ELECTRICAL ENGINEERING®

February 1980 86

NINE NAMED TO BOARD OF DIRECTORS

IEEE's Assembly has elected nine people to the 1980 Board of Directors. They will join 1980 President Leo Young, Executive Vice President C. Lester Hogan, Junior Past President Jerome J. Suran, and IEEE's member-elected Regional and Technical Directors on the Board. Also, all but the new Standards Director will join Drs. Young, Hogan, and Suran on the Executive Committee.

The new Directors are:

- Robert E. Larson, Vice President for Technical Activities, following two years on the Board as Division I Director
- Richard J. Gowen, Vice President for Professional Activities, after serving on the Board in 1977 and 1978 as Division VI Director
- Larry K. Wilson, Vice President for Regional Activities, after serving on the Board as Region 3 Director in 1976 and 1977
- Theodore H. Bonn, Vice President for Publications Activities, after serving on IEEE's Publications Board.
- Benjamin J. Leon, Vice President for Educational Activities, for a second term
- Donald S. Brereton, Treasurer, following a term as Secretary-Treasurer
- Bruno O. Weinschel, Secretary, following two years as Vice President for Professional Activities
- Eric Herz, Executive Director, who as general manager must be reelected annually to serve on the Executive Committee and Board.
- Irvin N. Howell Jr., Director of Standards Activities, placing him on the Board of Directors, but not on the Executive Committee.

More detailed biographical sketches appear in *THE INSTITUTE*, February, p. 1.

NEW IEEE FELLOWS ELECTED

One hundred and twenty-eight Senior Members have been elevated to the grade of Fellow by the Board of Directors. The names of the new Fellows and their citations appear on pp. 2A-2H.

The new Fellows will select the events at which their certificates will be presented. The conference organizers, sections, societies, or other units of the Institute designated to honor each new Fellow will be furnished with the certificates.

Fellow Nomination kits, to be used in the submission of future nominations, are now available upon request to the Staff Secretary of the Fellows Committee at headquarters. The kit includes detailed guidelines to assist a nominator in the effective preparation of the nomination form. Because a substantial number of elections to Fellow grade occur on resubmission, nominators are encouraged to resubmit nominations.

Index of Inserts

NEW STAFF DIRECTORS NAMED

Leo C. Fanning, who had been acting staff director for IEEE's Washington Office since May, has been named staff director.

Also, Patricia D. Lech, formerly manager of systems analysis in the Piscataway Service Center has been named director of field services, succeeding Robert K. Asdal, who is now with the American Electronics Association.

Mark Lucas has been promoted to manager of section/chapter/student services, succeeding Richard M. Aseltine, and Roseann Schulz has assumed responsibility for management of membership development and member services.

NEWS SUMMARY

IEEE MEMBERSHIP TOPS 200 000

IEEE's total membership at the end of 1979 was 201 673, an increase of 5.4 percent from 1978. Membership in Technical Societies and Groups was 213 308, an increase of 6.9 percent. The 10 299 increase in total members for 1979 represents more than 1/5 of the total membership increase since IRE merged with AIEE to form IEEE in 1963. (See insert, pp. 2M-2T, for details.)

ENERGY COMMITTEE POSITIONS ENDORSED

The IEEE Executive Committee, United States Activities Board, and Technical Activities Board have endorsed the following three Energy Committee Entity Position Statements for issuance as IEEE Position Papers: "Solar Power Satellites," "Solar Energy," and "Energy from Municipal Solid Waste." Copies can be obtained by writing to William G. Herrold at IEEE's Washington Office.

"WHO TO CALL" CORRECTION

In the December, 1979, EE Insert p. 2H incorrect telephone numbers were listed for the Administrator of the Group Insurance Program for IEEE Members. The correct numbers are 800-424-9883 or 202-296-8030.

USAB NEWS

MODEL PATENTS AGREEMENT PROPOSED

The U.S. Activities Board is circulating the "Proposed Model Agreement Concerning Inventions and Discoveries and Proprietary Information" (see insert pp. 2I-2L) for comment. The agreement will be distributed to the Regional Activities Board and the Technical Activities Board for consideration.

USAB is also requesting comments from members. Comments should be sent to W. Thomas Suttle at the Washington Office, 1111 19th St., N.W., Washington, D.C., 20036.

CONGRESSIONAL FELLOWS SELECT POSITIONS

The 1980 IEEE Congressional Fellows, Thomas L. Fagan and P. Gene Smith, have accepted positions for their assignments.

Fagan will be special assistant to Sen. Strom Thurmond (R-S.C.), working for the senator on issues relating to the Armed Services Committee, particularly in the areas of general procurement and arms control, with other general responsibilities in R&D and military construction and stockpiling. He will be Sen. Thurmond's first Congressional Fellow.

Smith will be a legislative assistant to Sen. Carl Levin (D-Mich.). He will be the only person on Sen. Levin's staff with a technical background. The senator's committee assignments are Armed Services, Governmental Affairs, and Small Business.

VIEWS ON ALIEN ENGINEERS SOUGHT

The U.S. Activities Board is looking for views to help formulate a position on U.S. procedures governing the entry of foreign engineers into this country. Current Department of Labor (DOL) regulations govern engineer entry based upon proven domestic shortages.

Recent initiatives have been taken to apply the open entry guidelines for skilled aliens used by the Immigration and Naturalization Service (INS) to engineers.

Which approach is most appropriate? This question is particularly relevant for engineers when viewed in the supply vs. demand equation.

The few comments received by USAB to date show a strong preference for retaining the DOL procedures over the INS approach. Other suggestions called for open entry with qualifications and State Department certification of unusually high technical grades.

If you would like your voice heard write to Dick Backe, USAB Vice Chairman, c/o the Washington Office, 1111 19th St., N.W., Washington, D.C. 20036.

ENGINEERS PUBLIC AFFAIRS FORUM

IEEE President Leo Young will take part in the 1980 Engineers' Public Affairs Program, to be held Feb. 26–28 at the Hyatt Regency in Washington, D.C.

The theme of the forum, sponsored by 25 engineering societies including the IEEE, will be "Engineering the '80s—challenge and opportunity in an era of limits." For details, write to Engineers Public Affairs Forum, American Consulting Engineers Council, 1015 15th St., N.W., Suite 802, Washington, D.C. 20005.

TAB NEWS

CONFERENCE ORGANIZATION MANUAL

Need advice in organizing a conference? The Technical Activities Board's new Conference Organization Manual will be available in mid-February. It is the product of two years of extensive revision by the TAB meetings committee and the TAB Conference Activities Office.

The manual will be sent to all Group and Society presidents, regional directors, and conference organizers. Anyone else who would like a copy of the Conference Organization Manual should contact Richard J. Jerril, TAB Conference Activities, at headquarters.

