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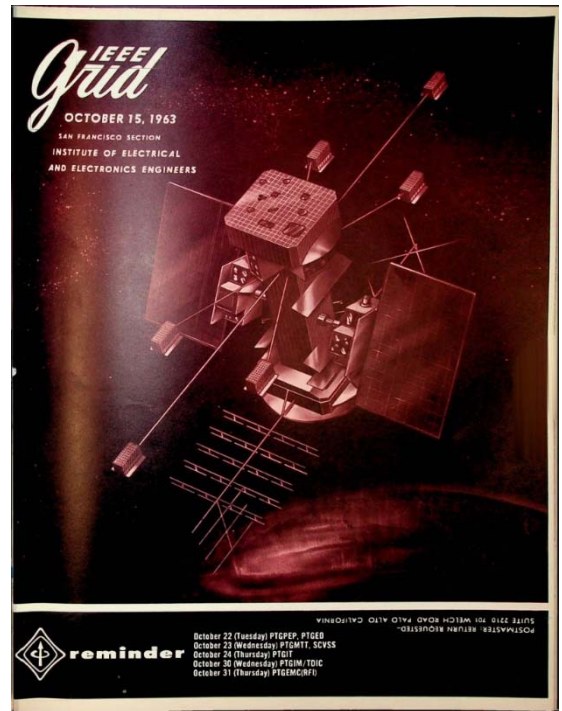
from a historical perspective ...

with Paul Wesling, SF Bay Area Council GRID editor (2004-2014)

October, 1963 (mid-month):

Cover: A concept for a geophysical satellite that can run various interchangeable experiments, and is powered by solar cells, is the subject of a panel discussion. More on page 3.

Page 6: As part of the AIEE/IRE merger, the Southern California organization was segmented into its various Sections. Now 11 of these Sections have petitioned to form a Los Angeles District (later known as a Council).



Archive of available SF Bay Area GRID Magazines is at this location:

https://ethw.org/IEEE_San_Francisco_Bay_Area_Council_History

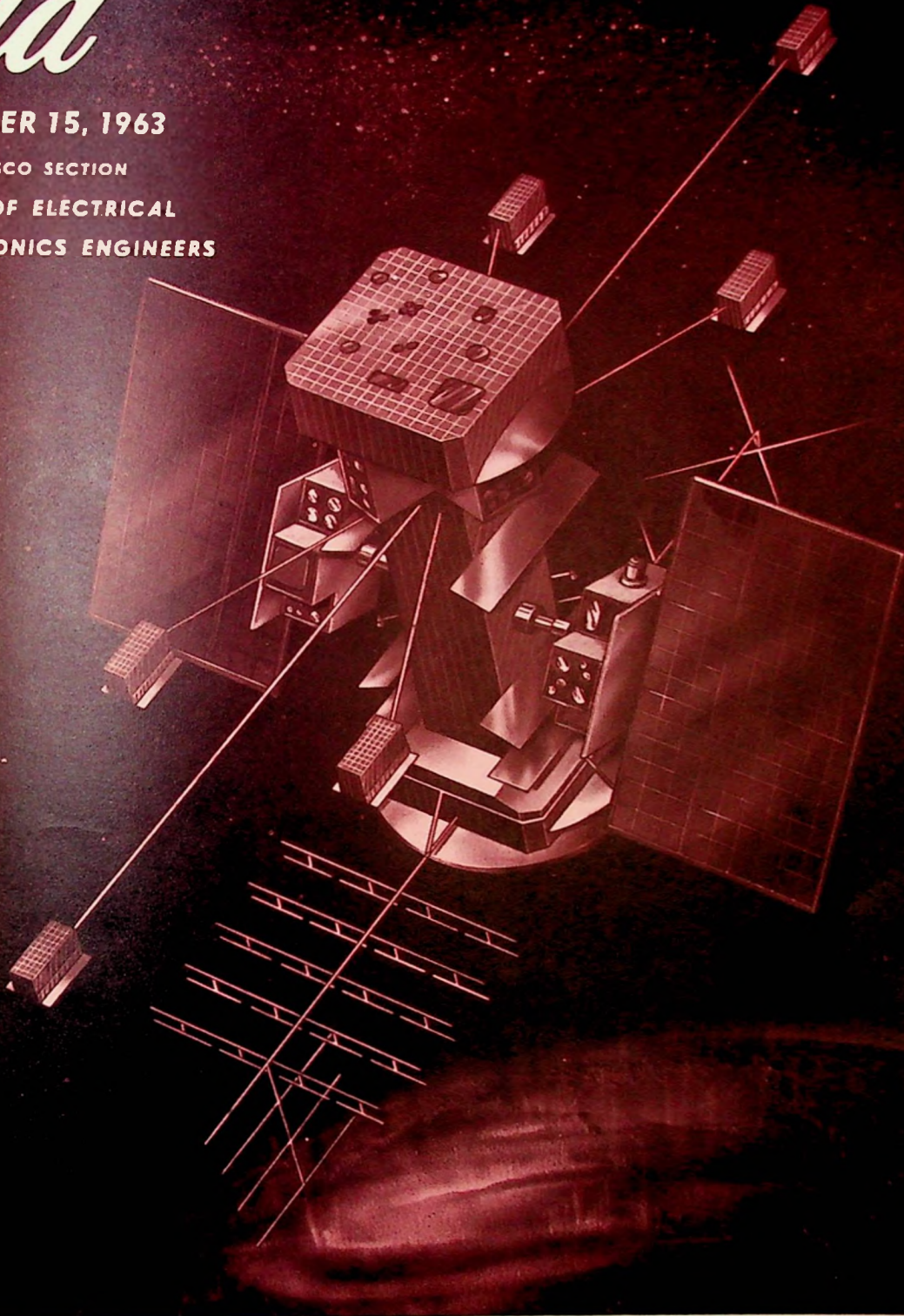
At time of scanning, the bound volumes are held by Paul Wesling. July, 2021 Contact p.wesling@ieee.org

