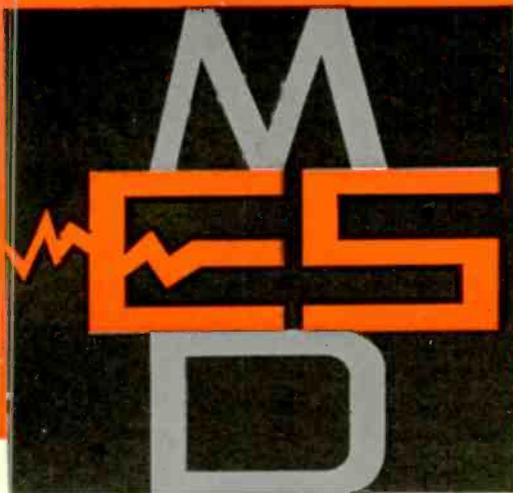


MODERN

1963 "WSBP"  
Award Winner



# electronic service dealer

THE OFFICIAL PUBLICATION OF THE CALIFORNIA STATE ELECTRONICS ASSOCIATION

VOL. 3, NO. 11

MARCH, 1964



Governor Edmund G. Brown is shown here with the new Bureau of Electronic Repair Dealers Registration staff members, Advisory Board members and State officials. Left to right are: Jim Margetts, Assistant Chief; Helen Nelson, Head of the State's Consumer Council; Dan Weston, Chief of the Bureau; Keith Anderson, Board Member; Capp Loughboro, Board Member; Mrs. Rubin E. Jimenez, Board Member; Butch Powers, Head of the State's Division of Business and Professional Standards; Miles Rubin, Board Member and Tom Schneider, Chairman of the Advisory Board. Story of first Los Angeles meeting on page 9.



# JFD

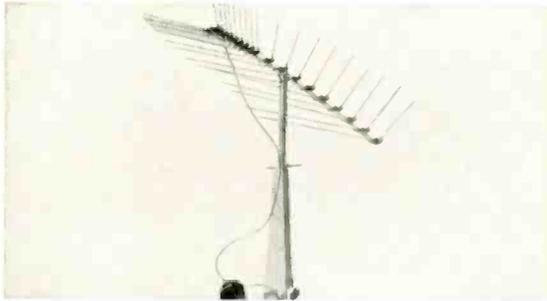
# ANTENNA RESEARCH ALL-NEW UHF

## FOR UNEQUALLED **COLOR** BLACK AND WHITE

from the JFD Antenna Research and  
the first UHF antenna design based on the

The JFD Log-Periodic LPV concept is the most important antenna discovery since the invention of the Yagi. Introduced on October 22, 1962, it quickly obsoleted all other VHF antennas to become today's most widely used and acclaimed broadband configuration.

Now JFD moves the state of the art another step ahead with a powerful new UHF version of the Log-Periodic LPV.



### For Deep Fringe Areas (up to 80 miles)

Overall dimensions: 65" x 31" Weight: 8 lbs. approx.

**Model LPV-U21      21 Active Cells      \$27.95 List**

**OUTPERFORMS 12-BAY BOWTIE-REFLECTOR...**

**IN GAIN!**

**UHF**—14 to 15 db (to 830 mc) 11 db at 890 mc.

**VHF**—Ch. 7 to 13—4 to 6 db.

*Special stacking transformers available for +3 db UHF gain and +1½ db Ch. 7-13 gain.*

**IN DIRECTIVITY!**

**"E"** HORIZONTAL PLANE PATTERN: 26° Average Beamwidth.

**"H"** Vertical Plane PATTERN: 40° Average Beamwidth.

**IN VSWR:** Under 2:1 to 770 Mc, rising gradually to under 2.8:1 in translator band.

**IN FRONT-TO-BACK RATIOS!** UHF up to 26 db, VHF up to 30 db.

**300 OHM NOMINAL IMPEDANCE.**

### For Fringe Areas (up to 60 miles)

Overall dimensions: 40" x 31" Weight: 6 lbs. approx.

**Model LPV-U15      15 Active Cells      \$18.95 List**

**MORE EFFECTIVE GAIN THAN 8-BAY GRID SCREEN BOWTIE!**

**UHF**—12 to 13 db (to 830 mc) 10 db at 890 mc.

**VHF**—Ch. 7 to 13—4 to 5 db.

*Special stacking transformers available for +3 db UHF gain and +1½ db Ch. 7-13 gain.*

**SHARPER DIRECTIVITY THAN 8-BAY BOWTIE!**

**"E"** (Horizontal) PLANE PATTERN: 27° Average Beamwidth.

**"H"** (Vertical) PLANE PATTERN: 60° Average Beamwidth.

**VSWR:** Under 2.1 to 770 mc rising gradually to under 2.8:1 in translator band.

**TOPS 8-BAY BOWTIE IN FRONT-TO-BACK RATIOS!**

UHF up to 28 db, VHF up to 25 db.

**300 OHM NOMINAL IMPEDANCE.**

### For Local-Suburban Areas (up to 40 miles)

Overall dimensions: 26" x 30" Weight: 5 lbs. approx.

**Model LPV-U9      9 Active Cells      \$12.50 List**

**MORE EFFECTIVE GAIN THAN 4-BAY GRID SCREEN BOWTIE-REFLECTOR!**

**UHF**—10 to 12 db, **VHF** Ch. 7 to 13—2 to 4 db.

*Special stacking transformers available for +3 db UHF gain and +1½ db Ch. 7-13 gain.*

**BETTER DIRECTIVITY THAN 4-BAY BOWTIE-REFLECTOR!**

**"E"** (Horizontal) PLANE PATTERN: 28° Average Beamwidth.

**"H"** (Vertical) PLANE PATTERN: 85° Average Beamwidth.

**VSWR:** Under 2:1 across UHF band.

**BETTER FRONT-TO-BACK RATIOS THAN 4-BAY BOWTIE-REFLECTORS!**

UHF up to 31 db, VHF up to 12 db.

**300 OHM NOMINAL IMPEDANCE.**

### For Local-Suburban Areas (up to 25 miles)

Overall dimensions: 15" x 30" Weight: 4 lbs. approx.

**Model LPV-U5      5 Active Cells      \$6.95 List**

**MORE EFFECTIVE GAIN THAN CORNER REFLECTOR!**

**UHF**—9 to 10 db.

**VHF**—Ch. 7 to 13 2 to 4 db.

*Special stacking transformers available for +3 db UHF gain and +1½ db Ch. 7-13 gain.*

**NARROWER DIRECTIVITY THAN CORNER REFLECTOR!**

**"E"** (Horizontal) PLANE PATTERN: 29° Average Beamwidth.

**"H"** (Vertical) PLANE PATTERN: 110° Average Beamwidth.

**VSWR:** Under 2:1 across UHF band.

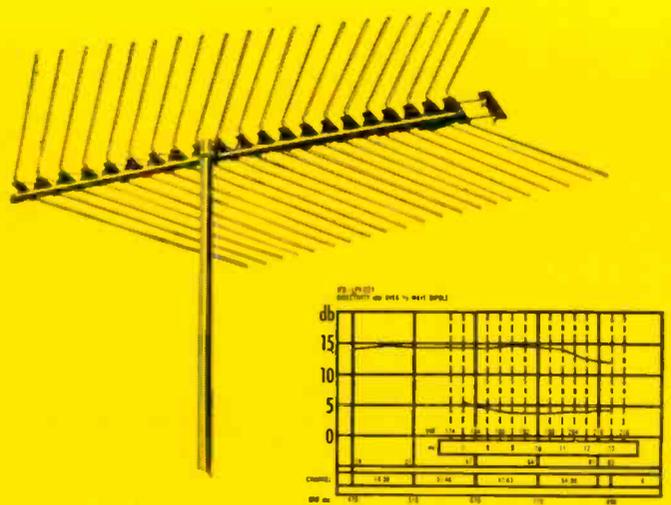
**FRONT-TO-BACK RATIO SUPERIOR TO CORNER REFLECTORS!**

UHF up to 28 db.

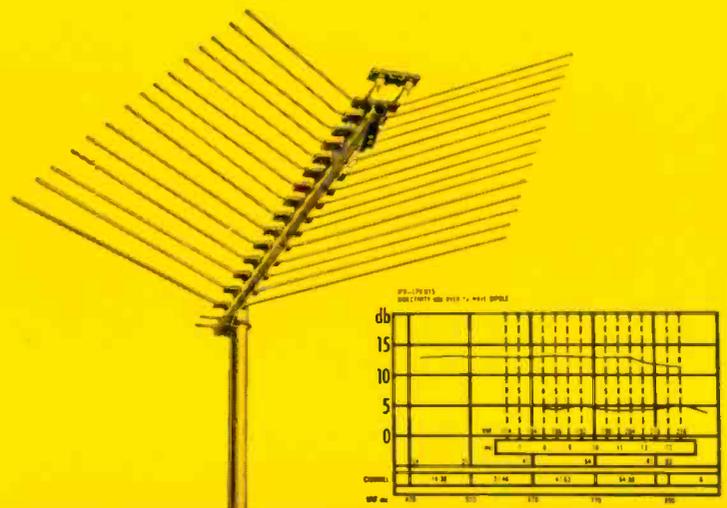
VHF up to 10 db.

**300 OHM NOMINAL IMPEDANCE.**

### Model LPV-U21 For Deep Fringe Areas (up to 80 miles)



### Model LPV-U15 For Fringe Areas (up to 60 miles)



LICENSED UNDER ONE OR MORE OF U.S. PATENTS 2,958,081; 2,985,879; 3,011,168; 3,108,280 AND ADDITIONAL PATENTS PENDING IN U. S. A. AND CANADA. PRODUCED BY JFD ELECTRONICS CORPORATION UNDER EXCLUSIVE LICENSE FROM THE UNIVERSITY OF ILLINOIS FOUNDATION.

