

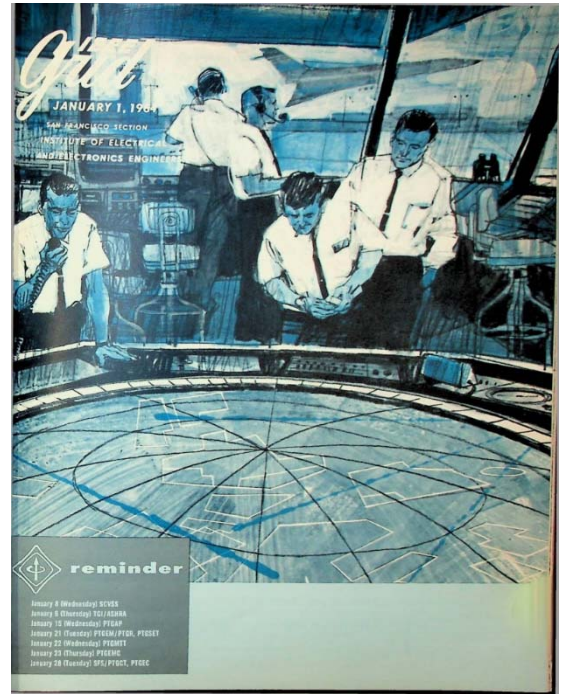
EDITOR'S PROFILE of this issue

from a historical perspective ...

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

January, 1964:

Cover: Electronics is the key to future communication functions, enabling air traffic control, advanced radar, and space communications.



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

Golden Gate

JANUARY 1, 1984

SAN FRANCISCO SECTION
INSTITUTE OF ELECTRICAL
AND ELECTRONICS ENGINEERS



reminder

- January 8 (Wednesday) SCVSS
- January 9 (Thursday) TGI/ASHRA
- January 15 (Wednesday) PTGAP
- January 21 (Tuesday) PTGEM/PTGR, PTGSET
- January 22 (Wednesday) PTGTT
- January 23 (Thursday) PTGEMC
- January 28 (Tuesday) SFS/PTGCT, PTGEC

Here's a new Tektronix dual-trace unit... to update older Type 580-series oscilloscopes

DC-to-80 MC at 10 mv/cm
DC-to-85 MC at 100 mv/cm



Type 82 plug-in unit adds new convenience to display and measurement of high-sensitivity, wide-band, dual-trace presentations on the Type 580-Series Oscilloscopes.

Characteristics

■ DUAL-TRACE OPERATION with 4 operating modes and independent controls for each channel—for individual attenuation, positioning, inversion, and ac or dc coupling as desired.

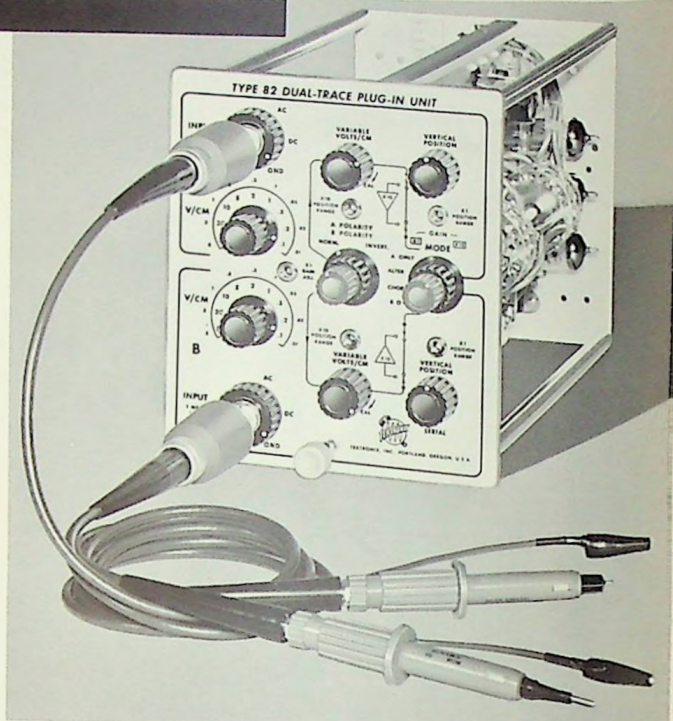
■ PASSBAND typically DC-TO-85 MC (3-db down) at 100 mv/cm (12-db down at 150 Mc), and typically DC-TO-80 MC (3-db down) at 10 mv/cm.