TRANSACTIONS ON MEDICAL IMAGING

The Technical Activities Board will establish an ad hoc committee to cooperate with the Publications Board in the creation of a new Transactions on Medical Imaging. Proposals for such a Transactions publication were received from the Engineering in Medicine and Biology Society and the Nuclear and Plasma Sciences Society.

RAB NEWS

STUDENT BRANCH COUNSELORS RECOGNIZED

The Regional Activities Board and Technical Activities Board, in conjunction with the Student Activities Committee, have initiated the "Outstanding Branch Counselor/Advisor Recognition Program." Details of the program, to be held annually, have been mailed to all IEEE Student Branches.

Awards of $500 were given to each of the following counselors, listed by region, who exemplified, during 1979, the Institute's commitment to the educational, professional, and technical development of students in electrical engineering and the related arts and sciences:

- Allen Katz, Trenton State College, Region 1
- Donald L. Talhelm, Lehigh University, Region 2
- Philip Morgan, Christian Brothers College, Region 3
- Paul F. Duvoisin, Tulane University, Region 3
- Richard O. Claus, Virginia Polytechnic Institute and State University, Region 3
- R. Kenneth Beach, University of Wyoming, Region 5
- Clair L. Wyatt, Utah State University, Region 6
- Ed Shwedyk, University of Manitoba, Region 7
- George J. Dufault, University of Waterloo, Region 7
- N. RamaRao, Regional Engineering College–Warangal, Region 10.

Electrical Engineering is a management newsletter on IEEE operations intended to encourage communication among all organizational entities and the staff. *Electrical Engineering* is published bimonthly by The Institute of Electrical and Electronics Engineers, 345 East 47 Street, New York, N.Y. 10017—Telephone 212-644-7562.

Electrical Engineering is sent without cost beyond dues to officers of IEEE boards, committees, divisions, societies, groups, technical councils, conferences, regions, regional councils, sections, subsections, chapters, and branches. Second-class postage is paid at Piscataway, N.J.

Names and assignments of IEEE staff members referred to in *Electrical Engineering* are listed on page 4 of IEEE *Spectrum*.

IEEE

Contact: Dolores Wright-Riker

Fellow Committee

IEEE FELLOWS ELECTED AS OF JANUARY 1, 1980
GEOGRAPHICAL LIST BY SECTION AND SUBSECTION

BALTIMORE	
Chester A. Tudbury	For contributions to the theory and industrial application of induction heating.
BENELUX	
Anton E. Pannenborg	For leadership in the management of research and development.
Jan C. Willems	For contributions to the theory of dynamical systems.
BERKSHIRE	
Eugene C. Sakshaug	For contributions to the development and standardization of surge arresters.
BOSTON	
Robert K. Crane	For contributions to satellite communications.
Rexford Daniels	For innovative concepts and leadership in the beneficial uses of nonionizing electromagnetic energy and its potential dangers.
V. Gregers Hansen	For contributions to the theory of false alarm control in radar systems.
Harlan G. Howe, Jr.	For contributions to microwave integrated circuits.
Peter J. Kahrilas	For contributions to electronic scanning radar systems.
John I. Makhoul	For contributions to the theory of linear prediction and its applications to spectral estimation, speech analysis, and data compression.
Herbert W. Pollack	For contributions to flexible printed circuits and their application.
Robert A. Rivers	For leadership in the application of microwave technology and for contributions to the profession.
Hermann N. Statz	For contributions to semiconductor devices and lasers.
Ernest Stern	For leadership in the development of surface-acoustic-wave devices for signal processing in radar and communications systems.
BUFFALO	
John H. Moran, Jr.	For contributions to the design, testing, and application of station and transmission line insulators.

CENTRAL ILLINOIS	
Floyd Dunn	For contributions to the understanding of the interaction of ultrasonic waves with living tissue.
Petar V. Kokotovic	For contributions to sensitivity analysis and singular perturbation theory.
Ben G. Streetman	For contributions to the understanding of ion implantation and radiation damage of compound semiconductors.
CENTRAL INDIANA	
Rangasami L. Kashyap	For contributions to pattern recognition, and to the optimization of finite state systems.
CENTRAL TEXAS	
William C. Duesterhoeft, Jr.	For enduring contributions to power engineering education.
CHARLOTTE	
Leonard W. Long	For leadership in the development and application of power transformer standards.
CHICAGO NORTHWEST SUBSECTION	
James W. Schwartz	For contributions to the theory and development of color television picture tubes and single-sideband aircraft radio equipment.
CLEVELAND	
Yacov Y. Haimes	For contributions to the theory of large-scale systems.
COLUMBUS	
Jack H. Richmond	For contributions to the theory of antennas and scattering.
CONNECTICUT	
Yi-tzuu Chien	For contributions to computer science education and research in statistical pattern recognition.
DALLAS	
Jules D. Levine	For contributions to the physics of semiconductor surfaces.
Ronald A. Rohrer	For theoretical contributions and practical software for computer-aided circuit design.
DAYTON	
Tse-yun Feng	For outstanding contributions to parallel processors and processing.
DELHI	
V. Prasad Kodali	For leadership in the planning of radar development.
DENVER	
Seymour Geller	For contributions to the crystalline structure of materials and for co-discovery of yttrium iron garnet.
GERMANY (West)	
Walter L. Engl	For outstanding contributions in integrated circuits design techniques and device modeling.
Wolfgang A. Kaiser	For contributions to advanced communication systems.

HAWAII	
Shu Lin	For contributions in coding theory and engineering education.
Edward J. Weldon, Jr.	For contributions to the development of error-correcting codes.
HOUSTON	
Alton D. Patton	For contributions to power system reliability analysis and assessment.
ISRAEL	
Israel Bar-David	For contributions to detection theory as applied to optical communications.
KANSAS CITY	
Fawwaz T. Ulaby	For contributions to the application of radar to remote sensing for agriculture and hydrology.
LEHIGH VALLEY	
Reinhard H. Knerr	For contributions to lumped element microwave circulators.
LONG ISLAND	
Peter P. Lombardo	For contributions in the field of low-noise wide-band receiver technology.
METROPOLITAN LOS ANGELES	
Hans H. Kuehl	For contributions to the theory of antennas in plasmas.
Edward N. Skomal	For contributions to the theory and measurement of man-made radio noise.
MIAMI	
Norman G. Einspruch	For research in the transport properties of electronic materials and acoustic effects in solids.
MILWAUKEE	
Robert C. Mierendorf	For contributions and technical leadership in the development of products and standards for industrial control systems.
MONTREAL	
Robert J. McIntyre	For theoretical work on the noise properties of avalanche photodiodes, and for leadership in their commercial development.
Srikanta M. N. Swamy	For leadership in engineering education and contributions to circuit theory.
NEW JERSEY COAST	
John E. Creedon	For leadership in and contributions to high-energy pulse power engineering.
Joel S. Engel	For contributions to the concept and to the implementation of spectrally efficient, cellular mobile telephone systems.
Jacob Katzenelson	For contributions to simulation and computer-aided design.
Lee S. Tuomenoksa	For contributions to the development of telephone electronic switching systems.

