



# the MONITOR

News of the New York Section, IRE

VOLUME 1

MARCH, 1954

NUMBER 7

**SOLID STATE AMPLIFIERS—Wednesday, March 3, 7:30 P. M.**

**Presentation of New York Section Fellow Awards  
Joint Meeting with Basic Science Division, AIEE**

**Engineering Societies Bldg., 33 W. 39th St., Main Auditorium.**



**Dr. Ernst Weber**

ERNST WEBER received his Ph.D. from the University of Vienna and his Sc.D. from the Technical University of Vienna. He began his teaching career as Adjunct Professor at the Technical University of Berlin in the Department of Electrical Engineering. In 1930 he was Visiting Professor at the Polytechnic In-

*(continued on page 2, column 1)*

SOLID STATE AMPLIFIERS by Dr. Ernst Weber, Head, Electrical Engineering Department, Polytechnic Institute of Brooklyn.

In recent years, the electron tube amplifier has been exposed to severe competition — at least in publications — by amplifying devices which utilize the nonlinearities of the three basic characteristic parameters of solids: electric conductivity, dielectric constant, and magnetic permeability. These so-called solid state amplifiers actually employ rather uncommon representatives of the respective solids, namely, semiconducting, ferroelectric, and extreme ferromagnetic materials.

It is intended to discuss the basic physical phenomena which underlie the amplifying characteristics of these solid

*(continued on page 2, column 2)*

**PRE-MEETING DINNER—6:00 P. M., Midston Grill, 22 E. 38th St. Everyone welcome—no reservations necessary.**

**SOCIAL HOUR—7:00 P. M., just outside main auditorium. Light refreshments will be served.**

## MARCH CALENDAR

7—Long Island Section (page 3)

8—Lecture Series (page 4)

9—Electronic Computers Prof. Group (page 7)

10—Northern New Jersey Subsection (page 3)

11—Aeronautical and Navigational Electronics Prof. Group (page 7)

13—Monmouth Subsection (page 3)

18—Mid-Hudson Subsection (page 3)

20—N. Y. Section Field Trip (page 4)

22-25—National Convention

23—PGANE (page 7)

**APRIL 7—"Microstrip Transmission System" by Maurice Arditi, Federal Telecommunication Laboratories.**



## BIOGRAPHY

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stitute of Brooklyn, where he accepted the permanent position of Research Professor of Electrical Engineering in charge of graduate study. From 1942 to 1945, he was Professor of Graduate Electrical Engineering and Head of Graduate Study and Research in Electrical Engineering. Since 1945, he has been Head of the Department of Electrical Engineering and Director of the Microwave Research Institute of the Polytechnic Institute of Brooklyn.

## FELLOW AWARDS

Members of the New York Section who will receive Fellow Awards at the March 3 meeting are: I. F. Byrnes, J. G. Chaffee, R. B. Colton, J. L. Finch, and Eugen Reisz. Subsection Awards will be made at Subsection meetings, and are as follows: *Northern New Jersey*—E. P. Felch, R. M. Foster, W. D. Lewis, G. M.

Rose, Jr., P. C. Sandretto, G. R. Shaw, and J. R. Wilson; *Monmouth*—J. E. Gorham (posthumous).

In addition, the following Award Winners will be recognized: Alfred N. Goldsmith (1954 Founders Award), and Harold A. Zahl (Harry Diamond Memorial Award).

## SOLID STATE AMPLIFIERS

(continued from page 1, column 2)

state devices, to point out their inherent dependence on temperature, frequency, and mechanical parameters, and to underline the needed compromises in engineering applications at least at the present state of the art. Because of the basically different character of electron tube and solid state devices, there can be only limited replacement of one by the others; however, there will be new fields of electronic applications, each one well suited to the particular characteristics of each individual device.

## Rapid Production Testing

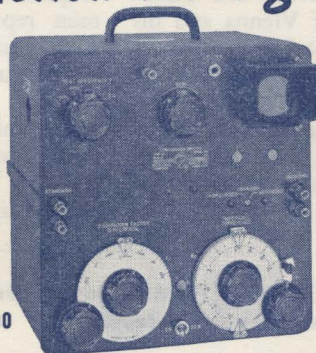
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## SUBSECTIONS

### Mid-Hudson

D. SALING, Chairman  
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The March 18 meeting will be held as usual at the Nelson House, Poughkeepsie, at 8:00 P. M. The program will consist of a talk by a speaker from the General Ceramics Co. of Keasby, N. J., on "Applications of Ferrites."

### Monmouth

O. D. PERKINS, Chairman  
W. M. GOODALL, Vice-Chairman  
E. MASSELL, Secretary-Treasurer

The Annual Field Trip will be held on Saturday, March 13, and will consist of a tour of the Long Lines Dept., AT&T, 32 Avenue of the Americas. Included will be dial system, microwave terminal, and overseas control. The tour will start at 9:30 A. M., with lunch at the AT&T cafeteria. Bus transportation will be provided. Attendance will be limited to citizens of the U. S. and others

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who are cleared for access to classified information.