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# MOVES YOU AHEAD WITH THE $\frac{L_{(n+1)}}{L_n} = \tau$ LOG-PERIODIC LPV-U®

TV ON CHANNELS 14 TO 83—PLUS 7 TO 13 VHF HIGH BAND PERFORMANCE!

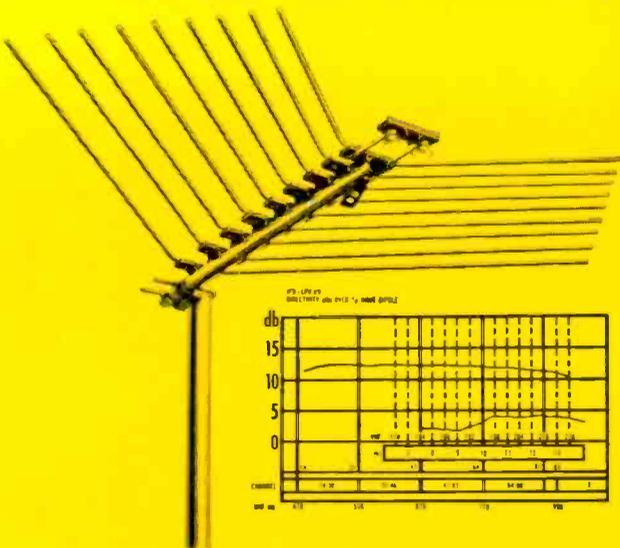
Development Laboratories of Champaign, Illinois . . .

Log-Periodic LPV formula of the Antenna Research Laboratories of the University of Illinois!

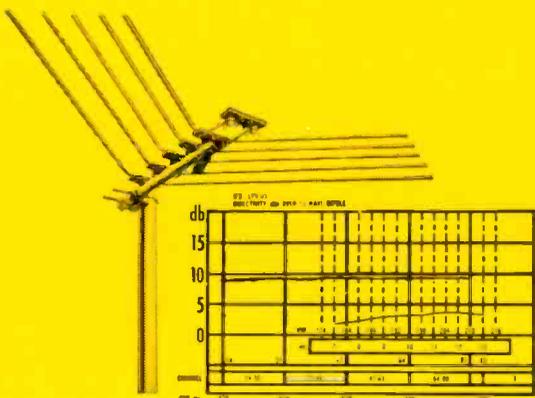
Formulated according to the patented geometrically derived logarithmic-periodic scale of the Antenna Research Laboratories of the University of Illinois, JFD UHF Log-Periodics give you a custom-antenna answer for any UHF reception problem. Four different models cover every location need . . . from the city to the fringes. Each is deluxe-constructed of Gold Bond Alodized aluminum in the same quality tradition of their famed VHF counterpart—the original LPV. Each delivers the same excellent values of gain, directivity, VSWR and impedance which are characteristic of JFD Log-Periodic performance.



**Model LPV-U9 For Local-Suburban Areas (up to 40 miles)**



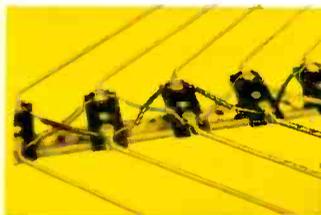
**Model LPV-U5 For Local-Suburban Areas (up to 25 miles)**



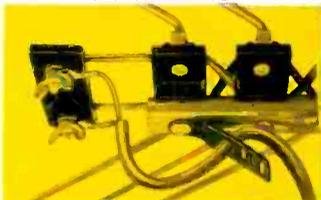
**EXCLUSIVE FREQUENCY INDEPENDENT STACKING FOR +3 db UHF GAIN AND +1½ db. ch. 7 to 13 GAIN**  
Frequency independent Log-Periodic stacking provides the LPV-U's excellent impedance match and maintains constant gain and uniform operation.  
No. J187 Stacking Transformer \$3.00 List



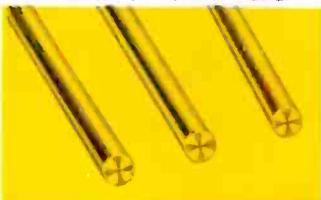
**EXCLUSIVE DUO-ORIENTING STACKING — ELIMINATES NEED FOR ROTORS**  
Any two LPV-U's (same or different) can be oriented in different directions, when mounted together with special J185 special stacking transformer without a rotor.  
No. J185 Duo-Orienting Stacking Transformer \$2.50, List



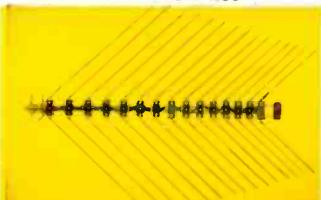
**SOLID ALUMINUM ALTERNATING FEEDER HARNESS**



**STAINLESS STEEL TAKE-OFF TERMINALS & STRAIN RELIEF**



**GOLD ALODIZED SOLID ALUMINUM ROD**

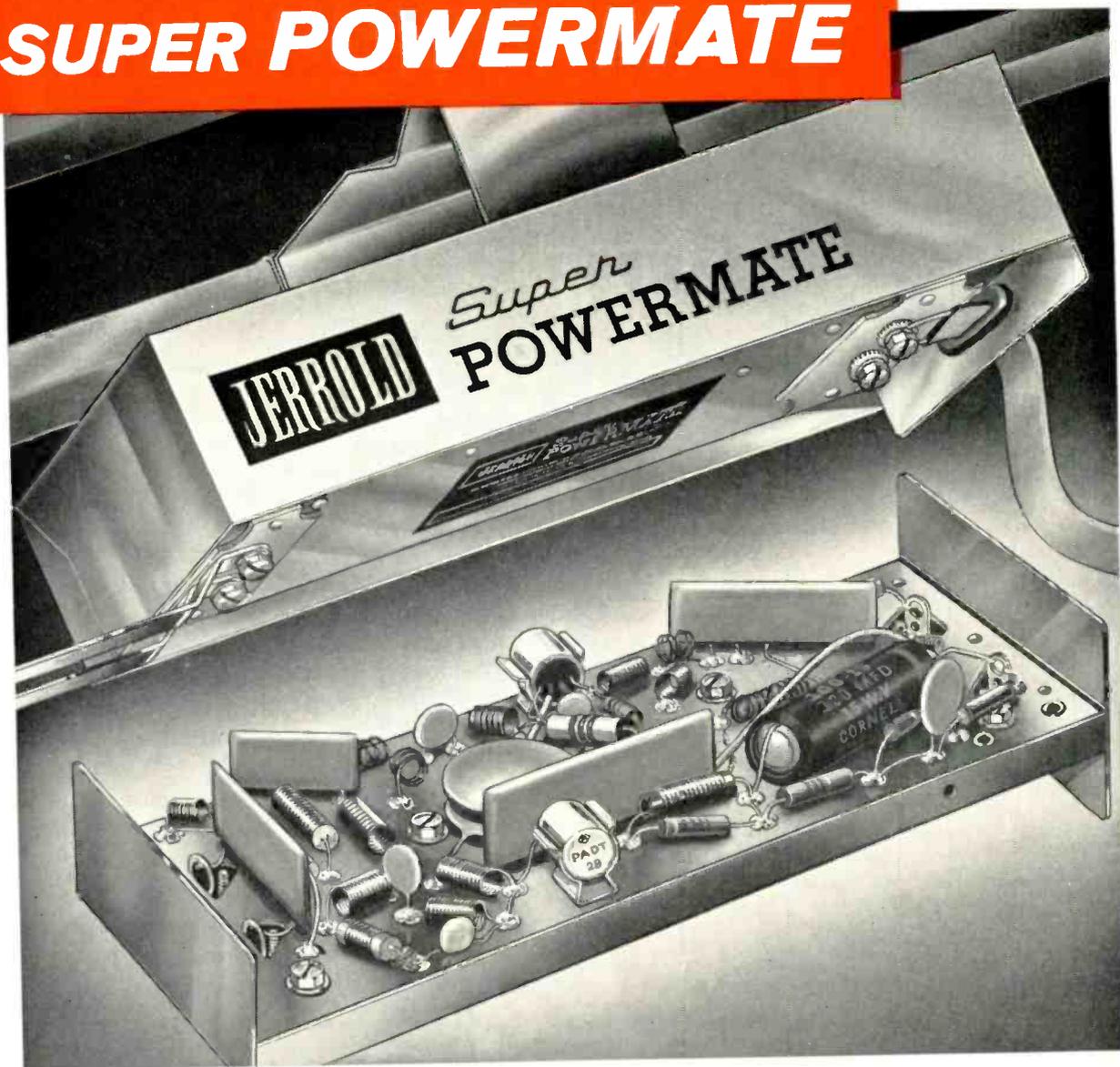


**MINIMUM WIND AND ICE LOADING AREA**

- 30% to 50% more effective gain and directivity than corner reflectors and grid screen bowtie-reflectors.
- Excellent front-to-back ratios and 300 ohm impedance match maintain exceptionally flat response across entire UHF band.
- Also deliver superior reception on VHF Channels 7 to 13—an exclusive JFD feature.
- Pinpoint horizontal beam sharpness seeks out desired UHF channels — shuts out ghosts and interference.
- Elements made of indestructible gold alodized solid aluminum rod that knows no climate, stays like new.
- Factory-preassembled — not a single screw to tighten—just unpack and mount on mast in seconds.
- Rigidized one-piece construction — all parts are fixed in position.
- Bantam-sized inline design offers least wind and ice loading area.
- Can be stacked for additional +3 db UHF and +1½ db Channels 7 to 13 gain where needed.

