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CHICAGO SECTION • IEEE • INSTITUTE OF ELECTRICAL & ELECTRONICS ENGINEERS

MAY 1975

HOW OPERATORS SERVE YOU BETTER

Skyrocketing operating costs and the desire to place telephone operator working locations in better neighborhoods are two of the considerations that led to a major change in the way operator services are provided. This change, which has also resulted in much improved operating efficiency, is a new operator position and call control arrangement, known as the Affic Service Position System (TSPS).

Jack E. Seehawer, GTE Automatic Electric Laboratories, will describe TSPS at the Communications Society meeting, May 22, 1975. He will point out its place and purpose in the telephone communications network and describe what led to its development at GTE Automatic Electric Laboratories. Seehawer will also give a high level review of the system's fea-

tures, organization, and operation. In addition, he will cover the initial service cut-ins, operating experience of in-service systems, and future developments.

Jack E. Seehawer received a BS from Northwestern University in 1950, and later did graduate work at both Roosevelt University and Illinois Institute of Technology. He started at Automatic Electric in 1951, working in quality control engineering, technical writing, and then serving as supervisor of engineering training. In 1968, he transferred to the Laboratories as a staff engineer on TSPS, where he was principally concerned with system operating features and system specification. He was part of the on-site Cutover Planning Committee and Laboratory cutover team. Since cutover, in Sep-

tember 1972, he has worked on system changes and Phase II developments.

Dinner and meeting will be held in the executive dining room, GTE Automatic Electric Company, 400 North Wolf Road, Northlake, Ill. (Use main entrance.) Cost of roast round of beef dinner is \$5.00. Dinner, 7:00 p.m.; meeting, 8:00 p.m. For reservations, call the IEEE office, 263-5954.

1975 BUDGETS

In accordance with action taken at the April 1 Executive Committee meeting, all group, society, and special event budgets for the second half of fiscal 1975 (first half of 1975-76 season) must be submitted to the Section Treasurer, Paul Jahn, by June 1, 1975. Groups not submitting budgets by June 1 will not receive funds.

CALENDAR OF EVENTS

IEEE OFFICE: 263-5954

- May 4 "Sleuth" is the Play at Fox Valley Subsection Ladies Night; Pheasant Run Playhouse, Route 64, St. Charles, Ill.; dinner 5:30 p.m.; play 7:30 p.m. Cost is \$11 per person.
- May 6 "Earth Station Antenna"; MTT/AP-S; Black Steer Restaurant, 6446 W. North Ave., Chicago, Ill.; social hour, 5:30 p.m. dinner, 6:00 p.m.; meeting 7:30 p.m.
- May 10 IEEE Recognition Dinner; Arlington Park Hilton. Hors D'Oeuvres, dinner, dancing, and entertainment for \$12.50 per person. See article.
- May 14 "Sears Tower Electric Distribution System"; Nielsen's Village, 7330 W. North Ave., Elmwood Park, Ill. Social hour, 5:30 p.m.; dinner, 6:15 p.m.; meeting, 7:15 p.m.
- May 21 CTA Tour of Edmund Substation and Merchandise Mart Central Control Center; Sir George Restaurant, 4942 N. Milwaukee Ave., Chicago. Social hour, 5:30 p.m.; dinner, 6:30 p.m.; Edmunds Street Substation, 7:30 p.m.; Merchandise Mart, 8:30 p.m. See article.
- May 22 "How Operators Serve You Better"; executive dining room, GTE Automatic Electric Company, 400 N. Wolf Road, Northlake, Ill. Dinner, 7:00 p.m.; meeting, 8:00 p.m.
- May 31 Microprocessor Short Course; at Chicago Marriott Motor Hotel, 8535 W. Higgins Road, Chicago, Ill. See back page.

RECOGNITION DINNER, MAY 10

Saturday May 10 is the date for the 1975 Recognition Dinner at the Arlington Park Hilton. An evening of entertainment, including hors d'oeuvres, dinner, dancing, and a floor show, is yours at the low price of \$12.50 per person. Send your check, made payable to Chicago Section IEEE, now to J. Reynolds, Room 5118, Quasar, Inc., 9401 W. Grand Avenue, Franklin Park, Ill. 60131. Be sure to state number of tickets you desire. If you want to charge the tickets to a major credit card (American Express, Mastercharge, etc.) be sure to include credit card name and number.