## Northern New Jersey

G. P. MCCOUCH, Chairman  
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The March 10 meeting will be held as usual at the Hillside school, corner of Orange Rd. and Hillside Ave., Montclair, at 8:00 P. M. Pre-meeting dinner at 6:15, Three Crowns Restaurant. No reservations necessary.

Dr. A. C. Sheckler, of the General Electric Co., will speak on "Advances in Germanium and Silicon Diodes as Power Rectifiers." Fellow Awards will be presented.

## LONG ISLAND SECTION

Presentation of Fellow Awards will be made at a meeting on Sunday afternoon, March 7, 5:00 P. M. The awards will be presented by Dr. Ragazzini, and John V. L. Hogan will give a short talk on the history of the IRE and development of the Fellow Award. This will be followed by a cocktail party sponsored by Long Island industries. The proceedings will take place at the Garden City Hotel, and wives are invited. Advance registration is requested.

Fellow Awards will be presented to the following: E. I. Anderson, W. F. Bailey, E. G. Fubini, R. G. E. Hutter, J. B. H. Kuper, W. W. Mieher, and E. A. Speakman.

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# SPRING LECTURE SERIES COLOR TELEVISION

7:00 to 9:00 P. M. (Dates given below)

Auditorium, WESTERN UNION BUILDING  
60 Hudson St., New York City  
(two blocks north of Chambers St.)

With interest in Color Television at an all-time high, the New York Sections of the IRE and AIEE are combining their efforts to provide a comprehensive coverage of the basic field in this subject. A broad cross section of the industry is represented by authoritative speakers who will give the following series of lectures:

## Lecture 1—March 8

Basic Principles of Color by D. L. MacAdam, Eastman Kodak.

Color space, additive primaries, CIE diagram, spectrum locus, receiver triangle.

Analysis of NTSC Signal Specifications by D. C. Livingston, Sylvania.

Historical sketch, monochrome system, video spectrum, bandsharing, chrominance signal, block diagrams.

## Lecture 2—March 15

Camera Equipment by J. H. Roe, RCA, and P. C. Goldmark, CBS.

Simultaneous color TV signal from three orthicons; techniques for registration, aperture compensation and gamma correction. Chromacoder single-orthicon field-sequential pickup with translation to simultaneous presentation.

## Saturday, March 20

Field Trip—arranged by Richard Petruzzelli, Allen B. Du Mont Labs., 1500 Main Ave., Clifton, N. J., Chairman of Field Trips Committee.

Tour of the NBC Colonial Theater color TV facilities; arranged for the Spring Lecture Series but also open to

those who have not signed up for the Series. Further information will be provided in a separate mailing.

## Lecture 3—March 29

Preparation of Signal for Transmission by J. W. Wentworth, RCA.

Encoding circuits for production of complete NTSC signals from simultaneous camera signals.

The Broadcast Transmitter by W. C. Morrison, RCA Labs.

How NTSC signal requirements affect the TV transmitter. Operational problems encountered and test equipment developed to solve them.

## Lecture 4—April 5

Intercity Transmission by J. M. Barstow, BTL.

Characteristics of signal to be transmitted and transmission objectives. Wire and radio transmission systems. Effects of distortion.

Color Test Equipment by J. R. Popkin-Clurman, Telechrome.

NTSC signal-certification equipment, multifrequency burst generators, stair-step generators, measurement of differential amplitude and phase, envelope delay.

## Lecture 5—April 12

Color Signal Reproduction—Kinescopes by H. B. Law, RCA Labs., N. F. Fyler, CBS-Hytron, and Robt. Dressler, Chromatic TV Labs.

Underlying principles of color kinescopes. Design parameters and performance of three-gun and single-gun tubes.

## Lecture 6—April 19

Color Signal Reproduction—Circuits I by D. H. Pritchard, RCA Labs., and B. D. Loughlin, Hazeltine Corp.

Design and development of demodulators for simultaneous subcarrier color receivers using three-gun tubes. Circuitry of receivers for sequential displays with single-gun tubes.

## Lecture 7—April 26

Color Signal Reproduction—Circuits II by W. E. Good, G. E. Co., and K. R. Wendt, Sylvania.

Color synchronization accuracy requirements, synchronizing circuits. Power supplies, regulation, deflection circuits and other color-receiver circuitry.

*At press time, some seats were still available. However, it is strongly recommended that anyone interested in this lecture series send in his reservation as soon as possible. Reservations are accepted on a first-come, first-served basis.*

## Registration Information

Because of the expectation of large response, admission will be by ADVANCE REGISTRATION ONLY. Requests for registration will be accepted, in order of receipt, up to the capacity of the auditorium.

Fees: \$4.00 for IRE, AIEE, AIME, ASCE and ASME members  
\$6.00 for all others

Please send requests for registration, accompanied by appropriate check or M.O., payable to N. Y. Section, IRE, and a self-addressed return envelope, to:

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463 West Street  
New York 14, N. Y.

No admissions will be sold or registrations accepted at the door.