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# NEW TWIN-TRANSISTOR SUPER POWERMATE

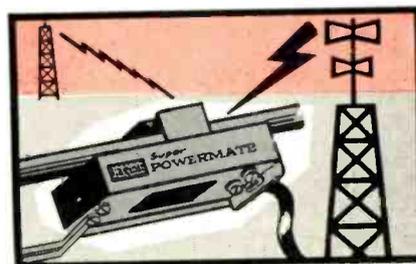


## BREAKS THE GAIN/OVERLOAD BARRIER

Servicemen and the public long wanted it, but were told they couldn't have it—a transistorized TV antenna preamplifier with the overload capacity to handle local signals without sacrificing the gain that brings in distant stations.

But Jerrold did what couldn't be done. With the new twin-transistor SUPER POWERMATE, you have, for the first time, a transistor preamplifier with the high gain and low noise figure that made the original Jerrold Powermate famous—plus an unprecedented overload capability for local-signal situations. SUPER POWERMATE offers a gain range from 15.5db with 700,000 $\mu$ v max. output at Channel 2, to 11.3db with 200,000 $\mu$ v max. output at Channel 13. There are no tubes or nuvistors to replace. And frequency response is fantastically flat—a boon to color TV.

Sell new SUPER POWERMATE, the all-channel antenna preamplifier with G/O—the industry's best Gain/Overload capability. List \$44.95. See your Jerrold distributor or write Jerrold Electronics, Philadelphia 32, Pa.



GAIN to reach far-distant stations, OVERLOAD capability to prevent local-signal interference.

**SUPER POWERMATE** **G/O**  
HAS  
**GAIN / OVERLOAD**

**JERROLD**  
ELECTRONICS

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TH 5-3536

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Los Angeles  
WE 6-6218

CAPITOL ELECTRONICS SUPPLY  
17724 Van Owen, Reseda  
ST 6-5870

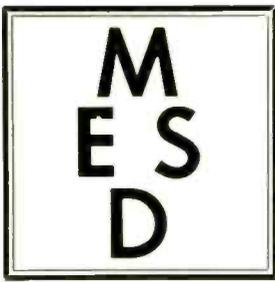
SOUTHLAND ELECTRONIC SUPPLY  
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San Diego, Calif.  
AT 3-3941

COOK ELECTRONICS  
210 E. Hardy St., Inglewood  
OR 8-7644

WHOLESALE ELECTRONIC SUPPLY  
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MI 8-3163

HURLEY ELECTRONICS  
1429 So. Sycamore Ave., Santa Ana  
KI 3-9236

SOUTHLAND ELECTRONICS, INC.  
555 El Cajon Blvd., El Cajon  
HI 2-9638



# MODERN ELECTRONIC SERVICE DEALER

## STAFF:

DONALD J. MARTIN  
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SIMON NATHANSON  
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Executive Director  
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482-0706

Modern Electronic Service Dealer is Published Monthly at 2930 W. Imperial Hwy., Inglewood, Calif. Phone: 755-5261 by Associated Publications. Controlled circulation postage paid at Los Angeles, Calif.

Western Society of Business  
Publications Member



MARCH, 1964  
VOL. 3, NO. 11

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DON MARTIN

### Meeting with New Bureau Chief

A few weeks ago I had the pleasure of meeting the new Chief of The Bureau of Electronic Repair Dealer Registration, Dan Weston, in Sacramento. My object in meeting Dan was to determine the success of the registration procedure and also to learn what questions are being asked by the dealers in regards to the new law.

At the present time he is compiling and outlining a set of policy regulations that will be referred to the Advisory Board for a recommendation. Such things as should Auto Radio Repair shops be registered, the number of sets a dealer must do in a year to require registration, etc. All in all, a great deal of thinking has already gone into this basic information and the outcome should be of great importance to the success of the program.

It is interesting to note that these recommendations will be made in a public meeting of the Advisory Board and the dealers will be able to comment on them as well as the members of the Board. Another important factor is that they must all be heard in a public hearing before they can become an enforceable part of the law.

A real important point is that the new Registration law may be modified to require that all dealers must give an estimate before moving a set from a home. As you know, the Registration Law states that you must give an estimate if the customer requests it but otherwise you do not. However, in Los Angeles County only, an additional law requires that you must give an estimate period. If the Bureau does place this estimate factor in the State wide law, we feel confident, it will benefit the entire industry. Our latest reports from the Los Angeles Bunco Squad is that there has been a 70% decrease in customer complaints since the Lien Law for L.A. County went into effect.

Basically, I believe it is just plain good business to make sure the customer knows exactly what he will be required to pay before the set is taken out for repair. The greatest single complaint has always been that of quoting one price and then the clip boys coming back with a double that figure. The Electronic Repair industry is growing up and there is no place for the clip artist. It is too bad that the Industry couldn't do the job without government, but the effort was made.

### PETS May Become Dealer Show in 1965

There is a good chance that the Pacific Electronic Trade Show will develop into a dealer type show in 1965. The Board of Directors of PETS has "left the door open" for some concentrated effort on behalf of the dealer type distributors and the dealers themselves to come forth and say whether or not they will support such a show. I have always felt that there is a need for a real dealer show, but that PETS itself was a sad case of mistiming. The original show was keyed as a Industrial show and the booths were designed for this type of attendance. However, the dealers showed up in mass and the next year most of the exhibitors were in the dealer field. By then the bloom was off the roses and even the dealer attendance suffered along with the rained out boys.

It PETS is ever to be a success it must be "fish or fowl" and I have high hopes it will be dealer oriented. Let's hear what some of you readers think in regards to a PETS Dealer Show.

### Further Explanation of Registration FEE

The Bureau is still receiving a lot of questions in regards to the Fee structure under the new registration law. As we explained last month, the first \$35 was from September, 1963, to June, 1964, and that another \$35 will be required for the period from June, 1964, to May, 1965, and each year thereafter. Another question has come up that is why there isn't a sliding scale that would be determined by the amount of business done by a shop. The law passed by the State Legislature determined that the Fee will be not less than \$25 or more than \$50. The chief of the Bureau determined the \$35 figure that is being paid at the present time and this was set with the idea of a budget based on 8,000 registered dealers. If there had been a sliding scale it would have been an impossible and costly job to determine how much business was being done by each dealer in order to determine his share under the law. The Bureau feels that this sliding scale approach to registration would "not only be burdensome to the applicant and difficult for the agency, but it is so expensive that substantially greater fees would have to be assessed to cover the added expense incurred by this method."

## FTC ACQUIRES CONSENT ORDER FROM NATESA ON UNFAIR PRACTICES SUIT

A consent order announced by the Federal Trade Commission requires a national association of television repairmen and its members to stop unlawfully suppressing competition.

The organization is *National Alliance of Television and Electronic Service Associations (NATESA)*, 5908 S. Troy St., Chicago, Ill. NATESA operates in most states of the nation and is composed of approximately 100 local or state associations—"Affiliate" members.

The cease and desist order also is binding upon NATESA's "Associate" members, individual servicemen who are either members of a local or state affiliate or residents in areas where there is no affiliate.

One affiliate is named specifically in the agreed-to order, *Television and Electronic Service, Inc. (TESA-GREEN BAY)*, 109 Garfield St., Green Bay, Wis.

Also named are eight individuals, four past or present officials of NATESA and four members of TESA-GREEN BAY. They are cited as representative of the whole membership of the two associations because it would be impractical to name each member.

The FTC's complaint charges that from about August 1, 1959 to date, the named respondents, and others not specifically named, have engaged in a conspiracy to restrain trade. They allegedly used the following unfair methods, which have a dangerous tendency to eliminate part-time servicemen from competing in the repair and service of television, radio or electronic devices and equipment, and to restrict channels of distribution of these products or their component parts:

Refused, threatened refusal, or attempted to obtain the refusal of member and non-member independent servicemen, to purchase from

(1) manufacturers, distributors or wholesalers who have sold or distributed these devices, or equipment and parts directly to consumers or part-time servicemen, and

(2) manufacturers or distributors who have offered warranties or service upon their devices, equipment and parts.

Induced and influenced wholesalers or distributors to refuse to sell parts or equipment to part-time servicemen.

Established and utilized local and state "Affiliate" members, and their officers, directors and members, as instrumentalities in attempting to monopolize trade or

## State Consumer Counsel To Install ACTRA Officers & Directors

Mrs. Helen Ewing Nelson, Consumer Counsel of the State of California, will act as installing officer for ACTRA, the Alameda County Chapter of CSEA. The installation affair, to be a dinner-dance, is scheduled for Saturday evening, March 21st, at Villa Peluso, 5th & Oak Streets, Oakland, with the cocktail hour beginning at 6:30 p.m.

Incidentally Mrs. Nelson was featured by the San Francisco Examiner, issue of Sunday, February 16th, this year... in the section entitled "PEOPLE," her picture on the cover. You might get a copy. In it she quoted: "We have a three-fold purpose: 1. To serve as a message center on frauds; 2. To inform consumers about abuse; 3. To go to the legislature with laws that will outlaw bunco acts—like referral selling, one of the worst."

It is needless to say that she was a strong supporter of the recent registration legislation pertaining to our industry.

The Examiner story also quotes her as saying: "... there is evidence on all sides that the sleeping giant—the consumer—is stirring..."

Mrs. Nelson is very conversant with the problems that beset our TV service industry, and sympathizes with them. We are looking forward to the brief talk she will give during the installation ceremony. Tickets to the affair may be procured through Phil Fisher, 5585 Thomas Ave., Oakland 18, California. Price, including tax, tip and music, \$6.00 per person. Reservations, accompanied by check, must be in by Thursday noon, March 19.

