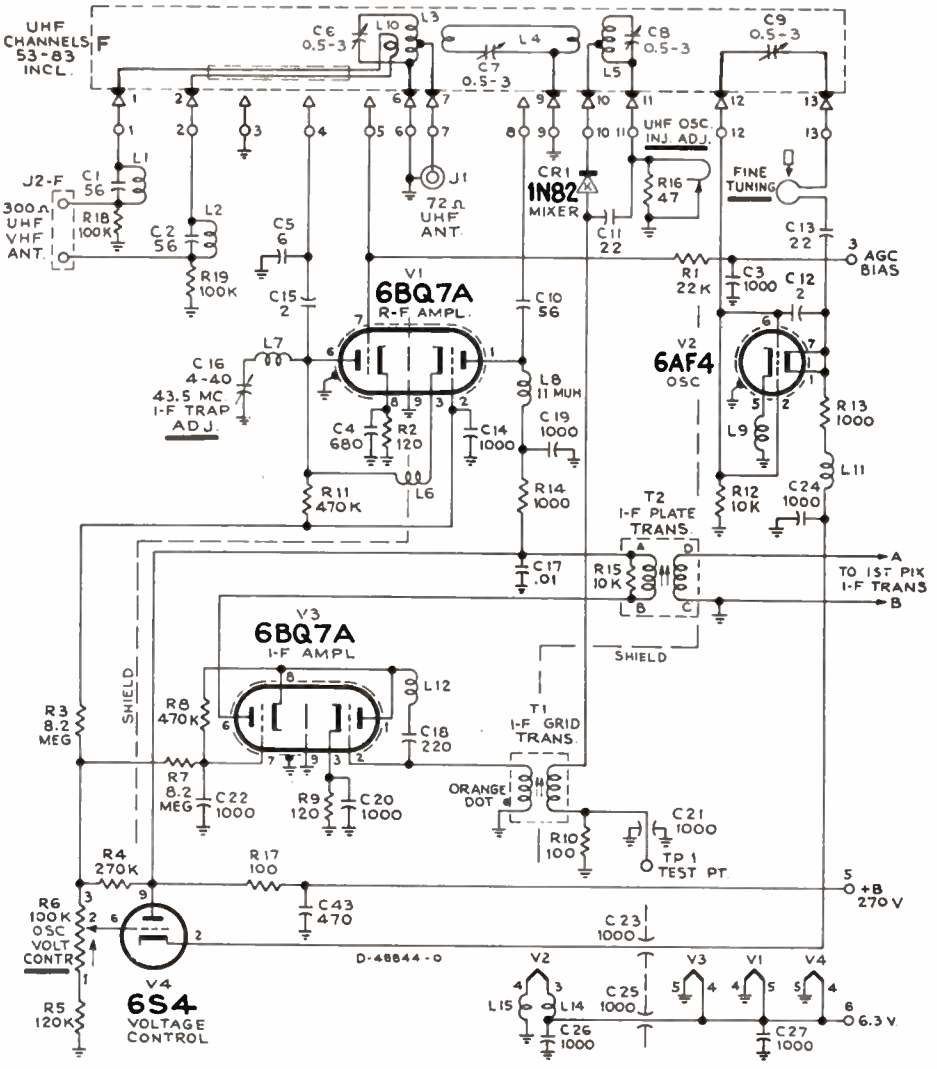


FIG. 4. *RCA VHF-UHF turret tuner.*

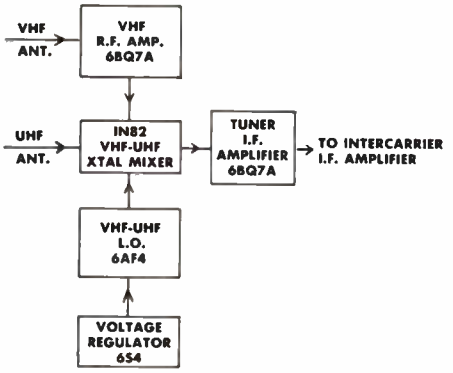


FIG. 3. *VHF-UHF tuner plan.*

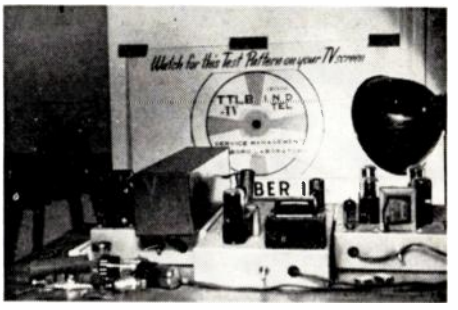
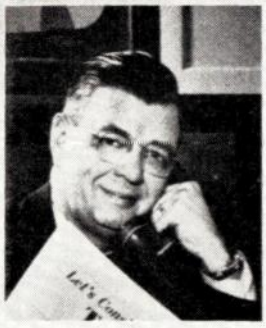


FIG. 6. *Test of low-cost closed-circuit TV camera.*



HAROLD CHASE

TV SERVICE DEALERS FEATURE STANDARD REPAIR RATES!

● Harold Chase, president of Chase Television, is also president of TSA, an organization of Michigan TV Service Dealers. Chase and the TSA membership have taken active leadership in standardizing the repair rates in their area, and—like TV Service Dealers throughout the country—are now featuring uniform charges as another advancement in TV servicing.

ELMER SIEGERT, one of Chase's team of crack TV service men, has 20 years of experience behind him. When he goes to answer a call he goes fully equipped to do a complete job.

LIKE TV SERVICE MEN everywhere, Siegert is polite and efficient. Under Chase's direction, his men successfully complete nearly 90% of their service calls right in the home.

A PHONE CALL GETS QUICK RESULTS. Mrs. W. B. Carpenter, a Detroit housewife, and her son are fascinated by Siegert's knowledge of the vastly complicated TV chassis. No TV problem is too big—none too small for Chase's men to handle. According to their standards a set isn't right unless it's 100% right.

SOMETIMES THE "IMPOSSIBLE" TAKES A LITTLE LONGER. When a TV set can't possibly be serviced in a customer's home, it is taken back to the shop. Chase's highly trained staff have everything at their command—including $30,000 worth of equipment—to do the job right, quickly and at the standard, fair rate

One of a series of informative advertisements on TV service. Tube Department, General Electric Company, Schenectady 5, N. Y.

GENERAL ELECTRIC

166-1A12

General Electric Public Relations Program

By G. A. BRADFORD, advertising manager General Electric Tube Department

Dealers and distributors throughout the country have been rightfully indignant at the highly uncomplimentary press which has been afforded the television service industry. Articles in national magazines and the daily press have taken some unjustified "pokes" at the industry as a whole — due to a few isolated service malpractices.

John Thompson, replacement tube sales manager for General Electric has become acutely aware of the resentful attitude throughout the industry. Angry distributors have asked us, "why don't you do something about it?" Doing something about it is a problem which General Electric might rightfully feel is apart from their responsibility as a manufacturer.

Certainly we would be willing to do our share in an industry-wide effort but it did not seem plausible, or economically possible, for us to single-handedly correct a situation that was fast developing into a national trend.

We do not believe that we have corrected the situation. However, the Tube Department of General Electric has taken some steps *toward* a better public acceptance of the electronic service industry. We are going to continue to attempt to gain favorable acceptance for service people.

About a year ago we decided that some way had to be found to get the serviceman's message across to the general public. After considerable fumbling and many false starts, a series of ads including that reproduced in the adjoining column, was developed and scheduled for *Life, Look* and *Collier's.*

The general public, we found, was at least interested in the facts about TV Service. Nearly four times as many people read our story in this series of ads — as normally read the fancy four-color set ads.

Enthusiasm from service dealers prompted us to make a self-mailer out of ad reprints of the series — so that dealers might advance their case with set owners in local areas. We finally distributed over a quarter million — without any wide announcement of availability.

These ads in national weeklies used the familiar shotgun approach. The next step appeared to be the development of something which would more accurately pinpoint specific localities, and acquaint set owners with the complexities of TV Service. Consequently we developed and produced two million copies of a little booklet, "Facts About Television Service" and announced its availability through G. E. distributors and executives of TV Service organizations.

Other elements in the G. E. Public Relations program include the Edison Radio Amateur Award — to help gain recognition for the amateur branch of the electronics industry, and our recently intro-

(*Continued on page* 19)

Edward M. Noll conducting "technicians' corner" at Terre Haute TTLB meeting for discussion of individual TV Service and installation problems. Mr. Noll's lecture is based on experience with UHF installations under a wide variety of conditions. This meeting was sponsored by Archer & Ewinger. — Photo by Kadel

TCA really run by its executive secretary? If it is a matter of distance, why isn't NTDA a chapter of TCA?

Dave Krantz once belonged to PRSMA, but I understand he was asked to resign, he resigned from membership in TCA, and now he turns up as president of TSDA. Is he still a chairman of the Federation of Radio-Servicemen's Assn. of Pa.?

. . . As a combined power, wouldn't they have more influence on the public? . . . wouldn't the cost to the members be less?

My husband runs a small operation and I sometimes help out in the office. . . . He would like to join an association, but believes . . . as do some of our contemporaries . . . that the number of associations are defeating their purpose.

Mrs. B. D. F.
Philadelphia, Pa."

NEDA

Because of his many successful efforts on behalf of radio and television servicemen, L. B. Calamaras, executive vice president of National Electronic Distributors Assn., has been called upon to extend his appearance before servicing groups, and municipal and state legislative bodies throughout the country.

(*Continued on page* 19)

Capacity crowd in the main auditorium of the Deming Hotel, Terre Haute, Indiana, hear Ed Noll deliver popular TTLB Lecture on UHF television, sponsored by Archer & Evinger. Capacity crowds have recently heard Mr. Noll in Cleveland, Des Moines and Fort Dodge. — Photo by Kadel

Natesa Awards Presented At Kansas City Meeting

Kansas City recently played host to a national convention of the television, radio and electronics servicing industry when the Television Service Engineers, Inc., of Greater Kansas City, Mo. sponsored the Spring meeting of the National Alliance of Television & Electronic Service Associations. TSE presented a nicely organized, fast-moving, three-day program that was highlighted by presentation of the annual NATESA "Friends of SERVICE MANAGEMENT Awards" to three manufacturers.

Presentation of these awards was made by Frank Moch, president of NATESA. The awards, made in recognition of effort in creating better customer relations, were presented to Neal Hunter for the Sprague Products Company; Frank Mansfield for Sylvania Electric Products Inc.; and John T. Thompson for the General Electric Company.

Neal Hunter receives "Friends of Service Management" award for the Sprague Products Company.

Business and technical talks were presented by Lee Allen of the American Phenolic Corporation; Lloyd Austin of Simpson Electric Company; Larry Carney of La Pointe Electronics; Chet Jur of Merit Coil and Transformer Corp.; Frank Mansfield of Sylvania Electric Products Inc.; Herbert Mayer of the Empire Coil Co.; Harold Reith of the Regency Division of I.D.E.A.; and John T. Thompson of the General Electric Company.

Al Saunders, director of the Saunders Radio & Electronic School of Boston, Mass., spoke on "Service Progress through Cooperation" and discussed "Service Training."

L. B. Calamaras, executive vice president of the National Electronics Distributors Association, gave a talk on "Service Licensing."

In addition to these addresses, the program included a dinner, a luncheon, a cocktail party and a banquet with an excellent floor show. Those in attendance had an excellent opportunity to

(*Continued on page* 19)

TV ASSOCIATION NEWS

Transcripts from Service Management's party line

By PENNY MARTIN

NARDA

The National Appliance and Radio-TV Dealers Association has obtained permission from the Greater Chicago Television Service Industry group to distribute the latter's consumer education advertising program to other service group throughout the country.

The GCTSI advertising program is still in the blueprint stage.

The only restriction to other groups using the GCTSI program is that W. B. Doner & Co., Chicago advertising agency preparing the program, must be retained to handle the ad campaign in cities where the agency has branch offices: Detroit and Milwaukee.

BELOIT, WISCONSIN

With the Beloit-Rockton, Ill. area just being opened to television, a group of Beloit television dealers have formed an association to protect their customers from the illicit television dealer in this town of 30,000.

According to Roy Firebaugh, vice-president of the Beloit Television Dealers Association, the group was formed last January.

The association, Mr. Firebaugh explained, was formed to enable the dealer to have a "clean operation, give good service, and yet receive a legitimate profit." Today every television dealer in Beloit is a member of the association.

They hope to protect their customers from the dealer who would try to dump off-brand or small screen sets on the market. They want to keep all Beloit television advertising free of misleading claims.

Officers of the group in addition to Mr. Firebaugh are John Purcell, president and L. B. Yagla, treasurer.

TETI, HOUSTON, TEXAS

Over 500 television repairmen and technicians heard the managers and chief engineers of Houston's four TV stations outline the hopes and policies of each channel. They were also instructed on how installations of converters and antennas should be made to receive the new stations.

The meeting, sponsored by the Texas Electronics Technicians, Inc., was held in the Recreation Playhouse.

PROVO, UTAH

Fifty-four kinds of electrical appliances were displayed at the second annual open house held at the Provo

Municipal Power Plant. The appliance show was jointly sponsored by the Provo Department of Utilities and the Intermountain Electrical Association.

Exhibits ranged from electric razors to new, 24-foot home freezers and 27-inch television sets, according to George L. Larsen, public relations director for the Department of Utilities, and A. M. Stephens, president of the Utah County Chapter, IEA.

PHILADELPHIA, PENNA.

I have received a long letter from a woman reader in Philadelphia which I shall condense here, but should certainly make the various association leaders in Philadelphia sit up and take notice:

"Dear Miss Martin:

Our fair city is noted as the 'City of Brotherly Love' but that doesn't seem to extend to servicemen and dealers in this vicinity. Or, at least, it would seem so from the number of service-dealer organizations that have sprung up in the past few years.

There may be more, but I know of the following organizations: Philadeldia Radio Servicemen's Assn., Television Contractors Assn., Northeast Television Dealers Assn., Joint Electronics & Radio Committee on Service, Keystone Chapter of NEDA, Television Servicing Dealers Assn., Electrical Assn., National Appliance and Radio-TV Dealers Assn.

Why so many? They all seem to have the same ideals and purposes, their code of ethics may word differently, but basically they all say the same thing. They all have the same idea of promoting an emblem that will be recognized by the public as a symbol of good service and ethical business. But with so many, the confused public ignores them all. Why do they not combine forces?

. . . Are there so many different organizations because there are that many men who must be leaders or won't play ball?

Albert M. Haas, president of TCA, is a member of the newly formed NTDA. Why? Is he just a 'joiner' or is the

TV Servicemen at Meyers Electronics 7th Anniversary Party.

OUACHITA SERVICE PHILOSOPHER

Talks about Spring, Summer, Automobile Radios and Things

By JACK DARR

Well, sir, 'bout this time last month I allowed as how Spring was about here. Thought it was, too, at th' time. Might be as how I was a mite wrong, or maybe the weather man don't read this magazine, for he certain sure ain't sent us much in the way of Spring-like weather. 'Specially th' other night, when he bestowed a fair-sized hailstorm upon us, and it got so frazzlin' cold I had to git m' longhandles out ag'in.

I reckon everything comes to him who waits (except your customer's overdue bills; them you gotta go out and git!). Summer will eventually be after awhile. Hailstorm didn't do m' garden any good, don't reckon. Wasn't much left of th' early peas nohow, after th' rabbits got through with 'em.

Oh, well. After I git 'em all fattened up, we'll eat the rabbits, an' kinda git a little of it back. 'Cordin' to some of th' more rapid Democrats, last Fall, We'll be eatin' rabbits this year anyhow! Ain't seen no sign of it yet, but that was their prediction. Could be they wuz wrong; politicians have been known to be wrong before.

Speakin' of Summer, that always brings to mind the car-radio business. Dunno what made me thing of that right at this time, unless it was the card I got from Ed last week, saying "Git me out a column on auto-radios!" Great is the power of suggestion, especially suggestions from editors! Well, rare back, cause here we go.

THAT INVERTED FRATERNITY

Havin' long been a member of that inverted fraternity of technicians who make part of their beans and bacon fixin' car-radios, I kinda feel qualified to speak with authority. Feller says that there are only two classes of people who hafta stand on their heads to make a livin': acrobats and auto-radio mechanics! Th' **Voice of Experience** might add right along here that aircraft radiomen could also be included in that category: didja ever take the radio out of a Navy Fighter? 'Specially them danged F4U's.

Well, anyhow, th' point I was about to make is: that there's lots of good money to be made in fixin' car-radios, 'specially if you'll take the time and trouble to fix up for it. Just like radio and TV service — the jobs come off the bench faster if you've gone to a little trouble beforehand to git ready for it. You wouldn't expect to be able to fix television on a bench that was set up especially for battery-sets. By the same token, you can't do efficient auto-radio work on just a regular radio bench.

GET SOME DC

Gotta have a source of 6 or maybe pretty soon 12 volts of reasonable pure DC, for one thing. Two or three ways you can go about this. Me, I use a ordinary car-battery, in the back room, and one of them little trickle chargers. Kind they sell under the name of "Battery-Booster." Puts out about 4 amps. If you get a pretty heavy load, you can leave it on all the time. If you only need it once in a while, use it when the battery gets low. Keep a hydrometer back by the battery. Check it once in a while.

If you don't want to mess with the battery, there are several very excellent "battery eliminators" on the market; Federal makes one, and so do several others. These supply good smooth DC and you have the added advantage of being able to run the voltage up a bit if you want to hurry an intermittent. Compensates for extra heavy loads, too. If you can git hold of an ammeter off'n an old 32-volt Delco plant, it sure is useful in one of the leads. Amount of current drawn by the set tells you right away when to start lookin' for a shorted condenser, bad vibrator, or the like. Don't need but about an 0-15 am-meter if you can't find an old Delco.

SET UP FOR SPEEDY SERVICE

One thing about car-radios, the more speed you can git up on the jobs, the better your customer'll like it. Lots of car-radios are the I'll just wait till you fix it' kind. Of course, if you're like me, you ain't particularly fond of this, but there ain't too much you can do about it. So, the quicker you get the set fixed and back in the car, the happier the guy is about it. Incidentally, the happier you are, too, for you can get that many more jobs in per day, and make more money. 'J ever think of that?

STRANGE AND WONDERFUL

Lots of ways you can fix up your bench to speed up car-radio service; make up a set of fuse-holders to fit any of the car-radios you'll find, with one heavy lead with a big clip for a ground lead; fix a set of speaker plugs, to fit some of the strange and wonderful plugs you find, so that you can use your bench speaker, and won't have to pull the speaker.

Use your oscilloscope on a doubtful vibrator to see if it actually needs replacement; there's a jillion little things

(*Continued on page* 20)

RECORDS ARE IMPORTANT

The Balance Sheet — What It Reveals

By HAROLD J. ASHE

There is good reason for believing that at least a large minority of radio-TV service shop owners are allergic to record keeping. This is understandable. A good many who go into business are better technicians than they are business managers. This technical skill is a distinct asset if it is not considered a substitute for all other talents needed in the successful conduct of a service shop.

Having conceded that many shop owners are better technicians than managers, the fact remains that record keeping is important. Without adequate records it is impossible to make an accurate income tax return which will stand close scrutiny by the government.

Without complete records it is impossible for a shop owner to satisfy himself in respect to the simplest questions. How is he doing? Is he gaining ground, financially, or losing it? Is his overhead rising, percentage-wise of volume? Are net earnings dropping, and how much? Are liabilities mounting to a dangerous point, threatening to get out of hand? Finally, what is his net worth?

NET EARNINGS VS NET WORTH

Not infrequently, a shop owner will go through a period when his net earnings are increasing even as his net worth is sharply declining. When this occurs net earnings may blind him to what is happening to his capital.

Precisely because of an abhorrence of record keeping, such records are imperative. Lack of records suggests a one-sidedness which can be dangerous to the business. The shop owner of superior technical skills needs to know what's what concerning the financial end of his business, if for no other reason than to stay in business and to avoid returning to working for wages.

One of the most useful records a radio-TV shop owner can possess is a balance sheet. This is simply an impersonal, objective analysis of his business in dollars and cents, and percentage-wise, showing where he stands. It is uncolored by wishful thinking and speculative nonsense.

Without a balance sheet, and a surprisingly large number of shop owners don't have any, it is likely a serviceman will have a false sense of security when the facts found in a balance sheet would point to management uneasiness, if not alarm.

BALANCE SHEET SHOULD REFLECT

Here is what a balance sheet should reflect. Assets: cash; other current assets; net receivables (accounts receivable, notes and bills receivable, less reserve for bad debts); inventory. This represents total current assets. In addition there should be recorded: good will (usually carried at $1); office furniture, shop equipment, trucks, etc., (less depreciation). These two items constitute fixed assets. Add to the foregoing deferred charges (including pre-paid insurance and advertising). The combined total is total assets.

Depreciation of trucks and other capital equipment should be carefully estimated for the budget.

LIABILITIES

Liabilities should reflect: accounts payable, notes payable, accruals (such as sales tax, social security and unemployment insurance taxes, and income tax); other current liabilities. Fixed liabilities include: mortgages, other fixed liabilities. Finally, there are accrued expenses such as accrued interest, wages and property taxes. All of the foregoing add up to total liabilities.

