



IEEE

**Membership Development Committee**

445 Hoes Lane

Piscataway, NJ 08855

**ATTENTION:**

Notice of selection for  
membership enclosed

*Join NOW and receive a FREE bonus package!*



**Membership Development Committee**

445 Hoes Lane, P.O. Box 1331  
Piscataway, NJ 08855-1331

August 27, 1990

Dear Colleague:

I am delighted to inform you that you have been selected for prospective membership in the Institute of Electrical and Electronics Engineers (IEEE).

For over 100 years, the IEEE has been the professional society for the electrical engineering profession and related fields (electrical, electronics, and computer engineering and computer science). Founded in 1884, today the IEEE is the world's largest technical society, with more than 315,000 members worldwide.

To activate your membership, simply complete the enclosed IEEE membership application card, sign your name within the space indicated, and mail the card back to us in the convenient pre-addressed envelope provided. You may pay in advance, or, if you prefer, we will bill you later. Either way, your new membership includes a one-year's subscription to IEEE's award-winning SPECTRUM magazine and a free bonus book gift. Thank you and welcome to the IEEE!

Sincerely,

A handwritten signature in cursive script that reads "James E. O'Neil".

James E. O'Neil, Chairman  
IEEE Membership Development Committee

P.S.: *For details on IEEE membership benefits and your free bonus gift, see attached letter and flyer.*



Office of the President

August 27, 1990

## DO YOU KNOW THE 5 KEY BENEFITS OF IEEE MEMBERSHIP?

Dear Prospective IEEE Member:

If you want to make an even bigger leap ahead in your career in the years to come . . .

. . . and get more involved in your chosen profession . . .

. . . then you can start TODAY by completing the enclosed IEEE membership application card and mailing it back in the pre-addressed envelope provided.

We both know there are many benefits – personal and professional – to joining your profession's premier technical society: Publications, Education, Meetings, Conferences, Awards, Information, Professional Activities. The chance to make new contacts and acquaintances. And . . . let's face it . . . even if you never participate actively, it can be beneficial to have "Member, IEEE" on your resume or job application or when you're being considered for a promotion.

In electrical, electronics, and computer engineering and computer science, no professional society can match the IEEE. Founded in 1884, IEEE is the largest technical society in the world – over 315,000 members strong.

**But let's get back to you and your career.**

Here are the reasons why you should complete and mail your IEEE membership application card today:

**1. IEEE KEEPS YOU ON THE CUTTING EDGE OF TECHNOLOGY.** Only IEEE members have immediate access to the vast wealth of technical and scientific information produced by the Institute and its members. In addition to the Institute's award-winning monthly magazine, SPECTRUM, which you receive as one of your membership benefits, the IEEE, through its Societies and Councils, publishes over 70 technical/professional journals and makes them available to its members at very low member rates. In fact, nearly 25 percent of the world's principal papers in electrical, electronics and computer engineering are published by the IEEE annually.

For the engineer, educator, scientist or manager interested in the latest developments and concepts in technology, IEEE is an invaluable source of knowledge and information.

**2. AT IEEE, THE KNOWLEDGE AND PERSPECTIVE OF OVER 315,000 FELLOW MEMBERS ARE YOURS FOR THE ASKING.** IEEE members can attend any of the more than 4,500 local meetings conducted worldwide each year. And in addition to local meetings, IEEE sponsors and participates in more than 285 major conferences annually where you can attend technical sessions, gain first-hand knowledge of new product developments, enhance your career through networking and receive valuable conference records. No matter what your specialty is, you can get a GRADUATE-LEVEL education in it at IEEE.

(continued)



**3. AS AN IEEE MEMBER, YOU SET THE INDUSTRY STANDARDS.** The development and revision of standards has long been important to the IEEE, which currently publishes and maintains over 500 of them. As a member, you are invited to join the 20,000 fellow engineers who are regularly engaged in the development of standards.

If your company makes or uses electrical or electronic devices, you know how important standards are. Now, as an IEEE member, you have a say in the development of standards that can dramatically affect the future growth and prosperity of your firm.

**4. YOU GAIN RECOGNITION.** Putting "Member, IEEE" on a job application or a resume gives you an added measure of personal prestige that the engineer competing for your position may not have. Why not get this competitive edge now – when mailing in the application form makes it so convenient and easy?

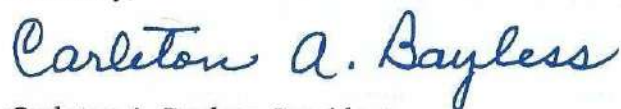
**5. YOU GET IMPORTANT PERSONAL BENEFITS THAT YOUR EMPLOYER MAY NOT OFFER.** With the rising cost of health care and living in general, having adequate insurance coverage is always a concern – no matter how good your benefits plan may be. Now, through the IEEE, you can get special low group rates on medical, health and life insurance to complete your coverage and provide the protection you desire for yourself and your family. Low interest, high limit credit cards, showing the IEEE logo, are also available.