IEEE *Grid*

OCTOBER 15, 1963

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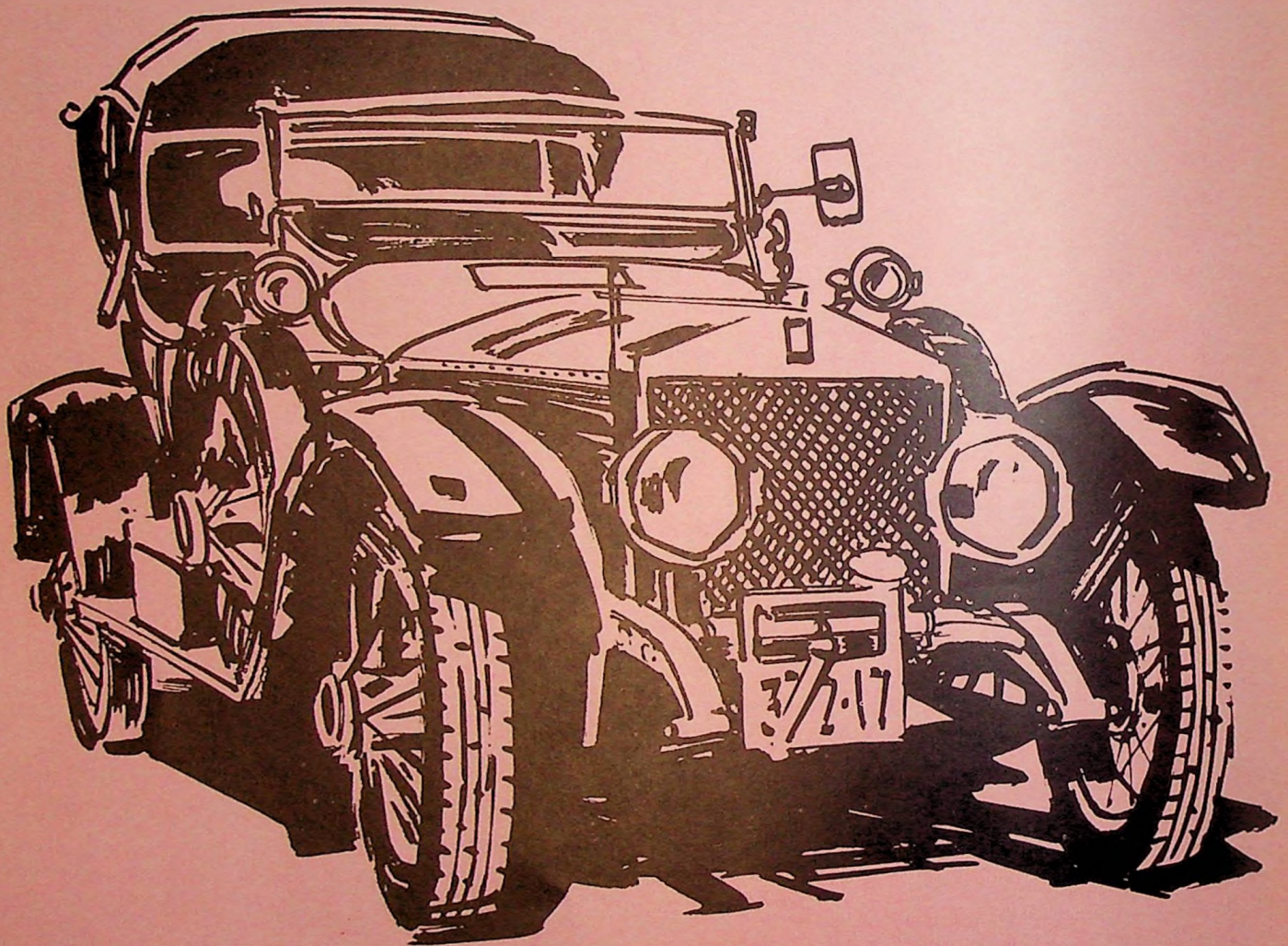
October 22 (Tuesday) PTGPEP, PTGED
October 23 (Wednesday) PTGMTT, SCVSS
October 24 (Thursday) PTGIT
October 30 (Wednesday) PTGIM/TOIC
October 31 (Thursday) PTGEMC(RFI)



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cover

The conceptual or dream geophysical satellite shown is a stabilized orbiting platform designed to accommodate a large number of interchangeable experiments. Electrical power would be from solar cells. Other power problems of this and divers space ve-

hicles will be the subject of the October 23 panel discussion of the Santa Clara Valley Subsection. *Grid's* appreciation to Bob Sumner, program chairman and immediate past chairman of SCVSS, for rounding up the material on this meeting on page 5 and cover.

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MEETING CALENDAR

SANTA CLARA VALLEY SUBSECTION

8:00 P.M. • Wednesday, October 23

Space Power Systems (a panel discussion)

Speakers: Dr. Y. C. Lee, technical director, power systems, research & development div., Lockheed MSC, moderator