### INSTALLATION DINNER TO BE HELD APRIL 4TH

A combined installation dinner and dance will be held on April 4th for both the Pasadena and Glendale-Burbank chapters of CSEA. The event, to be held at Eaton's Santa Anita Restaurant, 1150 W. Colorado in Arcadia, is under the chairmanship of Bob Kealey and all reservations should be made by calling him at SY 3-8370.

lessen competition in the repair and servicing of television, radio or electronic devices and equipment.

The respondent's agreement to discontinue these activities is for settlement purposes only and does not constitute an admission that they have violated the law.

## Zone "F" Elects New Officers

Bob Whitmore, past State-wide President of CSEA, has just been elected as the new Chairman of the Zone "F" Council. For the past year Whitmore served on the Board of Directors of CSEA and will now leave that post to take over his new duties as a member of the Board of Delegates and chairman of the Zone.

At the same time, Bob Reynolds, of San Bernardino, was named as the new 1st vice president, and Emmett Mefford as the second vice president in charge of the apprenticeship program.

Virgil Gaither, of Eaglerock, is the new Secretary of the group, and Jimmy Scarborough will act as the Zone's Treasurer.

A report from the nominating committee named Capp Loughboro, Ralph Johonnot, Jack Wade and Hugh Wilkins as candidates for the three positions on the State Wide Board of Directors. Election will be held at the next regular meeting of the Zone and nominations will be open from the floor.

## SANTA BARBARA GROUP ELECTS NEW OFFICERS

The Santa Barbara Chapter of CSEA has just announced the election of their new officers.

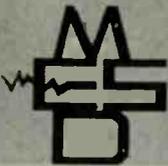
Heading the list is Lloyd Kaun, who was elected President and alternate delegate in the Board of Delegates. Rosco Low was elected as the regular delegate and also as Treasurer. Vern Roberts was named as Vice President of the chapter.

At the last meeting of the group Ralph Cornelius of Bakersfield and a member of the Board of Directors of CSEA made a report to the chapter in regards to the activities of the State-wide Association.

**SRTT HOLD SERIES  
OF TECHNICAL MEETINGS**

The Society of Radio & TV Technicians, Inc. are sponsoring a three part program of technical meetings beginning in February.

The first meeting featured Art Davis, service manager for RCA Distributing Co., and was held at the Skytrails Restaurant, 16435 Sherman Way in Van Nuys.



**MODERN**  
*electronic  
service dealer*

**PRESIDENT'S MESSAGE**



I am becoming more than a little concerned for the future of the independent television service dealer, as we know our profession today. The constant expansion of pay television and

especially cable television with the possibility of captive service for all those television sets connected to such a cable system is alarming. I view this situation as a growing monopoly and unless the independent service dealer takes action to join and strengthen electronic service associations so that it may become the voice of the industry, we as individual servicemen might as well be destined tinkers and hobbyist.

Let it not be said that we sat back and did not take advantage of our position as it exists in industry today. The California State Electronic Association has proven what can be accomplished by strength in numbers when proper planning and action are taken for the good of all concerned.

To further improve the conditions of the Electronic Servicing Industry, the Board of Directors of the California State Electronics Association at its last meeting approved participation of its members in a National Electronic Association (NEA) as individuals or chapters. In so doing we join other state associations in a national effort to upgrade and improve conditions in the Electronic Servicing Industry which may exist nation wide.

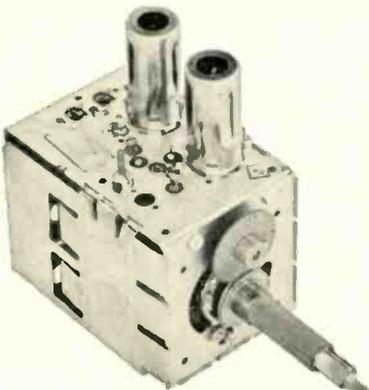
**Dexter Of Marin  
New Zone B Council  
Chairman**

Oakley W. Dexter, of the Marin County chapter of CSEA, was elected chairman of Zone B Council of CSEA, at the latter's February 11th meeting. He takes the place of Melvin R. Haurly, of the Santa Clara County chapter, who resigned upon his appointment to the CSEA board of directors. Dexter will continue to serve as the CSEA delegate for his Marin County chapter.

The Council voted an appreciation of Haurly's two years of service as Zone B Council chairman, particularly in view of the fact that, despite of the 120-mile round trip from Morgan Hill, he didn't miss a meeting. The Council also congratulated CSEA upon his selection as a director.

New chairman Dexter can be reached at Dexter's TV & Radio, 25 Ward St., Larkspur, California. Haurly, at Haurly's TV, 212 South Monterey (P.O. Box 338), Morgan Hill, California.

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# BERD Staff and Advisory Board Meets In Los Angeles

by Don Martin

On February 21 and 22 the new Bureau of Electronic Repair Dealers Registration Advisory Board met, for the first time in Los Angeles, to begin the groundwork for future policy and regulations that will interpret and regulate the Television Service Industry.

In going over the agenda it was interesting to note the different items being discussed. Such things as invoices, warranties, estimate forms, compensation, State Contractor's License, registration enforcement, complaint forms, etc. are just a few of the areas of concentration.

There are many problems involved in the invoice forms themselves and what must be carried on them to fulfill the State's requirements. So far, and if passed, the invoice will have to carry the name, address and phone number of the shop. The address where the set has been taken, if different from the other address. Registration number and the name and address of the customer. A description of the set, make and model number. A statement of total charges and the itemization and description of all parts and charges for labor. If a flat rate it must be so stated or, if on an hourly basis, the total number of hours for the work. There must be a description of all other charges and work performed, specific designation of all parts as new or used. In the case of CRT's the brand and full disclosure of quality under FTC standards must be included. Warranty cards, if available must be given to the customer. The signature of the person that accepts the responsibility for the work and many others.

Some of the questions yet to be answered include the number of sets you can repair in one year without registering your business. Many people fix their own set and possibly a few neighbors

so the Board is reviewing a recommendation that would set a maximum of from 2 to 9 sets before registration is necessary.

Another question is in regards to Auto Radio repair dealers. The Board is considering the possibility of exempting them from the law and not requiring their registration.

These are only a few of the things being considered. After the Board and the Bureau Chief have set the basic regulations they will call for a public hearing, in Sacramento, to hear what comments the dealers might have in regards to these regulations. After the public hearing they will become a part of the law and every dealer will have to comply with these regulations.

Already there has been some comment from the big service organizations stating that the return of used parts will work a hardship and big cost factor on their service operation. In one case, their technicians are required to return the used part to the parts department in exchange for the new one. Under the new law, these must be returned to the customer so this service organization is asking that it be changed. Since it is a basic part of the law itself I am sure there will be no relief from the Bureau.

As soon as a complete file of proposed regulations are made available, MESD will publish them for the Industry. Only through this type of coverage will you be able to know exactly what is going on and what you can do to shape the final set of regulations and standards. We hope that every dealer will read this material and make his wishes known to the Advisory Board and to the Bureau itself. We intend to publish as much information as possible in the months to come, so let us know if you have any questions and we will do our best to learn the answers.

*Our thanks to Mrs. Ruben Jimenez for this short and interesting personal history. In the January issue we carried a resume on the other members of the Board in an effort to provide our readers with personal information regarding the Governor's appointments.*

Mrs. Ruben E. Jimenez

Born and reared in Los Angeles, I was graduated from UCLA and took my Master's at USC. For a few years I worked as secretary to the general manager of a property holding company. Having married in 1910, we have two sons. As they became older my interest has expanded to community problems. I joined the American Association of University Women in 1954 in Manhattan Beach and have held various official positions in the branch and am now a chairman in the State Division. Specifically my title is: Implementation Chairman for the American Family in a Changing World.

Because of the interest of AAUW in consumer education and problems I have worked in this field with Helen Ewing Nelson's office since the office was established. Our 127 branches have studied the problems and bills suggested to and by the Consumer Counsel and, as a member of the AAUW state committee in the area of social and economic problems for six years, my interest and enthusiasm have been stimulated.

As one of the public members of the Advisory Board to the Bureau of Electronic Repair Dealer Registration my role is that of the householder with knowledge of the legislation establishing this bureau: one who may represent the consumer with, I hope, common sense and no prejudices. I am aware that there have been many complaints because of electronic repair frauds and, in conjunction with the reputable members of the industry, the Bureau and the Board hope to make it nearly impossible for frauds to continue.

## THIRD PALM SPRINGS CONFAB RECEIVES SUCCESS LABEL

"The third manufacturer/distributor/representative conference walked off with the league pennant," said Mark Markman, Conference Chairman, following conclusion of the successful three-day event. "It's a case of three hits, three runs, no strike outs."

28 member companies of the Distributor Division of the Southern California Chapter of the Electronic Representatives Association (ERA) played host to 63 manufacturers and 45 distributors at

the Palm Springs Riviera Hotel, February 6-9, 1964.

Total attendance exceeded 400 people. Distributors and manufacturers actively participated in 39 pre-arranged morning

conference periods at the hotel's new convention hall. The sunny afternoons were used for informal meetings and a ride on the new aerial tramway as well as a high-spirited golf tournament. The evenings were the social highlights of the conference, consisting of a Get-Acquainted Evening and Western Night on Thursday, dinner and entertainment at the Chi Chi Club on Friday and a Hawaiian Luau on Saturday.

At the final luncheon on Sunday, immediately after the business sessions, a Grand Prize drawing was held in which

styled to blend with any tv set



the participating distributors were eligible to win a Chevrolet Chevelle convertible, Packard-Bell color TV set, four Polaroid land cameras and a case of champagne.

Andrew Futchik, Andrews Electronics, won second prize—a color Television—during the recent Palm Spring ERA Conference. Shown with Andy is Mark Markman, Conference Chairman.

