

PAPERS ARE INVITED

• **Decision and Control Conference.** Las Vegas, Nev., Dec. 12-14, 1984. Prospective authors are requested to submit an abstract and a manuscript (long paper). For further details regarding topics and the conference, contact Professor Abraham Haddad, 23 CDC, School of Electrical Engineering, Georgia Institute of Technology, Atlanta, Ga. 30332; telephone 404-894-3930. Deadline: March 15, 1984.

• **Industrial and Commercial Power Systems Technical Conference.** Denver, Colo., May 13-16, 1985. Papers will cover the areas of system protection; grounding; energy management; system design and analysis; maintenance (operation or safety); electric space heating and air conditioning; emergency or standby power; reliability; and energy monitoring and control. Prospective authors should submit the title of their paper and a summary of less than 500 words to Baldwin Bridger, Powell Elec. Manufacturing Co., P.O. Box 12818, Houston, Texas 77217. Deadline: March 15, 1984.

• **International Conference on Luminescence.** Madison, Wis., Aug. 13-17, 1984. Discussions will cover luminescence and spectroscopy of insulators, semiconductors, molecules, and molecular crystals; luminescence spectroscopy of disordered and amorphous systems; coherent and nonlinear spectroscopies of solids; nonradiative relaxation, energy transfer, and kinetics of luminescence in molecules and condensed phases; localization, dephasing, and line-broadening processes; electroluminescence and luminescence at interfaces; excitations and collective effects; nature of luminescence centers and defects; applications and techniques of luminescence; and emission properties in photobiology. Authors are requested to submit an original and a copy of both a 25-word abstract and a 400-word summary. Papers are to be mailed to Optical Society of America, 1816 Jefferson Place, N.W., Washington, D.C. 20036; telephone 202-223-8130. Deadline: March 15, 1984.

• **Research Committee of the Society of Exploration Geophysicists.** Tulsa, Okla., July 18-20, 1984. Featured topics are multiple attenuation, practical deconvolution, model validation, wavelet estimation and removal, and quantitative measures of success. Papers must be forwarded to Sven Treitel, Amoco Production Co., Research Center, P.O. Box 591, Tulsa, Okla. 74104. Deadline: March 15, 1984.

• **Inter-Noise '84—Thirteenth International Conference on Noise Control Engineering.** Honolulu, Hawaii, Dec. 3-5, 1984. Contributions in all areas of noise-control engineering for the technical program of Inter-Noise '84 are welcome. Of particular interest are the following topics: machinery noise reduction at the source; reduction of in-plant noise exposures; noise control in specific industries; noise control for vehicles and transportation systems; community noise, including construction, and aircraft; planning for industrial and community noise control; engine noise control;

shipboard noise control; and source identification and diagnostics. Authors are to submit abstracts for every conference paper. Limit each abstract to 200 words, including equations and references. Send three copies of each abstract to William W. Lang, Chairman, Inter-Noise '84, P.O. Box 3469, Arlington Branch, Poughkeepsie, N.Y. 12603. Deadline: March 15, 1984.

• **Symposium on Space C³ for the High Frontier.** Colorado Springs, Colo., Aug. 6-9, 1984. Suggested topics for inclusion in Space C³ unclassified and classified papers include current and future satellites as C³ resource; space network design and control; space surveillance systems as C³ resources, C³ requirements of space surveillance systems, surveillance data-display philosophies, and surveillance-technology overview; operations concepts in strategic and tactical environments; impacts of new technologies and systems on commanders; decision-assistance techniques; maintenance; and related subjects. Prospective authors must submit a one-page unclassified abstract to include title of and short biographical data about the author. Papers are to be mailed to Major Frank D. Tiller, Department of Electrical Engineering, U.S. Air Force Academy, Colorado Springs, Colo. 80840; phone 303-472-2475. Deadline: March 15, 1984.

• **International Conference on Advances in Microprocessor Peripherals.** Lausanne, Switzerland, Oct. 9-11, 1984. Topics of interest will encompass technologies of peripherals, including disks, printers, and displays; smart sensors, including special A/D techniques, processing, conditioning of parameters, and autocorrecting strategies; smart actuators, including positioning mechanisms, robots, power conversion, and interfacing; and man-machine interactions including input devices, ergonomics, human acceptance, and interactive dialogs. System implementation and design, including communication between subsystems, design tools, and methodology, will also be discussed. Prospective authors are to submit a proposal based on a full text (for tutorials) or a very detailed summary (for specialized papers). All papers are to be forwarded to the Scientifica Committee, Secretariat des Journées d'Electronique et de Microtechnique, Département d'Electricité—EPFL 16, Chemin de Bellerive, CH-1007 Lausanne, Switzerland. Deadline: March 15, 1984.

• **Ecma-12 International Conference on Developing an Effective Strategy to Optimize Fourth Generation Technology.** Munich, West Germany, Oct. 23-26, 1984. Topics include analytical methods, auditing EDP systems, automatic benchmarking, availability management, cached I/O and subsystems, capacity planning and management, computer measurement reporting, communication networks, cost-performance tradeoffs, data-base design, data-center management, designing on-line applications, data-processing budgeting and financial management, goals and functions of the CPE department, and

other related topics. Papers must be written in English and typed clearly on one side of the sheet, single-spaced, page-numbered, on standard-size (approximately 8-1/2 by 11) white paper, on one side of the sheet. Conference presentations will be in English. Prospective authors must submit two copies of abstracts and of papers, complete with name(s), affiliation(s), and mailing address(es) to which all correspondence has to be sent. Suggested length of the paper is approximately 4000 words and should not exceed 5000 words. Papers must be mailed to Scott N. Yasler, CDP, European Computer Measurement Association (Department CFP), Scheuchzerstrasse 5, CH-8006 Zurich, Switzerland; phone (01) 362-1268. Deadline: March 15, 1984.

• **Pan American Federation of Engineering Society's Eighteenth Convention.** Caracas, Venezuela, Oct. 28-Nov. 2, 1984. Topics will include urban planning; environment; food; communications and transportation; energy; and specific industries, including mining, chemicals, and professional practice. Emphasis will be placed on these topics; however, papers will be considered on other topics that relate to the disciplinary field of the congress and follow the main theme—the engineer as an integrating factor for the Americas. All authors must submit a summary or an abstract. Abstracts should be no more than 300 words in length and should be typewritten single-spaced. They should include the complete title of the paper in uppercase letters, followed by the author's name in lowercase letters, underlined, and then the abstract's text. For further information regarding paper submission contact Ms. Julie Gibouleau, Convention Secretary for USA, c/o American Association of Engineering Societies, 345 E. 47th St., Third Floor, New York, N.Y. 10017; phone 212-705-7459. Deadline: March 15, 1984.

• **Sixth Annual Electrical Overstress/Electrostatic Discharge Symposium.** Philadelphia, Pa., Oct. 2-4, 1984. Topics include failure mechanisms; design for electrical overstress; and precautionary measures and testing. Prospective authors are requested to submit a 50-word abstract and a 300-to-500-word summary appropriate to describe a 20-minute paper. The 50-word abstract should be typed on a separate sheet and include the title of the talk, the name and affiliation of the author(s), and a complete return address and telephone number(s). All abstracts are to be mailed to Burt Unger, Technical Program Chairman, Bell Laboratories, 600 Mountain Ave., Murray Hill, N.J. 07974; phone 201-582-2555. Deadline: March 16, 1984.

• **Tenth European Conference on Optical Communication.** Stuttgart, West Germany, Sept. 3-6, 1984. Topics to be discussed are fiber and cables, active and passive components, integrated optics, system design and applications, and so on. Authors are asked to submit two-page abstracts that contain the main results and most important drawings. Presentation and discussion of papers will be in English. There will be no simultaneous translation at the conference. Submit papers to Committee Chairman, S. Maslowski, AEG-Telefunken, Research Institute, Sedanstrasse 10, D-7900 Ulm, West Germany; phone + 71-392-3267. Deadline: March 31, 1984.



The Mind to Imagine.

Imagination. Exploration. Determination.

Above all Quality.

That's Motorola — at the very nucleus of high technology. A world leader in electronics with annual sales of over \$4 billion.

Beginning with the famed World War II "walkie-talkie" the Communications Sector — one of Motorola's largest operating units — has pioneered portable two-way communications. Our portable products and paging systems keep physicians, sales people, security guards, hospital and police in communication instantly.

Obviously, this kind of achievement isn't sparked by complacency. To push technology forward, it takes outstanding individuals working in a creative environment. Motorola has both.

Meet one of our talented Technical Managers, Georgina Moré. Georgina possesses a BS in Metallurgical Engineering from the University of Missouri and a

Master's degree in Metallurgical Engineering. She spent 10 years at GE before joining Motorola in 1972. She is currently a Senior Manager in the Communications Sector. She has been recognized by her peers for her outstanding performance.

I am looking for people now that have the same drive as I do. I am also looking for people who are interested in a career in the Communications Sector.

Joining Motorola's Communications Sector offers a wide range of opportunities for professional career growth. We are currently looking for individuals who are interested in the following areas:

• Design and Development of Portable Two-Way Radios
• Design and Development of Paging Systems
• Design and Development of Cordless Telephones

• Design and Development of Cordless Telephones
• Design and Development of Cordless Telephones

• Design and Development of Cordless Telephones
• Design and Development of Cordless Telephones

• Design and Development of Cordless Telephones
• Design and Development of Cordless Telephones

• Design and Development of Cordless Telephones
• Design and Development of Cordless Telephones

• Design and Development of Cordless Telephones
• Design and Development of Cordless Telephones

• Design and Development of Cordless Telephones
• Design and Development of Cordless Telephones

• Design and Development of Cordless Telephones
• Design and Development of Cordless Telephones

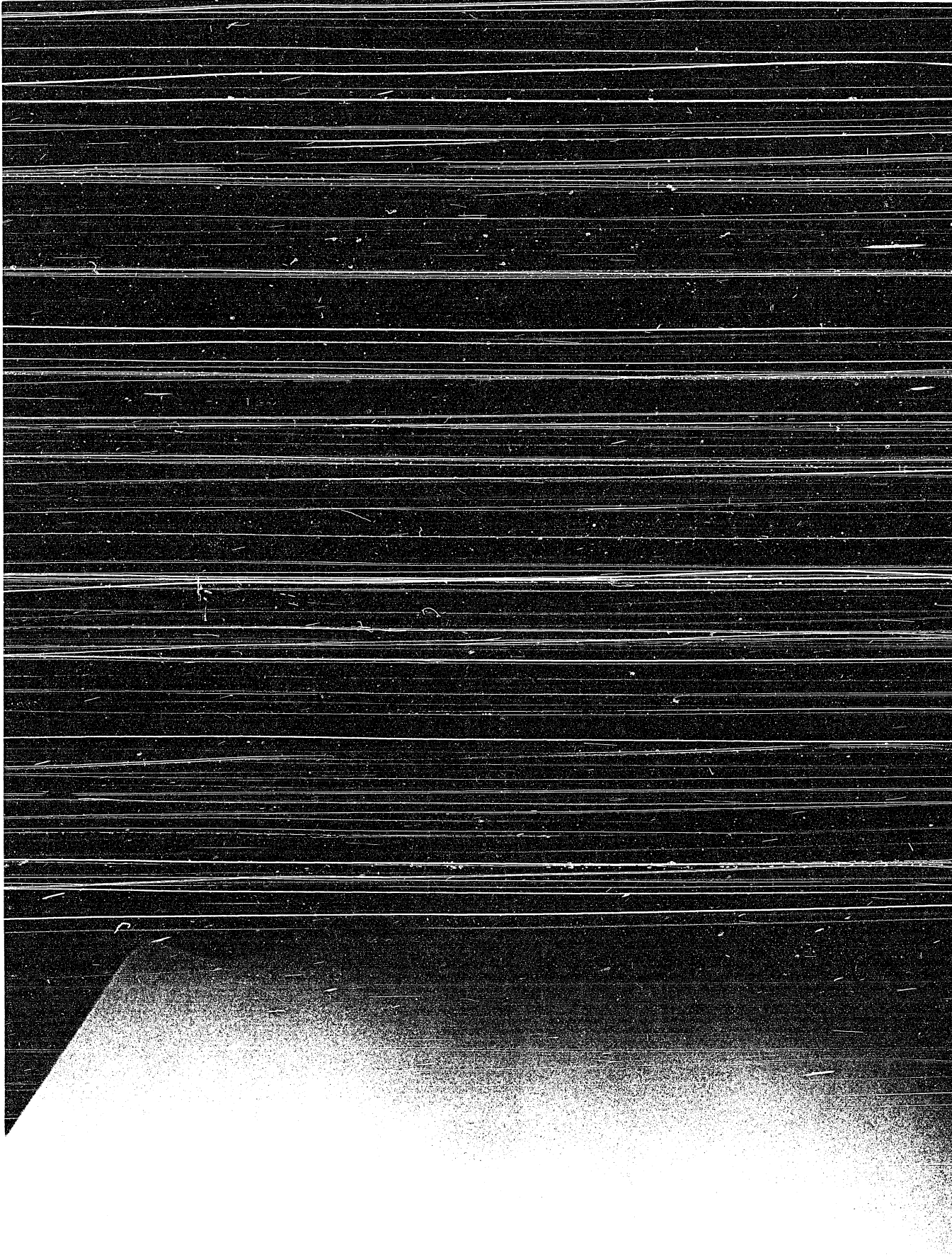
• Design and Development of Cordless Telephones
• Design and Development of Cordless Telephones

• Design and Development of Cordless Telephones
• Design and Development of Cordless Telephones

The Opportunity To Do It.



MOTOROLA INC.



Building the world's mightiest machine.

Your basic, everyday telephone is in fact part of the biggest and most complex artifact man has ever created.

It already provides you with indispensable services. But the best is yet to come.

The global telecommunications network is gradually evolving into a single, worldwide, digital computer. And the new information services that are successively becoming publicly available will have a social impact, comparable to that of steam or electricity.

A company called Ericsson is in the forefront of the new digital information technology that's wrapping up telecommunications, data processing and office automation in one big package.

Take Ericsson's new AXE public digital switching system, for example. Because of its modular, future-proof design, it has already been chosen by telephone companies in 49 countries besides the U.S. No other system in the history of telecommunications has ever enjoyed such spectacular success.

All of Ericsson's 70,000 people work in just one field: information technology. To Ericsson this field extends from electronic typewriters to nationwide telephone systems. From lightwave cable to office automation networks. From computer terminals to satellites. From cellular radio networks to distributed data processing systems.

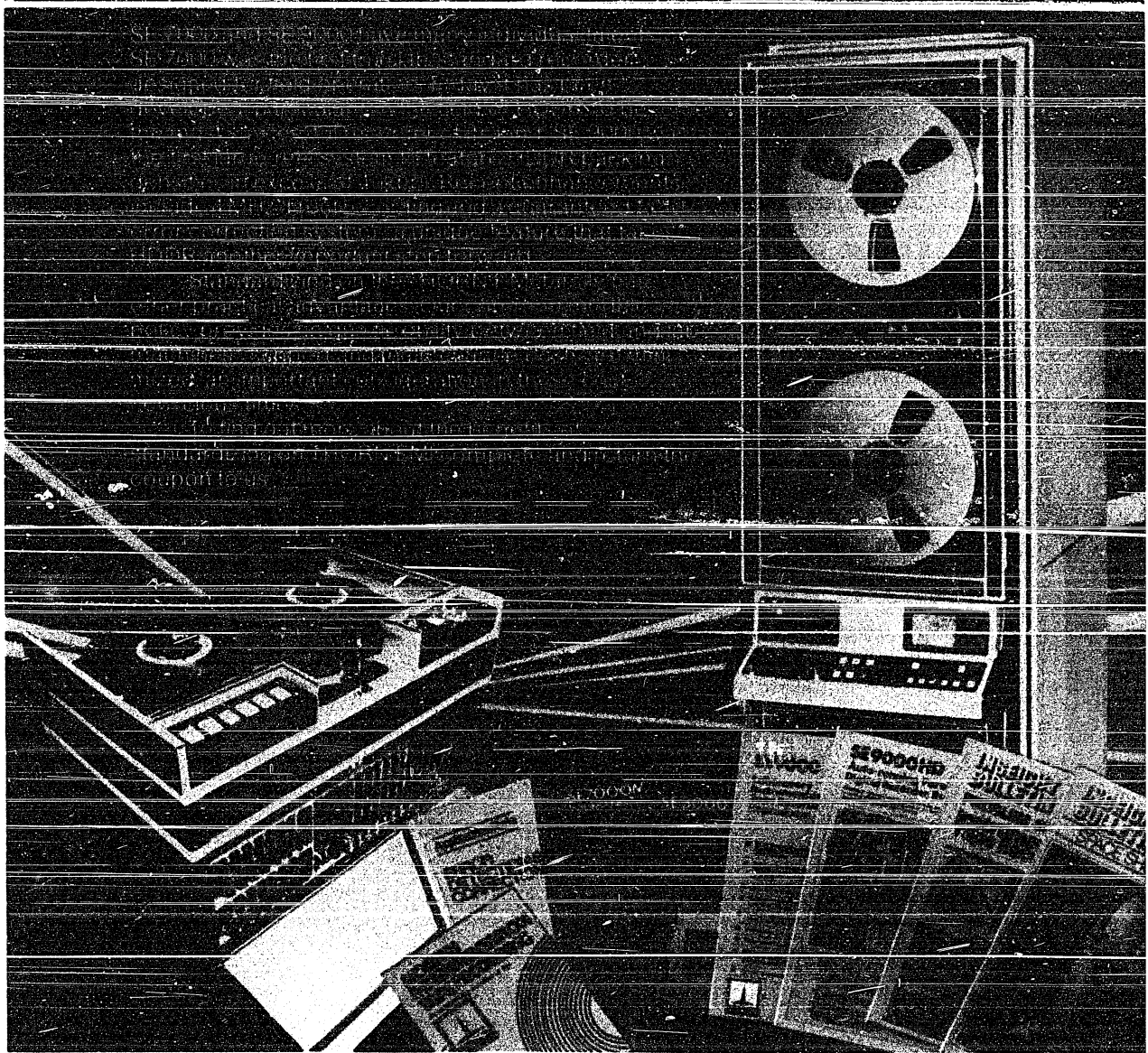
Ericsson integrates all these into one compatible technology, staying at the leading edge by spending 10% of its annual sales on Research & Development.

Find out more about the technological and financial strength of this innovative company. Ericsson, Inc., Greenwich Office Park 3, Greenwich, CT 06836-3110.

ERICSSON 

THORN EMI
INSTRUMENTATION
RECORDERS

The innovative family that shares its talents



To: THORN EMI Technology Inc., Suite 301, 8601 Dunwoody Place, Atlanta GA 30338

Please send me

Engineering Handbook

Modern Instrumentation Tape Recording

Product Literature

SE 3000 mid-band SE 9000 multi-band
 SE 7000 mid-band SE 9000 HD (high density)
 SE 7000 wideband

Technical Papers

3 position Modulation Coding (3PM)
 Error detection and correction

Please tick where applicable

Application Bulletins

Radar-Data Recording
 Meteorology and the Environment
 Offshore Oil and Gas;
Structural Monitoring
 Aero engine performance etc.
 Vehicle Development, Crash Testing
 Energy Conservation; Astronomy
 Power Generation Distribution
 Hydrodynamic and in-flight
tests of Hovercraft

Name _____

Title _____

Company _____

Address _____

City _____ State _____ Zip _____

Phone _____

THORN EMI Technology Inc., Suite 301, 8601 Dunwoody Place, Atlanta GA 30338
Tel: (404) 587-0017



**THORN EMI
Technology**

A THORN EMI company

G., Heyden & Son Inc., Philadelphia, Pa., 1983, 244 pp., \$29.