Dr. Nathan Snyder, chief scientist, Kaiser Aircraft & Electronics

Frank J. Thomas, asst. mgr., engineering div., Aerojet General Nucleonics

Robert H. Watson, staff scientist, auxiliary power, Lockheed MSC

Dr. A. E. Levy-Pascal, staff scientist, electrochemical, Lockheed MSC

Place: Lockheed Auditorium, Bldg. 202, 3251 Hanover St., Palo Alto

PROFESSIONAL TECHNICAL GROUPS

Electromagnetic Compatibility (formerly RFI)

8:00 P.M. • Thursday, October 31

Electro-Compatibility Aspects of Micro-Electronics

Speaker: R. B. Schultz, The Boeing Company, Seattle, Washington

Practical Problems in Micro-Electronics Applications

Speaker: H. L. Newman, Lockheed Missiles & Space Co., Sunnyvale

Place: Auditorium, Building 202, Lockheed, 3251 Hanover Street, Palo Alto

Dinner: 6:00 P.M., Rick's Swiss Chalet, 4085 El Camino Way, Palo Alto

Reservations: Glenn D. Gillett, REgent 9-4321, Ext. 24834, 24868 or 23268

Electron Devices

8:00 P.M. • Tuesday, October 22

New Crossed-Field Devices and Their Merits Relative to Other Tube Types

Speaker: Dr. Joseph H. Hull, manager, research lab, Litton Industries, San Carlos

