

WINEGARD POWERTRON

WORLD'S FIRST
ELECTRONIC
TV ANTENNA

The POWERTRON antenna is an all channel yagi antenna with a built-in high gain RF amplifier in one integral unit. It comes equipped with a power supply that lowers 117 V. AC to a safe power supply which is fed up the lead-in to the antenna. It is 5 to 9 times more powerful than any other antenna made.

With POWERTRON you can get your customers many channels they couldn't even see before. You can also run up to 10 TV sets with a POWERTRON and all of them will have a better picture than they can obtain with their present antenna.

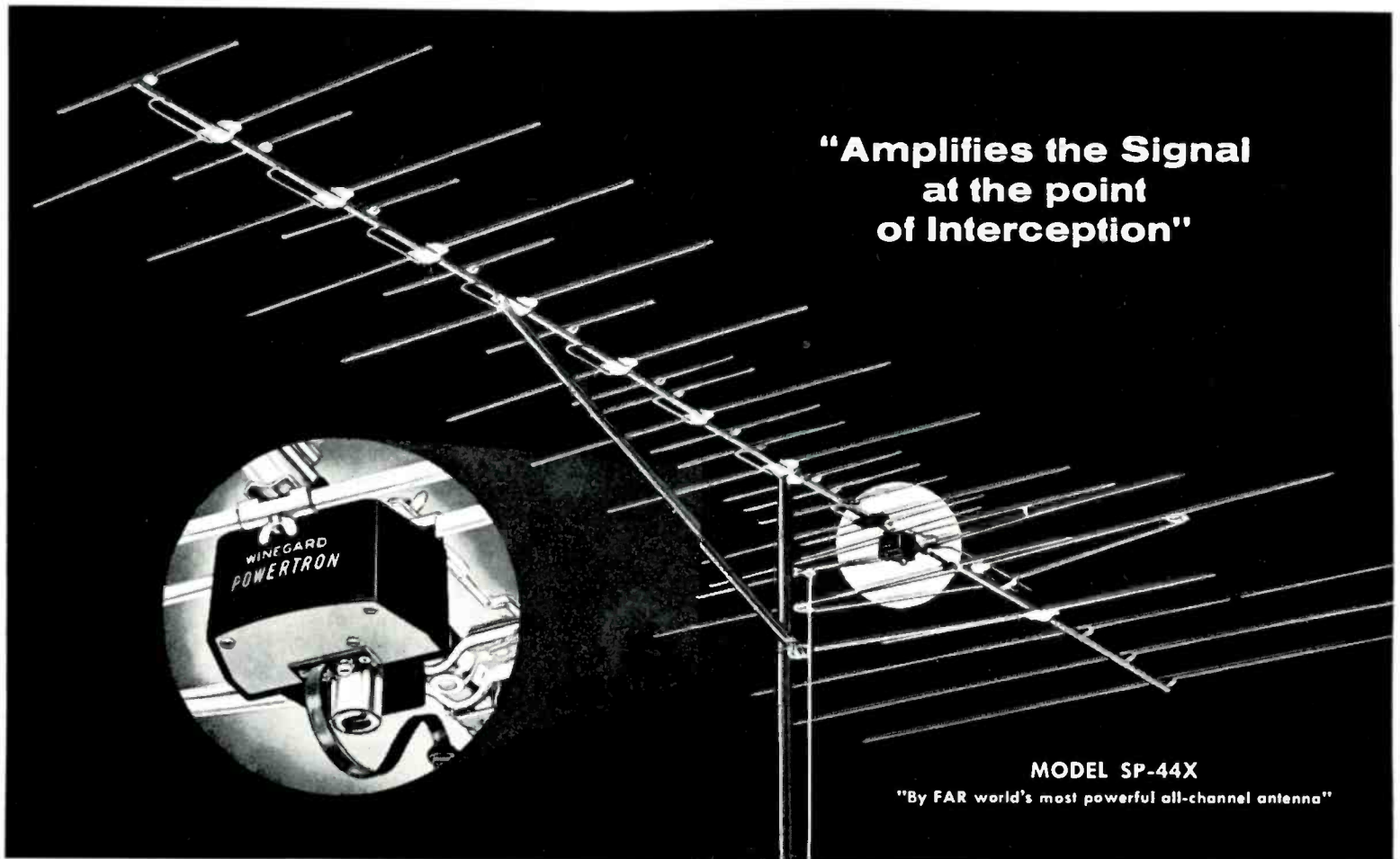
You can make your installations 30 to 40% lower in height with a POWERTRON without affecting reception, in most cases.

You can remote the POWERTRON antenna 1/4 mile away from the TV set and get a better picture than with an ordinary antenna mounted next to the set.

You can deliver the clearest, sharpest, truest color TV you've ever seen because the POWERTRON'S extremely linear response makes it the only antenna that should be installed with a color receiver.

In short, this antenna is amazing. But don't take our word for it. Try a POWERTRON and see for yourself. Take a field strength meter reading with your present antenna and then take a POWERTRON reading. When you see the meter jump 5 to 10 times . . . and see the sharp, contrasty reception you get, you'll be convinced . . . and so will your customers.

Also available are two new precision amplifiers and accessories that are ideal for Hotels, large Motels, Apartment Buildings and Cable Systems.



ELECTRONIC ALL-CHANNEL YAGIS

. . . will greatly improve every channel. Weak, faded pictures become crisp and clear. "Good" channels will be even better. In many areas you'll watch channels you couldn't possibly see before. Because Powertrons are powerful enough to drive up to 10 TV sets, you can have plug-in outlets in every room . . . and in many locations you can install a Powertron lower than other antennas.



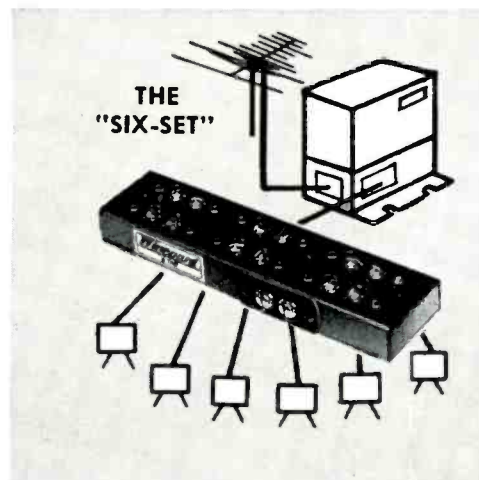
POWERTRON
MODEL P-44
14-Elements



POWERTRON
MODEL P-44X
21-Elements



POWERTRON
MODEL SP-44X
30-Elements



WINEGARD "SIX-SET"
TV COUPLER

With the Powertron, hook up 3, 4, 5, or 6 sets by adding a Winegard "Six-Set". Here's the only 6 tap coupler on the market. Six no-strip terminals give you instantaneous taps with complete electronic isolation. Model LS-63.

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"For Further Information Contact Any of The Distributors Listed Below"

DUNLAP RADIO & TV SUPPLY CO.

"Serving The Heart of
California"

RADIO PRODUCTS SALES INC.

1501 So. Hill St., Los Angeles, Calif.
RI 8-1271

NYSTROM BROTHERS CO.

2426 Fourth Ave., San Diego, Calif.
BE 4-7231



Average \$2.85 more profit on every 21" tube

Turn the page to find out how . . .



Average \$2.85 more profit on every 21" tube

Sell the Admiral Ensign—the top-quality picture tubes with the biggest profit margin in the industry!

Now Admiral's vast purchasing power and national distribution give you the *one* picture tube line with everything: Finest quality workmanship and performance, backed by a 1-Year Guarantee . . . famous brand-name acceptance . . . list prices that appeal to your most economy-minded

customers . . . peak dependability.

And you pocket an average of \$2.85 *more profit* on a 21" Admiral Ensign than on other brands. (Comparably higher margin on all other tube sizes.)

Get the facts! Compare the Ensign line with your present replacement tubes. Compare quality, performance, prices and profits! Discover for yourself why dollar-wise servicemen are switching to the Admiral Ensign.

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Los Angeles 54, California
RAYmond 3-6451
Admiral Sales Corporation
P. O. Box 1270
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San Francisco 11, Calif.
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Denver 4, Colorado
KEystone 4-6274

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The Treasure State Gas &
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Phone: 2-2400

Nevada

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FAirview 2-6957

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Cunningham Distributing, Inc.
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Albuquerque, New Mexico
Phone: 7-8838

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Appliance Distributors, Inc.
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Oklahoma City, Okla.
CEntral 6-8308

Oregon

Seaport Appliance, Inc.
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Portland 10, Oregon
CApital 6-6595

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DRake 2-6730

Lone Star Wholesalers
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FLeetwood 7-1885

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2225 Mills Street
El Paso, Texas
Phone: KE 2-6994

Covington Distributing Corp.
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CApital 2-0326

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SHerwood 4-1431
Covington Distributing Corp.
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CApital 7-7547

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Westward Distributors, Inc.
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Salt Lake City, Utah
ELgin 5-7556

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John E. Amberg Co.
757 Harrison Street
Seattle 9, Washington
MUtual 2-5566

John E. Amberg Co.
N. 210 Ralph Street
Spokane, Washington
KEystone 5-1794

NOTICE: All materials and parts used in the manufacturing of Admiral Ensign tubes are *new*, except for the envelope, which prior to re-use, was carefully inspected to meet the standards of the original new envelope.

ADMIRAL ENSIGN Picture Tubes



MODERN

electronic service dealer

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Official Publication

CALIFORNIA STATE

ELECTRONICS ASSOCIATION, INC.

1029 E. Belmont, Fresno 1

AD 3-4628 — DU 2-8331

Fresno Los Angeles



Modern Electronic Service Dealer is Published Monthly
at 618 So. Western Avenue, Los Angeles 5, Calif.
DU 9-3230 by Associated Publications.

AUGUST, 1961

FEATURE ARTICLES

14 Universal Capacitors Verses Exact Replacement Capacitors

This is a two part article that discusses both aspects of the Capacitor replacement problem. The new General Electric approach is stated by

R. E. Giannini

General Electric Co. Los Angeles

16 Universal Capacitors Verses Exact Replacement Capacitors

The second stage has been prepared by the Sprague Products Co. who specialize in exact replacement Capacitors. This approach is stated by

A. Coumont, Sales Manager

Sprague Products Company

BUSINESS BUILDERS

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by Howard Singer, Public Information Director California State Electronics Association

23 Your Supplier Can Mean Extra Profits To You

A frank discussion on how a "work together" program can benefit both the dealer and the distributor.

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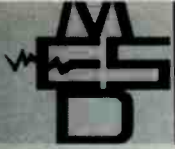
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DON MARTIN

THE CHOICE . . . FIGHT OR QUIT

It is with a growing concern that I listen to different dealer remarks about the recent licensing bill effort and the future in regards to licensing.

There are rumblings that CSEA should have done this or should have done that. There is concern as to whether or not the funds accumulated were spent wisely and if the same results couldn't have been obtained without funds period.

Whenever anyone takes a defeat there must always be a Monday Morning Quarterback. We are all guilty of this and in fact I am probably the biggest example of a "Saturday Night" quarterback since I cannot wait for Monday.

Also, when you take a defeat you must come up with one of two possible decisions . . . 1. come back fighting with even more determination, equipped with valuable experience and a more thorough knowledge of what must be done to accomplish it the next time or 2. Quit.

Of course, we all know the easy way but I am convinced that every man that owns his own business is not a quitter or else he wouldn't be in business today. Talk of what should or could have been done solves nothing and adds to the ammunition of the opposition. One thing that has come out of this defeat is that for the very first time we know who the opposition is and what must be done to counteract this move.

We are all convinced that the only loser was ourselves . . . not so . . . Mr. and Mrs. John Q. Public. How do we tell them about their loss? Simple, we are on the firing line and in a position to let them know just what has happened in the state legislature and how nothing is being done to protect them from the clip artist. Everytime any adverse publicity hits our industry we stick a needle into the newspaper who refused to pick up the story of licensing. Everytime this happens we needle the BBB and the part they played in defeating this bill and everytime it happens we send clippings to the Senators who blocked the adoption of this bill after it had passed the Assembly with the widest margin of any bill presented during the session.

We fight with action . . . we fight with a systematic approach of "brainwashing" that makes licensing of TV Service Dealers one of the most important pieces of legislation before the state governing bodies. We do not play one team of assemblymen or Senators, we play them all . . . we prove the necessity of this bill and believe me popular demand will make sure that it passes.

From personal experience I spent the last week of the legislature in Sacramento and viewed what was happening. The men representing CSEA during all of this time should receive a letter of thanks from every member of the Association. These are the men that were really hurt, not those of us who stood by and counted our chickens before they were hatched. There was no doubt that the bill was going to go through and the victory signs were painted but you can not account for the actions of power politics. We are all to blame for these men being in government and we should hold ourselves responsible for the things that happen.

There is only strength in unity. We can never expect or do we desire continued harmony but there must always be unity in direction for our industry. In any Association there are the doers and the don'ters. The don'ters have no right to criticize the doers . . . only to thank them.

There is an old saying that "united we stand and divided we fall" in plain language "united we stick and divided were stuck".

EXTRA PROFITS FOR YOU WITH PHILCO TUBES

PHILCO®

**PUTS THE PROFITS
BACK INTO YOUR TUBE SALES...
and keeps the crooks out of the business !**

7¢ A TUBE
TRADE-IN ROUND-UP



YES! SEVEN CENTS OFF the regular discount price during the entire month of August. **SEVEN CENTS** per old tube you trade-in to keep the "hoods" from selling your customers, see or call your Philco distributor today. He is paying you **SEVEN CENTS A TUBE!**

FINEST QUALITY

Philco tubes are manufactured under the latest techniques and highest acceptance standards. Only tubes meeting these standards bear the Philco name.

Philco is world famous for its many contributions to the art from the first tone controls to the Courier Satellite and the world's fastest computer, the S-2000.

The same standards of excellence are applied to the Receiving and CR Tubes bearing the Philco name. Service dealers using Philco tubes tell us they have **less call backs** than any other brand. This is proof.

Use Philco tubes. They merit your complete confidence and they are brought to you by the company that backs you, the independent service dealer, more than anyone else in the industry. You use the best when you use Philco.