NEW YORK

Donald C. Alexander	For outstanding technical leadership in the development of electrical insulation for cables.
Arun G. Phadke	For contributions to the application of digital computers to power systems.

WESTCHESTER SUBSECTION

Arthur G. Anderson	For outstanding leadership of computer research and development and personal contributions to the growth of computer technology.
Erich Bloch	For technical and managerial contributions to computer component technology and production.
Robert H. Dennard	For advances in the state of the art of MOSFET devices and circuits.
Gary D. Hachtel	For contributions in computer-aided circuit design.
Juri Matisoo	For the invention and development of Josephson computer circuits.

NEW ZEALAND NORTH ISLAND

Richard H. T. Bates	For creative contributions to electromagnetic imaging and its applications.

NORTHERN VIRGINIA

Bernhard E. Keiser	For contributions to spacecraft electromagnetic compatibility.
John J. Kelleher	For contributions to international radio regulations.
Samuel A. Musa	For contributions to nonlinear systems analysis as applied to communications, control, and military systems.

NORTH JERSEY

Alan G. Chynoweth	For development of innovative experimental techniques in semiconductor material and device physics.
Bernard Friedland	For contributions to the application of modern control theory in navigation, guidance, and control systems.
Charles W. Hoover, Jr.	For contributions to interconnection technology and memory components.
T. Theodore Kadota	For contributions to the theory of statistical detection and estimation.
Raymond E. Lafferty	For contributions to loss measurements of reactive components.

OAKLAND-EAST BAY

Pravin P. Varaiya	For fundamental contributions to the theory and control of large-scale stochastic systems.

OAK RIDGE

F. John Walter	For contributions and leadership in the development and application of semiconductor radiation spectrometers.

ORANGE COUNTY

Jack C. Hoagland	For contributions to space communications.

SADDLEBACK SUBSECTION

Allan W. Love	For contributions to the theory and practice of spherical reflector antennas and radiometer systems.
Nathan Rynn	For contributions to plasma engineering and the conception and construction of the first Q machine.

OTTAWA

Allan G. Mungall	For contributions in the design, construction, and use of primary cesium frequency and time standards.

PHILADELPHIA

Jack Hilibrand	For contributions to the development of integrated circuits.
Mid Ouyang	For contributions to high-voltage testing and measuring techniques, and to statistical insulation testing.
Charles W. Ross	For contributions to automatic generation control and the operation of interconnected power systems.
Martin Wolf	For contributions to the development of silicon solar cells and their applications in spacecraft power systems and for terrestrial energy supply.

PITTSBURGH

F. Anthony Furfari	For technical and administrative contributions to the installation, servicing, and maintenance of heavy electrical equipments.
Howard B. Hamilton	For contributions to electrical machinery and applications of power systems technology.

PORTLAND

Vernon L. Chartier	For contributions to the understanding of corona phenomena associated with high-voltage power transmission lines.
Charles W. Rhodes	For contributions to measurement techniques and instrumentation for television.
Fred G. Schaufelberger	For contributions to the application of high-voltage circuit switching devices and their standardization.

PRINCETON

Martin Caulton	For technical contributions and leadership in development of microwave integrated circuits and high-power transistors.

ROCHESTER

Esther M. Conwell	For contributions to semiconductor theory, particularly transport in both low and high electric fields.

SAINT LOUIS

Richard G. Hoft	For contributions to power conversion systems.
Marcel W. Muller	For development of micromagnetic theory and applications to magnetic materials, and for contributions to noise theory of lasers and masers.

SAN FERNANDO VALLEY

Lon L. Sanders	For pioneering research and continuing technical leadership in the development and standardization of the Microwave Landing System for use by civil and military aircraft.
Frederick C. Williams	For contributions to the development and application of pulse Doppler and imaging radars.

SANTA CLARA VALLEY

Edward G. Cristal	For significant contributions to the theory, analysis, and design of microwave filters, directional couplers, and equalizers.
Richard O. Duda	For contributions to the theory and applications of pattern recognition.
Philip Fire	For fundamental contributions to error-burst-correcting codes.
Michael J. Flynn	For outstanding contributions to the field of computer architecture.
Floyd M. Gardner	For contributions to the understanding and applications of phase-lock loops.
Robert M. Gray	For contributions to information and communication theory.
Martin E. Hellman	For contributions to cryptography.
William F. Miller	For contributions to education in computer science and to university administration.
Louis T. Zitelli	For contributions to space communications and space radar by leadership in the design and fabrication of high-power microwave tubes.

SANTA MONICA BAY

Elliot I. Axelband	For fundamental contributions to the theory of distributed parameter systems, and for outstanding leadership in spacecraft and missile programs.
Francis F. Chen	For significant contributions to plasma diagnostics, and to the understanding of plasma instabilities and anomalous transport phenomena.

SCHENECTADY

Paul F. Albrecht	For outstanding contributions to the development, application, and teaching of reliability methods for analysis of large-scale electric power systems.
Robert L. Hickok	For contributions to plasma diagnostics.
William McMurray	For leadership in developing high-efficiency solid-state inverters, and for advancing the analysis and design of cycloconverters.
Homer M. Rustebakke	For developing a power engineering graduate education program, and for contributions to subsynchronous resonance phenomena in power systems.

SEATTLE

Sinclair S. Yee	For contributions to the development and application of biotransducers using hybrid technology.

SOUTH AFRICA

David H. Jacobson	For contributions to dynamic programming and singular optimal control.

SOUTH BAY HARBOR

Peter O. Clark	For contributions and technical leadership in the development of high-energy laser technology.
Robert A. Scholtz	For contributions to the theory and design of synchronizable codes for digital communications and radar systems.

SOUTHEASTERN MICHIGAN

Frederick Bauer	For accomplishments in unification of worldwide vehicular radio frequency interference standards, and innovations in the technology of electromagnetic compatibility.
Frederick J. Beutler	For contributions to stochastic process theory and its engineering applications.

SOUTH PLAINS

Marion O. Hagler	For contributions to plasma science and optical signal processing.
Russell H. Seacat	For innovative contributions to electrical engineering education.