Place: Room 101, Physics Lecture Hall, Stanford University

Dinner: 6:15 P.M., Rick's Swiss Chalet, 4085 El Camino Way, Palo Alto

Information Theory

8:00 P.M. • Thursday, October 24

(Lecture No. 2 of 1963-64)

Geometric Approach to Low-Density Parity Check Codes

Speaker: Professor David A. Huffman, EE Department, Stanford University

Place: Stanford Research Institute, Bldg. 1, Conference Room, 333 Ravenswood Avenue, Menlo Park

Dinner: 6:00 P.M., Meland's Steak House, 630 Donohoe, East Palo Alto

Reservations: Mrs. Kelly, 326-6200, Ext. 2944, by October 23

Instrumentation and Measurement

8:15 P.M. • Wednesday, October 30

(Joint with TDIC)

Automatic Capacitor Measurement Equipment

Speaker: Ralph Lydecker, group leader, digital acquisition systems, Dymec Division, Hewlett-Packard Co.

Place: Hewlett-Packard Auditorium

Dinner: 6:00 P.M., The Brave Bull, El Camino and Los Altos Ave.

Microwave Theory & Techniques

8:00 P.M. • Wednesday, October 23

(Joint with PTGCT and PTGCS)

Some Microwave Filter Design Concepts and Their Application to the Design of Microwave Devices

Speaker: Dr. George L. Matthaei, Stanford Research Institute

Place: P.H. 100, Stanford University

For further information contact: Leo Young, SRI, DA 6-6200

Product Engineering and Production

7:30 P.M. • Tuesday, October 22

Brief Description and Tour of Ceramic Sealing Facilities

Place: Eitel-McCullough (guard house entrance), 301 Industrial Way, San Carlos

Dinner: 6:00 P.M., Ed's Chuck Wagon, 1360 El Camino, Belmont



national news

FIVE IEEE AWARDS

Five prominent members of IEEE have been honored for contributions to their profession. Four will be presented with medals at the National Electronics Conference in Chicago October 30, the recognition awards committee has announced. A fifth medal will be presented at the annual Power Division meeting in New York in February.

The awards, recipients, and citations follow:

Medal in electrical engineering education to William G. Dow, professor of electrical engineering, chairman of the department, University of Michigan, "for his outstanding contributions to teaching, to educational theory, and to research, and his inspiring leadership in faculty development."

Morris E. Leeds Award (electrical measurement) to Francis S. Silsbee, consultant, National Bureau of Standards, Washington, D.C., "for his contribution to the international standardization of basic electrical units and their measurement."

David Sarnoff Award (electronics) to Robert N. Hall, physicist, General Electric Company, Schenectady, N.Y. "for his outstanding contribution to scientific understanding of semiconductors and for their application to electronics."

Marvin J. Kelly Award (telecommunications) to Dr. William L. Everitt, dean of engineering, University of Illinois, Urbana, "for his outstanding leadership and many contributions in the field of telecommunications."

The William H. Habirshaw Award (electrical transmission and distribution) will be presented to Lawrence M. Robertson, manager of engineering, Public Service Company of Colorado, Denver, at the Power Division meeting in New York, the week of February 3, 1964. Robertson is cited "for his vigorous leadership and unique contributions in the field of high-voltage transmission, particularly including lightning, corona, and radio influence studies at high altitudes, and at extra-high transmission voltages."