PHILCO TUBES IMPROVE THE PERFORMANCE OF ANY TV, RADIO OR HI-FI—and your reputation!

R. E. HARRIS INC.

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San Diego
BE 9-2201

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Los Angeles 22, Cal.
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PA 8-8163

DEVLIN DREW CO.

165 Broadway
Fresno, Calif.
AD 3-8811

CALIFORNIA ELECTRIC

701 16th St.
San Francisco
UN 3-6200

LETTERS TO THE EDITOR:

BLOODSHOT EYE

Dear Mr. Martin:

After reading the June and July issues of your magazine, I should like to extend the highest of compliments, since both the articles and printing are of the highest quality and fill a communication need between service dealers, distributors, and manufacturers.

Your June article "The Bloodshot Eye" was of particular interest in that it tends to clear up a confused situation in the picture tube field.

Because our product, with the exception of the envelope, is new in every respect: new phosphor screen, new aluminum and new high quality electron gun, my company objects to being classified with the rebuilders who take liberties with their product and with the truth.

I should like to comment on the letter from Pierre L. Tissot in your July issue. The requirement that tubes submitted for glass allowance be under vacuum was originally instituted by legitimate manufacturers who do not re-use old screens. The purpose is two-fold. If the "dud" is under vacuum it will not have a leaky anode button or a concealed crack. A "dud" under vacuum will not have inside face chips.

I am in complete agreement with Mr. Tissot's desire to destroy the old screen. A problem arises in accomplishing this without also destroying the glass, for if air is allowed to enter the tube at a velocity high enough to remove the old screen, then the small pieces of glass which accompany the inrushing air will chip the center of the faceplate. After re-screening such a bulb, the center appears to be full of large holes and the bulb must be destroyed.

A BETTER PROCEDURE.

The Federal Trade Commission has recently ruled that any tube manufacturer who re-uses any portion of the old tube must state this fact on the box label, the warranty card, on the tube itself, on invoices, price lists and in advertisements.

If you believe you are being sold a used tube misrepresented as a new tube you should complain at once to the Federal Trade Commission, 215 W. 7th, Los Angeles, California. Attention: Mr. Zmuda. The identity of the complainant is never revealed by the F.T.C. and you won't need to appear in court since they make their own investigation.

DEALERS PLEASE NOTE.

As a dealer, you must inform your retail customer on your picture tube invoice exactly what materials are new and what materials are used. If screens, conductive coatings and aluminization are saved by the manufacturer, the retail customer must be informed. (To protect yourself from indictment) This rule is now being strictly enforced in accordance with the Federal Trade Commission's "Trade Practice Rules Governing The Radio And Television Industry".

If there is sufficient demand I will be glad to answer questions of general interest in regard to the manufacture and distribution of picture tubes. In addition, we welcome organized groups to tour our factory in the Compton area, by appointment, so that service dealers can see for themselves how tubes are made.

Very truly yours,
CALVIDEO ELECTRONICS, INC.
Julien Levy
Quality Control Manager

Editor's Note: Thank you very much for your letter and hope that it answers Mr. Tissot's questions and those of many other top dealers.

DISTRIBUTOR SALESMAN

Dear Don:

Thought you would like to see how your new magazine is getting around. This note was from one of our salesmen.

George

Editor's Note: Thanks George and you too Del. We are very pleased with the reception the dealers have shown our new magazine.

To: George Perry, Kiesel
Subject: MESD MAGAZINE

Dealers seem to like this Mag and would like to get it regularly. What is the scoop, is it a subscription deal or are they just mailing it out. Most of the dealers are getting it and the others seem to want it. There are some real good articles in this last issue.

Del

SAMPLE COPY

Sacramento 18, Calif.
July 10, 1961

Dear Gentlemen:

This is a request for a sample copy of Modern Electronic Service Dealer for our inspection. We are interested. We had a chance to see one of your recent copies a fellow service shop loaned us. We really enjoyed it very much and we feel it is just what many service dealers need in our trade. Your cooperation in this matter is appreciated sir.

Gratefully yours,
Bernel B. Virduis

HOW ABOUT THE SMALL DEALER?

Mr. Don Martin
Modern Electronics Service Dealer

Dear Don:

First of all let me congratulate you on your fine publication. We have often felt that service dealer publications fall far below par and the individual chapter papers just didn't seem to do the job.

However, in the middle of this praise, I would like to make one comment . . . or suggestion. The type of articles that you are featuring are in a segment of the service industry where many dealers fall down but don't you think that maybe some of them are still above the average shop level? As you know, most of the service dealers are one or two man shops and articles that would help the real small operator as well as the larger ones could do a lot more good for the industry.

Ira Caplan, Pico Parts

Editor's Note: Maybe you're right. It certainly is a fine suggestion and we will do our best to provide good editorial material for the real small operator as well as the larger ones. Thanks.

WELL WISHES

Dear Don:

Bob Jones, our news representative in L. A., has sent me the first copy of your new publication MESD. It certainly looks fine, and I wish to congratulate you and offer my best wishes for success. Please pass on my regards to the rest of the folks in the office—some of whom I met while visiting and lunching with you there in August of 1959.

Would it be possible for you to put me on your mailing list?

I may get out your way in late July or August and will try to stop in and see you.

Best regards,
S. E. McCallum
Press Relations
General Electric Co.

PARTS SHOW COVERAGE

Mr. Donald J. Martin
Modern Electronic Service Dealer
618 So. Western Ave.
Los Angeles 5, Calif.

Dear Don:

I guess most publishers get letters of criticism more than anything else. But I thought I'd like to write and tell you how much I appreciated your coverage of the Parts Show in Chicago a couple of months back.

The Parts Show is a fine thing. I would have liked to attend myself, but I guess like most service dealers I just couldn't spare the time away from work.

Therefore, I am all the more appreciative of the opportunity to read about the show in your excellent magazine, culminating in your strong editorial in the last (July) issue.

I know that going to Chicago to cover the Parts Show must have been an expensive undertaking for you, and I just want to let you know it hasn't gone unnoticed.

Sincerely,
Ralph H. Johonnot

Editor's Note: Thank you, Ralph. I must confess I went to Chicago for advertising as well as editorial reasons, but I'm glad to have the chance to give a personal report on the Parts Show.

IMPORTANT!!!

Any CSEA Member who wishes to take part in a two week advertising campaign to appear in the TV Guide Section of the Los Angeles Times Sunday section should contact Ralph Johonnot at VI 9-5123. The cost is \$25 per issue for two issues and is limited to 25 shops. This will be in cooperation with the Sylvania and is open to CSEA Shops ONLY!!!



• business flashes •

Business activity in the Service Industry has hit the normal summer time slump with dealers throughout the area indicating that business is very spotty.

Distributors indicate that volume of sales are being held up by the sale of transistor radios and a more than normal interest in the new power antennas. In fringe reception areas the interest is even more intense as the consuming public becomes aware of the possibilities of better reception. Dealers should bring the idea of power antennas to the attention of their customers for possible additional sales either now or at a later date.

Further proof of the up-trend in product sales are indicated in the recent retail sales figures of the EIA.

Retail sales and production totals for both radio and television receivers were up in May.

Excluding automobile radios, 745,616 radio sets were sold to consumers during May. The figure was 603,489 the month before. Consumers brought 391,467 receivers in May, compared with 378,275 in April.

Total radio output in May stood at 1,196,949. Radio production in April totaled 1,124,924. A total of 470,399 TV sets were produced in May, against 405,808 the month before.

Year-to-date retail sales of radios remained ahead of those through May of last year, while production lagged by just under 1 million sets. Cumulative sales and production totals for TV receivers both were behind 1960 totals.

EIA's latest statistics appear below:

TV and Radio Retail Sales (Units)

	Television	Radio (Excluding auto)
May	391,467	745,616
April	378,275	603,489
March	530,105	853,821
February	452,282	666,228
January	399,791	580,680
Year-to-date '61	2,151,920	3,449,834
Year-to-date '60	2,285,866	3,175,469

TV and Radio Production (Units)

	TV with		Total Radio	Auto Radio	FM Radio
	Total TV	UHF Tuner			
May	470,399	22,782	1,196,949	408,875	49,705
April	405,808	19,085	1,124,924	375,570	51,260
March	497,458	21,540	1,384,052	384,227	75,044
February	444,418	24,514	1,115,029	307,973	41,357
January	367,935	25,270	1,090,073	387,136	50,421
Year-to-date '61	2,186,018	113,191	5,911,027	1,863,781	267,787
Year-to-date '60	2,444,174	210,602	6,973,069	2,726,222	339,516

Sales of phonographs at retail outlets climbed during May and cumulative sales totals for the first five months of this

(Continued Next Page)

OVER 200 DEALERS ATTEND B & K TEST EQUIP. SEMINAR

CSEA to Back Apprenticeship Program

Although it has not yet met on a state-wide basis, a Joint Apprenticeship Council has been set up by the CSEA and will hold its initial meeting this summer. Executive Director James F. Wakefield reported at the CSEA convention in Fresno last month.

Plans call for swift activation of a complete program to be offered to the school systems for the state of California through local chapters. August 1 has been set as a deadline for the activation of the program.

Over 200 service dealers from Los Angeles and outlying areas attended a Seminar and Demonstration on Modern TV Servicing on the evening of July 11.

The event was held in the showroom of Radio Products Sales, Inc. On behalf of the 1962 line of B and K test equipment.

Presiding at the seminar was Heinz Theil, senior field engineer from B & K, who has conducted over 100 such meetings throughout the country. The program featured tips on latest servicing techniques and time-saving short cuts, plus a demonstration of B & K specialized TV test equipment.

A question and answer period was held immediately following the meeting. Refreshments were served and a variety of door prizes was awarded. Each service man in attendance was given a copy of a book on television servicing.

Co-hosts for the event were Ed Bidwell of Radio Products Sales and Syd Jurin, B & K representative in the Los Angeles area.

FAREY NEW BLONDER-TONGUE W. C. SALES MGR.

LOS ANGELES, CALIF.—The appointment of Leslie Farey as west coast regional field Tongue Laboratories, Inc., sales manager for Blonder-Newark, N.J. has been announced by R. H. G. Mathews, director of marketing.

Les Farey was previously director of sales for Video Utility Co. of Seattle, Washington, and before that was with Benco Television Associates, Ltd. of Canada, a Blonder-Tongue division. While with Benco he pioneered many of the initial CATV and translator installations in that area. Mr. Farey brings practical experience and technical know-how that will be of assistance to Blonder-Tongue customers in his area.

KIERULFF NEW S.C. HEAD OF NEDA

LOS ANGELES, CALIF.—Cap Kierulff, president of the electronic division of Ducommun Metals & Supply Co., has been elected to the presidency of the Southern California chapter of the National Electronic Distributors Association.

★ BUSINESS FLASHES CONTINUED ★

year inched closer to totals for the same period in 1960.

A total of 194,891 stereophonic phonos were sold to consumers in May, compared with 182,773 sold during the preceding month. Monaural sales stood at 62,328 sets in May, against 56,312 in April.

At the factory, stereo sales were off about 100,000 sets, with a total of 142,450 sold in May compared with 152,974 the month before. Monaural factory sales in May stood at 53,887, about the same level as the 53,074 reported in April.

To the end of May, 1,112,047 stereo phonos were sold at retail, compared with 1,258,417 old last year. Cumulative retail sales of monaural sets totaled 350,177 this year and 396,362 in the same period of 1960. Factory sales of stereos through May totaled 938,914, against 1,197,103 sold last year. Monaural factory sales stood at 300,433 through May. The total was 342,068 through the same reporting period last year.

EIA's detailed breakdown appears below:

	Factory Sales		Retail Sales	
	Monaural	Stereo	Monaural	Stereo
May	53,887	142,450	62,328	194,891
April	53,074	152,974	56,312	182,773
March	62,396	227,469	64,138	237,537
February	50,710	204,638	61,646	225,722
January	80,366	211,383	105,753	271,124
Year-to-date '61	300,433	938,914	350,177	1,112,047
Year-to-date '60	342,068	1,197,103	996,362	1,258,417

C S E A Members in . . .
SOUTHERN CALIFORNIA

for

GROUP LIFE INSURANCE

and

COMPREHENSIVE MAJOR MEDICAL
EXPENSE BENEFITS

contact

REX Q. DUBA . . . 7510 Reseda Blvd.

