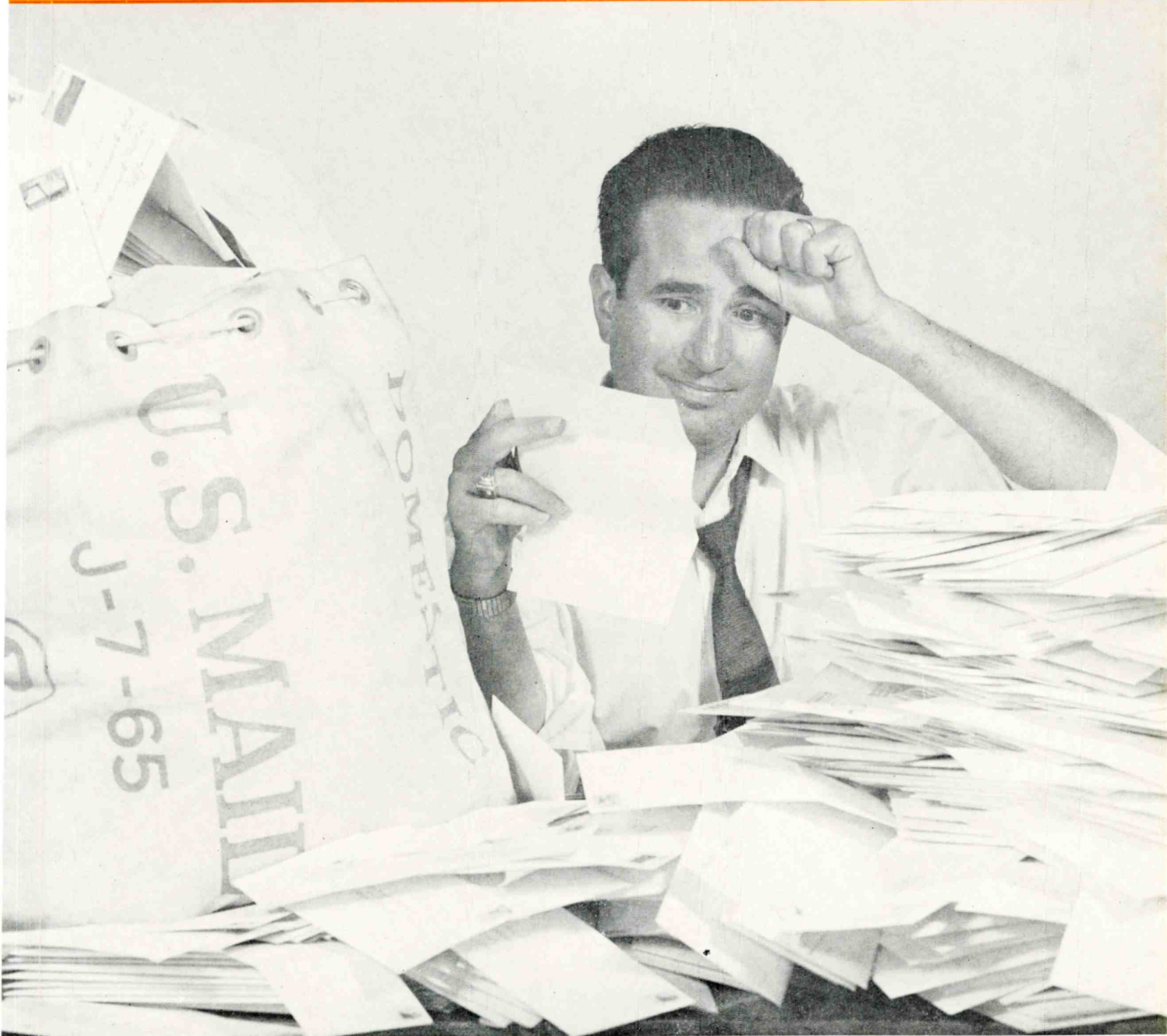


electronic service dealer

the official publication of the california state electronics association

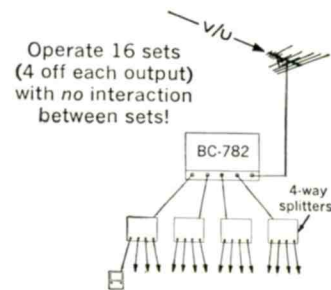
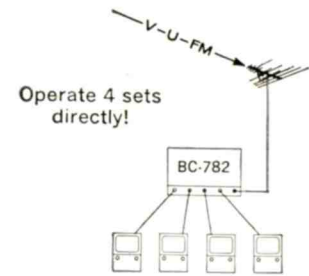
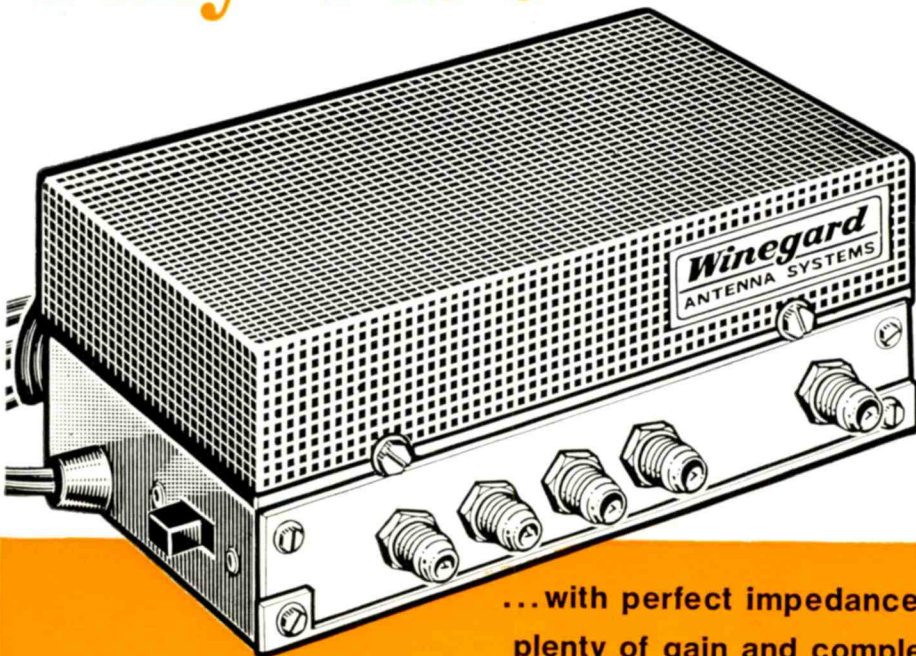


THIS ISSUE:

**PAPER WORK CAN COST YOU DOLLARS—WHAT IS YOUR TIME WORTH!
CSEA RED CARPET SERVICE—NETWORKS SHOULD PUSH COLOR SALES**

AT LAST! THE PERFECT 82-CHANNEL
(VHF-UHF-FM) HOME COLOR TV SYSTEM

Winegard's New BC-782 82 Channel Booster Coupler Only \$44.95



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FRONT COVER: Miles Sterling, of Electro TV in Garden Grove, is shown here going over the mounds of letters received from dealers all over the United States requesting a copy of the price list offered by ESD. The price list was offered free to anyone who sent a self-addressed envelope to the publication and the response was overwhelming. Limited supplies are still available to anyone who wishes to request a copy by sending along a self-addressed and stamped envelope.

LETTERS

Special Attention: Last month we ran a letter that had a Milo of California signature. This, of course, was picked up by mistake off of some stationery supplied by Milo. This top notch distributor in San Diego has never been in the retail business and would never compete with their own customers in any manner. I extend out sincere apology to Milo for this happening and hope we haven't caused them any difficulty. None of the letters

were suppose to carry names but this was missed in the proof reading.

Gentlemen:

I am sending a stamped self addressed envelope in the hopes we can still receive a complete service price schedule as mentioned in your July, 1967 editorial. My husband has his own TV repair shop and I became very interested in his line of work. I started reading your Electronic Service Dealer

and found it to be a most interesting magazine and heartily recommend more women read it, who have husbands in this line of work. Please keep up the marvelous work.

Mr. Lyle Brummeier
Linden TV
Linden, California

Gentlemen:

We have followed with interest the series of editorials pertaining to service prices. We are convinced that the articles have been beneficial to a large segment of the service industry. In turn, we believe that the public interest has been served by allowing service dealers to upgrade the quality of service at a modest profit.

Brent Television
Inglewood, California

Mr. Don Martin,

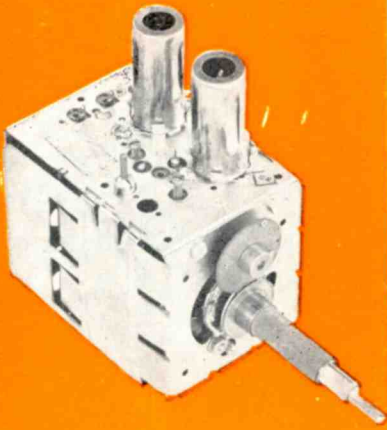
We received your July 67, issue of ESD, this morning and read your editorial on service prices. It is quite refreshing to read that someone else had the gall to raise their prices and to charge a decent price for their work. In early 1966, we raised our prices to our customers for home calls to \$10.00 for b&w \$15.00 for color, with additional time charges for complete convergence when necessary.

We have also found that by raising our service prices that we have been able to become selective in our endeavors. When we first mentioned this to some of the other people in this industry, we were laughed at and told that it would never work. It has worked! And as you so aptly wrote in your editorial, the sweet smell of success tastes might fine on the Sunday dinner table. By becoming selective, we have eliminated the habitual complainer, the customer who elects not to have their set repaired and lets the dealer inherit the set. There are complaints, and some even go so far as to complain to the local better business bureau, and then in most cases, several months later these same people are calling back for more service. We have found in our 17 years experience that most of our customers have a thirty day mind.

We, like many others in this industry belong to the local BBB, and the local Association; to belong to either of these organizations there are certain standards that must be met. The local chapter of the BBB has a letter of policy on file and a good many of your own editorials to back up this policy. And will have a copy of this one as soon as I can get it down to them.

ABC TV & Electronics
Oakland, California

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\$9.75

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ALL labor on ALL makes

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Ⓢ Tarzian-made tuners—identified by this stamping—received one day will be repaired and shipped out the next. A little more time may be required on other makes. Every channel is checked and re-aligned per manufacturer's specifications, not just the channels which might exist in any given area.

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When inquiring about service on other than Tarzian-made tuners, always send TV make, chassis and Model number. Check with your local distributor for Sarkes Tarzian replacement tuners, parts, or repair service. Or, use this address for fast factory repair service.



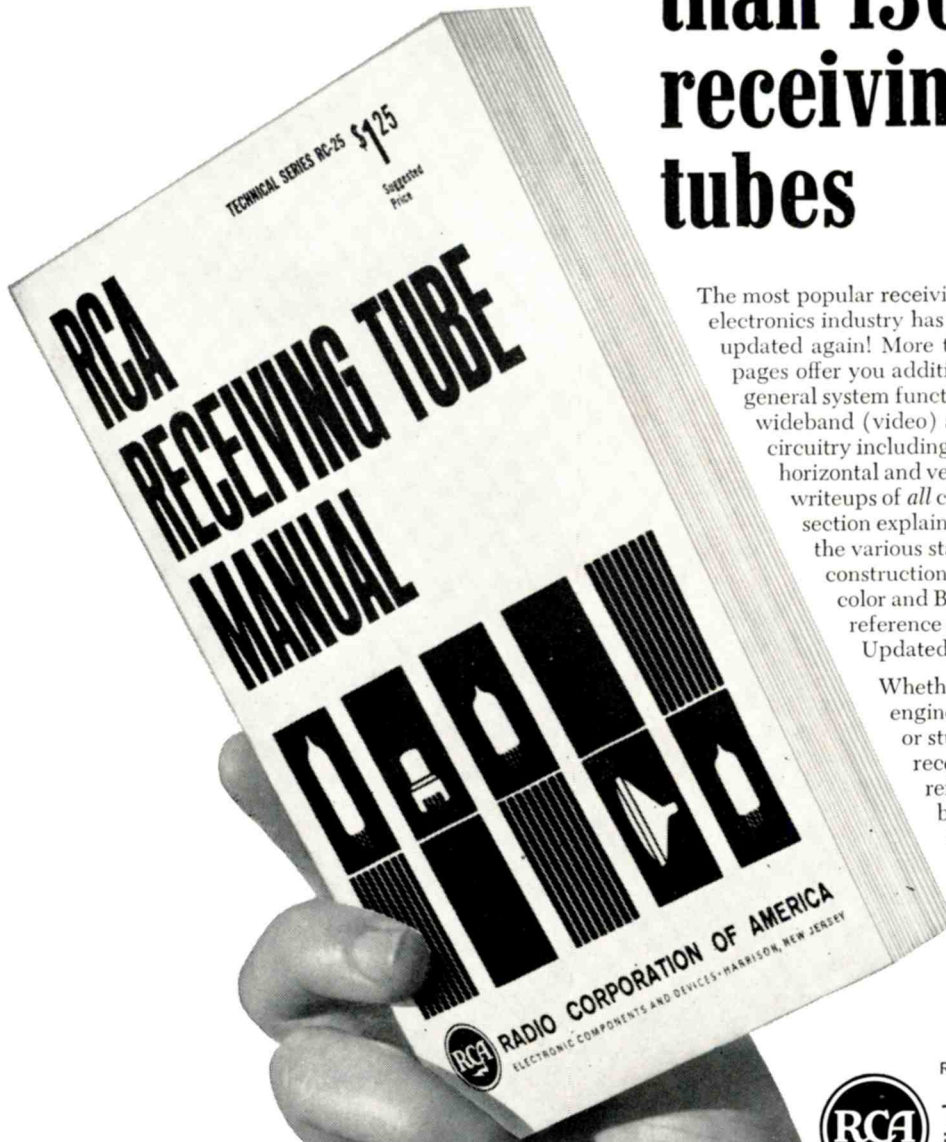
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electronic service dealer EDITORIAL