Lee



Snyder



Thomas



Watson



Levy-Pascal

the panel

Moderator of the SCVSS panel on space power systems will be Y. C. Lee, technical director, power systems, engineering, research and development division, LMSC. Panel members will be Dr. Nathan W. Snyder, chief scientist for Kaiser Aircraft and Electronics and a member of the IEEE New Power Sources Committee; Frank J. Thomas,

assistant manager, engineering division, Aerojet-General Nucleonics, and principal nuclear engineer; Robert H. Watson, senior staff scientist, power systems, engineering, research and development division, and consultant on applications of electrical power systems, LSMC; and Dr. A. E. Levy-Pascal, senior staff engineer, LMSC, currently engaged in research and development of energy conversion systems.

meeting ahead

SPACE POWER SYSTEMS

A unique opportunity to learn about the advanced state of the art of space power systems will be presented by the Santa Clara Valley Subsection. A panel discussion will be held on this subject on Wednesday, October 23, in the Lockheed Missiles and Space Company auditorium, Building 202, Stanford Industrial Park, from 8:00 to 10:00 p.m.

Many design engineers involved in either orbiting experiments or manned spacecraft projects assume that there will be adequate electrical power for their specific needs. If electrical power in space were no problem, existing space vehicles would be many times

larger than those presently in orbit. They would carry possibly ten to twenty experiments instead of the usual two or three. To date, solar cells have given us the 10 watts, 50 watts, or 100 watts required. Tomorrow it will be up to many kilowatts; studies are being made for spacecraft or planetary mission power systems up to 10 megawatts.

The panel will discuss proposed systems with which to obtain the really high powers required for multi-personnel vehicles, electrical propulsion, planetary base stations, etc. Moderator of the panel will be Dr. Y. C. Lee, technical director of power systems, engineering research and development division of Lockheed MSC, Sunnyvale. Dr. Lee is internationally known in this field. There will be four 15-

minute presentations by other outstanding men. They are: Dr. Nathan W. Snyder, chief scientist of Kaiser Aircraft and Electronics, who will speak on nuclear dynamic systems; Frank J. Thomas, assistant manager, engineering division, Aerojet General Nucleonics, San Ramon, who will discuss nuclear thermionics; and Robert H. Watson, senior staff scientist, and Dr. A. E. Levy-Pascal, senior staff engineer, both of power systems of Lockheed, who will speak on solar systems and electro-chemical systems respectively.

This is the first time the IEEE has locally sponsored a meeting of this kind on space power for planetary exploratory flights. All of those interested in the subject are invited to attend.

merger plans

INSTRUMENTATION & CONTROLS

For the past two years the meeting topics for the Instrumentation and Controls Division have primarily concerned instrumentation and secondly control (about 70 and 30 percent respectively). Topics included instrumentation for space missions, reactor control, the Stanford Linear Accelerator, infrared temperature sensing devices, and machine tool control. In addition the group has toured several instrument manufacturing plants.

Last year, in keeping with the merger philosophy, the group met jointly with the Professional Technical Group on Instrumentation and Measurement (PTGIM) on the subject of Mariner II Instrumentation. It became apparent that the PTGIM interests were quite parallel to the Instrumentation and Controls Division's interests. For example, both groups independently came up with the Mariner II topic and

were contacting JPL for a speaker before we combined forces and planned the joint meeting.

Having found similar goals and interests, on August 28, 1963, the officers of both groups explored the possibilities and tentatively approved a merger of the two groups. This should eliminate the existing duplication in this field and make stronger group in the future. On September 20, the Instrumentation and Controls Division program and operating committee unanimously voted to hold joint meetings and effect a gradual merger with the PTGIM during the coming year. The PTGIM officers approved this plan on August 28. Also, the national officers of these two groups are reportedly working toward a merger on the national level.

In addition to their meetings, the PTGIM publishes Transactions which include technical papers on the subject of instrumentation and measure-

ment. These Transactions are recommended for all Instrumentation and Controls Division members and may be obtained by paying the \$3 yearly dues to the PTGIM. Simple application forms will be available at each meeting and can also be obtained through a telephone call to the section office.