Suites 217-219 — Dickens 5-6400

Reseda, California

Woodmen Accident
and Life Company

Lincoln, Nebraska



The
Protecting
Hand

A MUTUAL LEGAL RESERVE COMPANY · ESTABLISHED 1880

CSEA MEMBERSHIP REPORT AND CHAPTER GUIDE

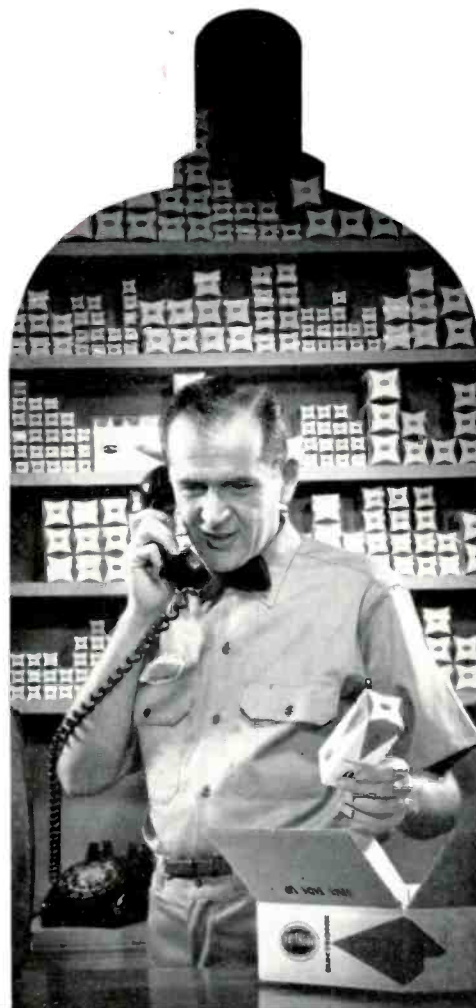
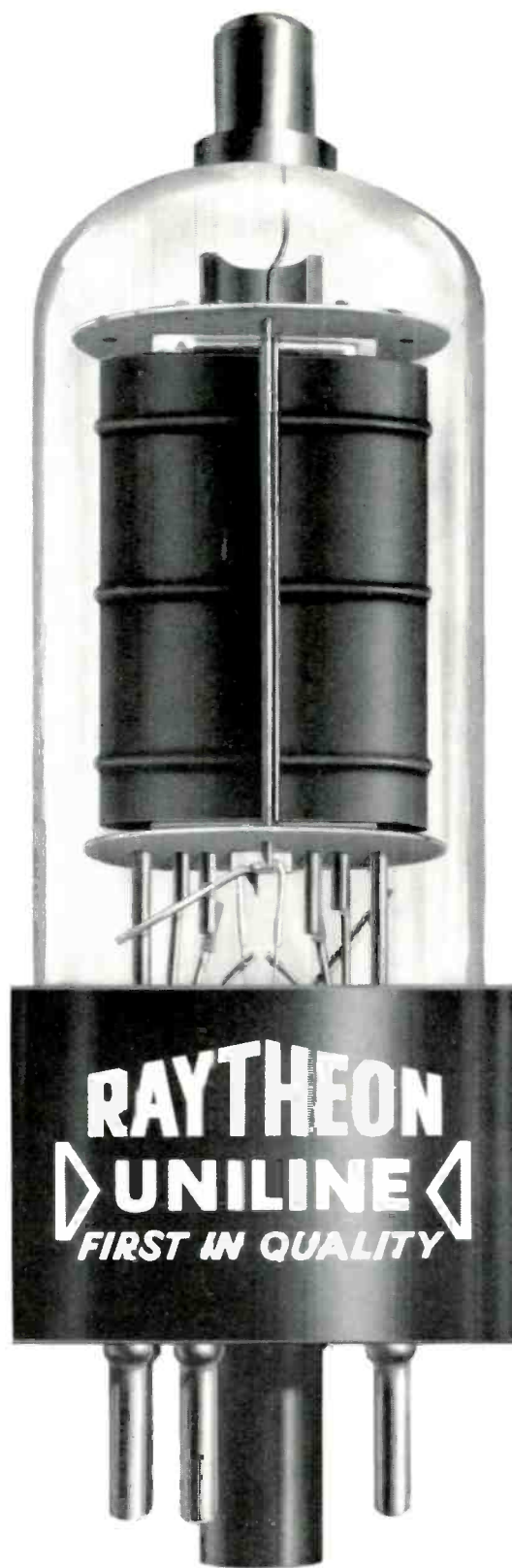
SUBMITTED BY COMMITTEE AT ANNUAL CONFERENCE

I. Suggestions on the Chapter Level:

- A. Secure a list of all available shops in your chapter area.
- B. At an early board meeting screen this list as to their qualifications to become CSEA members.
- C. Appoint a membership chairman in your local chapter.
- D. Have a talk on membership and appoint each chapter member to this membership committee.
- E. Have your membership chairman present this qualified list to all members and assign or ask for volunteers until every name is covered.
- F. Issue to all members:
 1. Application cards
 2. Membership brochures
- G. Check to see that all state magazines are being received by all shops on the list.
- H. Check to see that chapter notices are also being received by the entire list.
- I. Have state magazine, chapter notices and all local information in the hands of all local wholesalers in the area, and solicit their help.
- J. Send information concerning your local area to state magazine to further interest in your area.
- K. Thoroughly organize your local chapter and conduct meetings not only of interest to your members but to prospective new members.
- L. Have your members bring those shop owners, who have been assigned to them, to your local chapter meeting.
- M. Hold special meetings to encourage membership building.
- N. Seek the help of your state chairman and cooperate with him and your state officers in putting over this program.

II. Suggestions on State Level:

- A. Push and encourage early passing of state license as an encouragement to new members.
- B. Thoroughly check into all levels of your state organization so that you present a *strong unified* front to all new members.
- C. Check into your constitution and by-laws and make changes where necessary *now*; then make complete copies available to all members.
- D. Discuss your membership joining fee of \$25.00 and decide definitely how it shall be used, and then stick to it. Your state membership chairman suggests that it be used only on the chapter level to further membership building in the area in which it is collected.
- E. Hold area meetings:
 1. Have state membership chairman at all zone meetings when possible.
 2. Organizational meetings for the purpose of forming new chapters, and invite state officers, membership chairman, and local leaders for that purpose.
- F. As new zones are set up, have them get into this program and seek help of State Chairman.
- G. Appoint a co-chairman for the north.
- H. Keep articles and information continually in state magazine, with the idea to encourage early membership in CSEA.



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California Regional Offices

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486 El Camino Real, Redwood City

SOUTHERN CALIFORNIA
225 No. Van Ness Blvd., Hawthorne

Dealers Electronic Supply
800 Broadway Street
Eureka, California



The Question:

**SHOULD A SERVICE DEALER SELL OR LEASE
CONSUMER PRODUCTS?**

Mr. Bob Mawhorter
A. C. TV
Baldwin Park, Calif.

It is my opinion that there is still a substantial profit to be made in selling various electronic products. I believe that as Service Dealers we are on the firing line and have an excellent opportunity to recommend and possibly sell new equipment. This is an advantage that no regular appliance or TV dealer has and we should take the time to sell as well as service.

In regards to renting or leasing of TV we have found that it has worked out real well. In fact, this program has developed many sales for us over the past few years.

Mr. Emmett Mefford
MEFFORD'S TV & RADIO SERVICE
Fontana, Calif.

The question of sales and service combined, for a small service dealer, has a wide ramification as to the individual dealer. Some service shops are not located nor do they have the personnel to handle sales of sets. For those that do have these assets there is a very thin line of operation to make this combination of efforts work.

If a service dealer can recognize the time required that he can profitably give to sales to that of service with ratio to his income he may be able to judge for himself just when he should place more emphasis on one over the other. I have a limited sales floor which I have to back up my service operation when a set reaches a condition of not being profitable for the owner to replace. It is a small limited effort towards sales and the lack of space prevents the stocking of inventory but carefully handled it has been a very good source of additional income.

Mr. Stanley S. Young
Southgate Radio & TV
Southgate, Calif.

In my opinion a one or two man service shop will find it impossible to sell TV sets and make enough profit to compensate for the investment and extra hours . . . and still do a good job of service.

Larger shops can successfully go into sales but must run the two operations independently of the other or sales will bleed the service department thru call backs, warranties, deliveries, antenna installations, etc.

Mr. Ralph Jhonnot
Tri-Color TV
Burbank, Calif.

We find that 50% of the year we ask ourselves, why stay in the sales end of T.V.? Reasons not to continue; slow turnover during slack seasons which means bank flooring is to be paid even if the T.V. do not sell, poor price protection from the distributors, with sets being advertised and sold at less than a 10% mark up, which is less than 1/2 of the cost of doing business.

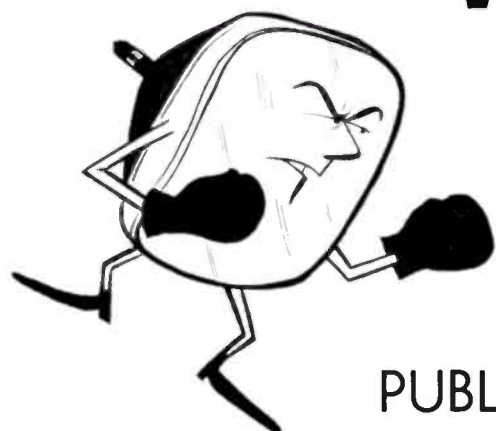
We feel we make very little profit at the time of a set sale. We have realized some clean profits on the sale of the better trade-ins, have added to our new customer service list which means future profits from service of the T.V. sold. These service profits mean much more than any possible profit on the original sale.

Current sales volume means it is a toss up as to whether to remain in the T.V. sales or to drop sales.

Unless the manufacturer makes some plans to correct the profit structure and furnishes dealer protection against discounting on current models, the only solution seemingly possible is for the dealer to carry a factory direct line where an effort is made to protect the dealer profit.

Our experience in T.V. rentals has been more than satisfactory over the last four years. We have only used the better trade-in portables and table models for the rental business. Advertising is done along with all our other ads. Rentals are mostly by the month averaging less than 2 months with losses at a minimum. Rentals can pay your rent with but little effort.

WE CHALLENGE



ALL INDEPENDENT
REPLACEMENT PICTURE
TUBE MANUFACTURERS TO
PUBLICLY MATCH THESE STATEMENTS

1. Calvideo Electronics Inc. states that each and every tube leaving its plant contains **100% NEW PHOSPHOR SCREENS, ALUMINIZATION, CONDUCTIVE COATING, AND QUALITY** (fine grid aperture) **ELECTRON GUNS**. The only re-used portion is the envelope which is carefully inspected to meet the standards of the new envelope. In other words, these are all new except for the glass envelope.

2. Calvideo Electronics Inc. is the largest independent picture tube manufacturer, supplying the replacement field, in the world. In its 50,000 sq. ft. (soon to be expanded) plant, Calvideo employs the most modern, automated equipment to manufacture entertainment and industrial cathode ray tubes.

PUBLIC NOTICE!!

It is unfortunate that dealers, distributors and consumers are unaware of the difference in picture tubes. Many assume that they are purchasing tubes with all new parts except for the glass envelope . . . BUT THEY ARE NOT! They are paying close to Calvideo prices and many cases higher for almost a totally used piece of merchandise.

CALVIDEO IS PLEASED TO SEE AN AGENCY OF THE FEDERAL GOVERNMENT BECOMING VERY ACTIVE IN THE PICTURE TUBE INDUSTRY IN AN EFFORT TO PROTECT ALL SEGMENTS OF THE INDUSTRY AND THE CONSUMING PUBLIC FROM FRAUDULENT MISREPRESENTATION. DEALER . . . ARE YOU IN VIOLATION ???

QUALITY + ECONOMY = PROFIT



TELEVISION
PICTURE TUBES

Universal Capacitors verses Exact Replacement Capacitors

by Robert Gianinni

General Electric Company
Los Angeles

Since the introduction of Television to the Consumer Market, Service Dealers have been facing an ever increasing problem of parts pyramiding. With the introduction of new units every year, continued improvements, etc. it has caused the entry of volumes of catalog listings and exact replacement charts in order to provide the necessary parts for placing a unit back into service.

This problem is certainly not limited to Capacitors and there is a definite trend towards universal replacement parts in other components as well. At General Electric our engineers recognized the importance of universal replacement parts and in particular, Capacitors.

For example, a Service Dealer happens to be working on brand A TV when he recognizes that a certain capacitor needs to be replaced. If he is working on the bench there is a possibility that he may have the exact replacement on hand but the chances are about 99 to 1 that he hasn't. What happens? He either has to send someone to a local distributor or go himself. He also knows the cost of operation per hour and also realizes that the time it takes to acquire that Capacitor can not be passed on to the owner of the set . . . the result . . . lost time and money.

As most dealers know, there are approximately 1,200 types of electrolytics used in radios, television receivers, phonographs and other entertainment equipment. Each type differs from the other with respect to one or more of these factors: Capacity rating, maximum voltage rating, diameter length, and type of mounting.

New Universal Concept Indicates Future Dealers Parts Inventory Trend

1. This principal eliminates the necessity of exact replacement parts.
2. It provides for the inventory of 3 out of 4 capacitor requirements.
3. Eliminates unnecessary trips to Distributors for special capacitors.
4. Saves time, effort and money.

To expect a dealer to stock capacitors in this situation is out of the question and until the universal replacement concept is accepted by every manufacturer, distributor and dealer it will still be necessary for large distributor inventories to continue and dealers to replace capacitors and other components in the same manner that exists today.

HOW DOES UNIVERSAL REPLACEMENTS WORK.

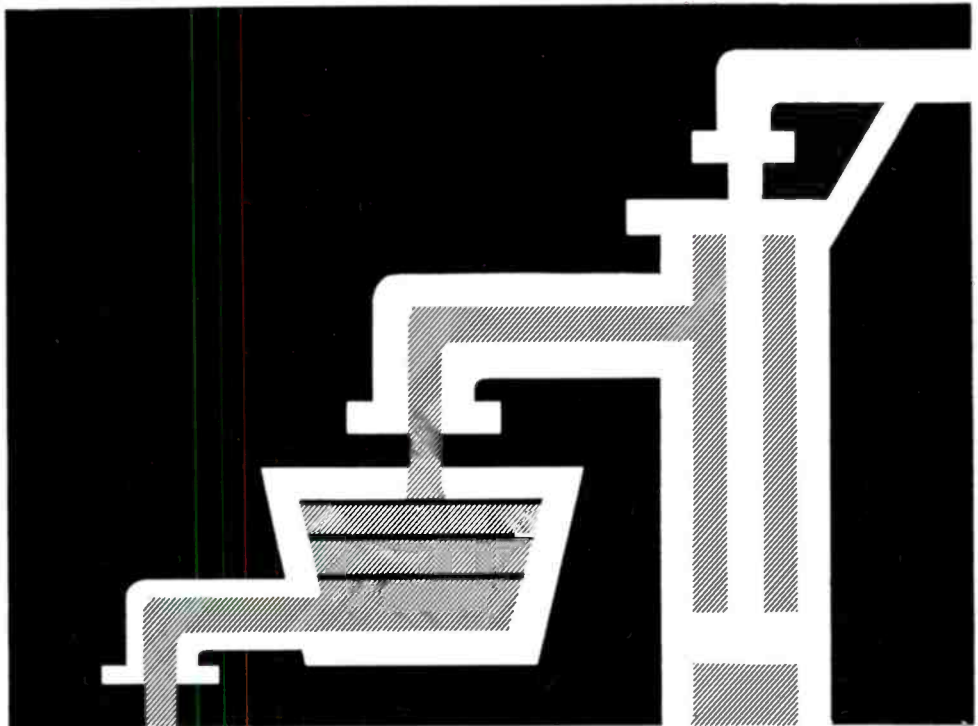
First of all, by examining the characteristics of all 1,200 replacement capacitors it becomes apparent that there is much overlapping of these characteristics. Couple this fact with the well known knowledge that a higher-rated capacitor may be substituted in a filtering circuit (with probably better performance) you can conclude the common sense concept that a capacitor with a range pattern could eliminate some of those exact replacement types.