DON MARTIN

Red Carpet Service . . . A Great Opportunity

Several months ago CSEA started a promotional idea called "Red Carpet Service". The concept of such an idea is not new but it is new to the Television Service Industry. The idea centered around a new "Red Carpet" drop cloth for tube caddies. This beautiful, colorful and practical cloth is ideal for home service work and carries a CSEA emblem in blue and white and the white slogan "Your Guarantee of Professional Service." To go along with this, a similar cloth has been designed into a store banner that is very attractive and carries the same message.

In process of being printed are four page brochures that describe "Red Carpet Service", explains the California State Electronics Association and its members pledge to uphold a code of ethics plus a short description of the California registration law. These are being printed and all members will be able to order them to give to their customers.

At the same time, a truck decal is being designed with "Reggie" the Red Carpet Technician" rolling out the carpet for his customers. Along this same line, there is a possibility of envelope stickers, to be used on billing envelopes, and possible bumper stickers.

Right now over 500 members of CSEA have the red carpet drop cloths and as more and more of these are used, the CSEA Red Carpet Service will become better known throughout the State. It is hoped that in a period of time, people will be looking for and relying upon this service by this organization and its members. If used properly, it could be the greatest program ever undertaken by an Independent organization of Television Service Dealers.

Every member of CSEA is eligible to join the "Red Carpet" program. This is the one program whereby no individual shop or business will lose its identity and still there will be a State wide "Red Carpet" service organization.

One of the chief complaints of the Service Industry over the years has been the factory service. This threat of more and more captive service continues to cast its shadow and it will continue to grow as long as there is no organized program to stop it. All of the talk in the world hasn't made a dent in the determination of many of these firms to continue to expand their service programs in spite of a verbal attack by the independents all over the country. The major manufacturers state that they are forced into providing service for their products since the public demands it. This

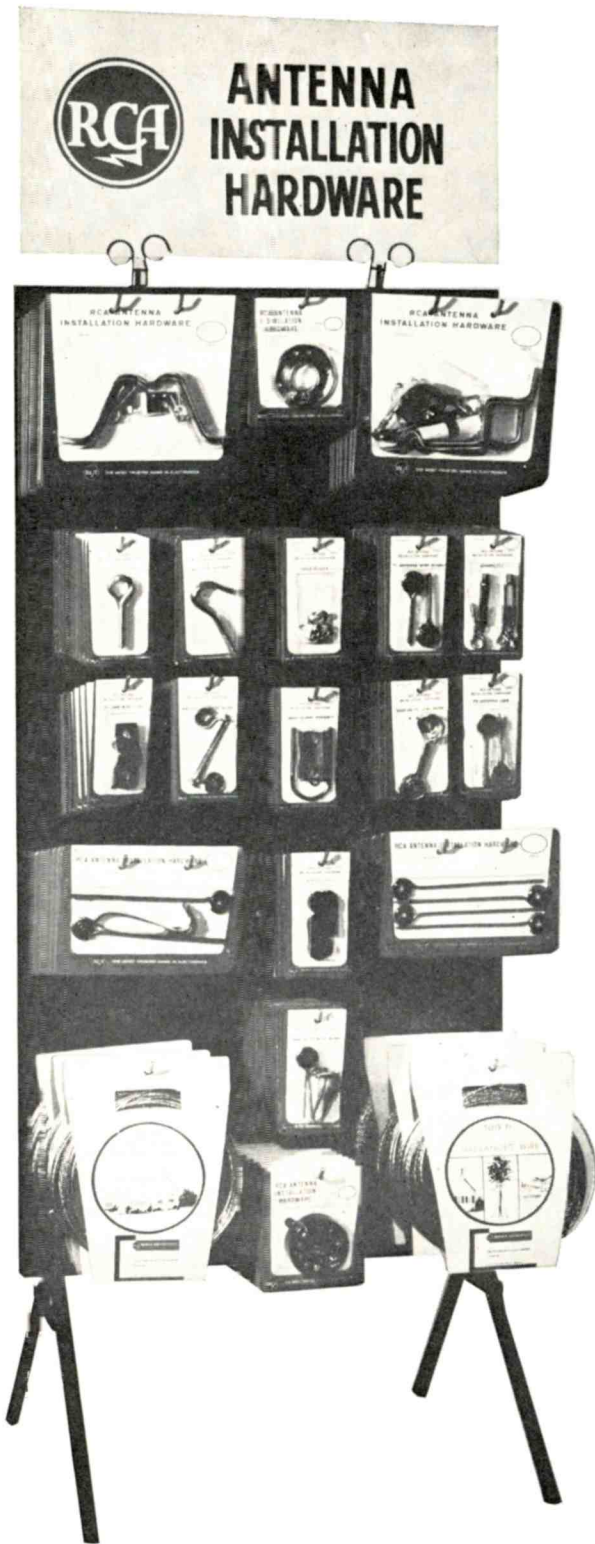
claim may be very valid but it can only mean more trouble in the future unless the independent service industry takes dead aim at providing better service.

A few weeks ago I had an occasion to call for factory service on an electric oven. The service call was set up for the next day. Here it is almost a week later and we haven't seen the factory service as yet and have received no call indicating why. If this is the case, a "Red Carpet" Service program will have no competition from the factory service people.

I have suggested to the Board of Directors of CSEA that they invest in a "Red Carpet" kit at the most nominal cost possible. This kit should contain a drop cloth, store banner, truck decals, 50 brochures, envelope stickers and what ever other material might be available. This kit should be sent to every member along with a note urging their participation in this idea. I know that this can not be done for nothing but I also feel sure that any member would be pleased to have \$5 or so added to their monthly dues billing to pay for this first kit. From then on, supplies could be ordered as with all other CSEA supplies and the program will have an immediate effect all over the State. If the idea waits for one guy in an area to start it, before another will go, it could take years to establish the program but through this system every CSEA member firm would become a "Red Carpet" Electronic Technician.

Major Networks Should Be Pushing Color Sales

With color sales having their problems and every major network going full color in their programming, it seems to me that these broadcasters should be pushing color television set sales. A fantastic amount of effort is going into announcing the new color shows and it would be simple for them to add a few lines encouraging people to buy a new color set. Of course, the soft sell is there when they announce these new color shows but wouldn't the sign of the times indicate a harder sell? Something like: "Be prepared for the 1968 color season . . . color television prices have never been lower". It just seems to me that the most natural thing in the world is being overlooked. It is about time the networks recognized that advertisers won't pay big color show prices without more color set sales and that no one is going to watch color shows if the color sets that have already been sold are not operating. Whether they like it or not, this is a total industry. Broadcasting to Sales to Service is a team. This would be a double play that really made sense.



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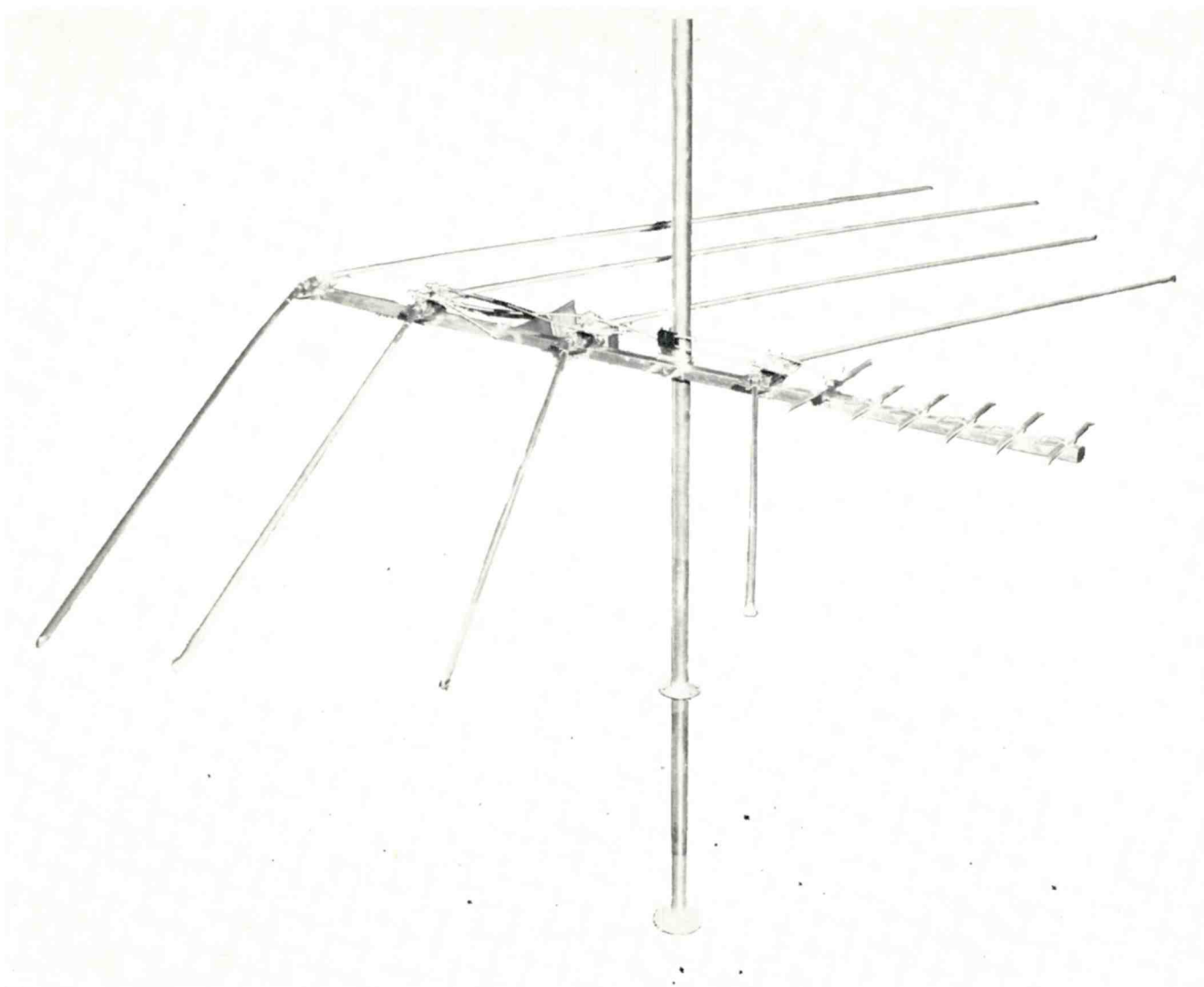
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PRESIDENT'S MESSAGE

by HUGH WILKINS

Due to several causes, there has been a substantial drop in the total number of radio-tv servicing businesses in this state during the last four years. Without considering the usual drop-outs due to disenchantment, financial over-extensions, retirements and deaths (these are usually replaced by new arrivals in the field), we can set down at least three major causes:

1. Many charlatans and moonlighters have found it too difficult to operate under the regulatory laws now on our statute books.
2. Too many shops stubbornly refused to adjust their schedule of rates and charges to a rising cost of doing business in time to avert disaster.
3. Numerous shopowners just did not want to (or could not) keep up with the ever more exacting demands upon their resources and skills being made by the appearance of a bevy of new home electronic devices, not to mention the rather drastic changes in technological design and function of already existing devices.