Grand prize winner, Phil and Mrs. Kay, are shown here receiving the key to their new Chevrolet Chevelle from Mark Markman, Conference Chairman. Bert Moore, Facilities Chairman, looks on approvingly.



# Winegard uhf converters

## 6 HIGH PERFORMANCE UHF CONVERTERS REGULAR AND AMPLIFIED WITH BUILT-IN UHF AND VHF ANTENNAS

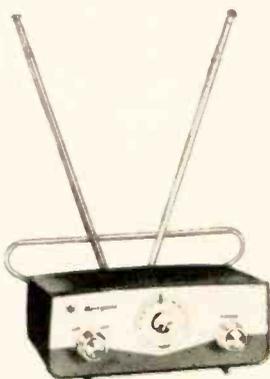
Now Winegard engineering, styling and merchandising have combined to bring you the finest UHF converters on the market. Models UC-100A (one tube) and UC-200A (two tube) have built-in UHF and VHF antennas to receive all channels 2-83. Models UC-310 and UC-410 have a transistorized pre-amplifier that improves signal-to-noise ratio up to 12 DB. All models are furniture styled in handsome polystyrene cases in rich autumn brown trimmed with brushed gold. *Look at these features:*

- 3 gang capacitive tuning element eliminates sliding contacts in main circuit.
- Oscillator has new 6DZ4 tube... no drift, no microphonics... has better performance and longer life.

- Safe, cool chassis—isolated power supply with silicon rectifier.
- Only cabinet that is *completely* enclosed.
- Lowest noise 1N82A mixer diode • Exceed FCC radiation requirements • Exact 300 ohm impedance match
- Work perfectly with color or black and white

Models UC-200, UC-200A, UC-310 and UC-410 UHF converters have AC receptacle for TV set with "on-off" control that turns on TV set and also switches to UHF or VHF. All models have a built-in dial light.

Ask your distributor or write today for specification sheets on Winegard UHF converters.



Model UC-100 UHF converter (one tube) \$29.95

Model UC-100A UHF converter (one tube) with built-in UHF and VHF antennas \$34.95

Model UC-200 UHF converter (two tube) with nuvistor IF amplifier stage \$42.50

Model UC-200A UHF converter (two tube) with nuvistor IF amplifier stage and built-in UHF and VHF—antennas \$47.50



Model UC-310 high gain converter with built-in transistor RF amplifier and nuvistor IF amplifier—improves signal-to-noise ratio up to 12 DB \$64.95

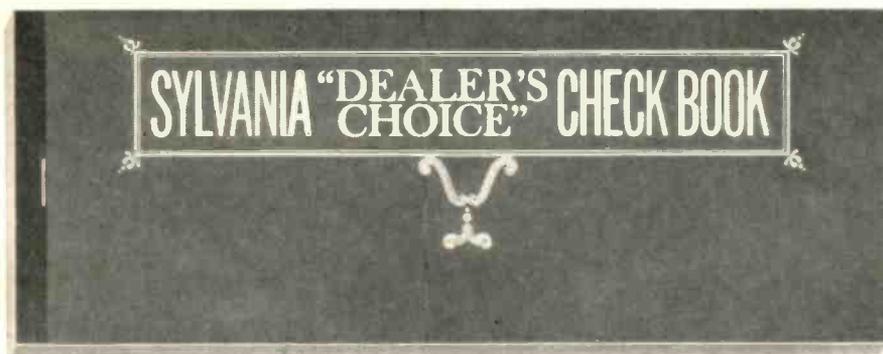
Model UC-410 high gain converter with built-in power supply, nuvistor IF amplifier and remote transistor RF pre-amp for mounting on antenna or anywhere along transmission line. For very weak signal areas, this is the most sensitive UHF converter made. \$69.95.

World's most complete line of TV-FM reception equipment



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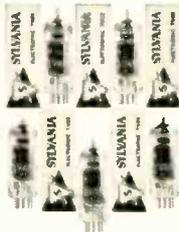


—he's ready to write you the checks



—on your choice of over 400 valuable prizes

It's "Dealer's Choice" right now at your participating Sylvania Distributor. Ask him how you can get "Dealer's Choice" checks with your purchase of Sylvania receiving tubes. ■ With your first purchase pick up your copy of the "Val-U-Buy" catalog. It's filled with 473 wonderful prizes. Then pick the gift that's right for you... the one that satisfies a personal need or will surprise someone in the



family. Choose from a wide assortment of tools, power equipment, housewares, hobby and sports items—even a fabulous mink stole. Every item is valued right. So you win twice. When you buy quality Sylvania tubes. And again when you redeem your "Dealer's Choice" checks. ■ It's another reason why we say you get Product Plus from your Sylvania Distributor.

**SYLVANIA**  
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For the Beginner:

A NEW  
SIX PART SERIES—PART FIVE  
ELEMENTS OF SWEEP CIRCUITS

technical  
section

An MESD special feature

\*\*\*\*\*

Irv Tjomsland, Editor

# Review of Operational Tolerance

If your schematic specifies a certain voltage at some test point, how much variation can you tolerate? Can you release a service job if your measurements differ from the print? Are some voltages more critical than others? Is there any general rule to help the new man "know for sure" when a reading is satisfactory or dangerous?

Section 5 will be devoted to the questions as far as they are connected with the horizontal sweep circuit. The natural result of attempting to place "go" and "no go" limits on such problems is to become involved in the area of circuit and component *tolerance*, and the reader should remember that some recommendations will be derived from personal experience rather than be results obtained from an "exact science."

Several operating limits have been suggested in the previous four sections, and much material of this nature has appeared in other MESD articles in the past year or two. For the benefit of new readers the following list includes the Month, Year, Page or Section Number, as well as the Subject Title of material related to this month's discussion:

| MONTH   | YEAR | PG or SEC. | SUBJECT          | NAME OF ARTICLE        |
|---------|------|------------|------------------|------------------------|
| January | 63   | 17         | Line Voltage     | LINE VOLTAGE CAN COST— |
| January | 63   | 15         | Drive            | BATTLE OF BIG BOTTLE   |
| March   | 63   | 13         | B + & Rectifiers | SELENIUM-SILICON CONT. |
| August  | 63   | 15         | Test Accuracy    | STATE OF THE ART       |
| January | 64   | 3-4        | AC Line Control  | HOR. SWEEP MEAS.       |
| January | 64   | 3-5        | B + Tolerance    | HOR. SWEEP MEAS.       |
| January | 64   | 3-6        | Boost            | HOR. SWEEP MEAS.       |
| January | 64   | 3-7        | High Voltage     | HOR. SWEEP MEAS.       |

In a television receiver certain tests "lock-in" with other measurements, and the new man who recognizes this will save much time if he improves his test procedure to take advantage of the information picture developed by a good sequence.

For instance, horizontal output screen or boost measurements are very much affected by B+, and of course B+ measurements make sense only if taken with the correct input line voltage.

For better or worse, here are some recommendations covering test conditions and tolerance presented in outline form:

**LINE VOLTAGE:** Impossible to be too close to 117 VAC for bench work. Sooner or later you will lose time if you

cannot hold within  $\pm 3$  VAC. A valuable second test is to be able to check the receiver under line voltage conditions causing trouble in the customer's home.

**B+:** With correct line voltage you will do yourself a favor if you hold B+ to this standard: +0, -5%. (See 3-63 Pg 13 for suggestions).

**BOOST:** Breathe a sigh of relief if Boost is "right on" (and your VM is accurate). If it is more than 5% high worry about overheating, corona, or insulation breakdown, until you can satisfy yourself that the individual receiver can tolerate the excess. The main problem from high boost (at normal line voltage) will be encountered if the customer is blessed with above normal line voltage at his home.

If boost is more than 5% low you may be in for a call-back due to a "small raster" (vertically, horizontally, or both) if the customer encounters line voltage "sag" during his viewing period.

Actually  $\pm 5\%$  is a very tight tolerance, but all we are saying is that boost voltage variations should not be ignored.

**HIGH VOLTAGE:** As mentioned in 3-7 any serviceman who measures and records high voltage will "know for sure" many factors which will help him render professional calibre service. When high voltage values are known, CRT quality can be more accurately established and the collective efficiency of the plate supply, drive, tubes, and sweep components is indicated.

Most modern service data lists two specs for high voltage: One for no or low brightness, and one for full brightness. If the spec calls for 16.9 and 15.1 KV, the 16.9 will be normal for low brightness and the 15.1 will be for normal for full brightness.

In the absence of specific data, use the following as a guide:

| CRT SIZE | LOW PERFORMANCE | MEDIUM PERFORMANCE | HIGH PERFORMANCE |
|----------|-----------------|--------------------|------------------|
| 8-10"    | 6 KV            | 9 KV               | 12 KV            |
| 12-16"   | 10              | 13                 | 15               |
| 17-20"   | 12              | 15                 | 18               |
| 21-27"   | 13              | 18                 | 22               |

(Continued Next Two Pages)

Very few customers will notice a difference in performance from 16 to 20 KV on any CRT size up to 20 or 21", from a brightness standpoint. The serviceman will, because he can expect substantially more business from a receiver that operates in the 20KV region.

In the "over 21" inch region a different condition exists. If the 2nd anode voltage is down in the 12-13 KV class, and the brightness control is accessible, the customer will tend to raise brightness to levels that call for excessive beam current conditions. This causes several problems: Excessive bloom, raster size variations, and short CRT life. The writer measured a number of receivers when operated by their owners and found the average beam current in the 24" was 1100 microamperes at 12 KV and only about 200 at 20 KV. The low voltage receivers encountered CRT failure in 3 to 6 months, and the high voltage receivers produced normal CRT life.

In summary, an accurate high voltage meter, conscientiously used, will be a much more professional device than a "corona gesser."