The reasonable cost of the IEEE Recognition Dinner is made possible only

CHICAGO SECTION
ELECTION OF OFFICERS

The Chicago Section Nominating Committee has selected the following slate for the officers and Executive Committee for the 1975-76 season. Please mark your choices on the the ballot below and return the ballot to Dick Bulley, at the IEEE Office. If you wish to vote for another member, write in the name in the space provided and check box.

OFFICERS

- Chairman
- ☐ Daniel J. Veith
Argonne National
Laboratory
- ☐ _____
(write-in)
- Vice Chairman:
- ☐ Paul E. Jahn
Commonwealth
Edison Co.
- ☐ _____
(write-in)
- Treasurer:
- ☐ Robert Waghorne
Teletype Corp.
- ☐ _____
(write-in)
- Secretary:
- ☐ John E. Waters
Bussman Mfg.
- ☐ _____
(write-in)

through the cooperation of the Industry Sponsor. This year, the sponsors include:

- Allen-Bradley Company
Bunker Ramo
Lee Butler & Associates
Cherry Electric
Cook Electric
Harza Engineering
Motorola, Inc.
Northern Indiana Power Company
Sargent & Lundy, Engineers
Solitron
Stewart-Warner
Vapor Corporation
Westinghouse Electric Company
Zenith Radio Company

EXECUTIVE COMMITTEE

- ☐ George W. Austin
Commonwealth Edison Co.
- ☐ Paul N. Geiger
Allen-Bradley Co.
- ☐ John Logeman IV
Victor Research
- ☐ Michael Musko
Argonne National Laboratory
- ☐ Edward Osterberg
Illinois Bell Telephone Co.
- ☐ Donald B. Owen
Motorola, Inc.
- ☐ Edward S. Pierson
University of Illinois, Chicago
Circle Campus
- ☐ Howard L. Wolfman
Teletype Corp.
- ☐ _____
(write-in)
- ☐ _____
(write-in)

Send the ballot to: Richard Bulley, IEEE Office, 55 E. Washington Street, Chicago, Ill. 60602. Ballots must be received no later than May 25. Results will be announced in the June issue.

Scanfax Board

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Robert Waghorne, Secretary
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SCANFAX, May 1975 — Volume 27, Number 8. SCANFAX is published monthly, except July and August by the Chicago Section, Institute of Electrical and Electronics Engineers for the information of the members. Editorial office is at 1200 E. Madison Park, Chicago, Ill. 60615, and business office at 55 E. Washington Street, Chicago, Illinois 60602; telephone number (312) 263-5954. Subscription rate for IEEE members collected in dues, \$1.50; for others, \$3.00 per year. Second-class postage paid at Chicago, Illinois.

Meeting Reservations

Remember that the IEEE office, (312) 263-5954, will take your meeting reservations. The best time to call is between 9:30 a.m. and 12:30 p.m. or between 2:30 p.m. and 5:00 p.m.
The meeting coordinator for any group should call and leave his number with Ollie at the office, so she can refer questions on matters other than reservations.

Change of Address

If you have moved — or are about to move — please notify the IEEE office in NEW YORK. Our SCANFAX mailing labels come from there, and we cannot update your mailing address locally in Chicago.
A change of address form is included in each issue of SPECTRUM. Your local post office will also supply you with cards; mail to Emily Sirjane, Membership Services, IEEE, 345 E. 47th Street, New York, NY 10017. Include your SPECTRUM mailing label if possible. We cannot forward this information for you, so please do not send it to the local office.



CHICAGO
Spring Conference

ON BROADCAST AND TELEVISION RECEIVERS
June 9 - 10, 1975
MARRIOTT MOTOR HOTEL
8535 W. HIGGINS ROAD, CHICAGO, ILLINOIS 60631



MONDAY — A.M. — JUNE 9, 1975

SESSION I — TUNING

9:30 A.M.