Items 1 and 2 have been previously discussed in this magazine, but Item No. 3 brings up questions which ought to be closely examined now for the future well-being of the home electronics servicing industry.

TRANSISTORIZED TV

Vacuum tube-equipped color tv is a bugaboo most of us have already crossed. We have taken our training courses, equipped ourselves with essential test gear, tubes, etc., and already have a fair amount of experience behind us. Now comes transistorized b/w and color tv.

But what have we been doing about transistorized radios in the meantime? Have we plunged into this phase of electronic servicing with the same ardor with which we tackled color television? No doubt, many have. However, a surprising number of shopowners have told me that they either reject these jobs, or else accept them and then "farm" them out to a shop that specializes in this work at a wholesale, flat-rate charge.

Doesn't this mean that many of us have been spurning a natural training ground for becoming familiar with transistor work on relatively simple circuits? Wouldn't this have helped us face up to and understand the far more complex problems and sometimes per-

plexing behaviour of transistors in tv sets?

One reader wrote in that he "farmed out" tape recorders, transistor radios, etc., and specialized on being proficient in color tv servicing. This might work out in smaller communities, but what about places where large shops cater to householders with a "we do everything" slogan? Wouldn't this put the specialist at a competitive disadvantage?

INTEGRATED CIRCUITS

In a two-installment article entitled, "Troubleshooting Integrated Circuits," by Messrs. Buschbaum and Henn (*Electronics World*: July & August, 1967), the impracticability of applying old, standard methods of checking voltages and resistances to IC's having 10 to 14 leads and containing several semiconductors which could be damaged by such procedures, was emphasized. Also emphasized was the technician's need for "... good quality test equipment capable of dynamic, in-circuit testing over a wide range of frequencies, modulations and waveforms" plus "... a detailed knowledge of circuit functions and signals in each part of the equipment, and how they can be examined under dynamic conditions."

In another part of the same article, the problems of servicing IC's in the home and the possibility that many shops may eventually abandon house calls entirely, is discussed, concluding with the prediction that "... the man who in the past solved most troubles by tube replacement will either have to learn the newer principles of electronics and IC operation or get out of the radio, hi-fi and TV servicing business."

Like the popular song of yesteryear, the above quotes underscore the point that "There'll be some changes made." If you've been doing your homework on transistors, you are probably ready for this, but it's going to mean more training courses, more test equipment and, then, what about inventory? What will be the variety and number of "panels," modules, circuit boards, etc., needed to carry on the average service operation that handles all makes. Will this mean specialization by makes?

The larger shops should experience little difficulty in organizing service staff internally to specialize to the extent necessary to accept all makes and still assure both efficiency and proficiency. However, it may become neces-

sary for the small shop to accept only three or four makes of IC-equipped sets in order to maintain good servicing standards.

Now, consider the probably reduction in breakdown frequency with solid state equipment (remember the auto radios). Can a small shop keep his charges within a realistic range, meet his overhead and operate at a fair profit with what may turn out to be a drastically reduced volume of work?

IS POOLING THE ANSWER?

Harking back to our man who wants to specialize on color tv and send out the rest: Wouldn't he be better off if he could get his tape recorder specialist, his transistor radio specialist, his recorder changer specialist, etc., etc., to join with him in setting up a jointly-owned service center under one roof and, basically, under one set of operating expenses? And wouldn't a natural sequence to this be for him to specialize in, say, three or four makes of IC-equipped sets and bring in specialists in other makes? Wouldn't this present the public with an attractive one-stop service center and, at the same time, put all their separate operations on a much sounder economic basis?

A reputable business counsellor who has been active in our field of endeavor has assured me unequivocally that such an arrangement is very sound and has many very attractive advantages business-wise which are not apparent at first glance.

WAIT AND SEE?

I realize that such suggestions as these presume an awareness on the part of small shopowners that they should take action now to avoid possible disaster in the future. They also presume that individual shopowners will have the capacity to take the initiative in such matters when they become aware of the need to do so. Many are adopting a "wait and see" attitude. However, we can wait too long, and if the result is a fading away of the small, independent radio-tv service shop (possibly including yours), isn't it worth while investigating now?

CSEA offers a natural place for shopowners to get acquainted with each other, learn about one another's business and professional habits, get the thinking of others on matters such as are raised herein, for example. Certainly, if it does become important to team up with other shops in order to stay in the electronic servicing field on a profitable basis, there is no better place to get well-acquainted with those with whom you might be dealing later on. Why not join the pacemakers of your industry—NOW?



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'the ANTENNA that captures the RAINBOW'

Frequency DEPENDENT Antennas

Much has been written about the frequency independent antenna and its characteristics which are desirable for some applications. But these same characteristics are NOT desirable for television reception.

A frequency independent antenna has a gain curve within its band width design that is essentially flat with frequency, as illustrated in FIG. 1, when exposed to the same field strength at each frequency.

However, it is well known that the propagation path attenuation, or loss, is greater on Channel 6 frequency than on Channel 2 frequency, etc. Therefore, a Channel 6 transmitter will not present as strong a signal field strength at a remote receiving antenna as will a Channel 2 transmitter. This means the receiving antenna should have more gain on Channel 6 than on Channel 2, to compensate for this propagation characteristic.

Likewise, the transmission line (down lead) from receiving antenna to TV receiver has losses which increase with frequency—that is, more losses on Channel 6 than Channel 2. So, again, the receiving antenna should have more gain on Channel 6 than on Channel 2, to compensate for this transmission line characteristic.

As we proceed to the TV receiver itself, a similar frequency dependent characteristic is found . . . the receiver requires more signal to operate properly as the frequency is increased from Channel 2 to Channel 6. Therefore, still another factor in the signal handling "chain" dictates the requirement of more receiving antenna gain as the frequency is increased from Channel 2 to Channel 6.

Since all of these factors in the signal handling "chain" affect the signal in sequence, or in series, one after the other, the demand of the composite system for the receiving antenna gain to increase with frequency is cumulative—dictating a frequency DEPENDENT antenna—NOT frequency independent. Thus an "ideal" TV receiving antenna would have a gain curve as shown in solid line in FIG. 2—"flat" across each channel, and increasing as stair steps. The dotted curve shows the practical design, with gain across each channel varying not too steeply, but still gradually increasing.

Although the above analysis is shown only for LOW BAND Channels 2 thru 6, the same is true for HIGH BAND as frequency is increased from CHANNELS 7 thru 13, and also for UHF as the frequency is increased from Channel 14 on up.

This frequency DEPENDENT characteristic is obtained in the VHF drive system of the COLOR SPECTRUM series by a newly developed principle of The Finney Company's Engineering Department . . . calling for increasing spacing between driven elements toward the smaller high frequency end. It will be noted this reverses the spacing factor of the frequency independent antenna, which calls for the spacing between driven elements to decrease towards the small high frequency end.

The increasing spacing between elements toward the small high frequency end of the VHF drive system is shown schematically in FIG. 3 (elements shown straight—not V'd—for simplicity).

The frequency DEPENDENT results are shown by FIG. 4 and FIG. 5.

A plane wave front coming from a transmitter, whose frequency is in between that of element No. 1 and element No. 2, strikes element No. 2 and induces in it a voltage represented by the vector E_2 of FIG. 4. This wave must travel the distance A before it arrives at element No. 1; therefore the voltage it induces in element No. 1 lags by the angle A, and is shown as vector E_1 . However, this signal induced in No. 1 must travel back up the drive line to element No. 2, and this causes another lag by angle A. Therefore the vector E_1 is shifted by Angle A to E_1' . However, since the drive line is transposed, there is an additional shift of 180° , so E_1' is shifted by 180° to vector E_1'' . Now we can add the signals of element No. 2 and No. 1 to obtain the sum vector $E_2 + E_1''$, which is the sum of the signals induced in elements No. 2 and No. 1.

Now assume another wave front is coming in from a transmitter of higher frequency—between that of element No. 3 and element No. 2. This produces the vector diagram of FIG. 5.

This higher frequency wave induces a voltage in element No. 3 shown as vector E_3 in FIG. 5. This wave must travel the distance B before it arrives at element No. 2, and since distance B is greater than distance A, the angle B in FIG. 5 is greater than the angle A of FIG. 4. The voltage induced by this wave in element No. 2 is vector E_2 , FIG. 5, and it experiences a further delay of another angle B by the length of the drive line to position E_2' , and a still further 180° shift by the line transposition to E_2'' . Thus the sum of the signals in elements No. 3 and No. 2 is the sum vector total $E_3 + E_2''$.

It can be seen that due to the increasing spacing, the vectors of FIG. 5 (E_3 and E_2'') are more nearly in phase for adding than are the vectors of FIG. 4 (E_1'' and E_2), and the "sum" vector for elements No. 4 and No. 3 will add to a still greater value, and continue in this manner through the other elements as the frequency is increased.

Although these vector diagrams are somewhat simplified, they indicate the accomplishment of the desired frequency DEPENDENT operation—of gain increasing as frequency increases, in the VHF spectrum.

The UHF drive system of the COLOR SPECTRUM series also accomplishes this desired frequency DEPENDENT characteristic of rising gain with increasing frequency. Although this drive system is a rear feed, and the drive line is not transposed between elements, the same principle of increasing spacing between elements toward the small higher frequency end is utilized, as shown in FIG. 6.

In this system, a plane wave front striking an element, such as No. 3, induces a voltage E_3 in the element. This then travels back the drive line toward the antenna terminals at the same speed that the wave front is traveling. Therefore, it arrives at element No. 2 at the same time that the wave front arrives at element No. 2. Thus the voltage now induced in element No. 2, E_2 , by the wave is in phase with the voltage E_3 of element No. 3, and the two add together to appear as the sum at the terminals of element No. 2. This "sum," in turn, appears at the terminals of element No. 1 at the same time that the wave front induces voltage E_1 in element No. 1, and therefore E_1 is, in turn, added to the previous sum, with the new larger total sum appearing at the terminals of element No. 1, and at the terminals of the array. The increasing spacing between the shorter, higher frequency driven elements again produces the frequency DEPENDENT characteristic because of the various mutual impedances and other factors that have been omitted from the above for simplification.

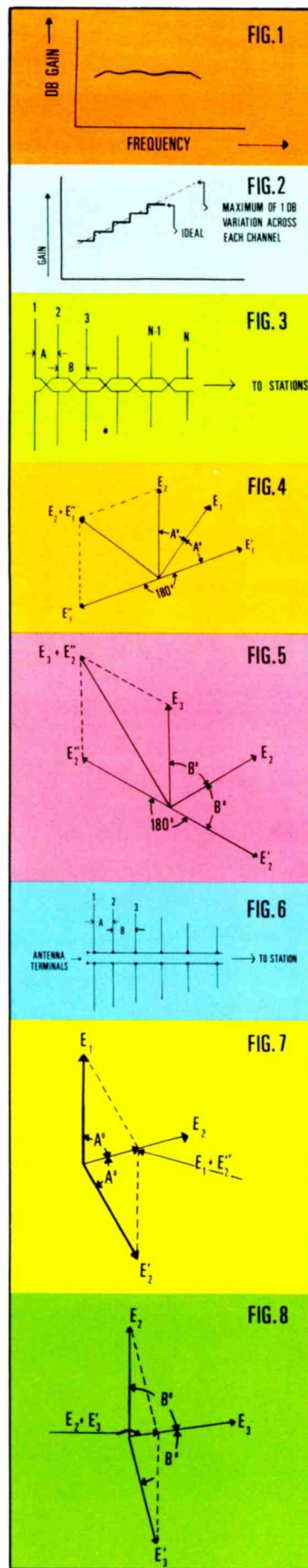
It is also interesting to note that the element spacing as used, and as illustrated in FIG. 6, produces a front-to-back ratio that increases with frequency. This can be analyzed by vector diagrams shown in FIG. 7 and FIG. 8.