Data Processing: Current Theories and Practices. *Clare, C.P., and Loucopoulos, P.*, Heyden & Son Inc., Philadelphia, Pa., 1983, 355 pp., \$22.

Drives/Motors/Control '83. *Lawrenson, Peter, and Hughes, Austin, et al.*, Inspec Dept./IEEE, Piscataway, N.J., 1983, 195 pp., \$46.

Computer Performance Modeling Handbook. *Lavenberg, Stephen S.*, Academic Press Inc., New York, 1983, 588 pp., \$45.

Semiconductors and Semimetals—Vol. 19. *Willardson, R.K., and Beer, Albert C.*, Academic Press Inc., New York, 1983, 342 pp., \$57.50.

Taming the Atom: Facing the Future With Nuclear Power. *Blair, Ian*, Adam Hilger (Heyden

& Son Inc.), Philadelphia, Pa., 1983, 248 pp., \$11.50.

Programming the 8086/8088. *Coffron, James W.*, Sybex Inc., Berkeley, Calif., 1983, 311 pp., \$14.95.

Practical Wordstar Uses. *Arca, Julie Anne*, Sybex Inc., Berkeley, Calif., 1983, 303 pp., \$13.95.

Electric Power System Dynamics. *Yu, Yao-Nan*, Academic Press Inc., New York, 1983, 253 pp., \$36.50.

Structured Analysis and Design of Information Systems. *Wigander, K., et al.*, McGraw-Hill Book Co., New York, 1983, 277 pp., \$29.95.

Family Computer Under \$200. *Mosher, Doug*, Sybex Inc., Berkeley, Calif., 1983, 180 pp., \$3.95.

Datatron: A Comprehensive and Practical System for Developing and Maintaining Data Processing Systems. *Gonzales, Harvey J., and Fein, Lois*, Prentice-Hall Inc., Englewood Cliffs, N.J., 1983, 385 pp., \$32.50.

Transducers: Theory and Applications. *Allocca, John A., and Stuart, Allen*, Reston Publishing Co., Reston, Va., 1983, 495 pp., \$22.95.

Structural Theory of Distributed Systems. *Butkovskiy, A.G.*, John Wiley & Sons Inc., Somerset, N.J., 1983, 314 pp., \$24.95.

Traction Drives: Selection and Application. *Heilich, Frederick W. III, and Shube, Eugene*, Marcel Dekker Inc., New York, 1983, 360 pp., \$45.

Software Engineering: Methods of Technique. *Blank, J., and Krigger, M.J.*, John Wiley & Sons Inc., Somerset, N.J., 1983, 245 pp., \$24.95.

Mathematics Applied to Electronics—Second Edition. *Harter, James H., and Beltzel, Wallace D.*, Reston Publishing Co., Reston, Va., 1983, 674 pp., \$24.95.

Review of Progress in Quantitative Non-destructive Evaluation—Vols. 2A and 2B. *Thompson, Donald, and Chimentry, Dale E.*, Plenum Publishing Corp., New York, 1983, 882 and 1853 pages, respectively, \$225 (for both volumes).

Assessing the impact of information Technology. *Szyperki, N., et al.*, Heyden & Son Inc., Philadelphia, Pa., 1983, 210 pp., \$25.50.

Overcoming Computer Fear. *Berner, Jeff*, Sybex Inc., Berkeley, Calif., 1983, 92 pp., \$3.95.

Microwave Receivers and Related Components. *Tsu, James Z.*, NTIS (U.S. Department of Commerce), Springfield, Va., 1983, 530 pp., \$27.50.

Handbook of Numerical Analysis Applications. *Pachner, Jaroslav*, McGraw-Hill Book Co., New York, 1983, 315 pp., \$44.50.

Power Generation Operation and Control. *Wood, Allen J., and Wollenberg, Bruce F.*, John Wiley & Sons, Somerset, N.J., 1983, 443 pp., \$34.95.

Applied Concepts in Microcomputer Graphics. *Artwich, Bruce A.*, Prentice-Hall Inc., Englewood Cliffs, N.J., 1983, 374 pp., \$27.95.

Your Color Computer. *Mosher, Doug*, Sybex Inc., Berkeley, Calif., 1983, 350 pp., \$12.95.

The ABC's of the IBM PC. *Lasselle, Joan, and Ramsay, Carol*, Sybex Inc., Berkeley, Calif., 1983, 175 pp., \$12.95.

The Easy Guide to the Commodore 64. Sybex Inc., Berkeley, Calif., 1983, 130 pp., \$7.95.

The Best of TI Cartridges. *Blackadar, Thomas*, Sybex Inc., Berkeley, Calif., 1983, 150 pp., \$9.95.

The Apple II Basic Handbook. *Hergert, Douglas*, Sybex Inc., Berkeley, Calif., 1983, 250 pp., \$13.95.

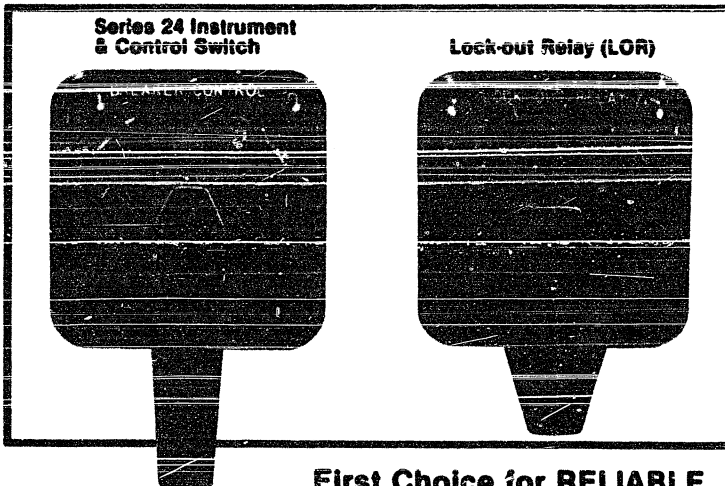
Principles of Productive Software Management. *Evans, Michael W., et al.*, John Wiley & Sons Inc., Somerset, N.J., 1983, 228 pp., \$62.50.

The Physics and Chemistry of Color. *Nassau, Kurt*, John Wiley & Sons Inc., Somerset, N.J., 1983, 454 pp., \$43.95.

Making information Systems Work for You. *Bentley, Trevor J., and Forkner, Irvine H.*, Prentice-Hall Inc., Englewood Cliffs, N.J., 1983, 178 pp., \$17.95 hardcover, \$8.95 paperback.

NOW AVAILABLE FROM STOCK!

Most Series 24 Instrument & Control Switches and
Lock-out Relays are stocked for immediate delivery!



First Choice for RELIABLE
Power Industry applications.

STANDARD FEATURES: • 30A-600V rating • LOR's have up to 20 NC & NO contacts and under 8 millisecond trip time • Silver Contact Surfaces for Long Reliable Life • Standard 3-hole mount • Enclosed contacts

Qualified for Class 1E Applications

Hundreds of OPTIONS for power industry applications (pull-to-lock, slip contacts, spring-return, mechanical targets, removeable handles, etc.

FULL DETAILS & SPECS from your local Electro Switch representative or contact us direct.



ELECTROSWITCH

Weymouth, Massachusetts 02188

Telephone: 617/335/5200 • TWX: 710/388/0377



The best career move you can make is to the keyboard of your personal computer.

It's free. It's confidential.

Never before have technical and financial career markets undergone such rapid change.

But now there's a way to keep up with it. This new key to career opportunity is your personal computer. And the cost is nothing but a phone call.

Just call CLEO. That stands for Computer Listings of Employment Opportunities.

CLEO responds to your commands and it's interactive. You specify what job categories, companies, or geographic locations interest you. CLEO calls up the appropriate ads right on your screen. At every step, you're guided by explicit online instructions.

Daily updates keep CLEO job listings current. You can even apply for positions right from your

own terminal. For a detailed job search, or just an idea of what's available, CLEO is waiting for your call today. With today's opportunities.

**CLEO access: (415) 482-1550 • (406) 294-2000 •
(213) 618-8800 • (714) 476-8800 • (619) 224-8800 •
(818) 991-8900**

300 BAUD, full duplex, standard ASCII code.
Access assistance: (213) 618-1525

CLEO 

Computer Listings of Employment Opportunities

Recruitment advertisers —
call (213) 618-0200 collect
to find out how you can
place your ad on CLEO.

An electronic publishing activity of The Copley Press, Inc.

Microwave Imaging with Large Antenna Arrays. *Steinberg, Bernard D.*, John Wiley & Sons Inc., Somerset, N.J., 1983, 306 pp., \$37.50.

Computer-Assisted Instruction. *Chambers, Jack A., and Sprecher, Jerry W.*, Prentice-Hall Inc., Englewood Cliffs, N.J., 1983, 232 pp., \$18.95 hardcover, \$12.95 paperback.

Microcomputer Software Design: How to Develop Complex Application Programs. *Campbell, Sally*, Prentice-Hall Inc., Englewood Cliffs, N.J., 1983, 227 pp., \$21.95 hardcover, \$12.95 paperback.

Local Networks. *Stallings, William*, Macmillan Publishing Co., New York, 1983, 381 pp., \$29.95.

64 SuperCalc® Models: Finance-Statistics-Mathematics. *Flast, Robert H.*, Os-

borne/McGraw-Hill, Berkeley, Calif., 1983, 240 pp., \$15.95.

Graphics Primer for the IBM®PC. *Waite, Mitchell, and Morgan, Christopher L.*, Osborne/McGraw-Hill, Berkeley, Calif., 1983, 430 pp., \$21.95.

Humanized Input: Techniques for Reliable Keyed Input. *Gilb, Tom, and Weinberg, Gerald M.*, QED Information Sciences Inc., Wellesley, Mass., 1983, 261 pp., \$24.95.

Fundamentals of Microelectronics. *Stepanenko, I.P.*, imported Publications Inc., Chicago, Ill., 1983, 456 pp., \$10.95.

The Origin and Revolution of Planetary Atmospheres. *Henderson-Sellers, A.*, Heyden & Son Inc., Philadelphia, Pa., 1983, 236 pp., \$34.

Learning and Teaching with Computers. *O'Shea, Tim and Self, John*, Prentice-Hall Inc., Englewood Cliffs, N.J., 1983, 307 pp., \$12.95.

Apple® II User's Guide—Second Edition. *Poole, Lon, et al.*, Osborne/McGraw-Hill, Berkeley, Calif., 1983, 482 pp., \$17.95.

Problem Solving Using PL/I and PL/C. *Harrow, Keith*, Prentice-Hall Inc., Englewood Cliffs, N.J., 1983, 447 pp., \$19.95.

Time is of The Essence. *Stokes, Stewart L.*, QED Information Sciences Inc., Wellesley, Mass., 1983, 142 pp., \$14.95.

The Wiley Science Calendar 1984. *John Wiley & Son, John Wiley & Sons Inc.*, Somerset, N.J., 1984, 168 pp., \$16.95.

Your First VIC 20™ Program. *Zaks, Rodney*, Sybex Inc., Berkeley, Calif., 1983, 200 pp., \$9.95.

Presenting Science to the Public. *Gastel, Barbara*, ISI Press, Philadelphia, Pa., 1983, 146 pp., \$17.95 hardcover, \$11.95 paperback.

Semiconductor Memories. *Prince, Betty, and Due-Gundersen, Gunnar*, John Wiley & Sons Inc., Somerset, N.J., 1983, 200 pp., \$21.95.

Sprite Graphics for the Commodore 64™. *Greenwood Larsen, Sally*, Prentice-Hall Inc., Englewood Cliffs, N.J., 1983, 184 pp., \$21.95 hardcover, \$15.95 paperback.

Solid State Industrial Electronics. *Pearman, Richard*, Reston Publishing Co., Reston, Va., 1983, 692 pp., \$25.95.

Transistors: Fundamentals for the Integrated-Circuit Engineer. *Warner, R.M., and Grung, B.L.*, John Wiley & Sons Inc., Somerset, N.J., 1983, 875 pp., \$64.95.

The UNIX Programming Environment. *Kernighan, Brian W., and Pike, Rob*, Prentice-Hall Inc., Englewood Cliffs, N.J., 1983, 357 pp., \$26.95.

Principles of Digital Data Transmission—Second Edition. *Clark, A.P.*, John Wiley & Sons Inc., Somerset, N.J., 1983, 299 pp., \$24.95.

Artificial Intelligence. *Andrew, A.M.*, Heyden & Son Inc., Philadelphia, Pa., 1983, 203 pp., \$33.

Programs for your Timex/Sinclair 1000™. *House, Melbourne*, Prentice-Hall Inc., Englewood Cliffs, N.J., 1983, 108 pp., \$13.95 hardcover, \$5.95 paperback.

Proceedings of an International Conference on Lasers—May 1980. *Daheng, Wang, et al.*, John Wiley & Sons Inc., Somerset, N.J., 1983, 909 pp., \$95.

The Radio Amateur's Handbook 1984. *Woodward, George H., et al.*, American Radio Relay League, Newington, Conn., 1984, 648 pp., \$12.

Proceedings of the Chinese-U.S. Symposium on Systems Analysis. *Gray, Paul, and Liu, Yuan-Zhang*, John Wiley & Sons Inc., Somerset, N.J., 1983, 347 pp., \$69.50.

Digital Signal Processing—Second Edition. *Stanley, William D., et al.*, Reston Publishing Co., Reston, Va., 1983, 514 pp., \$28.95.

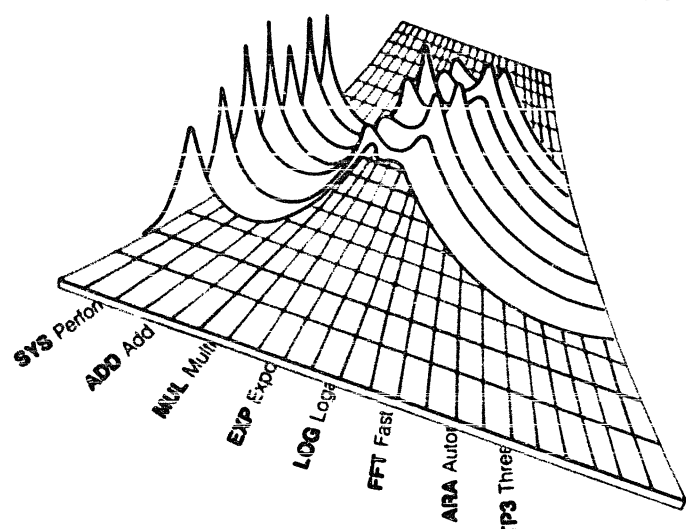
More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave. *Schwartz Cowan, Ruth*, Basic Books Inc., New York, 1983, 288 pp., \$17.95.

The Physics of Amorphous Solids. *Zallen, Richard*, John Wiley & Sons Inc., Somerset, N.J., 1983, 304 pp., \$36.95.

Simply the Best Way
TO DO INTERACTIVE SIGNAL PROCESSING

I*S*P

THE INTERACTIVE SIGNAL PROCESSOR



If digital signal processing is important to you then I*S*P will enhance your productivity. Whether you do research, design or analysis... if it's radar, sonar, seismic, speech or bio-medicine... I*S*P will be an asset. I*S*P from BEDFORD RESEARCH is setting new standards in interactive signal processing. With it you can perform signal processing functions, manage data, display graphics or even develop simulations using the I*S*P interactive language. I*S*P is currently available on DEC PDP series under RT-11 and RSX and on VAX under VMS. It is also being adapted to operate on other systems. Interested? ... Call today to see the capabilities of I*S*P via our on-line demonstration using your compatible graphics terminal.

BEDFORD RESEARCH

4 De Angelo Drive, Bedford, Massachusetts 01730 (617) 275-7246

I*S*P is a trademark of BEDFORD RESEARCH; DEC, PDP, VAX, RT-11, RSX, VMS are trademarks of Digital Equipment Corporation.

Employment opportunities

Organizations seeking engineers and scientists describe their various openings in the following advertising section. In order to conform to the Age Discrimination in Employment Act and to discourage age discrimination, IEEE may reject any advertisement containing any of these phrases or similar ones, "recent college grads," "1-4 years maximum experience," "up to 5 years experience," or "10 years maximum experience." IEEE reserves the right to append to any advertisement, without specific notice to the advertiser, "Experience ranges are suggested minimum requirements, not maximums." IEEE assumes that, since advertisers have been notified of this policy in advance, they agree that any experience requirements, whether stated as ranges or otherwise, will be construed by the reader as minimum requirements only. While IEEE does not ban the use of the term "entry level," its use is discouraged since, to some, it connotes an age rather than an experience designation. IEEE accepts employment advertising to apprise its members of opportunities. Interested parties should be aware that the political and humanistic values of certain advertisers may differ from their own.

To place an advertisement in Spectrum's Employment Opportunities section, contact the nearest Spectrum sales office

New York
212-705-7760

Boston
617-896-5930

Philadelphia
215-363-7355

Chicago
312-446-1444

San Francisco
415-392-6794

Los Angeles
818-796-9200

IEEE Spectrum Advertising Dept., 345 E. 47th St., New York, N.Y. 10017

COMPUTER PROFESSIONALS

**With Current Experience In Applications Software,
OS/SW, Communications Networks, Compilers,
DBMS and Development Tools.**

We are now assuming our responsibilities as the Shuttle Processing Contractor for NASA at the Kennedy Space Center, Florida and the U.S. Air Force at Vandenberg Air Force Base, California. This six year contract (with options to fifteen years) will provide you with a secure opportunity to join the team of professionals like yourself who are making a significant contribution in the manned space program.

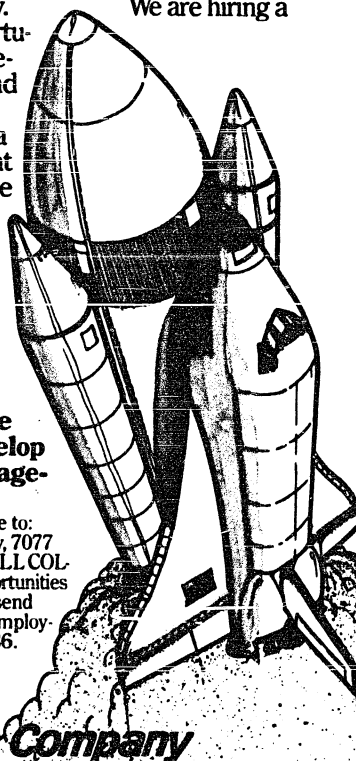
If you are an experienced computer professional whose goal is more challenging and rewarding work in a state-of-the-art environment, look to Lockheed Space Operations Company. We are hiring a number of professionals, like you, to fill opportunities involving the development and enhancement of: Applications Software (Real-time and Interactive), Operating Systems Software, Communications Networks, Compilers, Data Base Management Systems and Development Tools. You will be working on the Space Shuttle Launch Processing Systems (LPS), which is a highly distributed network of over 300 MODCOMP Super Mini Computers and a large number of Honeywell 6000's with over 3.5 billion bytes of mass storage. Some of these opportunities will involve a three month program to become familiar with the entire LPS and the space system unique OS/SW.

We also have opportunities available for MIS Applications professionals to develop a wide variety of on line Data Base Management Systems.

