Today's Index

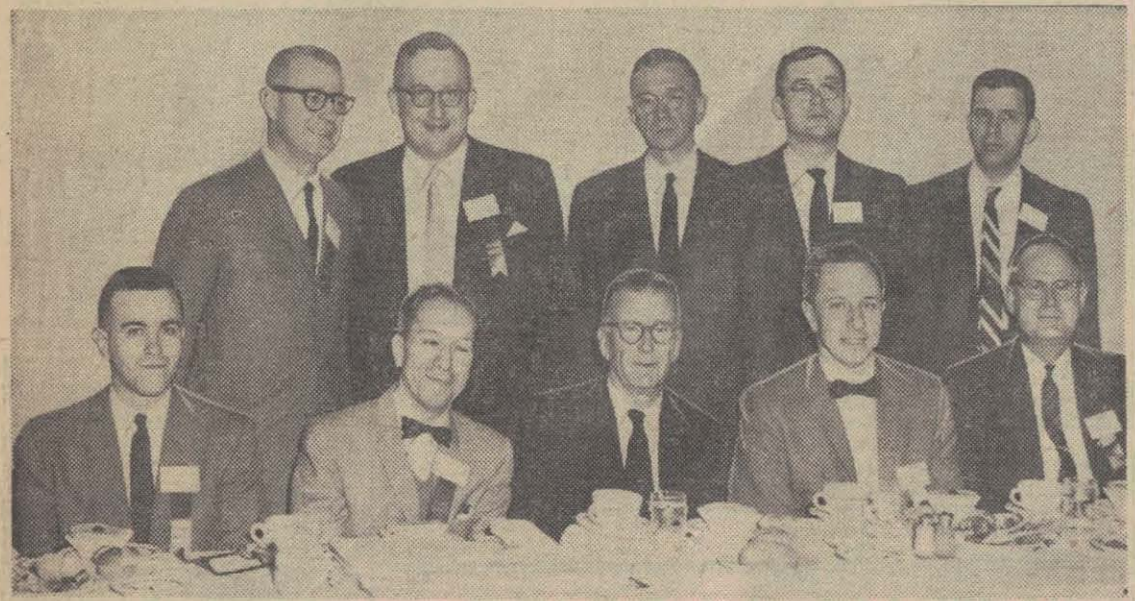
	Page
Communications	17, 18
Components	13-15
Defense Electronics	11-12
Financial	22
General News	1-10, 23
Government Procurement	20, 21
Instruments and Controls	18, 19
Materials	16, 17

Electronic News®

THE INDUSTRY'S WEEKLY N... ...RCHILD PUBLICATION

Printed in U. S. A.

Vol. 4 Whole No. 129 ★ ★ ★ NEW YORK 3, N. Y., MONDAY, FEBRUARY 16, 1959 TEN CENTS One Year $3 Payable in Advance



Electronic News Photo

AT LUNCHEON: During Solid-State Conference, Philadelphia, are (standing, l-r): J. A. Morton, Bell Telephone Laboratories, Murray Hill, N. J.; A. P. Stern, General Electric Co., Syracuse, N. Y.; J. G. Brainard, University of Pennsylvania; E. G. Clark, Burroughs Corp., Paoli, Pa., and R. Mayer, Minneapolis-Honeywell Regulator Co., Philadelphia. Seated: R. F. Cotellessa, New York University; L. Winner, consultant, New York; M. J. Kelly, board chairman, Bell Laboratories; J. G. Linvill, Stanford University, and T. R. Finch, Bell Laboratories.

AT SOLID-STATE PARLEY

Parametric Oscillator Looms Big in Computer

By STUART GELLMAN and BARRY MILLER
Special to Electronic News

Vidicon-Like Tube Stores Visual Data

Special to Electronic News

ELMIRA, N. Y., Feb. 15.—A new

ITT, RCA Given Prime Contracts On 480L System

By CHAS WENDEL
Special to Electronic News

WASHINGTON, Feb. 15. — International Telephone & Telegraph Corp., New York, and Radio Corp. of America, New York, last week were selected by the Air Force as associate contractors for the multi-million dollar, long-range modernization and expansion of its global communications system, 480L.

ITT will be the senior partner on the team, which will include, as major subcontractors, Hoffman Electronics Corp., Los Angeles, and Hughes Aircraft Co., Culver City, Cal.

ITT will direct the over-all development, design and master planning of the system, also known as AirCom and formerly as 456L, AF briefing officers said at the weekend.

The contract, not yet negotiated, will contain these provisions to assure other equipment manufacturers an opportunity to take part in AirCom system hardware procurement when it reaches that stage of development.

Limitations.