TOKYO

Noboru Izeki	For contributions to corona measurement techniques.
Seiichi Kagaya	For contributions to power cables.
Shota Miyairi	For contributions to electrical machinery, power electronics, and leadership in electrical engineering education.
Yoshiei Nakano	For contributions in the development and standardization of insulation systems for electrical locomotives and cars.
J. A. Masaharu Okochi	For contributions to information and systems sciences, and to engineering education.
Yasuharu Suematsu	For contributions to semiconductor lasers, integrated optical circuits, and optical waveguides.
Yoshihiro Tohma	For contributions to the theory and design of fault-tolerant digital systems, and to engineering education.
Tatsuo Udo	For contributions to the technology of insulation and electrical breakdown in high-voltage power systems.
Masanobu Wada	For contributions to the development of display devices, and for leadership in engineering education.

TULSA

Thomas R. Shaw	For contributions to the utilization of electrical power control and communications in the petroleum industry.

8.

UNITED KINGDOM and REPUBLIC of IRELAND	
Jeffrey H. Collins	For contributions to the field of magnetic and surface acoustic wave delay line technology, and to engineering education.
John D. Rhodes	For contributions to circuit theory, particularly distributed and multivariable filter networks.
Alan B. Wood	For leadership in the design of high-voltage transmission lines.
UTAH	
Errol P. EerNisse	For outstanding contributions to the analysis and development of piezoelectric devices.
WASHINGTON	
Joseph V. Charyk	For leadership in the development and application of communications satellite systems.
William J. Getsinger	For contributions to modeling and computer applications of microwave circuit design.
Kenneth L. Jordan, Jr.	For contributions to military satellite systems communications.
C. Martin Stickley	For contributions to the development of optically pumped solid-state lasers, and for initiation and management of research for laser fusion and solid-state electronics.
Marjorie R. Townsend	For management and technical contributions in the space exploration program.

Contact: Tom Suttle

United States Activities Board

PROPOSED MODEL

AGREEMENT CONCERNING INVENTIONS AND DISCOVERIES AND PROPRIETARY INFORMATION

The attached is a Proposed Model Patent Agreement that has been developed over a period of two years by the USAB Task Force on Patents. It embodies many improvements to existing agreements both to safeguard more completely the rights of employees and to protect the employer. This model is, admittedly, a compromise and was modified many times in line with many comments from employers (and their legal counsel) as well as experienced members of IEEE. We are circulating this for trial use as desired, and are soliciting constructive comments from all quarters so that, in the future, we may address all comments and then proceed to re-issue an updated model agreement for coordination with our sister engineering societies and eventual issuance as a Standard Model Engineering Patent Agreement that could serve as a basis for all individual agreements. One last note--DO NOT FAIL to read the underlying explanatory notes that explain what the Task Force sets out to accomplish, also compare this agreement with the one you may have signed.

PRECEPTS:

I. AN INVENTION BELONGS TO THE EMPLOYEE IF:

1. It was made prior to being hired by the employer.

2. It is not included in one of the categories of Precept II.

II. AN INVENTION BELONGS TO THE EMPLOYER IF:

1. It was conceived by the employed while performing the normal duties of the employee's work.

2. It was financed by the employer, the employee inventor used time, materials, facilities, funds, or information supplied by the employer.

3. It is related to activities of the employer and uses information the employee acquired in the course of employment.

III. THE EMPLOYEE IS OBLIGATED TO HELP THE EMPLOYER OBTAIN AND DEFEND A PATENT. AFTER EMPLOYMENT TERMINATES, SUCH HELP WILL BE PROVIDED FOR A FAIR REIMBURSEMENT FROM THE FORMER EMPLOYER FOR THOSE SERVICES.

IV. THE EMPLOYER AND EMPLOYEE ARE BOTH OBLIGATED TO PROTECT THE CONFIDENTIALITY OF INFORMATION THEY RECEIVE FROM EACH OTHER AND TO REFRAIN FROM USING THAT INFORMATION IMPROPERLY.

PROPOSED MODEL

AGREEMENT CONCERNING INVENTIONS AND DISCOVERIES AND PROPRIETARY INFORMATION

FULL NAME:

PLACE:

DATE:

-IN CONSTRUCTION of my employment by (_____)
or by any of its subsidiaries, divisions or affiliates (hereafter referred to as the Employer), I agree as follows:

To immediately disclose to the Employer or any persons designated by it and to assign to it or, at its option, its successors or assigns, all inventions:

1. made
2. first reduced to practice, or
3. conceived by me

solely or jointly with others, during the course of my employment by the Employer, which inventions:

a. Were made, conceived or first reduced to practice in the performance of duties assigned to or undertaken by me as a part of such employment, or

b. Were made, conceived or first reduced to practice with the material use of the Employer's time, material, facilities or funds, or

c. Relate to or were suggested by any subject matter of the Employer's with which my employment brings me into contact, or

d. Relate to any investigations or obligations undertaken by the Employer the details of which I became aware because of my employment, or

e. Which relate to investigations or obligations undertaken by the Employer and are being performed at the physical location of my employment, and to which I have access and grant the right to the employer and its nominees to obtain, for its own benefit and in its own name (entirely at its expense) patents and patent applications of any and all types, and all renewals and extensions of any such patents and applications for those inventions in any and all countries.

- The Employer shall not acquire any rights under this agreement in any inventions made, conceived or first reduced to practicd by my (1) prior to my employment or (2) during the period of my employment by the Employer but which do not fall within the categories set forth above.

- In order to perfect the Employer's (or its successors', assigns' or nominees') right, title and interest in and to said inventions, applications, and patents and to convey to the Employer my rights under the International Conventions for the Protection of Industrial Property and

the Patent Cooperation Treaty, I will, without further compensation during the term of my employment and, after termination of my employment, at a reasonable compensation to be negotiated:

1. execute and deliver all papers and instruments, and
2. perform such further acts, including giving testimony or furnishing evidence in the prosecution or defense of appeals, interferences, suits and controversies

relating to any aforesaid invention as may be deemed necessary by the Employer, (or its successors, assigns, or nominees).

- Unless authorised in writing or instructed by the Corporation or required by legally constituted authority, I will not, except as required in the conduct of the employer's business, during or after my employment, disclose to others, or use, any of the Employer's inventions or discoveries or its secret or confidential information, knowledge or data which I may obtain during the course and as a result of my employment relating to formulae, whether or not developed by me, unless and until, and then to the extent and only to the extent that such information, knowledge or data becomes available to the public otherwise than by my act or omisssion. Nothing contained herein shall restrict my use of knowledge acquired as part of normal growth in my profession.

- Information relating to business plans present and prospective customers of the Employer, business dealings with, proposals to and working agreements and relationships with such customers and prospective sales and advertising programs and agreements with representatives or prospective representatives of the Employer shall be subject to the same restrictions as in the proceeding paragraphs. Nothing contained herein shall restrict me from competing with the Employer, except to the extent that such competition is based on confidential information as defined above.

