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(201) 981-0060

It is not necessary to inform the North Jersey Section when you change your mailing address. The NEWSLETTER and other section mailings use a list provided by IEEE's national headquarters in New York. This means the Section has no need to maintain a mailing list or addressing plates. Section membership records are changed when Headquarters notifies us.

SECTION OFFICERS

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989-2281
Vice Chairman-1 Eugene Niemiec
239-4389
Vice Chairman-2 Richard Tax
391-9075
Treasurer John Van Savage
544-2334/2412
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455-8547
Member-At-Large Howard Leach
Member-At-Large Maitland McLarin
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MINI-SHOW AND MEETING: MICROWAVE MEASUREMENTS

The North Jersey MTT/AP jointly with Princeton and Jersey Coast MTT/AP is sponsoring a Mini-Show in conjunction with its February 22, 1984 meeting.

Dr. Stephen Adam of Hewlett-Packard will discuss "Microwave Measurements -- State-of-the-Art."

Details of talk are on page 2.

For a three hour period preceding the actual meeting, various members of the local microwave community will present a mini-show at which state-of-the-art microwave equipment and information will be displayed. Following the mini-show, the MTT will sponsor a free hot and cold buffet. Following all of these events, Dr. Adam will present his talk. Dr. Adam is this year's National Lecturer for the MTT and he will be delivering his talk all over the world but this is the only time in the New Jersey area.

List Of Exhibitors

Pensky Associates — Norm Pensky
TMI — Dan Brodow

E-F Tech Sales — Robert Felsenheld
Scientific Devices East — Allen Samuels
Tektronix, Inc. — Harry L. Mayo
Central Associates — Charlie Furrer
Hewlett-Packard — Diane Vincent
Gray & Reed Assoc. Inc. — Bob Gray
Wavetek — Joe Importico (RTI)
Carnes Diamond — Erwin Diamond
Bertram D. Aaron & Co. — Ed Pores

Date: February 22, 1984

Place: Club House facility located on the ITT Nutley campus

Schedule: 3 PM to 6 PM — Mini Show by members of local microwave community at which state-of-the-art microwave equipment and information will be displayed.

6 PM to 7:30 PM — Buffet dinner - hot and cold, beer, soda, coffee and tea - FREE

7:45 PM to 9:30 PM — Lecture by Dr. Adam

For Reservations: Dick Snyder (201) 492-1207 or W. Schmidt (201) 284-2255.

North Jersey Banquet — April 11, 1984

The North Jersey Section will hold its Annual Banquet on Wednesday, April 11, 1984. The location for the Banquet is the Chanticleer in Millburn. The cost per person for the evening including a one-hour reception beginning at 7 PM and a full-course dinner, is \$22.00.

During the evening, the new Fellows and Section Award winners will be announced. In addition, the new Senior members will be recognized.

Everyone is invited to attend what promises to be a very enjoyable evening. Tickets may be obtained by filling out the form found on another page in this Newsletter and mailing your check, by April 6 to the address shown there!

Modern Microwave Measurements

The North Jersey MTT/AP Chapter will host a Tri-Section meeting February 22, 1984. This joint presentation of the North Jersey, Princeton and Jersey Coast chapters of the MTT/AP will feature Dr. Stephen Adam of Hewlett-Packard, MTT National Lecturer for 1983/84. Dr. Adam will cover "Modern Microwave Measurements."

The meeting will be held at ITT Avionics in Nutley, N.J. There will be a free pre-meeting buffet hosted by the MTT prior to this meeting and local electronic representatives will present a mini-show, also just prior to the meeting.

Other details on page 1.

About The Talk

The use of digital computers have changed/improved Microwave Measurement accuracies and speeds manifold in the late sixties and were applied more broadly during the seventies. On-board microprocessors are now being designed into measurement systems providing even more flexibility and accuracy enhancements.