The difference between total assets and total liabilities represents a shop owner's business net worth.

Even the most superficial examination of a balance sheet will indicate its justification. On the score of net worth alone a shop owner can tell at a glance whether his net worth from year to year is increasing or declining. If it is rising only infinitesimally, there is cause for concern; if it is declining year after year, it means his original net worth is washing out from under him. It foreshadows difficulties to come, if the trend is not reversed.

Vacations, paid holidays and sick time must be figured in operating expense.

DEPRECIATION

For example, if a TV Serviceman starts a business with a capital of $5000 and, five years later, his balance sheet shows a net worth of only $4000, it means that he has used up 20 per cent of his capital. This attrition, expressed only in nominal dollars, does not tell the whole story. With continuing depreciation of the dollar during that five-year period, the capital loss is even greater.

Thus, even if this shop owner's net worth is $5000 at the end of five years he has sustained a loss in **real** capital,

(*Continued on page 23*)

SERVICE TRENDS AND STATISTICS

Adapted from a recent presentation at the NATESA Convention at Kansas City, Missouri

By FRANK W. MANSFIELD, sales research director
Sylvania Electric Products Inc.

Being a prognosticator isn't all it's cracked up to be. If things turn out the way you tell the boss they're going to turn out, you don't get any credit because you're supposed to be right. If you are wrong, you don't have much defense. All you can say is, "Well, you know this art of prediction is not an exact science yet."

We are not right **all** of the time. If we can be right a little more than half of the time — we consider that we are very fortunate. It is not easy, in the background of historical experience, ever to be able to look back and see how difficult it would have been to predict many of the things that are commonplace today. Look around. You see plenty which would never have been predicted years ago.

SOME SPECULATIONS

In the early 1900s there was a Dutch designer of airplanes. He predicted that, by 1940, there would be millions of airplanes in daily use. During World War II, we never produced more than a hundred thousand in any one year which is infinitely greater than the number that are in use today. He was so close to 100% wrong that it isn't even funny.

In the early days of electricity, in Boston, a group of people was arrested for selling stock in a device known as the telephone.

I had the pleasure of meeting, in San Francisco, a man who turned down the franchise for Gillette Safety Razors on the Pacific Coast. He **knew** that they would never amount to anything. Had any of us been in his position, in the early 1900s, I am sure that we would have made the same decision. There was then, nothing about a safety razor that would indicate its sale in a future market. In those days you could buy a perfectly good razor for twenty-five cents. The best cost fifty cents. You could keep it honed with a strop that cost another twenty-five cents — that would last the rest of your life. It would give you a much better shave than a safety razor that cost five dollars and required constant blade maintenance.

SOME PRACTICAL CERTAINTIES

Some pretty accurate statistical operations are conducted by fire, life and casualty insurance companies. They know pretty well that there are 100,000

people in a certain age bracket; that at the end of the first year ???% will be dead. The same holds for the second and third years due to the science of prediction — and they are going to be pretty near right.

Between the limits of practical certainty and the almost completely speculative, I feel that the things I am going to tell you, are much closer to the certain than they are to the speculative.

LET US ASSUME

There are six or seven basic reasons why it is perfectly safe to make predictions about the television business.

The first assumes that radio and television sets are always going to need repairs. That certainly has been our experience with automobiles, vacuum cleaners, refrigerators, oil burners — or anything else. There is a repair industry that goes with practically every one of those commodities.

The second assumption is that we can predict, with a very high degree of accuracy, what is going to happen to the number of families in the United States over the next fifteen to twenty-five years. We don't have to guess that. The people are already born. We can predict, with absolute certainty that the 40 to 42 million homes in the United States today will increase to 50 to 52 million homes in another ten years — a 25% growth, if everything else remains constant.

The third assumption is that home amusement is here to stay.

The next assumption is that radio is not dead. What we have, believe it or not, is a whole new television industry super-imposed on the radio industry. The radio industry is about the size it was back in the good old days before the war. That may be hard to believe but the fact is that radio is here to stay.

High ratings on radio programs persist all morning and for part of the afternoon. People who spend millions of dollars yearly on advertising tell me that they are getting just as good return for the advertising dollar from radio, as they are from television. The only difference is that, in certain hours of the day, the return is better on television. At other times they still get a good return from radio.

The next assumption is that the rate of purchase of television sets, as new TV areas open up, is going to follow a pattern very similar to that in older areas. If anything, it will probably develop faster — as it has in Portland, Oregon and in Denver. In those areas the rate of acquiring saturation is considerably faster than it was in New York, Boston and Philadelphia.

The last assumption is that the level of intelligence, experience and training for television repair will rise higher than the level required for any other part of the repair and maintenance industry.

If TV Servicemen don't consider themselves professionals today, they had better start looking at themselves as professionals pretty soon. Television is not going to be a simple little device to fix with a soldering iron and a screwdriver — like radio in the old days. Television is a more complicated device. You will need better tools, better equipment **and you will have to be better businessmen as well as better technicians.**

If you accept these assumptions, I think I am going to be able to tell you, with a considerable degree of confidence, that collectively, TV Servicemen have a very bright future.

(*Continued on page* 21)

MANAGEMENT OPPORTUNITY IN 1953

Adapted from an address before the Southeastern Conference of the Society for the Advancement of Management at Asheville, North Carolina

By HENRY E. FORD, director, development department
E. I. du Pont de Nemours & Company

The year 1953 presents an unusual opportunity to the managers of American business. As we look back over the history of this relatively new profession, the situation we see today is a challenge. Management at last has the chance to demonstrate that our system — individual initiative and competitive enterprise — can continue to provide better living for more people than any other system the world has devised.

I believe this demonstration will be successful only if we realize that it isn't enough just for management to operate a business at a profit. The times call for industrial statesmanship — for vision, courage, patience and wisdom, and the cultivation of understanding.

Our present economic society was born in the Nineteeth Century. At the beginning we were a string of small communities along the edge of a vast wilderness. When the century closed we were a powerful nation; our wilderness had been subjugated by the plow; and we had an increasingly productive industrial plant.

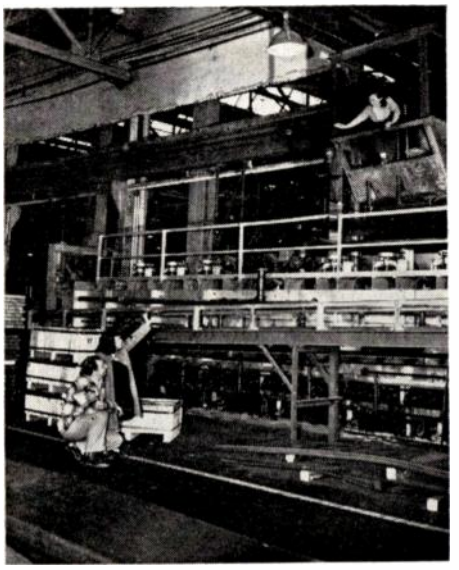
OWNER-MANAGEMENT

The American business pattern developed under a condition in which businesses were run, very largely, by the people who owned them. In those days, owner-management was not a theory, it was a fact. The Du Pont Company was perhaps a typical example — it was started by a man with an idea who got together a little capital and gradually, over the years, paid off his indebtedness and left the company to his heirs as a going concern. They, in turn, became personal proprietors of the enterprise.

Andrew Carnegie, as head of the Carnegie Steel Company, owned just short of 60 per cent of its stock. Even after the turn of this century the better known Henry Ford — and we're not kinfolk — bought out his partners and not only owned the Ford Motor Company outright — he ran it. Many similar instances could be cited.

TRANSITION TO PUBLIC OWNERSHIP

All this has changed with the expansion of population and the necessary complexity of our industrial machine. The entire stock of the Du Pont Company was held by just three men only



Peggy Bubeck's parents are crane operators in the corporate decendant of a brass mill that was originally managed by its owners.

50 years ago. Today the company has 143,000 stockholders and indirect ownership spreading into the millions. Ownership of industry has become increasingly institutionalized — that is, stock is held in portfolios of insurance companies, banks, endowment funds and investment trusts. Every American who has life insurance or a savings account has a share in the nation's business.

Today it is estimated that four out of every five persons is an employee, compared with one out of five just a hundred years ago. And the four out of five who are employees include management, a new and distinctive profession which fills the gap left by the disappearance of the owner-manager.

The managerial evolution created a most exacting occupation. The manager is a hired hand, yet he is also the boss. He runs and directs the business, but he is subject to orders from his directors and stockholders. He has the unenviable responsibility to take risks with other people's money. He must balance the claims of employees who want higher wages, customers who want lower prices, and stockholders who want higher dividends.

He must be vigilant to keep the business above water in the unending battle of the market place, where his products compete not only with the identical products of immediate competitors, but with dissimilar articles which the customer might prefer to buy. This accounts for the high incidence of ulcers which distinguishes the managerial group.

CESSATION OF GOVERNMENT HOSTILITY

Whether it was a desire for a change, or renewed proof of Lincoln's observation that you can't fool all of the people all of the time, we have had since January a federal administration in Washington which is no longer hostile to American business. We even have businessmen in the cabinet.

The President's attitude toward business and industry was clearly and definitely expressed in his message on the State of the Union when he said:

"We are concerned with the encouragement of competitive enterprise and individual initiative precisely because we know them to be our nation's abiding sources of strength."

Price and wage controls have been abolished. A real attempt is being made to reduce government spending. We have assurance that taxes will be lowered, and our tax system is to be revised to eliminate penalties against incentive.

We should note carefully that the pre-election fears expressed by the critics of business have turned out to be wholly unjustified. We have no evidence of business "taking over" the government. There have been no demands to repeal the Social Security laws.

Business management, in brief, neither asks, nor has received, nor expects to receive favors from the government. All it desires is the chance to go forward, to increase productivity for the greater good of all.

Business will be content if we can restore a government of law rather than of men — a government where business operates under established rules, rather than the whims and fancies of politically-minded individuals.

And here lies the opportunity of 1953 for American business managers, the greatest in management history.

MULTIPLE RESPONSIBILITIES

Industrial statesmen must bear in mind the multiple responsibilities of management. We must operate our

(*Continued on page* 18)

requirement than is necessary for other concerns. It is extremely important to have available complete part sales and purchasing information and to keep records up-to-date at all times. A properly organized and maintained perpetual inventory system is the answer.

The individual part records may be maintained in any convenient card file system. Flat "Cardex" files, circular files, or standard box-type files, can be used, depending on the size of the distributor's stock. Each card should provide for the tabulation of the following information:

1. Complete component identification including part number, description, associated receiver model number, and distributor, dealer and list prices.
2. A listing of each transaction that causes a change in the physical stock quantity (sales, returns, receipt of parts from suppliers, etc.) and the number of units on the shelves at that time.
3. Data on each part order, to prevent order duplication and indicate what merchandise is still outstanding.
4. Any additional information that might aid in stock procurement and maintenance, such as annual or semi-annual sales movement figures. or minimum part requirements.

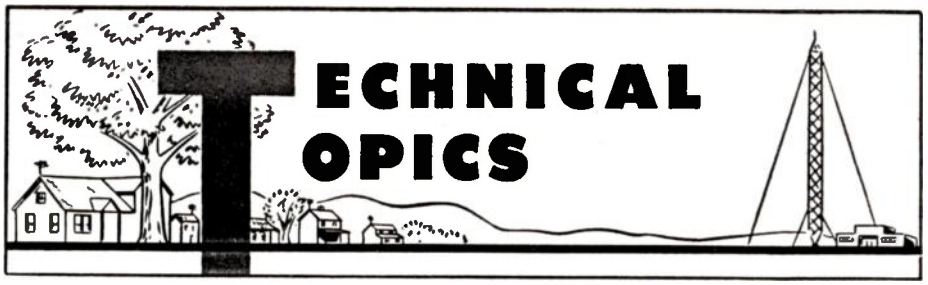
Fig. 1 illustrates a sample distributor inventory card that embodies these qualifications. The biggest portion of this card is concerned with the movement of merchandise into and out of the part stockroom. Each sale or receipt is recorded, as well as the total number of units sold since the last inventory, and the revised stock figure.

The card is used to maintain a record of purchase requests. As replacements are received, the related order is checked off, so that an up-to-date list of open transactions is always available.

Yearly sales figures in the lower left-hand corner are obtained from the general pattern of part movement, and are used to calculate an "Order Key" number to facilitate merchandise procurement. This number indicates the quantity of stock at which reordering should take place. On the card shown, it represents approximately a one-month supply, and serves as the basis for determining future part needs.

Modifications of this inventory system for dealers and service centers will gain simplicity and ease of recording data at the expense of completeness of control. Since less information is tabulated using this arrangement, the inventory cards may be reduced in size so that they can be attached to the individual part bins. One type of abbreviated record is illustrated in Fig. 2.

(*Continued on page* 19)



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

By EDWARD M. NOLL

VTVM FACTS

The improvements in the VTVM the past few years have been commendable. It has become a small, compact, and durable instrument. It should, and possibly will, replace the conventional volt-ohm-mil meter even for field service. Its added versatility and new stability and the universal assumption by receiver manufacturers that all service personnel have the use of one, makes it an essential service instrument.

Applications are numerous:

1. Single frequency alignment of video i.f. and sound i.f. resonant circuits and traps.
2. Local oscillator adjustment.
3. FM detector alignment.
4. UHF crystal mixer adjustments.

A good sensitive VTVM with r-f measuring facility is particularly helpful in keeping applied alignment signals at recommended levels. Peak voltage reading of non-sinusoidal waveforms is another versatile feature. Thus, even in the field, actual composite and/or pulse signal levels can be checked at various stages of the receiver. Accuracy is fair to good, as a function of impedance and type of waveform to be measured, Fig. 1, when compared with a peak-calibrated oscilloscope.

Another application we have found very useful is its ability to measure d-c voltage and waveform amplitude at a given circuit point. In some work on a closed-circuit camera, Fig. 2, we were able to attach VTVM at plate of a pulse stage and make rather quick observations of d-c and a-c levels as adjustments were made in another section of the camera.

RCA VHF-UHF TUNER

Some of the new RCA receivers employ a combination VHF-UHF tuner of the turret type. However, it is a single mixer type on UHF instead of the double conversion method. Tuner uses a 16 position turret — 12 VHF and 4 UHF channels. In VHF position, Fig. 3, the tuner has a 6BQ7A cascode r-f stage, a IN82 mixer crystal, a 6AF4 local oscillator, and a cascode 6BQ7A i-f stage.

In UHF position, the r-f amplifier does not function, acting only as an amplifier stage for VHF stations. Output from a 45 mc. i-f stage, that is a part of the tuner, is applied to the intercarrier i-f amplifier. UHF signal is applied directly to the mixer stage.

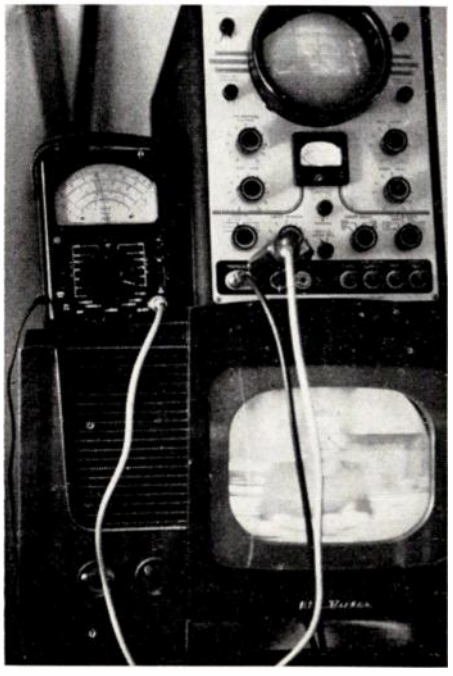


FIG. 1. *Pulse amplitude measurement with Triplett VTVM.*

The RCA VHF-UHF Tuner, Fig. 4, has a 16 position turret containing 12 VHF inserts and 4 UHF inserts. In the VHF position, the antenna is attached at J2 terminals and signals pass through the FM traps to a balance to unbalance transformer that is a part of each insert. The transformer T6 for VHF channels 2 through 4. The FM traps are parallel resonant circuits—capacitors C1 and C2 and inductors L1 and L2. The secondary of the antenna input transformers form series resonant circuits in conjunction with capacitor C5, via terminals 4 and 5 of the turret, to supply signal to the input grid of the cascode r-f stage.

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A SOUND REPLACEMENT PART PROGRAM

By HERBERT SACHS
Ass't. General Service Manager
The Hallicrafters Company

The meteoric expansion of our appliance distributor and dealer systems is a striking indication of the success of this method of factory-to-consumer merchandising. This success can be attributed, in part, to a wholesaler, retailer and service agency program designed to maintain satisfactory equipment operation and retain customer product acceptance.

In the radio and television field, continued receiver performance is usually the criteria of consumer satisfaction and the target of any post-sale program. Since the average television set contains approximately 1000 components, it is almost impossible to expect uninterrupted operation for any extensive period of time, and this program then takes the form of insuring prompt receiver repair.

A supply of replacement parts, coupled with a sound inventory control system, will become a "goodwill ambassador" for future sale and repair transactions. The course of action for alert distributors, servicing dealers, and repair depots is to review the condition of their present part stocks to assure an adequate supply of each item and to arrange an effective system of stock control.

THE INITIAL STOCK

The dollar value of the initial stock must be determined, in part, by the number of sets already sold or serviced by the merchandising organization. It should also reflect any unsold receivers still in stock or on the display floor and anticipated set purchases or repairs. Available storage space might tend to limit the physical size of the proposed stock, but TV parts are generally small items. The required amount of replacement equipment should not be compromised unless absolutely necessary.

A break-down of sold and unsold receivers by model number will enable the total field quantity of each part in the sets to be determined. These figures, coupled with general stocking percentage figures and other pertinent data, can provide the necessary ordering information.

Local temperature and humidity conditions must temper procurement of items susceptible to weather effects. A very careful stock control of such parts as paper and electrolytic condensers, batteries and speakers should be kept, as an oversupply might cause some of these units to become unusable.

Distributors will find it necessary to base their stock requirements on the warranty part disposition of the radio and TV receiver manufacturer. If credit is furnished for defective in-warranty units, new components must continually be ordered to replenish the original supply. If warranty adjustment is handled by replacement, however, only the parts sold for use in out-of-warranty receivers need be reordered.

ORDERING PARTS

General purpose tubes and picture tubes should enjoy the highest percentage figure in the part ordering program. Unsatisfactorily operating tubes account for the majority of service calls on television receivers and will be in greatest demand for replacement purposes.

Ranking close behind these components in stocking percentage are most "special parts," parts peculiar to a specific manufacturer's equipment. In this higher volume category might also be included items that are subjected to mechanical wear, such as controls, and easily broken glass and plastic units. Table 1 lists these and other parts which must be retained in greater than normal quantities and units which move slowly and need be stocked only in limited amounts.

Orderly, organized stocking of service parts will be reflected in increased handling efficiency of repair transactions. With components neatly arranged and classified, it is much easier to maintain and control the proper level of stocked merchandise.

Larger components may be stacked neatly on shelves, but other items should be stored in bins. Commercially available steel multi-drawer cabinets are ideal for this purpose, although cardboard boxes will do almost as well. Many bins can be sub-divided to accommodate smaller components. The most effective stocking arrangement is achieved by filing parts numerically by manufacturer's identification number. A cross-reference between part descriptions and numbers can easily be made using the appropriate service literature.

STOCK MAINTENANCE

While the prescribed quantity of replacements are being obtained and stored, a long-range program of stock control must be considered. Even the most complete supply of parts will soon become depleted unless adequate means are provided for its replenishment.

The volume of service transactions normally handled by TV distributors imposes a more rigid stock maintenance

MODEL USED ON 1039-4V DESCR. Transformer PART NO. 55C801
ORDER KEY 6 DISTR. NET $6.75 DEALER NET $8.00 LIST $10.45

ORDERS				STOCK									
DATE	PO NO.	QUAN.	REC'D	DATE	REC'D	SOLD	TOTAL SALES	STOCK	DATE	REC'D	SOLD	TOTAL SALES	STOCK
1-29-53	174	24	✓	1-7-53	Inventory			11					
				1-19		2	2	9					
				1-27		1	3	8					
				1-29		3	6	5					
				2-7	24		—	29					
				2-15		2	8	27					
				"		4	12	23					
				2-29		3	15	20					

YEARLY SALES	
1951	17
1952	69

FIGURE 1

DAILY TIME REPORTS

One of the most valuable of these forms is the Daily Time Report. The primary purpose of this form is to provide a complete summary of the serviceman's daily activities. From the information contained in this report, it is a simple matter to determine overtime expense, productivity, cash collection and vehicle mileage. The Daily Time Report is also of value to the one-man service operator. It provides a convenient method of recording his own time, expenses and jobs completed.

JOB NUMBERED CARDS

Every servicing organization should use some system of job numbered cards or service orders to record the necessary data for billing. This job number is inserted in the first column of the Daily Time Report as the serviceman routes his calls prior to leaving the shop. If a duplicate copy is left in the service shop, it can be used for contacting the serviceman during the day.