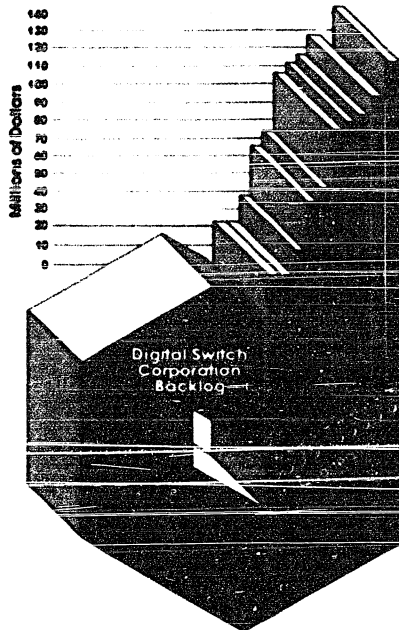
For immediate consideration call or send your resume to: Donald A. Quirk, Lockheed Space Operations Company, 7077 North Atlantic Avenue, Cape Canaveral, Florida, 32920. CALL COLLECT (305) 799-0100. Candidates who wish to pursue opportunities located at Vandenberg Air Force Base, California should send their resume to: Lockheed Space Operations Company, Employment Office, 1100 West Laure Avenue, Lompoc, CA, 93436.

 **Lockheed
Space Operations Company**

An Equal Opportunity Employer/U.S. Citizenship Required/Principals Only.



BE A PART OF A LIVING AMERICAN SUCCESS STORY!



Since 1981, we have grown from 11 to over 750 employees. As of third quarter, 1983, sales have grown from market entry to over \$87 million and order backlog to over \$144 million. The reason? Customer oriented design, marketing and servicing of advanced digital switching systems that meet the needs of today...and tomorrow. If you would like to be part of a group that is writing a new chapter in telecommunications history, consider the following areas:

CALL PROCESSING

Design and development of real time telephone, attendant, trunk control and call processing software. Will be heavily involved in the development of central office (Class 5 switch).

MAINTENANCE/DIAGNOSTICS

Design and development of configuration, control and diagnostic software for distributed processing systems.

OPERATING SYSTEM

Design and development of real time operating systems software for distributed microprocessor based systems.

SWITCH ADMINISTRATION

Design and development of administration, data base and message accounting software.

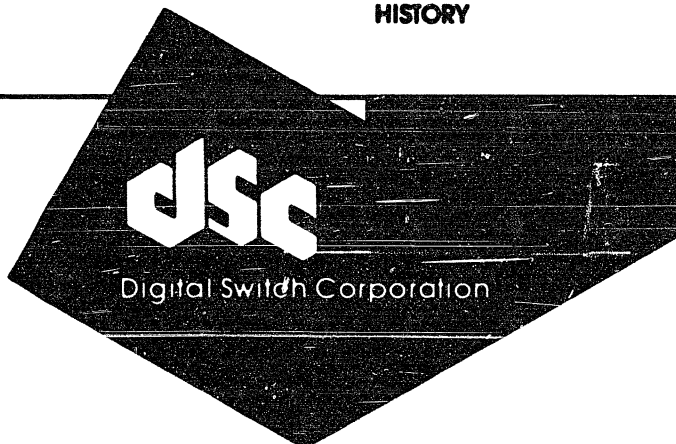
All positions require a BS/MSCS, EE, Math or related discipline. Experience with assembly language and/or "C" highly desirable.

We can offer competitive salaries, extensive company-paid benefits, and excellent potential for professional recognition and advancement. For prompt consideration, please send your resume to:

Staffing Manager
Dept. IEES 0300 E
Digital Switch Corporation
P.O. Box 830911
Richardson, Texas 75083-0911

equal opportunity employer

HELP WRITE A NEW CHAPTER IN TELECOMMUNICATIONS HISTORY



ENGINEERS

WE ARE THE BEST IN THE U.S.
FOR HI TECH OPPORTUNITIES!!
THESE ARE ONLY A FEW OF THE
HUNDREDS OF HI TECH
OPENINGS

ELECTRONIC ENGR'S	25-30K
POWER SUPPLIES	25-75K
RELIABILITY & QUALITY	25-75K
LSI DESIGN ENGR'S	25-50K
R.F. & MICROWAVE	25-65K
IMAGE PROCESSING	25-45K
SEMICONDUCTOR	25-60K
RADAR & SONAR ENGR'S	25-65K
DIGITAL ANALOG	25-49K
SIGNAL ANALYSIS	25-47K
ATE TEST ENGR'S	25-50K
PLASTIC ENGR'S	25-70K
ELECTRONIC WAREARE	25-65K
AERO-SPACE ENGR'S	25-60K
HI TECH MANAGERS	35-90K
CIRCUIT DESIGN	25-49K
SOFTWARE ENGR'S	25-50K
HARDWARE ENGR'S	25-50K
CATV & VIDEO	25-60K

SEND YOUR RESUME IN CONFIDENCE
HI TECH HAS AFFILIATES IN
DALLAS TAMPA DENVER SAN
MILW NEW YORK & PHOENIX

HI TECH SEARCH CONSULTANTS

10615 G TIERRASANTA BLVD
SUITE 227
SAN DIEGO, CALIF. 92124
619-692-2400

Faculty Positions

Computer & Information Science

Applications for Spring or Fall, 1984 are invited for all tenure-track ranks. A PhD in Computer Science or related field is a requirement for professional rank. Special lecturer positions are open for persons who are currently pursuing doctoral degrees or who have demonstrated experience in computing. The Computer & Information Science Dept. at NJIT offers degrees through the PhD. Applicants must be able to teach undergraduate and graduate courses in such areas as Simulation, Numerical Analysis, Software Engineering, Operating Systems, Mini and Micro Computer Systems, Formal Language Theory, Programming Languages, Business Systems and Computer Architecture. The Dept. faculty is heavily involved in research in all areas of Computer & Information Science. Applicants should be committed to participating in research and developing their own research interests. Reduced teaching load is available during the academic year and support during the summer to those involved in research.

Please send resume to:
Personnel Dept., Box C15

New Jersey
Institute of Technology
2nd Century 

Newark, New Jersey 07102
Equal Opportunity/Affirmative Action Employer
M/F/H

HV Integrated Device Research at General Electric Research & Development Center

The Challenge:

As part of a major GE thrust in electronics, General Electric Research & Development Center is mounting programs in the exciting new area of high voltage integrated circuits and high voltage MOS devices. These fields, while new, are rapidly evolving and are expected to give significant impetus to the continuing explosive growth of electronic applications in the industry as a whole and in GE in particular. The work will emphasize research and application of state-of-the-art processing and CAD techniques to the unique problems inherent in these high voltage devices and IC's. Both programs will establish a leadership position in their respective fields and offer the opportunity for talented people to make major contributions in an emerging area.

The Environment:

The R&D Center—one of the world's leading laboratories linking basic research to applications—has further openings for innovative talent. Not only is this an opportunity to work with a top interdisciplinary team in superb facilities, but our upstate New York location offers unusual recreational, cultural and cost-of-living advantages. The three urban centers of Boston, New York and Montreal are within a few hours drive as are the recreational opportunities afforded by the Adirondack Mountains, Lakes George and Champlain, and Cape Cod.

Professional Opportunities:

We have immediate openings for people at associate staff and staff levels with appropriate degrees/experience in the following areas:

- Silicon IC Processing and Design
- High Voltage DMOS and IC Development
- Silicon Process Development including:
 - photolithography
 - ion implantation
 - dielectric isolation
 - plasma and reactive ion etching
 - silicon vapor phase epitaxy

Contact:

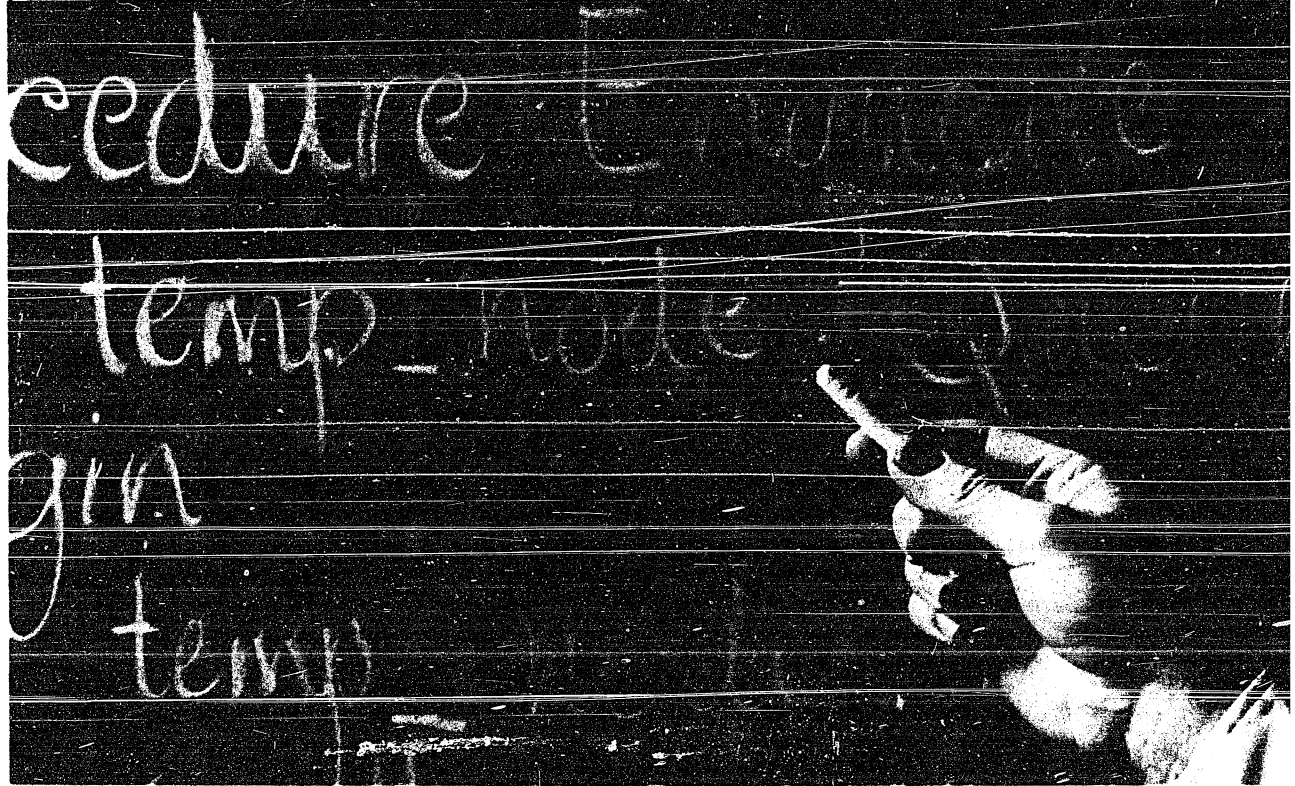
Investigate excellent salaries, benefits and growth prospects by sending your confidential resume to Mr. Neff T. Dietrich, University Relations and Recruiting, Ref. 105C, General Electric Research & Development Center, P.O. Box 8, Schenectady, NY 12301.

The future is working
at General Electric

GENERAL  **ELECTRIC**

An equal opportunity employer

To succeed in the future you must learn to speak its language.



Everyone involved with computer software will come to know *Ada*. The U.S. government, the largest consumer of software in the world, has already selected *Ada* as its language of preference. Widespread use of *Ada* throughout industry and business is assured.

OUR COMMITMENT TO EXCELLENCE

Martin Marietta is committed to a future of computer software excellence. And *Ada* is part of that future. For us, it's more than a new language, it is a new beginning. But our commitment to becoming the software center of excellence requires exceptional people—

people who don't wait for the future, but work to create it.

STEP INTO THE FUTURE

Martin Marietta is now looking for software professionals to move ahead with us, to step into the future and help lead the way. There are already many opportunities to work with *Ada* as we explore its many applications. We have even started intensive on-site education for our employees, including a full-time, 13-week introductory program.

So, if you want to succeed in the future, come to where we already speak its language.

***Ada*. The language of the future.**

MARTIN MARIETTA

WE CURRENTLY HAVE THE FOLLOWING POSITIONS FOR SOFTWARE PROFESSIONALS AVAILABLE:

MICROPROCESSOR/FIRMWARE DESIGN ENGINEERS

Microprocessor firmware design. Intel 808X type assembly language experienced required.

VLSI AND VHSIC CAD/SOFTWARE DEVELOPMENT ENGINEERS

CAD software development; VLSI and LSI design and implementation, VAX/VMS experience preferred.

ROBOTICS ENGINEERS

Control system design and robotics, including control system analysis, software design, programming, test and integration, and fabrication.

DATA COMMUNICATIONS

Communication System Engineering, Military Command and Control, and Voice Data Communications. Design and implementation of microprocessor based communication network architectures. Includes communication system analysis and requirements generation for Message Handling, Accountability, Integrity, Security, and Switching, Local Area Networks (LANs), C³ Systems, MMI, and System Control Monitoring.

DIGITAL/SIMULATION MODELING

Experience in mathematical modeling and analysis of C³ and C³I systems, communications traffic models, security models and data acquisition.

ARTIFICIAL INTELLIGENCE SPECIALISTS

Artificial Intelligence design with LISP programming experience.

SOFTWARE APPLICATIONS

Experience in spacecraft flight software, RF software, mission operations software, real-time process control software, and real-time closed loop simulation applications.

OPERATING SYSTEMS SOFTWARE

Systems programming (internals) experience on virtual memory operating systems and real-time executives for both mini-computers and large mainframes. Performance monitoring and management experience of particular interest. UNIVAC, DEC, HP, IBM, MODCOMP, and SEL experience is desired.

CONFIGURATION MANAGEMENT

Developing and maintaining technical baselines for software configurations.

DATA BASE

Expertise in requirements specification, DBMS selection, design programming. Experience in DBMS languages, theoretical and conceptual DB analysis, and DB security.

COMPUTER SYSTEMS

Experience in architecture selection, distributed systems, human-machine interface, display technology, computer security, fault tolerant architecture (Assessment, Validation, Software Development, Modeling.)

FLIGHT SOFTWARE/GUIDANCE AND NAVIGATION SOFTWARE

Flight software algorithm development, implementation, and checkout.

COBOL

Experience with IBM and/or UNIVAC COBOL based systems highly desirable.

OTHER PROFESSIONAL OPPORTUNITIES AVAILABLE ARE: ELECTRONIC ENGINEERS

GUIDANCE AND CONTROL SPACECRAFT ANALYSTS

Analysis of spacecraft attitude control systems. Both analog and digital control systems experience.

RF/MICROWAVE HARDWARE ENGINEERS

Determine equipment specifications, source selection, monitor sub-contractors and vendors, and review and approve acceptance test data.

COMMUNICATIONS SYSTEMS ENGINEERS

Develop requirements, specification and designs, perform link and other analyses.

ANTENNA ENGINEERS

Hardware and theoretical design of Aerospace antennas, including strip line, millimeter-wave, and very wideband antennas.

DIGITAL CIRCUIT DESIGN

Experience with TTL, CMOS, ECL, digital design and worst case analysis.

ANALOG CIRCUIT DESIGN

Experience with operational amplifiers, active filters, stability and military or NASA programs, plus design, breadboard test and worst case analysis.

ELECTRONIC PARTS ENGINEERS

Military or NASA programs, semiconductors, integrated circuits, connectors and passives, also vendor coordination, evaluation and specification preparation.

ELECTRICAL/ELECTRONIC ENGINEERS

Power electronics hardware, with dc/ac inverters, ac/dc converters, battery chargers, circuit breakers, contactors, and induction motor starting. Familiar with high reliability hardened military electronics.

POWER CONDITIONING CIRCUIT DESIGN LEADS

Power conditioning circuit design, includes selection of circuit topologies and parts, circuit analysis and breadboard testing of power electronics for spaceborne power systems.

POWER SYSTEMS ENGINEER

Spacecraft electrical power system design and analysis, including requirements definition and documentation, and performance prediction.

ANALOG CIRCUIT DESIGN AND ANALYSIS ENGINEERS

Linear and non-linear circuits, oscillators, and precision feedback and control.

ELECTRICAL DISTRIBUTION DESIGNERS

Experience in spaceborne cabling design, engineering requirements, fabrication and tests.

FLIGHT DATA SUBSYSTEM ENGINEER

Spacecraft Command Data Management System—analysis, design, and checkout of flight data subsystems.

FLIGHT DATA SYSTEMS DIGITAL DESIGN

Integrated circuit design and microprocessor application in deep space. Radiation hard design, HI/REL parts application.

FLIGHT DATA SYSTEM ANALOG DESIGN

Operational amplifier and charge amplifier design for deep space. Active filter design, conversion (A/D, D/A). HI/REL parts application, and low noise characteristics.

PACKAGING AND CABLE DESIGNERS

Layout and design as related to packaging specification for RF equipment cabling. Working knowledge of RF technology and MIL SPECS.

SENIOR PRODUCT DESIGN ENGINEERING—ELECTRONIC PACKAGING

Design of complex spaceborne and ground electronic hardware using MIL SPECS. Conceptual design, coordination, design reviews, and mechanical analysis.

RECENT EXPERIENCE ON GOVERNMENT/DOE STATE OF THE ART PROGRAMS A REAL PLUS.

SPECIAL BACKGROUND INVESTIGATION MAY BE REQUIRED.

If qualified for any of the above positions, please send a confidential resume to: Martin Marietta Denver Aerospace, P.O. Box 179, L1311, P585, Denver, CO 80201. No agencies please, we prefer talking to the individual.

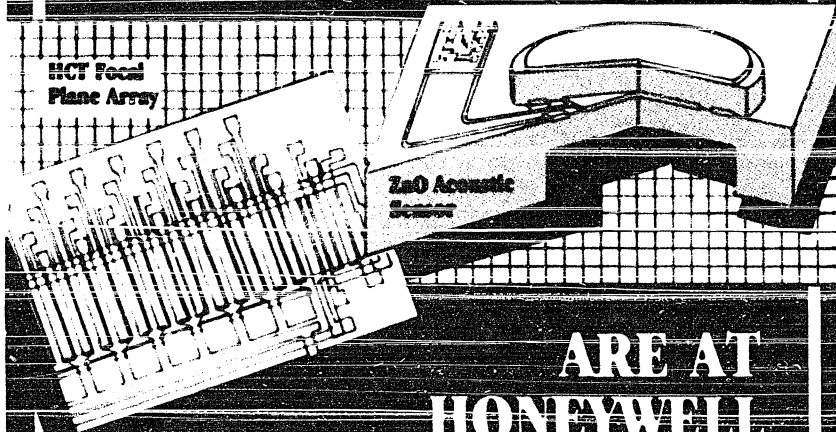
U.S. CITIZENSHIP REQUIRED.

An Affirmative Action Employer
Actively Seeking the Veteran and Handicapped

MARTIN MARIETTA

Research & Development Scientists and Engineers

TOMORROW'S ADVANCES IN SENSOR TECHNOLOGY



ARE AT HONEYWELL TODAY

The professionals of Honeywell's Corporate Physical Sciences Center are pioneers in sensor technology, materials and devices. Their ingenuity and creativity have resulted in such innovations as:

- Mercury-cadmium telluride infrared sensors
- Silicon piezoresistive pressure sensors
- Thin film permalloy magnetic sensors

Honeywell's stature as a leader in control systems means continuing commitment to advancing the state-of-the-art in sensors. As we create tomorrow's products now, we open the way for research-oriented professionals to make major contributions in the following areas:

SOLID STATE SENSORS

As we initiate and demonstrate concepts to meet specific needs, our emphasis is on new technologies compatible with silicon microelectronics, such as piezoelectric and magnetic thin films and etched silicon microstructures

INFRARED SENSORS

We are involved in IR sensors and focal plane arrays, as well as materials for second generation imaging and sensing applications. Current projects include developing heterojunction devices and MIS structures, correlating device characteristics with material growth parameters and fabrication procedures to improve sensor performance

Honeywell careers provide a high-expectation, high-reward corporate R&D environment plus the excellent quality of life offered by our location in suburban Minneapolis. If you hold a BS, MS or PhD, and are seriously interested in becoming part of the future we can offer, please send your resume in confidence to Marsha Nyman, Honeywell's Corporate Physical Sciences Center, 10701 Lyndale Ave. So., Minneapolis, MN 55420

Together, we can find the answers.