"In view of the broad scope of responsibility vested in the contractor, agreement in principle has been reached that the source will be subject to the following limita-

Navy Missile Range Pacts Due Soon

By ROBERT HENKEL
Special to Electronic News

SAN FRANCISCO, Feb. 15.—The Navy will soon let several subcontracts to electronic firms for operating much of the electronics gear at the new Pacific Missile Range, Rear Adm. Jack P. Monroe, range commander, told Electronic News last week.

Admiral Monroe, who was here to address the California Retail Hardware Association Convention, said the operating contracts would include radar, telemetering, com-

whose frequencies push up into the microwave region.

These devices should have high speed. And, as higher carrier frequencies are used, smaller oscillators made perhaps by rolling up the device and by using high dielectrics are possible, Walter Beam, Radio Corp. of America, Princeton, told a gathering of several hundred solid-state engineers and scientists at the 1959 Solid-State Conference.

Mr. Beam commented on these devices at an informal panel discussion on solid-state microwave electronics moderated by Hugh Heffner, Stanford University, Palo Alto, Cal. Participants, beside Mr. Beam were Chihiro Kikuchi, University of Michigan, Ann Arbor; Arthur Uhlir, Jr., Microwave Associates, Inc., Burlington, Mass.; Max Weiss, Bell Telephone Laboratories, Holmdel, N. J., and Bill From, Ewen-Knight Corp., Needham Heights, Mass.

Peak Registration.

Registration by the weekend had reached record proportions of more than 2,000, far exceeding last year's 1,200, according to officials.

Most of the conferees were drawn

Continued on Page Five

2 Executives Resign Posts At Du Mont

By ROBERT HAAVIND
Special to Electronic News

CLIFTON, N. J., Feb. 15.—Fred M. Link and E. Eugene Ecklund, executives at Allen B. Du Mont Laboratories, Inc., here, resigned last week.

Meantime, Dr. Allen B. Du Mont, chairman, confirmed industry reports that Nicholas De Falco, formerly general quality control manager, has been named to the new post of assistant general manager. Mr. De Falco, it is reported, has

Continued on Page Five

cameras—has been developed by the Electronic Tube division of Westinghouse Electric Corp. here.

Electronic News learned of the tube and of the firm's marketing plans for it from division engineers at the Elmira plant last week.

Actually, Westinghouse has con-

Continued on Page Five

Tube Men Gird To Meet Inroad Of Transistor

By JEROME P. FRANK
Special to Electronic News

NEW YORK, Feb. 15. — Tube manufacturers, concerned with the inroads being made by transistors, have decided to fight back to protect their markets.

In a series of unofficial meetings here, representatives of virtually all receiving tube manufacturers have been discussing the need for broad, high-level communications

Continued on Page Four

said. The Navy will use as a man-

Continued on Page Five

procurement and implementation

Continued on Page Four

AT ICAO PARLEY

Airlines, Pilots Split On Decca, VOR Usage

By JOHN VAN DER FEYST and IVOR W. BOGGISS
Special to Electronic News

MONTREAL, Feb. 15. — The international controversy over the respective merits of the VOR or Decca systems as future short-distance navigational aids was accentuated here last week by an unexpected split in opinion between world airline operators and their pilots.

At the inaugural session of the special COM/OPS/RAC meeting of the International Civil Aviation Organization, a representative of IATA caused surprise by a statement that his organization is in favor of VOR and its complementary equipment DMET.

The IFALP.. on the other hand, recommends "development of an accurate and reliable short-range navigation aid, based on the area coverage system and designed to provide pictorial presentation to the pilot in the cockpit." This, in other words, means adoption of the

Continued on Page Four

Memphis Pipeline Decision Seen Benefiting Electronics

By WALTER JOHNSON
Special to Electronic News

WASHINGTON, Feb. 15.—The decision of the Supreme Court in the Memphis pipeline case has definite implications for the electronics industry, it was generally agreed here today.

The high court reversed a lower court in the "Memphis case" and affirmed the long-time policy of the Federal Power Commission allowing pipeline operators to put requested rate boosts into effect, subject to refund, while awaiting Federal approval.

The electronic angle stems from the fact that the petroleum industry is one of the largest users of microwave radio equipment, having more than 7,000 station authorizations from the Federal Communications Commission.

Government and industry spokesmen here believe that construction of pipelines this year may jump 50 per cent over last year, when the tempo slowed down perceptibly while the Memphis case was being litigated.

The American Gas Association has estimated that more than $8 billion will be spent for pipeline facilities, including distribution lines, in the four years through 1961. This compares with about $5½ billion in the 1954-1947 period.

Increased Rapidly.