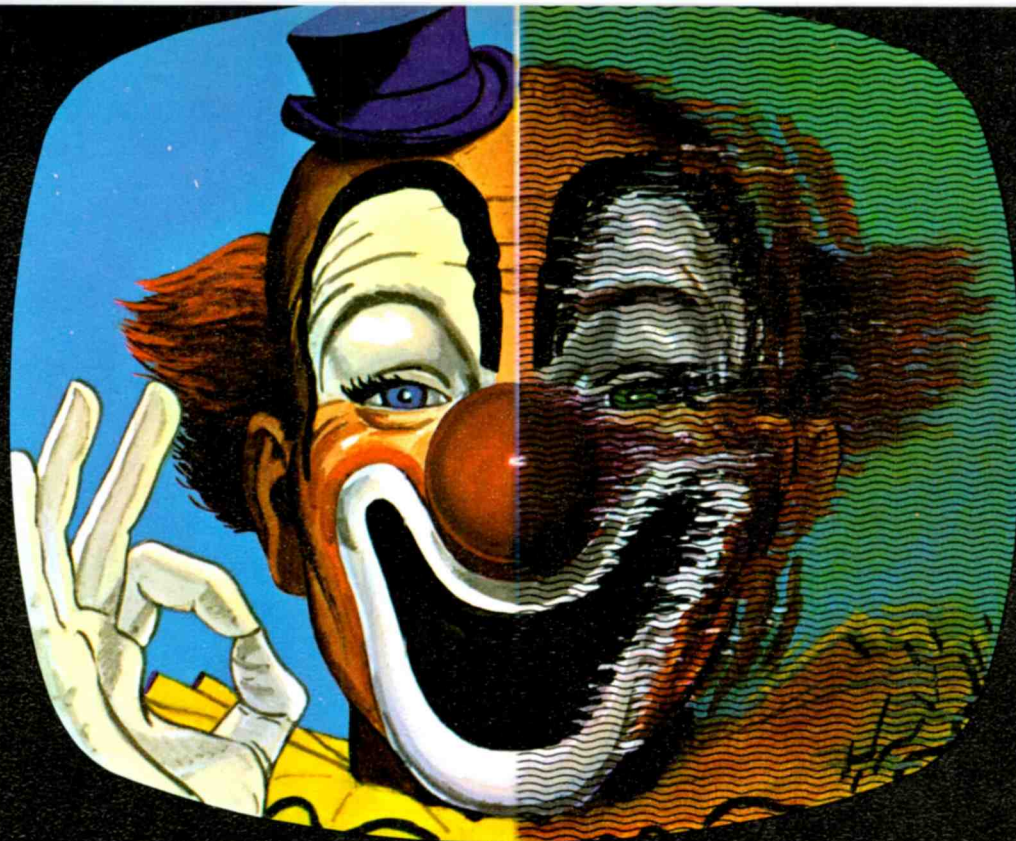
In this, we assume a plane wave front coming in from the rear, which of course will impinge upon element No. 1 (FIG. 6) first, and induce in it voltage E_1 of FIG. 7. This wave will arrive at element No. 2 the distance A (or the angle A) later, and induces in element No. 2 voltage E_2 of FIG. 7. Now, however, this voltage must travel back along the drive line to element No. 1 (the antenna terminals), and will therefore experience another delay of angle A, and be shifted to vector E_2' . To obtain the "rear pick up" of these two elements at this frequency, vectors E_1 and E_2' are added, with the "sum" vector $E_1 + E_2'$ being quite short, indicating a low value of rear pick up, or a high value of front-to-back ratio. However, now let us analyze a higher frequency wave also coming in from the rear, in between the frequencies of elements No. 2 and No. 3.

As shown in FIG. 8, this signal arrives at element No. 2 and induces in it voltage E_2 . Distance B, or angle B later, the wave arrives at element No. 3 and induces in it voltage E_3 . This, however, must travel back to element No. 2 (on its way to the antenna terminals), and thus experiences another delay of angle B, and arrives at element No. 2 as vector E_3' . Now the "rear pick up" of elements No. 2 and No. 3 at this higher frequency is the vector sum $E_2 + E_3'$. FIG. 8 shows this "rear pick up" vector sum $E_2 + E_3'$ at this higher frequency to be smaller than the FIG. 7 vector sum $E_1 + E_2'$. . . that is, less rear pick up, or even greater front-to-back ratio, at this higher frequency. This can be repeated for the additional smaller, higher frequency elements, and as the spacing increases (angle A or angle B approaching 90°), the rear pick up continues to diminish for an increasing front-to-back ratio.

The overall UHF array front-to-back ratio (and gain) is further improved in the lower UHF frequency range, however, by a full two-element reflector. As the frequency is increased and the reflector action diminishes, the increasing spacing of the drive system then continues to hold the front-to-back ratio of the array to a very high value, even in the "mid-band" range where most antennas that depend on reflector and directors for front-to-back ratio, will fail to reject rear signals. Some models of the COLOR SPECTRUM series have UHF directors added for greatly increased UHF gain, but do not depend on them for front-to-back ratio.

It will also be noted that the COLOR SPECTRUM UHF-VHF series has a special isolating stub system built into the low-loss drive line system. Any UHF signal that may be picked up by the longer VHF elements (that could in some situations cause ghosting) is completely removed by this isolating stub system before it can reach the UHF elements or the array terminals—a typical example of the plus extras in FINCO products.



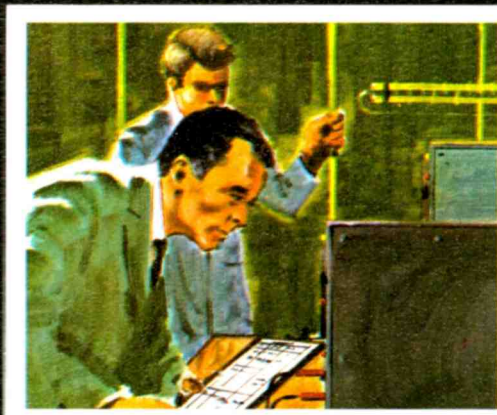


Don't tolerate **Color Distortion** and **ghosts**

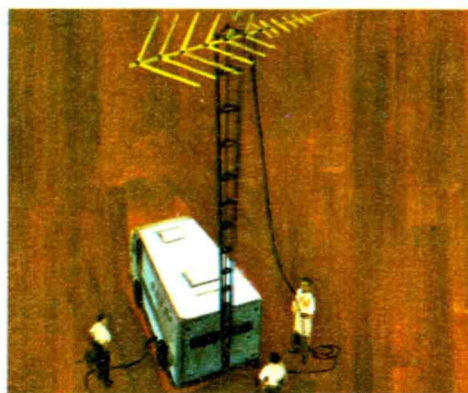
FINCO Color Spectrum frequency dependent antennas represent the ultimate in electrical design and mechanical engineering.

These Color Spectrum antennas are the culmination of experience gained by the nation's leading manufacturer of specialized antennas. The end product of years of antenna study, laboratory and field testing by The Finney Company.

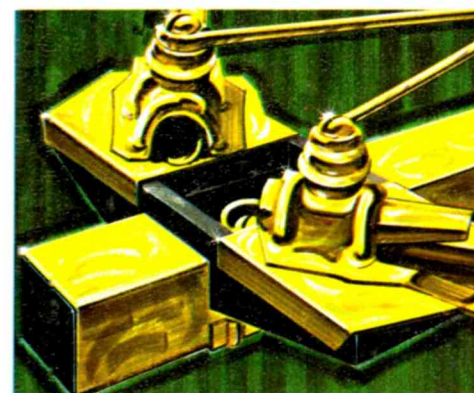
They answer the most stringent requirements found in any reception area both as to signal frequency and signal strength.



RESEARCH



TESTING



ENGINEERING

Prices and specifications subject to change, exclusive international representation: Rocke Int. Corp., 13 E. 40th St., New York 16, N. Y., U.S.A. Cables "ARLAB"

THE FINNEY COMPANY

34 WEST INTERSTATE STREET, BEDFORD, OHIO 44146

**REPUTATION
ENGINEERING
LEADERSHIP
PERFORMANCE**

VHF-UHF-FM

COLOR SPECTRUM FREQUENCY DEPENDENT ANTENNAS

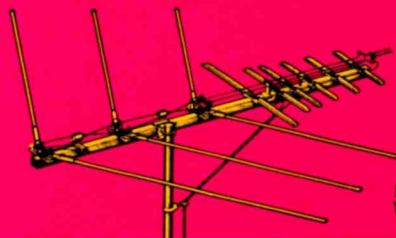
MODEL CS-A1

Nine Element UHF-VHF-FM
Three Driven VHF-FM-Elements
Six UHF Elements, Five Driven, One Parasitic

FOR USE IN: (Strong VHF Signal Areas
Strong UHF Signal Areas

Complete With Behind the Set Line Splitter

LIST PRICE: **\$18.95**



Boom Length 54 $\frac{7}{8}$ "
Turning Radius 45"

75 OHM

Model XCS-A1

Complete With Behind the
Set Matching Transformer/
Splitter

List Price: **\$27.45**

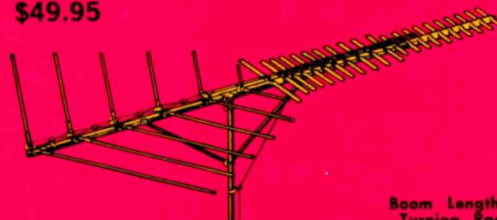
MODEL CS-B3

Twenty-Eight Element UHF-VHF-FM
Six VHF-FM Elements, Five Driven, One Parasitic
Twenty-Two UHF Elements, Ten Driven, Twelve Parasitic

FOR USE IN: (Moderate VHF Signal Areas
Very Weak UHF Signal Areas

Complete With Behind the Set Line Splitter

LIST PRICE: **\$49.95**



Boom Length 139 $\frac{1}{8}$ "
Turning Radius 82"

75 OHM

Model XCS-B3

Complete With Behind the
Set Matching Transformer/
Splitter

List Price: **\$58.45**

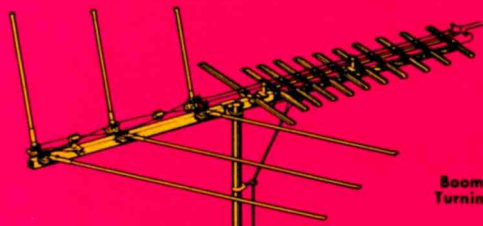
MODEL CS-A2

Fourteen Element UHF-VHF-FM
Three Driven VHF-FM Elements
Eleven UHF Elements, Ten Driven, One Parasitic

FOR USE IN: (Strong VHF Signal Areas
Weak UHF Signal Areas

Complete With Behind the Set Line Splitter

LIST PRICE: **\$22.95**



Boom Length 70 $\frac{3}{4}$ "
Turning Radius 46"

75 OHM

Model XCS-A2

Complete With Behind the
Set Matching Transformer/
Splitter

List Price: **\$31.45**

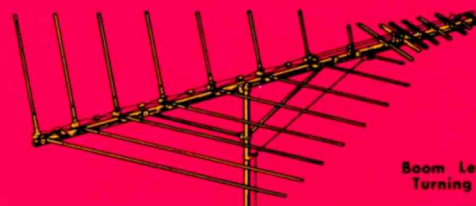
MODEL CS-C1

Sixteen Element UHF-VHF-FM
Eight VHF-FM Elements, Seven Driven, One Parasitic
Eight UHF Elements, Five Driven, Three Parasitic

FOR USE IN: (Weak VHF Signal Areas
Strong UHF Signal Areas

Complete With Behind the Set Line Splitter

LIST PRICE: **\$43.95**



Boom Length 123 $\frac{1}{2}$ "
Turning Radius 66"

75 OHM

Model XCS-C1

Complete With Behind the
Set Matching Transformer/
Splitter

List Price: **\$52.45**

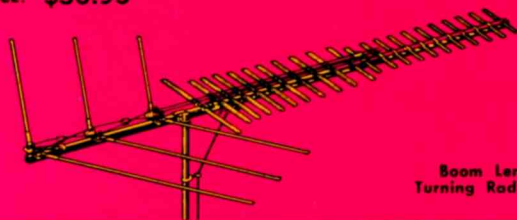
MODEL CS-A3

Twenty-Five Element UHF-VHF-FM
Three Driven VHF-FM Elements
Twenty-Two UHF Elements, Ten Driven, Twelve Parasitic

FOR USE IN: (Strong VHF Signal Areas
Very Weak UHF Signal Areas

Complete With Behind the Set Line Splitter

LIST PRICE: **\$30.95**



Boom Length 104"
Turning Radius 64 $\frac{1}{2}$ "

75 OHM

Model XCS-A3

Complete With Behind the
Set Matching Transformer/
Splitter

List Price: **\$39.45**

MODEL CS-C3

Thirty Element UHF-VHF-FM
Eight VHF-FM Elements, Seven Driven, One Parasitic
Twenty-Two UHF Elements, Ten Driven, Twelve Parasitic

FOR USE IN: (Weak VHF Signal Areas
Very Weak UHF Signal Areas

Complete With Behind the Set Line Splitter

LIST PRICE: **\$59.95**



Boom Length 166 $\frac{1}{2}$ "
Turning Radius 95"