■ CALIBRATED SENSITIVITY in 9 steps from 100 mv/cm to 5 v/cm, and in 10X Amplifier Mode, from 10 mv/cm to 5 v/cm, variable between steps.

plus

■ SUPPLIED SMALL SIZE PASSIVE PROBES to simplify probe connection to signal-source points. Probes increase input R to 10 megohms and decrease input C to approximately 7 pf, with risetime (of probe, plug-in unit, oscilloscope) at over-all sensitivity of 100 mv/cm at approximately $4\frac{1}{2}$ nsec.

Type 82 Dual-Trace Plug-In Unit \$650



Risetime of 4.3 nsec



Dual-trace display of input and output pulses of a transistor amplifier at 10 nsec/cm—with lower trace delayed 1 nsec by amplifier under observation. Type 580-Series/82 combination can display time coincidence between input channels with no measurable difference at 10 nsec/cm.

Modification for Early Instruments

Some early Type 580-Series Oscilloscopes must be modified to accept the new Type 82 Dual-Trace Unit or the new Type 81 Single-Trace Unit. After modification, these oscilloscopes—with serial numbers below No. 970 for Type 581's and below No. 2585 for Type 585's—will have improved and standardized transient response (and improved performance with the Type 80/P80 combination). To determine whether your particular instrument needs this modification, please call your Tektronix Field Engineer. Modification Kit (Part Number 040-275) \$25
U. S. Sales Prices f.o.b. Beaverton, Oregon

For a demonstration, please call your Tektronix Field Engineer.

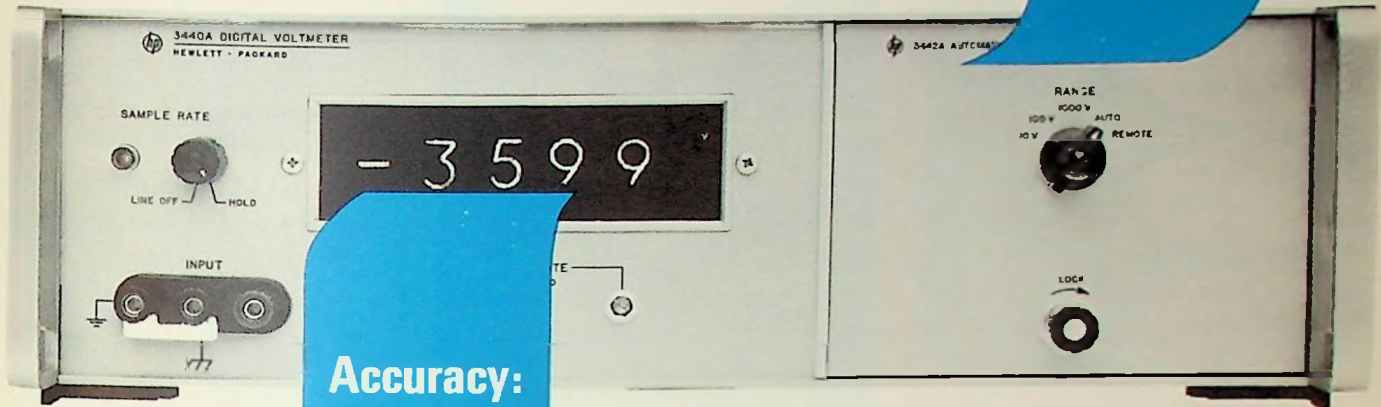
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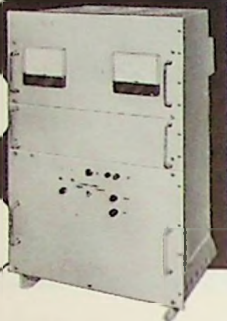
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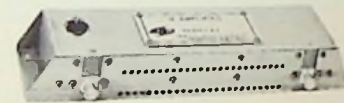
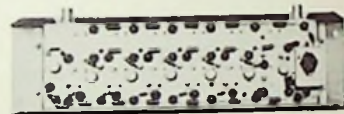
WAVEGUIDE