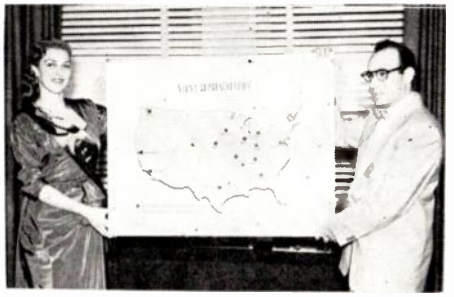
On the job card, code number designate the types of service calls or installation jobs. Small service organizations use a few basic classifications to differentiate between jobs for record purposes. Large service businesses use an elaborate system of breaking down each job into a separate classification and applying a distinct code to each. This code breakdown is valuable when a detailed cost analysis is made.

The Daily Time Report points out such factors as an excessive number of chassis returned to the shop which could have been serviced in the set owner's home and excessive time spent on repairing sets in the home or in antenna installation. These factors can have a detrimental effect on the profit picture.

The report may also indicate that a more efficient method of scheduling the calls is needed, as evidenced by abnormal travel mileage and time. A number of "not-at-homes" may indicate improper scheduling when appointments are made. Adequate supervision is another important factor for obtaining maximum productivity in the larger service organization and for the growth of the small service business.

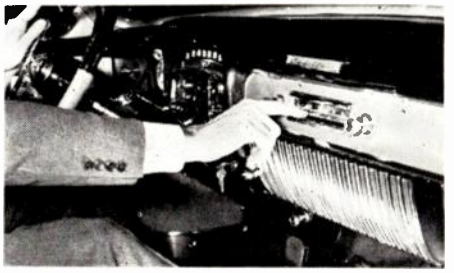
The successful expansion of the one or two man service shop is dependent on the owner's ability to assume new and varied responsibilities. In addition to the normal duties of operating his business, the owner must become proficient in directing the activities of employes — if the business is to have a healthy growth. Regardless of the size of the organization a good supervisor will offer direction to his employes in the form of guidance, which the conscientious employe will appreciate.

ALLIED ELECTRIC APPLIANCE PARTS, INC., recently opened a One-Stop branch in Trenton, N. J.; is celebrating the 25th Anniversary of the first store in Philadelphia . . . **BRITISH INDUSTRIES CORPORATION** hosted people prominent in the audio and electronics industry by flying them to the British Electronics Exhibition (see cut) . . . **CBS-HYTRON** division of Columbia Broadcasting System, Inc., has announced a new hermetically sealed junction transistor . . . **CLAROSTAT MFG. CO.** reports that its new midwest factory is maintaining stocks for 24-hour delivery; that its California warehouse has reduced shipping-time to west coast customers . . . **THE COMMITTEE ON AUDIO INDUSTRY PROBLEMS** reports that it recently met to formulate a means of determining trade conditions in the sound business . . . **CONTINENTIAL ELECTRONICS CORP.** is expanding TV picture tube



NIESA Chart of Progress.

production . . . **ELECTRICAL PRODUCTS, INC.,** of Baltimore has been appointed exclusive distributor for Yankee Clipper portable phonographs . . . **GENERAL MOTORS** Delco Radio Division, has announced that its signal-seeking auto radio is available on 1953 Cadillacs and Packards (see cut) . . . **JERSEY SPECIALTY CO.** has announced full production of a new tubular TV transmission line . . . **P. R. MALLORY & CO. INC.,** sent a truckload of uhf converters for WTVI viewers on channel 54 (see cut); says the "acceptance of vibrator-powered headlight dimming device as a standard accessory on automobiles has extended a great new market to radio and electronic servicemen" . . . **NATIONAL ELECTRONIC DISTRIBUTORS ASSN.,** has moved its national office to Suite 1114, Builders Building, 228 North La Salle Street, Chicago . . . **NATIONAL INDUSTRIAL ELECTRONIC SERVICE AFFILIATES** have charted progress on a map of the United States showing present and future representation (see cut) . . . **OLYMPIC RADIO & TELEVISION, INC.,** has acquired the Electrona Corporation of Irvington, N. J. . . . **PERMO, INC.,** has



GM Signal-seeking radio in Cadillac.

announced that it will "maintain a very large warehouse for its products at Los Angeles" . . . . **RADIO MERCHANDISE SALES** recently conducted UHF forums under sponsorship of local distributors in St. Petersburg and Miami, Florida . . . **RADIO RECEPTOR CO., INC.,** has announced the commercial availability of three types of P-N-P junction transistors for d-c and low r-f applications . . . **RCA VICTOR** has announced a premium full-wave type 5690 full-wave rectifier tube with a 10,000 hour life warranty; will spotlight picture tubes as quality feature in their receiver ad-

Off for British Electronics Exhibition.

vertising; reports that room air conditioner sales have bettered spring sales in 1952; has announced that Sheraton Hotels have purchased 4000 TV sets for fourteen hotels in the east; has announced larger and more diversified promotional material (see cut); has an-

(*Continued on page* 18)

TV SERVICE BUSINESS PLANNING

Adapted from remarks before Allied Technicians Association of West Collingswood, New Jersey

By D. R. CREATO, vice president
RCA Service Company, Inc.

Nobody ever became a successful businessman just by talking about it. Certainly nobody ever became a successful businessman by listening to a speech about it. So the cards would be stacked against me if I were going to try to give you a magic formula for success.

I haven't any magic formula. If I did, I'd probably use it myself. But I would like to discuss some of the important things which add up to a successful business. Trying to keep your operation in the black without giving consideration to these basic requisites may not be impossible — but its certainly doing things the hard way.

Television servicing can be highly profitable, but only if efficient technical service is combined with good business management.

There are almost 25 million TV sets in use in this country today. With the advent of UHF television, this number will be vastly increased in the near future. So now, and tomorrow, and the next day, there'll be more and more TV Service business — enough for everybody except — the unethical serviceman, the cut-rate artist, the man who ignores good customer relations and the man who is completely honest, but with inefficient or wasteful operation.

The palmy days of 1946 are over. The desperate shortage of trained technicians has improved. People no longer find it necessary to pick just any kind of television service. They have been conditioned to demand and expect the best.

People demand and expect the best without regard to the size of the servicing organization. An efficient operation is essential for the small shop and for the larger service business. The customer expects the same good service from both. And each can go broke just as easily as the other without an efficient operation.

I'd like to outline some of the things that are essentials of success. First there is planning. A man doesn't get far unless he knows where he's going. One of the best methods of establishing a systematic program of advance planning is to set up a simple operating budget.

FACTS FOR THE BUDGET

The budget can be on a monthly, quarterly or yearly basis. All three are desirable. Before preparing the budget, it is necessary to obtain certain facts and figures.

To establish a gross sales figure, you must estimate each individual source of income. For example, you should include expected income from installations and service calls, multiple-outlet installations, income from existing and new service contracts, parts sales and other income sources.

After a total gross sales figure has been determined, operating expenses must be carefully analyzed and planned. Manpower needed to handle the estimated sales volume is determined by computing the number of man-hours to perform the jobs planned, based on the average rate of productivity per man.

Salaries, including that of the owner or manager, and employe expenses such as vacations, paid holidays and sicktime, must be figured in operating expenses. Its also important to consider items like adverse weather conditions and holiday peak loads which will make overtime necessary.

A definite amount of money should be allocated for advertising and sales promotion.

Material cost of installation and service parts represent the largest controllable expense next to salaries. This cost should be carefully estimated, using past performance figures as a guide. All other operating expenses should be carefully estimated, including rent, building operating expenses, office supplies, telephone, depreciation of trucks and other capital equipment, truck operating expenses, insurance and taxes.

GROSS SALES AND EXPENSES

When all these figures have been assembled, you are ready to start your budget. Use a form divided into two columns. In the left-hand column, itemize estimated gross sales figures which are sources of income. Then itemize estimated expenses. In the right-hand column, list **actual** gross sales figures and **actual** expenses. In this way, you have a ready reference for comparing estimated income and expenses with actual income expenses. You can tell at a glance how your operation is progressing.

Not only will such a budget serve as an accurate barometer indicating the trend of your business, but it will also give you itemized operating expenses which can be taken as deductions under the income tax laws.

Now lets discuss the payroll. If a servicing business is to show a profit, a satisfactory ratio of payroll-to-sales must be maintained. The average TV Servicing organization should not allow its total payroll to exceed 40 to 50 per cent of its gross sales. This rule of the thumb applies to small and large service organizations.

DAILY SALES AND PAYROLL REPORT

A daily report of sales and payroll will help to control this important expense. This report can help you decide whether or not overtime can be utilized profitably; whether your technical staff should be increased or reduced; and whether additional sales effort is required.

Since labor is a costly item, every effort must be made to obtain a maximum return for each payroll dollar. The performance of an individual serviceman, or the owner of a one-man shop can be readily evaluated if a few simple forms are used as part of the routine daily operation.

Editorial

"OUR OPINION"

EVERY once in a while some incident or event happens to bring suddenly into sharp focus the solid stability of men who make up the muscle and sinew of the independent radio-television servicing industry. All too often these stories go unreported. Too many people, in and out of the industry, would rather accept the illusion built up by a sensation-minded press of service as a gyp activity than to bother to interpret some of the seemingly prosaic occurences that truly reveal the sparkling quality and character of the people who make up the **real** radio-television servicing industry.

We were privileged to have a ringside seat to watch one such an event unfold in Illinois recently and we would like to tell you about it.

About six months ago the Chicago City Council proposed a bill to the members of the Illinois State Legislature that would permit licensing of radio-television servicing and associated activities by municipal councils. The various trade associations who oppose licensing on general principles immediately took up their cudgels against the proposal. However, there was a segment of the service industry in Chicago who strongly contended that the majority of service shop operators favored licensing.

There is a small radio service shop located in the heart of downtown Chicago — in the Loop area. It is not a pretentious shop. The elevated tracks tower above it. You have to walk down from street level to enter it. It is known as the Mercury Radio Service — a one-man business operated by Howard Wolfson.

When the proposed bill first become known it attracted the attention of Howard Wolfson. He became interested in licensing not from altruistic motives but purely from the standpoint of whether licensing would be good or bad for service business men.

Mr. Wolfson has a typewriter in his shop that does regular duty in his sales promotion campaigns. He went to work on his typewriter to get all of the information he could about licensing radio-television service. He wrote to editors of trade magazines, association officers and other who might furnish information on the subject. When the information came back from these several sources he studied it carefully. He reached the conclusion that licensing would not be good for honest, conscientious, smal service business men.

When the first legislative committee meeting was held to consider the licensing measure, he closed his shop for the day and journeyed to the state capitol in Springfield to oppose the measure. He went not as a representative of a powerful organization, but as one small business man opposed to political regulation of an activity he had pursued honestly for many years.

When he returned to Chicago he took the classified directory and, after careful checking, found about fifty other small service business operators in Chicago who had maintained their businesses down through the years through competent technical skill and fair dealing with their customers. He wrote each of these men a personal letter inviting them to get together at an appointed time to discuss the licensing measure and other service problems of common interest. Not all of these men responded but those who did found that they had gained immeasureably from the discussion of their common problems. They were of one accord in their opposition to municipal or state licensing of their businesses.

When the second and final hearing on the bill was held, Howard Wolfson again closed his shop and made the trip to Springfield. Representatives from NARDA, NEDA, RTMA and many manufacturers appeared against the measure but the final testimony was presented by this small service business man from Chicago.

The measure was killed in committee by a vote of 8 to 2. But it was not an industry victory. The powerful associations who opposed it readily admit that it was a personal victory for one man, armed with facts for a diligently waged six-months battle — for what he felt was right for him and for other small business operators who make the servicing of radio and television sets a really great industry.

As long as we have Howard Wolfsons will to fight for what they believe is right, we need never fear about the future of our industry or our country.

PHW

Sylvania's New 1954 Calendar for Service Dealers.... sells all through the Year!

They'll read your super-service story every month!

Filled with ideas and recipes your prospects will want to keep

Only 1½¢
PER MONTH PER PROSPECT... YOUR GREATEST ADVERTISING BUY!

It's your personal Christmas greeting, too

Don't miss this Dramatically Different Business Builder!

Here's the hardest-selling, custom-made Home Calendar ever offered to Radio-TV Service Dealers! It's tailor-made just for you! Features an appealing illustration painted exclusively for Sylvania by a famous cover artist. Reproduced in full color and imprinted with your name and address.

Your prospects simply can't overlook this calendar. It's filled with timely hints and valuable household suggestions they'll want to keep handy. And, every time they turn the page they'll be reminded of your dependable service, skill, and experience.

Order now . . . supply limited! At only 1½¢ per customer per month (in lots of one hundred or more), this calendar is truly the smartest advertising buy ever offered. But don't delay, the supply is limited! Order a couple of hundred from your regular Sylvania distributor . . . TODAY! If he is out of stock, write to: Sylvania Electric Products Inc., Dept. 3R-1306, 1740 Broadway, N. Y. 19, N. Y.

SYLVANIA

RADIO TUBES; TELEVISION PICTURE TUBES; ELECTRONIC PRODUCTS; ELECTRONIC TEST EQUIPMENT; FLUORESCENT TUBES, FIXTURES, SIGN TUBING, WIRING DEVICES; LIGHT BULBS; PHOTOLAMPS; TELEVISION SETS

Letters to the Editor

TV SERVICE CLUB

Some time ago you ran an article on a Television Service Club which was in operation in Chicago. I would appreciate your sending me a copy of the article and any other particulars that you care to give.

Milton J. Reich
General Manager
Alco Electronics
Service Corporation
Pittsburgh, Pa.

FOR FIELD REPRESENTATIVES

. . . We would appreciate it very much if you could supply us with about twenty-five copies of . . . April issue, as we think it would be valuable to our representatives in the field . . . in securing more business for our products . . . at the same time it would be bringing . . . their attention to the fine magazine . . . you are serving the Electronic Trade with.

P. Hagedoorn, president
Jersey Specialty Co., Inc.
Little Falls, N. J.

INDUSTRIAL AUDIO

I read your interesting article on Industrial Sound. It struck home with us. We are embarking on a program of industrial electronics service. . . .

Elmer W. Witt, Sr.
Witt Radio & TV Co.
Cleveland, O.

SELLING SERVICE

I just read your article in the April issue of SERVICE MANAGEMENT . . . it was very well done.

The proper handling of customers and the public is one of the "musts" on the program of any successful service association. It's good for the P & L and at the same time is the best means for elevating the prestige of the service industry in the eyes of the public. . . .

D. R. Creato, vice president
RCA Service Company
Camden, N. J.

LICENSING

You may be interested and pleased to learn that the proposed legislation by the Chicago City Council to license and regulate radio and TV Servicemen was defeated in Committee at Springfield. . . .

Howard Wolfson
Mercury Radio Service
Chicago, Ill.

Letters should be addressed to Readers Report Editor, SERVICE MANAGEMENT, 501 Fifth Avenue, New York 17, N. Y.

Service Management

PAUL H. WENDEL, *Editor and Publisher*

VOLUME 2, NUMBER 9 — JUNE, 1953

COVER PICTURE

Audio Aids Railroad Switching

At left of dwarf switchstand on the Southern Railway System, loudspeaker aids movement of freight.

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Subscription rates: $3.00 a year for twelve issues; $5.00 for two years.

140 PRIZES FOR SERVICE DEALERS!

FOR YOU... $2500!

Win it in cash! Tell in 50 words or less how you would spend $2,500 to increase your service business! 139 other cash prizes. Total $7,125.

THIS is a real big-money contest—and ABC-easy to enter! No figures to put down, no reports, no documents to attach. You win dollars simply by telling how to spend them wisely and profitably. You "Write your own ticket"!

Contest is open to all TV-radio service dealers and their employees. Rules are easy:

- Between June 15 and August 31, secure an entry blank from your G-E tube distributor. One blank with every purchase of 25 G-E receiving tubes or 1 G-E picture tube.
- Tell in the space provided on the blank how you would spend $2,500 to increase service business. Would you buy new equipment . . . remodel your store . . . run a hard-hitting advertising campaign . . . or invest the money in some other way?
- Fill out and mail as many entries as you choose. They must be postmarked not later than midnight, August 31, 1953.
- Winners will be selected on the basis of originality, business judgment, and clear thinking. An impartial board of judges will make the selections.

First prize, $2,500
4 prizes, each $500
10 prizes, each $50
25 prizes, each $25
100 prizes, each $15
All prizes are cash!

Use the helps G.E. makes available!

If you're looking for ideas, they're waiting for you in G.E.'s new 12-page promotion catalog, ETR-589-A. Learn what you can obtain in identification and advertising aids of all types . . . business helps . . . service aids . . . technical manuals and publications.

Get your copy from your G-E tube distributor when you obtain your contest entry blank. *Tube Department, General Electric Company, Schenectady 5, N. Y.*

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1878 75 1953 YEARS OF ELECTRICAL PROGRESS

Diamond Anniversary

GENERAL ELECTRIC

service

PRICE
35¢
PER COPY

MANAGEMENT

TELEVISION • ELECTRONICS • RADIO • AUDIO

Volume 2 Number 9 June 1953

AUDIO WORKS ON RAILROADS

SERVICE MANAGEMENT
161 Luckie St., N.W.
Atlanta 3, Georgia

POSTMASTER: If undeliverable for any reason, notify sender, stating reason, on Form 3547, postage for which is guaranteed.

Mr. R. B. Montgomery
344 Van Emburgh Avenue
Ridgewood, N. J.

Sec. 34.66 P.L.&R.
U. S. POSTAGE
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Permit No. 608
Atlanta, Ga.

TAKE YOUR PICK

EITHER OF THESE VALUABLE SERVICING ITEMS...YOURS AT NO EXTRA COST...with purchases of Federal Picture Tubes!

1 THIS TOOL and TUBE CADDY or...

CADDY FACTS: An attractive convenience—for tools and tubes—you'll be proud to carry on all service calls.

Sturdy wood construction . . covered with simulated alligator leather (blue). Over-all size: 18¾ inches long, 13¼ inches high, 9 inches wide.

Brass-finished lock, hinges, catches and corner guards. Compartments hold approximately 75 receiving tubes of various sizes. Opens into three separate, easily-accessible sections. $9.50 value! (A $14.95 list value).

2 THIS 135-WATT WELLER SOLDERING GUN

GUN FACTS: Weller Model WD-135 (135 watts). Ideal for all types of soldering and dozens of household jobs.

Instant heating. Dual heat increases tip life. High or low heat as desired. Exclusive tip-fastening feature—full, constant heat. Low-cost, replaceable tips. Pre-focused spotlight. Longer reach—perfect balance. Shatter-proof plastic housing. $10.95 value! (A $14.90 list value).

We want you to know the Quality, Long-Life Performance and Replacement Profits in

Federal PICTURE TUBES

TV SET MANUFACTURER TEST SHOWS OVER

99% HIT THE BULL'S-EYE FOR QUALITY!

Here's proof that it pays to replace with Federal. Here's assurance of customer satisfaction . . . of less time wasted on call-backs . . . of more dollars of profit.

Join the trend to Federal "Best-in-Sight" Picture Tubes . . . outstanding for *quality*, because they are made by a world leader in broadcast tubes.

Federal's line of popular-size tubes will take care of over 90% of all TV replacements!

How to get your choice—

With every purchase of a Federal "Best-in-Sight" Picture Tube, your participating Federal Distributor gives you one Federal Certificate. There are no restrictions on type of tube. You may buy one tube at a time, or as many as you need.

As soon as you have accumulated 10 certificates, deliver them to the distributor from whom you purchased your Federal Picture Tubes and he will exchange them for the Combination Tool and Tube Servicing Caddy OR the Weller Soldering Gun. (If you wish, both Caddy and Soldering Gun will be given in exchange for 20 Federal Certificates.)

See your Federal DISTRIBUTOR For Federal Tubes and Certificates!

This offer is void wherever prohibited or wherever any tax, license or other restriction is imposed.

(This offer expires August 31, 1953)

Start Ordering Federal Picture Tubes—Start Saving Federal Certificates!

FEDERAL TELEPHONE & RADIO — FTR — An IT&T Associate

Federal Telephone and Radio Corporation

VACUUM TUBE DIVISION • 100 KINGSLAND ROAD, CLIFTON, N. J.

In Canada: Federal Electric Manufacturing Company Ltd., Montreal, P. Q.
Export Distributors: International Standard Electric Corp., 67 Broad St., N. Y.