Automatic Spectrum Analyzers do a multitude of sophisticated measurements from simple modulation analysis through phase noise measurements. Network Analyzers also expected to go through further improvements with a number of on-board performance enhancements.

A number of measurement techniques will be discussed dealing with power, frequency, noise and scattering parameters.

About The Speaker

Stephen F. Adam is a native of Hungary. He holds BS and MS degrees in Mechanical Engineering, MS and Ph.D. Degrees in electrical engineering, (1952, 1955 and 1965 respectively) and a California Teaching Life Credential. Dr. Adam is involved in microwave research and development since 1952. He is with Hewlett Packard Company in various R & D and engineering management positions since 1957. Presently he is Principal Microwave Engineer of the Microwave and Communications Group.

Dr. Adam is a Fellow of the Institute of Electrical and Electronics Engineers, was 1980 President of the Microwave Theory and Techniques Society of IEEE; Administrative Committee member since 1973; Member of the Fellow Awards Com-



mittee; 1983/84 IEEE/MTT-S Distinguished Microwave Lecturer. Past Chairman of the Standards Coordinating Committee. Technical Program Committee Chairman and Member since 1973. Member of the Transnational Relations Committee of the Technical Activities Board. Guest editor to the IEEE Transactions of Microwave Theory and Techniques. Chairman of the Morris E. Leeds Award subcommittee, member of the Instrumentation and Measurements Society Awards Committee. Member of the Association of Old Crows. Former member of the Executive Committee of the Conference on Precision Electromagnetic Measurements. Past Secretariat to the International Electrotechnical Commission, Technical Committee 66/WG-5, dealing with Microwave Measurements.

Dr. Adam is the author of the book: "Microwave Theory and Applications" Prentice Hall 1969. Has 3 patents in the microwave field, two more pending. Is the author of many articles dealing with microwave measurements and related subjects.

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The March, 1984 meeting of the North Jersey MTT/AP will feature Mr. Don Ball of Hughes Aircraft, who will discuss millimeter systems and components. The specific date and place will be announced next month.

'High Power' Desk Top Computer

The NJ Computer/Comm Chapter will present an overview and demonstration of the CS-9000 IBM Instruments Computer System by Dr. Vin K. Bhandari on Wednesday, February 29, 1984.

About The Talk

The CS-9000 IBM Instruments Computer System is a Motorola 68000 based desktop computer that provides a wide range of capabilities for scientists and technicians working in a laboratory environment, yet its design innovations and modularity make it a natural candidate for business or general purpose applications. It offers a 12" CRT display, 57 key keypad with user-definable keys, an 83 key keyboard, four-color printer/plotter, and custom IBM multi-tasking operating system.

About The Speaker

Dr. Vin K. Bhandari is an Account System Engineer with IBM at Piscataway, N.J. Dr. Bhandari received a Bachelor of Science in Electrical Engineering from Birla Institute of Technology and Science, Pilani, India in 1970, a Masters of Science in Electrical Engineering from Rutgers University in 1971, and a PhD in Electrical Engineering specializing in Control Systems from Oklahoma State University in 1974.

Time: 7:30 PM, Wednesday, February 29, 1984.

Place: Jersey Central Power & Light Co.,
Route 24 and Punch Bowl Road, Morris-
town, N.J.

Further Information: Howard Leach,
(201) 885-3530.

PACE Sets Meeting Dates

The North Jersey Section Professional Activities Committee will sponsor its regular monthly meeting the third Wednesday of every month. Meetings will be held from 7:30 PM to 9:30 PM at Singer-Kearfott, Plant 3, 1250 McBride Avenue, Little Falls, N.J.

These meetings are open to all members and interested public professionals with refreshments free of charge.

Further Information: M. McLarin (201) 335-6847; H. Waters, (201) 785-6417.