Use of microwave equipment for communications, control of oil flow, telemetering, and related purposes has increased rapidly in the petroleum industry in the past few years. Experts predict it will

Continued on Page Four

Weekly Stock Index Appears in Financial Section, Page 22.

Letter from the Editor

By ALFRED D. COOK

DEAR READER:

At a dinner-meeting of the New York Chapter, Electronic Representatives Association last week, we were told that the rep is beset with hundreds of problems. Perhaps the greatest of these is that his principal considers him the "dispensable man."

Members of ERA, or The Reps as they still call themselves in informal conversation, feel that they have been a major factor in the growth of the electronic industry. They are often the only sales brains and legs of the firms for which they sell. Representatives, in fact, have helped many small organizations get started because they provided selling ability that founding firms could not afford to buy except on a commission basis.

There are about 670 company members of the Electronic Representatives Association and they comprise about 80 per cent of all the reps in the electronics business. They are small businessmen who range in size from one-man operations to firms that employ up to 60 salesmen.

ERA members fall into three groups. These are:

1. Those who sell components to original equipment industrial accounts;

2. Those who sell components to the audio and hi-fi distributor accounts;

3. Those who sell instruments.

These groups have mutual problems that involve cooperation, or its lack, from their principals, commission rates, and the many worries that concern any small businessman.

* * *

In our conversation the other night, the reps pointed out that what they need most is teamwork with the firms that they represent.

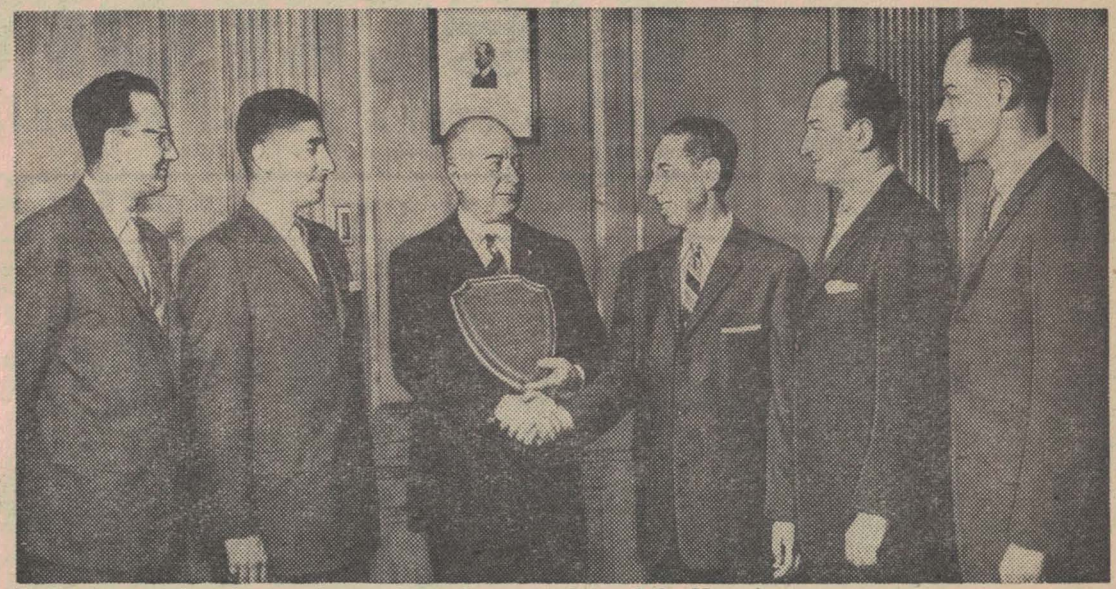
The association and its members maintain that they are doing their best to make successes of these companies and they are therefore entitled to normal business courtesies.

The principals, they believe, should support them with adequate promotion, complete and fair price lists, consultation on product development, efficient and adequate servicing and advice on marketing programs.

* * *

[illegible] rep wants some degree of

General News



Radio Corp. of America, receives a plaque from members of the New York Chapter of the Electronics Representatives Association, who presented it in recognition of General Sarnoff's contribution to the electronics industry. Taking part in the ceremony were, left to right: R. A. Strang, Strang Sales Co., Tuckahoe, N. Y., first vice-president of the N. Y. Chapter; Arthur Saftler, T. Saftler Associates, Inc., N. Y., president; General Sarnoff; Irving Brown, Irv Brown Co., Inc., Brooklyn, past president; Wally Shulan, W. Shulan & Co., Jersay City, national vice-president, and John Hunter, of Hunter & Salsbury, Inc., Hicksville, second vice-president.