- This Agreement and the rights and obligations of the parties hereunder shall be construed, interpreted and enforced in accordance with, and governed by the laws of, the State of (employment) applicable to agreements executed and fully to be performed thereunder. Any controversy or claims arising out of, or relating to this Agreement, or the breach thereof, or with respect to any of the documents executed in conjunction herewith, shall be settled by arbitration in the State of employment in accordance with the rules then obtaining of the American Arbitration Association, except that it is not required that arbitration be conducted before or under the auspices of such Association, and judgment upon the award rendered my be entered in any court having jurisdiction thereof. Provided, however, that in the event of imminent disclosure of confidential information the employer may seek a temporary restraining order and permanent injunction against disclosure of such information pending the outcome of the arbitration procedure.

- As a matter of record, I attach hereto in confidence a complete list, and brief description of all unpatented inventions which I made or conceived prior to my employment by the Employer ("prior inventions"), and which are to be excluded from this agreement. Such list shall include pending applications and shall be updated from time-to-time to include all inventions made, conceived or first reduced to practice during my employment but not falling within the scope of such employment. The

employer shall be restricted in the use of employee confidential information to the same extent the employee is restricted in the use of the employer's confidential information.

"NOTICE TO EMPLOYEE: THIS AGREEMENT PROVIDES FOR TRANSFER TO YOUR EMPLOYER OF RIGHTS IN CERTAIN INVENTIONS YOU MIGHT MAKE DURING THE PERIOD OF YOUR EMPLOYMENT. YOU MAY WISH TO CONSULT LEGAL COUNSEL OF YOUR CHOICE TO ADVISE YOU OF YOUR RIGHTS AND OBLIGATIONS."

_____
(Signature)

Witness:

_____

STATE OF:

COUNTY OF:

This_____Day of_____, 19__, before me personally came the above named_____ to be personally known as the individual(s) who executed the foregoing agreement who (each of whom) acknowledges to me that he executed the same of his own free will for the purpose therein set forth.

_____
Notary Public

(S E A L)

My Commission Expires:

_____

APPROVED BY THE USAB PATENT TASK FORCE

ON:_____

BY:_____
Chairman, USAB Patent Task Force

MODIFIED AND APPROVED BY USAB OPCOM

ON:_____

MODIFIED AND APPROVED BY USAB

ON:_____

Contact: Mark M. Lucas

MEMBERSHIP DEVELOPMENT NEWSLETTER

I E E E MEMBERSHIP AS OF 12/31/79 : 201,673 (+ 5.4%)

IEEE's membership growth during 1979 was 10,299 - the largest annual increase since 1963, when membership was 154,509. Student membership reached 31,242 which is also a record for year end. Memberships in the Societies/Groups totaled 213,308 - also a year end record. (See following graphs/tables for details.)

The fastest growing society overall was for COMPUTER (+13.5%), with REGION 10 (+12.9%) the most rapidly growing Region. Within the U.S. Regions, the Southeastern (REGION 3) was the leader at +8.4%. Region 1 & 6 and Regions 3, 4 & 5 are continuing their challenges to determine largest and smallest honors within the U.S. geography.

Senior Members were up for the second year in a row, by 0.9% in 1979, recovering from a period of long decline. MD will be adding special efforts in 1980 "Year of the Senior Member" aimed at continued growth in the important SM grade of membership.

Additional benchmarks of growth in IEEE's third consecutive record membership year include the following:

Higher Grade New Elections: 8,459, up by 18.6%
Student Grade New Elections: 17,940, up by 4.1%
Retention - expressed as the percentage of total members in Dues Arrears at 12/31: down by 3.4%

More than one fifth of IEEE net growth since the merger (1963) was acheived in 1979. In terms of the guideline growth goals set by the MDC, total membership exceeded goal (+6,668/+3.5%) by 54 percent. Society/Group memberships held ended the year virtually on target of +13,488 with growth of 6.9%.

Region 9 (Latin America), for which a -1.8% loss was anticipated, instead gained 360 net members (+8.4%). Region 8, Europe, N.Africa and the Middle East exceeded the guideline goals set for Regions by the widest margin, attaining 252% with a +992 net gain.

MDC extends its appreciation to all volunteers who contributed in 1979 towards this outstanding growth in IEEE membership. 1980 and going forward to 1984 represent challenges which MD has shown to be attainable. Let's keep up the excellent work!

* * * * * * * * * * * *

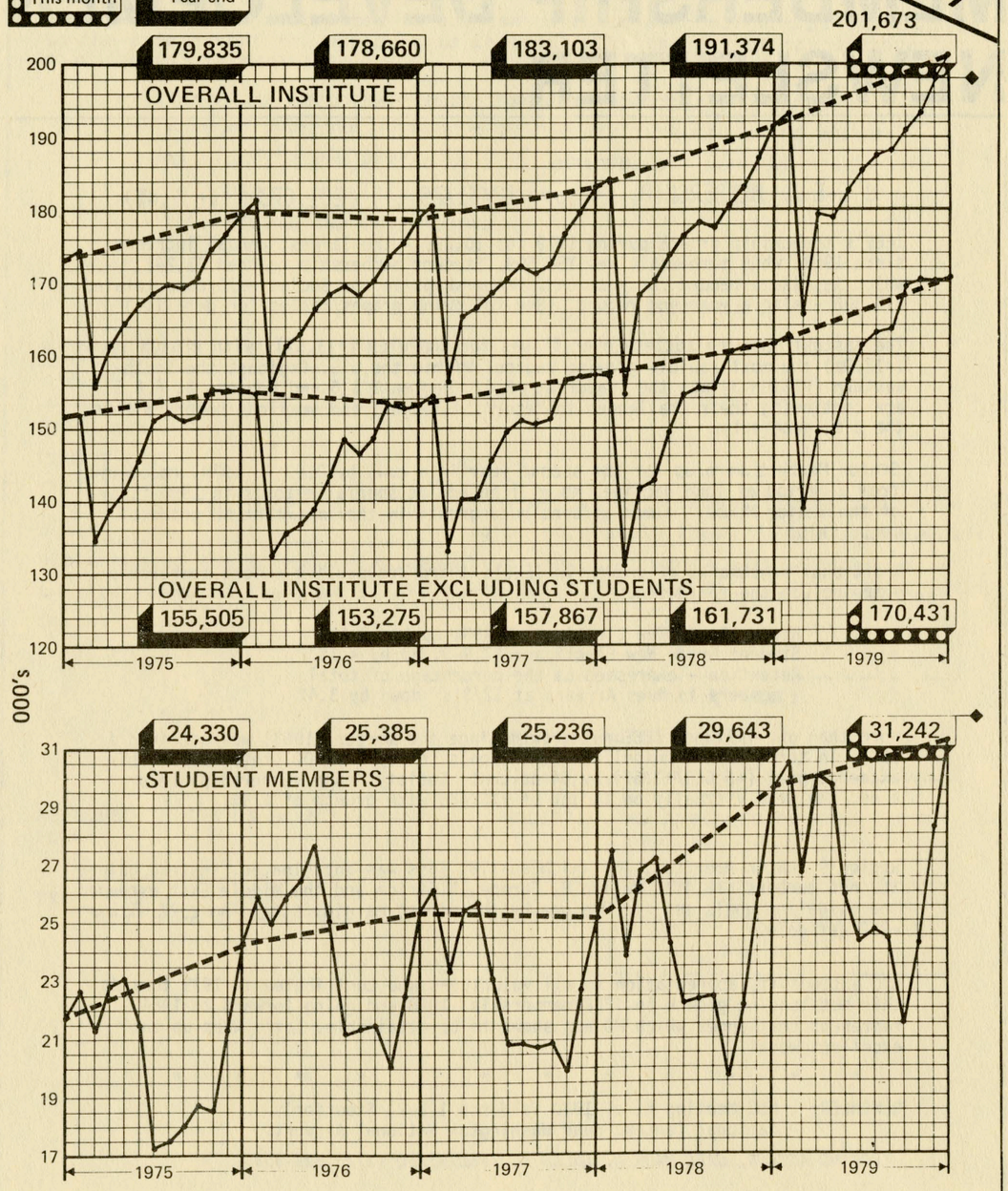
REMINDER: MDC Meeting #1 of 1980 is March 1 & 2, Stouffer's National Center, near Washington National Airport.