Session Chairman: Dick Sudges
Admiral Corporation

- A. Digital Remote Control System
J. Collins, M. Hendrickson and
R. Podowski; Zenith Radio Corporation
- B. Remote Control with MOS IC's for T.V. Sets
Rolf D. Burth,
ITT Semiconductor, Germany
- C. An Integrated FM Front End with a New
Diode Tuning Concept
H. Rinderle, W. Beckenbach;
AEG-Telefunken
- D. Computer Aided Design of Varicap VHF TV
Tuners
Frederick Moon,
General Instrument, Taiwan Ltd.
- E. Phase-Lock Television IF Amplifier—Video
Detector System
Adib Hamade,
National Semiconductor Corporation

Luncheon — 12:30 P.M. to 1:45 P.M.

Guest Speaker: Mr. Donald Atwood
General Manager
Delco Electronics Div.
General Motors Corporation

MONDAY — P.M. — JUNE 9, 1975

SESSION II — INTEGRATED CIRCUITS 2:00 P.M.

Session Chairman: Halfon Hamaoui,
Fairchild Semiconductor

- A. A Monolithic Decoder for CD-4 Recordings
M. Knight, J. Craft and G. Pyles;
R.C.A. Corporation
- B. CD-4 I.C.'s for High-Quality Demodulators
for 4-Channel Discs
M. Sato and S. Ohashi; Hitachi, Ltd.
- C. A Monolithic I.F. Subsystem for Demodulation of F.M. Signals
W. Hoeft and L. Zingmond,
Signetics Corporation
- D. A Practical Components Specification and
Test Method to Increase Reliability of Semiconductor Devices
H. Clay Gorton,
Victor Comptometer Corporation
- E. A Horizontal/Vertical Sync Processing System
Vance Risinger,
Texas Instruments Incorporated

6:00 P.M. — Industry Cocktail Party

TUESDAY — A.M. — JUNE 10, 1975

SESSION III — COLOR T.V.

9:30 A.M.

Session Chairman: Joseph Zahnen Magnavox Co.

- A. The New Brighter Mask-Focusing Picture
Tube and Its Peripheral System
N. Suzuki, T. Nishihara, R. Hirota and
Y. Watanabe; Hitachi, Ltd.
- B. Envelope Detection of Vestigial Sideband Signals with Applications to Television Reception
Leo Bluestein,
GTE Sylvania, Incorporated
- C. Acoustic Surface Wave Filters in The TV
Video IF
S. Arneson and S. James Reid; Motorola, Inc.
- D. S.A.W. Filters for T.V. Receivers
J. M. Deacon and J. Heighway;
Plessey Company, Ltd.
- E. Low Power Consumption Driver for Wessel
Horizontal Deflection System
M. Fishman and J. L'Hommedieu;
GTE Sylvania, Incorporated

Luncheon — 12:30 P.M. to 1:45 P.M.

Guest Speaker: Mr. William M. Webster
Vice President, R.C.A. Laboratories
David Sarnoff Research Center
Princeton, New Jersey

TUESDAY — P.M. — JUNE 10, 1975

SESSION IV
NEW TECHNIQUES IN VIDEO DISPLAY
2:00 P.M.

Session Chairman: Joseph Markin,
Zenith Radio Corporation

- A. Introduction
Joseph Markin, Zenith Radio Corp.
- B. Projection Television
William Good, General Electric Co.
- C. Matrix Displays: Systems and Circuit Problems
Dr. John A. Van Raalte, R.C.A. Laboratories
- D. Gas Discharge Displays
G. Chodil, Zenith Radio Corp.
- E. Electroluminescent Displays
B. Kazan, Xerox Corp.
- F. Liquid Displays: Liquid Crystal, Electrophoretic, Electrochromic
L. Goodman, R.C.A.
- G. Thin Film Transistor Matrices
P. Brody, Westinghouse
- H. Summary
A. Sobel, Zenith Radio Corporation

BART CASE

The BART case was settled out of court, prior to going to trial. The official amount of the settlement has not been released.

The Superior Court of California (County of Alameda) had accepted an "Amicus Curiae" brief from IEEE. Noting that the case involved questions concerning the proper ethical conduct of engineers, IEEE had petitioned the Court to file its brief because it "has a direct concern with the establishment, maintenance, and recognition of ethics for engineers."