SECTION BANQUET – APRIL 11, 1984

**A time to relax, unwind and enjoy —
A time to pay tribute to our New Fellows —
A time to honor our new Senior Members —
YES it's time for the Annual Section Banquet**

Following the enthusiastic response of those who attended the Banquet the past six years, we are returning to the Chanticleer in Millburn. The affair is scheduled for Wednesday evening, April 11, 1984. Each ticket is \$22.00 and includes a complete prepaid Cocktail Hour preceeding dinner. Spouses and guests are welcome.

Reservations required by April 6, 1984. Complete the reservation form below and return it with your payment. If any additional information is required concerning the Banquet, contact Eugene Niemiec at 239-4389 (evenings).

Use this form for Banquet reservations enclosing a stamped self-addressed envelope.
Reservations required by April 6, 1984. Mail reservation request to:

Eugene Niemiec
66 Skytop Road
Cedar Grove, N.J. 07009

Enclosed is _____. Please forward _____ tickets (make checks payable to North Jersey Section IEEE) to:

Name: _____

Address: _____

_____ Zip: _____

I would like to share a table (seating _____) with the following:



The Founding Of The IEEE

This month we begin a three-part series outlining the formation of the IEEE over the past 100 years. This month's discussion will detail: "The Founding of IEEE." Future articles will cover "The Merger of IRE and AIEE" and, "IEEE — The Past Two Decades."

The information used has been obtained from the IEEE's Sections' Centennial Guide Book.

IEEE Centennial 1884-1984: "The Founding of the IEEE"

Electrical engineering developed along two separate but related paths for most of the twentieth century. The last quarter of the nineteenth century was marked by the rise of wire communications, electric lighting, and centralized production and distribution of power. In 1884 the practitioners of these technologies formed the American Institute of Electrical Engineers.

The early years of the new century saw the rise of wireless telegraphy and broadcasting. In 1912 the Institute of Radio Engineers was founded by those pursuing this new technology.

The two societies grew and prospered side by side, sometimes overlapping, but maintaining largely separate identities and interests. The AIEE came to be oriented towards the electric utilities and industrial users of power, while the IRE became the electronics society.

The years after World War II brought drastic changes to these long-standing arrangements. Electrical technology was moving rapidly; radar, computers, television, solid-state electronics, and space exploration were burgeoning fields. These were largely electronic technologies; thus electronics became the glamour field, attracting the majority of electrical engineering students and offering the majority of new electrical engineering jobs. This translated into an increase in membership in the IRE. The figures below demonstrate the dramatic growth of the IRE relative to the AIEE:

	IRE	AIEE
1947	18,000 members	26,500 members
1957	55,500	50,000
1962	96,500	57,000

Justifiably alarmed by this trend, the AIEE in 1957 appointed a task force to devise a plan for dealing with the situation. The task force, headed by W.A. Lewis, who was also a member of the IRE, issued its report in 1959. It found that 1) the AIEE had failed to enter new fields as they opened up; 2) the Institute had insufficient appeal to college students; and 3) the board and committee structure did not adequately cover the whole field of electrical engineering. The task force's recommendations included revising the Technical Committee structure to resemble that of the IRE's Professional Groups. The recommendations were not put into effect, however, because the movement toward merger with the IRE had begun in earnest.

Intelligent Panel System

Mr. Gary Schmidt and Mr. Joe LeGrand of the Allen-Bradley Co. cover the "Intelligent Panel System" at the February 16, 1984 meeting of the Control Systems Society.

Intelligent Panel System is an advanced modular concept for operator control panels. The flexible system simplifies design, assembly, installation, modification, and testing of a control panel. The modular design provides application flexibility by allowing selection of modules according to needs.

Intelligent I/O were pioneered by Allen-Bradley Co. The speakers, Mr. Schmidt and Mr. LeGrand, are area manager and application engineer respectively in the Industrial Automation Controls division of Allen-Bradley and are highly knowledgeable in the state-of-the-art.

Time: 7:30 PM, Thursday, February 16, 1984.