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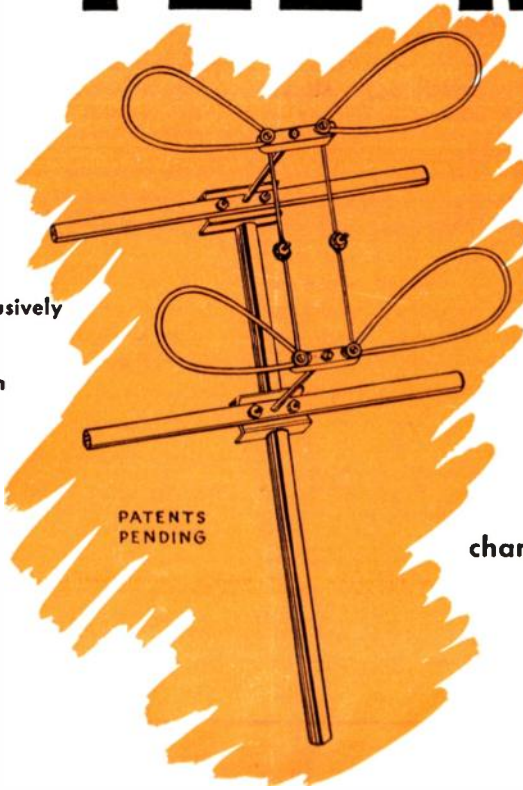
ON ULTRA HIGH FREQUENCY

"RECEPTION"

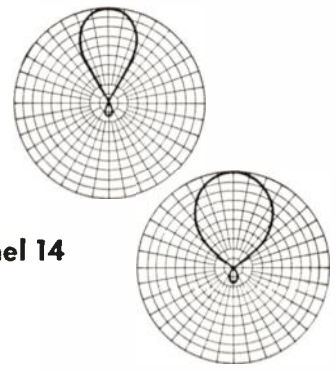
..you can count on the....

MI-TEE RAY

UHF ANTENNA



- designed and engineered exclusively for UHF
- all aluminum sturdy construction
- minimum space requirements
- matchless reception
- nationally advertised



channel 14

channel 83

Frettco

INCORPORATED

Pittsburgh 19, Pennsylvania

OUACHITA PHILOSOPHER

(*Continued from page* 12)

in it, about every possible circuit in a TV set, and all of it in pretty plain language. Still readin' on it, and I'm gittin' a power of good out of it, as Uncle Cader used to say when he came back from the woodshed on a cold night. That's where he had **his** jug hid.

ABOUT MANUAL PUBLISHERS

Oh, yes, I knew there was some more I ought to be sure and mention: that's the service-information men: the manual publishers, John F. Rider and Howard Sams. Even though they are in the business of sellin' this kind of information, and we would have been in the dickens of a fix all these years if it hadn't been for them, too, they still give away a lot of stuff.

Valuable as the service information is, that ain't near all the stuff you can git from these nice people. Just to mention a few things, I, right now, have got a tube-carryin' case from RCA that I got just for buyin' tubes I was gonna buy anyhow: a drop-cloth, set of screwdrivers, and a raft of other stuff with it.

From Sylvania, I got a bunch of beautiful decals to put on my truck and windows and a set of the cutest little pliers you ever saw. There's no end to the stuff you can get like that. In addition to this, there's a whole slew of very valuable advertising material: besides the decals, there's letterheads, jobcards, tube stickers, shop-coats and jackets, outdoor signs, indoor signs, neon signs, clocks, and — Oh, my gosh, there ain't no end to the stuff!

Lots of this is free: the rest you have to pay for, but in every case the company assumes part of the cost. I've mentioned some names; these are just the ones I could think of right offhand. Tung-Sol, CBS, Hytron G-E, and every one of the others will do the same thing; I didn't mean to slight anyone atall; there's just so many of 'em that I can't get 'em all in. So, if anybody got left out, I shore didn't mean it, and please fergive me. You-all are the most helpful fellers I know of, and I appreciate it, don't think I don't.

ONE LITTLE GRIPE

Well, sir, I've just gotta get one little gripe in, or y'll 'll be thinkin' I'm gittin' good-natured in m' old age. While ago, I got a certain well-known brand of movie-projector in, to fix. Big outfit: always liked 'em, up till now. Well, anyhow, there was a little bitty fiber gear all stripped off clean in the back end of the projector. Nothin' unusual; I changed quite a slew of 'em durin' the war.

Sent to the company for it, givin' 'em the part number, etc. Waited over a month; no reply atall. Found out they had a dealer in Little Rock. Ordered it from him. Got a short reply from him, at any rate: "The Company does not permit anyone but 'factory-authorized dealers' to service their machines. If you will ship us the projector we will be glad to repair it and return it to you." Un-quote!

READY TO BLOW MY TOP

Well, sir, by this time, I was ready to blow my top. As it just happened, I had, during the last war, in my Signal Corps Shop, overhauled from fifteen to twenty of these same machines every **week!** So, it wasn't from any lack of qualifications that they pulled this stunt, because I mentioned this in my letter to the factory. Since then, I heard the same thing from several other fellers. They can't buy the parts for this brand of machine from anyone, so there they are!

Now, just contrast this attitude with that of the people I've jist been talkin' about: one bunch leans away over backward to help the servicemen; the people who sell their products, and who are in a position to give them a great big boost with the public — and these characters, who won't even let you get a foot in the door!

SHORT-SIGHTED POLICY

Probably most of you know who I'm talkin' about, by this time. Huh? Yep, that's the one! I said the same things, too! Well, as a result of this short-sighted policy, I know of **three** sales this company has lost, just in our little town alone! As it happened, this machine belonged to the First Baptist Church here. They told the officials of a couple of schools here and nearby about the trouble they'd had gittin' it fixed, so they went and bought some other kind.

Well, I gotta git to m' plowin'. Goin' out and try to collect some of my overdue bills, so's I can keep **mine** from bein' delinquent! Y'all come see us sometime.

LITERATURE

(*Continued from page* 24)

tors; subminiatures; miniature **bathtubs; Borofilm** resistors; **Carbofilm** resistors, ceramic capacitors and printed-wiring developments.

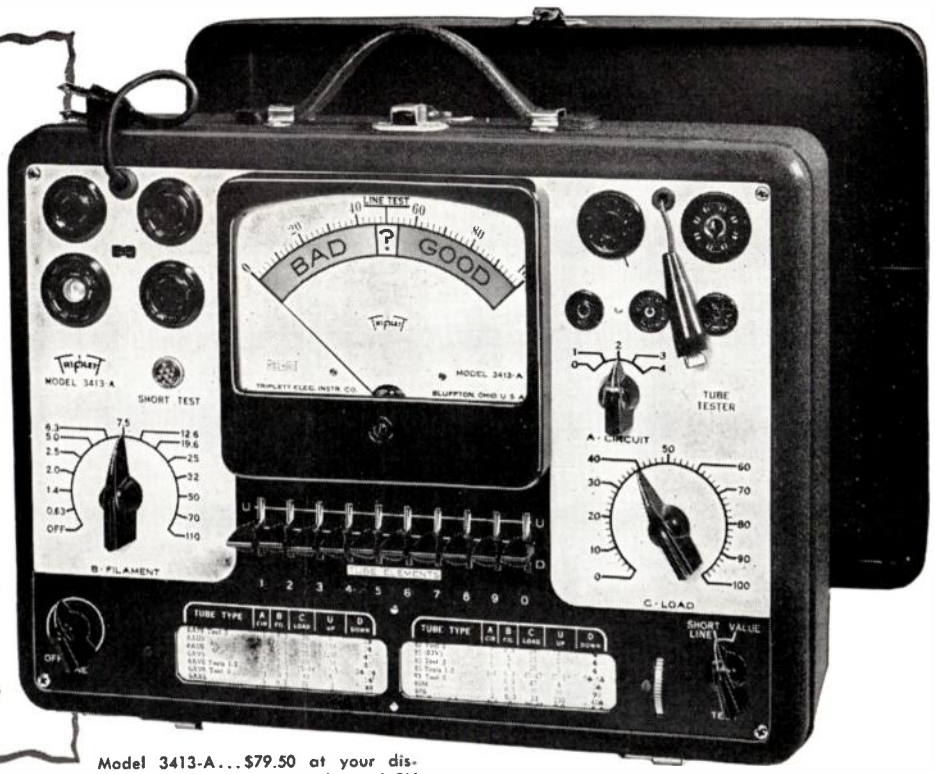
Write to Advertising Department, **Aerovox Corporation,** New Bedford, Mass.

TAPE-WIRE REPLACEMENT GUIDE

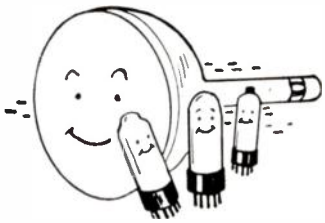
A tape-wire recorder replacement guide that lists sixty-three models of twenty-two manufacturers of tape and wire recorders has been published as authoritative information on power transformer, filter choke and audio output transformer replacements.

Write to **Standard Transformer Corporation,** 3580 Elston Ave., Chicago 18, Illinois.

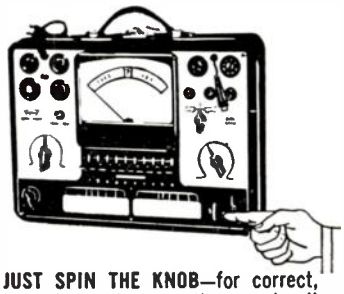
For accurate flexible and quick tube testing at low cost... model 3413-A



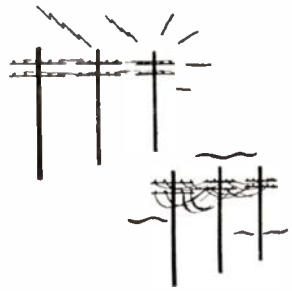
Model 3413-A...$79.50 at your distributor. (Price subject to change.) BV Adapter, $7.90 Add'l.



1. **YOU CAN TEST MORE TYPES** of tubes, also appliances for shorts and open circuits.



2. **JUST SPIN THE KNOB**—for correct, last-minute data, on the speed roll chart. Lists 700 tubes.



3. **YOU CAN COMPENSATE** for line voltage—just throw snap-action switch.

4. **YOU CAN TEST EACH ELEMENT** in each tube—by a simple flip of the switch.

5. **YOU CAN TEST THE NEW TUBES**—including those with low cathode current.

6. **YOU GET NEW TUBE DATA**—immediately, while it is still news. No waiting.

Nearly Half a Century of Service to the Service Man

TESTS PICTURE TUBES, TOO! *With this BV Adapter, Model 3413-A tests every tube in a TV receiver,* including *the Picture Tube—without even removing tube from receiver or carton! Saves time!*

FOR THE MAN WHO TAKES PRIDE IN HIS WORK

Triplett

TRIPLETT ELECTRICAL INSTRUMENT CO., BLUFFTON, OHIO, U. S. A.

ASSOCIATIONS

(*Continued from page 20*)

performance is not there when compared with products manufactured in this country," he told Sen. Bennett.

FTC VS. NEDA

Complaints in the blanket proceeding by the Federal Trade Commission against NEDA and 37 selected members were served against those named respondents in Chicago.

The Commission's complaint lists certain alleged practices of NEDA and its members which it claims are improper and asks that an order issue requiring the persons named to discontinue such practices.

"Although I know that the proceeding is not penal or criminal in its nature," said L. B. Calamaras, NEDA executive vice president, "we intend to resist it. We believe and expect to establish that the charges are unfounded in fact and untrue and that neither the Association nor any of its members has violated the FTC Act, as charged, or any other statute."

Mr. Calamaras said NEDA's attorneys have pointed out that even if it could be proved that the Association had done the things with which it is charged, they do not constitute violations of law, because they are not unfair methods of competition. "It is evident that there are no precedents to support the Commission's charges as a matter of law," he said, "and there is no public interest involved."

One of the charges is that the Association has arbitrarily kept certain wholesale distributors from its membership. "This is hardly consistent with the aggressive campaigns for membership which we have been carrying on for several years," Mr. Calamaras said.

NEDA members who have been served with the complaint generally reflected Mr. Calamaras' reaction. Some expressed curiosity as to the identity of the person or persons who initiated proceedings.

A customer called to make an appointment for a TV Serviceman then told the company there would be "no one home except the dog."

PARTS SHOW

(*Continued from page 19*)

of determining the source of noise in television receivers. The wave trap is reported to cover the entire i-f and r-f ranges of TV so that any interfering signal that reaches the set through the a-c line, or the antenna, may be located by switching in one of several filters.

Trade Literature

P. R. MALLORY PUBLICATIONS

The 1953 Mallory Vibrator Guide is a complete handbook for the auto radio serviceman. It contains reference sections that give replacement number, original equipment number, vibrator type and application and manufacturer's replacement number.

Sections include Mallory Vibrator specifications and base diagrams, installation notes and circuit diagrams, buffer capacitor reference circuits and auto battery ground chart, and auto radio service notes. This fifty-page guide sells for fifty cents.

Other Mallory publications include: a twelve-page technical information bulletin on mercury cells and batteries, form 1-6; specification sheet on mercury cells, batteries, stacks and packs, form 1-5; catalog of rectifier power supplies and replacement stacks, form 5-27; and technical information bulletin on type XT tantalum electrolytic capacitors, form 4-12.

Write to **P. R. Mallory & Co., Inc.**, Indianapolis 6. Indiana

CHANNEL MASTER ANTENNA HANDBOOK

An attractive twelve-page manual illustrating and describing more than sixty VHF and UHF antennas has been published to assist in the selection and installation of antennas for all types of reception. Technical data includes gain curves and directivity patterns; a section on inter-action filters; towers; telescoping masts, mounting accessories; and boosters.

Available at no cost from all **Channel Master** distributors.

PYRAMID CAPACITOR CATALOG

A new twenty-page catalog, PG-3, contains complete engineering data, performance curves, construction data, sizes and ratings of **Glasseal** subminiature capacitors.

Available at no cost on request to **Pyramid Electric Co.**, 1445 Hudson Boulevard, North Bergen, N. J.

ROHN PRODUCTS BROCHURE

Three types of self-supporting steel towers, a fold-over tower kit, telescoping masts, TV and tower accessories and a TV service table are listed and described in this brochure.

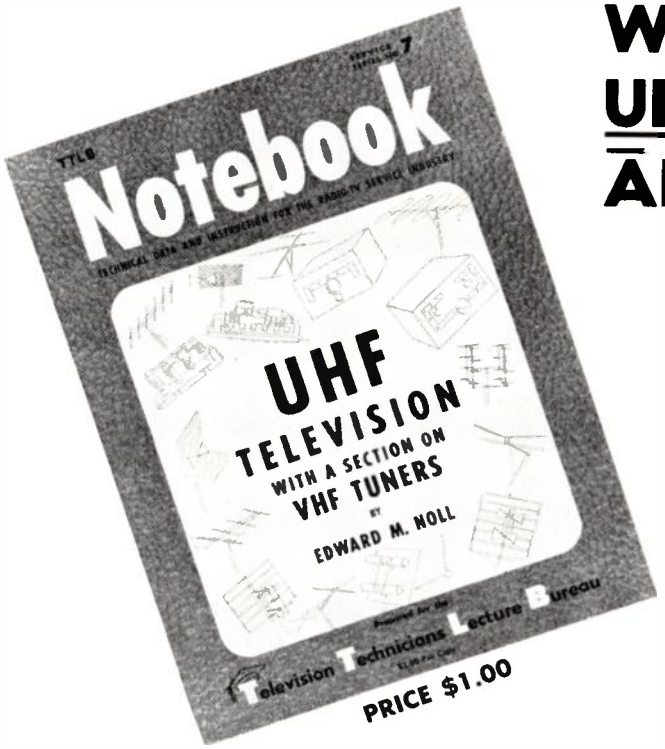
Copies may be obtained from representatives, distributors or by writing to **ROHN MANUFACTURING CO.**, 116 Limestone, Bellevue, Peoria, Illinois.

AEROVOX BULLETIN

A bulletin presenting high-temperature, metallized-paper capacitors; **Aerofilm** capacitors; electrolytics; micas; **duct-type** noise-suppression capaci-

(*Continued on page 26*)

GUARANTEED
TO HELP YOU



WHIP YOUR TOUGHEST UHF INSTALLATION AND SERVICE PROBLEMS

Here is the practical, fact-packed manual on UHF television that will save you many hours of time working with equipment in the new high bands.

Thousands of technicians who heard Edward M. Noll lecture on UHF television ordered copies of Notebook #7 before it was printed. Mr. Noll knows the practical needs of field service technicians. He gives you the vital "how-to-do-it" information that saves your time and eliminates endless hours of wasted effort.

In this 72-page, graphically illustrated manual you will find priceless information that will help you on every UHF installation or service job you have to work on. Here are just a few highlights from only four pages of this idea-packed Notebook.

1. Circuit diagram for a UHF test oscillator that will develop any frequency in the UHF spectrum. Build one of these low-powered oscillators and you will have an indispensable UHF test instrument for your own shop.
2. A simple plan for testing, aligning and servicing UHF converters and sets with equipment you now own. You can eliminate guesswork by following the suggestions given in this section.
3. A plan for making your own transmission line checks.
4. How to make your own antenna performance checks. UHF is tricky. Equipment that works well in one location fails in another. You can eliminate a lot of guesswork by knowing the individual limitations of UHF products by making your own tests of performance.
5. How to align a UHF converter. Step-by-step instructions for converter alignment that will simplify that kind of service when it is needed.
6. A complete table of UHF frequencies with channel center wavelength in inches for all 70 UHF channels.

Get your copy of Notebook #7 on UHF Television from your Parts Distributor or use the coupon below to order directly from the publishers:

TYPE OF BUSINESS:

☐ SERVICE CONTRACTOR; ☐ DEALER

☐ TECHNICIAN; ☐ DISTRIBUTOR

☐ PARTS JOBBER

☐ MANUFACTURER OF .....

_____

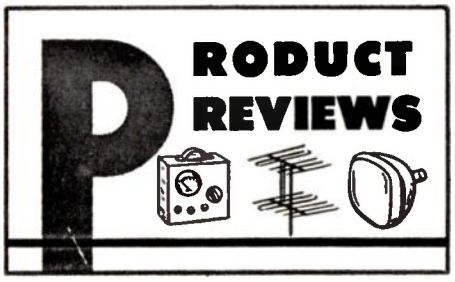
Paul H. Wendel Publishing Co., Inc.
P. O. Box 1321
Indianapolis 6, Ind.

Enclosed is $1.00 (check or M.O.) to pay for my copy of Edward M. Noll's new Notebook #7 on UHF Television. Please send it to the following address (Please print clearly):

Name .....

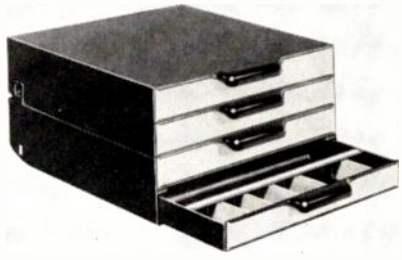
Address .....

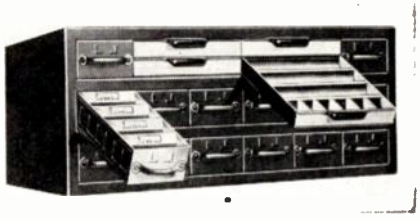
City ..... State .....



Aerosol Record Spray

Injection Molders Supply Co., Penton Bldg., Cleveland 13, *Ohio* is producing an aerosol spray that is said to increase the wear and playing qualities of high fidelity records and needles. The spray deposits a microscopically thin layer of long-wearing lubricant in record grooves so that dust pick-up and static are reduced.





Tiny Parts Cabinets

Precision Equipment Co., 3714 *Milwaukee Ave., Chicago* 41, *Illinois* has announced a new line of all-steel cabinets for small parts. The cabinets consist of two drawers, each 1½" high, in a one-piece welded frame to form a unit 3¼" high x 11" deep x 11" wide. Each drawer is furnished with eight dividers to give a total of fifty-six compartments. Any number of units may be stacked to form a solid, rugged assembly. They are designed for use with *Precision* all-steel standard parts cabinets with eighteen drawers, 34" x 13¾" x 12".

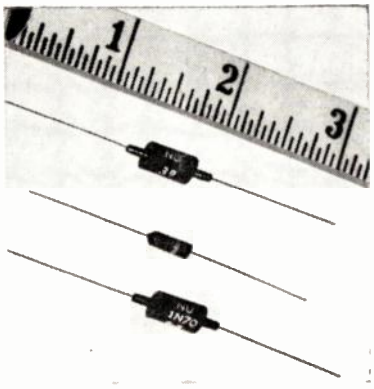
Stacked Bow Tie Antenna

Telrex, Inc., Asbury Park, N. J. has announced a stacked bow tie antenna with screen reflector for uhf channels 14 to 38. The antenna, model 755, provides a pre-assembled, unitary array of two vertically stacked bow tie "conical-V-beam" dipoles, stacking bars and a single screen reflector. Other features include: single saddle mounting and factory preassembly for reduction of installation time, rigidity and ease of orientation.

Simpson Tube Tester

Simpson Electric Co., 5200 West Kinzie St., Chicago 44, *Illinois* has announced a plate conductance tube tester for fast testing. The instrument provides convenient ohms readings for leakage and shorts. It will test all receiving tube types including nine pin miniatures and

subminiatures with base arrangements in line or circular. Handy multi-position toggle switches facilitate quick adjustments to bias voltage and screen and plate supply. Its roll chart is revised yearly.