Honeywell

We Are An Equal Opportunity Employer

LET US PLACE YOU IN A BETTER JOB NOW

Put our 20 years experience placing technical professionals to work for you. Client companies pay all fees; you get our expert advice and counsel FREE. Nationwide opportunities in Communications, Defense, Intelligence, Computer, Energy and Aerospace Systems. If you earn over \$25,000, we have a better, more rewarding job for you . . . right now. Send your resume in confidence to:
Dept. IS-B

WALLACH associates, inc.

Washington Science Center
6101 Executive Boulevard, Box 6016
Rockville, Maryland 20852

Technical and Executive Search

Wallach . . . Your Career Connection

COAST TO COAST ENGINEERING OPPORTUNITIES

E.P. Reardon Associates represents a broad spectrum of high technology clients from Rte. 128 in Massachusetts to California's Silicon Valley. They have relied on us for over 21 years to provide them with qualified engineers for a wide variety of challenging, growth oriented openings in both commercial and military electronics. Positions exist for EE's at the BS, MS and PhD level in the following areas:

Component	Systems
Logic Design	Design
Product	QA/Reliability
Support	Microwave
RF Design	Design
Analog/Digital	Optics
Design	Electronics
	Test

All positions are fee paid. Call John Costello at 617-273-5964, or send resume including desired salary to him at the address below.



E.P. Reardon Associates

555 Middlesex Turnpike, Member
P.O. Box 1038, of NPC
Burlington, MA 01803 Clients are EOE

ELECTRONICS AND COMPUTING SYSTEMS ENGINEERS

WE'VE GOT GOOD SPOTS AVAILABLE ON THE BOEING TEAM.

The Boeing Company is looking for dedicated innovative people for the number one engineering team in the aerospace and airplane industries.

The work is challenging. The pay and benefits competitive. And the living environment in Seattle, one of America's most livable cities, is outstanding.

Don't put it off. Send your résumé to The Boeing Company, P.O. Box 3707-TAH, Seattle, WA 98124.

Chances are, you could become part of an engineering team working on B-1B Avionics, Minuteman, Peacekeeper, artificial intelligence or other advanced projects.

An equal opportunity employer.

BOEING
GETTING PEOPLE TOGETHER

WE HAVE IMMEDIATE OPENINGS IN:

- ACCELERATOR CONTROLS AND DIAGNOSTICS
- ADVANCED COMPUTER GRAPHICS
- ADVANCED MICROELECTRONICS DESIGN
- BUSINESS SYSTEMS PROGRAMMING
- COMMUNICATIONS
- CONCEPTUAL DEVELOPMENT (SYSTEMS)
- DIGITAL/ANALOG CIRCUIT DESIGN
- DISPLAY DESIGN
- ELECTRICAL/ELECTRONIC PARTS

- ELECTRICAL POWER SYSTEMS DESIGN
- ELECTROMAGNETICS
- ELECTRONIC MANUFACTURING
- ELECTRONIC PACKAGING DESIGN
- ELECTRONIC POWER SUPPLY DESIGN
- HIGH POWER MICROWAVES
- INTERCONNECT DESIGN AND COMPONENTS
- NAVIGATION AND CONTROLS

- PARTICLE ACCELERATOR TECHNOLOGY
- PULSED POWER
- RF LINAC FELS
- RF MICROWAVE CIRCUIT DESIGN
- RADAR
- RELIABILITY/MAINTAINABILITY DESIGN
- SCIENTIFIC PROGRAMMING
- SOFTWARE
- SYSTEMS ENGINEERING
- TEST ENGINEERING
- TRAINING EQUIPMENT DESIGN
- TRAINING SYSTEM SIMULATION





SPRINT®

WHY IS EVERYONE TALKING ABOUT THE NEW SPRINT?

We're leading the way in the Information Age with innovative approaches in solving businesses' telecommunication needs. Approaches that include being the first specialized common carrier to successfully link all 50 states with an alternative long distance telephone service. First to offer more services to meet the growing demands of our customers. And soon this year, we will utilize our own satellite communications network.

If you are a technical professional experienced in analog, digital, microwave, multiplex or satellite relay technologies, GTE SPRINT may have an opportunity for you. The following are just a few of our current opportunities; look them over, then find out for yourself why SPRINT has everyone talking.

SWITCH SYSTEMS ENGINEERING

Systems Implementation Senior Engineers

You should have thorough knowledge of digital switching, with ability to perform systems hardware test and evaluate various switching systems performance and define interface requirements. Five or more years' hands-on experience in the area of test/acceptance engineering preferred. Experience with NEAX-61A, DEX-400, DMS-250-300 helpful. Requires BSEE or equivalent telephony experience. Reply to Dept. JB-1.

Engineers

Will translate Switch Network Expansion plans into specific equipment requirements. Coordinate with other supporting departments on installation specifications, ancillary procurement and other activities to support Switch Network expansion. Five or more years' experience with 2 or more years in C.O. provisioning required. Should be familiar with C.O. power, circuit conditioning, signaling, distributing frame layout floor plans and alarm equipment. BSEE or equivalent telephony experience required. Reply to Dept. JB-1.

Switch Hardware Development Engineers

Specify, evaluate, test and provide technical support to our digital switching systems and related hardware. Experience with international switching and transmission requirements desired. BSEE is preferred with 2 or more years' digital switching experience necessary. Reply to Dept. JB-1.

Switch Software Development Engineers

Design, code and test real-time switch software. Call processing experience preferred. A BSEE or CS degree with 2 or more years' switch software experience required. Reply to Dept. JB-1.

Network Planning

Traffic Engineers

Will interface with operating companies regarding traffic/facilities forecasts. Qualified individuals will represent GTE SPRINT negotiating quantities with BOC's/Independent telcos and maintain interdepartmental contacts to assure forecast quality. Traffic Engineering/Forecasting background or equivalent experience required, with emphasis on overall telephony knowledge. Strong communications skills needed. Reply to Dept. JB-1.

Staff Network Planners

Positions will be responsible for developing efficient, cost-effective plans for the configuration and evaluation of a long distance, toll network. Positions interface with related departments in Engineering and Operations to develop analyses, prepare recommendations, and support implementation of medium-range plans. Experience in project management is strongly desired. Reply to Dept. JB-1.

Traffic Methodology Engineers

Perform traffic analysis, network design and planning. Should be familiar with Data Analysis, FX/WATS Configuration, Statistical Models and be able to develop programs and procedures for Traffic Forecasting. Positions require 4 or more years of experience in traffic network analysis and knowledge of PL/1 and/or FORTRAN. BSEE, BSC, BS Math or equivalent experience desired. Reply to Dept. JB-1.

Network Systems Requirements Engineers

Engineers to develop requirements for SPRINT Network Support Systems in the areas of surveillance, maintenance, circuit testing and data communications. Positions require 2 or more years' experience in telephony or data communications with user, carrier or manufacturer. BSEE or equivalent work experience required. Reply to Dept. JB-1.

MULTIPLEX PLANNING

Multiplex Engineers

Plan multiplex system configurations required to support network growth. Knowledge of analog and digital multiplex system planning is required. BSEE with 3 or more years' related experience desired. Reply to Dept. JB-1.

TRANSMISSION ENGINEERING

Transmission Design Engineers

Determine the transmission design of new facilities routes and path information. Appear at hearings and board meetings involving our radio sites. Analyze and make recommendations for clearing RFI problems. A BSEE and 5-8 years' experience preferred. Reply to Dept. B11.

Sr. Transmission System Engineers

Perform data processing records system coordination and support tracking processing for schedules and construction program budgets. Programming background is required. BSEE or CS is desired and 5-10 years' Transmission or Planning Engineering is an advantage. Reply to Dept. B11.

Transmission Planners

Design, develop and implement the orderly expansion of our regional and national telecommunication network. Knowledge of both analog and digital radio is required. Fiber optics understanding is a plus. An engineering degree and 5 years' related experience is desired. Reply to Dept. B11.

Engineering Programs

Program Managers

Responsible for planning, coordinating and capital projects required to expand GTE SPRINT's switched services network. Requires 6-8 years' directly related experience in telecommunications. Reply to Dept. B11.

Radio Engineering

Project Engineers

Develop detailed engineering and installation specifications and procedures for analog and digital microwave radio systems. BSEE with 3-5 years' related experience required. Reply to Dept. B11.

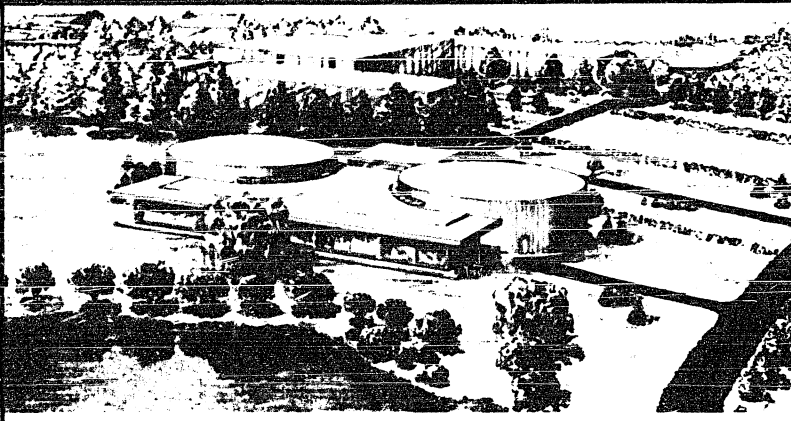
TO APPLY:

We offer a competitive salary and comprehensive benefits package. For immediate consideration, please send your résumé and salary history, indicating appropriate department number, to Professional Employment, GTE SPRINT, 1818 Gilbreth, Suite 252, Burlingame, CA 94010; or call COLLECT (415) 692-7383/7384 9am to 4pm PST. An affirmative action equal opportunity employer.

Switch to
SPRINT®

Engineers & Analysts

The APL Environment... A Climate Where Your Career Will Thrive



Many companies offer job opportunities for engineers and analysts. The Applied Physics Laboratory does more than that. We offer an environment that is actively conducive to professional growth.

For more than four decades, APL has created systems of technical excellence employing challenging state-of-the-art techniques. Our well-equipped facilities are designed and dedicated to real world research and development in an atmosphere that encourages creative problem solving. When you join us, you'll work with some of the finest technical minds in the nation on projects of national importance. Additionally, our Advanced Education facility, which is a part of The Johns Hopkins University, affords you the opportunity to continue your formal education while remaining on our campus-like setting midway between Washington, DC and Baltimore, MD.

We have immediate openings in the following areas:

TRIDENT MISSILE SYSTEMS — Analysis of flight accuracy and reentry body performance, test and evaluation of navigation, fire control, missile, and guidance subsystems.

SOFTWARE DEVELOPMENT — Design/development of sonar signal processing systems, real-time shipboard data acquisition systems, and data base management systems.

C³ ENGINEERING — Systems engineering in complex Navy communications systems from ELF to EHF band to include advanced signal processing.

INSTRUMENTATION PROJECT ENGINEERING — Design/development of digital data acquisition systems and digital/analog control systems for minicomputer and microprocessor applications.

SYSTEMS PROGRAMMING — Definition and implementation of configuration management and systems software management plans for a new large-scale facility.

VLSI DESIGN — New openings in emerging development and prototyping laboratory supporting thin film hybrids, semiconductor processing, and VLSI related applications.

APL offers you competitive compensation, a comprehensive benefits package, including medical/dental/life insurance coverage, and much more.

If you're interested in contributing in a thriving professional environment,

Send your resume to:
Stevan F. Sayre
Department LER-337



The Johns Hopkins University
**APPLIED PHYSICS
LABORATORY**

Johns Hopkins Road
Laurel, Maryland 20707

U.S. Citizenship Required
An Equal Opportunity Employer, M/F.

GRASP

the edge of tomorrow
and **WIN**
the challenge of today

Our clients have a commitment to maintain technological leadership in commercial and military electronics. Current openings for: management, senior staff and project engineers.
BS, MS & PhD EEs.

- Microprocessors • Minicomputers
- Robotics • CAD/ CAM • Optics
- Control & Instrumentation
- Measurement & Test • Biomedical
- Computer Technology
- Systems Development • Defense
- Communications

Nationwide professional search/recruiting
Serving high technology industries since 1958

Charles A. Binswanger
ASSOCIATES INC.

EXECUTIVE SEARCH SPECIALISTS

P.O. Box 5325 • Baltimore Md. 21209 • 301-433-6610

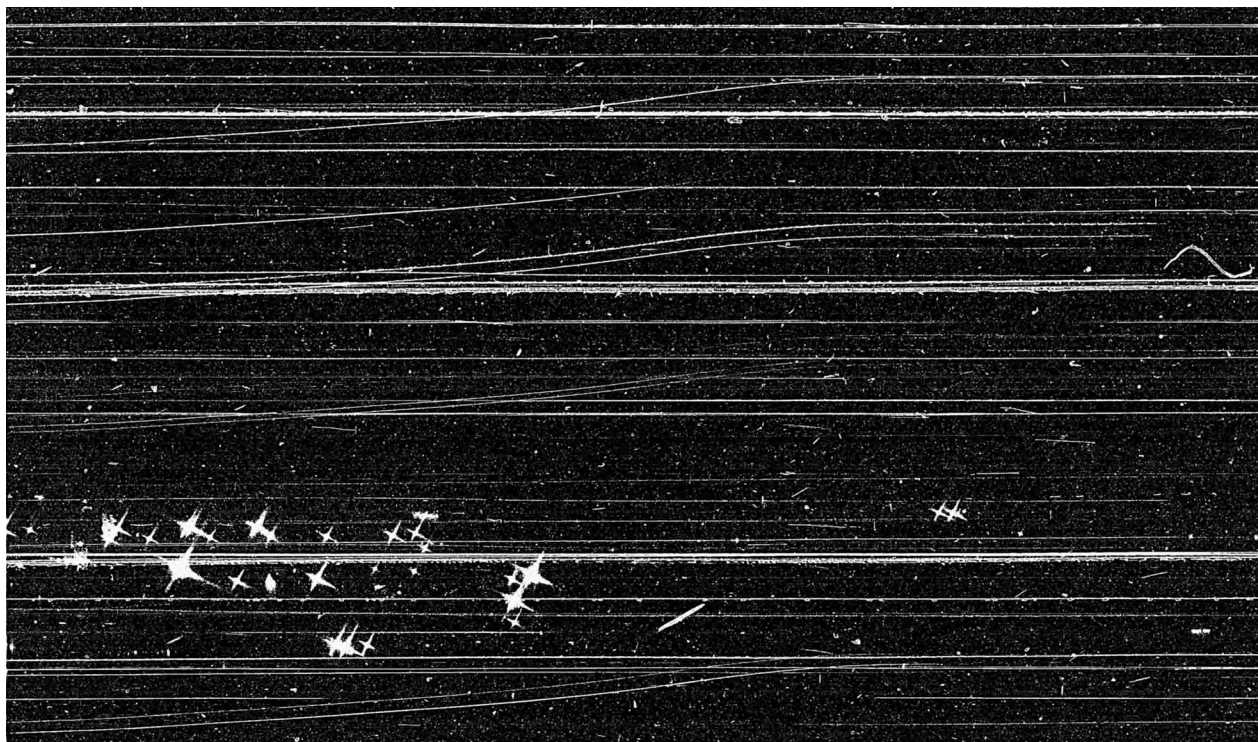
WE HAVE YOUR NEXT POSITION.

Iannoni and Associates will put their experience to work for you. Engineering and Scientific Career Placement is our only business, so you know that you're getting specialized service and top opportunities nationwide.

- | | |
|------------------------|------------------------|
| Specific Fields | • Missile Systems |
| • Aerospace Systems | • Guidance and Control |
| • Communications | • RF Communications |
| • Computers | • Signal Processing |
| • Intelligence | • EMC and EMI |
| • Satellites | • Microwave Systems |
| • Weapons | • Communications |
| Skilled Areas | • Software Development |
| • Avionics | • Fire Control |
| • Radar Systems | |

All Position Fees, Relocation, and Interview Expenses **COMPANY PAID**.
Contact Us With or Without a Resume.

JAMES E. IANNONI & ASSOCIATES
P.O. Box 48 • Canterbury, CT 06331 • (203) 546-9448



The South Texas Project — 1984

The South Texas Project will go on-line on-time in 1987 Now we need the professionals to run it.

With Bechtel Power Corporation as design engineer and construction manager and Ebasco Services, Inc., as constructor, the South Texas Project is proceeding according to schedule.

Today there are more than 6500 people hard at work to make sure it stays that way. And right now we're building the operational staff for this twin PWR 1250-megawatt-per-unit plant. This is your opportunity to get in on the ground floor of a long-term career that can match your aspirations.

You'll work in one of the world's most advanced operations departments—complete with its own plant specific simulator—in one of the world's largest PWR facilities.

Off the job you'll enjoy the friendliness of a real Texas hometown on the Gulf of Mexico. Fishing. Boating. Hunting. All the pleasures of sun and water. Plus access to the metropolitan life of Galveston and Houston. Here's

good living in a town where there's no state income tax.

Come on-line with us.

Maintenance

I&C Engineer/Sr. Engineer

A degree in engineering is required and at least 2 years experience in Instrumentation and



The Texas Gulf Coast offers a wide variety of recreational sports.

Controls, preferably at a commercial nuclear power plant. For those with more extensive experience, senior positions are available.

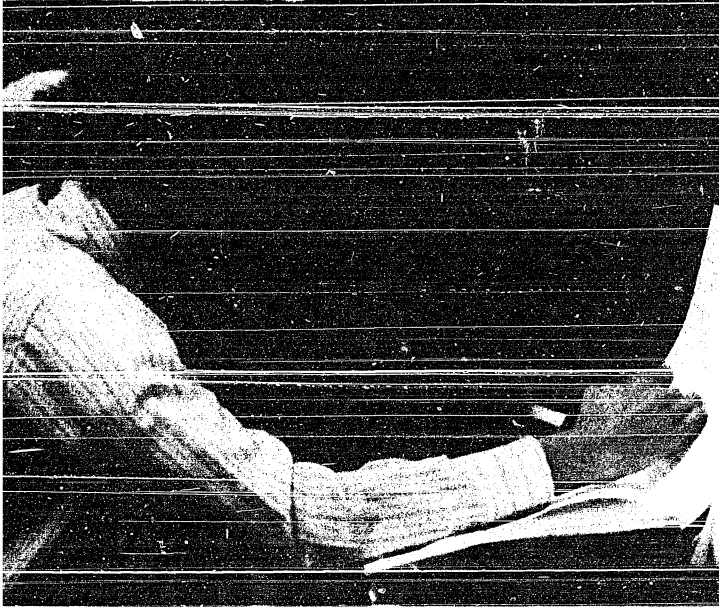
Electrical Foreman, I&C Foreman, Mechanical Foreman

Qualified candidates must possess a minimum of 8-10 years experience in related areas at an operating nuclear power plant. Supervisory experience is preferred. Join us at the South Texas Project. If you qualify, send your resume in complete confidence to:

Lorenzo Rodriguez
12301 Kurland Street
Houston, Texas 77034
*Equal Opportunity Employer
Principals only please!*

**The Light
company**
Houston Lighting & Power

IT'S TIME TO LET YOUR with a great career at one



Outstanding Engineering, Outstanding Opportunity

Electronics-based systems is the fastest growing defense market, and Sperry is among the largest suppliers to the U.S. Department of Defense. That means more opportunity, bigger challenges and greater growth, as you create practical, workable solutions to real-life problems.

To qualify, you must have a BS or equivalent, or an advanced degree in Electrical Engineering, Systems Engineering, Computer Science, Aerospace Engineering, Physics, or Mathematics and at least 2-5 years' experience.