NEWS IN BRIEF

General News

The controversy over the respective merits of the VOR and Decca systems has led to a split in opinion between world airline operators and their pilots. [1]

Two executives at the Allen B. Du Mont Laboratories, Inc., Fred M. Link and E. Eugene Eckland, resigned last week. [1]

Westinghouse Electric Corp. has developed a new vidicon-like tube, having storage capabilities. [1]

Tube manufacturers plan to fight to protect their markets against inroads being made by transistors. [1]

Navy to let several subcontracts for [illegible] electronics gear at

fended the importation of Russian scientific equipment for use in American high schools. They chargee that comparable equipment has not been forthcoming from U. S. firms. [18]

Financial

General Precision sales were off 9 per cent, profits down, for the year ending Dec. 31, 1958. Heavy non-recurring costs in establishing new fields of business and the closing down of two unprofitable subsidiaries were cited by the chairman in explaining the profit decline. [22]

While virtually all reps work under contract arrangements, these are often called off by mutual consent because of differences of opinion over prices and commission.

A shrewd purchaser, for example, frequently beats a price down on a large order. Representatives feel that they lose on such deals.

That is because price concessions are sometimes based on a sacrifice of some part of the rep's commission. Though most reps work on a 5 per cent basis, the principals often shave this to meet a price demand. They reportedly settle by paying the man who got the order some 3 or 4 per cent on the sale.

The reps consider this an unfair practice. And, they say, the matter never works conversely. A good order that reflects an unusually large profit for the manufacurer is practically never recognized with the payment of an additional 1 or 2 per cent.

Defense Electronics

Small Business Administration is drafting guidelines for a new program under which it will make loans to small firms to establish joint research and development organizations. SBA will also consider allowing individuals, such as engineers and sclentists, to form pools and so obtain SBA aid and government contracts. [11]

Components

A new process for the production of flush printed circuits was developed by La Pointe Industries' Printed Circuit division; the firm claims flushness can be maintained through a range of from —65°F to 225°F. [15]

A. S. Garcia was elected to head Secode Corp., succeeding Eric Cogill, who is retirng after 31 years as president of the firm. [15]

Materials

Chase Brass & Copper Co. has started commercial production of rhenium, a rare metal said to have a life expectancy 20 times greater than that of any material now used. [16]

General Electric executives agree that proposed Pure Crystals Bank should be supplemented by an information agency to organize and correlate basic materials data. [17]

Air Force Cambridge Research Center will let a contract to build a pilot plant for a silicon purification system. [16]

Communications

Changes involving channel redistribution in the 88-108 mc FM band were suggested last week to the FCC in an "open letter" from a Chicago firm. [17]

Federal Aviation Agency said last week that CAA records fail to show that the Government ever planned any wide-scale installation of precision approach radars at airports. [17]

FCC Actions of the Week. [18]

National Aeronautical Corp., Ft. Washington, Pa., plans plant expansion, sees higher sales. [18]

Instruments & Controls

Dr. Sanford C. Brown, and other educators in the Boston area, de-

Electronic News

Published Weekly by
Fairchild Publications, Inc.
7 East 12th Street, N. Y. 3, N. Y.
Telephone AL 5-5252
Second Class Postage Paid
at New York, N. Y.

Navy Missile Range

Continued from Page One

gement team for PMR, 5,000 of ts personnel who gained range experience at the Navy's Pt. Mugu, Cal., missile range.

Sections of the building program t the Pt. Arguello Naval missile acility, one of the major components of the Pacific range, are a little" behind schedule, admitted dmiral Monroe. It had been exected that Pacific Missile Range ersonnel would begin initial operations from Pt. Arguello by mid-anuary.

$13 Million Appropriated.

He estimated that over $13 million has been appropriated for construction so far, at Pt. Arguello. Facilities now under construction include: A technical administration uilding, range operations building, ield instrumentation building, hoto tracking facility and technical shops.

A missile tracking center for Pt. rguello is in the 1960 budget, it as learned. It was estimated that ver $35 million will be expended n construction at Pt. Arguello in ie next two to three years.

There will be no missile firings Pt. Arguello during 1959, Adiral Monroe told this newspaper. rimary function of the facility, hich is 160 miles north of Los ngeles bordering Vandenberg Air orce Base, is to provide launchg facilities for satellites, he said. The Air Force's Project Discover series, delayed by launching fficulties, will attempt to fire the connaissance satellites into orbit om Vandenberg during 1959 beuse the base has the pads avail-le, Admiral Monroe said.

However, beginning next year, polar orbit satellite launches ll be carried out from the Pt. guello facilities, Admiral Monroe d.

Included in the Navy's down ge tracking for the range is a mer transport, the U.S.S. Joe E. nn, which had over $2 million electronics installed last year.

The Navy hopes to get funds in fiscal 1960 or 1961 to convert one or two additional ships to floating tracking and telemetry stations.