N. U. Germanium Diodes

Transistor Division, National Union Radio Corp., Hatboro, Pa. has announced a line including nineteen point-contact germanium diodes, for computer applications, video detectors, UHF mixers to 900 mc. and general purpose applications for operation up to 200 volts. The compact units are cased in plastic cartridges that are impervious to moisture and assure excellent electrical characteristics and mechanical stability at relatively high temperatures.

Indoor UHF Antenna

Brach Manufacturing Corp., 200 *Central Ave., Newark* 4, *N. J.* has announced a new bow-tie indoor antenna of the same design as outdoor UHF bow-tie. Type 483 indoor antenna elements are mounted on an attractive black porcelain base. The antenna is individually packed with five feet of lead-in.

TV Lead Insulator

JFD Manufacturing Co., Inc., 6101 *16th Ave., Brooklyn* 4, *N. Y.* is distributing a universal insulator grommet for all TV down-leads. It will be incorporated into all of their stand-off insulators including: mast stand-offs, single and double screw-eye stand-offs and special screw-eye stand-offs.

High Voltage Mica Condensers

Industrial Division, Cornell-Dubilier Electric Corp., South Plainfield, N. J. has announced an expanded series of high voltagle midget mica capacitors with ratings from 1000 to 2500 vdc. They are supplied with a wide range of capacitance for each voltage rating. They are recommended where there is need for capacitors for high voltage with stable capacitance, high Q and compact design.

Wrought Iron TV Tables

The Mancor Company, 540 *No. LaSalle St., Chicago, Ill.* has announced a new line of swivel and fixed-top wrought iron TV tables. Model S-100 will rotate a complete 360° and is adjustable for any table model TV receiver. It is shipped completely knocked down but requires no tools or mechanical fasteners for simple assembly.

not yet know. The nice thing about money is that it has such a wide circle of admirers. People spend it in different ways, but its appeal is generally the same, even admitting that the perversities of human nature are such that whatever fascinates Peter may bore Paul.

I hope for the best in these interesting experiments, but in the long run I am afraid we must look elsewhere. I believe that the only solution — if there is a solution — will appear through enhancing the prestige of an executive career.

This is not a feat to be performed by superficial and artificial measures. It cannot be achieved by bestowing synthetic honors or, perish the thought, by making pious speeches.

EVALUATE PRESTIGE

No prestige comparable to the prestige attached to older and more traditional professions can really come only from within. What the world thinks about us is usually a reflection, in some degree, of what we think about ourselves.

Could it be that behind the confident exterior of the business executive is the apologetic question mark? Do we in the business world secretly or even subconsciously feel that after all teaching or medicine or pure science is of greater worth or nobility?

If so, it is high time that business shed its inferiority complex and take its rightful place in the ranks of other honored professions. The older and more established callings have done much for the improvement of mankind, and continue to do so. There is no disparagement in the reflection that none has ever accomplished as much in as short a time.

Business as a profession has come of age, and its members can stand before the world as practitioners of a difficult and complex art, without which the world would be the poorer. If lingering doubts remain as to the place of executive management, ask yourselves what your own companies would be today if the wrong decision had been made at the crucial moment.

OUR INNATE MODESTY

Prestige for this new profession will come. I know. It will come as people begin to understand and appreciate the contribution of business to the social, cultural and the spiritual advancement of America. This is a matter on which our innate and becoming modesty has thus far counseled us to let our deeds speak for themselves. We need, I am afraid, to do more.

We must take real pride in the accomplishments of the executive. We must share that pride with our associates, our families.

SELLING SERVICE
By HAROLD CHASE

Selling service means making a profit in the TV Service business.

In the home, selling service begins

when you ring the door bell. Favorable first impressions always make the job easier. A neat appearance and a pleasant frame of mind are **musts.** Stop a minute before actually ringing the bell — to make certain that you meet these requirements. If not, you shouldn't be contacting the public for a livelihood.

The bell should be rung firmly. Then the customer should be given plenty of time to get to the door — before the ring is repeated. Once the door is opened, wait for an invitation before entering.

Listen carefully to the customer's complaints. Then ask leading questions so that you will be well prepared to overcome objections — and can stress your **sales** story on the weaknesses of the customer's arguments.

One customer may be unhappy with the reception being obtained with his set. Another may desire improved tone quality. Still another may desire a more stable picture.

Selling service follows no hard and fast rule. However, you must get all of the facts before you can do an efficient job of selling your own and your organization's ability.

Always take the time to go over the set carefully. Cultivate a professional procedure in checking the set, even though you may be able to put your finger directly on the spot and get away. In a few minutes, take time enough to impress on the customer that he has had a careful check-up and adjustment.

How many times have you heard: "he wasn't here 5 minutes and he charged $5.00?" Service the set in the home if at all possible. Do a job that will last. There may be a special program that the customer wishes to watch **that** evening.

In selling service never take the attitude that the customer doesn't rate a simple, non-technical and intelligent explanation of the service performed. There are people who are not interested, but many want to know just what they are paying for.

A customer's goodwill is a feather in your cap. A satisfied customer passes the **good word** along to others. Always keep this in mind! And you will sell service.

ASSOCIATIONS

(*Continued from page* 13)

NARDA Costs-of-Doing Business Survey.

Each element of the distribution system has an obligation to all others to help them succeed, Mort Farr, past president of NARDA, told the Annual Convention of the Liquefied Petroleum Gas Association in Chicago.

Comparing the establishment and growth of an industry to an architectural masterpiece brought about by creative vision, efficient contracting, adroit financing, conscientious labor and appreciative users, he said that failure to participate in and grow with an industry is to "start on the road to economic death."

The retailer must shoulder primary responsibility for his own future, however, Mr. Farr said. "Nobody will legislate a profit for you. Nobody will herd customers into your place of business. The big, basic fight is mainly yours to win or lose."

Try to discuss problems before criticizing the other fellow, he advised. "His viewpoint is as important to your coming to a satisfactory solution as yours. By recognizing our own faults first and working to correct them, them by approaching others who can help us create a better economic world in a spirit of fair play and healthly cooperation, we can grow and no combination of forces on this earth can stay our progress."

PHILADELPHIA

The **Television Contractors Association** of Philadelphia plans to affiliate with NARDA and become the administrators of **NARDA's Certified Television Installation and Service Program** in Philadelphia.

A TCA committee, composed of President Albert M. Haas, S. A. Whittingham of Whittingham Bros., Inc., Martin Weinberg of Edmar Communications, Angelo Brunetti of Scotty's Television Service and Paul V. Forte, executive secretary, conferred with Mort Farr of Upper Darby.

Mr. Farr, in a two-hour meeting, outlined the area of cooperation between the two groups. He assured TCA officials that their organization would retain its autonomy while, at the same time, taking advantage of the greater facilities and influence of an established national organization in seeking the solution to service problems.

GRAND RAPIDS APPLIANCE DEALERS ASSN.

On April 22 the largest gathering of dealers ever initiated by the retailers of Michigan was held at the Pantlind Hotel, Chicago, to hear such industry leaders as H. G. Blakeslee of Cory, Fred Kaiser of Detroit-Michigan Stove Co., J. B. "Kip" Anger of Motorola, J. W. Christensen of Hamilton, Mort Farr of NARDA, and Bob Justis, Newport, Del., dealer.

General Chairman was Dick Evenhuis of Evenhuis Appliance Store, Grand Rapids and president of the Grand Rapids Appliance Dealers Association.

HOUSTON APPLIANCE DEALERS ASSOCIATION

The HADA was host to more than 2000 Texas appliance and television dealers, distributors and manufacturers who attended the State Sales Clinic in the Shamrock Hotel, May 29, 30 and 31. Elmer Alger was Chairman.

Outstanding personalities from all fields of appliance and television merchandising were on hand to discuss the dealer problems. Modern sales techniques, wholesale and retail selling, and many other phases of dealer operation were featured on the program.

NATIONAL ELECTRONIC DISTRIBUTORS ASSOCIATION

A joint meeting of the NEDA St. Louis Chapter and the Mississippi Chapter of the Representatives was held recently in the Mark Twain Hotel, St. Louis, Mo. Detailed plans were discussed for the entertainment program for the 1953 NEDA Convention and Manufacturers' Conference to be held in St. Louis, September 14-16.

It was decided that the ladies' program would be planned and conducted by the wives of the NEDA members and Representatives. Mrs. Owen Griffiths was named temporary chairman of the committee.

Keeping in mind the outstanding entertainment program enjoyed by NEDA guests during the Atlantic City convention last year, and the enthusiastic comments voiced, the St. Louis group is determined to outdo last year's activities. Consequently the meeting was sparked with enthusiasm and the St. Louisans, ever proud of their home town, are convinced that NEDA's Fourth Annual Convention will be unprecedented.

ELECTRONIC IMPORTS

"Cheaply made importations could flood the country and seriously affect the present growth of the American electronics industry at the manufacturing and distribution level," declared W. D. Jenkins, president of NEDA, to an inquiry from Senator Wallace F. Bennett of the Committee on Finance of the U. S. Senate. Sen. Bennett has been polling various industries to determine their attitudes on the question of tariff protection.

In the field of electronics, distributors have found that the appearance of imported electronic equipment is generally good, Mr. Jenkins said. "However, the

(*Continued on page* 24)

MANAGEMENT

(*Continued from page* 19)

that the necessary business talent would have appeared. Unfortunately it did not, and it was left to American business technology to bring many of these discoveries to popular use.

The principle of radio communication, for example, developed by an Italian, became the basis of a market that eventually was to include virtually every home and even most of the automobiles in America.

The automobile has had much the same history. Many of the discoveries on which it was based originated abroad, but it was American business management that made it a commonplace and essential means of transportation.

If you will permit me an example in my own field, let's look at the case of cellophane. Invented by a Swiss and first marketed in France, it was for years a high-priced specialty item for the boulevard trade. Today, the average American family uses about five pounds of it a year, and is very unhappy when war or some emergency puts it in short supply. Cellophane is merely one of the many things that became a familiar necessity only because American business management discovered ways of manufacturing them at prices at which broad markets could be created.

THE LEADERS OF TOMORROW

If we are to continue our rate of progress, we're going to need lots of bright young men coming into business. The more we have, the greater our chance of developing the leaders of tomorrow.

If business is to have its share of these bright young men against the demands of all other professions and activities, we can't trust to luck. In these days of high personal income taxes, the money incentives so characteristic of business are declining in attractiveness. There are some who take the wry view that taxes are here to stay, and that the rates will remain unduly high throughout the foreseeable future.

I think that to be realistic we must assume the chances of substantial improvement in the tax picture are remote.

So, if not money, what? Many companies have explored the possibilities of non-monetary incentives as the new coin of executive reward. Some of these seem to be simply compensation in disguise and may encounter adverse tax interpretations later on. Others, such as longer vacations, are transplanted from other fields and may or may not prove adaptable to the business climate.

Whether they will be fruitful we do

living standards, its strength, its position as a world power — would have literally been impossible to achieve without the executive function. Our living standard and our strength arise out of our ability to produce. And production today in the required quantity, quality and price depend on having enough competent executive talent to tie the diverse ends together and weld them into an effective machine.

American industrial development has come about largely through the process of innovation, and it is here that the executive had made his most significant contribution. Philosophers of an earlier day would be astonished to see that it has been the businessman, not the social reformer, who has condemned and destroyed the status quo.

We have leisure; we have the opportunity for effective cultural and social thought; we have our high living standard only because of the increased productivity brought about by continual innovation and creative development. And the horizon still extends far beyond the range of our present vision.

EXPLORING THE UNKNOWN

It has been estimated that half our present national working force is engaged in production and sales of things unheard of generally in 1902. A very large number is concerned with developments new since 1928. Should this trend continue, half our working population in the year 1978 may be making and selling things as yet unknown. What products these will be we do not know but we can be very sure that their contribution to our social progress will be immense.

If this bright prospect is to become a reality, it will be due largely to people who are sufficiently acute and perceptive to venture into these unknown fields, and who can organize the technical and financial resources required for success. For it is this way that our economy has continually refreshed its vitality.

The initiative has come from our businessmen. This is not to deny that scientific discovery is the raw material of our advance. Yet science alone, invention alone, may be of only academic interest or significance — unless through business development it descends from the clouds to join the service of men.

GENIUS OF AMERICAN BUSINESS

This in fact has been the peculiar genius of American business. Many of the important scientific discoveries of the past have been of European origin, yet it was here that they found their real utility. Had the same atmosphere and incentives prevailed in the countries of their origin, I have no doubt

(*Continued on page* 20)

SERVICE TRENDS

(*Continued from page* 17)

collected accurate statistics on receiving tubes. I am going to sneak up on this particular problem by first talking about the tube business — then translate it back into terms that will mean more than merely the tube-end of the TV Service business.

Mr. Mansfield will conclude this series of articles on trends in the TV Service industry in an early issue of SERVICE MANAGEMENT.

PARTS SHOW

(*Continued from page* 15)

made a recording to prove the reproduction qualities of **University's Musicorner.** Miss Kallen was so pleasantly surprised by the high fidelity reproduction that she ordered a **Musicorner** for her own home — after listening to a group of organ selections played through several audio systems used in the University display room.

RAYTHEON "TRANSISTOR HEADQUARTERS"

Thousands of distributors and industrial accounts visited the **Raytheon** display room where the greatest interest was shown in the new junction type transistors, a new magnetic voltage stabilizer and new miniature pulse transformers. The main feature, during **Raytheon** representative meetings, was the presentation of a new motion picture entitled: "Electronics in Action."

Jean Nevin, Tescomen & Doris Africk

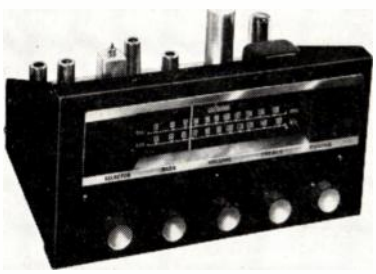
TESCO ANTENNAS

A striking and animate exhibit was used by **TV Products Co.** of Springfield Gardens, N. Y., to introduce a new antenna promotion now being evolved around the slogan: "It's the cat's whiskers and just as sensitive."

JERROLD UHF CONVERTER

Jerrold Electronics introduced a new UHF converter which it claims will bring in television reception better. The converter has been designed for use with master antenna systems. In tests in Philadelphia, the new model 503HU converter is reported to have brought in clear pictures on channel 46, from Atlantic City, 65 miles away.

The converter is divided into two units: the converter-mixer head and the oscillator. The head is mounted at the top of the antenna to eliminate high cable losses and other UHF lead-in problems. It is cased in a weather-proof housing.



Craftsman Hi-Fi 500 Tuner

CRAFTSMAN AUDIO AMPLIFIER

Radio Craftsman, Inc., of Chicago, featured their new 500 ultra fidelity amplifier and 800 tuner. The amplifier has been designed for use as a separate audio unit for built-in locations. It has a maximum power output of 15 watts and a total harmonic distortion of less than 0.1% at 10 watts at mid-frequencies. The 800 tuner combines a complete phono equalizing and tone compressing system, and sensitive channels — for hi-fi reception of FM-AM broadcasts.

SPICO ANTENNAS

The **Spirling Products Co., Inc.,** introduced two new antennas for outdoor use and two for indoor use. One of the outdoor types, the "E-Z-Bee," is for VHF reception. They also introduced a UHF bow-tie. Indoor types included a new UHF-VHF "Super Phantom" and a UHF type designated as the "Strato."

OLYMPIC ALL-CHANNEL TUNER

A new precision UHF-VHF television tuner was introduced by **Olympic Radio & Television, Inc.** The tuning principle employed was described as essentially that of a "bandbox" of cylinders and tiny pistons, with a coaxial line to replace the traditional sliding contact tuning system. The tuning process is based on a highly refined gear reduction of 60 to 1, that is said to be similar to that used in jet plane compass amplifiers — to permit tuning accuracy within a tolerance of one ten-thousandth of an inch.

VIDAIRE FILTER TEST

Vidaire Electronics Mfg. Co. introduced its new wave trap meter for the elimination of trial and error methods

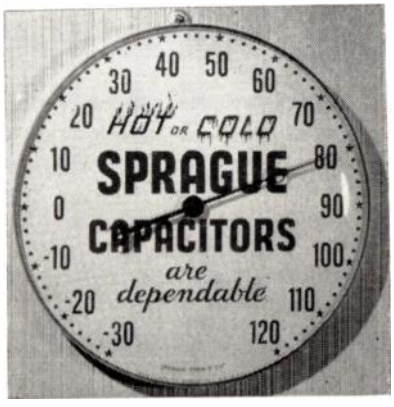
(*Continued on page* 24)

NEWS BRIEFS

(*Continued from page 7*)

named distributor for Olympic Radio & Television, Inc. . . . **MILMAR, INC.**, of Cleveland, O., has been named distributor for Olympic Radio & Television, Inc. . . . **NATIONAL ELECTRONIC DISTRIBUTORS ASSN.**, has been swamped with requests for the second edition of the **NEDA Battery Index** . . . **RADIO DISTRIBUTING CO.** of Indianapolis has been named distributor for the Simpson Electric Co. . . . **RADIO PARTS CO.** of Milwaukee has been named distributor for the Simpson Electric Co. . . . **RAYTHEON MANUFACTURING CO.** receiving tube division, has announced $10,000 in cash prizes in a contest handled exclusively through its special tube distributors before August 31 . . . **RCA VICTOR** is directing a special advertising and merchandising program to the two million Americans who work nights and sleep days — to give them facts and figures

RCA "Yachtsman" (on quay)



on room air conditioners; has announced plans to market a new portable tape recorder for the consumer; has announced a new model 3x521 five tube table radio to retail at $19.95; has claimed three awards for excellence for: it's new **11 Trovatore** album; Perry Como's recording of **Don't Let the Stars Get in Your Eyes** and Arturo Toscanini's version of **Beethoven's Ninth Symphony**; has announced **The Yachtsman,** a new low-priced, three-way portable radio (see cut) . . . **RUSSELL DISTRIBUTING CO., INC.**, of St. Petersburg, Fla., has been named distributor for Olympic Radio & Television, Inc. . . . **SOUTHEASTERN RADIO PARTS CO.** recently co-sponsored a Raytheon UHF lecture for TV Servicemen in Atlanta, Ga. . . . **SPRAGUE PRODUCTS CO.** has announced a new eye-catching thermometer through its distributors; price $3.00 (see cut) . . . **STANDARD SUPPLY** of Salt Lake City has been appointed distributor for Simpson Electric Co. . . . **SYLVANIA ELECTRIC** has announced the development of a new technique for production of electronic circuits on flexible cloth; said to allow large tolerance in dimensions and spacings of components; has announced development of subminiature variable inductors for transistor circuits; development of an improved radio teletypewrite system; plans to build a new TV manufacturing plant at Batavia, N. Y., to have 416,000 square feet of space, Sylvania's largest . . . **TELEVISION AND APPLIANCE DISTRIBUTORS** of New Orleans have been appointed distributors for RCA Victor . . . **TELTRON CORPORATION** of Philadelphia has been appointed exclusive distributor for Dage Electronics Corp. . . . **VISCULITE COMPANY** of 425 Broome St., New York City, has been formed to handle all Keystone Electronics products . . . **1953 WESTERN ELECTRONIC SHOW & CONVENTION** will be held August 19-21 in the Civic Auditorium, San Francisco, Cal.; claims to now be second only to the National IRE Engineering Show & Convention, in size, in importance . . . **WESTINGHOUSE ELECTRIC** has announced an x-ray image amplifier for televising dim fluoroscope images.

PLANNING

(*Continued from page 7*)

tion in the number of vehicles in service. Incentive measures including cash or merchandise awards and extra days off for drivers having no accidents for a definite period, are very effective in achieving a good safety record.

These are some of the things which will put the Television Service organization on an efficient business basis. And that brings up another point which was referred to in the Indianapolis survey. It revealed that from three to five calls per year are made on each television set in the area where the survey was conducted. It also revealed that television service should be expanded to include the servicing of record players and radios. The survey proved that customers wanted this additional service.

These two points confirm what many of us have known all along — that the potential of the Television Service business is much greater than is sometimes realized, and that service organizations should be far sighted and not limit themselves to television servicing.

Let me say in conclusion that this business of television servicing will grow even bigger in the years to come. Those people who give good service and operate on a sound business basis will be a part of that growth. Those people who give poor service or operate inefficiently will fail.

We must set high goals and we must meet them. We must price for profits. We must not over-charge but we must never dabble in cut-rate service. Each of us must conduct his TV Service business so that people will say: "That is a dependable TV Service organization. Their service will cost some money. It will be worth it."

MANAGEMENT

(*Continued from page 9*)

velopment has been as profound — and far more lasting — than the exploits of the warriors and the makers of laws. The accomplishments of the American system are quite as much a triumph of executive skill as they are of technical development and financial venture.

EXECUTIVE GENESIS

In earlier days, business units were small and technology was simple. The proprietor of any enterprise could hold all the reins firmly in his own hands. But as production became more complex the tools and equipment grew more expensive and the capital to buy them had to come from groups of people rather than a few individuals. At the same time we began to require more and more the services of specialists and technicians. Business became increasingly a team effort, in which the contributions of each individual and each group had to be integrated with the contributions of others.