Great Neck, New York

At Sperry in Great Neck, you're just a short drive away from the nation's cultural center, New York City, and the tranquility of suburban Long Island. Working with lasers, gyroscopes, radar, fiber optics, digital electronics and more, you'll apply your skills in such areas as: Radar and Fire Control, Navigation and Guidance Simulation, and Support Systems, which includes the development of the U.S. Air Force Modular Automated Test Equipment (MATE) Systems.

- System Analysis, Design, Synthesis
- Equipment Development
- Computer Operating Systems
- Reliability/Maintainability Engineering
- Integrated Logistic Support
- Trainer Systems
- Program Management
- Software Development
- System Documentation

Reston, Virginia

At our corporate campus-like Reston setting, just 18 miles from Washington, D.C., you'll have all the advantages of both a fast-paced high-tech environment, and the relaxed atmosphere of one of America's best-planned suburban communities. You'll have the freedom to test your ideas and apply them to such innovative technology as aircraft simulation, EW Systems, signal analysis, automated warehouse systems, large integrated ships' bridge systems and radar.

- Systems Engineering
- Equipment Engineering
- Software Engineering
- Simulation Engineering
- Programming
- Plans and Controls
- Signal Analysis
- Spread Spectrum Engineering
- Logistics
- Installation Engineering
- Computer-Generated Imagery
- RF Engineering
- Mechanical Engineering
- Automated Warehouse Systems Engineering
- Computer Software/Automated MIS
- Equipment Engineering/Material Handling
- EW Systems Engineering

ENGINEERING TAKE YOU PLACES of five Sperry locations.

Clearwater, Florida

Located on Florida's Sun Coast, the thriving Clearwater/Tampa Bay/St. Petersburg area offers white sandy beaches, lakes, parks and golf courses for sports enthusiasts and art museums, concert halls and theaters for cultural buffs. At Clearwater, you'll have the opportunity to test your talents on engineering and system design and integration, mathematical modeling, real-time software and system simulation projects. Recent projects include ATE-Test Program Sets, EW, Navy Combat Systems, Simulation and Advanced Tactical Radar/Radar Systems.

- Systems Engineering
- ATE/TPS
- Signal Processing
- Radar Systems Analysis
- C³I Systems
- Electronic Warfare Systems
- MMW Terminal Guidance
- MMW Tactical Communication
- Integrated Logistic Support
- Software Systems Engineering

Waltham, Massachusetts

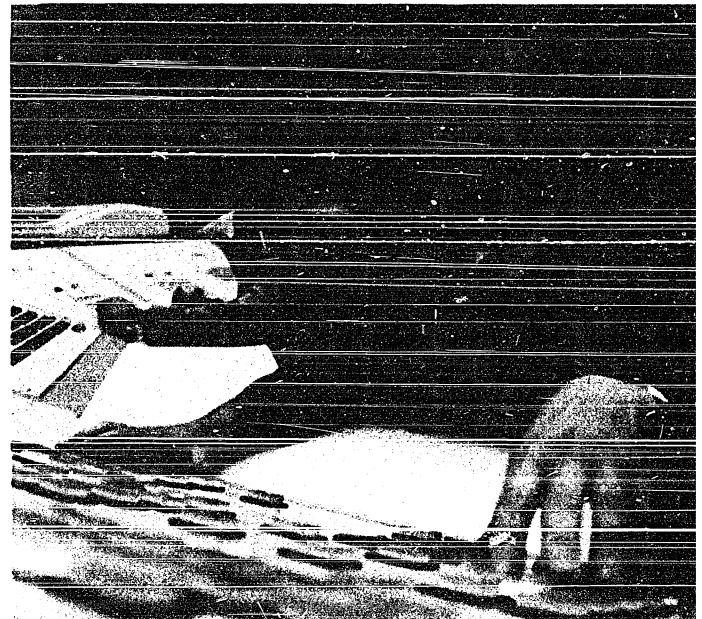
This new engineering center, located in one of the nation's leading high-tech communities, offers the attractions of Boston, just 10 miles away, and the nearby Cape Cod seashore area. At Waltham, we're looking for engineers to bring fresh approaches and new ideas to R & D, new concept development and advanced system design to all aspects of C³I, Radar and Antenna Technology. Projects include determining future mission requirements, conceiving new solutions and evaluating them through analysis and simulation.

- Radar Systems Engineers
- Radar Signal Processing
- C³I Systems Engineers
- Antenna Engineers
- Microwave Engineers
- Scientific Software
- Computer Architecture
- Data Base Systems
- Artificial Intelligence
- Man and the System
- Target Identification

Charlottesville, Virginia

Founded in the 17th century, Charlottesville lies within easy reach of the Blue Ridge Mountains. The University of Virginia, located in town, offers year-round cultural entertainment programs. At this Sperry facility, you'll focus your abilities on the challenges of design and R & D of integrated navigation systems incorporating radar control, autopilot, data processing, sonar detection and inertial navigation hardware and software.

- Senior Electronics Design Engineers
- Senior Systems Engineers
- Program Management
- Software Development
- Mechanical Engineers
- Electro-Optical Systems Design

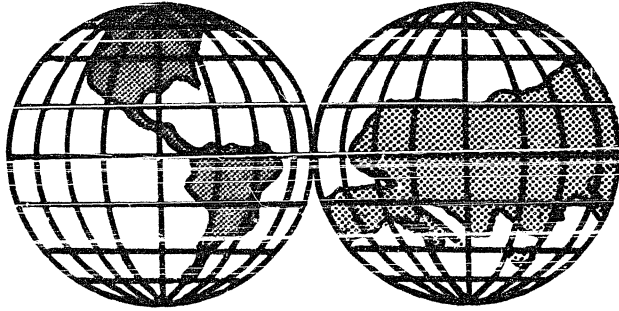


Talk to us. We'll listen. And show you how your engineering can take you places at Sperry.

Write, indicating your area of interest and location preference: Sperry Corporation, Electronic Systems, Director of Professional Staffing, Dept. IS-384, Great Neck, NY 11020.



An Equal Opportunity Employer M/F/H/V. U.S. Citizenship Required.



**AT EMERSON
DIVERSIFICATION IS THE
NAME OF THE GAME.
IT JUST MAY BE YOUR
CHANCE TO MAKE
A NAME FOR YOURSELF.**

We're the fastest growing Company in our field, but you may not even know our name. We're the Government & Defense Group of Emerson Electric Co... a St. Louis-based highly diversified firm and we have over 40 autonomous divisions and 140 plants throughout the world.

We offer a diversity of exciting projects in EW, ATE, RADAR and ARMAMENTS. Just to name a few, our rapid expansion has created new openings in the following areas:

ATE

- Software/Hardware Design & Development
- Systems Design

**ELECTRONICS/EW
PRODUCT LINES**

- Project Engineers
- Systems Engineers
- Coherent/Non-Coherent Radar Design & Development

**ARMAMENT
PRODUCT LINE**

- Project Engineers
- Systems Engineers

DESIGN & DEVELOPMENT

- Digital, Analog, RF Designers
- Receiver/Transmitter Design
- Power Supply Design
- Control Systems Design

ADVANCED ENGINEERING

- Operations Analysis
- IRAD/CRAD Project Management
- Project/Systems Engineers (All Products Lines)

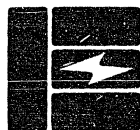
ENGINEERING SUPPORT

- Logistics Engineers
- ILS Managers

We also have positions in ATE & Communications available at our Orlando, Florida facility.

Call us TOLL FREE 1-800-325-0783 or send your resume to:

Personnel Resources
Mail Sta. 4304-158
8100 W. Florissant
St. Louis, MO 63136



EMERSON ELECTRIC CO.
Government & Defense Group

We are an equal opportunity employer in every respect

ENGINEERING

**SENIOR
SOFTWARE
ENGINEER**

QTC, a dynamic, young software company, already a leader in its field, is seeking a senior software engineer with proven project leadership capability. Must have excellent programming/engineering experience in high-level languages and a working knowledge of assembly languages. QTC specializes in high-speed scientific and engineering applications predominantly using array processors.

Extremely varied, interesting and challenging work with sophisticated clients on state-of-the-art projects.

Send résumé to: QTC,
10170 S.W. Nimbus, Suite
H-1, Portland, OR 97223



Quantitative
Technology
Corporation

**ELECTRICAL
ENGINEERING
DEPARTMENT**

**New Jersey
Institute of Technology**

The Department of Electrical Engineering at New Jersey Institute of Technology is seeking qualified individuals for several tenure track faculty positions at the ranks of Assistant, Associate, Full and Distinguished Professors.

The areas of interest include microelectronics, communications, computer/digital electronics, CAD, and robotics.

Candidates must hold a Doctorate degree in Electrical or Computer Engineering and be capable of teaching at the undergraduate and graduate levels. Consideration for appointment at the rank of Assistant Professor requires a demonstrated ability to conduct significant research.

Consideration for appointment at higher ranks requires extensive research experience and demonstrated leadership in area of specialization.

These positions are effective September 1, 1984. Interested persons should contact Personnel Dept., BOX EE.



Newark, New Jersey 07102
Equal Opportunity/Affirmative Action
Employer M/F/H

TESTING THE FUTURE.



it happens at Lockheed-California Company.

In a campus-like setting near Los Angeles, Lockheed engineers and scientists are pursuing new breakthroughs in technology, like this proposed methane-fueled supersonic fighter.

They're working at a unique laboratory complex at Rye Canyon. And its advanced research, development, and testing programs are typical of the challenging opportunities now waiting for talented professionals at many other Lockheed facilities.

Lockheed-California Company is looking for engineers, scientists, and programmers in the areas of Signature Technology, Operations Research, Weapons Simulation, Antennas/Radomes, Avionics, Systems Analysis, Stability and Control, ECM/ESM, Sensor Technology and Advanced Airframe Structures Design. If you're a profes-

sional interested in exciting new challenges, Lockheed offers you a place to put your most innovative thinking to the test.

Please send your resume to Lockheed-California Company, Employment Office, Dept. 109-A, P.O. Box 551, Burbank, California 91520. Or access one of these numbers on your computer for the most current opportunities: (213) 618-8800, (818) 991-8900, (408) 294-2000, (415) 482-1550, (619) 224-8800 and (714) 476-8800.

Lockheed is an equal opportunity, affirmative action employer. U.S. citizenship required.

 **Lockheed-California Company**

The leader in aerospace technology.

Radar R&D Opportunities

THE LEADER IN IMAGING RADAR technology development and application has immediate openings for qualified individuals desiring to contribute to the advancement of radar sensor, processing, and exploitation state-of-the-art and to the transfer of this technology into practice in collaboration with government and industry. US Citizenship required. Lead or participate in the following areas:

RADAR SYSTEM ENGINEERS/ANALYSTS
Specification and development of new radar system concepts including analysis, simulation and design. Advanced degree with radar or communication theory background preferred, experience in coherent radar systems and signal processing desired.

FLIGHT TEST ENGINEER
Conduct system testing of airborne radar systems. B.S. or advanced degree with a minimum of two years experience in airborne testing of radar systems. Previous experience in hardware or software design desired.

SIGNAL PROCESSING ENGINEERS
Development and evaluation of radar signal processing algorithms including those required for radar image formation. Advanced degree or equivalent experience with knowledge of interpolation, FFT's, 2-D filtering, and signal processing architectures required.

IMAGE PROCESSING SPECIALISTS
Development of computer-aided image-exploitation technology including image enhancement, pattern recognition, artificial intelligence, image bandwidth compression. Ph.D. in E.E., Computer Science, Math or equivalent experience required. Experience in the application of computer systems to these or related areas is desired.

REMOTE SENSING SPECIALIST
Participation in development of advanced remote-sensing exploitation technology, including terrestrial and oceanographic SAR applications. Minimum of two years experience required. M.S. or Ph.D. in remote sensing, geology, or other physical science with computer data analysis experience desired.

HUMAN ENGINEER/PSYCHOLOGIST
Human engineering/human factors applied to military displays. Program development experience desirable with knowledge of visual displays and visual perception. Advanced degree and five years or more experience in military R&D required.

OTHER POSITIONS
Positions are also available for Computer Programmer/Analysts, Analog and Digital Circuit Designers, EM Measurements Engineers, and Image Interpreters.

The Radar Division Laboratories are located in Ann Arbor, Michigan, adjacent to the University of Michigan campus. The area has exceptional cultural, academic, recreational and entertainment opportunities. Positions are also available at our technical facilities in Los Angeles and Washington D.C. Salaries and benefits are excellent.

Interested and qualified individuals should send resume in confidence to John Malik.

 **ERIM** P.O. Box 8518
Ann Arbor, Michigan 48107
An Equal Opportunity Employer

MRC

Mission Research Corporation Santa Barbara

MRC has openings for entry level through senior staff EEs. Advanced degrees are preferred. Technical problem solving skills and a desire to excel are required.

MRC enjoys a reputation for high quality analytic and computer simulation work in the areas of:

- Satellite Link Analysis
- Radar, ECM and ECCM
- Electromagnetic Pulse
- HF Communications
- ECM/TEMPEST

Please send resume to Personnel, MRC, P.O. Drawer 719, Santa Barbara, California 93102.

Equal Opportunity Employer
US Citizenship Required

MRC

RELIABILITY ENGINEERS

Sandia National Laboratories has openings in the Reliability Department for Reliability Engineers with strong backgrounds in Electrical or Mechanical Engineering. Candidates should possess an MS or Ph.D. in Engineering and have recent experience in digital electronics, microprocessing based systems, materials, structures, or ordnance engineering. Experience and strong interest in reliability, quality assurance, statistics, and computers in necessary.

Sandia National Laboratories offers careers where the rewards equal the challenge. As one of the country's largest research and engineering facilities, Sandia is an innovative force in the fields of national security R&D and energy. We offer both professional challenge and the rewards of a casual, outdoor lifestyle in sunny New Mexico. Sandia's benefit package includes paid health care, life insurance, retirement and 24 days vacation.

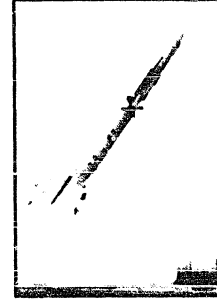
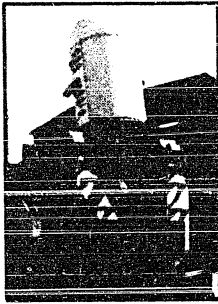
If interested in these outstanding opportunities, please send resume to: **J.L. Wheeler, Staff Recruiting and Employment Division 3531-92, Sandia National Laboratories, Albuquerque, NM 87185.**

EQUAL OPPORTUNITY EMPLOYER M/F/V/H
U.S. CITIZENSHIP REQUIRED



Sandia National Laboratories

Design Engineers



Explore Your Future With General Dynamics

General Dynamics Pomona Division invites Design Engineers to explore our outstanding career opportunities designing the tactical weapons of tomorrow.

We've accrued a proud record of achievements for over thirty years, creating the weapons systems that advance our nation's vital arsenal of defense and safeguard our future. We produced this country's first guided missile system in 1951 and are today manufacturing an array of advanced products, including Standard Missile, Phalanx, Stinger and RAM, and a broad range of auxiliary and support systems.

These are the kinds of engineering challenges you can expect at the Pomona Division. Today we're utilizing a wide range of technologies in our continuing development of advanced tactical weapons systems, which makes available the following outstanding opportunities:

RADAR

We currently have a variety of positions available for Radar Design Engineers with a BSEE and a minimum of 3 years of experience. Desired areas of experience include: signal processor design (digital & RF), transmitter design (high voltage, switching power supplies design, high power RF), radar analysis (system performance, clutter analysis, ECCM), and radar systems (DMTI techniques, radar design).

MICROELECTRONICS

We have numerous opportunities for Custom Microelectronics Specialists with a minimum of 3 years of experience as well as a BSEE Degree. The areas in which we seek microelectronics designers include: large scale hybrid assembly, custom CMOS process development, custom high speed circuit design, and IR detector development. Knowledge in one or more of the following areas is desired: assembly processes, semi-conductor device modeling, thermal processing, and analog, digital & RF circuit design. Some positions require an MS/PhD Degree.

MICROWAVE/ANTENNA

We're looking for engineers experienced in microwave systems, component and antenna design. A minimum of 3 years of experience is desired as well as a BSEE or BSME Degree. You will be designing microwave circuitry for missile and radar systems. Knowledge of one or more of the following functions is preferred: microwave circuit design, computer-aided design, antenna design, microwave component design, and production support of microwave hardware for missile systems.

ELECTRO-OPTICAL

Knowledge and experience in some of the following areas is desired: E-O systems radiometric analysis of spectral, spatial, optical and detection sensitivity predictions. Knowledge of analog and digital design utilizing microprocessors, LSI, VLSI, as well as conventional IC and discrete component technologies, advanced signal processing, control theory, communication theory and statistics is required. Experience with "hands-on" test, evaluation, failure diagnosis techniques, and overall guidance system hardware integration is also needed.

General Dynamics Pomona Division works on long-range contracts and offers you a competitive salary, excellent benefits and well-paced advancement. If you're an experienced, highly-qualified Design Engineer and a U.S. Citizen, please send your resume in confidence to:

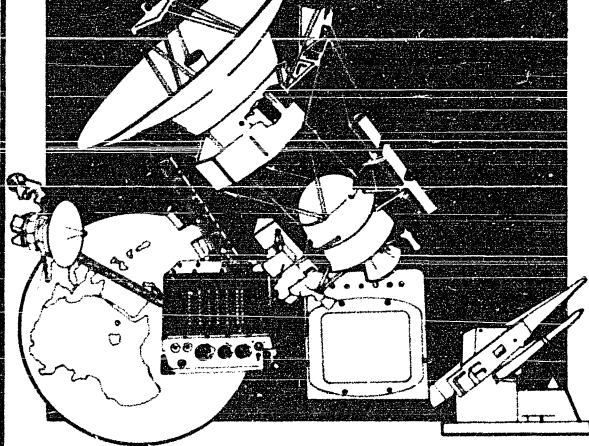
General Dynamics Pomona Division
Director, Design Engineering
P.O. Box 3011, Drawer B- 754
Pomona, CA 91769

GENERAL DYNAMICS

Pomona Division

Equal Opportunity Employer/U.S. Citizenship Required

MOTOROLA



AEROSPACE ELECTRONICS SYSTEMS PACKAGING ENGINEERS and DESIGNERS

- SATELLITE SYSTEMS
- DEEP SPACE SYSTEMS
- SHUTTLE SYSTEMS
- AVIONICS SYSTEMS
- SPECIAL TEST EQUIPMENT
- STRUCTURAL AND THERMAL ANALYSIS
- MATERIALS AND PROCESSING

THE MOTOROLA AEROSPACE ELECTRONIC ORGANIZATION is a leading supplier of electronic systems for space applications. Our central Arizona facility is in the heart of a prime Southwest recreational and cultural area. We are professionals working in the development and production of complex electronic systems. Continuing educational opportunities are available through an extensive in-plant program and at Arizona State University, just four miles from our facility.

SENIOR MECHANICAL ENGINEERS
With applicable R&D background to develop advanced space systems. Prefer BSME/MSME with a minimum of 5 years related experience.

DESIGNERS

With experience in aerospace electronics. Prefer a technical AA degree with 5 years related experience.

We offer comprehensive benefit programs, relocation package and a salary commensurate with your qualifications. Forward resume in confidence or call collect to Dotti Morris at (602) 949-3759.



MOTOROLA INC.

Government Electronics Group
8201 E. McDowell Rd., Dept. B026
Scottsdale, Arizona 85252

"Motorola, a World Leader in Electronics — Quality and Productivity Through Employee Participation in Management"

An Equal Opportunity/Affirmative Action Employer
U.S. Citizenship Required

ELECTRONICS INSTRUMENTATION ENGINEER

The Los Alamos National Laboratory, leader in the field of Experimental Physics, is seeking a senior level engineer to work in the development, testing, and maintenance of neutron-scattering instrumentation.