**SPECIAL BONUS:** Mail in your IEEE membership application card within the next 10 days and receive "A Century of Electricals; A Brief History of the Electrical Engineers" absolutely free, as a bonus, while supplies last. This richly illustrated, 50-page, oversized paperback highlights the fascinating electrical geniuses (and their discoveries) of the past century, from Edison and Steinmetz, to the Apollo moon landings and the discovery of the integrated circuit.

**ITEM:** A recent survey of 3,000 scientific engineering professionals indicated five basic success factors among the high "engineering achievers." And participation in more professional and technical society activities was at the top of the list. If you are an "engineering achiever" . . . or if you are ready to become one . . . the IEEE can help.

Your selection for membership is now being held open for you. To signal your acceptance, just complete and mail in your IEEE membership application card today in the pre-addressed envelope provided. And thank you in advance for your interest in and your support of your professional society.

Sincerely,



Carleton A. Bayless, President

The Institute of Electrical & Electronics Engineers

***P.S.: Because the IEEE selects its members with care, it is an event of honor and prestige to be asked to join. Why not send your membership application card in TODAY!***

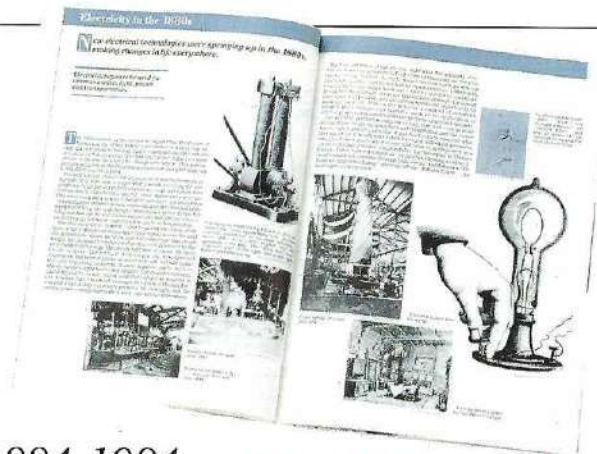


*FREE with your paid membership to IEEE:*

# A Century of Electricals

*A Brief History of the Electrical Engineers – 1884-1984*

**Not available in bookstores!**



## Test Your “EE-IQ”

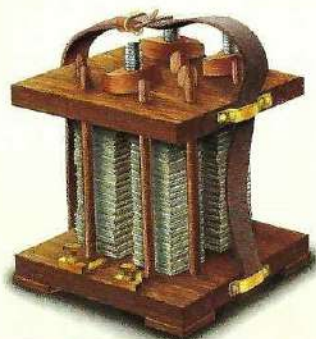
*Do you know...*

**1** The names of the three physicist-engineers who invented the transistor in 1947 at Bell Labs – when they made a crystal of germanium perform the same function as a triode vacuum tube?  
(See page 33 for the answer.)

**2** The 27 year-old electrical genius who formulated the law of hysteresis, which made it possible to reduce the loss of efficiency in electrical apparatus? HINT: He also invented the induction regulator, the magnetite-titanium arc lamp, and the aluminum lightning arrester.  
(See page 15.)



**3** When Nikola Tesla (1856-1943) failed to sell his boss, Thomas Edison, on the idea of applying alternating current in light and power systems (Edison was convinced that direct current was better), which famous competitor of Edison's brought Tesla's polyphase AC system to market – and eventually made it the standard for household power in the 20th century?  
(See page 10.)



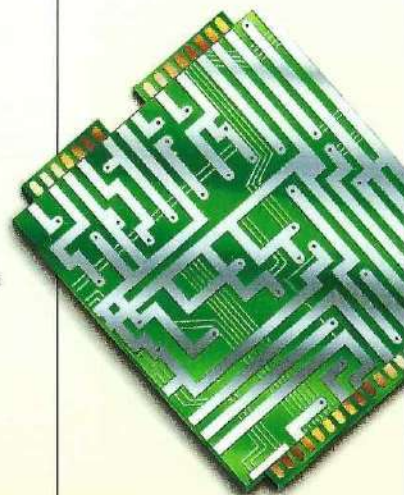
**4** In addition to inventing motion pictures, the light bulb, and the phonograph, Thomas Edison (1853–1937) held patents for electric welding, meters, dynamos, motors, and X-ray devices. He also developed the fused quartz mirror for telescopes. How

many patents did Edison hold altogether?  
(See page 11.)

**5** Many IEEE members know that ENIAC, which weighed 30 tons and used 18,000 vacuum tubes to perform 400 multiplications per second, was the first true electronic digital computer. But what does the acronym “ENIAC” stand for?  
(See page 35.)