### 5-3: HORIZONTAL OUTPUT SCREEN OPERATION;

In the first ten years of television service the greatest cause of unnecessary flyback and driver tube failures could be traced to defective screen operation. The greatest problem developed with the receivers which employed above average B+. Literally millions of receivers were sold with 2 watt screen resistors when the power dissipated by the resistor exceeds 3 watts. The effect of a continuous overload on a carbon type resistor is to lower the resistance as it ages. (Not always, but more frequently than not) As the resistance drops the current increases and the problem becomes critical.

There have always been two types of servicemen: Parts changers, and Professionals. The parts changers tended to replace the flybacks and horizontal output tubes, and ignore the causes. In many instances a second or even a third flyback was installed before the problem was recognized and corrected.

In recent years the failure problem has been reduced, not so much because there are less parts changers, but, rather, because the B+ supply has been lowered and manufacturers have increased the wattage rating of the screen resistors employed. It is interesting to note that a West Coast manufacturer now specifies a 7 watt rating in a receiver with less than 2 watts dissipation, where he earlier used a 2 watt with a 3.2 watt dissipation.

Some members of the "parts changers" club insist that the responsibility for locating a circuit engineering problem does not rightly devolve on them, but the practical result has been that no customer could understand the fine point of the argument, and as a result the standing of the whole service industry was lowered.

In any event, it appears that every serviceman, new man or experienced, will be asked to service some very old receivers, and the possibility of callback loss in time and money is still present.

**The problem is not solved by measuring the screen voltage and comparing it with the voltage listed on the schematic!**

**The horizontal output tube screen operation is safe when the wattage dissipated in the tube does not exceed the manufacturer's rating for wattage and voltage.**

Tube manufacturers release this data in their tube manuals, but do not always use the same terms: Some specify "Max G-2 Dissipation" (in watts) and others: "Grid No. 2 Input—Max Watts."

### 5-5: GRID NO. 2 WATTS (SCREEN INPUT)

Voltage multiplied by current equals *watts* in DC circuits. The current in the screen circuit has many AC characteristics, and therefore is more difficult to measure or calculate exactly. A DC voltmeter tends to average the screen voltage, and a milliamperemeter tends to average the current, so a simple multiplication does not always indicate the actual wattage, but if the serviceman will take the time to check both voltage and current his results will be very satisfactory, and if he will allow a slight tolerance for error he can expect to eliminate the problem.

### 5-6 TYPICAL MAXIMUM SCREEN VOLTAGE AND WATTAGE RATINGS:

In case of doubt the manufacturer's tube manual should be consulted for exact limits, and this will become even more necessary as many new types of horizontal output tubes are introduced. Several of the most common types were checked and the ratings are shown in the chart below:

| TUBE TYPE | MAX SCREEN VOLTAGE | MAX SCREEN WATTAGE |
|-----------|--------------------|--------------------|
| —AU5/—AV5 | 200*               | 2.5                |
| —886      | 350                | 3.2                |
| —806/—CU6 | 200                | 2.5                |
| —CD6      | 175                | 3                  |
| 6CB5      | 220                | 4                  |
| 6DQ5      | 190                | 3.2                |
| 6DQ6      | 220                | 3.6                |

\*—AV5 type limited to 175 volts.

### 5-7: APPLICATION OF SCREEN RATINGS:

One of the most important facts the new serviceman can "know for sure" is that horizontal output screen maximum ratings cannot be exceeded without shortening tube life and endangering components.

—You can assume that if you exceed the maximum rating of the 6BQ6 by as little as 5% you will shorten the life of the tube by as much as 50%.

Since the most careful measurements will have a 10 to 15% error you should also allow a margin for this. This means that you will be safest if you do not allow a 6BQ6 to operate at more than 2 watts by measurement or calculation, and this will be particularly true if the individual receiver has been plagued with premature failure of horizontal output tubes and/or components.

If you are interested enough to check further, you will also find that all long-lived and trouble free receivers operate at conservative screen wattages and voltage.

For some years Howard W. Sams' Photofact Folders have rendered an added service in making screen measurements more positive: In addition to indicating the normal voltage to be found when the receiver is operating correctly, the normal current is also listed.

This becomes very important when you are fighting a service job with more than one defect. Screen wattage is controlled, not only by the screen dropping resistor, but also by the setting of the drive control, boost loading, high voltage beam current, and even linearity coil settings. Screen conditions will change with changes in flybacks, yokes, and driver tubes. If you "know for sure" the original screen conditions you will be able to restore normal operation with the least possible lost time.

What can you do when no information is available? It is possible to make accurate calculations if you have a good volt-ohmmeter, and are willing to use a little simple arithmetic. Take this case: You have a receiver that appears to be running "hot" and you would like to check the screen wattage, preferably without disconnecting any resistors or components.

1. Operate the receiver until components have completed temperature rise. Switch off and quickly measure resistance

of screen dropping resistor. Remove output tube or reverse probes if reading drifts. If drift does not stop suspect the resistor of changing with the change in temperature. If in doubt replace with higher wattage type.

2. Switch on receiver and with voltmeter measure and record the voltage across the screen resistor, and the voltage from screen to chassis.

3. To determine screen current divide the voltage across the screen resistor by the measured resistance and the result will be milliamperes, (in the 5 to 20 ma range.)

4. To determine screen dissipation multiply the voltage from screen to chassis by the current found in paragraph 3. The result (if you remember to use the correct decimal point for ma) will be the screen dissipation in watts, and the accuracy should be about 90%.

Example: You are servicing a KCS 68 C Direct Drive chassis.

|                                     |          |                      |
|-------------------------------------|----------|----------------------|
| Screen resistor combination         | measures | 7000 ohms            |
| Voltage across resistor combination |          | 170 volts            |
| Voltage from screen to chassis      |          | 198 volts            |
| Divide 170 volts by 7000 ohms       | =        | .0243 Amps (24.3 ma) |
| Multiply 198 volts by .0243 amps    | =        | 4.81 watts.          |

The receiver uses a 6CD6 and according to the chart in 5-6 the max wattage is 3 watts and the max voltage is 175.

The customer will be lucky to get three months service from the 6CD6 and six months from the flyback.

Let's run through the cure: If you check the schematic you will find that the screen resistor combination was intended to develop 13,600 ohms. Under these conditions:

|  |                      |
|--|----------------------|
| Voltage across screen resistor combination | 208                  |
| Voltage from screen to chassis             | 165                  |
| Divide 208 by 13,600                       | .0153 amps (15.3 ma) |
| Multiply 165 by .0153                      | 2.42 watts           |

The maximum screen voltage and wattage requirements are not exceeded when the circuit is restored to normal, and were it not for additional problems this one correction might eliminate the tube and flyback failures in the receiver. More on this later.

## 58: SUBSTITUTE YOKE REQUIREMENTS

In Section 4-7 the serviceman is advised to substitute the yoke winding in case of doubt before removing or changing the flyback. This is a good point, because it is usually easier to disconnect the leads to horizontal yoke winding than it is to remove the flyback, and the defective component will be pin-pointed just as accurately if certain precautions are observed.

If brightness on the CRT is kept low there is no need to install the yoke for this substitution test, but you must use a yoke with a similar inductance to the original, and of course the yoke winding must be known to be good, not just a shorted reject from the scrap box. In addition, the test yoke should have about the same resistance as the original to make the test most useful.

Would a large number of yokes be required to take care of most tests? No, nearly all yokes in use fall in the 8 to 33 millihenry (mh) range. If a tolerance of  $\pm 20\%$  is applied, a 10 mh yoke can be used to substitute any yoke from 8 to 12 mh, and a 25 mh yoke can substitute all yokes from 20 to 30 mh if the resistance is also similar. If the serviceman has five or six well selected yokes (known to be good) he can substitute nearly all receivers he will encounter.

It will be mentioned later that the same procedure is very helpful in testing vertical problems since most multi-vibrator type vertical systems will cease operation if the vertical yoke winding opens or shorts.

## 5-9: COMBINATION OF PROBLEMS

Most servicemen subscribe to the principle that the limit of their responsibility is to restore a receiver to the standard of performance available when the set was new and working correctly.

It is to the credit of the television manufacturing industry that the majority of receivers sold to the public give satisfaction when these standards are maintained.

However, there are exceptions. Out of the twenty five thousand or more different chassis distributed, a few cannot be kept in satisfactory operating condition unless basic changes are made.

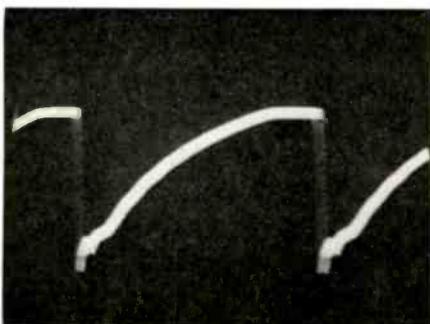
Normally a troublesome receiver will be junked, but sometimes special conditions prevail. I do not think a week has gone by in the two years I have been associated with Stancor products that I have not had a call for help on one of the six or seven best known problem chassis.

In most instances the serviceman has invested a hundred dollars of his own time in the problem before asking for help. In some cases he has tried the original replacement part, and one or more of each of the four brands of independent parts and is still in trouble.

There is one outstanding characteristic involved in these special cases: All of them have multiple trouble, and all the problems must be solved before the receiver will give normal service.

Next month two such problems will be reviewed. A handful of such receivers do not represent a very important part of the service business, but if you learn how to solve a case with five interlocking defects, each of which can cause a callback, you will have less trouble with a modern receiver with two or three interlocking problems. See you next month.