This is exactly what our company, and a few others, are doing. Simply, it works like this: under the rating system a unit rated "50-60 mfd, 450 VDC" will replace any unit between 50 and 60 mfd at any voltage up to 450 volts. The only other consideration for making such a replacement is physical size and under the new system all currently used dimensions are accounted for.

With this principal in mind, and clearly indicating the application range within which each capacitor can be used, the need for hundreds of overlapping ratings are eliminated. As a result a dealer now can quickly select the right replacement for any application from a line of less than 300 types.

In the past, the problem of inventory capacitors became more and more difficult. Dealers attempted to stock at least the "fast moving" items but this too became more and more difficult. More serious was the fact that the prices of slow-moving replacement types were inflated to encourage usage of these "high volume" preferred types. However, under this new system, there are no "slow moving" types, comparatively speaking, because almost every type can be used to replace more than one original. In some cases one type can replace as many as seven or eight types. The average, in the General Electric System, is actually about four . . . the ratio of 300 to 1,200.

This concept should do more than merely reduce confusion and lengthy catalog listings. It should give the dealer an opportunity, for the first time, to economically stock a small supply of replacement capacitors. No longer will he have to pay the price for the confusion which has resulted for many years as selection, ordering and picking up replacement capacitors has become more costly and time-consuming year by year.



HOW A CAPACITOR IS USED—A capacitor is a device for storing electrical energy. When used in a TV set to reduce A.C. ripple of the low voltage power supply, for example, it stores electrical energy during the half-cycle when the rectifier conducts, and discharges during the half-cycle when the rectifier does not conduct. Its function is similar to that of the bucket at left. Water is pumped into the bucket in surges, and flows out the spigot below at a more constant rate. The larger volume of water stored in the bucket, the less variation there will be in output at the spigot. For a given variation in output, there must be a minimum storage capacity. But additional capacity only serves to further reduce output variation.

CAPACITANCE TOLERANCES*		
	NOMINAL RATING	
3-50 VDC	-10%	+250%
51-350 VDC	-10%	+100%
351-450 VDC	-10%	+50%

*E. I. A. SPECIFICATIONS RS154A, PAR. 3.4.4, DEC. 1957

ALL CAPACITORS HAVE WIDE TOLERANCES—For the same reason that extra capacity in the bucket only serves to further reduce variation in output, any replacement capacitor of equal or greater capacitance than the original unit will provide equal or better performance. E.I.A. recognizes this fact in their specifications (shown at left) which all manufacturers follow. The wide capacitance tolerances allowed reflect the broad range of applications in which capacitors may be used. The use of highest purity materials enables G-E capacitors to exceed these specifications, and the realistic G-E rating system puts these wide tolerances to work to help simplify your replacement problems.

Universal Capacitors verses Exact Replacement Capacitors

by AL COUMONT

Sales Manager

Sprague Products Co.

Service technicians, in discussing capacitors generally place them in one of several categories depending on their appearance or construction. Their terminology describes capacitors as paper, mica, ceramic and electrolytic as some examples. In the case of electrolytics these are classified into types depending on their appearance, cans or tubulars.

Many electronic technicians and engineers are not too familiar with the technical whys and wherefores of capacitors, and logically so. Capacitors as one of many types of electronic components, are in their own family a very complex group to the extent that each category of capacitors has engineering, manufacturing and application engineering specialists. A radio-TV electronic technician's foremost interest in capaci-

tors should be to understand how to select the best unit for replacement purposes based on the capacitor's technical ability to do the job, quality of performance or reputation and design for economical use.

Since the early days of electrolytic capacitors, so called because they did contain a liquid solution of electrolyte, continued progress has been made in improving the quality of these devices. However, the improvement was necessarily a series of progressive steps, each one evolving a capacitor designed to meet more stringent circuit requirements. Broadly, this evolution of electrolytic capacitors can be easily seen in a comparison of size of volume of a capacitor for a given capacitance and working voltage of one available several

years ago compared to that which is now being used.

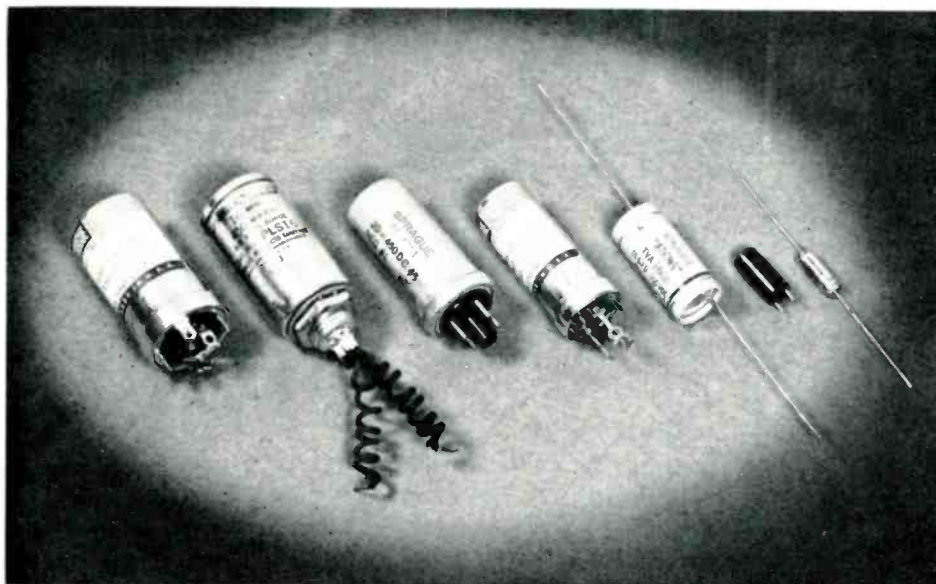
Today, electrolytics are available not only in many different capacitances and voltages, but in combinations of capacitances and voltage ratings, diameters, heights, lead terminations and mechanical mounting as shown in Fig. 1.

Internally the construction of electrolytics has changed to meet specific circuit performance requirements such as high ripple voltage in dry rectifier circuits, high temperature ambients due to miniaturization of chassis with the difficulty of dissipating surrounding heat, and low leakage current to minimize the amount of extra load introduced on power supplies. Leakage current is especially significant in the use of electrolytic capacitors in transistor circuits.

Today well-known brand name capacitor suppliers provide to electronic distributors a wide variety of electrolytic capacitors for the radio-TV electronic technician trade. The multitude of types, both in electrical and physical configurations are offered to help the technician obtain the best capacitor for the job with very little difficulty.

However, significant to the many varieties of electrolytic capacitors is that due to their construction, inherent characteristics and circuits in which they are used, they are flexible in application to permit substituting one capacitor for another under certain provisions.

A knowledge of the important characteristics of filter capacitors in some of the general applications will permit a service technician to select an adequate substitute that will be able to withstand the circuit surge currents and voltages, maintain performance under sustained



Here is an illustration of the types of capacitors in use today. They include: paper, mica, ceramic and electrolytic.

voltage and load conditions and provide the proper filtering action with a permissible amount of leakage current.

TABLE I

DC Working Volts	Maximum or Surge Voltage
3	4
6	8
10	12
15	20
25	40
50	75
150	185
250	300
300	350
350	400
400	175
450	525

Table I shows the relation of the maximum or surge voltage the capacitor can withstand and at a given DC working volt rating.

MAXIMUM LEAKAGE CURRENT	
Conventional Tubular Electrolytics	
Rating	Leakage Current
10 μ F @ 25 VDC	.4 milliamperes
10 μ F @ 150 VDC	.54 milliamperes
Miniature Aluminum Electrolytics	
Rating	Leakage Current
10 μ F @ 25 VDC	.003 milliamperes
10 μ F @ 150 VDC	.015 milliamperes

Leakage current on the DC current that flows through a capacitor while operating under its full rated DC working voltage, is an important characteristic when using electrolytic capacitors as coupling devices in low impedance circuits. These circuits are generally confined to transistor applications and special design electrolytics should always be considered for replacement in these instances. A comparative DC leakage current for a general tubular electrolytic as compared to one designed for low impedance coupling.

Leakage current is of course greatly susceptible to the influence of AC ripple voltage superimposed on the DC voltage across the capacitor. The electrolytic capacitor unless otherwise specified, is basically a DC or polarized device. The presence of excessive amount of AC voltage will induce excessive leakage currents which in many cases, could either develop loss of capacity, overheat the capacitor and possibly destroy it.

Filter capacitors used as the input filter of silicon type or dry rectifier circuits (AC/DC power supply) are designed in their internal construction, to accept a reasonable amount of AC ripple. The indiscriminate use of substitution of a capacitor solely because of similar capacitance and voltage rating could lead to not only the destruction of the replacement capacitor but of the rectifier and associate components.

A general rule is: the larger the capacitance the better the filtering action, and make sure that you don't use less capacitance than originally provided. For the average radio-TV power sup-

ply, design engineers have accepted filter capacitors having a capacity not less than -10% and up to +100% of the specified capacitance. For electrolytic capacitors used in filtering and bypassing at low voltage ratings the plus capacitance tolerance is quite high. You will note the capacitance tolerance as per Table III.

DC Working Volts	Capacitance Tolerance
3-50	-10% to +250%
51-350	-10% to +100%
351-450	-10% to +50%

EIA Tolerance
(For Electrolytic Capacitors)

What this chart means is that radio-TV set designers will accept for use in their circuits a filter capacitor having not more than -10% capacity of what they specify, but they will accept quite a bit more capacity and up to 2½ times more, for example if the voltage rating of the unit is from 3 to 50 volts DC.

Interpreting this in the language of service technician it means that if you have to replace a filter capacitor originally rated 50 mfd. at 25 volts, in an emergency need, it is permissible to replace it with a unit having a capacitance rating of 125 mfd. or 2½ times the original 50 mfd. unit. The question, of course, is it an economical procedure? Obviously not when it is possible to obtain a replacement having the value of the original unit at less cost than one of higher capacitance.

The same point can be made about voltage ratings of filter electrolytic capacities used for filtering purposes. Certainly if the original unit is rated at 150 volts, one on hand rated at 300 volts can be used as a replacement unit with the assurance that the added voltage rating of the replacement unit will contribute an extra safety factor against voltage breakdown. But here, again, the average day to day service work of a technician using replacements of the same specifications as the original unit is generally the most practicable and economical. Figures given in Table IV bear this out.

	Rating	Size	List Price
Exact Replacement	40-30 @ 150 VDC	1x2	\$1.85
Emergency Substitute	40-30 @ 150 VDC	1x3	2.65

To make sure that radio-TV service technicians have not only the widest range of exact electrolytic replacements available from their electronic distributors, reputable capacitor manufacturers also provide replacement guides which more specifically identify the manufacturer's original capacitor with that of an exact replacement available from a local

supply house. In addition, other independent commercial services provide service technicians with current replacement information for exact replacement needs.

The evolution of electrolytic capacitors from the type designed for tube circuitry to those with specifications adaptable for low voltage transistor devices, has also made it necessary to provide service technicians with a new type of test instruments. Electrolytic capacitors designed for higher voltages and with reasonable leakage currents, can withstand temporary high test voltages and increments of AC ripple. However, their smaller counterparts, the ones of high capacity and very low voltage rating used in transistor devices for coupling and filtering and timing are quite a bit more delicate. These require test instruments that apply testing voltages of characteristics that will not alter the capacitor characteristics. As an example, if one of the little-lytics used in transistor sets, unit rated at 100 mfd. at 3 volts DC were tested with an ordinary capacitor measuring device or bridge, the bridge voltage may be in excess of the capacitor working voltage or surge voltage and break down the capacitor's dielectric, the result is excessive current leakage and eventual failure. Also, because many of the capacitor bridges are AC bridges, the AC complement of the bridge voltage may be too high for testing the low voltage DC miniature electrolytics. In using excessive AC voltage on these type components, it tends to decrease the capacitance of the unit, and possibly increase the leakage current.

In this short article our main purpose was to introduce you to some basic thoughts on the use of electrolytic capacitors, to point out to you that there were some areas of substitution, but these were only recommended in cases of emergency or lack of convenient supply. Also, that a wide variety of electrolytic capacitors are available to service technicians making it practical and economical to use replacement unit of exact ratings.

Radio and TV set performance is dependent on the proper functioning of many components interdependent on each other. The use of an exact replacement unit or one designed by the manufacturer to equal the original unit's electrical characteristics, at least provides a satisfaction to the technician that with the use of an exact replacement he has certainly eliminated one potential trouble source, and he can disassociate this unit from his search for the malfunctioning part. The use of a substitute which may not be electrically correct may compound rather than correct circuit difficulties.

CSEA Chapter News Roundup

SAN DIEGO

Pres.: Ken Mender
Sec.: Dan Davitt
News Editor: Virgil Gaither

An exhibit booth set up by CSEA Chapters 13 and 18 at the San Diego County Fair in Del Mar from June 30 through July 9 attracted a great deal of favorable attention, according to officers of both chapters.

The booth featured large reproductions of the CSEA seal, a selection of electronic equipment, and several placards describing the CSEA organization and its aims.

The main placard stated: "California State Electronic Assoc.—An association of radio and TV service shops and service technicians to improve customer and repair industry relations."

Another placard read: "Call the shop displaying this emblem. A repair by one is guaranteed by all members. There are members in your area."

Thousands of booklets were distributed containing the names of members of Chapters 13 and 18, and it was felt that the many hours of work and the expenses involved would bring good results in the months to come.

LOS ANGELES

Third Thursday of Each Month
Rodger Young Auditorium
936 W. Washington Blvd., 8 p.m.
Pres.: Norman Shannon
Sec.: Abe Bowers

At our last chapter meeting we elected our new delegate and alternate delegate to CSEA. Mr. Howard Singer of Day & Night TV was

elected as the delegate with Hugh Wilkins of Tel-Radio Service as alternate.

During the meeting we also discussed the possibility of group consumer advertising and the recent action concerning licensing.

RIVERSIDE

Pres.: Emmits Mefford
Sec.: Al Barber
News Editor: Jim Williamson

First in a series of lessons on "Business Practices for Radio and TV Dealers" was given at the last meeting of CSEA's Riverside Chapter No. 2.

Guest speaker was Dennis Nagle of P-V Electronics, who served as instructor. The lessons will continue for the next several meetings, and are expected to lead to better business and management practices among service dealers in the Riverside group.