Place: Jersey Central Power & Light Co., Punch Bowl Road (off Madison Ave. (Rte. 24), Morristown, N.J.

Pre-Meeting Dinner: 5:30 PM, AFTON, Hanover Road & Columbia Turnpike, Florham Park, N.J.

For Further Information: Daniel Tuey (201) 567-9004, Frank Kuhl (201) 663-1381, Kushal Jain (201) 265-2000.

Pyramid Control Concepts

Mr. Gary Schmidt and Mr. Joe LeGrand of the Allen-Bradley Co., will discuss "Pyramid Control Concepts with Programmable Controllers" at the March 15, 1984 meeting of the Control Systems Society.

As programmable controller technology has developed, the idea of what a control system should be has changed considerably. A complete control system also includes a way of coordinating the operations of many PC's, data base computers, and other equipment. The pyramid control concepts provide a top down systems approach in which each control level builds on the technology provided by the level below it. The authors will provide an in-depth analysis on why and where these control levels should be used.

Intelligent I/O were pioneered by Allen-Bradley Co. The speakers, Mr. Schmidt

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and Mr. LeGrand, are area manager and application engineer respectively in the Industrial Automation Controls division of Allen-Bradley and are highly knowledgeable in the state-of-the-art.

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Place: Jersey Central Power & Light Co., Madison Avenue (Rt. 24), Morristown, N.J.

Pre-Meeting Dinner: 5:30 PM, AFTON, Hanover Road & Columbia Turnpike, Florham Park, N.J.

For Further Information: Daniel Tuey (201) 567-9004, Frank Kuhl (201) 663-1381 (Eve.), Kushal Jain (201) 265-2000.

Management Chapter Wants Volunteers

The N.Y./North Jersey chapter of EMS is planning to expand its activities to provide a broader scope of programs related to engineering management.

To accomplish this, it is seeking additional volunteers to serve on its committees.

Serving on a committee is a gratifying professional experience, by helping to provide a means for enabling fellow professionals to keep abreast with developments in the engineering management field. Also, associating with fellow committee members from other companies, and who have the same professional interests, offers both social and professional benefits to the committee person. The amount of time spent on committee activities depends on how much time the committee person can give.

The Chapter currently needs assistance in the membership, speaker coordination and administrative committees.

If you would like to serve on one of these committees, please contact: Martin Izaak at NYPA, 10 Columbus Circle, N.Y., N.Y. 10019 or call (212) 397-7438; Barry Gourary at (201) 783-5570 or Harry Stokes at (914) 696-6775.

ELECTRICAL ENGINEER

Large international machine tool builder located in Fairfield, N.J. requires a control engineer to assist the chief electrical engineer and to supervise drafting. The applicant must be familiar with NEC70 and NFPA79 and have a working knowledge of JIC including elementary and wiring diagrams. Experience with axis and spindle drives, AB8200 and GE2000 CNC controls helpful. New facility, excellent benefits. Please send resume to: Hunter Douglas Machinery, 14 Madison Road, Fairfield, N.J. 07006.

Management Slate

The Nominating Committee of the Engineering Management Society Chapters of the North Jersey and New York Sections has nominated the following officers for the 1984-85 year:

Chairman: Martin Izaak (NYPA)
Vice Chairman: Harry M. Stokes (IBM)
Secretary: Al Bottani (ATT)
Treasurer: Ernest Spumberg (NYPA)

Additional Nominations for the above Officers should be sent to: John F. Van Savage, EMS Nominating Committee Chairman, 37 Partch Place, Edison, N.J. 08817, (201) 544-2334 (Bus.) or (201) 985-2084 (Home).

The Nominating Committee consisted of: John F. Van Savage (Chairman) (U.S. Army CECOM); Jack Jatlow (ITT); Alex Brown (ITT); and Betty Jensen (PSE&G).

Elections of officers will take place at a future EMS general membership meeting.