Appropriations for any of the range's equipment or installations will come equally from each of the three services unless such gear is peculiar to one program. Then, the service requiring such equipment must provide all the necessary funds, it was stated.

Future Shoots.

In future, missile shoots on the West Coast Pacific Missile Range will provide radar tracking of the guide phase of flight, the Navy said. Such tracking on the first Thor shot was "minimal," it said. However, the Thor shot was used for testing Radio Corp. of America's new high precision FPS-16 radars now being installed at Pt. Arguello.

On future launchings over the Pacific range, the FPS-16 radars and other missile tracking radar with greatly-increased range will be used, the Navy said.

Processing of radar theodolite and telemetered data will also be provided by PMR for future launchings, the Navy said. Using medium and large scale computers at the PMR data reduction facilities here the information will be reduced and turned over to the service firing the shot.

PMR's medium scale reduction facilities include International Business Machines Corp.'s computers operated by Land-Air Corp., under Navy contract. The large scale computer is the RAYDAC computer built for Pt. Mugu by Raytheon Manufacturing Co., and operated by Computer Control Co. Land-Air will also handle the reading and analysis of metric film, the Navy said.

TALKING OVER the program at the Sixth Annual Cleveland Electronics Conference are, left to right, Charles Meyer, Air-Maze Corp., Bedford Heights, O.; John F. Keithley, Keithley Instruments Co., Cleveland; Jerry Kilroy, Neal Bear Corp., Cleveland; Francis S. Hoag, B. F. Goodrich Research Center, Cleveland, and Robert Pugsley, Assembly Products, Inc., Chesterland. O.

AT CLEVELAND CONFERENCE

Adequate Protection Cited In Circuit Assembly Design

By JOHN W. MARTIN
Special to Electronic News

CLEVELAND, Feb. 15. — While voltage surges and transients are the most difficult problems in designing circuit assemblies, adequate and economical protection can be provided in a majority of cases.

This was emphasized in the Silicon Rectifier Application Clinic which highlighted the Sixth Annual Cleveland Electronics Conference at the Cleveland Engineering and Society Center this week.

More than 2,500 electronic engineers attended the two-day con-

state operating conditions, Mr. Di Venuti said that momentary surges, intermittent or pulse type applications, such as projection welders, subject the silicon rectifier to severe duty, and surge ratings therefore must also be considered in the application of these devices.

He emphasized the importance of limiting the tempe.ature excursions at the junction of a semiconductor rectifier withi tolerable limits.

AT SOLID-STATE PARLEY

Sulfide Electro-Optical

Memory Units

By STUART GELLMAN
Special to Electronic News

PHILADELPHIA, Feb. 15. — pplication of the principles of perconductivity to memory de- ces as a means of attaining rap- switching times is receiving con- ntrated attention.

This was explained during the olid State Circuits Conference, ere, by C. J. Kraus, Military Prod- cts division, International Busi- ess Machines Corp., Kingston, . Y.

Speaking during the session on emory Techniques, Mr. Kraus oted that application of supercon- uctive materials "has already ade possible construction and op- ration of a high-speed random- ccess memory."

He added that there is "encourg- ing indication" that extended nowledge of the phenomena and finement of fabrication control chniques can result in "substan- al further increases in memory eeds and, consequently, in great- computer capabilities."

In another report on thin film emories, E. E. Bittman, Bur- ughs Corp. Research Center, aoli, Pa., discussed a system in hich the storage of a bit is per- rmed in two bits instead of one, th the bits in alternate spots.

By STUART GELLMAN
and
BARRY MILLER
Special to Electronic News

PHILADELPHIA, Feb. 15. — An electro-optical shift register, composed entirely of zinc-sulfide electroluminescent cells and cadmium sulfide photoconductors was analyzed here last week in a session on applications of new devices at the 1959 Solid-State Circuits Conference here.

Principal advantages of this shift register are its small size, and low cost and optical information transfer with negligible loading according to T. E. Bray of the Electronics Laboratory, General Electric Co., Syracuse, N. Y. At the present time, however, Mr. Bray conceded, the device probably operates too slowly (shifting rate of 30 cps) to be competitive with other types.

The basic element of the shift register, Mr. Bray said, is an EL cell in series with a shunt combination of a photoconductor and a resistor. The resistor provides a control of the driving-point characteristic.

An AC source is applied across the entire element. The light output of the EL cell increases with the increasing voltage input, thus decreasing the photoconductor's resistance. This causes an increase in current, making the process regenerative until equilibrium is reached, Mr. Bray explained.

In the register, three of these EL-photoconductor elements form a bit. Excitation voltages are applied sequentially to the register, Mr. Bray said. Information is then considered to be the optical condition of the elements electrically excited.