Model	Frequency	Model	Frequency
MP1-2	1-2 Gc	MP-7	7.5- 8.5 Gc
MP2-4	2-4 Gc	MP-8	8.5- 9.5 Gc
MP4-8	4-8 Gc	MP-9	9.5-10.2 Gc

25 db gain from RF to IF
IF bandwidth 10 mc
Specify 30 or 60 mc IF
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Emitter follower output



Model	Center Freq.	Band-width	Risetime	Gain
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ET 3010	30 mc	10 mc	0.1 μsec	80 db
ET 6010	60 mc	10 mc	0.1 μsec	80 db

These amplifiers also available at 20 and 42
mc center frequencies. Price: All units \$325.00



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cover

Travel by land, sea, and air could not move efficiently today without the assistance of electronic devices being used in communications, navigation, tracking, and traffic control. In addition to the future promise of three-dimensional radar, electronics holds

the key for communications with other planets, man-made satellites, and space vehicles. Cover drawing, courtesy of the Western Electronic Manufacturers Assn., is reprinted from the 1963 WEMA Directory.

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IT & REAL INFORMATION

Dr. Norman Abramson, associate professor of electrical engineering at Stanford University, will discuss information theory and real information at the January 21 meeting of the PTC on Information Theory chapter.

Information theory and information measurement will be described with particular emphasis on the significance of the theory rather than the mathematics. The application of information theory to data transformations and data transmission will be treated. Shannon's two fundamental theorems will be explained with the aid of examples.

A graduate of Harvard College and the University of California in physics, Dr. Abramson received the Ph.D. in electrical engineering from Stanford. A former research engineer in the systems analysis laboratory of Hughes Aircraft Co., he has served as consultant in communications and radar problems to several industrial laboratories. He is the author of *Information Theory*, recently published by McGraw-Hill, editor of the Holden-Day series on communication and information processing, and chairman of the administrative committee of the PTC on Information Theory.



Abramson

Pierce

meeting ahead

SPARKS IN NATURE

Edward T. Pierce, staff scientist, communication laboratory, Stanford Research Institute, will discuss sparks in nature at the January 15 meeting of the PTC on Antennas and Propagation chapter.

Natural sparks act as antennas emitting radio signals, which then travel according to the normal laws of radio propagation. The characteristics of the signals depend upon the lengths of the sparks and the form of the spark current. The radiation from lightning—in which a great variety of sparks occurs—will be discussed, and the extent to which it confirms other information upon the discharge plasma will be described. Special topics to be considered will include the manner in

(Continued on page 8)

SAN FRANCISCO SECTION

8:00 P.M. • Tuesday, January 28

(Special reorganization meeting of the PTC Chapter on Circuit Theory)

Bridge structures in network synthesis

M. E. Van Valkenburg, professor of electrical engineering, University of Illinois; vice-chairman, administrative committee, PTC on Circuit Theory

Place: Ampex Cafeteria, 401 Broadway, Redwood City

Dinner: 6:30 P.M., Algiers Restaurant, 2620 El Camino Real, Redwood City; \$3.75 incl. tax and tip

Reservations: Section Office, 321-1332, by January 27

SANTA CLARA VALLEY SUBSECTION

8:00 P.M. • Wednesday, January 8

A field trip, reading, speech and hearing laboratories. Open to the public. Methods of improving reading, speech, and hearing for students, with the use of electronic equipment, will be discussed.