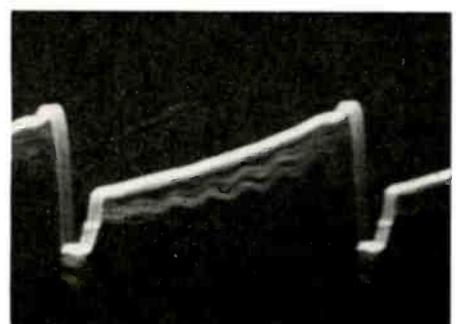
FIGURE 1



## CORRECTION NOTICE

In last month's Technical Section we reversed and transposed Fig. 1. and Fig. 2. Please cut this out and place it over page 12 of the February Issue of MESD.

FIGURE 2



*A Round-up Of Products We Feel Will Be Of Interest And Benefit To The Electronic Service Dealer In The West*

**FROM FINNEY . . .**

To introduce its new 3000 Series of components, the Finney Company employed a series of teaser cards with a stork as the central theme. Of course, since the stork is a symbol of the anticipated arrival of a new baby, the Finco distributors who received these mailings naturally anticipated that something new was about to arrive bearing the familiar Finco trademark.

When the new "baby" was delivered it turned out to be one of the 3000 Series components accompanied by an appropriate cigar.

The new Finco 3000 Series of components and accessories for FM and TV include couplers, coupler-splitters, traps, filters and transformer.

An intensive campaign in trade papers and by direct mail will further promote these new components.



**FROM WILCO . . .**

Television repair men are often confronted with fine scratches and abrasions on the outer protective plastic shield covering the television picture tube. Also, many of the modern television sets have cases or cabinets made entirely of plastic, which is, of course, subject to scratches. Whenever these scratches appear on television sets or any other plastic surfaces, Surefire Scratch Removing Compound will make them disappear.

This new product, created by the Wilco Company, contains a highly refined abrasive and protective wax. Further development of scratches is retarded by a microscopically-thin film that is left behind by the wax. The film will not dull the television picture in any way.

Surefire Scratch Removing Compound is also an excellent cleaning and polishing agent, and is generally used for the removal of fine hairline scratches. In addition to the usual application on television sets and the windshields of airplanes, motor boats, automobiles and motorcycles, this product is recommended for use in removing fine scratches from plastic eye-glasses, contact lenses, commercial and industrial optical lenses, instruments and dials, appliances, showcases, etc.

Surefire Scratch Removing Compound is non-flammable, will not scratch, and is harmless to all plastic surfaces, hands and skin. For additional information, write to Gil Gillespie, Wilco Company, 4425 Bandini Boulevard, Los Angeles 23, California.

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PA 1-2907

## FROM WINEGARD . . .

Designed to operate from 2 TV sets to over 300 sets, Winegard's new TV-FM distribution amplifiers have been engineered for high efficiency and easy installation.

All 3 models have been engineered for faithful amplified reproduction of color and FM stereo. Each has flat frequency response, no phase distortion and full gain to top of FM band. They are the only amplifiers of this type that use all high transconductive low noise triodes—no pentodes. An extended band pass allows cascading without clipping of end channels 2, 7 and 13. Low noise neutrodyne input circuitry. Noise figure remains optimum, no matter where the gain controls are set. All jacks, controls, switches and connections are accessible from top of chassis.

A special new feature of the three models is a preamp switch. When this switch is on, the amplifier provides 30 volts AC at the input jack to operate a Colortron or Stereotron antenna pre-amplifier. This eliminates the need and cost of a separate preamp power supply.

The amplifiers are fully ventilated top, sides and bottom, to allow rapid heat dissipation. Robert Fleming, Sales Manager of Winegard Company explains that this is an important feature, as it gives the amplifiers an extra long, trouble-free life when used in continuous operation.

Model A215 has 2 tubes, 15 DB gain and lists for \$44.95. It will drive up

to 20 TV-FM outlets . . . up to 40 with preamp.

Model A430 has 4 tubes, 30 DB gain, 2,000,000 microvolts output, and lists for \$84.95. Operates up to 50 TV-FM outlets, 100 with preamp.

Model A845 is an 8 tube super-high output amplifier. It has 45 DB gain and lists for \$159.95. Operates up to 150 TV-FM outlets, 300 with preamp. The A845 uses two grounded grid twin triodes in push-pull, to obtain the exceptionally high undistorted output of 3,200,000 microvolts. According to Mr. Fleming, the power efficiency of this unique circuit is 58% greater than conventional pentode circuits normally used for this purpose.

All 3 models are designed to match perfectly with other Winegard distri-

## RCA DISTRIBUTING CORP ANNOUNCES 1964 BATTERY SALES PROGRAM

RCA Victor Distributing Corp. in Los Angeles has just announced a new battery sales program.

According to Walt Pasner, "under this new program we are offering the dealers 1 free battery with each 11 purchased in all the popular moving types such as the VS 323, VS 334, VS 335 and VS 336. In addition to this the company will give an additional 10% on all types and provide many free sales aids.

bution equipment—from antenna to the set. For technical bulletins write Winegard Company, Burlington, Iowa.

# DUNBAR PICTURE TUBES

— Manufactured in the West's Newest Most Modern Tube Factory!

## BONDED FACE PICTURE TUBES

They said it couldn't be done . . . but DUNBAR is doing it! The first independent tube plant to de-laminate and laminate bonded face picture tubes. Old plates removed, new plates replaced. Tubes processed electrically. 1 YEAR GUARANTEE.

SPECIAL ANY 23" BONDED TUBE **\$27.50** EX. REGULAR \$32.50

WRITE FOR PRICE LIST

Shipments anywhere in California. Free delivery in Los Angeles area.

## DUNBAR SALES CO.

2033 Venice Blvd.  
Los Angeles, Calif. RE 5-1104



## CLASSIFIED ADS

BUY, SELL, TRADE, HIRE HERE

# Buy . . . Sell . . . Trade

### HOW TO USE WANT AD PAGE

#### TO PLACE AN AD

**BY PHONE:** in Los Angeles call AXminster 2-0287. (This is the number of the Classified Dept. only) ask for GRAYCE KENNEDY.  
**IN PERSON:** Come to 4041 Marlton Ave. in the Crenshaw Shopping Center, next to Barker's. (This Address is for the Classified Dept. only.)  
**BY MAIL:** Send your ad to MODERN ELECTRONIC SERVICE Classified Dept., 4041 Marlton Ave., Los Angeles 8, Calif.

#### RATES

**95¢ PER LINE**, one time.  
**MINIMUM:** 5 lines.  
**BOX NO.:** Add 50¢ service charge, and allow 2 lines for reply address.  
**RE-RUNS:** 2nd and 3rd times, less 10% each, 4th and thereafter less 15% each. Same copy.  
**HEADLINES, ETC.:** Large headlines, box borders and 2-col. ads available at modest charge.  
**"POSITION WANTED":** Less 15%, payable in advance.

### BUSINESS OPPORTUNITY •

#### ONE MAN T.V. S & S

Established 10 years  
Grossed \$56,000  
NET LESS—10% C  
Fully equipped shop—New Van-Sams  
**DESERT RADIO & T.V.**  
15900 Sierra Hiway  
Mojave, California  
Phone: 805 - 824-2054

### EQUIP. FOR SALE •

#### RECONDITIONED T.V.'S

17" to 21"—3 for \$100.  
AS IS TRADE-INS  
Not Checked or Butchered  
17" to 24" Table & Consoles  
\$15 ea.—Lots of 5 or more

#### T. V. CENTER

200 E. MANCHESTER  
Los Angeles, Calif. 90003  
750-2818

### USED TV'S FOR SALE •

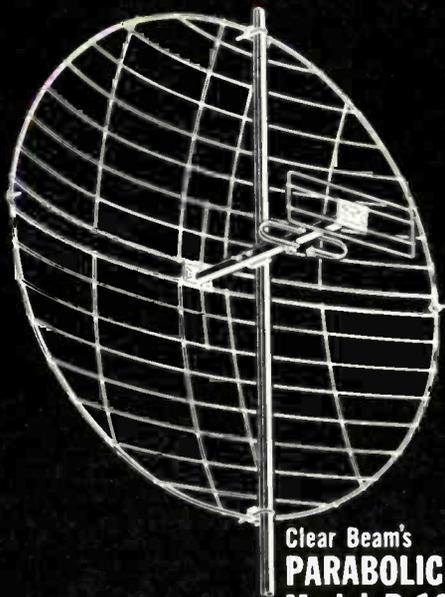
#### USED—TV'S

AS IS  
WHOLESALE TO DEALERS  
100's OF SETS TO CHOOSE FROM  
LOW SHIPPING COSTS ANYWHERE  
TV BROKERS  
4920 W. PICO, LA. 19, Calif.  
WE 1-6622

### FOR SALE •

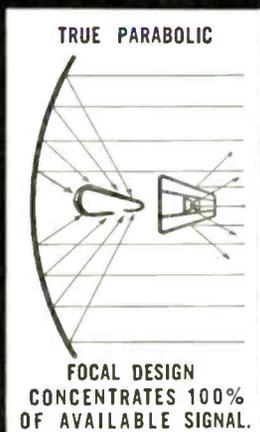
FOR SALE  
T.V. RENTAL BUSINESS  
150 SETS  
Grosses \$1,500-\$2,000 Mo.  
TEL-RADIO SERVICE  
5811 SUNSET BLVD.  
Los Angeles 28, California

# Most POWERFUL UHF FRINGE ANTENNA EVER!



Clear Beam's  
**PARABOLIC**  
Model P-100

## New, from Clear Beam UHF Research



Focusing screen  
selects directional signal  
... Rejects ghosts.