When the first element is excited, its output affects the driving point characteristic of the following one. When the next element is excited its condition depends on the state of the preceding element. Thus, information is transferred optically from element and is erased by removing the excitation.

Cryotron Geometry.

In the same session, high-speed and high current gain were claimed for a cryotron geometry that uses thin concentrate foils instead of a solid conductor and a coil for the controlled and the controlling elements respectively.

This cryotron was devised by R. K. Richards, a consulting engineer from Wappingers Falls, N. Y.

ductor department of Westinghouse Electric Corp., Youngwood, Pa., said transients are the most difficult design problem because they are unpredictable, difficult to measure, and are troublesome in predicting where they are to come from.

Transients he said are harmful to silicon rectifiers because of the low thermal mass of the rectifiers and inability to absorb the energy from the transients in reverse direction.

Included in the types of protections available, he added, were capacitors with RC networks, nonlinear resistors, spark-outs and gas discharge tubes.

A. L. Venuti, Jr., Transitron Electronics Corp., Wakefield, Mass., told the engineers that the major changes in a silicon rectifier generally show up in forward resistance, reverse resistance and thermal impedance.

"The reasons for the changes or mechanisms of failure may be attributed to many things," he said, "the most important, however, being junction temperature or the fluctuations in temperature that occur at the junction."

The most important mechanisms of failure, he explained, arise from the size of the cracks in the "regrowth" region during the alloying process at high temperatures, and the fatiguing of the solders connecting the sandwich to the anode and cathode terminals.

Moving away from the steady

Continued from Page One

structed two tube types: A 1-inch Permachon WX3989 and a 3-inch WX4025. The former has operating characteristics generally similar to the vidicon, while the latter, which uses a 1.6-inch diameter target, has its output signal amplified by an electron multiplier system of dynodes generally similar to those employed in the image orthicon WL5820.

So far the company is considering the Permachon only as an optical pick-up tube. However, James F. Nicholson, project engineer in the storage intensifier section, said it is possible to write by modulation of the scanning beam, as in an ordinary cathode ray tube.

Mr. Nicholson said it appears clear that a variety of time sharing arrangements is possible between reading and writing scans.

Applications Cited.

Out of this a number of applications have been cited, with this important one leading the list— that of viewing an oscilloscope display, such as a radar map; intgrating several sweeps will make possible the "capping of the lens" so that a radar picture whose permanent elements have been integrated can be examined at leisure.

In a demonstration of the tube's versatility, it was shown that when the tube is exposed to a number of sweeps a trail pattern of a moving target may be produced on the display cathode ray tube.

Another application, it was pointed out, could be in television studios, where a particular scene may be "frozen" on the monitor connected to the Permachon camera for viewing by a director during rehearsals.

Secret of the Permachon is in the target material. Westinghouse refused to divulge what the material is, "at this time."

Parametric Oscillator Looms Big in Computer

Continued from Page One

the two technical sessions de- ted to solid-state microwave de- es, as well as to the special ormal discussion Thursday night the same subject.

In contrast to an earlier tech- al session on microwave elec- nics, the informal solid-state crowave discussion was marked numerous questions and ex- nges on masers and parametric plifier techniques, progress and guage.

High Points.

oints brought out in this ses- , considered by many the high nts of an evening of eight con- rent informal discussions, in- ded:

The possibility of building a maser without a magnet by using zero field splitting.

•The fact that parametric amplifiers are being built for, and some have already been tested in, television receivers.

•The feasibility of building masers with better noise figures than now known by using new materials or combinations, possibly including vanadium in sapphire.

Mr. Beam pointed out that the Japanese have done extensive work with computer parametric devices using magnet materials at lower frequencies. These devices, known in Japan as parametrons, were used in building a low-frequency, all-parametric device computer, he said. The parametron can oscillate in two stable, distinct modes, 180 degrees out of phase.

The parametric oscillator can be used for all computer functions, Mr. Beam said, and its main limitation is rise time.

It will become seriously competitive with transistor flip flops, he predicted, and will have the advantage of being based on a varactor diode, rather than the more complicated transistor.

Exactly how important and how significant parametric oscillators will be only can be decided in time, Mr. Beam claimed.

The race will soon be on, he added, among a variety of computer elements and eventually computers may be built from a mixture, including ferrite cores, passive logic and parametric oscillators.

Parametric amplifiers for TV have been designed at both RCA and Microwave Associates, it was revealed in the discussion. Dr. Uhlir told Electronic News that one diode paramp, tested at Microwave Associates, picked up Channel 19, 190 miles away, with unusual clarity.