75 OHM

Model XCS-C3

Complete With Behind the
Set Matching Transformer/
Splitter

List Price: **\$68.45**

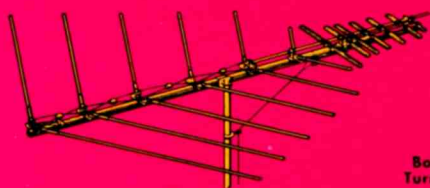
MODEL CS-B1

Thirteen Element UHF-VHF-FM
Six VHF-FM Elements, Five Driven, One Parasitic
Seven UHF Elements, Five Driven, Two Parasitic

FOR USE IN: (Moderate VHF Signal Areas
Strong UHF Signal Areas

Complete With Behind the Set Line Splitter

LIST PRICE: **\$29.95**



Boom Length 93"
Turning Radius 48"

75 OHM

Model XCS-B1

Complete With Behind the
Set Matching Transformer/
Splitter

List Price: **\$38.45**

MODEL CS-D3

Thirty-Six Element UHF-VHF-FM
Ten VHF-FM Elements, Nine Driven, One Parasitic
Twenty-Six UHF Elements, Ten Driven, Sixteen Parasitic

FOR USE IN: (Very Weak VHF Signal Areas
Very Weak UHF Signal Areas

Complete With Behind the Set Line Splitter

LIST PRICE: **\$69.95**



Boom Length 204 $\frac{1}{8}$ "
Turning Radius 106"

75 OHM

Model XCS-D3

Complete With Behind the
Set Matching Transformer/
Splitter

List Price: **\$78.45**

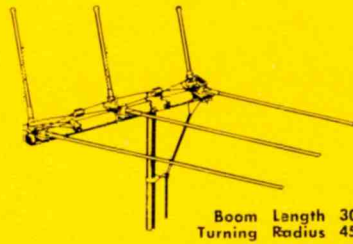
VHF-FM

COLOR SPECTRUM FREQUENCY DEPENDENT ANTENNAS

MODEL CS-V3

Three Element VHF-FM
Three Driven VHF-FM Elements
FOR USE IN: Strong Signal Areas
LIST PRICE: \$10.95

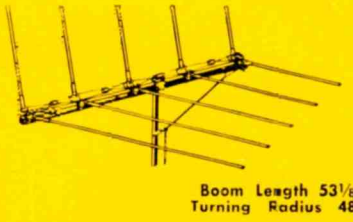
75 OHM
Model XCS-V3
Complete With Behind the
Set Matching Transformer
List Price: \$19.25



MODEL CS-V5

Five Element VHF-FM
Five Driven VHF-FM Elements
FOR USE IN: Moderate Signal Areas
LIST PRICE: \$17.50

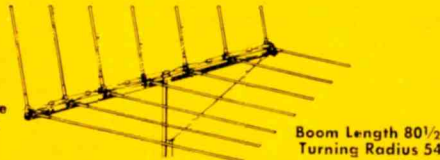
75 OHM
Model XCS-V5
Complete With Behind the
Set Matching Transformer
List Price: \$25.95



MODEL CS-V7

Seven Element VHF-FM
Seven Driven VHF-FM Elements
FOR USE IN: Medium Strength Signal Areas
LIST PRICE: \$24.95

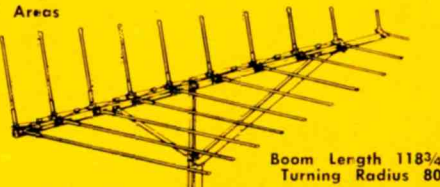
75 OHM
Model XCS-V7
Complete With Behind the
Set Matching Transformer
List Price: \$33.25



MODEL CS-V10

Ten Element VHF-FM
Nine Driven VHF-FM Elements, One Parasitic
FOR USE IN: Weak Signal Areas
LIST PRICE: \$35.95

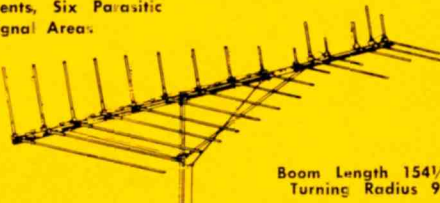
75 OHM
Model XCS-V10
Complete With Behind the
Set Matching Transformer
List Price: \$44.95



MODEL CS-V15

Fifteen Element VHF-FM
Nine Driven VHF-FM Elements, Six Parasitic
FOR USE IN: Very Weak Signal Areas
LIST PRICE: \$48.50

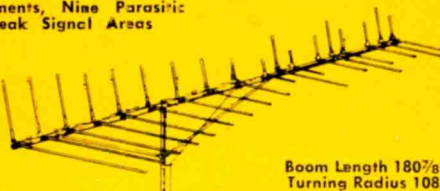
75 OHM
Model XCS-V15
Complete With Behind the
Set Matching Transformer
List Price: \$56.95



MODEL CS-V18

Eighteen Element VHF-FM
Nine Driven VHF-FM Elements, Nine Parasitic
FOR USE IN: Extremely Weak Signal Areas
LIST PRICE: \$56.50

75 OHM
Model XCS-V18
Complete With Behind the
Set Matching Transformer
List Price: \$64.95



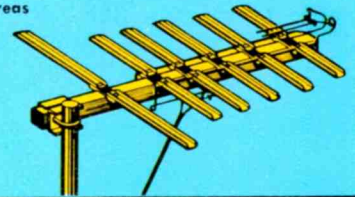
UHF

COLOR SPECTRUM FREQUENCY DEPENDENT ANTENNAS

MODEL CS-U1

Six Element UHF
Five Driven UHF Elements, One Parasitic
FOR USE IN: Strong UHF Signal Areas
LIST PRICE: \$9.95

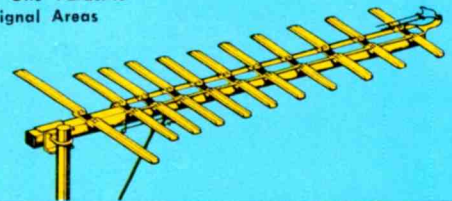
Boom Length 24"
Turning Radius 19 1/2"



MODEL CS-U2

Eleven Element UHF
Ten Driven UHF Elements, One Parasitic
FOR USE IN: Weak UHF Signal Areas
LIST PRICE: \$14.95

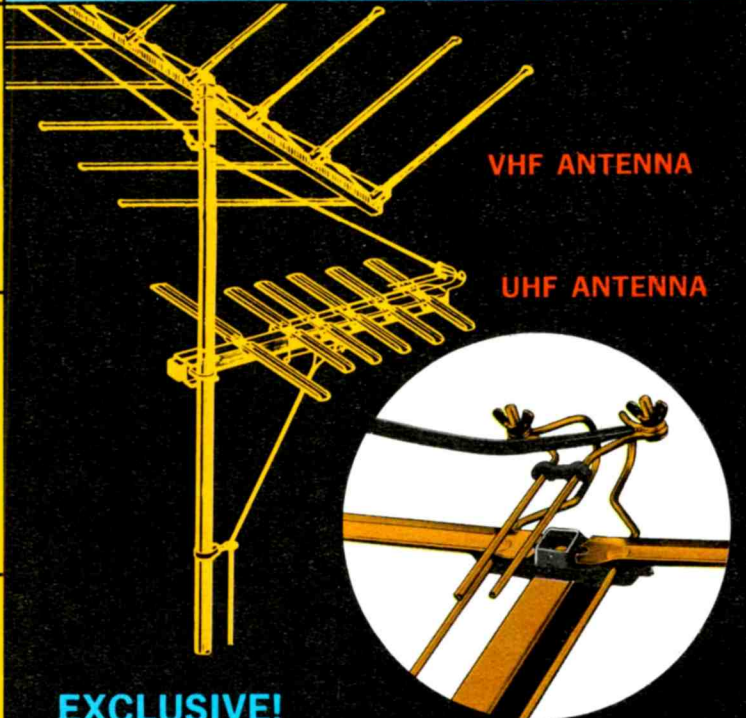
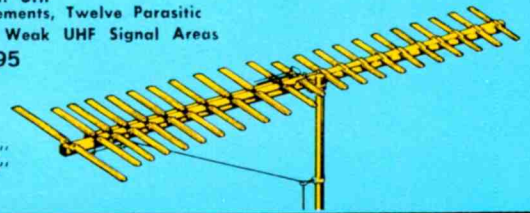
Boom Length 38 1/4"
Turning Radius 34 1/2"



MODEL CS-U3

Twenty-Two Element UHF
Ten Driven UHF Elements, Twelve Parasitic
FOR USE IN: Very Weak UHF Signal Areas
LIST PRICE: \$21.95

Boom Length 69 3/4"
Turning Radius 40"



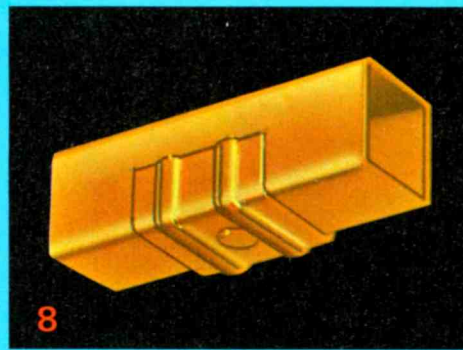
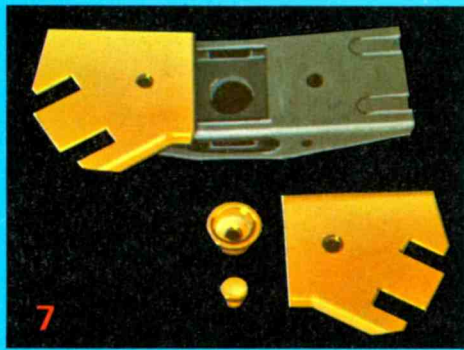
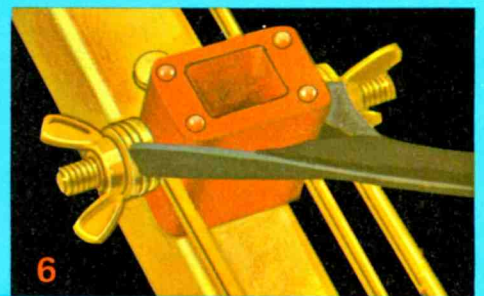
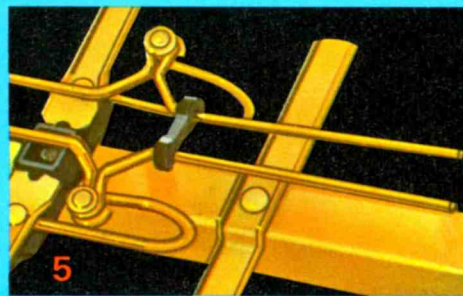
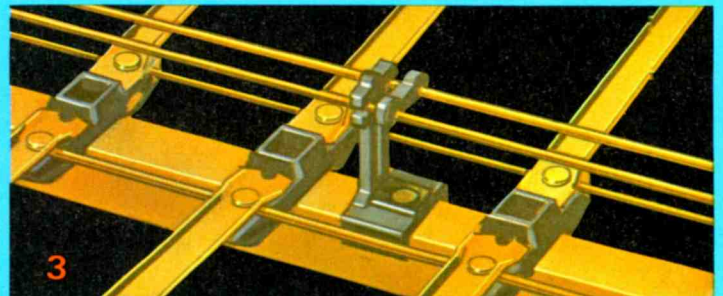
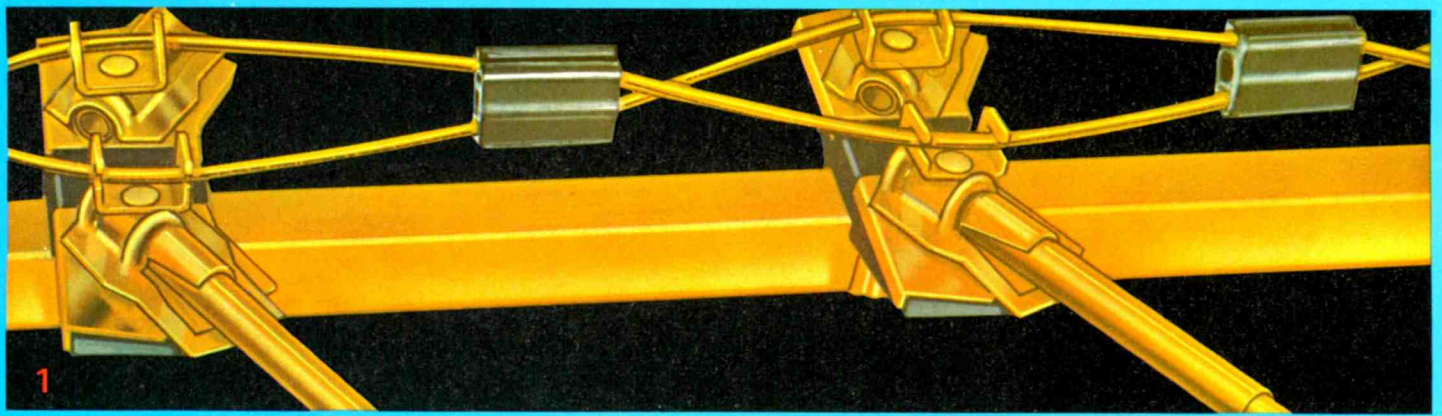
VHF ANTENNA

UHF ANTENNA

EXCLUSIVE!