PASADENA

2nd & 4th Wed. of Each Month
Westward Ho Restaurant
Pasadena.

Pres. Ken Mender
Sec.: Dan Davitt
News Editor: Virgil Gaither

Last month our meeting was held at the Westward Ho Restaurant and our guest speaker was Mr. Hal Blase of Pacific Telephone. The title of his speech was "What Are Your Odds" and dealt with the odds against accidents in the home.

On July 29th we held a lawn party in honor of Dick Hartwell at Ron Kealey's home. Dick will take Miss Joan Ball as his bride on August 18th.

SAN BERNARDINO

SPECIAL MEETING THIS MONTH
AUGUST 17TH

Contact Jess Adams at
TU 869126
concerning time and place

The special meeting of our chapter is being held in order for all chapter members to hear Mr. Walter Burns speak on "HOW TO IMMEDIATELY DOUBLE YOUR SERVICE INCOME." Mr. Burns addressed the general meeting of the Association last February during the CSEA Seminar program and was overwhelmingly received by all of those who attended. His common sense approach to service was down to earth and workable and anyone who attends this meeting will be in a much better position to advance his business.

BURBANK-GLENDALE

Second Thursday of Each Month
Genio's Restaurant

1420 W. Olive, Burbank
Pres.: Everett Pershing
Sec.: Ralph Singleton

News Editor: Ralph Johonott

The Burbank-Glendale chapter of CSEA was very fortunate to have as their guest speaker last month Mr. Wally Rubin. Mr. Rubin demonstrated to the members attending the very latest in Mercury Test Equipment. Many of the members were especially interested in the latest low priced Dynamic Tube Tester for all new types of tubes.

Mr. Jim Wakefield, executive secretary of CSEA, was a surprise guest at this meeting and he brought us all up to date in regards to the latest efforts of the state association.

This month we are starting on an all-out membership drive and hope to increase our numbers some 20% in the next few weeks. All of those interested in this program should contact Mr. Buss Dixon at CI 2-5836.

Next month we will feature a special program that should be of extreme interest to everyone.

SACRAMENTO

2nd Tuesday of Each Month

Pres.: Vic Manley
V. Pres.: John Crote
News Editor: Joe Rodriguez

How to raise money for the CSEA public affairs program was discussed at the last meeting of Sacramento Chapter No. 1.

Guest speaker was Mr. Soberly, a Philco representative, who described and called to the attention of the members of the new Philco plan, which had apparently been somewhat misconstrued previously.

Mr. Wentworth of Station KSFM is scheduled to be the guest speaker at the next meeting. He will address the group on the subject of stereo broadcasting and the ways and means of working together as a group.



This shows some of the interest that the San Diego Chapter of CSEA was able to develop during the recent San Diego Fair. This type of effort really drives home the objects of CSEA to the consuming public and should be a chapter project whenever such fairs are held.

SPECIAL INTRODUCTORY OFFER FROM KIESUB

NEW G-E STOCK SAVER KIT CONTAINS 14 CAPACITOR TYPES THAT MEET 90% OF YOUR TUBULAR REPLACEMENT NEEDS

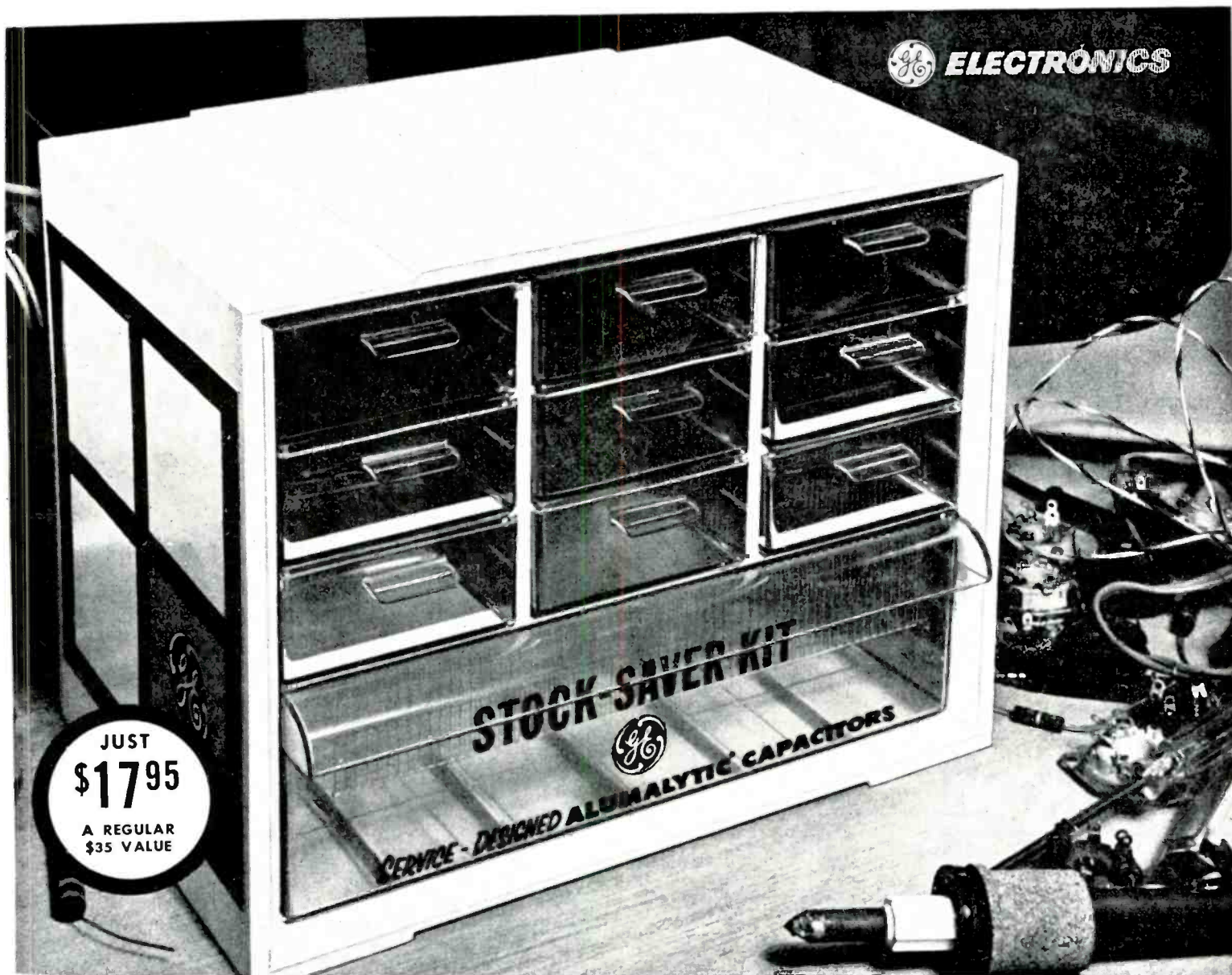
The capacitors with this handy kit are part of General Electric's new line of "Service-Designed" capacitors—each engineered and clearly marked for range of capacitance and voltage requirements. No more guessing or substituting for exact replacements. Save time and cost of single-unit ordering and pickup. With your Stock Saver Kit you can carry a minimum inventory and turn it into profits faster. The complete "Service-Designed" line—especially designed for replacement sales—contains tubulars, twist-prong and miniature electrolytic and paper Mylar* types. Reduce from 1,200 to 295 the types needed to make all aluminum electrolytic capacitor replacements. Get your G-E Stock Saver Kit, plus the most complete catalog and replacement guide ever published, from any of the KIESUB branches listed below.

All Kiesub Stores feature a complete line of General Electric Receiving Tubes to meet all of your needs.

Progress Is Our Most Important Product

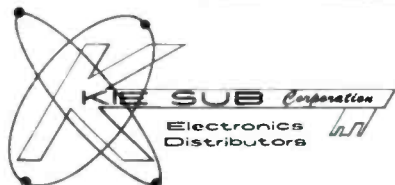
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AB 265

Down The Drain??

by Howard Singer

Public Information Director

California State Electronics Association

This is what big business and their supporters would have us believe. This is what they want us to believe! I have news for you—They are very close to their goal if we sit back and let them crow about their victory and let me tell you it was a victory for them.

What happened in Sacramento recently is only a sample of what is to come.

Just in case there are any uninformed readers at this point, the subject of this article deals with the ill fated Assembly Bill 265 that the CSEA sponsored in the recent session of the California State Assembly in Sacramento. AB 265 was a bill to license TV, Radio and Electronic Servicemen. Men who service domestic electronic equipment would fall into the provisions of an embracing law that would govern the ethics of our trade which up to this point is considered by officials of the State of California as "Tinkers"!

The passage of this bill would have elevated your standing in your community to the level of a plumber. A plumber in our state is licensed as a journeyman, a professional technician. Why is a plumber licensed? He is licensed because his industry decided to clean their own linen, and with a working organization and civic support they gained their ultimate goal. The men who practice the plumbing trade make almost \$5.00 an hour, do you make \$5.00 an hour? No! And you will not if you sit back and let a few large businesses tell you what to do.

There is a fine working TV service organization all set up to front for you, but it doesn't seem to make an impression on you non-believers. The CSEA is composed of TV shop owners and technicians only. I myself am in my shop at 10:00 p.m. writing this article.

To introduce myself, I am the owner of a thriving TV shop in Hollywood and I put in a pretty good day plus some extra curricular work to try and better my position and also to try and better the position of this industry which

at the moment is going to the dogs. My shop didn't become a success overnight. It took nine years of hard sweat and the support of a good wife. I didn't sit around crying in my beer when business was bad—I did something about it. I worked and am still working, both for myself and the industry. We have had a setback because of the failure of this bill, but let me tell you something: We haven't time to sit on our imagination and cry about it. We have an organization—A strong one. It could be stronger but it lacks one thing. It needs men, I repeat, men! We don't want a bunch of *cry babies* who refuse to try and better themselves professionally and economically. If you are not making \$10,000 a year in this business, there are a lot of things wrong. The main thing that is wrong is yourself. Sit down and analyze your situation.

Everything that is wrong with your particular operation can be aided by being a member of CSEA. The CSEA is the only statewide organization that is here to help you today, and the todays that are ahead. We cannot and will not do a thing for ourselves unless we stick together. You have to make up your mind which side of the fence you want to be on. When you climb over into our front yard, you will have the satisfaction of being in an organization that is formed to help you, not fight you. It costs \$60.00 per year as your share for the privilege of belonging to a group that was organized for only one purpose—To clean up this industry. Or you can stay on the other side of the fence. On this side of the fence we have a few elements. They make a lot of money every year—\$15,000., \$20,000., \$30,000. A year. How do they do this? It's easy. Just be a *crook*. It's fun for a while, but some day there will be a penalty. The income tax boys will catch up with you, the sales tax people will learn about you. Your customers already know about you. Hit 'em once and look for new ones.

TV service calls for \$1.00! Is this what you want this industry to keep

on doing? Operate sloppy shops and wonder why customers don't come into your store. These are the same guys who cry all the time. "What can an organization do for me?" What can you do for the organization? What you do for CSEA you are doing for yourselves!

We stand a fair chance of getting our license bill out of committee next January. We must have an enlarged membership, we must have financial support, we must have your face at meetings. You guys always holler that you don't know what's going on. Certainly you don't know—How can you? If you take no part you only receive what you put in. Well, we are coming down the home stretch right now. We either clean this business up ourselves or the end of independent TV service is in sight. I for one after 25 years in the business can see the old scrawl on the wall. If the industry, and industry it is, doesn't clean itself up, none of us will be in business. This business that we are in isn't an easy one. It could be a lot better but it won't get that way by itself. Those of us who compose it must lift themselves up out of our holes and fight for our own salvation. Salvation it is, nothing more. The honest man can't make a decent living as it is now and it will only get worse before it gets better. It won't get better unless you help it get better!

Licensing is only one facet of CSEA. We want apprentice training. We want to help you set up standards of shop and business operation. We want to show you why you are losing money, if you are, and how you can make more money for yourself and your family. We want you to walk out of your shop and go home at six p.m. A business that requires 12 to 14 hours a day to make a living is not a business, it is a pure rut and nothing else. When you let your business control you and not you control the business, your situation is in a bad way.

Join CSEA Today . . . Help us to help you . . .



NICE TRIP TO THE BANK!

You can be the man with the growing bank account...

HERE'S HOW . . . DU MONT abd picture tubes and the "Captive Customer" merchandising program offers you more advantages than any other tube line, and makes more profit for you.

1. **A TWO YEAR WARRANTY PLAN** that keeps your customers with you longer, and practically guarantees you every service call on their sets.
2. In the event of second year warranty, **YOU** sell the replacement tube rather than a competitor and make yourself additional profit.
3. **THE AUTOMATIC RENEWAL 2 YEAR WARRANTY PLAN** gives you the most effective sales ammunition over any other tube line.
4. DU MONT abd's unsurpassed quality, its publicly accepted name and its price to you immediately puts you in the top profit picture.

*A brand name that means **QUALITY** to every American*

THE PROFIT LINE FOR THE "SIXTYS"

Contact any of the Western distributors listed below for further details, or request that a factory merchandising representative call on you direct to show you how you can further your profits.

CALIFORNIA

KIESUB CORPORATION

- LONG BEACH
- OXNARD
- VAN NUYS
- SAN BERNARDINO
- BAKERSFIELD

COLORVISION ELECTRONICS

- RESEDA

HAMILTON ELECTRONICS

- CULVER CITY

COOK ELECTRONICS

- INGLEWOOD

MARTIN DISTRIBUTING

- HUNTINGTON PARK

HONIG DISTRIBUTORS

- NORTH HOLLYWOOD

NYSTROM BROS.