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CONGRATULATIONS NEW SENIOR MEMBERS

Vaclav E. Benes
James D. Hebson
Y. Edmund Lien
Ronald J. Nelson
Malcolm Plager
Paul W. Shumate
Ranjan Sonalkar

For information on upgrading to Senior Member, contact Don Weinstein, Kulite Semiconductor, 1039 Hoyt Avenue, Ridgefield, N.J. 07657 (201) 945-3000.

Computer User Group(s) May Be Formed

The topic of Computer User Groups was brought up during discussions held on the first night of the Education committee's BASIC course in January. Would you, the members of the North Jersey Section, like to have an organized Personal Computer "club", and/or an array of "SIG's", Special Interest Groups, covering the largest Personal Computer types, such as: IBM PC; Apple II; Radio Shack TRS-80, Color Computer (Coco), and Model 100; VIC 20; Commodore 64; TI 99/4A; Kaypro, and others?

Such a club would be run under the auspices of the Computer/Communications Chapter, and would require active participation to be successful. Meetings would cover both hardware and software topics, with the latest of both categories being demonstrated to the members present. Volunteers would be recruited to run meetings (typically a member would be responsible for only one meeting every year or two), with backup by the officers of the Computer/Communications Chapter. Articles would be solicited covering both hardware and software topics; initially for inclusion into the Newsletter, and if activity warrants it, possibly an additional computer bulletin.

It is possible that additional dues might be required for this type of activity, but the immediate benefits to the ever-increasing population of Personal Computer Owners would make it one of the best values around.

A similar "club" in South Florida was visited in late December. It had four or five "SIG's", its own monthly bulletin, program swapping, meetings at which vendors were invited to demonstrate their wares, answer questions, and, in general, increase the utility of the investment the members of the group made in their computer systems. If you are interested in being involved in this effort, please fill in the form below, and mail it to: Alan H. Stolpen, Groups Coordinator, North Jersey Section IEEE, 2037 Balmoral Ave., Union, N.J. 07083. Phone (201) 386-3703 (day), (201) 687-9226 (eve.).

QUESTIONNAIRE: Personal Computer Club/Special Interest Groups

To: Mr. Alan H. Stolpen, 2037 Balmoral Ave., Union, N.J. 07083

1. Are you interested in a Personal Computer Club associated with the Computer /Communications Chapter of the IEEE?

a) Formation phase? b) Meeting organization?

c) Attend meetings?

2. Do you presently own a Personal Computer?

a) Manufacturer b) Model

c) Disk?

COMMENTS:

.....

.....

.....

NAME:

ADDRESS:

.....

PHONE:

Program Planned

The NY & LI Sections Joint PES & IAS Chapter will hold a general meeting on Wednesday, February 15, 1984. The meeting, at 5:30 PM at the Port Authority of New York & New Jersey, 1 World Trade Center, Room A61, North will cover "Individual Retirement Accounts."

All IRA's are not created equal says the speaker Gail Konstatin, Account Executive, Merrill Lynch & Smith Inc.

For information contact George Gross of the firm of D. Reddy P.E. at (212) 306-0431.

Radar Technology

The Boston IEEE Section is sponsoring a one-day "Radar Technology" seminar on March 15, 1984 at The Waverly Hotel, site of National Radar Conference in Atlanta, Georgia. For further details on course, contact Dr. Eli Brookner (Boston IEEE/AESS Chairman), (617) 358-2721, Ext. 2366 (Raytheon Co., Boston Post Rd., Wayland, MA 01778).

Student Activities

By **STELLA LAWRENCE**

ANNUAL STUDENT PRIZE PAPER CONTEST

Each year METSAC hosts the Metropolitan Student Council Student Prize Paper Contest. All schools in the metropolitan area with Student Branches of the IEEE are eligible.

The papers are submitted in writing and selected finalists present their papers orally in a contest which is held on Student Activities Day. For the 1983-84 academic year, the contest will be held on Sunday, April 15th on the beautiful campus of Trenton State College in conjunction with the Ninth Trenton Computer Festival.