The FINCO Color Spectrum UHF antennas can be coupled to any existing VHF antenna **WITHOUT** a coupler! And can be oriented toward UHF stations in **ANY** direction.

Engineered for the future!



- 1 Continuous one piece drive line and exclusive air insulated crossover spacer.
- 2 Exclusive triple thick sleeved elements.
- 3 Drive line pedestals assure positive drive line spacing.
- 4 Double contact to drive line.
- 5 Exclusive isolating stub system built into low-loss drive line system.
- 6 Virtually non-breakable side to side take off terminal. Red color for identification.
- 7 Metal reinforced insulator, insert cup, and heavy duty rivet.
- 8 Back-up bracket and square boom.
- 9 Lock tite no-tilt saddle bracket.



CSEA NEWS WIRE

A ROUND-UP OF STATE AND LOCAL NEWS OF
THE CALIFORNIA STATE ELECTRONICS ASSOCIATION

ZONE "B" BOAT-TRIP PLANNED FOR SEPT. 30TH

The Zone "B" Boat ride-Dinner Dance is slated for the 30th of this month, according to Larry Schmitt, chairman of the program. This will be the second annual event and anyone who went along last year will attest to its great success. Plans call for the boat to leave Fisherman's Wharf in San Francisco at 7:30 p.m. sharp headed for the Restaurant across the Bay. After dinner the Boat will return the party goes to the Wharf but there will be dancing aboard ship all the way. Last year 180 people joined the party even though the weather was not the best. Everyone enjoyed themselves so make sure you get your reservations in early.

Please call Larry at the Radio TV Workshop, 574 San Mateo Avenue in San Bruno. The phone number is JU 8-5366 and the total cost is \$10 per person.

ESD ESD ESD



OVER 100 DEALERS TURN OUT TO HEAR STERLING IN VENTURA

Over 100 dealers in the Ventura area turned out last month to hear Miles Sterling talk about television service prices. At the same time, Ralph Johonnot talked to the group about CSEA and the new plans that are now going into effect. Capp Loughboro, former member of the BERDR Advisory Board and member of the CSEA State Board of Directors, also spoke to the group and pointed out the importance of the Association. There is a possibility that the Ventura chapter will leave Zone "F" and join the Santa Barbara Zone since it is more closely aligned with that area than Los Angeles. This action is awaiting authorization from the State Board of Directors.

ESD ESD ESD

MONTHLY DUES BILLING GOING OUT

The new CSEA "Central State Billing" program on a monthly basis is now in full swing. Many delays have been encountered in trying to get the system started with final information from chapters just being completed. With correct State, Chapter, Zone, NEA, Insurance and Supplies all appearing on one statement each month it should provide the easiest method for members to pay. A daily ledger will be kept for each chapter and at the end of the month the totals will be completed and a check drawn for the amount due each chapter or zone. A copy of those who have paid will be sent to the chapter or zone with the check in order for each chapter treasurer to know the exact status of his unit. It has been a tremendous job to obtain all of the necessary information to do the job and to set up the correct system but it has now been achieved. Chapter records, in some cases, were far from complete and it will still take some time to make sure the billing is correct for each individual. Some members have paid as much as a year in advance so the complete system will not be working properly until all of the correct information is recorded. In the event you receive a bill that does not reflect the correct status of your membership . . . please let the State office know so that their records can be brought up to date.

ESD ESD ESD

SACRAMENTO CHAPTER HAS DISPLAY BOOTH AT FAIR

The Sacramento Chapter of CSEA participated in the California State Fair with a booth telling the thousands of people who passed, the Whats and Whys of CSEA. A fully lighted map of California showing the chapter locations was the main attraction of the booth and indicated the stature and coverage of this Association of independent Service Dealers. Members of the chapter each took turns in manning the booth and answering the question of those who passed. This is one of the most outstanding chapter projects in the State and should be considered by all chapters in areas where such events are held. A few years ago the Zone F Council participated in the L. A. County Fair in Pomona but did not participate the last couple of years. The booth is being sponsored by Les Letstreck of Dunlap Electronics and Russ Tatro of Norcal, Inc., both in Sacramento.

PASADENA MEMBERS VIEW CHANNEL MASTER FILM

Walt Nueman and Hardy Stewart of Andrews Electronics in Burbank presented the Channel Master film on the production of color picture tubes last month. They also discussed the newest techniques in antenna installation to the members of the Pasadena Chapter.

ESD ESD ESD

SAN DIEGO CHAPTERS SET UP COLOR REFRESHER COURSE

The San Diego Chapters of CSEA will present an 8-week color refresher course starting on October 4th and running through November 22nd. Chairman of the event is Ed Fort who reported that Charlie Parker will lay the ground work for the course the first two weeks and then will hold a summary meeting at its completion. After the first two weeks there will be a series of five manufacturers who will present their service problems on sets that are at least two years old. The idea is to provide information on sets that are now causing problems rather than discussing new chassis. The five asked to provide top notch service people are: RCA, Zenith, Motorola, Packard Bell and Admiral. Stand-by manufacturers would be General Electric and Philco. The cost of the course will be \$15 for the complete program or \$2.50 per meeting. The school is free to all CSEA members but anyone interested must register by October 1st. They will be held each Wednesday night at 8:00-10:30 p.m.

ESD ESD ESD

MASTER CHARGE STORY PRESENTED TO SONOMA CHAPTER

Bud DeSelle of the Exchange Bank in Santa Rosa was the guest speaker at the Sonoma County Chapter's meeting last month in Santa Rosa. The topic was the new Master Charge system in California and how it works.

ESD ESD ESD

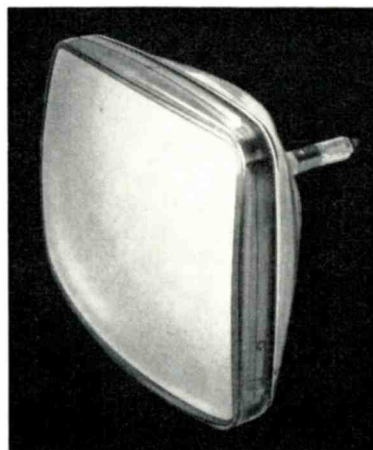
SAN MATEO HEARS "THE CARE AND FEEDING OF A BUSINESS"

Robert Pilch, CPA, provided some interesting and thought provoking ideas to the members of the San Mateo Chapter last month. His speech, titled "The Care and Feeding of a Business" was most informative and humorous.

ESD ESD ESD

Why not sell the best

ZENITH TUBES
built to the quality standards of Zenith original parts



TV Picture Tubes

For color TV, B&W TV or special purposes. A complete Zenith line of more than 200 tubes built for greater reliability, longer life.

"Royal Crest" Circuit Tubes

More than 875 tubes—a full line with the same quality as original Zenith equipment. Get Zenith tubes for greater dependability and finer performance.



Zenith B&W replacement picture tubes are made only from new parts and materials except for the glass envelope in some tubes which, prior to reuse, is inspected and tested to the same high standard as a new envelope. Some color picture tubes contain used material which, prior to reuse, is carefully inspected to meet Zenith's high quality standards.

Order all genuine Zenith replacement parts and accessories from your Zenith distributor.



The quality goes in before the name goes on

Paperwork Can Cost You Dollars

By Ralph Butz
Special ESD Editor

If you don't know how much time and money your office wastes on paper work take a guess then make a survey. Finding the cost of writing letters may be a good place to start checking. It may yield a surprise.

You may be amazed when you realize how much unnecessary time and money is wasted on dictation and typing. A survey conducted by the U.S. Government indicated that it costs about \$3000 to dictate and type two thousand 25-line letters.

If your firm mails 2,000 typewritten letters a month, the annual cost is something to think about. Even a small firm that mails only ten letters a day may find it possible to cut letter-writing expenses.

One firm that receives hundreds of queries each month found a way to cut correspondence costs by almost 30 per cent. This firm uses a small printed form with the following notation:

A HURRY-UP REPLY

We hope you won't mind if we take the liberty of replying to your letter by making marginal notation on the letter itself, thus assuring you much more rapid action than would be possible if we waited until a formal answer could be typed.

Another firm, a large supply house, uses a similar printed form to clip onto letters that can be answered with a handwritten notation of 20 or 30 words. "We found that we were going through a lot of wasted motion," reported the manager. "We were dictating and typing long letters to answer queries that could be answered with relatively few words. When a department manager reads incoming letters he can tell very quickly which queries require a letter or telephone call. Those that can be answered with a few short sentences are taken care of immediately and placed in outgoing mail. He is then free to concentrate on the letters that require a typewritten reply.

"We cut dictating and typing time about 25 per cent," he continued. "When we receive a query we assume that the writer expects a prompt reply. A department manager can reply to simple queries in a fraction of the time he would consume dictating letters, then checking the typed letter for accuracy."

A distributor of specialty items uses a printed form letter for immediate reply to questions. This form letter has a large blank space for a handwritten or typed reply.

"A large number of questions are about prices, delivery

dates, or about items we do not handle," an executive said. "many of these can be answered immediately by writing the answer on the form letter. If the reply is long and detailed, I dictate the reply to a secretary and have her type it on the form. We know that people are not interested in reading long letters in answer to simple questions.

"When we want to keep a record of a reply we run the form through a copying machine and file it for a limited time. A few years ago we kept carbon copies of every letter, filing the copies until our files were clogged with letters no one was going to need. Finally we decided to clear the files of obsolete copies. We now have a surplus of filing cabinets. We no longer waste clerical time filing copies that are not needed."

A management consultant was called in to review office procedure for a firm that issues a catalog each year. A prospective customer wrote: "I have your catalog issued two years ago. I am now interested in machine No. 234, on page 31, and would like to know if there has been a change in price since the catalog was issued."

The letter had been on a clerk's desk for two weeks. "Has this query been answered?" the consultant asked.

"No," the clerk replied, "we have been taking inventory and our typists have been so busy that I didn't get around to dictating a letter."

After pointing out that the writer's question could be answered with a few words written on the margin of his letter, the clerk wrote this notation: "There has been no change in price. We are mailing you our latest catalog. Thank you for the inquiry."

The letter was mailed and the prospective customer sent this reply: "Sorry, I thought you wouldn't answer my letter. I purchased the machine from another firm."

Some firms seem to copy the technique of government agencies, where letters are passed from one department to another, ultimately reposing on the desk of the person designated to reply. Weeks may elapse before a reply is dictated. Any one who has had occasion to seek answers from government agencies knows what a frustrating experience it can be.

What about letters from complaining customers? So Bill Jones has a gripe. He writes that you shipped the wrong item, or he was billed at the wrong price. His complaint may be a minor matter to the supplier, but it is important so far as Jones is concerned. He wants an answer now. A few words on the margin of Jones' letter: "We apologize, Mr. Jones. Sorry to have inconvenienced you. Replacement items are being shipped at once," or "corrected invoice will follow at once."

That's all Jones wants to know. It takes the steam out of his gripe when he is promptly assured that his business is appreciated.

"Phooey on computers and automation," moaned one boss. "The amount of paper work is overwhelming and it's getting worse. If I'm out of town for a few days the letters pile up on my desk and I'm tied down dictating replies to a pile of questions."

A solution to this enormous problem can be worked out if the boss delegates responsibility to an assistant or secretary, training them to do what should be done when he is away instead of sitting around while waiting for him to return. Let the assistant or secretary reply to routine queries. Those that can't be answered immediately should be acknowledged with a short note:

Dear Mr. Gordon: Mr. Carter is out of town at present. I expect him to return in a few days and will call his attention to your letter when he returns to the office."

It is only a simple memorandum but the recipient appreciates it. It is nothing more than good public relations.

FIGART'S SELECTS

JERROLD

BEST BUYS IN
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✓ VU-831 List \$17.95
14 element 300 ohm
including splitter

✓ PXB-48 List \$26.50
15 element 300/75 ohm
less splitter

✓ PXB-65 List \$46.50
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213
Phone
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Ralph Jhonnot
Executive Director
Betty Nicholson
Secretary

A DEALER SPEAKS OUT!