The first joint meeting will be held on October 30 at the Hewlett-Packard Company, 1501 Page Mill Road, Palo Alto. Ralph Lydecker will discuss automatic testing equipment for measuring various capacitor parameters and automatic testing equipment in general. All Instrumentation and Controls Division members are urged to attend. Discussion and any suggestions concerning the merger will be welcomed at this meeting.

RONALD K. CHURCH
CHAIRMAN
INSTRUMENTATION & CONTROLS
DIVISION

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Schulz

Newman

meeting ahead

MICRO-ELECTRONICS

The theoretical and practical application problems involved in the development of micro-electronics circuitry will be presented at the meeting of the PTC on Electromagnetic Compatibility (formerly Radio Frequency Interference) on Thursday, October 31, at the auditorium in Building 202, Lockheed, Stanford Industrial Park, Palo Alto.

R. B. Schulz of the Boeing Company, Seattle, will give a general review of the effect on electromagnetic compatibility of the reduced scale size of the various circuit elements and parameters in micro-electronic assemblies. Schulz received his B.S. and M.S. from the University of Pennsylvania and did research work and also teaching on RFI instrumentation. He then headed his own counseling firm. He joined Armour Research Foundation in 1955 as program development coordinator and research engineer. In 1961 he joined the United Controls Corporation as chief of the electro-interference section. In 1962 he joined Boeing and is now chief of the electro-compatibility and advanced avionics packaging unit, working on micro-electronics.

Hal Newman, staff scientist in the R&E Division of LMSC, will then review the practical problems that may be encountered in the application of micro-electronic design to actual functional units. Newman received his B.S. from Georgia Institute of Technology, and his M.S. from the University of Buffalo, where he also taught for six years. He is now working on advanced graduate study at Stanford. He joined the research and engineering division of Lockheed Missiles and Space Company in 1960 and has been engaged in the development and application of micro-electronics components and assemblies.

meeting ahead

CAPACITOR MEASUREMENT

Ralph Lydecker, group leader, digital acquisitions systems, Dymec Division, Hewlett-Packard Co., will discuss automatic capacitor measurement equipment at the October 30 meeting of PTGIM.

Included will be discussion of the

meeting ahead

RX: MICROWAVE FILTERS

Dr. George L. Matthaei, manager of the electromagnetic techniques laboratory at Stanford Research Institute, will discuss microwave filter design concepts and their application to the design of microwave devices at the October 23 joint meeting of PGMTT, PTGCT, and PTGCS.

Three different procedures for microwave filter design will be briefly outlined. One of these procedures makes use of a step transformer as a prototype upon which the microwave filter design is based, while the other two procedures make use of a lumped-element low-pass filter as a prototype for the microwave filter design. Examples of filter structures which have been successfully designed by these procedures will be described. These include waveguide pseudo-high-pass

impedance comparator, constant voltage, and constant current methods of measurement of C and DF; description of the constant current method; discussion of methods for measurement of leakage current and electrifying supply limitations; and discussion of the problems associated with automatically scanning capacitors.

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Hull

Matthaei

meeting ahead

CROSSED-FIELD DEVICES

On October 22, Dr. Joseph F. Hull will talk to PTGED about new types of crossed-field devices, emphasizing the area of high-gain, forward-wave nonre-entrant crossed-field amplifiers, both of the injected-beam and distributed-emission types. Relative merits of these devices, as compared with conventional traveling-wave tubes and re-entrant crossed-field amplifiers, will be discussed.

Potential and demonstrated advantages of this class of crossed-field devices, which will be highlighted, are high power and efficiency, broad bandwidth, high gain, high reliability, and Class B operation. All these features should be simultaneously realized in a new crossed-field amplifier now being developed—the BIDE-M-ATRON.

Operational characteristics of both the injected-beam and distributed-emission crossed-field amplifiers will be discussed, including the demonstration of true Class B operation of a ½-megawatt X-band amplifier. Results will be presented on the use of a new method of achieving uniform gain and phase shift characteristics over broad bandwidths and depressed collectors, which substantially improve efficiency while operating at cathode potential described. Present and potential applications of these devices in radar and communications systems will be detailed.

filters, interdigital filters, comb-line filters, and others.