The nine-page brief by IEEE asked the court to rule that "an engineer is obligated to protect the public safety, that every contract of employment of an engineer contains within it an implied term to the effect that such engineer will protect the public safety and that a discharge of an engineer solely or in substantial part because he acted to protect the public safety is a breach of such implied term."

COMMUNICATIONS SOCIETY

The Communications Society Nominating Committee has selected the following candidates as officers for the 1975-76 season. If you are a Communications Society member, please mark your choice on the ballot below and return to: Fred Goodman, HQ23D, Illinois Bell Telephone Company, 225 W. Randolph Street, Chicago, Ill. 60606.

Chairman: ☐ Dean Dion, Automatic Electric

☐ _____ (write-in)

Vice Chairman: ☐ Jay Hammade, Automatic Electric

☐ _____ (write in)

Secretary: ☐ George Wendt, Teletype Corp.

☐ _____ (write in)

If you wish to vote for another member of the Chicago Chapter, Communications Society for one of these posts, write in his name in the space provided and check box. All ballots must be received before June 1, 1975. Results will be announced in the June issue.

CTA TOUR

On May 21, 1975, the Northwest Subsection and the Power Engineering Society will sponsor a joint dinner meeting and tour of two CTA facilities: the Edmund Street Substation and the control center at the Merchandise Mart. Tour guide will be Ronald Swindell, superintendent of electrical maintenance for the CTA. Dinner will be held at Sir George Restaurant, 4942 N. Milwaukee Ave., Chicago.

After dinner, the group will tour the Edmunds Conversion Substation, 5500 W. Edmund Ave., Chicago, and then travel, via the CTA from the Jefferson Park Station, to the Merchandise Mart. Transportation cost is 45c per person. At the Mart, the group will tour the CTA General Control Center for buses and trains.

Social hour at the restaurant will be at 5:30 p.m.; dinner, 6:30 p.m. Substation tour, 7:30 p.m.; departure from the Jefferson Park Station, 8:00 p.m.; Central Control Center tour at the Mart, 8:30 p.m.

Anyone wishing to take in only one part of the evening can join the group at any convenient place. The restaurant and the Edmund Street Substation may be reached from the Lawrence Ave. exit of the Kennedy Expressway from either direction. The Merchandise Mart may be reached directly from the Merchandise Mart Station of the Ravenswood line.

For reservations, call IEEE office, 263-5954. Please specify if your reservations include dinner and one or both tours.

IOMEC NAMES NEW SALES MANAGER

Terry Sweet, Director of Marketing OEM Products, has announced Gordon B. Baumeister has been appointed central regional sales manager, OEM Products, Iomec, Inc. Baumeister will be located at IOMEC's Elmhurst, Ill. office and will be responsible for the further development of IOMEC's OEM marketing effort throughout the central states. Iomec is an independent company that manufactures a complete line of minicomputer peripherals.

ELECTRONIC ENGINEER

Graduate Engineer with experience in control circuits for manufacturer, designer, consultant firm est. 30 years in H-F Systems (induction, dielectric and micro-wave). Salary dependent upon experience. Send resume to REEVE ELECTRONICS, INC., 609 W. Lake St., Chicago, IL 60606, or phone 312-726-9755.

IEEE PRESS PUBLISHES BOOK ON NONLINEAR NETWORKS

The publication of *Nonlinear Networks: Theory and Analysis*, a Book of Selected Reprints, has been announced by the IEEE PRESS. This collection was edited by Alan N. Willson, Jr., of UCLA.

The book is a comprehensive review of research on the theory of nonlinear networks. Directly concerned with circuit-theoretic issues, the book allows the reader to gain a sound understanding of a nonlinear network's behavior resulting from the properties of the circuit's elements and its topological structure. In a tutorial introduction and a survey paper, the editor gives examples of, and integrates, the theory developed in the 23 reprinted research papers. Topics considered in depth include the formulation of equations for nonlinear transistor circuits, the properties of these equations, and aspects of the theory underlying some of the most useful numerical solution techniques.