(FOR MD ACTION, CALL MARK M. LUCAS AT IEEE/NY/HQ (212) 644-8080)

MEMBERSHIP PROGRESS

DEC1979

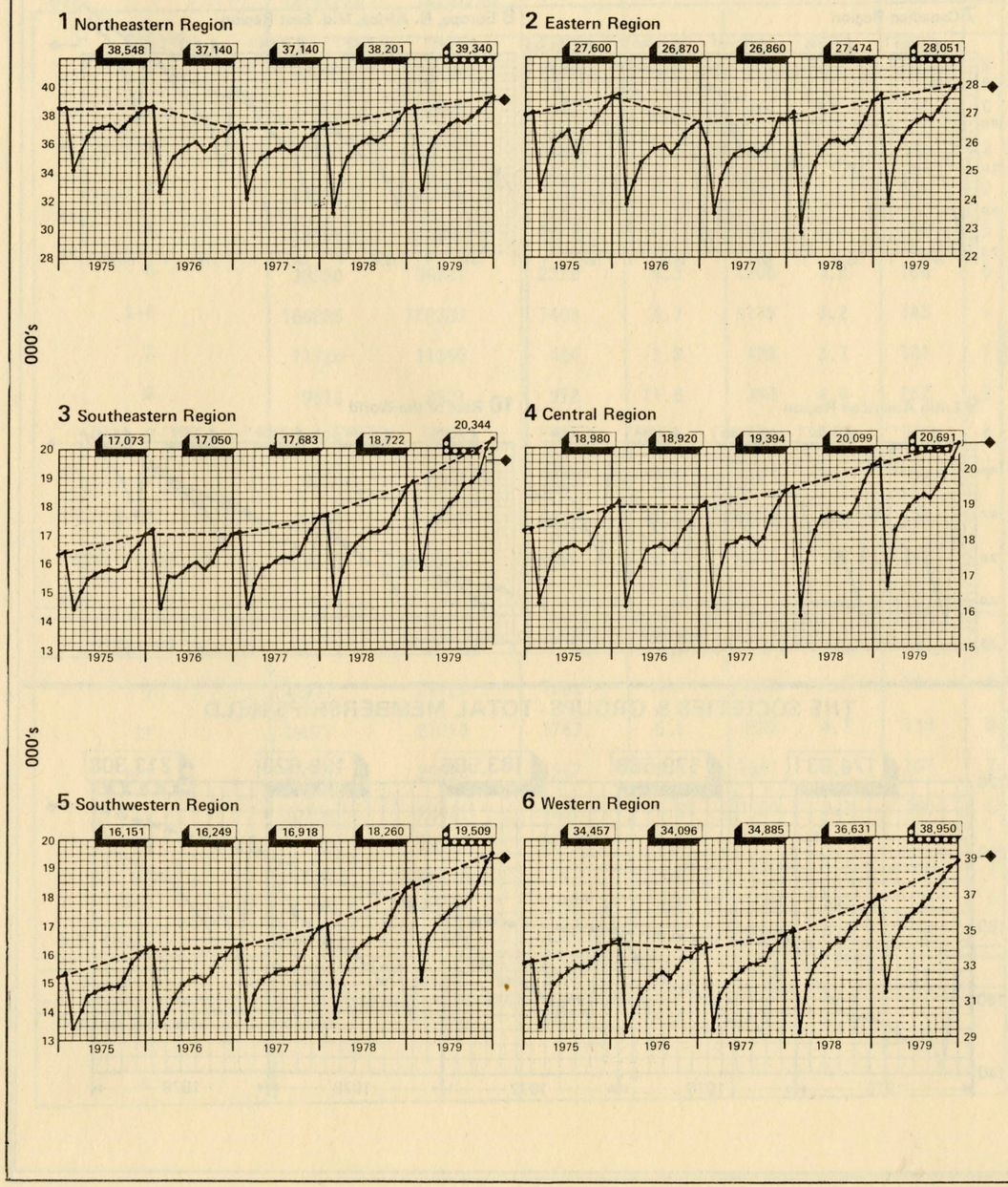
This month | Year end



THE REGIONS MEMBERSHIP PROGRESS

DEC1979

This month | Year end



THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS INC

THE REGIONS

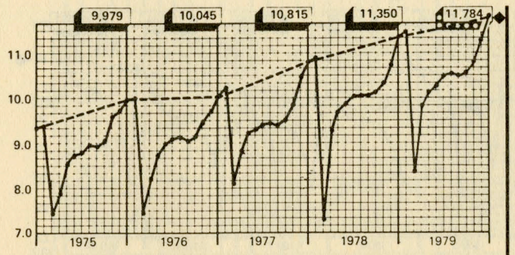
MEMBERSHIP PROGRESS

DEC1979

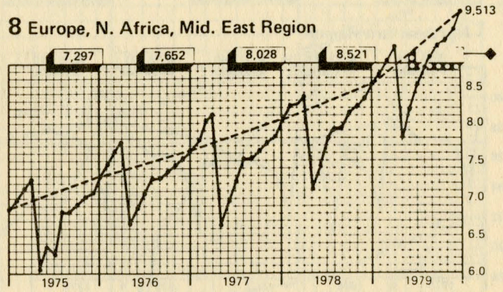
This month

Year end

7 Canadian Region



8 Europe, N. Africa, Mid. East Region



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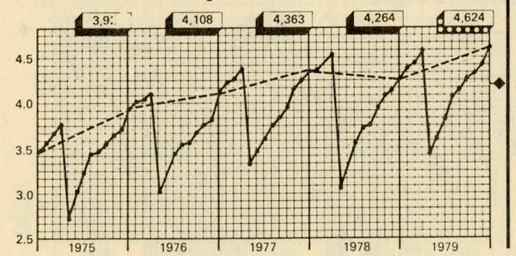
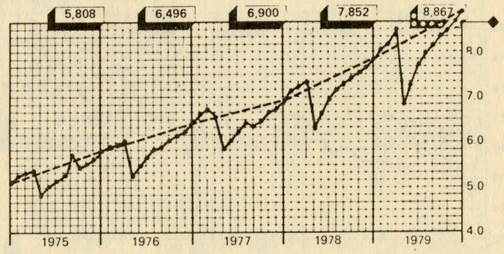
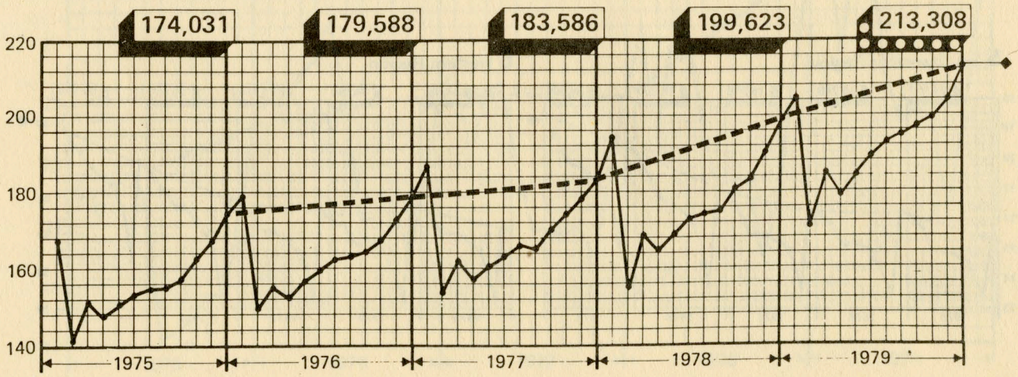
9 Latin American Region



10 Rest of the World



THE SOCIETIES & GROUPS - TOTAL MEMBERSHIPS HELD



THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

IEEE MEMBERSHIP SUMMARY

December 1979

	MEMBERSHIPS 12/31/79	MEMBERSHIPS 12/31/78	Growth	(see Rank) % Growth	YEAR END GOAL #	YEAR END GOAL %	% of # GOAL	RANK
Region								
1	39340	38201	1139	3.0	898	2.2	127	8
2	28051	27474	577	2.1	464	1.6	124	10
3	20344	18722	1622	8.7	831	4.4	195	3
4	20691	20099	592	2.9	564	2.8	105	9
5	19509	18260	1249	6.8	1073	5.8	116	5
6	38950	36631	2319	6.3	1396	3.8	166	6
1-6	166885	159387	7498	4.7	5176	3.2	145	-
7	11784	11350	434	3.8	428	3.7	101	7
8	9513	8521	992	11.6	394	4.6	252	2
9	4624	4264	360	8.4	(79)	(1.8)	-	4
10	8867	7852	1015	12.9	761	9.6	133	1
8-10	23004	20637	2367	11.5	1076	5.2	220	-
Total 1-10	201673	191374	10299	5.4	6668	3.5	154	-
Division	SOCIETY/GROUP MEMBERSHIPS BY DIVISION							
I	30911	29129	1782	6.1	1333	4.6	134	4
II	29077	27310	1767	6.5	1285	4.7	138	3
III	31063	29096	1967	6.8	1841	6.3	107	2
IV	30106	28421	1685	5.9	1050	3.7	160	5
V	43930	38701	5229	13.5	6299	16.7	160	1
VI	27055	26395	660	2.5	968	3.7	68	7
VII	21166	20571	595	2.9	782	3.8	76	6
G/S Total	213308	199623	13685	6.9	13488	6.8	101	-
Students	31242	29643	1599	5.4	TBA		-	
Senior Members	21443	21256	187	0.9	TBA		-	

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

SOCIETY/GROUP/DIVISION MEMBERSHIPS

DECEMBER 1979

Division		MEMBERSHIPS HELD 12/31/79	12/31/78	GROWTH	% GROWTH	Year End Goal #	/ %	% of # Goal	Rank % Growth