**6** Name the two separate societies serving the electrical engineering profession which joined to form the IEEE in 1963.  
(See page 36.)

**7** The first commercial microprocessor, originally designed for a programmable calculator, represented the first consolidation of the arithmetic and logic functions of several chips onto a single integrated circuit. Name the manufacturer and the product. HINT: Andrew Grove was one of the company's founders.  
(See page 45.)



### This Fascinating History

of the electrical engineering profession cannot be purchased in any bookstore. But it is yours, at no cost, with your paid membership to IEEE.

**\* More than 120 photographs and illustrations**

**\* Over 50 pages**

**\* Oversize 8 1/2" x 11"**



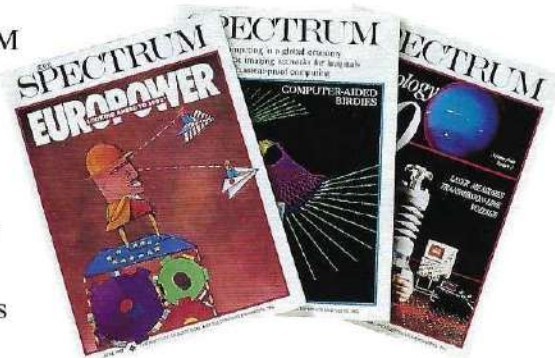
# Spectrum Magazine

## Subscription Included

As an IEEE member, you will receive a subscription to SPECTRUM magazine as part of your membership. The flagship publication of the IEEE, SPECTRUM is the world's most respected and widely read scientific and engineering magazine.

## Award-winning coverage of electrical, electronics, and computer science and technology

A three-time winner of the prestigious ASME/Columbia School of Journalism National Magazine Award, SPECTRUM is edited for the scientific and engineering professional involved in the advancement and understanding of technology in business, industry, government, and education.



## All You Need to Stay Ahead

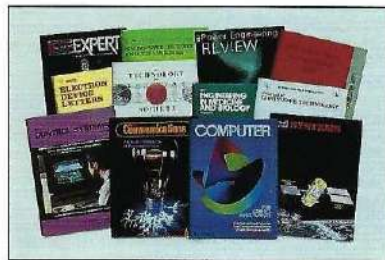
Each issue of SPECTRUM brings you reliable, incisive, and useful insights that help you better understand today's fascinating breakthroughs and experience the excitement of tomorrow's fast-breaking technological developments.

Recent issues include articles and reports on Europower 1992, The Threat of Peace, Technology and Healthcare, Nuclear Industry Outlook, Intruder-Proof Computer Systems, The Great HDTV Race, Managing Risk in Large Complex Systems . . . plus a vast array of

timely, educational, and useful information on books, conferences, and high tech products.

## IEEE: Making the future happen NOW!

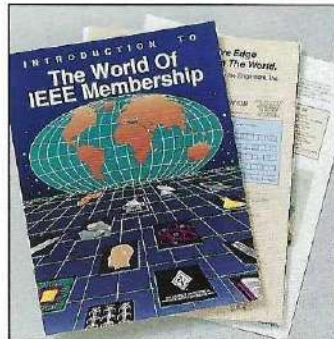
*Win prestigious industry awards (only IEEE members are eligible for consideration).*



*Take advantage of a wealth of engineering knowledge and know-how — much of it available to IEEE members*



*Share information and ideas with fellow IEEE members when you attend your choice of more than 4,500 local meetings and 285 major conferences held each year.*



*Join electrical engineering's oldest, largest, and most respected professional organization — IEEE — and speed your rise to the top of your profession.*



*Take advantage of IEEE group rates for health and medical insurance, plus special low rates on life insurance policies.*