- B.S. or M.S. degree in Electrical Engineering
- Senior level experience in the design of analog and digital electronic systems.
- Particular emphasis in the instrumentation for low-level analog signal processing, phase-locking control systems, real time data acquisition systems, plus a working knowledge of CAMAC and NIM standards.

Los Alamos National Laboratory, one of the nation's foremost scientific research organizations, is operated by the University of California for the Department of Energy. We are located in a beautiful mountain setting in northern New Mexico and offer competitive salaries and comprehensive employee benefits to include 24 days of vacation per year.

If you are interested in working with scientific personnel in neutron scattering experiments on materials, please submit your detailed resume to:

RICHARD O. GARCIA, DIV-84-AD
Employment Representative
Personnel Administration Division, MS P205
Los Alamos National Laboratory
Los Alamos, NM 87545

University
of California



An Affirmative Action/Equal Opportunity Employer.

CONNECT WITH

R & D ENGINEER

Electro-Magnetic Compatibility/
Radio Frequency

Molex Incorporated, one of the world's fastest growing manufacturers of connector products for the electronics industry, is rapidly expanding its professional and technical staff at its facilities in the western suburbs of Chicago. High R & D outlays have positioned Molex for growth markets. Unprecedented expansion of our business has created an opening for an EMC/RF Engineer at our corporate headquarters in Lisle, Illinois.

This position, reporting to the Manager of Advanced Development, will have responsibility for the evaluation and analysis of new technologies in the development of connector products.

The successful candidate will possess a BS degree in electrical engineering or physics with 2 years of experience in electronic or electrical design and experience in high frequency testing or design.

Molex offers an excellent compensation/benefits package including profit sharing retirement trust, dental insurance and bonus program. For further information (Principals only) send resume to:

William M. O'Connor
Manager of Employment and
Benefits Administration

MOLEX INCORPORATED

2222 Wellington Court
Lisle, IL 60532

Equal Opportunity Employer M/F/H



Seldom do such pivotal positions surface in a multi-million dollar corporation.

Announcing the formation of our Advanced Technology Center.

A series of successes in programs of importance to our national security have provided unique opportunities for senior technical people. Our success has embodied "cutting edge" applications of signal processing, information processing, software integration, devices and materials technologies, and threat assessment and analysis.

Realizing that our breakthroughs have broad applications throughout the defense establishment, we established the Advanced Technology Center to act as the focus and catalyst for the technologies of all Gould Defense divisions. The Advanced Technology Center will be at the forefront of programs destined to be of great importance to our company, and our country. The Center is in place at the Gould complex located in the Baltimore/Washington corridor, and just 22 miles from Annapolis.

The need now is to enhance our staff nucleus with a few seasoned professionals of outstanding stature and competence. Because it is the power of such individuals' creativity and innovative talents that will contribute so importantly to our success, Gould is fully committed to providing appropriate recognition and rewards to the individuals chosen.

MANAGER, SIGNAL PROCESSING SYSTEMS

This post carries responsibility for directing an engineering staff whose function will be to specify and design signal processing systems for advanced defense programs. You will coordinate interdivisional signal processing technology and direct the preparation of proposals and white papers.

Qualifications include an advanced degree in Electrical/Electronic Engineering, Mathematics, Computer Science or Physics and a minimum of five years in signal processing systems design and analysis. You must have a broad knowledge of defense-oriented signal processing systems (electro-optical, optical, electromagnetic). Good communication and managerial skills are important and knowledge of secure communications, low probability of intercept-receivers is an asset.

SENIOR COMPUTER ENGINEER

Must be capable of leading an engineering staff in the specification and design of next-generation computer systems for advanced defense programs. Tapping your own considerable hands-on experience, you will be the focal point for our Defense Systems Group's advanced defense-oriented computer systems/component technology (eg. VHSIC). You will have a key role in the preparation of proposals and white papers.

Prerequisites include an advanced degree in Electrical/Electronic Engineering or Computer Science and at least five to ten years' experience in computer architecture and design. Together with strong leadership qualities, you

must have broad knowledge of military computer systems, software requirements, vector and scalar processing, chip design and fabrication as well as protection of military computer systems in adverse environments.

MANAGER, SOFTWARE SYSTEMS

Responsibilities encompass direction of an engineering staff in the specification, design and analysis of software systems for advanced defense programs. Your broad knowledge of ADA will be fully utilized. In addition, you will coordinate interdivisional software programs and establish software requirements, as well as guide the preparation of reports, proposals and white papers.

You must have an advanced degree in Engineering/Physical Sciences with at least five to ten years' experience, high ADA proficiency, and a demonstrated broad knowledge of software systems. Must also have excellent communications skills and technical leadership ability.

U.S. citizenship required for all positions.

To arrange a confidential discussion with the appropriate member of our management staff, call Mr. Jerry Lumpkin collect at (301) 787-3374, or write him at Advanced Technology Center, Gould Defense Systems Business Section, Dept. 166, 6711 Baymeadow Drive, Glen Burnie, MD 21061. An equal opportunity employer.



GOULD
Electronics

ENGINEERING AND COMPUTER SCIENCE PhDs

If you want to begin your career
working on some of the most
exciting projects of the 1990's...

Harris Can Make It Happen

Harris Government Support Systems Division is a leading supplier of computer-based test and maintenance equipment for the check out of avionics equipment on military aircraft. When you join Harris/GSSD you'll become part of a winning team of talented engineers and scientists who are creating the "NEXT GENERATION" of support systems. In 1983 orders increased nearly 70%, and many of these projects will extend through the 1990's.

If you are a candidate for a doctoral degree in 1984 or have your doctoral degree, and your interpersonal skills match your technical prowess in any of the following areas, we'd like to hear from you.

- Artificial Intelligence/Expert Systems
- Digital Signal and Image Processing
- Real Time Systems Processing
- Application of Interactive Graphics
- Human Engineering (Human-Machine Interface)
- Inferential Decision Theory and Test Techniques
- VLSI/VHSIC Technology
- High Density Electronic Packaging Concepts
- Data Base Management Systems
- Management Science—Operations Analysis
- Computer Science
 - Real Time Programming
 - Capacity Planning
 - Computer Architecture
 - Languages (ADA/PASCAL/FORTRAN)
 - Networking
 - Software Transportability
 - Computer Aided Engineering
 - Computer Operating Systems

With Harris you'll receive a compensation package which is consistent with the challenges and responsibilities offered. You'll also receive highly competitive salaries, an outstanding benefits package, including Profit Sharing, Stock Purchase Plan and comprehensive medical and life insurance coverage. You'll also discover that our Long Island location, 30 miles east of New York City, offers the best of both the suburban and metropolitan environments, at affordable costs. Permanent Residency required. To explore these opportunities further, please forward your resume to: N. Cook, Supervisor Human Resources, Harris Corporation, Government Support Systems Division, Dept. SP, 6801 Jericho Turnpike, Syosset, New York 11791.

An Equal Opportunity Employer m/f



HARRIS

IF IT'S HAPPENING IN ELECTRONICS,
IT'S HAPPENING AT HARRIS.

NETWORK RESEARCH SCIENTIST

GTE Laboratories is the central Research and Development facility for the entire Corporation of more than 60 communications, products, research and service subsidiaries in the U.S. and 19 countries around the world.

A position is currently available in the Network Architecture Department of our Telecommunications Research Laboratory. Your research will involve using innovative concepts to conceive, model and analyze strategies and techniques for reliable fault tolerant communication networks. You will create user-friendly design and analysis tools, and incorporate computationally efficient algorithms.

Qualifications include a Ph.D. in E.E. or Math plus thesis or experience in network reliability/availability. The ability to utilize AI techniques for fault tolerant operation is desirable.

GTE Laboratories offers an outstanding benefits package including a company-paid medical/dental insurance plan, a pension plan, paid holidays and vacation.

To apply, please send resume to Paul Houle, Personnel, GTE Laboratories, Inc., Dept. IEEE3, 40 Sylvan Road, Waltham, MA 02254. An equal opportunity employer, M/F.



GTE Laboratories Incorporated

ELECTRONICS ENGINEER

The Division of Computer Research and Technology, National Institutes of Health has a position open for a talented entry level electronics engineer to participate in computer support for biomedical research programs. Assignments will involve both hardware and software development as well as a mix of analog and digital techniques. Initially, the successful candidate will work on projects to apply personal computers to man-machine interface and data acquisition and control problems in laboratories and clinics.

This entry level position requires a B.S.E.E. and the academic qualifications necessary for the federal GS-7 level. Candidates with an advanced degree will be considered at the GS-9 level. Starting salary is \$21,527 at the GS-7 level, and \$24,981 at the GS-9 level. U.S. CITIZENSHIP IS REQUIRED.

Further information regarding qualifications may be obtained by calling Ms. Malcomson, (301) 496-6951; or interested candidates may submit an SF-171 or resume to:

Ms. Mercedes Malcomson
National Institutes of Health
DCRT Personnel Office
Building 12A
Room 3013
Bethesda, MD 20205

An Equal Opportunity Employer

Register Now For A High-Tek Career In Oregon

For over 37 years, Tektronix has made Oregon an innovative center for electronics technology. We made our name in oscilloscopes, but today scopes are just one product line in an ever growing high-Tek arsenal increasingly dominated by software. Our annual sales of over \$1.2 billion now include logic analyzers, logic design systems, color graphic terminals, engineering workstations, to name a few.

We're looking for talented Software and Hardware Engineers to participate in some progressive High-Tek projects. We've devised this Career Registry to enable you to submit your qualifications to our Design Automation, Engineering Computing Systems and Information Display Divisions. If you'd like immediate response, we suggest you attach a copy of your resume. Of course, all information will be held in strictest confidence.

Tektronix Career Registry

Please check your areas of expertise to qualify you for an exciting Tektronix project:

HARDWARE

- VAX Systems
- Bit-Slice Microcode
- Graphics Display Subsystems
- Digital Design
- Analog Design
- High-Performance Microcomputers
- Quality Assurance
- Color Raster-Scan
- Data Communications & Networking
- Array Processor Architecture
- High Performance Arithmetic Technique

LANGUAGES

- C Basic
- Fortran Assembler
- Pascal Other _____

EXPERIENCE/EDUCATION

_____ years in software development.

_____ years in hardware development.

_____ total electronics experience.

_____ BSEE _____ MSEE _____ BSCS _____ MSCS _____ PhD _____ Other

Name _____

Address _____

City _____ State _____ Zip _____

Home Phone () _____ Message () _____

Mail to:
S. Brunmeler, Tektronix, Inc., P.O. Box 4600, Mail Station 94-321, Beaverton, OR 97075.

Principals only, please. Equal Opportunity Employer.

SOFTWARE

- Structured Design
- Distributed Data Base
- Bit-Slice Microcode
- Raster Graphics
- CAD/CAM Applications
- Evaluation
- Diagnostics
- Data Communications and Networking
- Quality Assurance
- Color Raster Graphics
- Compilers/Assemblers
- System/Application Programming
- Human Interface

OPERATING SYSTEMS

- UNIX* VMS
- CP/M* Real-Time

*UNIX is a trademark of Bell Labs.

*CPM is a trademark of Digital Research.

_____ years in systems programming.

_____ years in firmware development.

Tektronix[®]
COMMITTED TO EXCELLENCE

BSEE SALES TRAINING PROGRAM

A unique opportunity exists for talented and eager, BSEE graduates. Computer Automation's philosophy of promoting from within is a known fact, and our Sales Training Program for Electrical Engineers is another reason that "We're ideas ahead."

if you are motivated by a sales career in a high technology environment, you can participate in the 6 month training course which is scheduled to begin in late Spring, 1984 at our Irvine, California facility. During this time you will become familiar with the industry, receive extensive product training and see our sales and marketing representatives apply their knowledge in the real world.

In addition, your sales skill will be developed through formal sales training classes.

Upon completion of the course, you will be assigned a territory in one of our sales offices which are located throughout the U.S.

Bring your BSEE, and your desire to sell in a high technology industry and CA will prepare you for a most rewarding career. For further information please call Jim Strahan (714) 833-8830, Ext. 705 COLLECT or send resume to:

Computer Automation, Inc.
2181 Dupont Drive
Irvine, CA 92713



ComputerAutomation

An Equal Opportunity Employer

Communications Engineers & Scientists

- Satellite Communication
- Spread Spectrum • MM Wave Systems
- Secure Systems • Encoding & Decoding
- GaAs MMIC Development

MOTOROLA COMMUNICATIONS RESEARCH FACILITY is involved in advanced communication system design and development. We have excellent professional opportunities for Senior Communications Engineers and Scientists.

Our Research Facility offers excellent professional and support facilities, a nearby university, and a strong technical community together with a myriad of practical and theoretical challenges. Your choice of modern suburban or rural lifestyle just minutes away from the office completes the picture.

We need several highly qualified MS and PhD engineers and scientists to solve tomorrow's problems today. You are invited to submit a resume and salary history in confidence or call collect to Dotti Morris (602) 949-3759.

MOTOROLA INC.

Government Electronics Group

8201 E. McDowell Road, Dept. B005
P.O. Box 1417
Scottsdale, Arizona 85252

Motorola, a World Leader in Electronics — Quality and Productivity Through Employee Participation in Management™

An Equal Opportunity/Affirmative Action Employer
U.S. Citizenship Required

Research in Semiconductor Technology

National Bureau of Standards

Challenging R&D position in developing microelectronic test structures/test chips for characterizing integrated circuit design, fabrication, and performance. The Semiconductor Devices and Circuits Division is well equipped for this research and other dedicated professionals are working in this area. This position offers an excellent opportunity for professional growth, visibility, and publication.

Qualifications desired include: industrial/academic experience in test structure design and utilization; state-of-the-art knowledge in semiconductor physics, integrated circuit fabrication, and circuit theory; familiarity with automatic test and CAD systems. Ph.D. degree in electrical engineering. Salary is competitive and is based on professional experience and accomplishments.

NBS laboratories are located 20 miles northwest of Washington, DC in Gaithersburg, MD. The surrounding area offers a wide variety of housing, excellent schools, and numerous cultural and recreational opportunities.

Please submit comprehensive resume to:
Vickie Fox, U.S. Department of Commerce
National Bureau of Standards
Personnel Division, Bldg. 101, Rm. A-123
Washington, D.C. 20234
Or call collect (301) 921-3711

U.S. Citizenship Required. The National Bureau of Standards is an Equal Employment/Affirmative Action Employer.

**Change Moves
At The Speed
Of An Idea**

RCA

Advanced Technology Laboratories

Where New Technology Begins



physics and engineering opportunities in

ACCELERATOR TECHNOLOGY

Work in a dynamic technical environment with an experienced team on projects with a broad national impact.

MAJOR PROJECTS

- Free-Electron Laser
- Fusion Materials Testing Accelerator
- Proton Storage Ring
- Directed-Energy Defense Accelerator
- Race-track Microtron
- Medical Radioisotope Accelerator

TECHNICAL AREAS

- Particle Dynamics of High-Current Beams
- Gigawatt RF Generators
- Linear Accelerator RF Structure Research
- Pulsed and DC Magnet Design
- Real-Time Computer Control
- Intense Ion Beam Diagnostics

Physicists, electronic/electrical engineers, and mechanical engineers with B.S., M.S., or Ph.D. degrees are encouraged to apply. Permanent positions as well as summer positions for graduate students are available.

We provide excellent working conditions and benefits, including professional growth opportunities and 24 days of annual vacation. Los Alamos offers a pleasing lifestyle in a setting of great natural beauty, casual uncrowded living, a clean environment, abundant recreational activities, a superb climate, excellent school system, and low taxes.

Ask for the 1984 Accelerator Technology brochure, or send resume in confidence to:

Betty E. Linke, MS H811
Accelerator Technology Division,
DIV-84-AJ
Los Alamos National Laboratory
Los Alamos, New Mexico 87545
(505) 667-2060

University
of California



An Affirmative Action/Equal Opportunity Employer.



The University of Manitoba Electrical Engineering

FACULTY POSITIONS

The Department of Electrical Engineering at the University of Manitoba is accepting applications for three (3) tenure track and two (2) term faculty positions effective 1 September 1984 or earlier. Ranks and salary are open and commensurate with qualifications and experience. All specialties will be considered; however, preference will be given applicants with expertise in computer engineering. Duties include undergraduate and graduate teaching, research supervision, significant research output and some administrative duties.

The department offers two B.Sc. degree programs: electrical engineering and computer engineering, with yearly enrollments of 60 and 60 respectively in each of four-year degree programs. It has a typical enrollment of 115 graduate students working for M. Eng., M.Sc. and Ph.D. degrees. Currently there are 22 full-time faculty members and eight adjunct professors.

The candidates must have a doctorate in electrical or computer engineering, with a demonstrated interest in teaching and research. Both women and men are encouraged to apply. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.

Resumes, including the names and addresses of three referees, should be addressed to: Dr. R.M. Mathur, Head, Department of Electrical Engineering, The University of Manitoba, Winnipeg, Manitoba R3T 2N2 Canada.

The closing date for receipt of applications is 1 May, 1984.



CIVILIAN ELECTRICAL ENGINEERS

If you have an electrical engineering degree, a minimum of three years of professional experience and are seeking a challenging career in an organization whose mission is people helping people, then we want to talk to you. The United States Coast Guard in Alaska is looking for self-motivated, highly skilled individuals for civilian positions located in one of America's most beautiful capital cities, Juneau, Alaska.

Applicants should have a background in design and construction administration of lighting, power distribution, communication, and alarm systems for commercial and industrial facilities. Individuals should be current with the codes and registered or pursuing professional registration. Salaries to \$49,000 per year commensurate with experience. Submit Applications for Federal Employment for Engineers (OPM Form 1282) which can be obtained from any Federal Personnel Office to:

Commander,
17th Coast Guard District,
P.O. Box 3-5000 (pc),
Juneau, Alaska 99802

An Equal Opportunity Employer. U.S. Citizenship required.

VLSI Research At General Electric's Research & Development Center

The Challenge

A key factor in GE's thrust in electronics is our R&D Center which continues to expand its activities in the area of VLSI research and applications development. Our program is targeted at establishing leadership positions in VLSI architecture, circuit design, and CAD research based upon its 1.2 micron minimum feature size CMOS process. Moreover, it provides opportunities to apply advanced technology to GE's next generation VLSI-based products.

The Environment

The R&D Center—one of the world's leading laboratories linking basic research to applications—provides a challenging work environment. Not only is this an opportunity to work with a top interdisciplinary team in superb new facilities, but our upstate New York location offers outstanding recreational and cultural advantages, as well as some of the most affordable, attractive housing in the country. Boston, New York and Montreal are within a few hours drive as are the recreational opportunities of the Adirondack Mountains, Lake George and Cape Cod.

Professional Opportunities

Opportunities exist for innovative individuals with appropriate degree/experience in the following areas:

- VLSI Architectures and Systems Development
- Digital and Analog CMOS VLSI Circuit Design
- Advanced CAD Concepts
- Device Modeling and Characterization
- MOS Process Flow Engineering and Supervision
- VLSI Product and Lithography Engineering

Contact

investigate excellent salaries, benefits, and growth prospects by sending your confidential resume to Mr. Neff T. Dietrich, University Relations and Recruiting, Ref. 105C, General Electric Research & Development Center, P.O. Box 8, Schenectady, New York 12301.

The future is working at General Electric

GENERAL  **ELECTRIC**

An equal opportunity employer





JOIN ONE OF THE BEST ENGINEERING TEAMS IN THE COUNTRY.