- SAN DIEGO

SHANKS & WRIGHT

- SAN DIEGO

WHOLESALE ELECTRONIC SPECIALTIES

- CATHEDRAL CITY

MID-STATE ELECTRONICS

- SAN LUIS OBISPO

EDISCO

- SAN FRANCISCO

ATLAS RADIO & TV PARTS

- LOS ANGELES

STYLES & ENGLEMAN

- SAN LEANDRO

INLAND ELECTRONICS

- MODESTO

WASHINGTON

A. T. STEWART CO.

- TACOMA

GARRETSON RADIO SUPPLY

- SEATTLE

YAKIMA WHOLESALE

- YAKIMA

MID-STATE RADIO

- WENATCHEE
- MOSES LAKE

NORTHWEST ELECTRONICS

- SPOKANE

TV & RADIO SUPPLY

- LONG VIEW

OREGON

TV & RADIO SUPPLY

- PORTLAND

HAROLD'S RADIO SUPPLY

- PENDLETON, OREGON

ARIZONA

DALIS RADIO

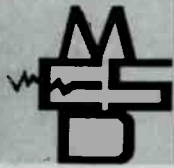
- PHOENIX

STANDARD RADIO PARTS

- TUCSON

DU MONT
A B D
The Golden Line

PICTURE TUBES - RECEIVING TUBES
with exclusive 2 year warranty plan
the industry's best warranty



MODERN
*electronic
service dealer*

PRESIDENT'S MESSAGE



ROBERT WHITMORE

No doubt, we are disappointed at the final results of our license bill. As you must be aware much hard work, and a great deal of money was expended for this worthwhile purpose. I hope however, that we won't be so disillusioned by its outcome that we cease to work for the enactment of legislation, and for the many other projects of importance. Several things are in the mill, and much time is needed for the end results to be successful. Some projects I might mention are, apprenticeship, sales tax, membership, business aids, cost analysis, and others to numerous to mention. Not much can be accomplished without the assistance of everyone in the association, and this brings me to the topic of unity.

What is unity? Why is it necessary? What are its advantages?

Unity to me, means the collective efforts of us all working for a common goal. Let's consider for a moment the strength we hold in our industry if only we can all be going in the same direction. First of all consider the buying power we have, collectively. Assuming an average shop has three people working, and based on an average of \$1000 per month per man, we come up with a monthly figure of \$3000. Now if we take half for labor and the other half for parts, and take the normal discount we arrive at an average purchase of \$900 per month. Not a lot of money in itself but now let's multiply by some 4000 service dealers throughout the state and the picture changes to \$3,600,000. Quite a sizeable sum, is it not.

Collectively, we have a tremendous buying power.

Now lets take the investment of these individual shops. Stock equipment and supplies we will assume represent an outlay of capital averaging \$12,000. With approximately 4000 dealers having this kind of investment we arrive at a capital outlay of some \$50 million dollars. Quite a tidy sum. Now according to national figures of 120,000 service dealers at an investment of \$12,500 each we have the tremendous capital outlay collectively of some one billion, five hundred million dollars. Not many companys, or giant corporations have this kind of capital investment. Collectively we are big business, although individually we are rather small.

Does it make sense now, that unity is necessary for our very survival? I think so. Perhaps the day will come when we can all be working together for the good of the service industry and what an industry it would be. With the enormous buying power represented there is no limit to the goals we could attain. I hope many of those who are not now members of any association will get behind the drive to organize and help accomplish the task of cleaning up the industry of which we are all a part.

SUES, YOUNG & BROWN INC.

OFFERS YOU THIS

BLINKING DOME LANTERN



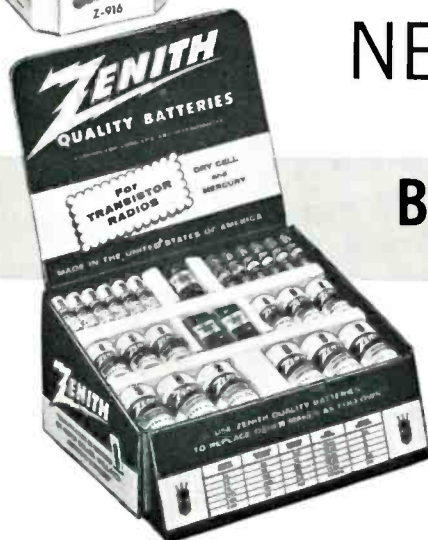
BATTERY INCLUDED

ADJUSTABLE SEARCHLIGHT HEAD
Anodized Aluminum, Chrome Plated. Separate switches for beam and blinker. Individually boxed. Operates on Zenith Battery Z-916.

FREE!
WHEN YOU BUY THE

NEW **ZENITH**

Battery Dispenser Kit
FOR TRANSISTOR SETS



BIG PROFIT MAKING ACCESSORY
Zenith brand batteries Assures Quality Performance and Dependability. They are famous for long life. The six battery types provide equipment for all Zenith Transistor Portable sets and 95% of other makes. Dispenser carton incorporates Zenith equipment chart and replacement information.

ALSO AVAILABLE AT THESE SUB-DISTRIBUTORS

HURLEY ELECTRONICS
1429 South Sycamore
Santa Ana, California

HURLEY ELECTRONICS
1501 Magnolia
Long Beach, California

HURLEY ELECTRONICS
501 East Date Street
Oxnard

GROSSMAN & REYNOLDS
1900 West Valley Boulevard
Alhambra, California

ANDREWS ELECTRONICS
1500 West Burbank Blvd
Burbank, California

ELECTRONIC SUPPLY CORP
2483 - 3rd Street
Riverside, California

your suppliers can mean . . .

"A shop owner's best friend may be his mother but insofar as his business is concerned, his sources of supply rate mightily close."

This observation was given us by a shop owner friend. He had gone out of his way to maintain top relations with his sources of supply as a matter of policy. It had paid him off handsomely through the years.

No one knows for sure whether or not the days ahead will be rough ones but wise electronic shop owners are making plans accordingly; one of these calls for the maintenance of top relationships with all sources of supply.

In the following paragraphs are condensed suggestions from many shop owners who rate high with their sources of supply, as well as from jobbers, wholesalers and manufacturers themselves.

—Treat your source of supply fair. No salesman feels angry about failure to secure an order from you when he calls. But everyone down to the stock room clerk dislikes the shop owner who cancels orders at the last minute or reduces them to a minute quantity. When the order is given and signed for, it is considered ethically a binding order.

—Don't patronize sources of supply. No one likes this approach, least of all someone who gets it all of the time.

—Concentrate bulk of orders in each class with one source of supply, rather than breaking it up into a whole bunch of tiny orders. Very small orders are profitless to any supplier because of the high cost of handling them.

—Live up to terms of payment. No source of supply likes to do business with a firm that hedges on agreed terms of payment, or upon whom collection procedure must be started to handle each sale. The average source of

supply needs its money to operate with and few have extra money lying around for us to use, which is actually what we are doing when we fail to honor invoices promptly.

—Avoid price chiseling. It's good business to attempt to buy at as low a price as we can, but when our efforts get down to haggling and chiseling on price, good business stops and pettiness begins.

—Avoid demands for special concessions. Trying to get in ahead of the other fellow is not always good business. When we exert pressure to obtain concessions and favors not granted to others, we do very little toward making friends of our sources of supply.

—Don't waste a salesman's time for time is his chief commodity. Nothing irritates him more than to spend a couple of hours with one and then find there was no intention of an order. He much prefers being told so at the start; then he can allot 15 minutes or so for friendly chit-chat and go on about his business looking elsewhere for sales.

—When a supplier representative calls upon one, he is the authorized agent of that firm. Nothing will make him more unhappy than having a customer go behind his back to the sales manager or head of the firm with letters—and telephone calls on matters he could easily have handled himself.

—Order only what you need when an item becomes extremely short. A salesman knows how limited his quotas are and he must spread them thinly to be sure every customer is able to have enough. He can hardly be blamed for becoming mighty unhappy when he runs into the customer who is trying to hoard.

—Make it a point to visit—suppliers whenever possible, and meet as many of the executive personnel as possible. The more people one knows in the con-

cern the better one's relationship with the company will be.

—Differences with suppliers can always be worked out by straightforward, sensible procedures. The source of supply that deliberately sets out to cheat its customers cannot continue long in business with such tactics. When points of disagreement come up, approach them as misunderstandings which need to be straightened out—let the lawyers stay busy at something else.

—Ever been in a strange town with nothing to do? It's a mighty lonesome occasion. From time to time, invite salesmen and representatives out to the house or to a party. Particularly on week-ends, a man on the road really has plenty of time on his hands in a town where he is known only in a business way.

—Don't mix your problems with those of your sources of supply. Jobbers and manufacturers are in business to provide us with merchandise and supplies needed in the operation of our business. They are not set up to help us solve our business problems.

—If you cannot see a salesman within a few minutes of his call, you should not keep him waiting around for an hour. You should tell him the facts so he can go out and complete business elsewhere and then come back, rather than waste the whole hour keeping one of your chairs warm.

—Don't expect every representative to be a traveling business gossip . . . he may know a lot of news about other shop owners elsewhere, but he prefers to keep these things to himself. No customer appreciates a violation of confidence.

The foregoing pointers, coupled with everyday friendliness and courtesy, will help any shop owner toward his goal of keeping his sources of supply happy.

extra profits to you!



GENERAL ELECTRIC DISTRIBUTORS CAN NOW TAKE THE CONFUSION OUT OF THE CAPACITOR BUSINESS!

CONTACT ANY OF THE FOLLOWING:

KIESUB CORPORATION

640 W. 16th St.
Long Beach—HE 6-9697

"Branches Throughout S. Calif."

RADIO TV SUPPLY CO.

2025 South Figueroa St.
Los Angeles—RI 8-7131

ORVAC ELECTRONICS

112-B East Orangethorpe
Anaheim, Calif.

COOK ELECTRONICS

210 East Hardy St.
Inglewood—OR 8-7644



NEW PRODUCTS



FROM SENCORE

. . . comes Mighty Mite II, which is an improved version of the company's very popular Model TC109 Mighty Mite tube tester. The improved tester, Model TC-114, is designed to check all the tubes that the earlier tester tests but in addition, checks the new GE compactrons, the new Sylvania 10 pin tubes, and the RCA Nuvisitors and Novars. According to the company, the RCA Novar has not been tested by any tube tester prior to the Mighty Mite II.

The TC 114 tester is slightly larger, has a few minor circuit improvements, an adjustable cover with mirror so that the cover can be set at any angle for TV adjustments and a set-up booklet with larger type for easier reading. Dealer Net is \$67.50, compared to \$50.50 for the earlier model.



FROM HAMMARLUND

. . . the availability of a new noise silencer to be used in conjunction with the Hammarlund HQ-170 and HQ-180 receivers. The unit is recommended where severe ignition or other pulse-type noise is encountered and will provide a readable signal that would otherwise be completely masked or unintelligible. A new threshold control permits substantial noise reduction on AM, CW, and SSB signals.

The three tube noise silencer, essentially a plug-in unit, renders the receiver inoperative at the time individual

noise pulses occur. The listener is unaware of the resultant "hole" because of its extremely short duration.



NEW RECORDING HEAD

. . . A new tape recording head designed to replace most Shure TR-5 heads has been made available by Robins Industries Corp., Flushing, N. Y. This head is a direct replacement for most Wollensak and many other tape recorders produced over the past few years.

Called the Robins 5TR-B, the new replacement head is a combination 1/2 track, record/playback and erase head. It lists for \$18.90.

Eighteen replacement heads comprise the Robins line including: 1/2 track mono record/playback; 1/4 track stereo record/playback heads; 1/2 track stereo erase heads; 1/2 track mono erase heads and 1/4 track stereo erase heads. With this complete line, Robins says a serviceman or dealer can repair, upgrade or convert to stereo over 85% of all tape recorders produced in the U.S. to date.



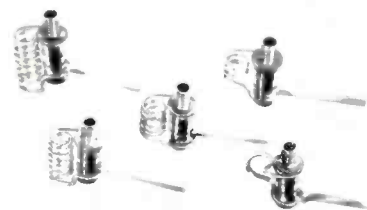
FROM BENCO

. . . comes a new broadband amplifier for master TV systems which offers up to 35 db gain and sells for under \$100.

The Pacemaker, designed for indoor use, has a power rating of less than 50 watts. It may be used outdoors if a weatherproof container is provided.

What's more it will operate at peak efficiency even when being used for as many as 100 TV and/or FM sets at a time. An outstanding feature of the Pacemaker is its output capacity of 2 volts per band. Separate inputs are provided for high and low band but a link allows the Pacemaker to be used with combined band low band inputs.

The Pacemaker is designed with two goals in mind—long, maintenance free life and reliable performance. To reduce the strain on the tubes and other components, it is operated far below capacity and is well ventilated.



FROM JFD

. . . is a new series of tank circuits offering, in a very small physical size, a very wide tuning range.

The basic unit consists of a precision miniature piston capacitor, the VC20G, across which an air core coil is soldered. The number of turns of the coil determines the range of the unit.

Five standard units are available:

1. LC 371 with a self resonant frequency variable between 475 and 1000 mc.
2. LC 372 with a self resonant frequency variable between 290 and 850 mc.
3. LC 373 with a self resonant frequency variable between 230 and 650 mc.
4. LC 374 with a self resonant frequency variable between 190 and 525 mc.
5. LC 375 with a self resonant frequency variable between 165 and 425 mc.

The nominal Q of these coils is in excess of 230 (measurements are made at frequencies between 80 and 220 mc.).

Other features of these units are:

1. Compactness: more capacity in less cubic volume
2. Economy: one unit is bought instead of the previous two (production prices of these LC tuners will be at slight additional charge to the price of VC20G)
3. Ease of Assembly: when one unit is to be mounted instead of two, important time savings result

(Continued Next Page)

NEW PRODUCTS

(Continued)

4. Reliability: the heat assembly techniques combined with thorough control procedures assures utmost reliability.

These units will be available within four weeks. Custom models can be made using similar techniques in order to meet other requirements. Modified versions of standard models can also be used in conjunction with air core coils, toroids, or ferrite cores in unshielded versions. The coil can be connected either in series or parallel. Instead of the VC20G, a MAX-C capacitor or Sealcap or any other frequencyzkdMiiSaeci-11Ck or any other capacitor described in the new JFD C-61 catalog can be used.

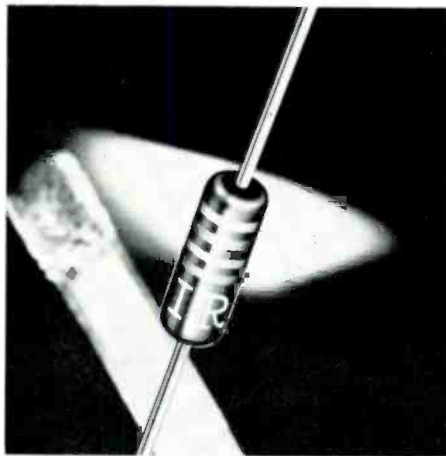


FROM PERMA POWER . . .