This 408-page book, sponsored by the IEEE Circuits and Systems Society, is priced at \$8.50 for the paperbound member edition. A clothbound edition is available for \$16.95 (discounted to \$12.70 for IEEE members). In addition to being available from the Institute, IEEE PRESS Books of Selected Reprints are distributed worldwide by John Wiley & Sons, Inc.

A new brochure describing the 20 IEEE PRESS Books now in print may be obtained free of charge by writing to: IEEE PRESS, The Institute of Electrical and Electronics Engineers, Inc., 345 East 47th Street, New York, N. Y. 10017.

EARTH STATION ANTENNA

At the May 6 Meeting of the joint Microwave Theory and Techniques Group and the Antennas and Propagation Society, Jim Phillips, Andrew Corporation, will speak on the 4.5 Meter Earth Station Antenna." The meeting will be held at the Black Steer Restaurant, 6446 W. North Ave., Chicago. Social hour, 5:30 p.m.; dinner, 6:15 p.m.; meeting, 7:30 p.m. For reservations, call the IEEE office, 263-5954.

The development of a low-cost, small earth station antenna that meets stringent pattern specifications required new approaches on horn and subreflector design. The resulting 4.5 meter Cassegrain antenna meets the 32-25 log requirement for transmit and provides high G/T for receive.

Computer analysis and modeling were used extensively in the horn and subreflector design and in mechanical analysis. Programs were developed for predicting the patterns and VSWR of corrugated horns over a wide frequency range and for mathematically synthesizing scatter patterns of the subreflector and the antenna.

Novel fabrication techniques for the corrugated horn reduced costs yet gave excellent results.

Jim Phillips has a BS in electrical engineering from Georgia Technical Institute. Before joining Andrew Corporation in 1970, he was with Electronics Communications, Inc., as a co-op student, becoming an engineer there after graduation. At Andrew, Phillips has developed a patented non-pressurized feed system for parabolic reflectors, incorporating printed circuit and cast foam insulation techniques.

POWER ENGINEERING SOCIETY

The Chicago Chapter of the IEEE Power Engineering Society elected the following slate of officers at the April 14, 1975 luncheon meeting: Chairman, Chuck A. Hatstat, Sargent & Lundy Engineers; vice chairman, Ed Horn, Westinghouse Electric Corporation; Tom P. Traub, Commonwealth Edison Co. Officers will serve for one year, starting July 1, 1975. D. A. Schroeder, Sargent & Lundy, was selected as the chairman of the Program Committee for 1975-76, and three luncheon meetings, three evening meetings, and a Saturday tour were tentatively scheduled.

Certificates of appreciation from the PES Recognition Committee were pre-

IEEE JOINS PFP

Reaffirming its desire to move ahead on the broad question of providing pension "portability," the Board of Directors of the IEEE has agreed to join with Pensions for Professionals, Inc. (PFP). This step was taken to aid in the future development of specific pension plans aimed at providing additional coverage to as broad a spectrum of professional society members as is possible under current law.

Commenting on IEEE's decision to join PFP, IEEE President Arthur P. Stern said: "The recent passage of the Employee Retirement Income Security Act (ERISA) now makes possible certain pension offerings to a greater number of individuals than has theretofore been possible. These offerings include: improved conventional corporate pension plans, profit-sharing plans, and annuities; improved Keogh plans for self-employed individuals or part-time consultants; the new sheltered Individual Retirement Account (IRA) for employed individuals not covered by any employer-run pension plan; legal provisions for immediate vesting, employer-funded plans designed exclusively for engineers and scientists. IEEE feels these strengthened pension offerings can best be handled through the auspices of PFP."

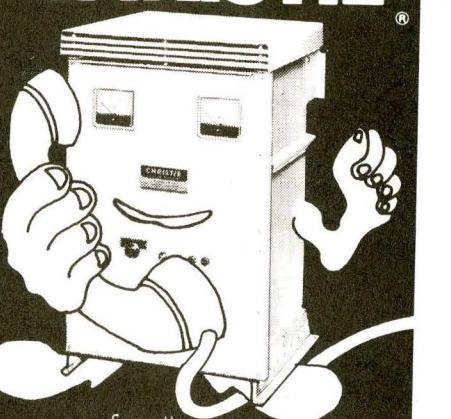
Dr. E. E. McSweeney, President of the PFP, in describing their present plans, said that PFP, Inc. is currently offering an early vesting, conventional corporate pension plan aimed at small employers. It has also made arrangements for a Keogh plan and can accept money for purchase of qualified annuities. It is actively developing an IRA to meet provisions of the recently released IRS regulations. IEEE is joining the PFP corporation expressly to

aid in the future development of these plans and to assist in marketing these to IEEE members and their employers.