**IEEE MEMBERSHIP DEVELOPMENT COMMITTEE**  
445 Hoes Lane, Piscataway, NJ 08855

**Have a question about IEEE membership or benefits?  
Call IEEE today at (800) 678 - IEEE.**

# TEST APPLICATION

<b>Society Memberships</b>	<b>S Code</b>	<b>Fees</b>	<b>Society Memberships</b>	<b>S Code</b>	<b>Fees</b>
Aerospace and Electronic Systems	10	\$15.00	Instrumentation and Measurement	09	\$12.00
Antennas and Propagation	03	\$12.00	Lasers and Electro-Optics	36	\$10.00
Broadcast Technology	02	\$ 8.00	Magnetics	33	\$10.00
Circuits and Systems	04	\$ 4.00	Microwave Theory and Techniques	17	\$12.00
Communications	19	\$12.00	Nuclear and Plasma Sciences	05	\$12.00
Components, Hybrids and Manufacturing Technology	21	\$ 9.00	Oceanic Engineering	22	\$ 6.00
Computer Society*	16	\$18.00	Power Electronics	35	\$15.00
Consumer Electronics	08	\$15.00	Power Engineering	31	\$15.00
Control Systems	23	\$15.00	Professional Communication	26	\$15.00
Dielectrics and Electrical Insulation	32	\$15.00	Reliability	07	\$ 8.00
Education	25	\$12.00	Robotics and Automation	24	\$15.00
Electromagnetic Compatibility	27	\$10.00	Signal Processing	01	\$15.00
Electron Devices	15	\$10.00	Social Implications of Technology	30	\$12.00
Engineering Management	14	\$13.00	Systems, Man, and Cybernetics	28	\$11.00
Engineering in Medicine and Biology	18	\$16.00	Ultrasonics, Ferroelectrics, and Frequency Control	20	\$15.00
Geoscience and Remote Sensing	29	\$10.00	Vehicular Technology	06	\$13.00
Industrial Electronics	13	\$15.00			
Industry Applications	34	\$15.00			
Information Theory	12	\$ 8.00			

\* ACM members joining Computer Society write ACM number here and deduct \$5.00 from Computer Society fee: ACM# \_\_\_\_\_



# IEEE AND SOCIETY MEMBERSHIP APPLICATION

To be completed and submitted by the prospective member.

Qualification for and grades of membership will be determined by educational background and/ or work experience

## IEEE Societies

In addition to the IEEE, members may join as many IEEE Societies as serve their personal and technical interests. The Society membership fees indicated on the reverse side include, with membership, a subscription to one or more publications of the respective Society. Why not join an IEEE Society at the same time you join the IEEE? If you want more information about IEEE Societies, please check the following box. ☐

☐ **YES!** *I gladly accept and I am returning this application so that I may be admitted to membership in the IEEE at the earliest possible date.*

Name \_\_\_\_\_ Title \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Please fill in all the information requested below as accurately as possible.

Present occupation \_\_\_\_\_

Number of years of professional practice \_\_\_\_\_ Date of birth \_\_\_\_\_ ☐ Male ☐ Female

Are you or were you ever a member of the IEEE? ☐ Yes ☐ No Membership # \_\_\_\_\_ Grade \_\_\_\_\_

College/University \_\_\_\_\_ Degree/Major \_\_\_\_\_ Date \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

I hereby make application for IEEE membership and, if elected, will be governed by IEEE's Constitution, Bylaws, Statements of Policies, Code of Ethics and Procedures. I authorize release of any information relating to this application.

FULL SIGNATURE OF APPLICANT \_\_\_\_\_

DATE \_\_\_\_\_

IEEE Membership Dues \$ 77.00

and

Society Membership Fees (Enter S Code from reverse side)

\_\_\_\_\_ \$ \_\_\_\_\_

\_\_\_\_\_ \$ \_\_\_\_\_

\_\_\_\_\_ \$ \_\_\_\_\_

\_\_\_\_\_ \$ \_\_\_\_\_

Amount Paid with Application . . . TOTAL \$ \_\_\_\_\_

☐ Check or money order enclosed

☐ Please bill me ☐ Bill my company

Charge my

☐ American Express ☐ Visa/Mastercard ☐ Diners Club

Card # \_\_\_\_\_ Exp. Date \_\_\_\_\_

Event Code

MDMPP1S

Brochure Code

BDMPP1S



To be completed and submitted by the prospective member.  
Qualification for and grades of membership will be determined by educational background and/or work experience.

☐ **YES!** I gladly accept and I am returning this application so that I may be admitted to membership in the IEEE at the earliest possible date.

Name \_\_\_\_\_ Title \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

**Please fill in all the information requested below as accurately as possible.**

Present occupation \_\_\_\_\_

Number of years of professional practice \_\_\_\_\_

Date of birth \_\_\_\_\_ ☐ Male ☐ Female

Are you or were you ever a member of the IEEE? ☐ Yes ☐ No

Membership # \_\_\_\_\_ Grade \_\_\_\_\_

College/University	Degree/Major	Date
_____	_____	_____
_____	_____	_____
_____	_____	_____

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FULL SIGNATURE OF APPLICANT \_\_\_\_\_ DATE \_\_\_\_\_

☐ Check for \$77.00 annual membership dues enclosed  
(payable to "IEEE")

☐ Please bill me ☐ Bill my company

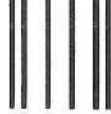
**Charge my** ☐ American Express ☐ Visa/Mastercard ☐ Diners Club

Card # \_\_\_\_\_ Exp. Date \_\_\_\_\_

Event Code  
MDMPP1

Brochure Code  
BDMPP1





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**ATTENTION:**

IEEE MEMBERSHIP COMMITTEE  
New Member Application Enclosed