In this way, the executive came into being, and his function gained importance as the size of the business unit grew and its activities became more intricate. This has happened very quickly, as history is reckoned. The executive function is largely a Twentieth Century phenomenon, and largely an American creation.

A NEW PROFESSION

Other professions are much older and have held their honored position in our society for hundreds of years. I am sure there were doctors, lawyers and clergymen on the **Mayflower,** but I have never heard of a business executive on the passenger list.

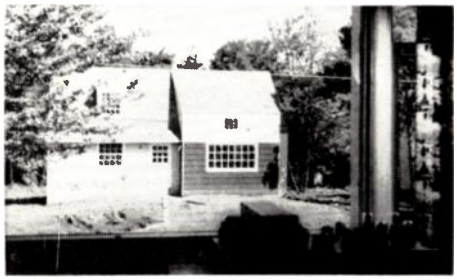
We are also, to some extent, a profession without a tradition or a past. We have no patron saint and no oath hallowed by centuries of devotion. Yet the America we know today — its high

TECHNICAL TOPICS

(*Continued from page* 9)

a number 2 photoflood lamp mounted in a standard photographic reflector. Diagonal lines are caused by an intermittent video amp. transient we are trying to track down. Hum and transients seem to be the most prevalent problems in closed-circuit systems.

A long-shot taken out the window shows the ability of camera to respond to daylight excitation. First there is a photographic view from window —



Photographic Shot Taken out of Window — Camera on Table at Lower Right.

second is house as picked up by the camera and reproduced on a television receiver screen. In all these shots a low-priced 35mm f3.5 lens has been used — substantially more in the way of sensitivity can be expected from a more costly and faster lens.

CLOSE-UP OBSERVATION

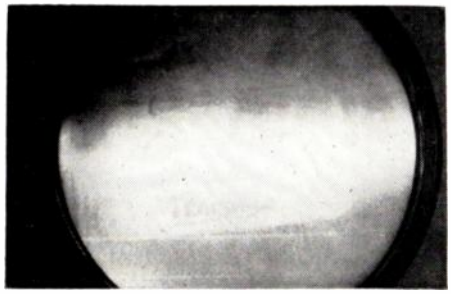
Such a camera is excellent for observing meter readings, watching small operations, and other confined area pick-up. A small close-up lens over the regular lens permits easy reproduction and magnification of a small area. For example, we demonstrate the ability to observe readings on a small meter.

House as Picked-up by Camera and Reproduced on TV Receiver Screen.

The actual reproduced image on the TV screen is a number of times larger than the actual meter and reading. It can be seen over a much greater distance and at remote points of observation. In our own particular application we are observing readings on a field strength meter set up at a remote location.

A small area pick-up also reduces the total amount of light required for excitation of the mosaic surface. In fact meter reading is still discernible, using just an ordinary 60-watt bulb positioned 1½ feet from meter face. Thus for close-up work in particular the camera is excellent and requires only low level illumination. We again want to emphasize that the above **is not**

Meter Face as it Appears on TV Receiver Screen.



Same Meter on Receiver Screen When Illuminated by only a 60 watt Bulb. Reading is More Discernible than on this Small Photograph.

the ultimate limit. Faster lens and some special circuit controls, to be included in new camera under development, can make the unit more useful at low light levels.

Certainly, we are launching a new field of endeavor that has many, many branches and twigs. At the moment we are just beginning to break out of the shell that is holding us close to broadcasting standards and practice, and conventional techniques. However, there are many ways of conveying a television picture. Systems can be evolved using different standards and circuit techniques to meet a variety of needs more exactly at less cost.

We will continue to keep you posted on the closed-circuit television field. If you are interested in the technical details, write to us for information on a special industrial television course that is now available.

SERVICE TRENDS

(*Continued from page* 16)

a short period of time.

TWO-SET HOMES

What is going to happen to the second set television home? I don't know. There is already some evidence that the second set television home is beginning to make its appearance in the more highly saturated areas. I have no reliable figures, but I am assuming that at the end of 1953 the second set home is practically non-existent. 1% of the homes that have a television set may have a second set. By the end of 1956 I am sure that it is going to make some sort of an impact. My long-term projection is based on the assumption that we will ultimately wind up with maybe 20% of the homes with a second set. I think that is conservative.

Now, what does that mean? To the TV Serviceman, the tube maker and the set maker — it means that the 21 million sets in use today, by the end of 1953, will be up to 26 million, and in another three years up to 38 million, and in another three years up to 47 or 48 million — and will probably approach at least 57 million sets in another nine or ten years.

Do you think you have headaches today? You will have three times as big a headache, three times as many headaches, in another eight or ten years!

Here is a recap of the home, auto and television business as we see it. I think that I can bespeak a nice, healthy future — not only for TV Servicemen but for the whole radio, television and electronics industry. The home set business will probably settle at sales somewhere between 6½ and 7½ million sets per year, more or less indefinitely. Auto sets probably will run between 4 and 5 million per year, more or less indefinitely. Television sets will run somewhere between 6½ and 8½ million sets annually, more or less indefinitely. I think it is a pretty logical pattern.

PUBLIC BUYING POWER

Now, is this out of step with the public's ability and capacity to pay? I think that my figures prove themselves because the economists of the country are reasonably sure that the public's capacity to spend its income will continue at high levels of 224 billion dollars a year, 225 billions by 1959 and 250 billions by 1962.

You can see that if my figures are right, the percentage of the public's income which will be going into its amusement devices will be in step with what it has been in the past, or less than ¾ of one cent out of every $100. It is certainly not an exhorbitant figure, and it does indicate that we do have a terrific potential, if we are only able to capitalize on it.

How about the repair industry? What is going to happen to TV Servicemen? How much material are you going to have to buy? How many tubes are you going to need? How many picture tubes are you going to need? How many capacitors, how many resistors and antennas and speakers?

The Radio-Television Manufacturers Association, for a good many years, has

(*Continued on page* 19)

PORTABLE RADIOS ARE A YEAR 'ROUND BUSINESS

By A. D. BURLEN, National Carbon Co.

An important fact of which many dealers may not be aware is that the portable radio market is growing faster than ever before in its history! It is estimated that during 1953 the number of portable sets in use will reach 8,250,000 — an increase of more than a *million* sets over the 1952 figure! And the minimum battery requirements for the 8¼ million sets should bring $41,000,000 at retail prices . . . with the market *still growing!*

It seems evident, however, that — large as this portable radio and radio battery business is — it could be *even larger!* And it is the dealers themselves who can help to make it so! They can do it by continually selling the idea to their customers that portable radios should be purchased for use *all year 'round!* Too many people feel that portable radios are only for vacation and beach listening purposes during the warm weather, "outdoor" months. That this is not so is patently evident.

INDOOR PORTABLE USES

In the first place, more and more *indoor* uses of portables are being found — in every room of the house at all times of the day, every day. Secondly, more and more uses of portables are cropping up at *places of occupation.* Portables can be used by workers on the production line to tune in relaxing music; office workers can employ portables for lunch-hour entertainment; and executives often have need of portable sets in their offices to keep up with the latest business and financial news.

FARMERS, STUDENTS AND TOURISTS

Farmers and farm workers in rural districts where there is no regular source of electricity have constant need for portable radios, as do soldiers in camp and overseas, young men and women away at school and college, and travellers on boats, trains, buses.

FOR CIVILIAN DEFENSE

The present Civilian Defense instructions in most areas recommend that every home have a portable radio in case of emergency during atomic attack. And another type of emergency — that arising from storms and natural disasters — requires that every home, particularly in rural areas, should have a portable in good operating condition.

While all the foregoing facts about year-'round uses of portables can be very successfully employed to make the *initial* sale of the portable radio itself, those facts should also be used to sell both the new and old portable owner

on the necessity of *always* having on hand a fresh set of portable *batteries,* too! And this is important, for the evidence indicates that many people, once they have bought a portable radio, do not *utilize* it to the greatest extent.

INACTIVE SETS

Estimates are that as many as *one third* of all the portables purchased to date, and still in good working condition, are lying idle most of the time! This means, of course, that dealers are not getting the *battery replacement business* they otherwise might have and it certainly seems a very strong argument for dealers making a real attempt to promote the year-'round use of portable sets.

ACTIVATE YOUR SALES

It has been estimated that the sales of batteries for only those portable sets *now in use* could be *doubled* if the right sort of push were put behind them. Certainly it would seem that any market expanding as fast as that for portable radios and batteries could be exploited by dealers, along the line mentioned here, to their advantage and benefit.

SERVICE TRENDS

(*Continued from page* 11)

96% NATIONAL COVERAGE IN '54

We have 16% more of the population coming into signal strength in 1953 and another 9% in 1954, leaving only 4% of the U. S. population, by the end of 1954, in areas without a good television signal.

Now let's look at the percentage of saturation at the end of 1950, 1951 and 1952. Type 1 areas, as early as 1950, were 45% saturated — 45 homes out of every 100 already had a TV set. By the end of 1951 it was 64%; and by the end of 1952 it was 81%. Eight homes out of every ten have a television set. That's 42% of the country.

Another 25% of the country has gone from 16% to 30% to practically 50%. New areas, Type 3 like Denver, collectively have grown at a phenomenal rate when you consider that the signal didn't go on the air until after mid-year. 1% in 1950; 3% in 1951; to 12½% in 1952. As a matter of fact, that growth is actually faster than occurred in the early stages of television in any Type 1 area.

Type 4 areas where signal strength will change in 1953 but in which there is some signal today, and on which some percentage of the people have already bought a set because they are willing to put up with fringe reception, 1% at the end of 1950, to 4% at the end of 1951, to 10% at the end of 1952.

Now let's start talking about this growth pattern that we anticipate is going to occur as these new stations open up. I have taken a growth curve based on experience in places like New York, Philadelphia and Chicago. A pattern that has already started to develop in Portland, Ore., El Paso, Texas and other cities.

Type 1 areas will certainly be approaching 100% saturation in a few years. The same in Type 2, 3, 4 and 5 areas, leaving only 4% of the populace on which we are not practically assured of approaching 100% saturation within

(*Continued on page* 17)

ELECTRONIC PARTS SHOW

and 177 display rooms during the four-day show.

WIRED TV IN THE HOME

The use of a home TV set to see who is at the door, to see the meat you are ordering when you 'phone the butcher — were two advanced uses of TV in the home that were demonstrated by Central Television Service, Inc., distributor for **Dage TV Cameras.**

These feats were accomplished by feeding the camera's picture signals into a master antenna system and using

Old & New Officers of the Radio Old Timers.

one of the unused channels to show the picture on connected TV receivers.

Several Chicago hotels are considering the use of this system to supplement future conventions by the transmission of speeches to room television sets where convention guests can participate. The **Dage** closed-circuit system may also be used to show hotel guests the dinner menu or a preview of a floor show.

REGENCY REMOTE TV CONTROL

An inexpensive and highly efficient remote control for television that operates on a single connecting cable — and can be installed in less than fifteen minutes — was introduced by the **Regency Division** of the Industrial Development Engineering Associates. The remote control unit, which was housed in a make-shift wooden box, will be marketed in a stylized cabinet now being designed by Painter Teague & Petertil, designers of the Regency booster and converter.

Lake Shore National Bank Window Display.

Installation of the remote unit is accomplished by three simple soldered connections. The unit selects stations, adjusts fine tuning and controls contrast and volume. There is no practical limit to the distance between the TV set and the Regency remote control.

The unit should be ideal for use in the home, particularly with the larger screens which are difficult to focus beside the set. It saves inconvenience of getting up for station change in multi-station areas. It should be a boon to TV viewing by the physically handicapped in hospitals and other institutions.

Mary Jane Gray, Kitty Kallen & Musicorner.

RCA HI-FI COMPONENTS

RCA introduced its new line of high-fidelity components which will be marketed individually to preserve the flexibility and freedom of choice demanded by most hi-fi enthusiasts. The line has been built around the "Olson Speaker," designed by Dr. H. F. Olson, director of the acoustical research laboratory in RCA's David Sarnoff Research Center.

The new line will include a de luxe three-speed automatic record changer, two AM-FM tuners including one with a built-in preamplifier, four hi-fi amplifiers, three hi-fi speakers and separate speaker and equipment enclosures. These hi-fi components should make it possible to build a hi-fi system for about $150 — and provide matched components for more elaborate systems valued at about $1,000.

GENERAL ELECTRIC HI-FI

The General Electric Co. announced several additions to its line of audio products which will be marketed as the "Custom Sound Ensemble" — to mark its entry into the home hi-fi field. Object of this move was described as designed to place top quality high fidelity equipment within reach of the greatest number of people.

Emily Lazar Pages Mr. Prince

Components demonstrated included a preamplifier control unit, a 10-watt amplifier and a dual coaxial speaker. The demonstrations were made with a three-speed record changer, equipped with a GE variable reluctance cartrige. At a later date, the announcement of an AM-FM tuner is expected.

General Electric's "Custom Sound Ensemble."

UNIVERSITY LOUDSPEAKERS

Kitty Kallen, aided by Mary Jane Gray and a Minchall Electronic Organ,

(*Continued on page* 19)

REPORTS FROM THE 1953

Nearly 12,000 people visited 203 exhibition boot

The 1953 Electronic Parts Show, with the largest number of distributors in attendance and the largest number of exhibitors on record, reports a total attendance of 11,827 including the following:

Exhibiting Manufacturers	3,611
Guest Exhibitors	158
Parts Distributors	3,615
Sound Distributors	771
Representatives	1,803
Government	512
Engineers	931
Purchasing Agents	455
Foreign	63
Press	98

Eleven distributor seminars, which were attended by jobbers for more than three hundred firms, were conducted for discussion of topics including sales, finance, inventory control and public relations.

The Show Board of Directors voted to hold the 1954 Show in Chicago at about the same time. Final plans will be acted upon at the annual meeting of the board in August.

During the 1953 Industry Dinner, Hugo Gernsback was awarded a large silver trophy to commemorate his fiftieth year in the electronics industry. After acceptance, Mr. Gernsback announced that the silver trophy will be made available as an award to others that the industry may wish to honor in the future.

Hugo Gernsback and Samuel F. Baraf

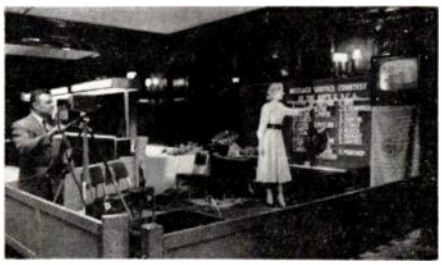
Kenneth C. Prince and Littlefone Transceiver.

A ten-station closed circuit television paging system was used to keep all parts of the Conrad Hilton Hotel in touch with registration and information desks — with the assistance of portable short-wave, two-way radio.

ELECTRONIC "PAGE BOY"

Paging electronically by television was demonstrated by a new miniature TV camera called the "TV Eye." The camera was developed in the David Sarnoff Research Center of the **RCA Laboratories Division.**

During the Parts Show, it was focussed on a large bulletin board at a central message center. When calls were received, the names of those in attendance were printed on cards and then mounted on the board. When the new four-pound RCA camera scanned the board, the names were carried by wire to a dozen TV receivers spotted at exhibition points.



Closed Circuit TV Paging

The new "TV Eye," which will be available in September, was used with a compact control unit that included a transistorized power supply and weighed only fourteen pounds. The "TV Eye" may be used with any standard 16 mm camera Type C mount lens. Its specifications are as follows:

RCA's "TV-EYE" & Control Box

Weights

Control Chassis	14 pounds
Camera without lens	4.2 pounds
25 ft. Cable	3 pounds

Dimensions

Camera	10" x 5" x 3¾"
Control Box	11" x 8" x 6"

TV ASSOCIATION NEWS

Transcripts from Service Management's party line

By PENNY MARTIN

Hi! FCC's "freeze" on TV channels has long since ended, but has not resulted in new channels as quickly as many had supposed it would. It is therefore interesting to review an incident that occurred June 25, 1950. Taken from the *Pittsburgh Sun-Telegraph* of that date:

MYERS GETS FULTON DARE IN TV ROW

"Cong. James Fulton yesterday challenged Senator Francis Myers to "put up or shut up" on his charge that Fulton introduced politics into the effort to get more TV channels here.

"Fulton said: 'I will give my Congressional salary to Children's Hospital for every day that Pittsburgh has additional channels prior to January 1, 1951, if Sen. Myers will give his salary to a charity for every day after Jan. 1, 1951, that we do not have more channels."

"Fulton said it will probably cost him 'a couple of months' salary" but will accomplish his purpose of thawing out the FCC's 'freeze.'"

Some charity would have really profited if Sen. Myers has taken up that dare . . . Pittsburgh in June 1953 still has only one channel.

RADIO TV TECHNICIANS GUILD

Albert C. W. Saunders has sent a letter concerning the initial meeting of TV Technicians leading to the information of the **Radio Television Technicians Guild of New England.**

This is a healthy and timely development. So much attention has been devoted to service business associations — which in itself is a good development — that we are prone to overlook the technician who is interested in becoming expert in his work. A strong guild of TV Service technicians would be a healthy development for the public and the industry.

Mr. Saunders writes: "I want to congratulate all those who participated in the meeting of radio and television technicians from various sections of New England held in Providence recently. It impressed me to such an extent that I am compelled to put my feeling into words.

"Here I witnessed a gathering of honest, sincere, unselfish men of our industry to lay the foundation of a Radio Television Technician Guild of New England.

"As the meeting progressed, I witnessed the laying of the foundation — A Code of Ethics —on which the Guild is to be built. In this I could see the ties of friendship and public relations going into place with a cornerstone dedicated to the general public.

"The teamwork of those present in preparing this foundation spelled SUCCESS. It was the first time in my 25 years of organization work that I have observed constructive criticism without heated debate. This mutual accord, I am sure, cemented the flawless foundation.

"I witnessed the supports of this ideal being erected on the foundation when the purpose of the organization was read, and I saw the beginning of a six-state Guild taking shape. Then welcome was extended to all those in the industry who subscribe to the principles laid down in the foundation — **The Code of Ethics,** and the strength of its structure, — **The Purpose.**

"The whole assembly worked like a precision machine — each man present being a cog in the mechanism.

"This infant institution should strike a harmonious chord with all technicians who are ambitious to increase their skill and improve their standard of living."

NATIONAL APPLIANCE AND RADIO-TV DEALERS ASSOCIATION

One of the reasons for the 3.2 percent of net profit showing made by dealers in appliances and television during this past year is the limited contribution dealers made to the selection and purchase of merchandise by the consumer, Wallace Johnston, NARDA president, told the Wisconsin State Meeting of NARDA, in Milwaukee.

"The manufacturer sets suggested list prices based on the price of competition's merchandise, the manufacturer's need for profit, and the need for good channels of distribution," Mr. Johnston said. "In this final segment is included funds for the transfer of merchandise from distributor to consumer. This is divided so that some goes to the dealer and some is used for advertising and promotion, for bonuses and incentives, for trips and comparable business stimulants. Because the dealer's contribution to the sale dwindled in the easy war and postwar years and his turnover was automatically so high that he made a good dollar showing on moderate mark-ups, his profit dropped from the former 40 to 50 percent of his costs to today's mark-ups, in the low 30's or even the 20's."

Mr. Johnston attributed to this situation the poor profit showing of dealers even more than to price-cutting, trade-ins or rising operating expenses.

He urged dealers to increase managerial capacity by studying the way in which their merchandise investments were spread, correcting errors in this, charting profit quotas, and sales quotas, mapping well-planned, aggressive sales programs, and backing them with attractive stores, competent and well-trained help, and dealer-created enthusiasm.

Creation of an industry atmosphere in which the individual dealer's competence can bring him reward is a responsibility of his trade association, Mr. Johnston said. Among the outside factors affecting business in which he felt association work could help are federal government relations, state legislative work, cooperation with other major trade groups, helping factories and distributors know the wishes and problems of dealers and seeking to teach dealers better understanding of their suppliers' role, and aiding the dealers to work harmoniously with each other for their common good, such as through the

(*Continued on page* 20)

OUACHITA SERVICE PHILOSOPHER

Finally a Kind Word for Somebody!

By JACK DARR

Well, sir, as I seem to begin most of these here discussions about nuthin' in particular, I been meanin' to let out for quite a spell with a little appreciation and a few remarks about manufacturers in general — and some of their employees in particular.

TEXARKANA MEETING

Been indulgin' in a little of my favorite outdoor sport here lately: goin' to service meetin's. Had a nice one down in Texarkana couple of weeks back. Sylvania people put it on, and it was pretty well attended, seemed to me. I went a hundred miles to it, and I see fellers there from all the way up and down the line. Quite a bunch of 'em. Ain't seen so many folks together all to once since the night Grampaw hid his jug in Richard Hughes' pasture, then fergot where 'twas.

Anyway, Sylvania sure sent a nice feller out to talk to us. Young chap name of Bob Grow. Sure knew his stuff when it come to TV and lots of other things, too. Didn't run the thing like a classroom lecture, either. He'd describe some particular circuit, an' then we'd all ask questions. By the time we got down swattin' that subject around, we had th' wrinkles pretty well whipped out of it. Kinda like that better than the "formal" style of meetin' where a feller has to wait till the talkin's all over — chances are he's fergot what it was he wanted to ask about.