# FALSTROM

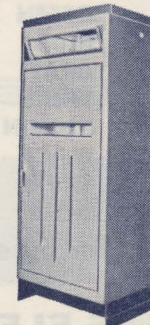
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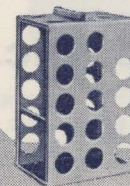


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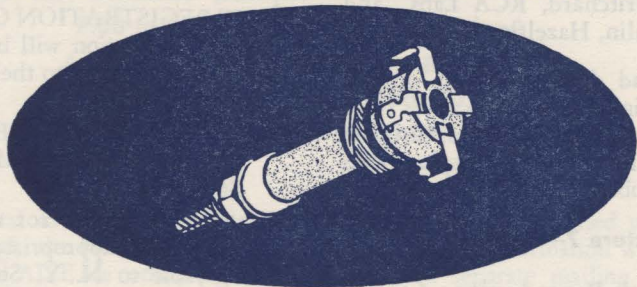
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120-E	18-36	BLUE	75 @ 2.5 mc	0.9
120-F	36-64	GRAY	75 @ 2.5 mc	1.4
120-G	64-105	WHITE	75 @ 2.5 mc	1.7
120-H	105-200	BROWN	75 @ 2.5 mc	4.4
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Do you have requirements for others? *We invite your inquiries.*

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### PROFESSIONAL GROUPS

The Professional Groups Chairman is Sidney Moskowitz, Federal Telecommunication Labs., Nutley, N. J. (Phone: Nutley 2-3600). If you are interested in forming a new Group, he will be glad to help you.

#### Electronic Computers

On Tuesday, March 9, the Joint Long Island and New York Section Chapter of the PGEC will feature a talk by W. B. Groth of Bell Telephone Labs. Mr. Groth will describe the BTL automatic message accounting system, following which there will be a conducted tour of an AMA installation. The meeting will be held at 101 Willoughby St., Brooklyn, and will start at 8:00 P. M. Please use the Bridge Street entrance.

#### Aeronautical and Navigational Electronics

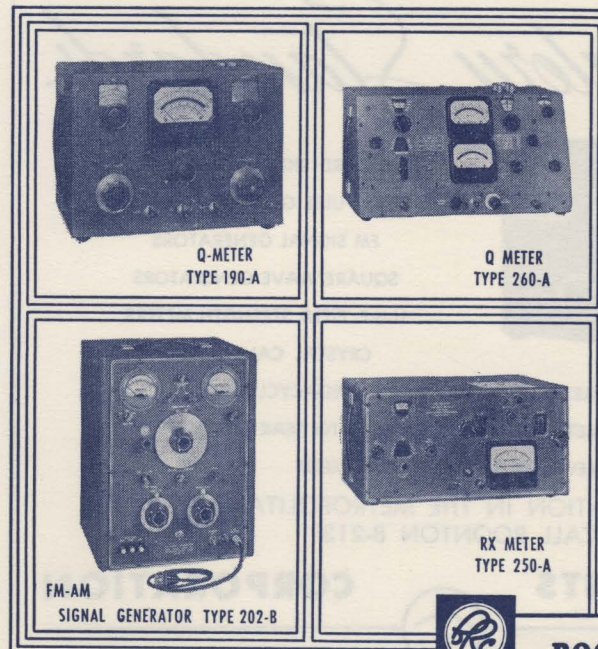
This is a further reminder of the PGANE organizational meeting to be

held on March 11, 7:30 P. M., General Electric Auditorium, 570 Lexington Ave. K. C. Black, national chairman of PGANE, will be present to discuss aims and functions of the Group, and to outline the experience of other Chapters.

R. J. Bibbero, Hillyer Instrument Co., 54 Lafayette St., New York 13, has asked that those planning on attending advise him by letter of their interest in serving on various committees. He also suggests that those who are not members of the national PGANE take steps to join before the meeting.

The national PGANE organization has arranged for a noontime luncheon meeting on March 23, during the IRE Convention. Brig. Gen. Floyd B. Wood, USAF, will speak on "The Air Weapons System Management Plan and the Electronics Industry." In addition, the Group has organized three PGANE technical sessions on March 22-23. The luncheon and Tuesday PGANE sessions will be held at the Hotel Shelton.

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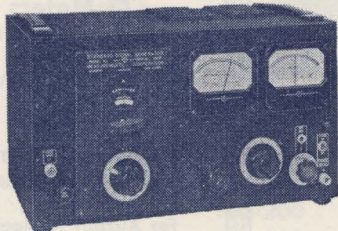
## FIRST CLASS

### STUDENT ACTIVITIES DAY

On April 3, the annual Student Activities Day will be conducted. This year's gathering, organized by the Student Council of the New York Section, is to take place in the Casa Italiana of Columbia University. The Day's program is to feature the presentation for final judging of the top three papers submitted in the

Prize Paper Contest. In addition, all the entries submitted in the Demonstration Contest will be on exhibition and the winners of this contest determined. After a luncheon to be provided for all Student Members, there will be a technical talk and demonstration. For further information, student members should contact their local branch officers.

# Laboratory Standards



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