Prof. Paul Betten, San Jose State College

Place: Education Building, Room 100, San Jose State College

No dinner

TECHNICAL GROUP

Industrial

7:30 P.M. • Thursday, January 9

Joint meeting with American Society of Heating, Refrigeration and Air Conditioning Engineers

Infra-truth on infra-red

Joseph W. Adams, Manager, Panelbloc Division of Bettcher Mfg. Corp., Cleveland, Ohio

Place: DiMaggio's Restaurant, Fishermen's Wharf, San Francisco

Social get-together with ASHRA at 5:30 P.M.

Dinner: 6:30 P.M. (DiMaggio's)

Reservations: Art Wells, JU 6-4074, by January 8

PROFESSIONAL TECHNICAL GROUP CHAPTERS

Antennas and Propagation

8:00 P.M. • Wednesday, January 15

Sparks in Nature

Dr. E. T. Pierce, Stanford Research Institute

Place: Stanford Research Institute, Building 1

No dinner

Circuit Theory

8:00 P.M. • Tuesday, January 28

(Special reorganization meeting of San Francisco Chapter. Joint with San Francisco Section. See above.)

Electronic Computers

8:00 P.M. • Tuesday, January 28

MIRF—A data retrieval machine using an associative memory

Jacob Goldberg and LeRoy Younker, senior research engineers, Stanford Research Institute

Place: General Electric Computer Laboratory, 310 DeGuigne Drive, Sunnyvale

Dinner: 6:30 P.M. at the Plantation, Bernardo and El Camino Real, Sunnyvale

Reservations not required

Engineering Management

8:00 P.M. • Tuesday, January 21

(Joint meeting with PTC Reliability)

Arms control and diversification

Dr. L. C. Van Atta, chief scientist, Lockheed Missiles & Space Co.

Place: Rickeys Hyatt House, Stanford Room, El Camino Real, Palo Alto

Dinner: social hour 6:00 P.M., dinner 7:00 P.M., \$3.50 buffet

Reservations: Elizabeth Richards, 326-1755, Ext. 222, by 4:00 P.M. January 14

Electromagnetic Compatibility

8:00 P.M. • Thursday, January 23

Large weapon and space system electromagnetic compatibility

B. Weinbaum, electronics group engineer, general dynamics/astronautics

Place: Lockheed Missiles & Space Co., Bldg. 202, 3251 Hanover St., Palo Alto

Dinner: Rick's Swiss Chalet, 4085 El Camino Way, Palo Alto

Reservations: Glenn D. Gillett, RE 9-4321, Ext. 24834 or 32368, by January 22

Microwave Theory and Techniques

7:30 P.M. • Wednesday, January 22

Automatic measurement of phase and impedance

Dr. Seymour Cohn, Rantec Corp.

Phase and delay measurement techniques for advanced microwave systems

Dr. Peter Lacy, Wiltron Co.

Place: Physics Hall, Room 100, Stanford University

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

Reservations: Pat Peters, 326-6200, Ext. 2414, by January 17

Reliability

8:00 P.M. • Tuesday, January 21

(Joint meeting with PTC Engineering Management, see above)

Space Electronics and Telemetry

8:15 P.M. • Tuesday, January 21

Information theory and real information

Dr. Norman Abramson, Stanford University

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

Dinner: 6:15 P.M., El Camino Bowl, 2025 El Camino Real, Mountain View

Reservations: Robert H. Light, 968-6211, Ext. 2024, by noon January 21

events of interest

WESCON PAPERS CALL

The Western Electronic Show and Convention will be held in Los Angeles August 25-28. The IEEE Summer General Meeting will be held simultaneously and in conjunction with this important conference. Authors desiring to have papers considered for inclusion on the program of technical sessions should submit the following materials by April 15, 1964:

- Three copies of a 100- to 200-word abstract, including title of the paper, name, company affiliation, and address of the author.
- Three copies of a 500- to 1,000-

word summary of the paper, which identifies the related work and extent of new contributions in the field.