FORT SMITH MEETING

Had another right edifyin' meetin' about a week ago, up in Fort Smith. RCA, this time. Sent their field service engineer, 'nother swell guy, over from Memphis. Name of Herb Horton. Real nice feller. 'Bout a half-wave-length on Channel 6 tall, but he knew his okra, too.

Pop a question at him, an' you got an answer right back, no stutterin' at all. We-all got a lot of good out of that meetin', too, just like all the rest. Don't know about the rest of you fellers, but there's just a heck of a lot of things about TV circuitry that just won't come clear in my mind from readin' about 'em in a book, but let some feller tell me about 'em and they're just as clear as can be. O' course by the time I git to workin' on a TV set, seems like I've fergot all of it, but it all comes back to me eventually, seems as if.

FROM THE FACTORIES

Well, that's gittin' somewhat off'n the track of what I started out to talk about, but maybe not so much, at that. What I wanted to bring out, this trip, was the tremendous amount of help that we can get from the factories: the people that make the stuff we have to use and sell to make a livin'. It's just downright astonishin', that bunch of stuff you can git, and there is an awful lot of it free, when you stop to think of it.

Got to lookin' for something the other day, and had to move a batch of books and stuff off'n a shelf. Just noticed how much of it was valuable material that had been sent to me free, or at the worst for a very small charge.

WITH THE TECHNICAL SECTION

Not namin' 'em in any particular oder, but just as I found 'em on the shelf, here's what I had: Big binder, full of poop-sheets on brand-new tube-types, etc., and lots of other information, from Sylvania. You know; **Sylvania News** with the Technical Section. Free: no charge. Just sign up for it, and they'll send it your way from then on. Been gittin' it for several years, now, and it's gittin' better all the time.

Next, there was another big binder, full of G-E's **Techni-Talk**, with a lot of good dope on TV, new tubes, and so forth. Next, come a book full of Motorola schematics, auto-radios, home-radios, TV, record-changers, and everything. Might be mistaken, but seems to me like I had to sign up as a 'factory-authorized Motorola service agency' to git that stuff.

However, the cost to me was certainly very small compared to the amount of data I got. Next, there was a binder full of dope on RCA sets, mostly radio, this one, but the TV material can be had for the same arrangement. This one was free, I think, but as I said, I could be mistaken.

BEEN AMASSIN' INFORMATION

Next was the Philco book. This was a great big 'un 'cause I been gittin' Philco stuff for quite some time back: I signed up with Philco's RMS plan back in 1935, when I first lit here, and I been a-massin' service information from 'em ever since. This is now called the 'Philco Factory-Supervised Service Plan' nowadays, but basically it's still the same, and it's a dern good thing for the serviceman to git associated with.

This year, if you sign up for both radio and TV membership, it won't cost you but three bucks, and they'll jist plum shower you with material! I never got so much stuff in my life, and it's all pretty well worthwhile. They got several nice big textbooks, bang nigh half an inch thick, on antennas, record-changers, and even one on Radio Fundamentals! Of course, I kinda felt insulted when they sent me that'n, but I soon found a use fer it. I got a couple of kids hanging around the shop, wantin' to learn to be radiomen, poor boys, an' of course they're always askin' questions. Well, now I just give 'em that book an' tell 'em to go look it up! At least, they're askin' more intelligent questions now. Harder ones, too, dangit! Some of 'em **I** hafta go look up! Been too long since that school door thankfully closed behind me!

A POWER OF GOOD

Oh, yes, I forgot to mention something important. When we went to this RCA meetin' in Ft. Smith, they give us a big book. Over 300 pages, it was the complete texts of the first nine service lectures they had held on TV when they set up their RCA Service Schools, back East somewhere. Also got another one, with a lot of valuable data about the new RCA's and their circuits.

This big book was the one: it sure did have a pile of useful information

(*Continued on page 26*)

SERVICE TRENDS AND STATISTICS

One of the nation's leading market researchers explains why the home radio, auto radio and television industry should have a nice, healthy future.

By FRANK W. MANSFIELD, sales research director
Sylvania Electric Products, Inc.

The stuff of which the TV Service business is made is not how many sets we manufacture and sell, but rather how many sets are in use, in the hands of the public. A set can be sold for one of two purposes: it can be sold to replace an old set that wore out; or it can be sold to increase the number of sets in use.

HOME RADIOS

Home radio is not a rapidly growing business, at least with respect to how many sets are in use. The home radios that are being sold today, are primarily sold to replace sets which are worn out. But, in spite of this, the public had in use, at the end of 1948, at least 65 million sets. Today that number has not decreased very much. My hunch is that it is at least 57 million. You can hear figures as high as 70 million.

AUTOMOBILE RADIOS

Practically every automobile that comes off the production line today has a radio set as a part of standard equipment. The ratio has consistently run between 80% and 90% for the past several years. The rate at which auto sets wear out is probably much greater than that at which cars wear out. The radio in the second-hand and third-hand car is probably not maintained in as good working order as it should be. In spite of this, the number of auto sets in use back in 1948 was probably not much greater than 13 million. By the end of 1952 it was probably at least 21 million.

TELEVISION SETS

Now let's take a look at the "real baby" — the television set. The number of sets scrapped since the beginning of television is probably a relatively minor figure. It is our hunch that of all of the sets made, there are probably no more than 6 to 8 hundred thousand that have been scrapped. The number of sets in use, at the end of 1948, was probably about a million; it grew to 3,600,000 by the end of 1949; to 9,800,000 by the end of 1950; to 15 million by the end of 1951; and to 21 million by the end of 1952.

Now let's take a look at the future. This projection is not the easiest thing in the world, but I am still convinced that we can tell a lot of things with a considerable degree of confidence. Even if I am off by 30 to 50%, it is still a pretty picture.

GLANCE AT THE FUTURE

Let's take a look at the home set business. I have guessed that the average number of radio sets per home is 1.3. There has been a lot of talk about 2 sets, 3 sets and 4 sets in homes. The most recent accurate figures indicate that there are 1.4 and 1.5 sets in the home. Those figures are several years old.

I am assuming that as television has made its impact, there has not been the necessity for the second, third or fourth set in the home. So it is my hunch, and only a hunch, that the 1.5 sets may be down to 1.35 or 1.33 today. I am trying to be on the conservative side, because the picture is plenty bright without making it any rosier than it really is.

I am reasonably certain in saying that there are at least 57 million radios in use at the present time, and by 1962 — just ten years off — there will be at least 65 million radios in use due entirely to the known increase in the number of homes.

There is a similar picture on automobile radios, which we believe is roughly 22 million in use at the end of 1953, increasing to between 26 and 28 million sets by the end of 1962.

Now, of course, the real trick is to project what is going to happen to the television industry. We cannot predict with the same degree of certainty, but I believe that I can give you some figures in which you will have as much confidence as I have.

GEOGRAPHICALLY SPEAKING

Let me tell you how we tackle the problem. In the first place, what we like to do is to assume that we can divide the country into classes of areas, each one of which is entirely different in its background and its characteristics. What I have termed these areas is: Types No. 1, 2, 3, 4, 5 and 6.

A Type 1 area is an area where television hit early and hard. It includes such cities as New York, Chicago, Philadelphia and Baltimore.

Type 2 areas are those where television hit hard, but a little bit later. San Francisco, for example. There it was quite a bit later before there was the terrific impact that occurred in Philadelphia and Chicago.

The next area, which we call Type 3, includes those in which signal strength actually changed during 1952. It includes places like Portland, Oregon and Denver, Colorado.

Type 4 areas are those where we are reasonably certain that the signal strength will change, or has already changed in 1953.

There is another group that we call Type 5, where there is reasonable assurance of a signal strength change in 1954. Type 6 areas are those where there doesn't appear to be any reasonable chance of getting a signal before 1955.

PER CAPITA BASIS

The true impact of figures becomes apparent only as you compare the population of radio homes in those various classes of TV areas. Area No. 1: of the 42 million four-hundred thousand homes in the United States, 18 million one-hundred thousand of them are in Type 1 areas. In other words, 42% of the people in the United States reside in areas where television hit early and hit hard.

Another 10 million families reside in Type 2 areas. 25% of the population where television hit hard, but a little bit later. Four percent of the people — that's the next one million, six-hundred thousand homes — reside in areas like Denver and Portland, Ore., and places where signal strength changed.

(Continued on page 16)

ANTENNA PACKAGE BEATS SUMMER SLUMP

Aggressive promotion of antenna installations builds summer business for Wilkinsburg, Pa., TV Service organization.

By VINCENT FALCON

Mr. Arndt Explains Antenna for Customer

Too many TV Service operators have accepted a summer slump in their businesses as inevitable. An exception is Arlo Television Co. By aggressive merchandising, Arlo has turned the traditional summer slump into a summer bonanza — by means of complete package antenna installation promotion.

This antenna package is designed to present a well-planned, direct appeal to the many TV set owners who need an efficient antenna installation for *all channel* reception. The antenna selected by Arlo for their summer promotion is a *Fretaray* colinear unit that is used with an *Alliance* antenna rotor. The major parts of the antenna package were selected for dependable performance and the reduction of breakdowns and expensive call backs.

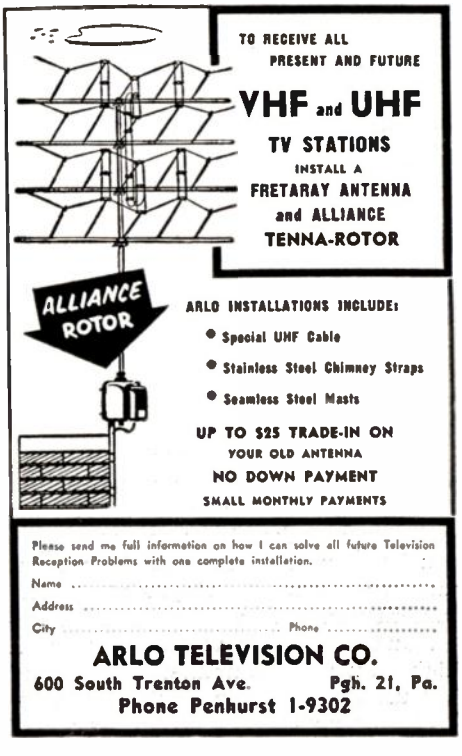
NEWSPAPER ADVERTISING

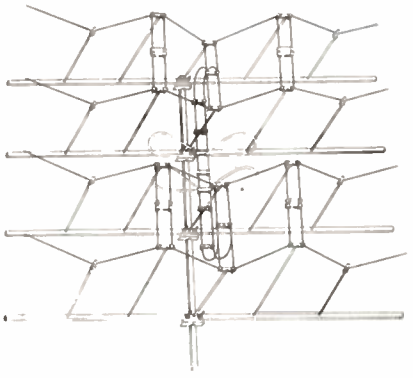
Arlo's merchandising program hinges on the effectiveness of local newspaper advertising to carry their message to TV set owners. A typical advertisement that was run in the *Pittsburgh Press* is shown in an adjoining illustration. It is one of three runs in Pittsburgh papers with each followed by similar copy in smaller community papers.

The company reports that coupon-returns provided many leads that were followed up by telephone and personal calls on prospects by three Arlo salesmen. The number of sales resulting from this type of promotion was almost 90% of calls.

LOCAL FINANCING

Arrangements were made with a local bank to finance the all channel antenna package deals in the localities served by Arlo. Although customers are allowed up to eighteen months for payments, the offer of a $25 allowance for the customer's old antenna has been effective as an inducement to purchase and to cover the down payment.

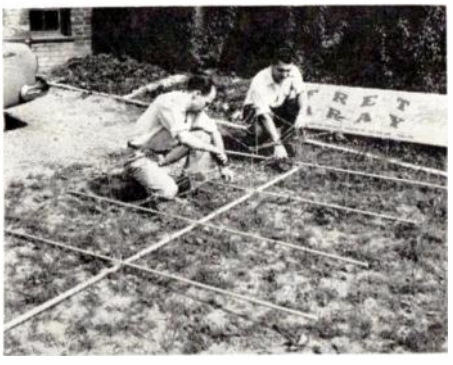




Fretaray All Channel Antenna with UHF Bay.

THE ARLO ORGANIZATION

The Arlo Television Co., began operations to serve Wilkinsburg, Pittsburgh and surrounding territory in 1947. Today, the organization is headed by Mr. A. Aiello and Mr. C. Arndt and is staffed with ten competent TV Servicemen. Sound advertising programs and sound promotion has contributed to their growth. Facilities have grown from one service car and a small parts inventory to their present fleet of two sedan delivery cars and five fully equipped service trucks.



Assembling the Antenna

The Company has not lost sight of the market for service on home radios and auto radios. Every TV Service call is used to promote sales of radio service. The number of radio service jobs resulting from this practice has been appreciable and profitable.

To serve customers with auto radios, Arlo has arranged adequate parking facilities for quick, drive-in auto radio service.

more can an executive be skilled in every talent he is called upon to supervise.

There was a time when the boss prided himself on personal experience with every job in the shop. If this view ever had merit, it has long since become entirely unrealistic. Today, specific skill in any given field becomes less and less important as the executive advances through successive levels of responsibility.

Today, for example, there are thousands of people in the Du Pont Company whose expertness in their special field I can only regard with awe and admiration. And to make the sad cycle complete, I have been out of touch with my own field of chemical engineering for so long that I cannot even talk on equal terms with the young men of that profession who are joining the ranks of the company today.

SPECIAL SKILLS VS. INTANGIBLE TALENTS

As we pass more and more away from special, measurable skills into the less definable intangible talents, it becomes clear that the selection of executives becomes more of an art and less of a science. We must rely in large measure on intuition, and hope and pray that our candidate's performance will reflect our wisdom rather than our incompetence.

I am sure also that achievement in the executive field is much less spectacular than comparable success in many of the professions — the scientist, for example, who wins the Nobel Prize, the headline name who is elected governor, the skillful politician, the articulate college president.

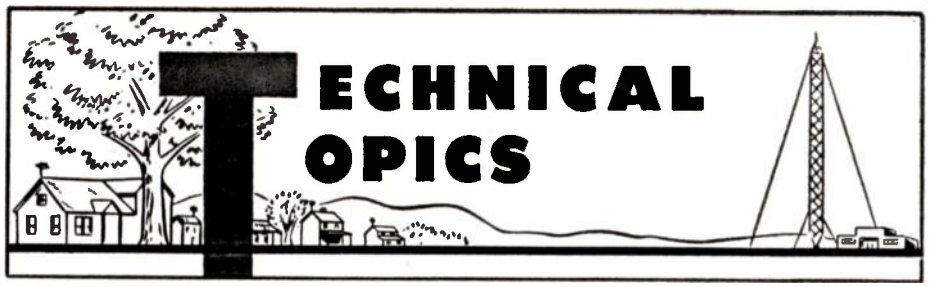
In fact, the more effective an executive, the more his own identity and personality blend into the background of his organization. Here is a queer paradox. The more able the man, the less he stands out, the greater his relative anonymity outside his own immediate circle. Perhaps this is also why his importance and his contributions to the national development are so little understood and why they have been so neglected by historians, past and present.

PIN-STRIPES AND EPAULETS

In the stuff of which heroes are fashioned, the executive is well down the list. He is less romantic than the pirate or the cowboy. He is rather less articulate in pleading his cause than the educator. He is less spectacular than the soldier and less portentous than the statesman. There is apparently nothing in the double-breasted pinstripe nearly so inviting to the chroniclers of history as epaulets or cutaway.

Yet the fact is that the business executive's part in our national de-

(*Continued on page* 18)



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

By EDWARD M. NOLL

CLOSED-CIRCUIT TELEVISION

The closed-circuit television field, as a function of application, is to have camera models in various price ranges — from thousands of dollars down to less than $300. Here at the lab we have been testing some basic camera circuits and developing some circuits and applications for specific needs.

In particular we have been concerned with the potentials of real low-priced units for specific applications — not the most versatile and sensitive camera but one that could be constructed at low cost to meet a definite requirement.

FIG. 1. *Closed-circuit Camera Picking up Test Chart.*

Such a camera could use the low-price iconoscope camera tube 5527 (under $50) which, though it does not have the light sensitivity of the vidicon and orthicon types, can be made to have, with proper circuit design, a rather surprising sensitivity. The camera you see in operation, Fig. 1, has been built on three separate self-powered chassis to facilitate experimentation and serve as an educational unit for study of the camera operations part of a course in industrial television.

Thus with a low-price camera one is able to learn the techniques and circuits required for composing a television picture. It employs just 14 tubes and camera tube. Some of these tubes can be eliminated in a single package unit now under development. Present camera uses a four-tube pulse generator and a six-stage video amplifier. A high gain video amplifier is necessary because of the lower sensitivity of the 5527 as compared to the higher priced industrial camera tubes. Remainder of tubes are in the power and camera deflection circuits. Camera deflection circuits are simple and inexpensive because the 5527 is an electro-statically deflected camera tube.

FIG. 2. *Test Chart Image as Reproduced on Television Receiver Screen.*

Video signal modulates a low-powered oscillator r-f generator. Thus camera signal can be applied directly to antenna terminals of any standard television receiver. Such a system is simple and versatile and affords great ease of camera installation and change.

PICK-UP RESOLUTION

The detail resolved by the camera is good as indicated by its pick-up of a test chart shown in Fig. 2 and its

Reproduction of Magazine Cover on Screen — Video Amplifier Transient Causing Diagonal Line Pattern.

ability to resolve a reasonable distance down the resolution wedge. This ability to reproduce light gradations well is illustrated by the image of a magazine cover. Illumination for pick-up in this example has been supplied by

(*Continued on page* 17)

THE NEED FOR MORE EXECUTIVES

The development and appraisal of executive talent cannot be done in our colleges but must await experience in the practical realm of business operation.

By CRAWFORD H. GREENEWALT, president,
E. I. du Pont de Nemours & Company

The word "executive" suffers much through loose and rather indefinite application. Unlike physicians or engineers or lawyers, executives require no official certification of capacity, and I doubt that there is any field of activity referred to so often and understood so little.

In the hope of enlightenment, I have turned to a number of eminent and very heavy dictionaries only to conclude that no definition was good and some were very bad indeed. All seemed inclined to dismiss the subject with rather vague references to the executive phase of government, or by saying that an executive is any person doing executive work. Of business executives as such there was scarcely a word.

The census is even less enlightening for it does not even attempt a suitable classification, although there is one which the bureau calls "managers, officials and proprietors." In this category they list about six million persons as "gainfully employed" and refer somewhat sadly to an additional one hundred thousand who are looking for work.

Confusion may arise in part from the fact that few people start out in life with the idea of becoming an executive. Most of us, I think, begin our careers in some specialized field, perhaps science or finance or law, and as young men, our hopes and aspirations are bound up in the pursuit of that chosen vocation. Executive responsibility comes later in life, almost wholly as a result of the office seeking the man, and often as a complete surprise. That is as it should be, for while there are always volunteers for better jobs, the raised hand is rarely a satisfactory guide.

CAREER PREFERENCES

In that connection I might mention a poll conducted by the Psychology department of a Southern university in which an attempt was made to discover career preferences among undergraduates. Medicine and the law turned out to be numbers one and two, while other choices ranged through the professions and on into glamour jobs in the arts and the theater.

Such results are typical, and reflect only the fact that the development and appraisal of executive talent cannot be done in our colleges, but must await experience in the practical realm of business operation. Our bright young men will start as chemists, salesmen and accountants and it is up to us — the present generation of executives — to identify the capacities and the potential performance that will permit intelligent selection of our successors.

RECOGNITION OF ABILITY

I would certainly regard that as my own first responsibility and in many ways my most difficult assignment.

What makes a good executive good? I confess that I find that a most difficult question and, with all due respect, I doubt that any of you would find it easier. In other fields of endeavor talent can be recognized readily and quickly.

We have only to listen to a pianist, examine the work of an artist, or observe an actress on the stage to determine whether or not they are good. In other fields there are recognized standards to aid judgment. A lawyer must have passed a bar examination, a surgeon can refer you to his diploma from the American College, a ball player can point to his batting average.

Among executives we can only recognize competence after long periods of observation and even then there are sometimes large differences of opinion. How much more difficult it is to appraise potential in advance. In this area I am sure we have all made bad guesses, even with candidates who appear highly promising.

APPRAISAL OF INTANGIBLES

It seems to me that the attributes that make a successful executive are found more than anywhere else in the intangibles. A job analysis, useful enough in other areas, falls down completely in appraising executive potential. I remember with some embarrassment a visit paid me by a young lady who was preparing a college thesis on management duties. The first thing she asked me was what I did all day. That was certainly a fair question but I am afraid in her estimation my answer put me at the bottom of the class. The more I thought about it the more I was impressed by the fact that in the executive area there is no fixed procedure, no precise pattern, no yardstick of performance that can be counted and measured.

What did I do in any given day? An electrician or a painter could have given a ready answer but certainly I could not. I am afraid that did not increase the stature of executives in the mind of my young visitor. Perhaps many of you could do better than I, but I am inclined to doubt it. The difficulty of description merely emphasizes the imponderables that make up the executive's daily chores.