. . . Any black and white picture tube can now be brightened by one new britener. The new unit, known as the 2-Brite, handles 2.34 volt, 2.68 volt, 4.70 volt, 6.30 volt, and 8.40 volt picture tubes at all three current ratings. It can be used on series or parallel wired sets, with electro-static or electro-magnetic focus connections. Since the 2-Brite automatically delivers a 50% power boost, there is no danger of too much boost harming the delicate filaments.

The new britener is available in all three base styles. Model C-202 fits standard (duodecal) base sets. Model C-212 fits 110° button base sets (RCA type). Model C-222 fits 110° shell base sets (Sylvania-Dumont type). According to Norman Ackerman, Perma-Power's General Sales Manager, choosing the right base is extremely simple.

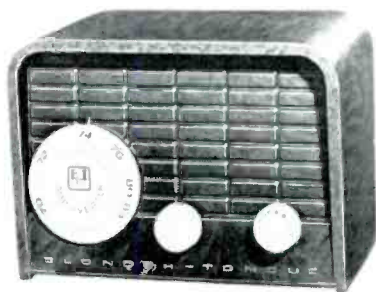
Because the 2-Brite is the first truly universal britener, it is now possible to maintain smaller britener inventories than ever before. The 2-Brite can be used with confidence on any television set, and there is no need for consulting Britener Selector Guides or catalog sheets. The 2-Brite fully lives up to its slogan, "If the base is right, the boost is right."



NEW GLASS DIODES

Subminiature mesa diffused junction general purpose glass diodes providing high forward conductance (to 300 ma), low voltage drop (0.9 volts @ rated current @ 25° C), low leakage characteristics (100 ua max. reverse current @ 150° C) and low unit cost are now available from International Rectifier Corporation, El Segundo, California.

Designated types 3G05 through 3G30, the 7 types of the new series have peak reverse voltage ratings ranging from 50 to 300 volts. Typical applications include relay circuits for both dc operation of an ac relay and arc suppression, and power supplies where a low cost, submarine rectifier is called for. All units have an operating temperature range from -55° to +150°C, and feature glass-to-metal hermetic sealing for ruggedness and high reliability.



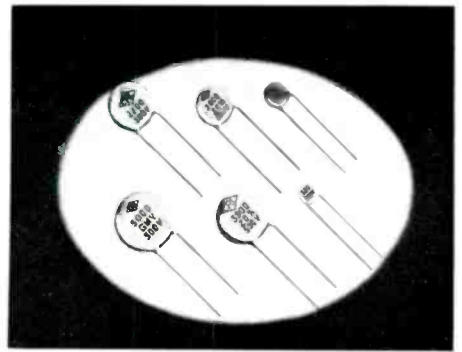
FROM BLONDER-TONGUE . . .

. . . is a new and powerful antenna mounted TV/FM four set booster with remote power supply.

Called the AB-4 Signal Master, it is the only antenna mounted booster with a built-in four set coupler. The AB-4 provides the gain and interest isolation necessary for sharp clear reception on up to four black-and-white or color TV sets, or FM sets. List price is \$29.95.

As an antenna mounted booster, it takes advantage of the optimum signal to noise ratio available at the antenna. The use of transistors assures the fol-

lowing benefits: no tubes to burn out or replace; less heat dissipation resulting in longer maintenance free operation; light weight and compactness for less wind resistance and weight on the antenna. Economical operation is provided by an on-off switch which conserves the life of the 4 low cost flashlight batteries located at the remote power supply. Blonder-Tongue engineers used batteries to make the operation of the AB-4 safe and independent of AC power.



FROM CENTRALAB . . .

. . . a new group of stable "K" and semi-stable "K" disc capacitors is available for immediate delivery.

The temperature stable capacitors, Type CE, are available in values from 150 mmf to 1000 mmf 10 per cent. At costs from \$0.18 in small quantities, to \$0.068 in large quantities. The temperature semi-stable capacitors, Type CF, range in value from 1200 mmf to 10,000 mmf, 10 per cent. Cost is from \$0.18 to \$0.24 in small quantities and \$0.068 to \$0.09 in quantities up to 1000, depending on capacity.

These capacitors, types CE and CF, afford excellent stability through an extended temperature range of -55° C to 85° C and are engineered for applications which can tolerate only the minimum change in capacitance over this range. They are phenolic coated and vacuum impregnated with high-temperature wax.

Working voltage is 500 VDC and power factor is 2 per cent maximum at one kilocycle. Initial minimum leakage resistance is over 10,000 megohms. Leakage resistance after humidity is more than 1,000 megohms.

FROM SYLVANIA

. . . Latest addition to the rapidly expanding "Pancake" transistor line of Sylvania Electric Products Inc. is a miniaturized version of the popular 2N1225 designed for amplifier applications in the VHF frequency spectrum.

William R. Weir, national sales manager of Sylvania's Semiconductor Division, said the new "Pancake" unit, one-tenth the size and weight of its TO-33 counterpart, offers substantially improved power dissipation and meets environmental tests in accordance with

**NEW NORCAL SHOW-
ROOM DISPLAYS LATEST
IN STEREO, RADIO LINES**

Sacramento, Calif.—Norcal Electronics Inc., has opened its new showroom at 1115 R Street where dealers may drop in between 8 a.m. and 5 p.m. on weekdays to view the firm's display of Blaupunkt table radios and consoles, Channel master shortwave transistor radios and Westclox transistor clock radios.

Russ Tatro, Norcal owner, reports the brand-new Blaupunkt line includes a furniture styling new to the United States (although it is standard in Europe) which features rounded edges in the modern console design and a high polish on the hardwood surface which gives it a satin sheen.

**GE CAPACITOR DIST.
TO HOLD SERIES OF
DEALER SEMINARS**

LOS ANGELES, CALIF.—The General Electric Company, Distributor Products Division, is kicking off its brand new Capacitor program this month with a series of Distributor Co-Hosted Dealer Seminars throughout Southern California.

Under the Direction of Bob Giannini of GE the first big Dealer Seminar will be held at the Roger Young Auditorium on Monday evening, August 7, at 7:30 p.m.

Guest speakers for that evening will be Mr. Kent Frisbee, Receiving Tube & Capacitor Application Specialist Distributor Sales from Owensboro, Kentucky, who will present the GE Capacitor story. This will be followed by Mr. Al Jones, Technical Specialist of the General Electric Company, Los Angeles.

The first big event will be co-hosted by four of Southern California's top dealer distributors: ORVAC ELECTRONICS, KIESUB CORPORATION, RADIO TV SUPPLY CO. and COOK ELECTRONICS.

Following the very next evening SHANKS & WRIGHT and SOUTHLAND ELECTRONICS in San Diego will hold a similar Seminar in the Cardinal Room of the King's Inn at 7:30 p.m. Guest speakers will again include Kent Frisbee being followed by Mr. Don Hoxter of GE in San Diego.

A series of smaller shows are being held in the Kiesub stores with Kent Frisbee addressing the different dealer groups. The schedule calls for: Tuesday, August 1, at 7:30 p.m. in Oxnard; Wednesday, August 2, at 7:30 p.m. in San Bernardino; Thursday, August 3, at 7:30 p.m. at the P.G.&E.

**OFFICIALS NAMED FOR 1962
PACIFIC ELECTRONIC TRADE SHOW**

LOS ANGELES, CALIF.—Pacific Electronic Trade Show President, Gene Rothman, of Hollywood Radio and Electronics, Inc., has announced the appointment of officials and format for the precedent-setting show scheduled for early February, 1962. Mr. Rothman predicted the coming PET show would attract twice as many people as the previous effort.

Appointments included: Chairman of the Board, Frank Eckert, Valley Electronics. Vice President, Vic Zachariah, Zach Electronics of San Francisco; 2nd Vice President, C. T. "Cap" Kierulff, Kierulff Electronics; Secretary-Treasurer, Norb Dean, Dean Electronics, and Honorary Advisor, Charles Silvey. A. Byron Perkins & Associates, Inc., has been retained as show manager.

Mr. Rothman bases his optimism on the enthusiasm of show officials who are donating abilities which have made them pre-eminent in the electronics industry. Another favorable factor, according to Mr. Rothman, is the cooperation offered by major electronics associations, civic groups and industry to help PETS create a Western Electronic Week.

"The boys are excited by the possibilities of the show," said Mr. Rothman.

"Last year's show proved that people want this show and our team is determined to give them an even bigger and better one," he declared.

Activities leading up to the show are slated to get under way on Saturday, and local distributors will converge on the desert resort for three and a half days of conferences, ending at noon on February 6th.

The scene will then shift to the Statler Hilton in Los Angeles, where the National Electronic Distributors Association seminar and Board of Directors Meeting accounts for the evenings of February 6th and 7th. As yet undecided is the date of the California State Electronics Association seminar.

On Thursday evening, February 8th, Auditorium in Bakersfield, and on Wednesday, August 9, at 7:30 p.m. in Long Beach.

**SYLVANIA SHOWS
NEW "TIP-TO-TOP"
SOLDER TECHNIQUE**

CHICAGO, ILL.—A new "tip-to-top" soldering technique for the base pins of television picture tubes was shown for the first time by Sylvania Electric Products Inc. at the 1961 Electronic Parts and Distributors Show in Chicago.

Ralph R. Shields, product sales manager of Sylvania's Picture Tube Operations, said the technique, in which solder is extended into the core of the base pins, enables service dealers to seat tube sockets with a minimum of effort and with maximum efficiency.

"This new Sylvania development will eliminate many industry-wide complaints associated with soldered pins," Mr. Shields stated. He cited as examples the rocking and twisting, "and inevitable cracked bases or broken connections between base pins and element leads that result in servicing the extremely tight fitting sockets specified by some receiver manufacturers."

Use of a tapered pin, soldered from tip-to-top, provides maximum contact between pin and wire and assures low electrical resistance, and high mechanical strength, Mr. Shields said. "This results in less 'call-backs' and virtual elimination of crimping and re-soldering."

Mr. Shields said Sylvania is also displaying a selection of 19-inch and 23-inch television picture tubes which utilize the new "Velvetone" anti-reflection safety glass bonded to the tube faceplate. He said the new tubes offer contrast and brightness superior to earlier anti-reflective shields, diffusing reflections without sacrificing picture resolution.

"Tests in contrast detail have shown improvements up to 88 per cent over conventional anti-reflective panels, with 44 per cent improvement in resolution," Mr. Shields revealed.

the gigantic All Industry Cocktail Party at the Statler, will set the stage for the PETS opening on Friday morning at the Shrine Exposition Hall, 700 W. 32nd Street. The show will be open to the public from 10 a.m., until 10 p.m. on Friday and Saturday and from 10 a.m. until 6 p.m. on Sunday.

NEW SAN DIEGO WAREHOUSE FOR BELL ELECTRONIS

Bell Electronic Corp., manufacturing and warehousing specialists, has opened a modern, new stocking warehouse in San Diego to ensure area electronic customers "on-the-spot" service on all Bell lines.

David S. Matson, marketing manager at Bell, announced the opening of the warehouse, located at 8072 Engineer Road. Telephone number is BRrowning 8-4350. In charge of the operation is Edwin A. Lothian, who has been heading up Bell sales activities in San Diego. He is assisted by Kenneth C. Golding, telephone sales manager.

According to Matson, the new stocking warehouse supplements Bell's San Diego sales office and greatly expands Bell sales activities in the area. Electronic customers can now have immediate delivery on Bell product lines, including products from such leading companies as Transiron Electronic Corp., Sprague Products Co.; International Resistance Co.; C. P. Clare & Co.; The Bircher Corp.; and Cambridge Thermionic Corp. said Matson.

The new facility is part of Bell's wide expansion program, that includes new offices, additional personnel and increased advertising and sales promotion. The company has recently opened a large sales and warehouse facility in Rutherford, N.J. to serve the greater New York area — thus becoming a "coast-to-coast" electronics sales and service organization. Besides its San Diego and New York area locations, Bell facilities are also in Gardena, Calif. (Los Angeles area); Menlo Park, Calif. (San Francisco area); Denver, Colo.; and Phoenix, Ariz.

STEINBERG NEW EXECUTIVE V.P. OF NARDA

CHICAGO, ILL. — Victor P. Joerndt, President of the National Appliance & Radio-TV Dealers Association, announced the election by the Board of Directors of Jules Steinberg as Executive Vice President of the Association.

Mr. Steinberg, who is resigning as Midwest Editor of MART Magazine trade publication, has been associated with the appliance industry and the retail trade for the past fifteen years. He resides in Highland Park, Illinois, and will make his headquarters at NARDA's offices in the Merchandise Mart, Chicago.



CALIFORNIA CHASSIS CO. displayed its new line of enclosures including the "Designer Series" at its recent Open House. W. S. McNeal (right), vice president of California Chassis, shows new unit to A. L. "Bud" Clark, supervisor of firm's custom division, and one of the more than 400 guests who attended Open House.

Calif. Chassis Open House Attracts 400

LYNWOOD, CALIF. — More than 400 persons attended the recent Open House sponsored by California Chassis Co., in celebration of its new facilities, according to Herbert P. Balderson, company president.

Customers and suppliers of California Chassis, manufacturers of metal enclosures for aircraft, electrical-electronics and space-missile industries, viewed the firm's newest products which included a complete line of "Designer's Series enclosures.

The company's new plant, located on a two-acre site, houses administrative offices, engineering, production and warehousing facilities. The new facility greatly expands the capacity of the two previous buildings which have been in operation for the past seven years at the same location.

Increased national sales and product development necessitated the construction of new quarters at this time, Balderson said.

MONARCH APPOINTS OROS CONSUMER DIVISION SALES MANAGER

NORTH HOLLYWOOD, CALIF. — Monarch International announced today the appointment of Edward G. Oros as Sales Manager of its Consumer Products Division.

Oros, recently General Sales Manager of Eastern Associates, Ltd. of San Francisco, was formerly an electronics representative in Cleveland. Oros immediately outlined an extensive merchandising program for the complete Monarch radio line based on point-of-purchase displays spotlighting the radios while eliminating shoplifting problems.