The roles of filter structures as time-delay networks, slow-wave structures, impedance-matching networks, and coupling structures for negative resistance devices will be discussed. Several impedance-matching-problem examples will be described, and the computed or measured performance achieved with microwave, broad-banding-filter structures presented.

In September, 1958, Dr. Matthaei joined the staff of Stanford Research Institute where he is presently manager of the electromagnetic techniques laboratory.

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region 6 news

L.A. DISTRICT APPROVED

Dr. B. Richard Teare, Jr., vice-president of IEEE, has announced that the executive committee has approved the petition for the establishment of a Los Angeles District.

The new district comprises eleven existing Southern California sections with a combined membership of over 13,000. The sections include China Lake, Buenaventura, Foothill, Metropolitan Los Angeles, Orange County, San Fernando Valley, San Gabriel Valley, Santa Barbara, Santa Monica, South Bay Harbor, and Vandenberg. The territory includes the counties of Los Angeles, San Bernardino, Riverside, Orange, San Luis Obispo, Santa Barbara, Ventura, Inyo, Mono, and Kern. Each section operates independently, with its own elected officers and generally holds monthly technical meetings.

The district will function as a coordinating and service agency to the eleven sections by staffing a business office, providing a publication, the IEEE Bulletin, and assisting the 31 active professional technical group chapters with their meetings. All in all, over 200 meetings will be offered to working engineers and scientists of Southern California.

events of interest

PAPERS CALLS

November 1—Submissions to International Solid-State Circuits Conference, Sheraton Hotel and University of Pennsylvania, Philadelphia, Feb. 19-21, 1964. IEEE/Univ. of Penn. For information: Howard Parks, Martin Co., R & AT Dept., Mail 683, Baltimore 3.

December 15—Submit final papers on IEEE format for International Conference & Exhibit on Aerospace Electro-Technology, Westward Ho Hotel, Phoenix, April 19-25, 1964. For information: A. A. Sorenson, The Martin Co., J 359, Baltimore 3.

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Senior Member

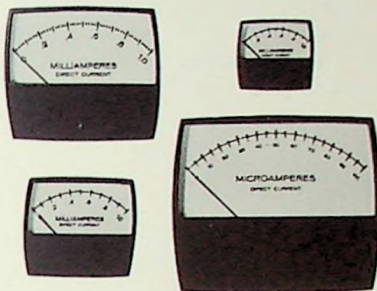
Harry L. Hill
A. Orloff

Following are the names of IEEE members who have recently entered our area, thereby becoming members of the San Francisco Section:

M. A. Acheson	D. B. Hildebrand
R. W. Anderson	R. C. Hix
S. B. Besse, Jr.	L. G. Holmes
R. D. Boyens	J. Humphries
R. E. Campbell	P. C. Huse
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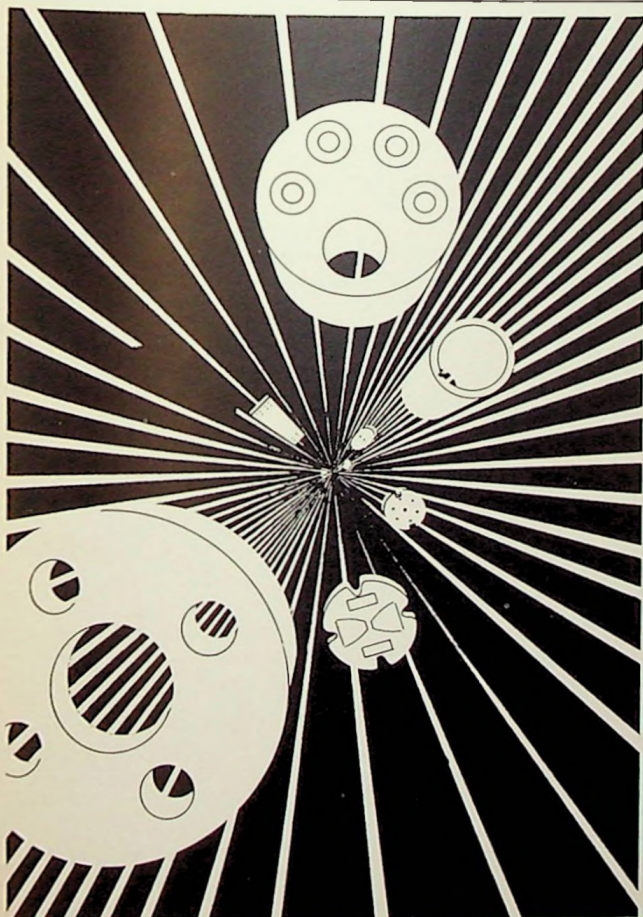
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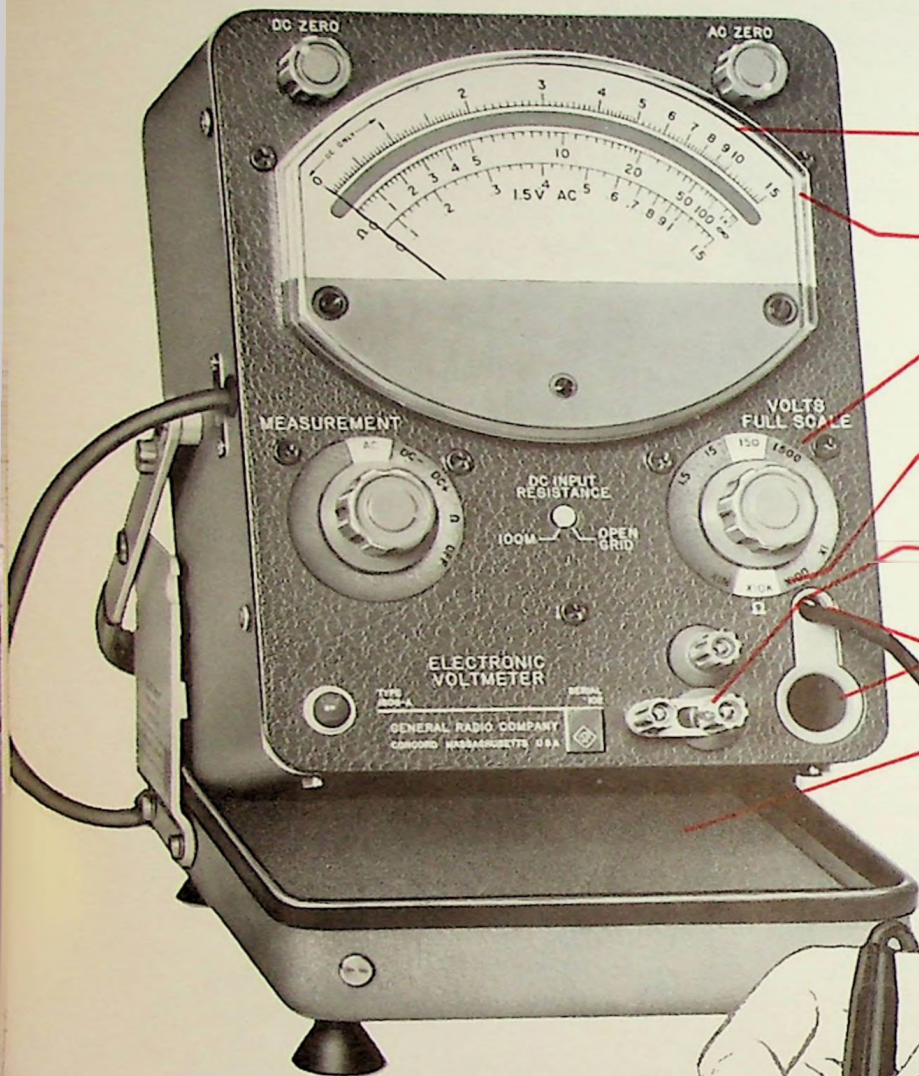
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