I ASSP	01	7593	6909	684	9.9	655	9.5	104	3
CAS	04	10584	10076	508	5.0	183	1.8	278	18
IT	12	4949	4807	142	3.0	220	4.6	65	24
CS	23	7785	7337	448	6.1	275	3.7	163	14
I Subtotal		30911	29129	1782	6.1	1333	4.6	134	-
II NPS	05	3053	2893	160	5.5	194	6.5	82	16
VT	06	2676	2572	104	4.0	257	10.0	40	23
IM	09	5304	5081	223	4.4	100	3.9	223	20
IECI	13	5723	5306	417	7.9	129	2.4	323	7
EI	32	1529	1437	92	6.4	26	1.8	354	11
IA	34	10792	10021	771	7.7	579	5.8	133	8
II Subtotal		29077	27310	1767	6.5	1285	4.7	138	-
III BCCE	02	7126	6699	427	6.4	457	6.8	93	11
AES	10	7102	6920	182	2.6	255	3.7	71	26
COM	19	13481	12341	1140	9.2	923	7.5	124	5
EMC	27	1872	1731	141	8.1	118	6.8	119	6
GEO	29	1482	1405	77	5.5	88	6.3	88	16
III Subtotal		31063	29096	1967	6.8	1841	6.3	107	-
IV AP	03	4661	4454	207	4.6	58	1.3	357	19
ED	15	8618	8004	614	7.7	344	4.3	178	8
MTT	17	5933	5696	237	4.2	106	1.9	224	22
SU	20	2213	2084	129	6.2	112	5.4	115	13
CHMT	21	2922	2856	66	2.3	145	5.1	46	27
MAG	33	2464	2242	222	9.9	158	7.0	141	3
QE	36	3295	3085	210	6.8	127	4.1	165	10
IV Subtotal		30106	28421	1685	5.9	1050	3.7	160	-
V COMP	16	43930	38701	5229	13.5	6299	16.7	83	1
VI R	07	2942	2819	123	4.4	189	6.7	65	20
EM	14	7860	7435	425	5.7	481	6.5	88	15
EMB	18	7387	7380	7	0.1	(73)	(1.0)	-	29
E	25	2222	2193	29	1.3	71	3.2	41	28
PC	26	1932	1748	184	10.5	395	22.6	47	2
SMC	28	4712	4820	(108)	(2.2)	(39)	(0.8)	(277)	30
VI Subtotal		27055	26395	660	2.5	968	3.7	68	-
VII PE	31	21166	20571	595	2.9	782	3.8	76	25
Total G/S		213308	199623	13685	6.9	13488	6.8	101	-

BENDIX AWARDS ANNOUNCED

The winners of the 1979–80 Vincent Bendix Awards, which go to IEEE Student Branches for research in engineering, are: Tulane University, New Orleans, La.; Duke University, Durham, N.C.; Metropolitan State College, Denver, Colo.; Gonzaga University, Spokane, Wash.; Concordia University, Montreal, Canada; Iowa State University, Ames, Iowa; Southern Illinois University, Edwardsville, Ill.; Virginia Polytechnic Institute and State University, Blacksburg, Va.; University of Houston, Houston, Texas; and City College of the City University of New York, New York.