LEADERSHIP

Some say that the essential quality is leadership. I have no doubt that that is, in fact, an important executive attribute. But here again we betray the limitations of our vocabulary. While leadership is important, I am not at all sure that it is more than a small fraction of the answer. An articulate clergyman, for example, may be an able leader of ethical thought, or a soldier may exercise great leadership entirely through courage and personal example. Neither of them need necessarily have executive talent.

JUDGMENT AND VISION

Judgment is important. Vision is probably essential. And we could exhaust our list of virtues without reaching the core of the problem. I have known men with leadership, with judgment, with vision, who were not in any sense of the word good executives.

The best that I can offer is to say that the basic requirement of executive capacity is the ability to create a harmonious whole out of what the academic world calls dissimilar disciplines. This is a fancy way of saying that an executive is good when he can make a smoothly functioning team out of people with the many different skills required in the operation of a modern business. His most important function is to reconcile, to coordinate, to compromise and to appraise the various viewpoints and talents under his direction to the end that each individual contributes his full measure to the business at hand.

THE EXECUTIVE'S JOB

Perhaps the best analogy to an executive's job is that of the symphony conductor under whose hand one hundred or so highly specialized and very different talents become a single effort of great effectiveness. No conductor can play every musical instrument and no

control can be achieved by a method adapted to service departments of all sizes. First a stock card is made up for each item carried, including tubes. The card includes columns for posting additions to stock, usage and balance on hand — to serve as a perpetual inventory.

Each service technician should carry a kit of parts used in day-to-day service activities. The kit should be kept up to date by replacement of tubes and parts used on the job at the end of each day. Old defective parts should be turned in to the stock room for the new ones issued. A stock room receipt should be used for temporary-check-outs, where the serviceman needs a certain part which is not included in his normal kit.

COST REDUCTION

The original installation of a new customer's antenna can be a costly operation. In a recent survey conducted in Indianapolis, it was found that 60 per cent of TV customers purchased an outdoor antenna for $30.00. It has been a common practice for TV Service organizations to employ two men, working as a team, to install TV antennas.

This may be necessary in fringe areas where the use of elaborate towers, extra high masts and double-stacked arrays are necessary. However, in the majority of television markets, the use of two-man teams is obsolete. One man with the proper tools and installation materials can do this job, thus reducing the labor cost. Of course, the installer should use an antenna rotator and a control box for proper orientation. And while he is using the rotator is an excellent time to show the customer the benefits of the device in areas where it is needed.

PREVENTIVE MAINTENANCE

There are three basic actions which will serve to reduce the cost of truck operation. The first is preventive maintenance. Check your trucks periodically so that inexpensive preventive repairs can be made, rather than waiting until a major mechanical breakdown occurs. Remember that the appearance of your trucks is tremendously important from a customer relations and advertising standpoint. Trucks should be clean inside and out and free from unsightly dents and scratches.

SCHEDULING CALLS

Another item is the effective scheduling of service calls to reduce, as far as possible, the mileage expenses of gasoline, oil, tires and normal depreciation from use.

SAFETY PROGRAM

Another thing is an active safety program such as has been outlined by a number of insurance companies. This will help reduce accidents which cause costly repairs and the temporary reduc-

(*Continued on page 18*)

Service Management NEWS BRIEFS

AEROVOX CORPORATION has acquired the Cinema Engineering Co. of Burbank, California . . . **ALMO RADIO** of Philadelphia has been appointed distributor for Simpson Electric Co. . . . **AMPLITRONIX, INC.,** is the name of a new organization for the development and manufacture of electronic equipment at 280 Ninth Ave., New York 1, N. Y. . . . **ANACONDA WIRE & CABLE CO.** has announced a new all-weather, all-channel transmission line that is said to eliminate internal moisture condensation (see cut) . . . **NEAL BEAR CORPORATION** has been appointed Ohio representative for Littelfuse, Inc. . . . **BRANCH MANUFACTURING CORP.** has announced a new two and four set coupler display card . . . **CBS-HYTRON** division of the

Anacondamen Test Cables.

Columbia Broadcasting System, has announced the purchase of a 42,000 square foot plant at Lowell, Mass., for production of transistors and germanium diodes . . . **CORNELL-DUBILIER ELECTRIC CORPORATION** reports that sales for the first half of the current fiscal year totalled $22,732,000 — up 24 percent . . . **EAGLE DISTRIBUTORS, INC.,** of Denver has been named distributor for Olympic Radio & Television, Inc. . . . **ECTRO, INC.,** of Delaware, O. has announced a new, completely portable tape recorder that is adequate for recording 20,000 words — called the "Cub Corder" (see cut) . . . **GENERAL ELECTRIC** will increase summer production of aluminized television picture tubes in its new Buffalo, N. Y. tube works; has announced that it expects to ship nearly half a million dollars worth of equipment for Puerto Rico's first television station, WKAQ-TV, Channel 2; has announced cash awards totaling $7,125 as prizes in a sales contest sponsored by its tube department . . . **HEALD SUPPLY CO.,** of Billings, Montana, has been appointed distributor for RCA and RCA Victory products . . . **J. B. DISTRIBUTING CO.** of Omaha, has been named

Mrs. Kitsmiller & Leonine friends.

distributor for the Simpson Electric Co. . . . **KLIPSCH & ASSOCIATES** have joined forces with G & H Wood Products to mass-produce Klipsch-designed speaker enclosures . . . **LION MANUFACTURING CORP.** has announced a "breath controlled" device to change TV stations and control volume; has installed it in the home of Mrs. Mary Kitsmiller, a polio victim in Park Ridge, Ill. (see cut) . . . **P. R. MALLORY & CO., INC.,** has announced three new Rectopower Bench Power supply units for testing, servicing and demonstration of electronic equipment

On the Cub Corder Record.

. . . **MANNFRED ELECTRONICS** of New York City have initiated an engineering program for dealers in new TV areas where there are no local distributors . . . **MID-AMERICAN AUTO PARTS, INC.,** of Peoria, Ill., has been

(*Continued on page 18*)

TV SERVICE BUSINESS PLANNING

Training of technicians, customer relations and control of costs are important factors of successful TV Service operations.

By D. R. CREATO, vice president
RCA Service Company, Inc.

A technician who has shown possibilities which justify additional training should be given special attention to improve his productivity. If he is slow in analyzing receiver troubles, but is expert in keeping customers satisfied, a week or ten days on the service bench, under the guidance of a good benchman, may give the training he needs. On the other hand, a man might be an excellent technician, but not a good diplomat — he would benefit by a week of "behind the counter" experience.

Owners and managers who started their careers as technicians realize that it is practically impossible for any one technician to be an expert in servicing all makes of TV sets. If a service organization establishes a policy of servicing all makes of sets, it must be prepared to accept the responsibility of training its technical personnel in the basic "know how" governing the proper operation and maintenance of these receivers — and recognize the fact that labor will be high on those brands not serviced daily by the technicians.

CUSTOMER RELATIONS

Volumes could be written on the subject of customer relations. But let's discuss a few basic factors which definitely improve customer relations and directly affect the profit picture.

The TV Serviceman is, in many cases, the only direct personal contact the customer has with the dealer after a purchase has been made. In most cases, this contact takes place when the customer is having trouble with the receiver. He is dissatisfied, whether there is no real cause for complaint or whether there is a real fault in the instrument.

It is important, therefore, that the TV Serviceman not only repair the instrument, but also engender satisfaction and confidence in the customer's mind. One of the best ways to establish satisfaction and confidence is to render personal service. Personal service may well begin at the time the service call is just received at the office.

At this time, the customer should not be given the impression that he is one of many customers calling for service, and that he must patiently wait his turn. He should be received courteously and even sympathetically. This personal treatment, along with a mutually satisfactory servicing appointment will, in almost every case, leave the customer with the impression that his case is being given special handling.

Once the customer is in the right frame of mind, the TV Serviceman is in a position to sell the customer and keep him sold on his service. It is important that every member of the organization fully understand the basic confidence that is quickly translated into good profits.

SOME DO's AND DON'T's

Here are some "do's and don't's" which, if observed by the technician in his relations with customers, should contribute toward building good will and future business.

DO's

1. Always be neat and clean shaven.
2. Introduce yourself by name. Explain your visit.
3. Enter only after being invited. Be sure someone remains in the house with you.
4. Be courteous and friendly — but don't overdo it.
5. Be a good listener — let the customer blow off steam.
6. Answer all questions courteously.
7. Be diplomatic in correcting customer's misunderstandings.
8. Obtain permission before using customer's phone.
9. Prove all repairs by actual demonstration, in presence of customer.
10. Clean up set and any debris before leaving.
11. Politely refuse any offer of alcoholic beverages.
12. Follow through on any necessary rescheduled work.

DON'T's

1. Never argue with a customer.
2. Don't speak disparagingly of the last service job.
3. Don't be a bull in a china shop. Be careful of customer's property.
4. Avoid arguments or technical discussion with helper, in presence of customer.
5. Leave no doubts regarding performance after repair.
6. Don't *knock* competitors.
7. Don't tackle a job beyond your capabilities. Call the shop for advice first.
8. Don't make wild promises to save face.
9. Don't be a self-styled expert — keep explanations simple, to the point.
10. Don't accept tips or other gratuities.

SERVICE SELLING AIDS

Additional aids in building customer good will are "Not-at-Home" cards and service tags. The card asks the customer to call the TV Service shop for a new appointment reducing the necessity for additional follow-up 'phone calls, although this should be done if the customer does not call within a reasonable length of time.

Use of the service tag is explained to the customer and then it is attached to the TV set. The five simple checks which customer is asked to make before placing a service call will prevent the majority of nuisance calls, will build good will and reduce operational costs.

TEST EQUIPMENT AND PARTS

I would like to mention the importance of having proper test equipment in the shop. No matter how good the technician is, he cannot function effectively if he must use guesswork or outmoded and unreliable equipment.

The importance of an adequate supply of replacement parts is obvious. The technician cannot do his best work at the bench or in the field unless he has the necessary tools, parts, tubes, schematics and service notes.

Another essential of efficient operation is the proper control of stock. This

Editorial

"OUR OPINION"

THE subject of adequate charges for labor is of universal interest to men in the TV Service business. Some association leaders take the illogical position that set manufacturers should assume the responsibility, and cost, of selling TV Service labor costs to the public.

Now and then, however, we find a TV Service operator who has reached the conclusion that the development of an independent service business is a distinctly personal enterprise. We recently received that kind of an expression from a TV Technician in Sidney, Ohio. Mr. H. K. Miller has recorded his feelings so well that we feel his conclusions will be of interest to our readers. Mr. Miller wrote:

". . . I am constantly facing the problem of equitable charges for TV Service. I perform this work in my own shop on what might be considered a wholesale basis. Most of the work is on sets that have been sold by the store and may or may not be in warranty. Tubes used are replaced by the store.

Therefore, it is up to me to secure a fair remuneration based on labor alone. I find that if a straight hourly rate is charged, on some jobs, the final bill is one which may shock the owner.

However, I have decided that any shock the owner may receive is not my worry as long as my bill is fair and can be substantiated.

It is an outstanding rib that the plumber is a high-priced laborer, and one to be avoided if possible; however, plumbers continue to exist and prosper. Therefore it is my opinion that every technician should charge a fair hourly rate from start to finish, irrespective of how much his parts bill is, and let the chips fall where they may.

. . . If the work is done satisfactorily, there may be some remarks about the charges, but there will be a satisfied customer. If the public is unwilling to support technicians in their community with a decent remuneration for their services, then I say the public must expect slipshod work."

We have been pounding away on the subject of TV Service organizations getting adequate charges for their labor for a long time. The original SERVICE MANAGEMENT chart of suggested charges for TV labor was published more than a year ago. Since then we have made it available in wall-chart form, and more recently, in flyer-form which makes it suitable for use as a consumer mailing piece.

Our surveys have shown that TV set owners complain about high service charges largely because they do not know what they should expect to pay for service performed by skilled, competent technicians. When a set owner reads about "service gyps" — he is apt to assume that he is being gypped, regardless of the size of the bill.

One phase of the *public relations* job that needs to be done in the interest of independent TV Service, is to acquaint the set owning public with what they must expect to pay for TV maintenance — if they want dependable, reliable service and top performance from their sets.

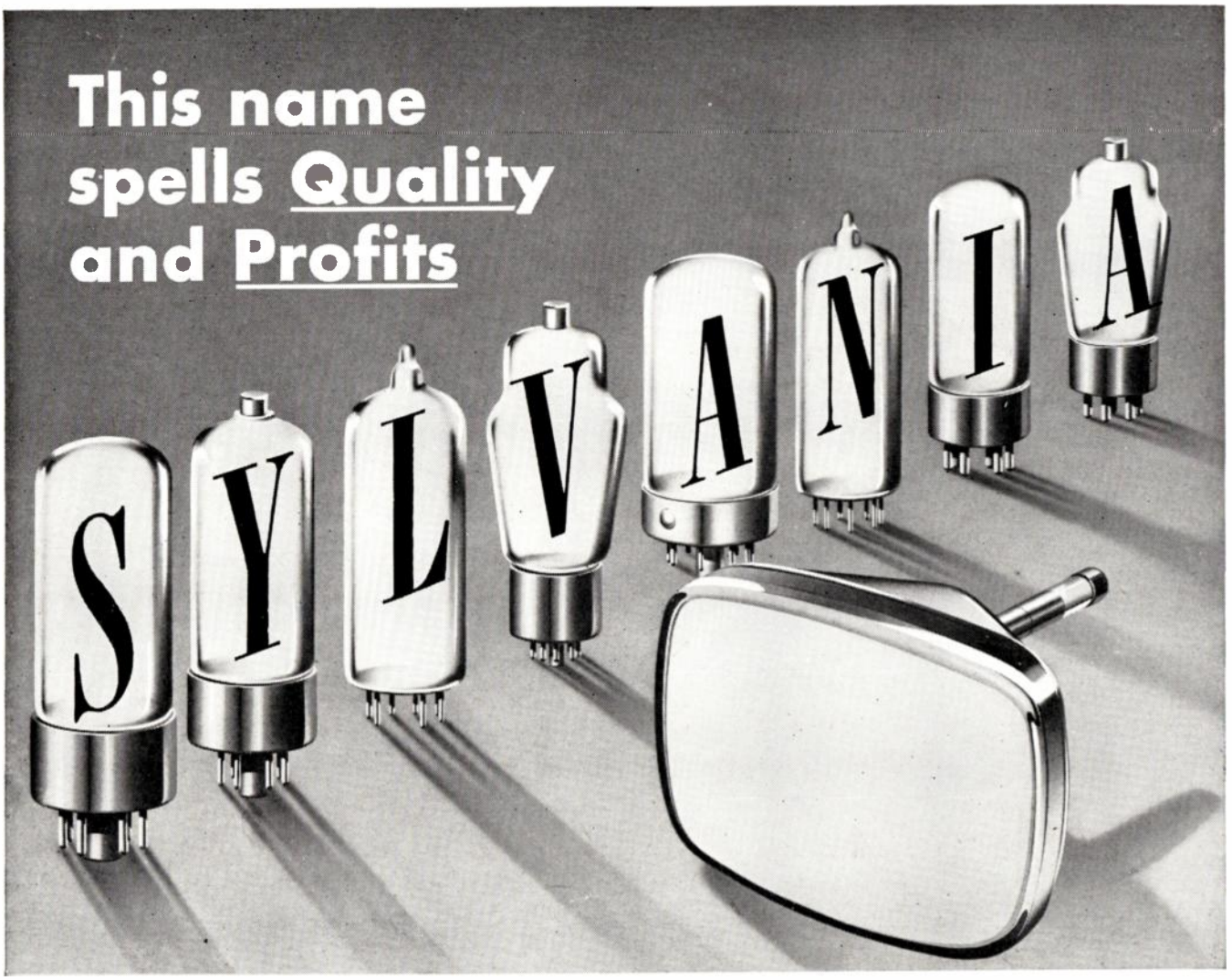
Independent service business men do not like the idea of national TV Service provided by set manufacturers. They feel that they can perform the service function as well or better than manufacturers. They feel that by leaving TV Service in the hands of independent service businesses, manufacturers keep open the door of opportunity for qualified men to establish and operate businesses of their own.

To assist TV Servicemen in acquainting TV set owners with fair prices for competent work, reprints of the *Standard Labor Charges* for service and repairs, which appeared in the May issue of SERVICE MANAGEMENT are now available.

For TV Service organizations that prefer to make up their own mailing pieces, mats of the labor charges schedule have been prepared. The mat is for your printer, for reproduction of the 8½" x 11" price schedule. TV Service organizations using the mat can prepare their own copy for the reverse side.

The reprints of the Standard Labor Charges chart are priced at $3.00 per hundred. Mats of the chart are $2.00 each. They may be obtained from your local Parts Distributor or by writing to: TTLB Information Services, P. O. Box 1321, Indianapolis 6, Indiana.

PHW



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Letters to the Editor

STANDARD TV LABOR CHART

I have received the April issue of SERVICE MANAGEMENT magazine and have read it from cover to cover . . . I think the magazine is terrific. . . . I would still like to get my Standard TV Labor Price schedule . . . I will be looking forward to this schedule with much interest.

Ray Budisch
West Allis, Wis.

BUSINESS CONTROL

Received the May issue of SERVICE MANAGEMENT and as usual have found interesting and enlightening articles.

In the article entitled "Report on Business Control" by Lawrence Kanover we noticed his mention of our company.

As this article coincides with our present advertising campaign, we have need of fifty copies of the May 1953 issue, complete.

Please rush this order. . . .

Eddie Klein
Diamond Television
Service, Inc.
Detroit, Mich.

ASSOCIATION NEWS

I have been reading your articles on association news and would like to make a suggestion.

I believe you should give the names and addresses of the different organizations so that interested parties could correspond.

I would appreciate the name and address of the NARDA group you write about.

Thaddeus Gryguc
Ted's TV Service
New Britain, Conn.

Thanks for the terrific publicity you gave NARDA in the May issue of SERVICE MANAGEMENT.

We love it!

Mr. Bernsohn was as pleased as I when he showed it to me . . . and I'm sure he would have written you himself, but he had to leave town for a meeting.

Irene Brown
NARDA
Chicago, Ill.

Letters should be addressed to Readers Report Editor, SERVICE MANAGEMENT, 501 Fifth Avenue, New York 17, N. Y.

Service Management

PAUL H. WENDEL, *Editor and Publisher*

VOLUME 2, NUMBER 10 **JULY, 1953**

COVER PICTURE

TV Service Business Control

The Markem Service System enables AAA Television Maintenance Co., Inc., of Brooklyn, N. Y., to reduce office overhead and increase organizational efficiency.

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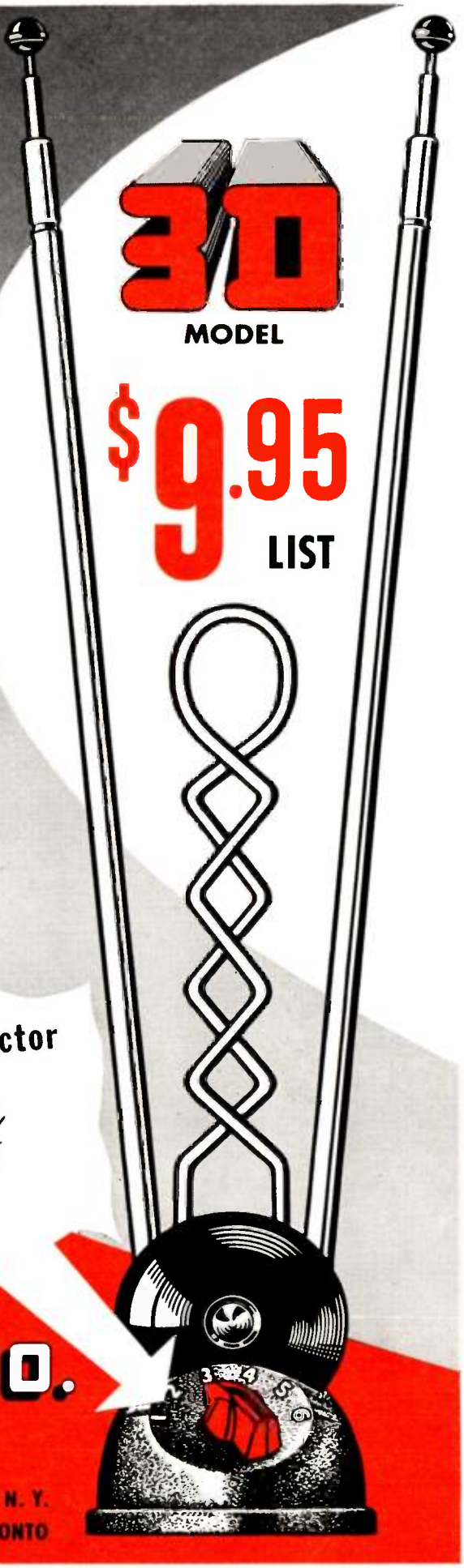

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