It's in a major league — the AAI Corporation. And our teams are active designing, engineering and producing electronic and mechanical systems for industry and the government. This engineering-team system lets you work as an individual. You can follow through on different state-of-the-art projects, from start to finish. You'll start with an excellent salary and if you're good, our regular review will see that it gets better. There now! Can we draft you for an AAI team? Right now we need:

TEST PROGRAM ENGINEER

You should have at least 5 to 10 years experience as a Test Program Development Engineer. We will hire you as a Project Engineer working on complex TPS Development Programs.

OPERATION ENGINEER

We are seeking individuals with either system or detail design experience at all levels. Experience in either operational flight trainers, combat system trainers, or maintenance trainers required. Openings in Hunt Valley, Maryland and Orlando, Florida. BSEE or related degree desired.

DESIGN ENGINEER

You should have 5+ years experience in antenna and microstrip design with a capability to do overall systems design. BSEE or appropriate degree required.

Write yourself into the formula for success. For immediate consideration call Bill Muth at (301) 628-3581 or send your resume in complete confidence to P.O. Box 524, Hunt Valley, Maryland 21030.



An Equal Opportunity Employer

Director

OF COMPUTER SCIENCE Department of Electrical Engineering And Computer Science

The Polytechnic Institute of New York invites nominations and applications for the position of Director of its Computer Science Division.

This semi-autonomous division of the E.E./C.S. Department encompasses degree programs for B.S., M.S. and Ph.D degrees in Computer Science and the M.S. in Information Systems, as well as research programs in areas including Computer Architecture, Software Engineering, VLSI Design and Programming Methodology, Telecommunications, Image Processing and Artificial Intelligence.

The POLYTECHNIC presently conducts the largest M.S. in C.S. program in the Northeast, and is expanding both its academic and research programs on its campuses in Brooklyn, Farmingdale and White Plains, New York. In recognition of its achievements, substantial support for the development of Computer Science faculty and facilities has been received from major industrial organizations. Many research projects are coordinated in the Center for Digital Systems, the Institute for Imaging Sciences, and within the activity designated by New York State as its Center for Advanced Technology in Telecommunications.

We seek a Director having a Ph.D in Computer Science or a related field, with teaching experience, demonstrated administrative ability and a proven record of scholarly achievement. We offer a competitive salary with excellent benefits.

The intended starting date is July 1984, but actual starting date and salary are negotiable. Questions about this opening or the Polytechnic's Computer Science programs may be directed to Edward J. Smith, Acting Director of Computer Science at (212) 643-4467, or Leonard Shaw, Head E.E./C.S. Department at (212) 643-2269.

Please send resume and a description of current research activities in confidence to: Stephen Kahne



Polytechnic

Polytechnic
INSTITUTE OF NEW YORK

333 Jay Street
Brooklyn, N. Y. 11201

equal opportunity
employer m/f/h/v

SENIOR RESEARCH SCIENTIST

The Industrial Technology Institute is an innovative, professional group working with academic, industrial, and government partners who have invested substantially to create a major intellectual center for R & D in the area of computer-integrated manufacturing. We seek a senior professional for our Flexible Manufacturing Systems Laboratory where the major research areas include:

- Metal Processing • Systems Operations Management • Parts Holding • Materials Flow Management

The successful candidate will enjoy coordinating a research team and project planning activities, as well as developing a group of professionals in a high level research environment. Should have a Ph.D. in areas of ME, IE, SE, EE or equivalent, plus a minimum of 6 years' academic/industry experience as well as a solid publications record and funded research background.

We offer a competitive salary and benefits package, and an excellent opportunity to become part of a dynamic, growing organization. Please send resume in confidence to: J. Rob Noel, Department FML-1e, Industrial Technology Institute, P.O. Box 1485, Ann Arbor, MI 48106. A non-discriminatory, affirmative action employer.



INDUSTRIAL TECHNOLOGY INSTITUTE

The Lincoln Laboratory, a research center of the Massachusetts Institute of Technology, is engaged in research and development in advanced electronics, with emphasis on application to national defense. The program of research extends from fundamental investigation in selected areas, through technology development of devices and components, to the design and development of complex systems.

GaAs device development

Fabrication of submicrometer structures

RF and analog design

Circuit design for mm wave satellite communication terminals

Microstructures

Silicon integrated circuit development

Multiprocessor computer systems

Computer architecture

VLSI design

Digital circuit design

Digital signal processing

Software engineering

Analog signal processing

Radar signature and data analysis

Communication systems analysis and engineering

Optical space communication systems development

Systems analysis for counter C³ systems

Mechanical systems design

Aero and gas dynamics, heat transfer

Send your resume to: S.H. Colcock, MIT Lincoln Laboratory, Box #41, Lexington, MA 02173. The Laboratory is an equal opportunity employer actively seeking women and minorities. U.S. Citizenship is required.

 **MIT
LINCOLN
LABORATORY**

Submicron Line X-Ray Zone Plate

ELECTRONICS ENGINEERS

Make The Most Of Your Experience With The National Radio Astronomy Observatory

MILLIMETER-WAVE RECEIVERS

Superconducting device research and low-noise receiver development for frequencies to 350 GHz. Requires experience with mixers, quasi-optic devices, superconducting devices and cryogenics. Charlottesville, VA; Tucson, AZ.

MICROWAVE RECEIVERS

Low-noise receiver development in the 1.3 to 25 GHz range. Experience in digital electronics and cryogenics desired. Socorro, NM.

ANTENNA FEED SYSTEMS

Responsible for improvement of antenna feeds for all present radio telescopes in the NRAO system as well as planned antennas in a proposed very long baseline array. Will design, test and oversee construction of reflector feeds and develop software for diffraction analysis of antenna efficiency. Socorro, NM and Green Bank W VA.

All positions offer exciting professional challenges and the opportunity to work with leading experts in a unique sector of the communications field. Candidates should possess at least a Bachelor's Degree and three or more years of pertinent experience.

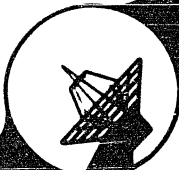
Full relocation expenses and a superior benefits package including 24 days vacation per year and immediately vested retirement program are but a few of the advantages. The engineer seeking a stable, long-term career in a stimulating, not-for-profit, high-tech environment. Send resume to:

Personnel Manager

National Radio Astronomy Observatory

Edgemont Road
Charlottesville, VA 22901

An Equal Opportunity Employer M/F



Lockheed

Associate engineer through specialist level positions are available for those interested in challenging shuttle orbit and space station design and development projects. Degreed engineers with appropriate experience are needed in the following fields:

- **POWER DISTRIBUTION AND CONTROL** — experience in the distribution and control of high voltage AC or DC power, switching and fault detection, transmission lines and load management. Knowledge and/or experience in high frequency AC power distribution, conversion and control are desirable.
- **GUIDANCE, NAVIGATION AND CONTROL** — inertial guidance systems design, test and evaluation experience required. Must have experience with both hardware and software mechanizations used in calibration and testing inertial measurement units.
- **COMPUTER HARDWARE AND SOFTWARE** — experience is required in one or more of the following areas:
 - design of computer networks
 - design of software operating systems
 - digital design using microprocessors

VAX/VMS and Intel's 86 system experience desirable with software skills in Ada, Pascal, PL/I and FORTRAN.

Please send resume to:

F.M. Bond
LEMSCO
BO7-IS 1816 Space Park Drive
Houston, Texas 77258



Engineering and Management Services Company, Inc.

AN EQUAL OPPORTUNITY EMPLOYER M/F/H

Let these placement leaders advance your career

Northeast and National

Electronic Engineers

\$25,000-\$60,000

Design ■ Software ■ Hardware

For Commercial and Military Products Manufacturers All Contacts Held in Strict Confidence. All fees Paid by Prospective Employers Send your Resume or Call

KMS Associates, Inc.
Kevin M. Stack, President
U.P.O. Box 3492
Kingston, New York 12401
914/339-3559



BSEE DESIGN PROJECT MANAGERS

\$25,000-\$60,000

• Semiconductor • EW

• RF/Microwave/Radar • ATE/TEST

• Software/Hardware • Avionics

• Commercial • Military

Immediate, desirable locations NY & Northeast opportunities. Engineering placement specialists since 1948. In confidence, send resume or call.

The Resource Group, Inc.

James F. Corby, President
Box 110 Washburn Station
Schenectady, NY 12308
607-723-5377

ELECTRONIC ENGINEERS \$25,000-\$60,000

Professional Personnel Associates specializes in the placement of electronic engineers in the aerospace/defense industry as well as the commercial industry. Immediate opportunities exist in virtually all electronic-related disciplines. Contact Greg White

PROFESSIONAL PERSONNEL ASSOCIATES

4400 Monte Park Drive, Suite 12-B
Charlotte, NC 28212
704-440-5001
A Division of International
All fees paid by client companies.

THE WINNING EDGE

Included among our firms many unique services to candidates are valuable guidance on resume preparation, interview techniques & salary parameters all at no charge

The Career Advancement Professionals

The Career Advancement Professionals

APPLIED ENGINEERING & SOFTWARE TECHNOLOGY

If You're Looking for Challenge
In a Research Environment
Look to ITRI.

IIT Research Institute (ITRI) is an independent research organization organized to provide research, development and design services to government and industry. Today, ITRI ranks as one of the largest and best-known not-for-profit contract research organizations and continues to extend its capabilities to effectively meet research challenges of our changing society.

OPTICAL THIN FILM (CHICAGO)

Physics or EE degree; minimum of 5 years hands-on experience in • Synthesis Techniques (Chemical Vapor Deposition, Laser Induced Photolytics) • Optical, Electrical, Structural Film Characterization • Thin Film Device Fabrication, Design, and Testing.

MAGNETIC RECORDING (CHICAGO) PROJECT ENGINEER:

BS/MS; 3-5 years experience in HDDR systems. Will manage current programs, develop new projects, interface with customers and potential clients.

ELECTRONIC WARFARE: RF/EO (CHICAGO & DAYTON)

BSEE or advanced EE degree; a minimum of 5 years experience in one or more of the following:

RF SYSTEMS: Radar Systems Analysis • ECM/ECCM • Clutter Analysis • Radar Signal Modeling • Missile Guidance • ESM Signal Processing

EO SYSTEMS: EO/IR Countermeasures Analysis • CM/CCM Analysis of EO Systems including: Missile Guidance Systems; Laser Systems, IR Imaging Systems; Low Light TV

SOFTWARE TECHNOLOGY (ROME, NY)

BS or MS in Computer Science or related discipline; at least 2 years experience in one or more areas: • Systems Development • Networking • Software Tools/Methodologies • Office Automation • Data Base Management • Data Collection/Analysis • Software Metrics • Software Acquisition • Software Assessment. Exposure to Unix, DoD applications and research methodologies a plus. Projects will support Ada*, STARS, DACS, and other DoD programs.

*Ada is a registered trademark of the U.S. Government (Ada Joint Program Office)

To apply for above positions, direct resume to:
C. TODNER, DEPT. S30

ELECTRONICS SYSTEMS/CIRCUITS SURVIVABILITY/VULNERABILITY (CHICAGO)

Recent Grads. and BS/MS/PhDs with 3-5 years experience in Solid State Circuit Design Analysis using computer modeling and analysis techniques as well as familiarity with EMP/TREE effects on systems and components.

ELECTROMAGNETICS (CHICAGO)

BS/MS/PhD EE or Physics; 0-10 years experience. ENGINEERS and PROJECT LEADERS needed with capabilities to direct programs involving one of the following:

EMC/EMI & EMP: Applied EM Field Theory • EMP Interaction & Coupling Analysis • MOM, GTD & Time Domain Analysis Techniques • Antenna Design Modeling & Analysis

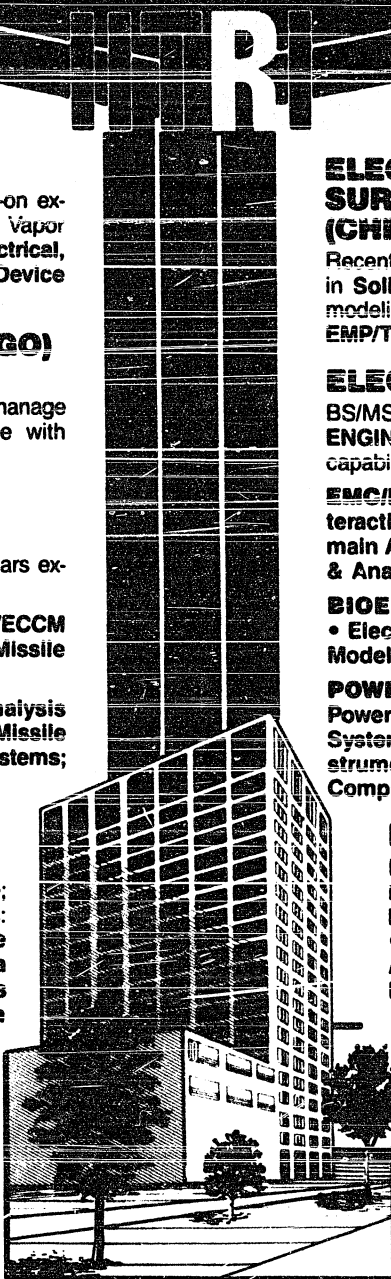
BIOELECTROMAGNETICS: Instrumentation • Electromagnetic Field Theory Analysis • Computer Modeling • Dosimetry • Bio-Effects Research

POWER SYSTEM EM EFFECTS: AC & DC Overhead Power Line Effects • Telephone, Pipeline, Railroad Systems Interference • Electric Shock Research • Instrumentation • Electromagnetic Coupling Analysis, Computer Modeling • Interference Mitigation Design

RELIABILITY (ROME, NY)

BS/MS EE; 2-6 years experience in one of the following: • Electronic Component Reliability with knowledge of Digital/Hybrid Device Processes • Management of Military Electronic System (R/M) Analyses Projects • Prediction, FMEA, FTA Reporting

To apply for above positions, direct resume to:
J.C. ANDERSON, DEPT. JFP



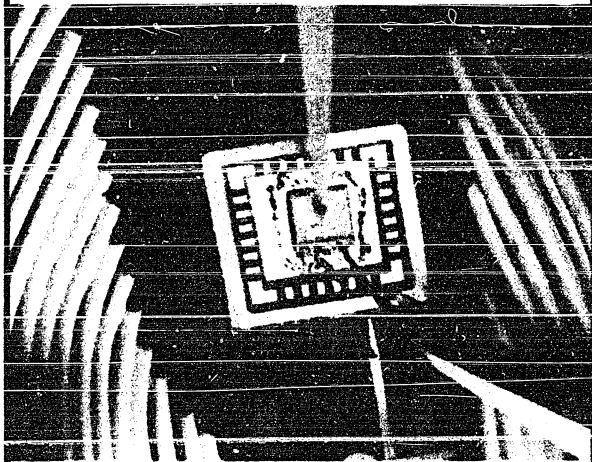
ALL POSITIONS REQUIRE U.S. CITIZENSHIP
an equal opportunity employer m/f/h

IIT RESEARCH INSTITUTE • 10 W. 35th Street • Chicago, IL 60616

Experience ranges are suggested minimum requirements, not maximums.

Electrical Engineering

INNOVATION & IMAGINATION IN MICROPROCESSOR-BASED AUTOMOTIVE ELECTRONICS



That's Motorola!

From digital microwave oven controls... to low cost, high-resolution CRT screens... to sophisticated engine management systems that increase automotive fuel economy and reduce pollution... Engineers at Motorola's Automotive & Industrial Electronics Group are leading the way in developing innovative microprocessor-based technologies. We are creating electronic technology that will become an integral part of the transportation systems of the future.

Right now, new development programs have created exciting engineering opportunities for a few talented individuals whose imagination equals their skills, in the following disciplines:

SR. SOFTWARE DESIGN ENGINEERS

Develop real time interrupt driven microprocessor software for the next generation of 6800 family based controls. Ideal candidates will be Electronic Engineers with experience in 6801, 6809 or other microprocessor software, Motorola or HP software development systems, along with a knowledge of hardware design.

SR. HARDWARE DESIGN ENGINEER

Design and develop circuits and logic for automotive electronics features, from initial design phases through premanufacturing. You should have 3 or more years experience in analog and digital circuit design and development for high volume microprocessor-based systems. BSEE or equivalent required.

VLSI DESIGN LIAISONS

Provide interface between our electronic design engineers and semiconductor houses involved in the development of large scale integrated IC's for the next generation of electronic engine controls. You should have experience in VLSI design technology, and IC design and/or IC testing and failure analysis.

As a leader in developing the electronics technology of the future, Motorola rewards the efforts of its engineers with excellent salaries and complete benefits. For immediate consideration, send your resume or letter of qualification to: Robert Cole, Dept. 84512, **MOTOROLA INC., Automotive & Industrial Electronics Group, 1289 East Algonquin Road, Schaumburg, Illinois 60195.** An equal opportunity/affirmative action employer.



MOTOROLA INC.

A World Leader in Electronics

**Quality and productivity through
employee participation in management**

TOSHIBA / HOUSTON INTERNATIONAL CORPORATION

DEPENDS ON TEAMWORK
AND
YOU CAN BE A PART OF OUR
TEAM AS A...

FIELD SERVICE ENGINEER

We have a highly qualified group of engineers to lend technical support to our field engineers.

We are seeking an individual with a BSEE Degree and prior field service background troubleshooting ELECTRIC MOTORS, MOTOR CONTROLS, SWITCHGEAR, INVERTERS AND SLIP RECOVERY DRIVE SYSTEMS. Up to 50% travel.

As a world leader in our field we can offer a competitive salary, company paid benefits that include relocation to a "small town" atmosphere with nearby leisure time activities and an opportunity to grow with a leader.

Please send resume and salary requirements to Personnel Department.

TOSHIBA / HOUSTON INTERNATIONAL CORPORATION

13131 WEST LITTLE YORK ROAD
HOUSTON, TEXAS 77041

We are an equal opportunity employer. m/1

High Tech '84 Opportunities \$30,000-\$65,000+

The coast-to-coast Fox-Morris recruitment network has placed thousands of hi-tech executives in key positions with leading companies during more than two decades. Client companies pay all employment expenses. A few examples of choice 1984 opportunities include:

PHD ELEC. PHYSICS to \$60K.

Know solid state materials (Ga As) in hi-speed elec. circuitry.
POSITION RS-3

PROD. ENG. MGR. to \$55K.

Microprocessor & memory
dvlpmt. BS/MSEE w/8+ yrs. & good mgmt. skills.
POSITION LH-3

POWER ELEC. ENGR. to \$50K.

BS/MSEE to design linear/switching power control mechanisms.
POSITION RS-3

DISPLAY SYS. ENGR. to \$50K.

Hardware/Software sys. design for graphic display systems.
POSITION JZ-3

SR. SOFTWARE ENGR. to \$50K.

Real-time radar data processing exp.
POSITION JZ-3

PKG. DESIGN. \$36K.

Design/implement new frames & packages 3+ yrs. plastics & ceramics exp.
POSITION LH-3

OPERATING SYS. ENGR. to \$50K.

Real-time oper. sys. or multi-level secure oper. sys.
POSITION JS-3

RF ENGRS. to \$50K.

Multiple openings both military & commercial applications.
POSITION JZ-3

SOFTWARE DVLPMNT. FACILITY MGR., \$45-50K.

Dvlpmt. software tools. In-house consulting.
POSITION JZ-3

SOFTWARE SYSTEMS ENGRS., \$35-50K.

Design large, real-time software sys. for imbedded sys.
POSITION JZ-3

ANALOG ENGR. to \$40K.

BSEE w/min 5 yrs exp in analog/digital conversion, microprocessor, acoustical design.
POSITION RS-3

DR. DIGITAL DESIGN EE, \$35-40K.