WHAT IS YOUR TIME WORTH?

What do you think you are worth? STOP . . . and . . . THINK! If you net \$12,000 a year, you must take into consideration all the expenses that come out of it.

You have to set aside a certain amount for expenses such as truck expense, purchase of new equipment and upkeep of old, keeping a well supplied stock of parts and tubes, as well as various other expenses.

You must keep your sights up on prices of bench labor and service calls for you are a very specialized guy. By the same token, give your customer his dollar's worth of services rendered. It is very important that your customer is well taken care of and satisfied with your services.

Let's keep pushing for better business and higher prices for there is money to be made in television sales and service.

We find the following five steps helpful in operating a more efficient shop
Good Management

You must have a superior bookkeeping system. You should be able to look at your books at all times and see just where you stand. If you are losing money, find out the source and remedy it.

All tubes and parts must be accounted for. Lost and unaccounted for parts is one of your major money losses. They should be checked out and a record made of all tubes. If you have warranty tubes, they must be tagged immediately and taken back to the distributor at regular intervals, otherwise, you are giving those tubes away without any to replace them.

When talking with a customer on the phone, be pleasant and anxious to please. Since everything is routed out from the shop, whether it is service calls or deliveries, you must try to the best of your ability to get there within the designated time. Nothing makes a customer madder than to promise you will be out at a certain time and then not make it. If you find you are running late, give the customer a call. If he isn't able to be there, you can make another appointment. The customer will appreciate your thoughtfulness, and again, you will have saved another customer.

Shop

Sets that are brought into the shop should be thoroughly checked out. If you find the repair is going to run more than the estimate, give the customer a phone call. They have saved many a customer that would have otherwise been mad. Do the best you can on a set and don't try to rush it.

It should be clean. Blow the chassis out, put a little furniture polish on the cabinet, clean the glass. A little "Spit and Polish" goes a long way. Put dial lights in the set. Make it a job that the technician is proud to send out and you will have a satisfied customer. One that will call back. A satisfied customer is money in your pocket.

Employer-Employee Relations

Give the employee an incentive to work. Show your approval once in awhile when they do something well. Use a little psychology and you will have a harder working crew, one that will try harder to please. Of course, the employees must be congenial and willing to meet you half way.

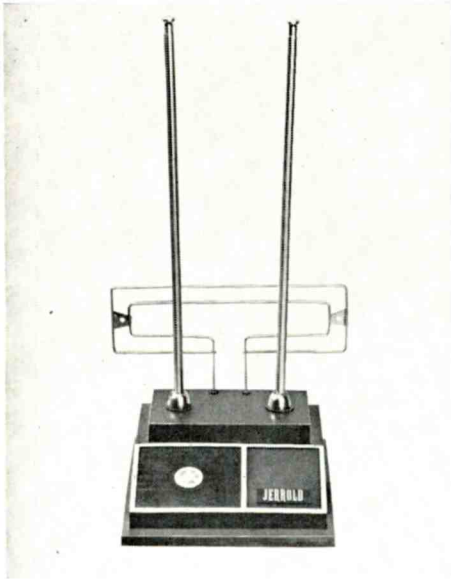
A business is no better than the help it has. The outside men are in the customer's home. They are the only ones making actual contact with the customers. Their personality, neatness, satisfactory service, and the way they conduct themselves in the customer's home makes all the difference between satisfied and dissatisfied customers. Be outgoing, a qualified technician, and show a genuine interest in the customer and their television set.

Advertising

Nothing pays dividends more than advertising. This is a proven fact. Whether it's a catchy ad or a satisfied customer telling others, you will receive many time more than what you've invested. When you go to the store to buy an item, which one do you buy? Naturally, you buy the one you've heard most about. You are familiar with it.

These are the steps we have found most helpful, or there is another way to make \$10,000 in your business, by having a partner who has money, where you don't have to work, but enjoy the benefits.

PRODUCT NEWS



JERROLD INTRODUCES NEW LINE OF 300-OHM INDOOR ANTENNAS

Philadelphia, Pa.—Jerrold has introduced three new 300-ohm indoor antennas, Models JIN-2, -3 and -4, for improved reception of all 82 VHF-TV and UHF-TV channels, plus FM and FM stereo.

JIN-2 and -3 are equipped with twin single telescoping dipoles for VHF and double loops for UHF. JIN-3 has a 12-position selector switch, for optimum tuning.

The JIN-4 antenna provides a 2-dB gain for finest indoor color reception. The VHF section has twin double (folded) telescoping dipoles. The UHF section uses a double loop with added tuning fins. Its 12-position selector switch also helps deliver more brilliant, lifelike color pictures.

NEW COLOR RECEIVING TUBE FROM G.E.

Owensboro, Ky. — General Electric's Tube Department has announced the availability of its new 6JE6B receiving tube to GE distributors. The tube represents GE's latest innovation in horizontal-deflection amplifiers for color TV sets.

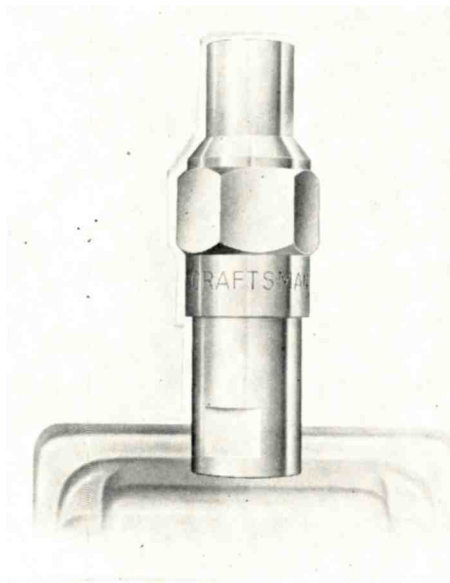
The improved 6JE6B is a result of General Electric's continuing development in TV tubes. Features of the new tube include cooler operation and very low primary beam plate emission, both

initially and throughout the life of the tube.

The cooler operation is achieved by the utilization of a GE-developed copper-cored anode material, a cooler screen grid design, and a considerable reduction in the cathode temperature.

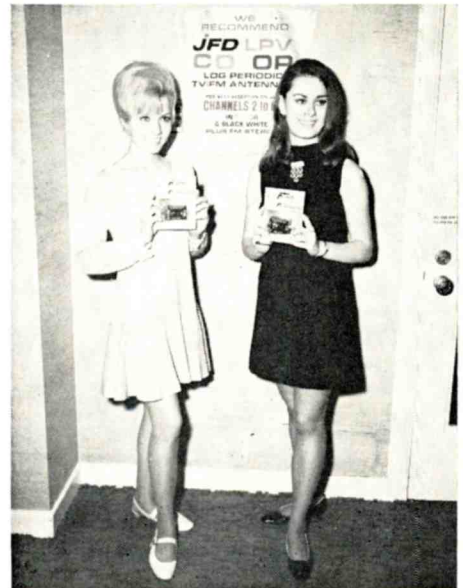
The low values of primary beam plate emissions are a result of a new passivated beam plate material. Such values will provide greatly improved reliability over types 6JE6 and 6JE6A in the severe environments of modern color TV sets.

The improved addition to the 6JE6 family will be available at no increase in price.



NEW CONNECTOR ANNOUNCED BY CRAFTSMAN FOR ANTENNAS

Cable mismatch, a major source of poor television reception, can now be reduced to a minimum with the use of new, technologically advanced Sure Grip Connectors. Designed and engineered by Craftsman Electronic Products Corporation, new Sure Grip Connectors have been placed in national distribution after intensive laboratory and on-the-job testing. Conceived originally to meet the rigid requirements for use with Craftsman's Vu-Sharp Modular Directional Tap, Sure Grip Connectors are also being used with other trunk and feeder line CATV distribution equipment.



JFD ACCESSORIES NOW "DRESSED" IN NEW FULL-COLOR BLISTER PAK

Using all the colors of the TV color bar pattern, the new blister-pak merchandising cards for JFD accessories are designed to attract customers and pull in sales on impulse as well as need. Clearly showing one product to each card, the new JFD display cards have gone completely "mod". The compact blister-pak protects the product it displays and uses a minimum amount of space. JFD's new design for these cards has discarded the industrial-looking, two-color-many-words style that has hitherto been standard for electronic accessories display cards.

Five major guideposts have inspired the design of the new JFD blister-pak cards.

1. Generous use of color to attract attention to the display and products.
2. Sparkling-clear blister-pak packaging to show the product on sale in complete detail.
3. Brief copy on the front of the card to identify the product and tell what it does.
4. Clear instructions on back of card to tell how to install the product.
5. Air-sealed product protection.

The compact new JFD blister-pak display cards are completely consumer oriented and designed to fit standard pegboard hooks. Everything about the new package is designed to provide convenience and sales for dealers. At present all JFD splitters, couplers, com-

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NEW PRODUCTS

(Continued)

biners, lightning arrestors, wave-traps and switches are packaged in the new blister-pak cards.



“STEREO COMMANDER”— 7 TEST INSTRUMENTS IN ONE PACKAGE

A test equipment concept described as “revolutionary” is embodied in the new Model 880 “Stereo Commander” introduced by Amphenol Corporation, Broadview, Ill.

The Model 880 incorporates seven instruments in one compact package, providing a complete testing laboratory for audio FM and multiplex at a fraction of the cost of the seven individual instruments it replaces. It is a solid-state portable unit that can be used in the home as well as in the service shop.

Four signal sources and three measuring instruments are contained in the package. Signal sources include:

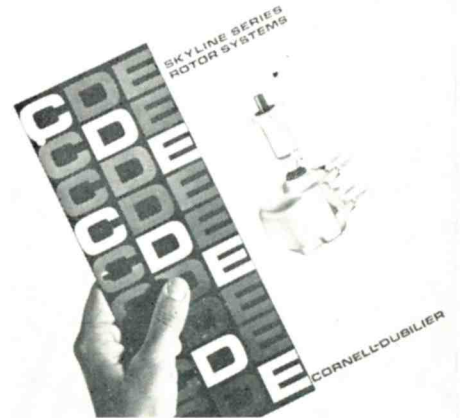
1. An audio generator that supplies either sine or square wave signals used by other sections of the Stereo Commander.
2. A multiplex simulator that generates or controls all signals necessary for complete and accurate alignment of an FM multiplex receiver.
3. An RF/sweep oscillator that may be used as an FM source modulated by the signal present at the composite jack (monaural sine wave or square wave) or as a sweep generator with 60 Hz sweep rate for FM tuner alignment.
4. An oscillator that generates a crystal-controlled 10.7 MHz signal for use as a marker for aligning FM receivers.

The Stereo Commander is 11½ in. wide, 9¾ in. high and 6 in. deep and

weighs slightly over eight lbs.

Suggested list price of the seven-in-one unit is \$329.95 (as compared with from \$900 to \$1200 it would cost to purchase the pieces of test equipment individually).

For more information on the Model 880 Stereo Commander, write Amphenol Distributor Division, Amphenol Corporation, 2875 S. 25th Ave., Broadview, Ill. 60153.



BELDEN INTRODUCES NEW ELECTRONIC WIRE CATALOG

A new catalog (867) covering its lines of electronic wire for use in 10 different market areas has been announced by Belden Corporation, Chicago. The new 56-page Catalog/867 replaces the 28-page Catalog/865 published two years ago.

A full-scale reorganization of contents, completely new page layouts, and the inclusion of more technical data than in any competitive catalog are three prime features of the new Belden publication.

Over 20 new products have been added to Catalog/867—among them heat-shrinkable vinyl tubing for quick, easy insulation of terminal connections or worn cable jackets; heavy-duty portable cord for power tools, construction uses, welders leads, etc., and appliance replacement cords.

NEW NOVAR AND COMPACTRON CURRENT TEST ADAPTERS

Vector Electronic Company of 1100 Flower Street, Glendale, California has just announced the availability of two more Current Test Adapters. These new models permit current measurements on any pin position of Novar and Compactron tubes from the tube side of the chasses without cutting any leads. In the past, lack of a simple method to make current measurements, particularly on the high voltage section of color television sets has resulted in excessive tube failures because of improper current adjustment.

electronic service dealer

TRADE / TALK

CALECTRON HOLDS INDUSTRY APPRECIATION NIGHT IN BAY AREA

San Francisco, Calif. — Calectron, Northern California Distributor for RCA Parts and Accessories, held a "Industry Appreciation Night" on August 21st during WESCON week in the Bay Area.