These awards, each consisting of a $5000 cash grant, are sponsored by the Vincent Bendix Corp.

EAB NEWS

EDUCATION PROGRAM VALIDATION BEGINS

IEEE members taking courses that do not lead to a degree can now be recognized through the IEEE Validation of Educational Achievement Program. Nonmember electrical and electronics engineers living in the midwest and far west portions of the United States can also participate because this new validation program is being partially funded in IEEE's Regions 4 and 6 on an experimental basis by the National Science Foundation.

The validation program is designed to motivate practicing electrical engineers to pursue quality continuing education from any reasonable source and to assure the quality of courses. Courses accepted into the final program must pass through two levels of evaluation—peer evaluation through the appropriate IEEE Society and participant evaluation after course completion. The learning accomplishment of each participant must also be evaluated by those offering the course. Acceptable performance in an accredited course will earn the participants Continuing Education Achievement Units, which will be kept on record (See *THE INSTITUTE*, November, 1979, p. 1).

For further information, write to Validation of Continuing Education Achievement of Engineers, NSF Project Grant No. SED-7918989, P.O. Box 453, Piscataway, N.J. 08854.

SPRING EDUCATION SCHEDULE REVISED

The following courses are being offered by IEEE this spring:

- Assembly Language Programming, Westboro, Mass., March 6–7.
- There is a Microprocessor in Your Future, Beaumont, Texas, March 14.
- One-day Microprocessor & Data Acquisition & Control, Philadelphia, Pa., March 17.
- One-day Microprocessor, Billings, Mont., April 10.
- Protection & Grounding of Distribution Systems, Billings, Mont., April 11–12.
- Introduction to Solid-State Power, Cincinnati, Ohio, April 14–15.
- Digital Signal Processing, Richland, Wash., April 24–25.
- Fundamental Mechanics of Electrical Applications Engineering, Pittsburgh, Pa., April 25.
- Fundamentals of Systems Grounding & Protection, Tucson, Ariz., April 23–25.
- CAMAC, Las Cruces, N.M., May 1.
- ATLAS, Las Cruces, N.M., May 2.
- Quantitative Analysis, Houston, Texas, May 5–8.
- Microprocessor Seminar, Houston, Texas, May 9–10.
- Fundamentals of Systems Grounding & Protection, Richmond, Va., May 21–23.

For more course information and enrollment, contact Vincent J. Giardina at the Piscataway Service Center.

VIDEOTAPE COURSES OFFERED

Expanding upon its 1979 effort to offer IEEE Sections and other entities timely educational material, the EAB has selected 18 subjects to offer in videotape cassette format. A brochure detailing the courses, fee, and ordering information may be obtained from the Educational Registrar at 212-644-7860 or by writing to Emma M. White at headquarters.

PUB NEWS

MEMBERSHIP DIRECTORY DELAYED

Production difficulties have forced rescheduling the issuance of the IEEE Membership Directory. Mailing is now scheduled for late February.

But, because of the schedule change, the new directory will carry more up-to-date membership information—current to mid-December 1979, and has been retitled "1979/1980 Membership Directory." Previously the data had been current to August 1979.

COLLECTIONS OF REPRINTS PUBLISHED

Satellite Communications and *Frequency-Response Methods in Control Systems* are two books of selected reprints published by IEEE Press.

Satellite Communications, edited by Harry L. Van Trees of the U.S. Department of Defense, is designed to serve as a reference for communications engineers and researchers, as a book for a short course, as a text for a college-level course, and as an overview for managers and users. It is priced at $21.45 for the paperbound member edition and $42.95 for the clothbound edition, discounted to $32.30 for IEEE members.

Frequency-Response Methods in Control Systems, edited by Alistair G.J. MacFarlane of the University of Cambridge, covers the development of frequency-response methods in automatic control; classical frequency-response techniques; extensions to nonlinear, time varying, and stochastic systems; and multivariable and multidimensional systems. It is priced at $19.95 for the paperbound member edition and $39.95 for the clothbound edition, discounted to $29.95 for IEEE members.

Both books can be ordered postpaid from the IEEE Service Center, 445 Hoes Lane, Piscataway, N.J. 08854. Payment should accompany orders.

EUROPEAN ELECTROTECHNOLOGY

In a world that seems to be shrinking because of transcontinental communication and fast jet travel, one can hardly talk about a regional electrotechnology. Yet, in Western Europe, communication, transportation and energy supply, conversion, and uses, to name a few key areas, are distinct from those of developed nations elsewhere.

Spectrum's March issue will explore the highlights of European electrotechnology in the areas of home communications (television), consumer telephone, optical fiber telecommunications, satellite communications, thyristor applications, transportation, and data protection and privacy.

CONSOLIDATED INVESTMENT OPTIONS

The recent performance of the cash management investment options available to IEEE's organizational units is reported below. All units are urged to examine their available cash for optimum returns.

Investment Option 1—Short-Term Bank Deposits* :

Oct.	11.31%	
Nov.	10.90%	
Dec.	10.85%	
Jan./March	10.50%	(estimated)

Investment Option 2—Long-term Bank Deposits (over 6 months)†:

Oct.	13.07%	
Nov.	11.92%	
Dec.	12.91%	
Jan./March	12.00%	(estimated)

Investment Option 3—Bond Plan†

Oct.	10.92%	
Nov.	10.27%	
Dec.	10.50%	
Jan./March	10.00%	(estimated)

* Percentages refer to amounts actually earned by all depositors in that month.

† Percentages are estimated average return over total period of the investment on funds deposited during the respective months.

For additional information, contact Michael J. Sosa or Thomas W. Bartlett.

Quick-Reference Telephone Roster
(for information referenced in this issue)

HEADQUARTERS (212-644-. . .): Audrey R. Bickel 2123, Richard J. Jerril 7596, Mark M. Lucas 8080, Emma M. White 7870.
PISCATAWAY SERVICE CENTER (201-981-0060): Vincent J. Giardina 174.
WASHINGTON OFFICE (202-785-0017): William G. Herrold, W. Thomas Suttle.