TV Service Dealers Form Oxnard Assoc.

OXNARD, CALIF. — Television and radio dealers in Oxnard, Port Hueneme and Camarillo have formed a dealership association to "help provide better service in the electronic field for the public."

Roger J. Wilmer, president of the new Electronic Service Dealers Association of Ventura County, says the group hopes to include dealers in the entire county in time.

Other officers of the association are: Ray Johnson, vice president, Fred Sueyres, secretary, and Rodney Wignall, treasurer, all of Oxnard.

ZENITH TRANSMITS FIRST FM STEREO

CHICAGO, ILL. — At midnight, June 1, the earliest time authorized by the FCC, Zenith Radio Corporation's FM station, WEFM, Chicago, transmitted the first stereophonic FM broadcast on the new FCC standards.

These FM stereo standards were announced on April 20 this year, and are based on a system first developed by Zenith and experimentally tested on the air during 1959 and 1960 by WEFM, the nation's oldest FM station.

Joseph S. Wright, Zenith president, described stereophonic FM as "a new dimension in FM broadcasting, and a new era for the enjoyment of FM radio listening." He also said that "It is the most important thing that has happened to broadcasting since the introduction of television. As the leader in FM, Zenith is proud of this contribution to better broadcasting."

Since the new stereophonic FM broadcasting system is compatible, Zenith stated, Chicagoans receiving the special broadcast at home on conventional FM radios heard a fully balanced monophonic FM program.

Those attending a special press demonstration in a nearby Loop hotel listening over Zenith stereophonic FM receivers heard the broadcast with the full depth, dimension and movement that makes stereo/FM such an exciting experience.

During the one-hour broadcast, WEFM's stereophonic FM programming ranged from South of the Border selections, Broadway show tunes, to concert music. WEFM closed with a recorded performance of Fritz Reiner conducting the Chicago Symphony Orchestra in a recorded performance of "Waltzes" from Richard Strauss' "Der Rosenkavalier."

CURRENT LITERATURE AVAILABLE

ALTEC LANSING ISSUES STEREO HI-FI CATALOG

Altec Lansing points up to the return of larger speaker systems in its new 1961 stereo high fidelity catalog AL 1302-1, entitled "ALTEC the True Sound of Music".

Highlighted among the new professional engineered sound products featured throughout the catalog is Altec's 309A Stereo Tuner, and 707 Stereo-Tuner-Amplifier, each having built-in multiplex switching controls and output to facilitate recently approved FCC stereo systems and Altec's forthcoming 359A Stereo Multiplex Adapter.

Introducing for the first time in Altec's new hi-fi catalog are three new microphones, 681A and 682A, both omnidirectional pattern, and 683A cardioid pattern, each designed specifically for the serious home recordist, or semi-professional motion enthusiast seeking professional results with their equipment at home. Included in the new catalog are Altec's famed line of speakers, matched speaker components, speaker systems and an illustrated section recommending stereophonic or monophonic arrangements.

A copy of the newly illustrated booklet may be obtained from any authorized Altec distributor or by writing to Department LD, Altec Lansing Corporation, 1515 South Manchester Avenue, Anaheim, California.

RAYTHEON CATALOG DESCRIBES RECTIFIERS

More than 150 different silicon diffused rectifiers are described in a new catalog offered by Raytheon Company's Semiconductor Division. Illustrations and complete mechanical and electrical specifications cover units ranging from 50 to 600 volts PIV and from 250 milliamperes to 22 amperes.

Lead-mounted types, 7/16" and 11/16" stud-mounted types of standard and reverse polarity construction, and ceramic insulated stud types as well as rectifier mounting hardware for stud units are detailed in the new 6-page catalog.

Free copies are available from Warren Shoonmaker, Semiconductor Division, Raytheon Company, 215 First Avenue, Needham, Massachusetts.

New ARCO Bulletin Gives Comparative Data on Capacitors

A four-page technical bulletin providing a complete comparison of the Arco polystyrene dielectric capacitors with other dielectrics normally used in the same capacitance range has been issued by Arco Electronics, Inc., Great Neck, N.Y.

The bulletin, No. 2-61, lists 7 types of dielectric capacitors — common polystyrene, mylar, metallized mylar, teflon, paper, silvered mica, and ceramic. Comparisons are made for temperature range, degree of precision, dissipation factor, dielectric absorption, insulation resistance and degree of stability.

Half the bulletin is devoted to detailed state-of-the-art discussion of the characteristics of capacitance variation with temperature of the various dielectrics.

Copies of the bulletin are available on request.

SYLVANIA HAS BOOKLET ON CATHODE RAY TUBES

NEW YORK, N. Y. — A new technical booklet on industrial and military cathode ray tubes has been made available by Sylvania Electric Products Inc., a subsidiary of General Telephone & Electronics Corporation.

Don Hughes, advertising-merchandising manager of Sylvania's Electronic Tube Division, said the 12-page brochure contains the physical dimensions, electrical characteristics, and line width specifications of over 200 cathode ray tube types including oscilloscopes, video recorders, flying spot scanners, industrial monitors, and receiver check tubes.

"This compact booklet enables the design engineer to assess at a glance the advantages and capabilities of tube types eligible for his application," Mr. Hughes said.

Another highlight of the new booklet, according to Mr. Hughes, is a section on spiral accelerator tubes for precision scope applications, a low power (1.5 volt, 140 ma.) heater, and a line of "Bonded Shield" tubes which use a safety glass laminated to the tube faceplate.

Copies of the new booklet may be obtained from Sylvania Electric Products Inc., 1100 Main Street, Buffalo, N. Y., and from authorized local Sylvania electronic tube distributors.



NEW, ENLARGED EDITION OF CBS TECHNICIAN'S HANDBOOK AVAILABLE

A newly revised, expanded edition of the popular CBS Technician's Handbook, featuring up-to-the-minute technical data on tubes and semiconductors, has just been issued. Designed for use by service dealers and electronic technicians, the new edition contains 550 pages devoted to receiving, industrial, hi-fi, special purpose, and foreign tubes, and includes a complete reference chart on picture tubes. There is also an enlarged section on transistors and diodes, and a handy transistor cross reference chart.

The attractive comb binding permits the compact, 5 x 9 inch handbook to lie flat when open. A quick-reference index and clean-cut styling which is easy to read are features of this new edition. The book is designed to withstand rough, on-the-job treatment.

Although 15% larger in content than former editions, the Technician's Handbook is still available for \$1.95 from distributors of CBS tubes and semiconductors, or from CBS Electronics Publications, 100 Endicott Street, Danvers, Mass.

New Capacitor Guide

General Electric has just made available a new Service Designed capacitor catalog and interchangeability guide.

The new catalog is part of the latest step by General Electric into the Capacitor field with a series of "universal type" capacitors. According to G.E. this new system will make it possible to reduce the number of capacitors from 1200 basic ones to 300 interchangeable types.

The catalog is available from any G.E. Capacitor distributor.

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TELEPHONE SALES TIPS MAGNETISM AND CHARM

Jack Schwartz, Author,
"How to Get More Business by Telephone"

Odd as it may seem magnetism and charm are fully transmissible over the telephone. These qualities are so tied up in the popular mind, with the physical self that it is forgotten that the charm and magnetism are, after all, chiefly psychological, and that the voice and the mind have actually more to do with the mind than with the body.

How often do people say, "She looked beautiful, but when she opened her mouth, her voice wrecked the imaginary picture created in the onlooker?"



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FOR SALE — G.E. Alignment Gear. ST4A Sweep Gen., ST5A Marker. Chroma probe. Head End Alignment Xtals, RF Atten. Input probe. Best offer over \$300. New Phillips 3NP4. \$12.50. Box 15Q63, 4041 Marlton Ave., Los Angeles 8, Calif.

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TV, auto, radio, phono, transistor benchman. Run service dept. Part or full time. Exper. only. Partnership possibilities. Adams & La Brea area. Box ESD-1, 4041 Marlton Ave., Los Angeles 8, Cal.

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TO PLACE AN AD:

BY PHONE: In Los Angeles call AXminster 2-0287. (This is the number of the Classified Dept. only) ask for NANCY BROOKS.

IN PERSON: Come to 4041 Marlton Ave. in the Crenshaw Shopping Center, next to Barker's. (This Address is for the Classified Dept. only.)

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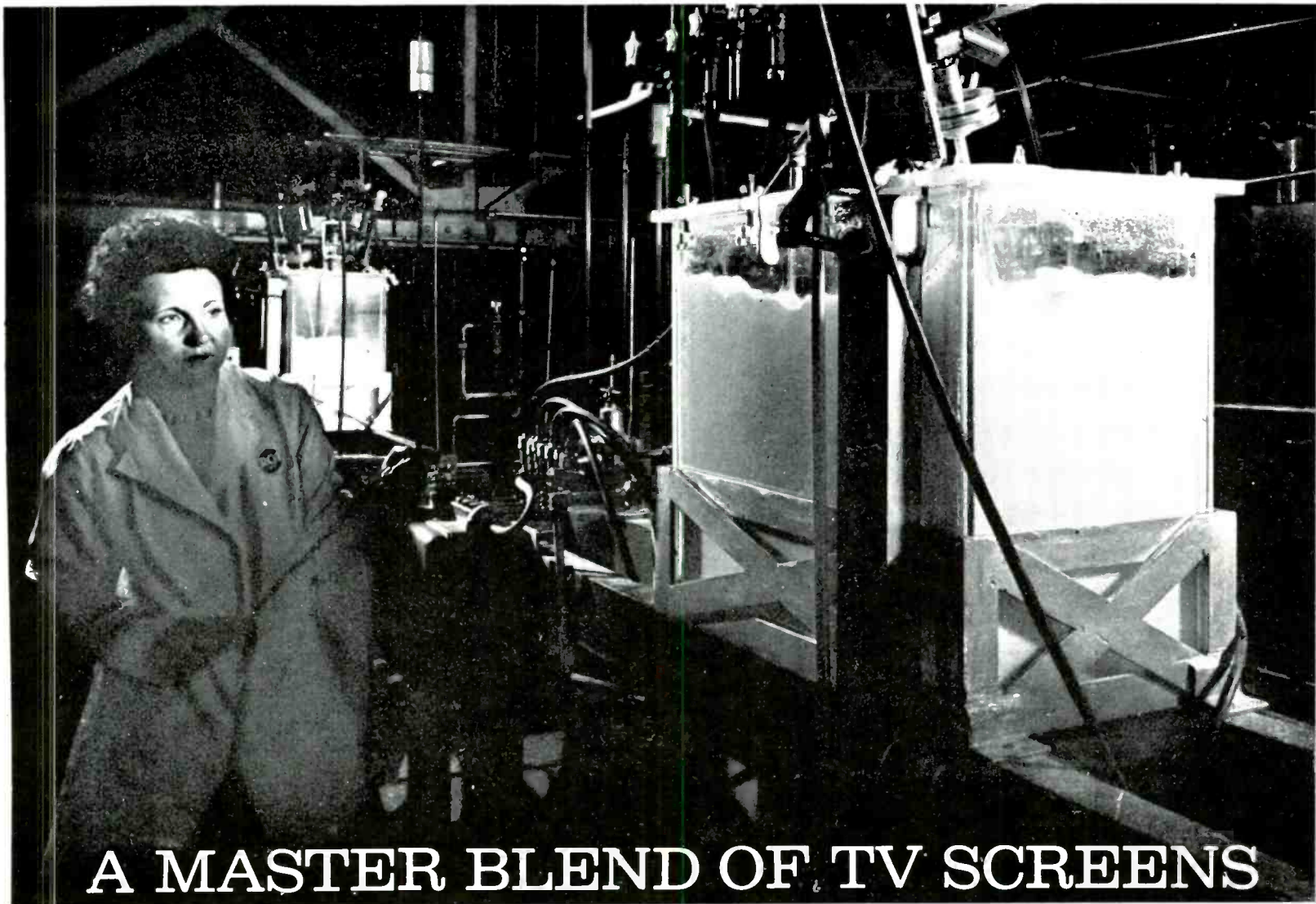
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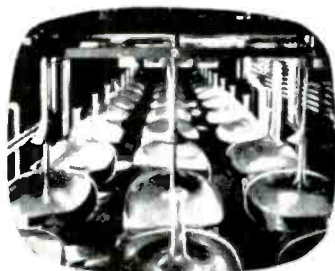
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RCA's Precise Control of Phosphors Assures Finest Picture Quality

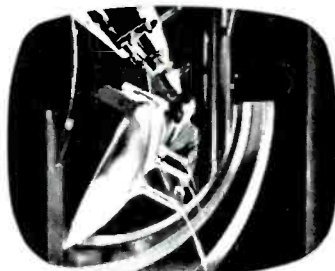
Here RCA Silverama Picture Tube screens have their beginning.

Phosphor in a solution of demineralized water (impurity level: less than 1 part per million!) is continuously agitated by electric blenders to maintain uniform suspension. When mixing is complete, solution is sprayed into Silverama's glass envelope which has been scrubbed and rinsed until it is chemically clean. Then with tube on slow-moving, vibration free settling belts (below), phosphor settles evenly over the entire faceplate to provide the smooth, grain-free screen for which Silverama is famous.

This same painstaking care goes into every part of RCA Silverama picture tubes. It is your assurance that every Silverama is the finest replacement picture tube modern science and technology can produce. It contains a precision electron gun—the finest parts and materials, plus a thoroughly clean and inspected reused envelope. Such built-in quality means a better picture in your customers' sets—and therefore, more business, fewer call-backs and valuable word-of-mouth advertising for you.



Settling belt moves at less than 10 inches per minute to give ample time for gradual settling and smooth adherence of phosphor to faceplate.



When settling is complete, excess liquid is poured slowly and gently from neck of envelope to avoid disturbing smooth phosphor coating.

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SYL 102	NPN, if-amplifier	24 types
SYL 103	NPN, af-amplifier driver	21 types
SYL 104	NPN, af-power amplifier	12 types
SYL 105	PNP, conv., mixer, osc.	30 types
SYL 106	PNP, if-amplifier	40 types
SYL 107	PNP, af-amplifier driver	60 types
SYL 108	PNP, af-amplifier output	65 types
SYL 109	PNP, af-amplifier pwr output (popular auto radio type)	54 types

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