According to Frank Blackwell, Manager of the Parts and Accessories Division, "the idea behind the open house was our way of expressing our thanks for our suppliers assistance, service and particularly for being a part of their sales organization." At the same time, the firm took the opportunity to outline its plans for the future and the part their suppliers will play in their expansion program.

The affair ran from 6:30 pm to 8:30 pm and was by special invitation only.

HURLEY ELECTRONICS HOSTS SAN DIEGO DEALERS

San Diego, Calif.—Hurley Electronics of Oceanside recently hosted a group of CSEA members from San Diego and North San Diego at a Bowling Tournament in the Vista Bowling Alley.

First place prizes were won by Obie Parker of Bob Gardner TV in Oceanside, and Pete Pederson of Fidelity TV in Solano Beach. Woman's division, first place prize was won by Hazel Davis of Bonanza TV in Pacific Beach and Diana Johnson of Custom Antenna in San Diego. Other winners were, Bob Radcliff of Shanks TV, Oceanside; Frank Kutis of Jack's TV, Oceanside; Bob Gardner of Bob Gardner's TV in Oceanside; Joan Wilson of Hurley's Electronics in Oceanside; Lee Smith of Carlsbad TV of Carlsbad, Lila Horakh of Bob Tomko's Vista Videa, Inc., Bill Drimel of TV Craftsman of Vista; Fred Goff of Ed Cole TV in Oceanside, Bill Alexander of Shanks TV in Oceanside and Lou Koonsman of LKTV in Escondido.



ERA Northern and Southern California Reps were extra busy at the Chicago NEW Show signing up their manufacturers and distributors to make the February 8-11, 1968, DMR Conference in Palm Springs, the biggest ever held.

Chuck Chorpening, R. Mark Markman Company, congratulates John Hurley, Hurley Electronics (Distributor), on signing up himself and 12 of his staff for the event.

MCDONALD NEW GAVIN WEST COAST V.P.

Somerville, N.J.—Robert McDonald, Gavin National Sales Manager, has been appointed as Vice President of Gavin and placed in charge of West Coast operations.

According to company President, John Perkins, "in order to better serve our expanding western markets we are opening a new antenna plant, warehouse and sales office in the bay area of San Francisco and the appointment of McDonald to this important position is a major part of that expansion.

NEW FACTORY FOR COLOR/CRAFT ANTENNA CORP.

The Color/Craft Antenna Corporation, formerly of Burbank, California, has moved to new, larger quarters in North Hollywood, California it was revealed by Mr. Robert Raynor, the company president. "Color/Craft is a relatively new company" Mr. Raynor stated, "having been in business just under two years."

The new quarters are 24,000 square feet which is a space four times the size of the company's original building. "We are particularly gratified with the acceptance our line of TV antennas has had in the industry", Raynor said. "With the new building we will not only be able to expand our line to include many more products but will also

have additional capacity to permit us to enter new markets not previously covered.

New products which will be added to the line include: Conical antennas, Flying Arrow antennas, FM antennas, as well as a complete line of compact economy model Combination antennas designed specifically for highly competitive markets where UHF/VHF/FM antennas are required. In addition, complete antenna testing facilities will be set up at the new site.

The new building will house a considerable amount of new equipment including machinery which converts flat strips of aluminum into antenna tubing. A complete tool and die shop as well as many more automated pieces of equipment are planned.

Color/Craft's new home is located at: 13434 Raymer Street, North Hollywood, California, 91605. Telephone (213) 875-2334.

"We feel," Raynor concluded, "that with this move we have paved the way for substantial growth and that with this increased capacity we will be able to obtain a considerably larger share of the total antenna market."

NEA CONVENTION A GREAT SUCCESS

Des Moines, Iowa—The 3rd annual National Electronic Association Convention that was held last month in Des Moines, Iowa was an outstanding success with over 400 people attending from all over the United States.

California was represented at the NEA convention by Emmett Mefford, past state president of CSEA and Miles Sterling of Garden Grove.

Of special importance was the naming of the Electronic Service Dealer as the most outstanding Association publication in the country. The award was made to its editor Don Martin and accepted by Emmett Mefford, Martin was unable to attend this year's convention.

HANK SILVERMAN NEW RCA FIELD SALES MANAGER

Los Angeles, California—Hank Silverman, RCA Victor Distributing Corporation salesman in the San Fernando Valley, has been promoted to Field Sales Manager for the division.

(Continued Next Page)

TRADE/TALK

(Continued)

SURVEY INDICATES CALIFORNIA TOPS IN TELEVISION OWNERSHIP

Beltsville, Maryland—The American Research Bureau's latest survey indicates that California leads the nation in television households with some 5,983,800 sets as compared with second ranking New York with 5,578,500 television households.

The nationwide figures indicate that the number of U.S. households having television sets will rise over 1½ million over 1966 with an estimated 94 percent of all American Households now having television receivers.

RCA VICTOR OFFERS PREMIUMS ON ALL PARTS PURCHASES

Los Angeles, California—Walt Pasner, Manager of RCA Victor Distributing Corporation's Parts Division, stated recently that they will be offering two different premium programs for dealers during the next three months.

According to Pasner, "we are offering our dealers an opportunity to pick any

of over 250 different premiums from two complete premium catalogs from now until November 30th." The two catalogs include the RCA Pick n' Choose or the Gift-Time Special catalogs and the big news is that all purchases apply towards these premiums.

Pasner went on to say that, "we are allowing our dealers to earn points towards these premiums on all purchases. In the past, many of these type promotions have been limited to tubes but we feel everything from tubes to test equipment purchases should be allowed to apply."

All dealers must register for the program and should contact the distributorship as soon as possible. From the time the registration card is received your purchases are applied and you are sent the two complete catalogs.

ERA NATIONAL MEETING SLATED FOR CALIFORNIA

Los Angeles, California—The 9th National Conference of the Electronic Representatives Association will be held on January 21-24th at the Hotel Del Coronado in San Diego. The theme of the convention will be "Idea Island" and all manufacturers represented by ERA

CLASSIFIED ADVERTISING

DON'T THROW IN THE TOWEL

Do you like the tv servicing business but are getting fed up with the long hours, the constant cramming to keep up with all the new developments and gimmickry, the ridiculous variety of tubes you have to buy to avoid lost time and lost mileage? Are you frustrated for lack of top class but expensive service equipment to meet modern needs, handicapped for lack of qualified help when needed, penalized by loss of customers because you can't compete in sales? Like to have a little time to live instead of fighting all these problems all the time? You probably belong with a reasonably successful group of shop-owners like yourself now working out a sensible and profitable solution to these problems in the Los Angeles area. For more information, write "United Video-Audio Technicians", c/o Associated Publications, P.O. Box 836, Hawthorne, California 90250.

FOR SALE

Successful TV and Radio Service business, established 9 years. Take over completely equipped shop and going operation, including rental TV's and station wagon for only \$4,000. Owner taking out of town teaching position. Write: Carmel TV, P.O. Box 4411, Carmel, California 93921.

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Oxnard: HU 3-0133
Oceanside: SA 2-7694

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Long Beach 591-1335 & SP 5-1428

IN
Anaheim: KI 7-3527 & 865-0688
Bakersfield: FA 7-5535
Oxnard: HU 3-9541
San Bernardino: TU 5-6807
Van Nuys: ST 1-3930

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2076 Armory Drive (95401)
Walnut Creek, 934-3000
1263 Arroyo Way (94596)
San Rafael, 453-1130
134 Jacoby Street (94901)
Hayward, 537-5833
21726 Meekland Avenue (94541)
San Jose, 295-6818
522 So. Bascom Ave. (95128)

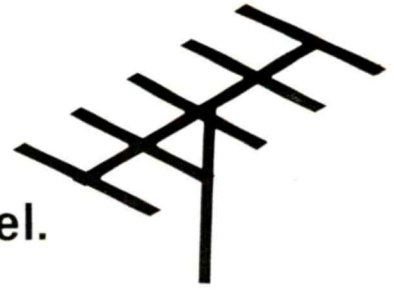
NORCAL ELECTRONICS

1115 "R" Street
Sacramento, 442-9041

WESTERN RADIO & TELEVISION SUPPLY CO.

1415 India St., San Diego
BE 9-0361

From now on, the antenna is the only equipment you'll ever need change to make any MATV Installation 82-channel.

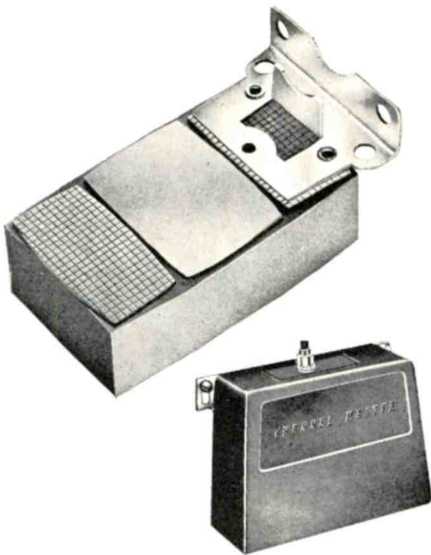


New Channel Master **CONTINUOUS MATV Color Amplifiers** bring in all 82 directly "on channel".

They said it couldn't be done...continuous 82-channel, on-channel amplification in a single electronic circuit! But trust Channel Master... pioneer in coordinated MATV components... to find the answer. Now, with new Color Boosters, Color Tandem Amps, and Color Distribution Amplifiers, all 82 channels come in **directly** on frequency. Furthermore, continuous U-V coverage is obtained without com-

promising on any frequency or sacrificing gain to achieve bandwidth. When you install this new equipment any VHF MATV installation is automatically UHF-capable, too. The only thing you ever need change is the antenna.

So...if you're designing for VHF, use these amplifiers. If it's UHF, use these amplifiers. If it's UHF and VHF, use these amplifiers.



15 DB COLOR BOOSTER (Model 7264). Mast-mounted 75 ohm preamplifier with separate power supply. Also available in 300 ohm (Model 0062).



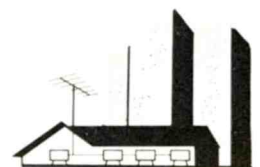
15 DB COLOR DISTRIBUTION AMPLIFIER (Model 7263). 75 ohm MATV distribution amplifier. Also available in 300 ohm (Model 7260).



30 DB COLOR TANDEM AMP (Model 7261). Separate 75 ohm preamplifier and amplifier. Also available in 300 ohm (Model 7262).

And, these new amplifiers are matched with a complete line of UHF/VHF coordinated equipment: Baluns, Splitters and Mixers, Attenuators, Wall Tap-offs, Line Drop Taps, and Matching Transformers. Add new Channel Master Color-Duct 82 Coax Cable (its loss is so much lower you can actually revise your cable calculations) and you're ready **now** to install the most efficient 82 channel MATV systems available anywhere.

CHANNEL MASTER
ELLENVILLE, NEW YORK



BULK RATE
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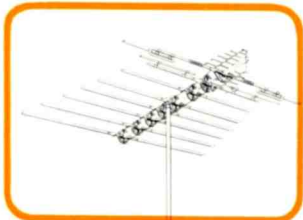
Built like the great "outdoors"



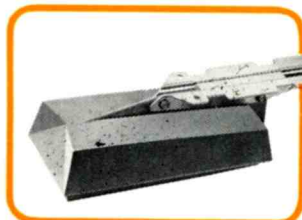
The new Jerrold JIN-4 82-channel Indoor Antenna comes closer to delivering outdoor antenna performance than any indoor antenna made today. It's the *one* 300-ohm indoor VHF-UHF-FM antenna designed for brilliant, life-like color pictures:

- Twin telescoping poles form true 300-ohm folded dipole
- True match with 300-ohm input of TV set . . . ends color smears
- Delivers 2 dB more gain than ordinary indoor antennas
- Separate VHF and UHF outputs
- Twelve-position selector switch for optimum tuning
- UHF fine tuning tabs
- Attractive styling—looks good on top of any set
- **And the List Price is only \$17.50!**

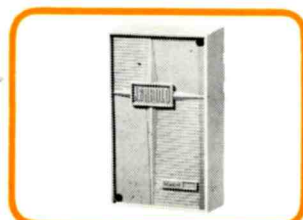
Get more details on the indoor color antenna designed to be the best. The Jerrold JIN-4 Antenna. Ask your Jerrold Distributor or write for further information to: Jerrold Electronics Corporation, Distributor Sales Division, 401 Walnut St., Philadelphia, Pa. 19105.



Outdoor antennas



Home pre-amplifiers



Distribution equipment



*Focusing on one thing...
 better reception*