The papers should cover technical and

engineering aspects of a subject reasonably within or related to the areas with which the IEEE is concerned, and with which the author is familiar, either from his courses, his hobbies, or his summer work. The paper need not necessarily be original in engineering content, but should be original in treatment and concise in coverage of the author's contribution to that subject.

The deadline for the submission of papers is tentatively set for March 30, 1984. All papers must be submitted to the Contest Secretary, Dr. Charles Rubenstein, Chairman, Department of Electrical Technology, Bramson ORT Technical Institute, 44 East 23rd Street, New York, N.Y. 10010, (212) 677-7420. All contestants must be members in good standing of the IEEE.

The prizes in the 1983 contest were: First Prize \$250, Second Prize \$150, Third Prize \$100, Fourth Prize \$50.

The prizes for the separate contest for freshman and sophomore students were: First Prize \$150, Second Prize \$100, Third Prize \$50, Fourth Prize \$25.

The best paper in each school will also win an award of \$25.

Region I Prize Paper Contest

The Region I Prize Paper Contest will be held in Boston, during ELECTRO/84, in May 1984.

Last year the Region I Prizes were: First Prize \$2,500, Second Prize \$500, Third Prize \$300, Fourth Prize \$100.

It is possible to win the MSC Contest First Prize, the Region I First Prize, and the member school First Prize, so why delay. Sit down, write that paper and win a nice sum of money!

NINTH ANNUAL TRENTON COMPUTER FESTIVAL

April 14-15, 1984

The Ninth Annual Trenton Computer Festival promises to be bigger and better than ever. It is sponsored by the IEEE/ACM Princeton Section, the Department of Engineering Technology, Trenton State College, and other outstanding computer societies.

Admission/Registration fee of \$5.00 covers both days and all events except the banquet, students pay \$3.00. The Saturday Night banquet price has not yet been set, but was \$10.00 last year.

The Trenton Computer Festival is the ORIGINAL Personal Computer Show. Last year attendance exceeded 10,000. The Conference features computer sessions on software, hardware, home applications, robotics,

and much, much more, as well as user group sessions on Apple, Radio Shack, IBM, Pet, etc. Special tutoring sessions for the general public and novices. Free courses, demonstrations, technical sessions, new graphics theater, etc.

Don't MISS it. Be there for Student Activities Day and the Computer Festival. Learn, participate, and enjoy!

For further information contact SLEET, Trenton State College, Hillwood Lakes CN550, Trenton, N.J. 08625, or call (609) 771-2487.

STUDENT PAPER COMPETITION 37th Annual Conference on Engineering in Medicine and Biology March 1, 1984

A Student Paper Competition will be held with cash awards in conjunction with the 37th Annual Conference on Engineering in Medicine and Biology to be held from September 17-19, 1984 at the Los Angeles Hilton. Full time students with an interest in bioengineering are eligible to submit papers for cash awards. Further information may be obtained from ACEMB, 4405 East-West Highway, Suite 402, Bethesda, Maryland 20814.

COLLEGE OF STATEN ISLAND STUDENT BRANCH

The College of Staten Island IEEE Student Branch has just concluded a very dynamic program of activities, with the excellent guidance of its IEEE Counselor, Professor Lapatine. The following lectures were presented during the fall semester:

"Staten Island Teleport" — W. Schaefer, Merrill-Lynch.

"Signal Conditioning" — D. Lagrue, Raytheon.

"Where Have All the Geniuses Gone?" — E. Addeo, Bell Labs.

"Mobile Radio" — F. Gunther, REL.

"Computer Software" — F. Murphy, Grumman Corp.

"Data Flow Architecture" — E. Ekanadham, IBM.

"Lead (Pb) Intoxication" — W. Blumberg, Bell Labs.

"Fibre Optics" — P. Zory, Optical Information Systems.