Dr Kikuchi reported that with proper maser materials, possibly including vanadium in sapphire, manganese formate and nickel salts, a maser might operate with zero magnetic field, thus making magnets unnecessary.

The vanadium in sapphire is being checked by his group now, he added.

Although attendance here was particularly heavy, very little audience questioning was noted with the exception of a handful, including the speakers themselves.

2 Executives

Continued from Page One

been given broad administrative powers and will report directly to Dr. Du Mont, who will continue to serve as general manager.

The plans of Mr. Link, who was director of field operations, mobile communications, and Mr. Ecklund, sales manager, automotive test equipment, were not disclosed.

General News

High Voltage Transistored Ignition Unit

Special to Electronic News

TOLEDO, Feb. 15.—The Electric Auto-Lite Co., Toledo, has developed a high voltage transistorized ignition system that is said to be the first in the world and a major development in automotive engineering.

The unit, contained in a single package slightly larger than the conventional ignition coil which it replaces, can be installed in any battery ignition in minutes, Auto-Lite officials stated last week.

The unit is claimed to provide maintenance-free ignition, lifetime distributor contact service and to eliminate condensers. Starting failure and poor starting because of "blued" contact points are eliminated and the new system is said to provide constant top voltage at all speeds, the company claims.

The company says that where the system has immediate application as original equipment, the cost, relative to savings realized, will be comparative or superior to conventional systems.

A Clarification

MONTREAL BUREAU

MONTREAL, Feb. 15. — Ionospheric forward scatter was ruled out at the North Atlantic Fixed Services meeting of the International Civil Aviation Organization in Paris recently. Complete agreement was reported on the Canadian proposal for a submarine cable network to be installed by 1962.

A story appearing in this newspaper last week erroneously stated that the body had ruled out tropospheric forward scatter.

Electronic Units Held in Good Order When Electra Fell

NEW YORK, Feb. 15. — Indications are that electronic equipment in the American Airlines Electra turbo prop aircraft which crashed in the East River Feb. 3 was working properly.

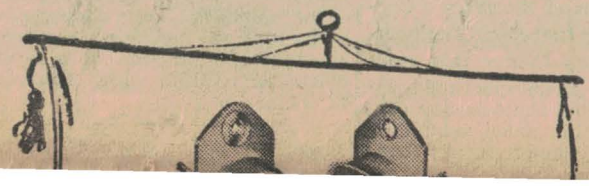
That finding is expected to become a part of the investigation record that is now being compiled by Civil Aeronautics Board investigators.

However, Joseph O. Fluet, CAB investigator in charge, declared, when asked to comment, that it is too early to make any statement as to the operation of facilities involved.

Although the Federal Aviation Agency early last week established stringent instrument landing minimums of 1,000-foot ceiling and 1 mile visibility (2 miles at night) for landings of Electra aircraft using a new type of altimeter, Mr. Fluet told Electronic News that investigators had "by no means reached any conclusions" about the cause of the accident.

Ceiling and visibility minimums reverted to those previously in effect (400 feet and 1 mile) later last week for Electra's re-equipped with "standard" type altimeters.

The new type of barometric instrument uses a pointer on an outer scale to indicate hundreds of feet, as in earlier altimeters. However, thousands of feet are read from a digital counter near the center of the dial. Older types of altimeters use three hands for hundreds, thousands, and ten-thousands.



EL Technique Seen Bringing Thin TV Panel

Special to Electronic News

BOSTON, Feb. 15. — Thin television display panels may be ultimately possible through use of electroluminescent techniques, according to Dr. Elmer W. Engstrom, senior executive vice-president, Radio Corp. of America.

Addressing a combined luncheon meeting of the Advertising Club of Boston and the Electrical Institute, Dr. Engstrom said that laboratory progress is being made toward solution of problems that bar electroluminescence as a primary light source.

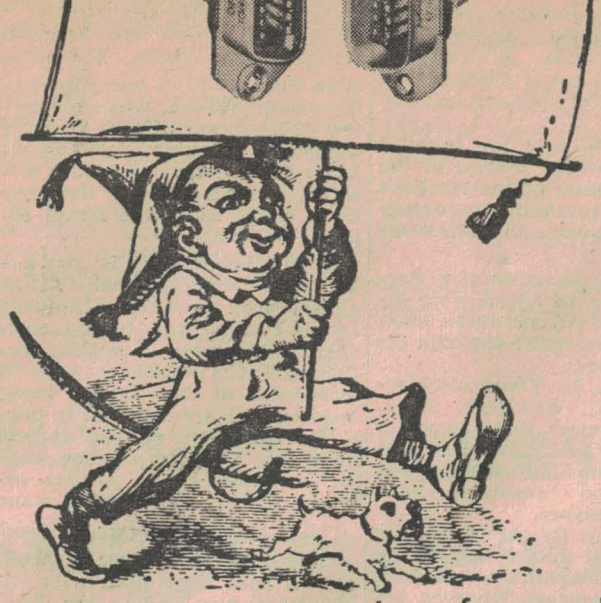
And with further advances in circuit engineering, he said, thin television panels may be possible for home or commercial communication.