- Indication of the technical field in which the paper falls.

Papers in all electrical and electronics fields will be considered for the 1964 WESCON program. Any necessary military or company clearance of papers must be granted before submission of the abstracts. Address all materials to Dr. Robert R. Bennett, Technical Program Chairman, 1964 WESCON, Suite 1920, 3600 Wilshire Boulevard, Los Angeles, Calif. 90005.

travel notes

GROUP EUROPEAN TOUR

The European tour advertised on this page is being organized by Ben Wright, chief engineer of Kaar Engineering Corp., Palo Alto, and his wife.

Regularly scheduled airlines, trust fund financial arrangements, and a recognized travel agency will be used. The group will be in Paris during the first two days of the First International Congress on Instrumentation in Aerospace, and will possibly meet with

representatives of European sections of IEEE in other cities.

IEEE policy not permitting sections or headquarters to sponsor such tours at the present time, IEEE is not the sponsor of the tour and assumes no liability in connection with it. However, members traveling as a group may take advantage of the group rate. Reservations for ground travel and hotel accommodations can also be made through Mr. or Mrs. Wright.

publication notes

PEOPLE-TO-PEOPLE

In addition to the specifications for sending technical publications to overseas universities carried in the December 1 Grid, packages of less than one year's issues, including single issues, are welcome, if sent prepaid to Engi-

neers and Scientists Committee, People to People Program, c/o Headquarters, Home Economics Dept., PG&E Company, 540 Bush Street, San Francisco, Calif.

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Jim McCann, Charles Dalziel and Jack Barkle, PTGP chapter officers

meeting review

POWER CHAPTER ELECTS

Jack Barkle, chief electrical engineer of the Bechtel Corporation, who has worked so hard to organize the PTG-Power, was justly rewarded at the group's December 10 meeting by being elected chairman. Professor Charles Dalziel, University of California, is vice-chairman, and James McCann, Pacific Gas and Electric Company, secretary. These men will serve until the PTG is officially activated next July 1 and new officers are elected.

The last semblance of the old AIEE organization was laid to rest when Jack Beckett, IEEE section vice-chairman, presented an award to Victor Kaste, General Electric, who served so capably as the last chairman of the AIEE San Francisco Section.

Many mechanical engineers were among the members and guests who again packed the Engineers' Club in San Francisco for these events and to hear the success story of computer control at Southern California Edison's Etiwanda steam power station. Speakers were A. A. Ward of Edison, A. G. Syriotis of Bechtel, and R. C. Livingston of General Electric process computer section.

In discussing objectives and features of the installation, the speakers said that Etiwanda Unit 4 was started up for the very first time on computer control and that this has been repeated over 30 times.

Audience interest was so great that the question-and-answer period kept the meeting going at least an hour beyond the usual 9:30 closing time.

PAUL LEECH

events of interest

NON-IEEE

January 9—Principles, Operation and Applications of Lasers, 5:30 to 10:00 p.m., San Francisco State College, co-sponsored by I.E.S. Golden Gate and Diablo Sections and Physics and Engineering Depts. of SFSC. Study seminar, 5:30; dinner, 6:30; general meeting 8:00. Participants: Dr. Robert Thornton, Prof. Byron E. Thinger, Prof. Thomas Kilpatrick, Dr. William Culshaw, Dr. Robert White, Dr. Richard Honey. Information and reservations: Prof. R. B. Marxheimer, JU 4-2300, Ext. 706 or 225, before January 5.

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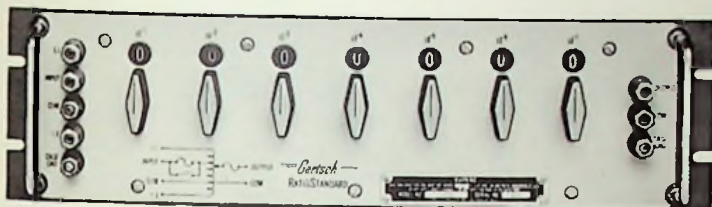
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