"Fibre Optics" — S. Anderson, Codenoll Technology.

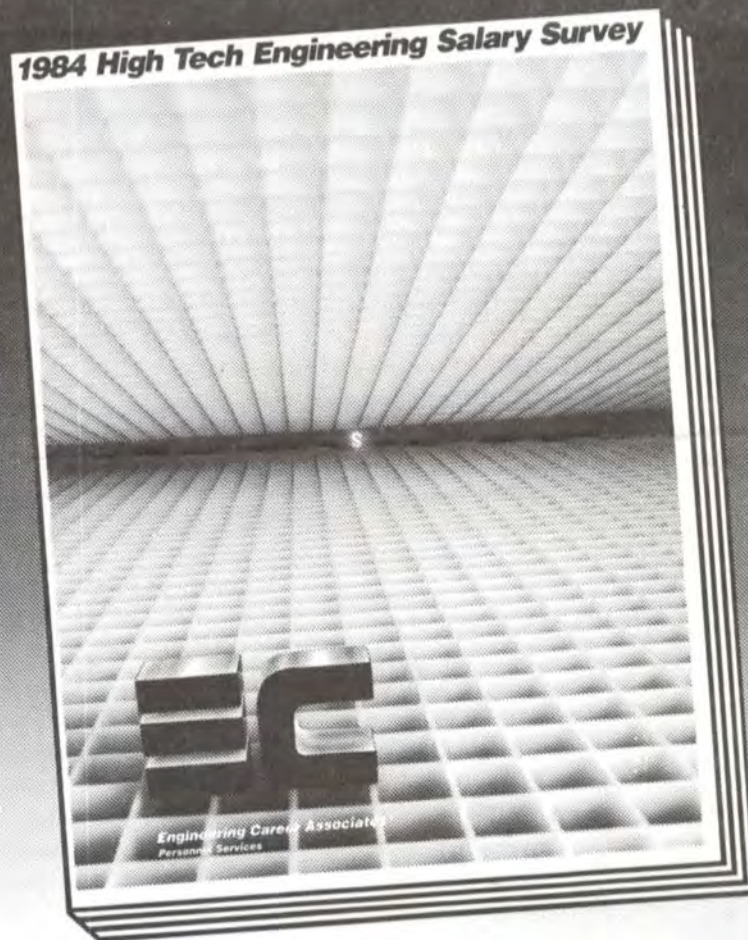
"Microwave Applications" — T. White, C. Settens, EEV.

"Film Making" — R. Smith, Duart Film Labs.

"Energy" — K. Kowald, Con Edison.

The Branch also went on field trips to Electro/83 and WCBS-TV Studios.

New and Free



Salaries are higher in 1984 for high tech engineers!

Salaries in electronics are significantly outpacing those compensation levels paid in other areas of engineering.

Are you keeping up?

In our new 1984 Survey, you'll not only learn what your peers are earning, but you'll also gain insight on which professionals are expected to earn the most throughout this decade and beyond.

Whether your area of specialization is in CAD/CAM, fiber optics, ATE, computers, semiconductors, instrumentation or another discipline, our report is valuable reading for engineers who wish to advance in the profession.

Not only does our new report provide salary data for 27 position titles, it also reviews techniques you can use to assess your current situation as well as proven strategies you can implement that thousands of other engineers have used to help advance their careers.

Through a unique step-by-step career planning and progress review system, you'll learn how to maximize your chances for getting ahead.

It's free to engineering professionals.

The new *1984 Electronics Industry Engineering Salary Survey and Trend Analysis* is available without charge.

We publish the Survey as a service to engineers. Engineering Career Associates is a leading recruiting firm devoted exclusively to the engineering profession. Each of our professional staff members is a degreed engineer with extensive experience in engineering.

You owe it to yourself—especially if most of your career lies ahead of you—to get your free copy.

It could be the most enlightening reading you'll do all year.

Call today.

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