In taking this step, both organizations realize the long term development problem inherent in the immediate vesting, "carve out" plan for engineers and scientists only. They have, therefore, agreed that the IEEE sponsored corporation, Pensions for Technical Professionals, Inc. (ptp), will continue to develop this plan as well as to examine the need for a more comprehensive master IRA. The ptp Corporation will, together with the Joint Pension Committee, spearhead additional legislative efforts to improve chances of selling immediate vesting plans to engineering employers and to expand the usefulness of IRA pension plans. IEEE's non-qualified annuity plan will also be offered to all PFP societies.

PFP is already sponsored by the following societies: American Chemical Society, American Institute of Aeronautics and Astronautics, American Institute of Chemical Engineers, American Institute of Chemists, American Nuclear Society, American Society of Civil Engineers, American Society of Mechanical Engineers, American Society of Metals, and American Society for Microbiology.

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MICROPROCESSORS: A ONE-DAY SHORT COURSE

FROM 8:30 a.m. to 4:00 p.m.

FOR WHOM INTENDED

This course is aimed at the practicing engineer who wishes to acquire a basic understanding of Microprocessors and their application to industrial control or data acquisition situations. The course assumes a limited knowledge of computers and/or basic digital circuitry (i.e., one undergraduate course or equivalent experience).

COURSE PROGRAM

- I. Introduction and overview of Microprocessor Architecture and General Software Considerations.
- II. Hardware Availability and Application Considerations.
- III. Software Elements and Systems Considerations.
- IV. Interfacing Considerations and Assembly of the Hardware System.

LECTURERS

Dr. Ronald H. Temple is the Supervisor of Microcomputer Systems Development Section, Ford Scientific Research Staff. His interests and abilities lie in the design and implementation of control systems utilizing mini and micro-computers.

Mr. Shaun Devlin, Supervisor in the Vehicle Control Department, Ford Scientific Research Staff is responsible for the electronic hardware and development of the on-board vehicle control computer.

TEXT

Participants will receive copies of tutorial literature.

A certificate will be issued to attendees.

APPLICATION & REGISTRATION

Enrollment is limited. Registrants are urged to complete and mail the Registration Form in this Flyer, one month prior to the course date. Companies may enroll for any given number of individuals supplying names later. All checks are to be made payable to IEEE. For additional applications, use a separate sheet giving information requested on Registration Form.

GENERAL INFORMATION

For additional information of an administrative nature, call: Mr. V.J. Giardina

Phone: (201) 981-0060, Ext. 174

For technical details, call:

Mr. Paul Carroll

Semi-Conductor Specialists

195 Spangler St.

Elmhurst, IL 60126

Phone: (312) 279-1000

SCHEDULE

Date: Saturday, May 31, 1975

Place: Chicago Marriott Motor Hotel
8535 West Higgins Road
Chicago, Illinois
(312) 693-4444

Time: Program will run from 8:30 a.m. to 4:00 p.m. including lunch and coffee/coke breaks in the morning and afternoon.

MICROPROCESSORS

Please register me for:

Name _____

Home Address _____

City _____ State _____ Zip _____

Business Address _____

City _____ State _____ Zip _____

Position _____

Title _____

Business Phone _____

IEEE Member Number _____

(Location) _____

Enclosed is a check (payable to IEEE) in the amount of _____ to cover the following:

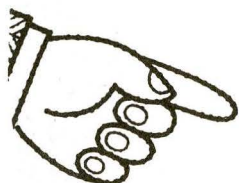
Registration fees:

Member \$30.00 _____

Non-Member 45.00 _____

Student Member 15.00 _____

TOTAL FEES _____



Mail completed form to IEEE Educational Registrar, 445 Hoes Lane, Piscataway, N.J. 08854

Form No. _____