Using as a theme the "accelerated blending" of the electrical and electronics industries, Dr. Engstrom forecast "remarkable advances."

1402-1605 at the Show.

YOU CAN BE SURE...IF IT'S
Westinghouse
Electronic Tube Division, Elmira, N.Y.

[Readers are invited to write to the editors, giving opinion on any matter of industry interest.]



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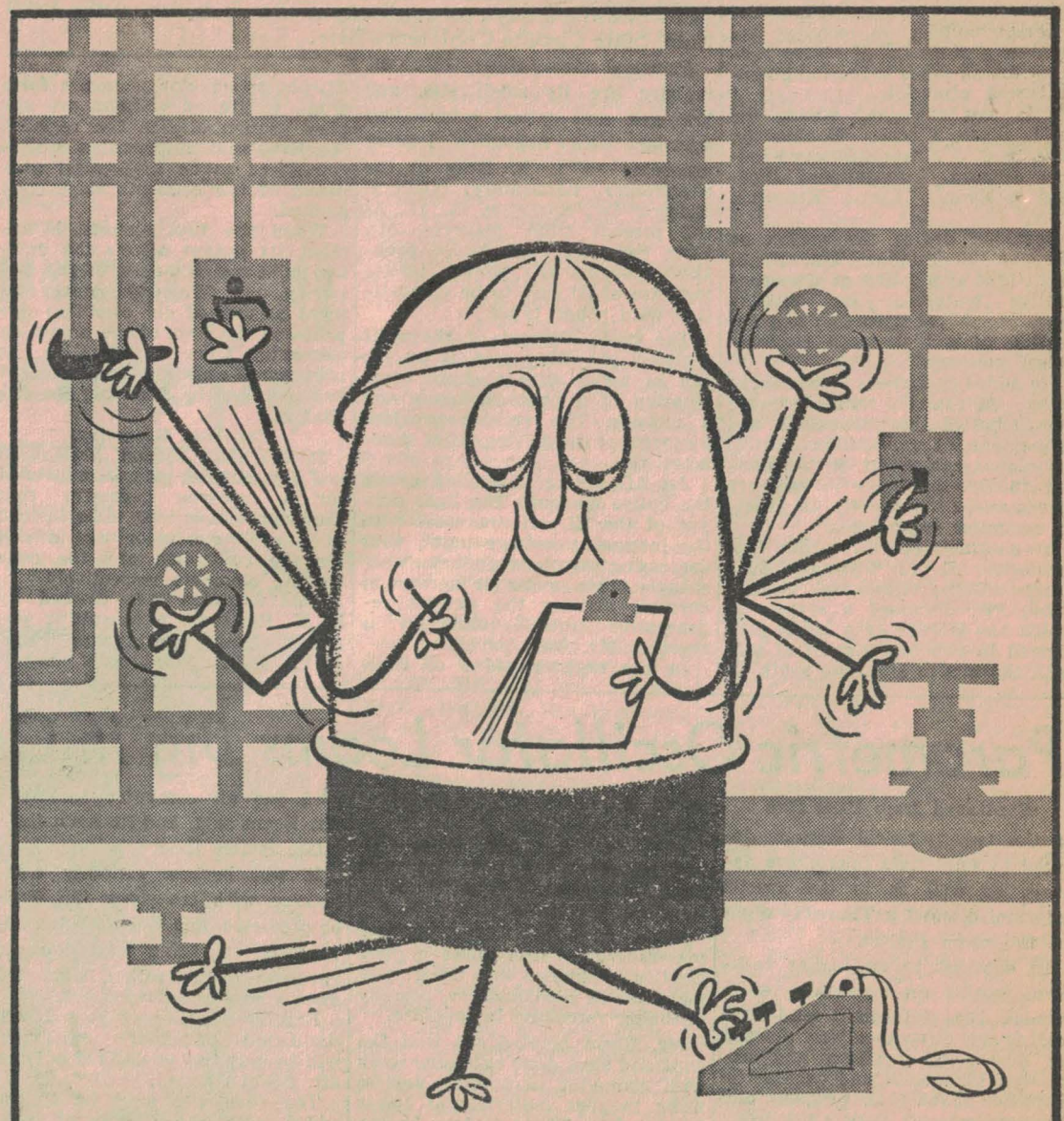

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