Unique parabolic "big screen" design, single dipole feature, and all metallic construction provide maximum performance even in the toughest fringe and translator UHF areas. Prevents signal loss caused by weather deterioration and phasing harness mismatch. Preassembled screen and dipole for fast, strong installation! Up to 18 db gain. *Proven the most powerful UHF antenna ever designed!*

Ask your distributor or write today  
for technical bulletin

## FOR THE BEST • UHF RESEARCH UHF DESIGN • UHF PERFORMANCE • CLEAR BEAM

Through continuing research and nationwide evaluation of problems in UHF areas, Clear Beam brings you the widest selection of proven UHF designs. Clear Beam's UHF antennas have been field tested in every type of UHF reception area to assure you maximum performance, maximum profits!



**CLEAR BEAM ANTENNA CORPORATION**  
21341 Roscoe Boulevard • Canoga Park, California

... one step ahead!

## TAME MEETS WITH FCC TO AIR VIEWS ON CATV

A delegation from TAME, Television Accessory Manufacturers Institute, met with members of the FCC in Washington for an informal exchange of ideas concerning the problems of CATV. Representing TAME were John Winegard and Robert Fleming, of the Winegard Company; Morris L. Finney, Jr., of the Finney Company; Sam Schlusel, of the Channel Master Corporation, and Mort Leslie, JFD Electronics Corporation, TAME's Acting Chairman. Present for the FCC were Commissioners Robert E. Lee and Kenneth Cox. In addition were a number of department heads and Mr. Bud Weston, Commissioner Lee's engineering assistant.

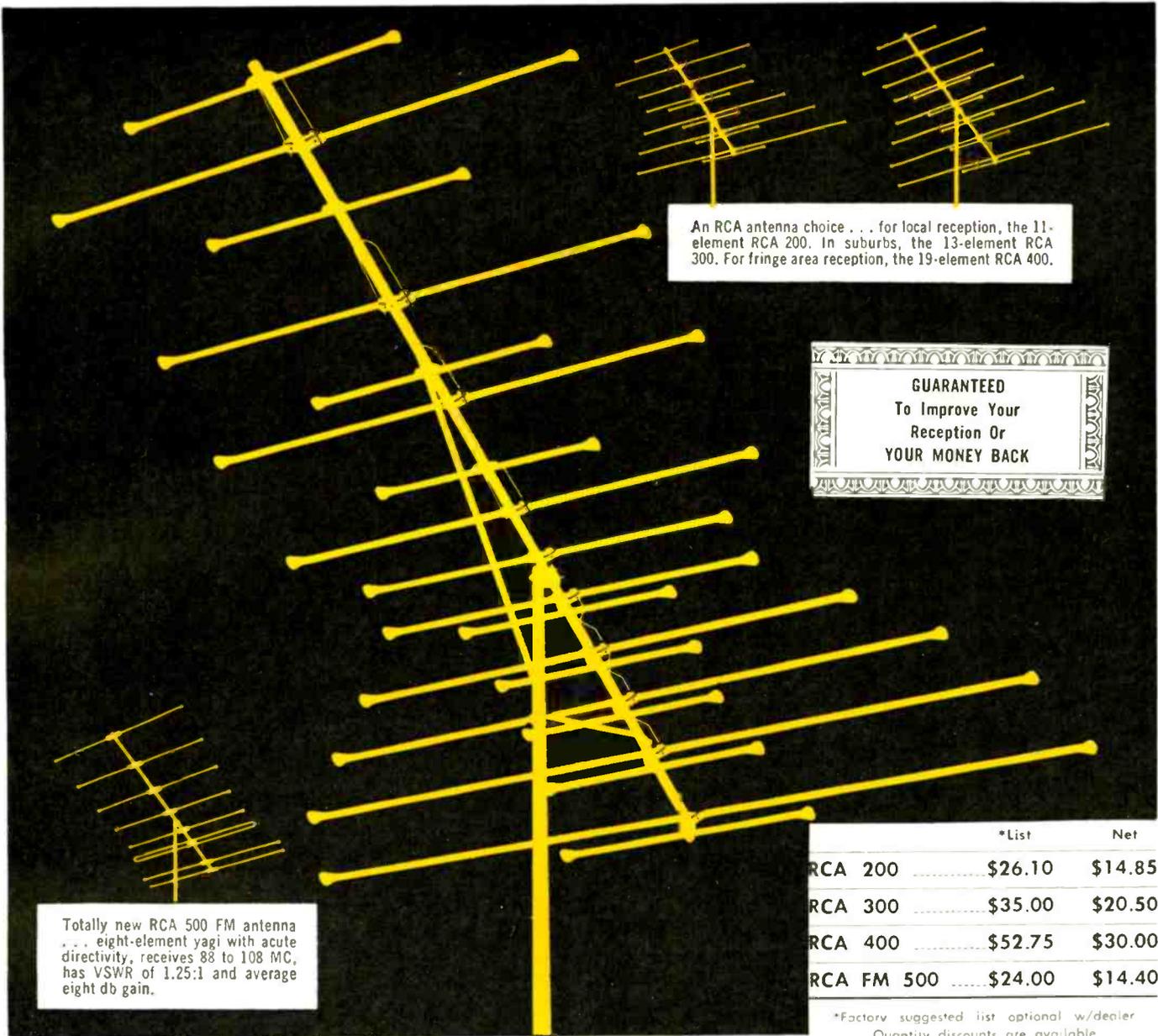
The commissioners were quite interested in the views that TAME, representing much of the electronic parts industry, had regarding CATV. Mr. Finney stated that "CATV had to very seriously impede the progress of UHF in general." Mr. Schlusel made known the "questionable politics which was being employed by Cable System operators in securing franchises." Mr. John Winegard made a very deep impression with the commission in his statement that he "had never seen a comparable quality TV picture on a CATV subscribers set with what was attainable with a privately-owned antenna." His observations were "based on close to one thousand such tests." Mr. Leslie made clear that CATV was competing with a wholly regulated and controlled industry—Broadcasting—as such was posing unfair competition. He called for a "re-study of the Communications Act so that the FCC could be empowered to regulate and license all CATV Systems in the public interest."

## ACTRA WILL HEAR NEW INCOME TAX DATA

At the regular ACTRA meeting of Tuesday evening, March 3rd (To which non-members are also invited), the speaker will be Robert C. Cowan, certified public accountant with the firm of Arthur Young & Company, Oakland, a national concern.

His subject will be a matter of vital importance to all in our industry: "WHAT THE 1964 INTERNAL REVENUE ACT CAN MEAN TO YOU."

All of us struggle with our income tax matters. In congress right now, and expected to be passed within the week of this writing, are amendments to the current law. We should be aware of them. Mr. Cowan will have the latest data concerning the law. He will welcome questions from the floor.



An RCA antenna choice . . . for local reception, the 11-element RCA 200. In suburbs, the 13-element RCA 300. For fringe area reception, the 19-element RCA 400.

**GUARANTEED**  
To Improve Your  
Reception Or  
**YOUR MONEY BACK**

Totally new RCA 500 FM antenna . . . eight-element yagi with acute directivity, receives 88 to 108 MC, has VSWR of 1.25:1 and average eight db gain.

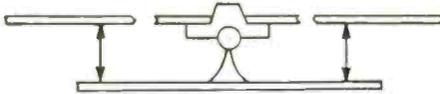
|            | *List   | Net     |
|------------|---------|---------|
| RCA 200    | \$26.10 | \$14.85 |
| RCA 300    | \$35.00 | \$20.50 |
| RCA 400    | \$52.75 | \$30.00 |
| RCA FM 500 | \$24.00 | \$14.40 |

\*Factory suggested list optional w/dealer  
Quantity discounts are available

## RCA... Pioneer and developer of Color TV... Announces a new concept in outdoor antennas

Now the most trusted name in color TV brings you and your customers a whole new outdoor antenna line packed with top-value features. RCA puts together in a single line the best of all-channel yagi and multiple cross-driven element antenna types. You'll satisfy every customer's demand for sharpest color or black-and-white TV reception with this new RCA Series 200, 300 and 400 antennas.

RCA's electro-lens director system absorbs maximum incoming signal power, gives extremely high gain across



### CAPACITIVELY COUPLED

the VHF band, offers excellent forward gain on the front end.

In addition to phasing low and high band directors for best high band performance, RCA and only RCA positions high band driven elements, *directly below* low band driven elements.

Through capacitance thus existing, RCA antennas feed energy *directly* into the transmission line from high band driven elements. An RCA exclusive!

A permanent gold *anodized* finish defends every RCA antenna's glossy finish from weather corrosion. Wrap-around mast clamp aligns antenna on mast, prevents boom crushing.

Just call your RCA Victor distributor. He'll tell you and show you all about new RCA 200, 300, 400 antennas—and that's *plenty!* Call now—sell soon!



THE MOST TRUSTED NAME IN ELECTRONICS

**RCA VICTOR DISTRIBUTING CORP.**  
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**CARTER-JOHNSON**  
**234-6316**

820 West "F" St., San Diego



*In Southern California  
when YOU NEED a*

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CALL ANY OF THE FOLLOWING DISTRIBUTOR  
EXPERTS FOR FAST, ACCURATE  
INFORMATION AND SERVICE:



**NEW**  
TOROIDAL &  
COLOR  
YOKES

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Capitol Electronic Supply  
Van Nuys, 781-8410



**BRUCE McCALLEY**  
Andrews Electronics  
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Only your Triad distributor has exact replacements for deflection yokes with toroidal windings which you are now finding in late models. Triad also has the first universal color TV yoke with adjustable damping network to duplicate original part numbers of RCA, Admiral, Packard-Bell, Silvertone, General Electric and others. Ask your distributor for Triad's blue-covered replacement guide and complete catalog.

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**ARMANDO, MICK MICKALS, JICK SEXTON**  
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Los Angeles, PL 3-4495



**JOE AVILA**  
Mac's Radio Supply  
South Gate, LU 8-4111

**\* IN SAN DIEGO**

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