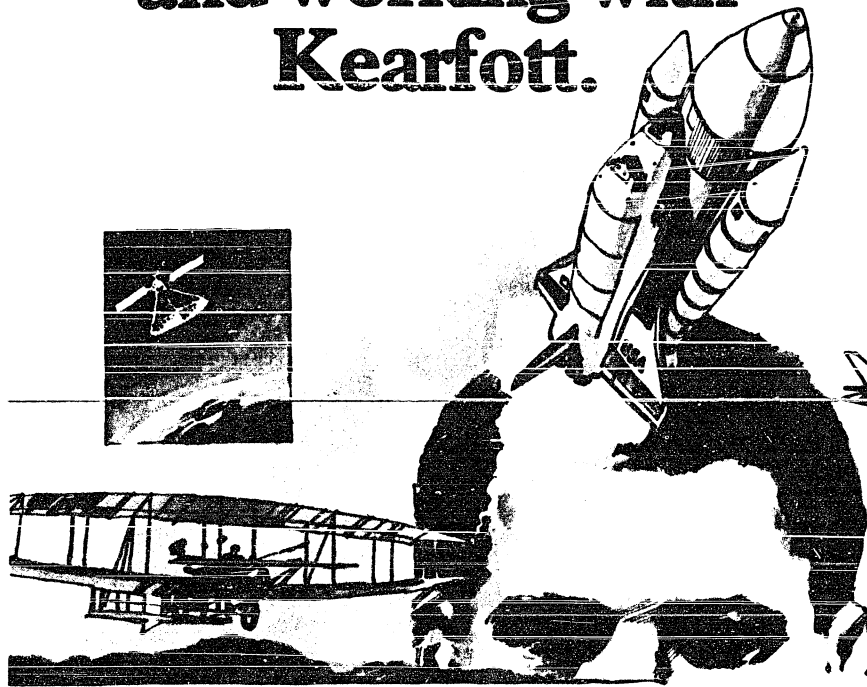
Fortune 200 div. Applic / dvlpmt. effort.
POSITION ES-3

For direct, confidential access to our national client network, call or send resume to Karyn Davis at our Fox-Morris corporate headquarters: Old York & Rydal Rds., Jenkintown, PA 19046 (215-576-4994)

FOX-MORRIS personnel consultants

atlanta • ballimore • boston • charlotte • cincinnati • cleveland • dallas
houston • mclean, va • new york • norfolk • orange county, ca
philadelphia • pittsburgh • princeton • raleigh • san francisco

The American inventor is alive and well... and working with Kearfott.



Last year, as in past years, inventions by our engineers and scientists kept our patent attorneys busy. This suggests three things:

1. That a great deal of the work we're doing in navigation and inertial guidance systems, communications, military command and control systems and in aerospace components is patentable. A patent granted to one of our engineers for a Pathlength Controller for a ring laser gyro system was, for example, only one of six granted to Kearfott inventors in the field of gyro technology in 1982. Others, such as a patent for a land-vehicle navigation

system, and one for an absolute digital clock system, suggest the breadth of our inventiveness.

2. That for all of American management's emphasis on teamwork, multidisciplinary groups, project teams and interpersonal skills...it's still very often the individual thinker, problem-solver and inventor who makes the creative leaps.

3. Inventors find hospitable working conditions at Kearfott. They find stimulating colleagues...and sophisticated laboratory resources. We believe in teamwork, but we also believe that it's management's job to remove all blocks to individual initiative. Creativity is rewarded here.

Kearfott is a company with 66 years of "firsts"—first operational airborne computer, first Doppler radar navigation system, first synchros accurate to 1 second of arc—and firsts in dozens of other areas. We hope this will encourage you to invent a career with Kearfott if your qualifications match our current openings:

- Digital Signal Processing
- Communications Systems Analysis
- Radar Systems Analysis
- Navigation Systems Analysis
- Digital Logic Design
- RF Communications
- Computerized Avionics
- Microwave Circuitry
- Realtime Computer Systems
- Power Supply Design
- Computer Architecture
- Navigation/Guidance Systems Test
- Reliability Engineering

Please send your confidential resume, including salary history and requirements, to: Mr. J. DeGennaro, Kearfott Division, Singer Company, 1150 McBride Avenue, Little Falls, NJ 07424. U.S. citizenship required. An equal opportunity employer, m/f, who creates opportunities.

Kearfott

a division of The SINGER Company

WHY?

Talented people come to TRW LSI Products for different reasons.

A few are attracted to the Mediterranean climate and the green hills. Another person wants to be where technology is pushed to the edge. Some recognize the wide range of career opportunities available here. Our rapid growth and state-of-the-art facility are enticing to certain individuals.

And then there are those who just aren't satisfied unless they're among the best.

Whatever the reason, top professionals do find their way to LSI in San Diego.

Career Opportunities in I.C.'s:

● DESIGN ENGINEERING

Analog: Product development and design in ultra-high speed converters and related analog products in CMOS and Bipolar technologies.

Digital: Complex chip design for digital signal processing architectures using innovative design tools and techniques. CMOS and Bipolar.

We're at one micron CMOS VLSI and aiming lower.

● DESIGN AUTOMATION

Building an integrated design system for VLSI design hosted on a VAX 11/780 IDS incorporates both in-house and vendor software, providing fully automated verification of hand-crafted and semi-custom IC's.

● APPLICATIONS ENGINEERING

Technical customer interface and support to Sales Engineers for a wide variety of products. Development of customer applications. Presentation of product seminars.

● SYSTEMS ENGINEERING

Architectural and functional design. Lead new product development. Computer modeling using TEGAS.

● PROCESS ENGINEERING

Developing and sustaining state-of-the-art processes for one micron CMOS technology and Bipolar methods. Processes include: diffusion, ion implant, LPCVD, sputtering, photoresist, etc.

Positions exist now for technical, staff and managerial levels.

Send your resume, including compensation requirements to:

TRW LSI Products
Section 8417
P.O. Box 2472
La Jolla, CA 92038

Principals only, please.

We are an Equal Opportunity Employer.

TRW
LSI Products

REAL-TIME PROGRAMMER

Babcock & Wilcox, one of the nation's leaders in energy-related technology, seeks a solidly experienced DP professional for this interesting and challenging assignment. You'll work on a variety of real-time hardware/software specification and application programming projects in support of our engineering staff. Also, you'll be involved in system management and maintenance on several PDP 11/23, 11/34 and VAX 11/750 systems.

Experience is desirable with VAX/VMS, RSX-11M, RT-11, FORTRAN-77, DECNET and interactive computer graphics, interfacing with various instruments and transducers. General knowledge of various minis and micros is helpful. U.S. CITIZENSHIP IS REQUIRED.

Salary and benefits are excellent as is the potential for career development. For confidential consideration, please send your resume to: Roseann Taylor, Division Personnel Manager, ALLIANCE RESEARCH CENTER, Babcock & Wilcox Company, Research & Development Division, 1562 Beeson Street, Alliance, Ohio 44011. An Equal Opportunity Employer M/F/H/V.

Babcock & Wilcox
Research & Development

a McDermott company



BOSTON NEW ENGLAND or NATIONWIDE

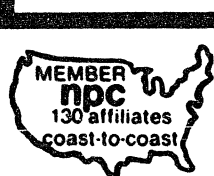
A TOLL FREE call will begin your search for a new position. Professionals, with Circuit Design, Hardware, Software, Analysis or R&D experience with

**SENSORS - DATA CONVERSION -
SIGNAL PROCESSING - OPTICS -
ELECTROMAGNETICS**

for

**COMMUNICATIONS - COMPUTER -
ROBOTICS - MILITARY**

Call Bill Saur (800) 628-3374 or collect in Massachusetts (413) 781-0982. Also DPS has other staff members to assist experienced Engineers, Marketing and Support Professionals.



**DYNAMIC
PERSONNEL
SYSTEM**
P.O. Box 539
West Springfield, MA
01090

BRIGHT FUTURES AT LOCKHEED- AUSTIN.

Engineering and computer specialists interested in advanced military tactical support programs will find Lockheed's division in Austin, Texas, to be extremely interesting.

Lockheed has formed the division to concentrate on some major tactical support programs. They include command and control and target location systems and are active programs for the Army, Navy and Air Force. For those seeking challenge, immediate openings exist for:

★ **DATA SYSTEMS AND SOFTWARE SPECIALISTS**

CRAY, Rolm 1666, Data General, VAX 11/780, DEC-PDP-11s and various microcomputer systems and applications using Fortran, Ada, PLM, Assembly and LISP are involved. Tasks include both project application and technology development in C.I.

★ **RELIABILITY ENGINEERS**

BSEE or equivalent with experience in reliability analysis of major military programs.

★ **SYSTEMS TEST ENGINEERS**

BSEE or equivalent experience in design and test of PCM or microprocessor-based data acquisition systems.

★ **SPECIFICATION ENGINEERS**

Experience in the preparation of contracts design materials and processes or procurement specifications consistent with DOD MIL-SPECS. Established performance in test specifications for RPV sub-systems and components.

★ **ELECTRONIC DESIGN ENGINEERS**

BSEE or equivalent experience in computer design for Digital/Analog Systems is desired.

★ **INFRARED (IR)/ELECTRO-OPTICS ENGINEERS**

BSEE or equivalent experience is desired with IR components/systems design, analysis and test; and IR detection and imaging systems.

★ **SIGNAL PROCESSING ENGINEERS**

BSEE or equivalent with experience in Electronic Warfare (ECM, ESM, ECCM), SIGINT (ELINT/COMINT), radar signal processing and communications analysis.

★ **TEST ENGINEERS**

BSEE or equivalent experience in engineering design and test. Related software systems and flight test experience is desirable.

★ **SYSTEMS SAFETY ENGINEER**

BSEE or equivalent experience with a strong electronics and computer software background is desired.

Lockheed offers unmatched opportunity with plenty of room to grow. And in Austin's pleasant setting, affordable living makes excellent salaries go even further.

Lockheed-Austin's exceptional wage and benefits package includes medical, dental and life insurance. A retirement plan is provided, along with much more.

Qualified candidates should send resumes to: Professional Employment, Dept. 532-0384, P.O. Box 17100, Austin, TX 78760. Lockheed is an equal opportunity, Affirmative Action employer. U.S. citizenship is required.

 **Lockheed-Austin**
Leadership in Technology

THE FIRST WORD IN... ADVANCED SCIENTIFIC SYSTEMS

Abbott Laboratories has been dynamic in the research and development of sophisticated medical products. Equally impressive have been the scientific applications designed for our advanced computer systems. Systems specialists have made major contributions to our R&D environment through the development of computerized research tools. These positions in our Pharmaceutical Products Division offer exceptional opportunities to work with state-of-the-art systems technologies.

SENIOR SCIENTIFIC SYSTEMS ANALYST

This key position interacts with management and scientists to establish objectives and requirements for the development of R&D systems. The incumbent will initiate and direct all phases of systems development, and coordinate all project activities. The successful candidate will have a Ph.D. in Computer Science or scientific discipline, coupled with at least 3-5 years experience in scientific, statistical or microcomputer applications to include 2 years in the design and development of scientific/ medical computer systems. Strong analytical and management skills are essential. Computer molecular design and graphics experience strongly preferred.

Also seeking SENIOR SCIENTIFIC PROGRAMMERS with experience in the design, testing and coding of scientific related FORTRAN programs. A BS/BA in Computer Science or related degree and 3 years on-line interactive real-time programming experience required.

SCIENTIFIC SYSTEMS ANALYSTS

The selected applicants will play a major role in the design and installation of R&D systems, develop recommendations for appropriate software packages, and provide user training to insure proper systems use. Candidates will have a BS/BA in Computer Science, scientific or engineering discipline, an MS is preferred, and at least 3 years scientific, statistical systems applications experience. Prior experience in a medical, research or scientific environment is required, and strong systems design and problem solving skills are essential.

NETWORK SPECIALISTS

These individuals will perform studies to determine the equipment and systems required to support our R&D operations. This responsibility includes evaluating hardware and software in support of projects for the Research Computing Network and developing and maintaining special purpose software. Installing and maintaining vendor supplied network and systems software is also involved. Qualifications include a Computer Science, Engineering, Scientific degree or equivalent plus at least 5-8 years combined experience in operating systems software, systems development, office automation, and computer performance analysis and capacity planning.

BIOMEDICAL ENGINEERS

Our research and development systems group seeks experienced Biomedical Engineers capable of developing innovative process control and quality control data collection systems for use in the production of third generation antibiotics. Based in the advanced technology section of our Pharmaceutical Products Division, those selected will assume responsibility for systems design including hardware selection, software design and development, and the installation of these systems. Qualified candidates will have a BSEE, at least 3-5 years experience in all aspects of hardware and software design, and a thorough knowledge of real-time data acquisition and process control applications on major OEM maincomputers.

Abbott Laboratories is a \$2.9 billion international leader in the health care products industry. Headquartered in an attractive suburban area on the Lake Michigan shoreline, just 30 miles north of Chicago, we provide excellent salaries, full benefits including profit sharing and stock retirement plan, and outstanding opportunities for career development and advancement. For immediate consideration, forward a resume, with salary history, in strict confidence to: Robert Levy, Dept. SP/Corporate Placement. Abbott is an Affirmative Action Employer.

ABBOTT
ABBOTT PARK IL. 60064

"HEALTH CARE WORLDWIDE"

THE FIRST WORD IN... SUCCESS

MANAGER, TRANSMITTER DESIGN RADAR SYSTEMS

Our client has an immediate need for a radar transmitter design engineer to manage a group involved in the design of microwave amplifier systems.

If interested, you should have a BSEE with three to ten years experience in the various aspects of radar transmitter design; vis a vis: application of microwave power amplifiers including travelling wave tubes, Klystrons, and crossed field amplifiers; as well as the design of pulse modulator tube type and solid state circuits; and related high voltage power supply equipment.

The company is located in a highly desirable suburban area close to a major city with its attendant cultural and educational advantages. Salary and benefits are more than competitive and relocation can be made relatively painless.

If you are a U.S. citizen and interested in this position, or in any of our other engineering and management opportunities, call **Brian Walsh COLLECT at (215) 968-0707**, or send your resume to either address below:

WALSH

Engineering Placement Service

The Commons West 50 Staniford St.
638 Newtown- Suite 800
Yardley Road Boston, MA 02114
Newtown, PA 18940 (617) 307-6266

Equal Opportunity Employer

Experience ranges are suggested minimum requirements, not maximums.

ENGINEERS

ELECTRONICS ENGINEERS

\$25,000-\$60,000+

Choice positions at all experience levels immediately available Pennsylvania & national. We have been placing electronics engineers for 19 years. Reply in confidence to J. G. Weir, President.

WEIR PERSONNEL SERVICES

P.O. Box 1379
Reading, PA 19603
(215-678-7812)

ELECTRONICS ENGINEERS

Hardware/Software

South • West • East • Midwest!

We represent many of the nation's top high technology manufacturers of computers, peripherals, processors, data-communications, E.W., automation, microelectronics, scientific & advanced technology.

Mail confidential resume or call G. A. Otten at 612-339-1453 (Collect).

ABC SEARCHTEK
401 Second Ave., S., Suite 436
Minneapolis, MN 55401

Current Openings

Aerospace/Electronic Engrs.
\$25,000-\$65,000

SUNBELT LOCATIONS

- Aerodynamics
- AD/CAW
- Structures
- Thermodynamics
- Weights
- Dials
- Communications
- Radar Systems
- Stress
- Controls
- Guidance
- Weapons
- Avionics
- Simulators
- Satellites
- Missile Systems
- Software

All positions Fee Paid by client company

Contact: Al Madison, C.E.C.

Corporate Personnel
Consultants, Inc.
3705 Latrobe Drive, Suite 310
Charlotte, NC 28211
(704) 368-1800

ENGINEERS & MANAGERS, \$30K

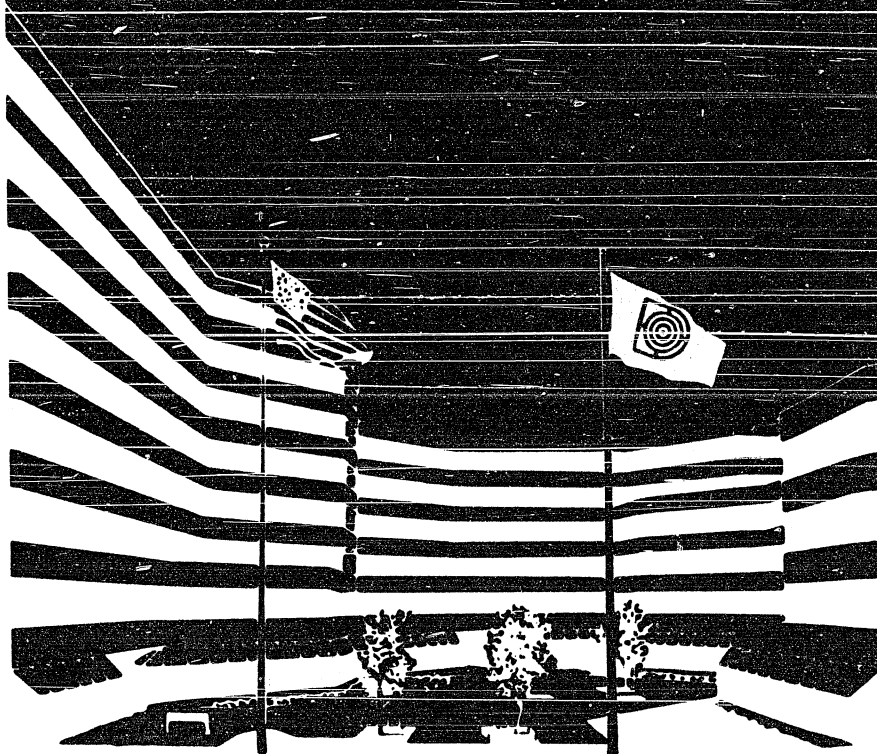
-\$80K. Telecommunications Digital Design, Weapons, Avionics, Machine Controls. Our national clients have current openings for experienced managers and for design engineers. Send resume to L. Pulley or call 513-961-5575.

THE ANGUS GROUP, INC., 2337 Victory Parkway, Cincinnati, OH 45206

ELECTRONICS ENGINEERS—Design to management. Northeast and nationwide. A.T.E. Analog, Digital, Micros, Components, Hardware/Software, Instrumentation and Control, Packaging, Telecommunications, LSI/VLSI, MOS, TTL, CMOS. E. B. HENDRICK ASSOC., INC., The Village Mall, P.O. Box 427, Liverpool, NY 13088 (315-451-0121)

npc NATIONAL PERSONNEL CONSULTANTS

Draper



**The Charles Stark
Draper Laboratory, Inc.**

The following specific opportunities are among our most critical needs:

CAD SOFTWARE ENGINEER

• To be responsible for development and support of a state-of-the-art automated design facility for configurable gate array circuits. Work areas include software design and development in graphics, hierarchical design, and data base management; software system integration; and gate array design. Although the job emphasis is on CAD software, the engineer will be expected to develop a knowledge of gate array design from all aspects.

DIGITAL DESIGN ENGINEER

• Design, build and test advanced integrated electronics system. Also develop advanced concepts that will enhance the capability of integrated system design, manage the development of system including interface with outside sponsors. Work on the integration of hardware and software including real time software operating systems; buy materials; plan and coordinate efforts of other engineers and technicians. MS in Aerospace Engineering or EE with 2 years practical experience in electronic system design. Special knowledge and experience is preferred in fault-tolerant system design.

COMPONENT TEST ENGINEER

• To test custom integrated circuits (including digital, linear and memory devices); develop parameter tests (and correlation to vendor and industrial support contractor testers), fault isolation for failure analysis and diagnostics, wafer probe testing of configurable gate arrays; and to implement special reliability tests. Will interface with captive semiconductor assembly lines and vendors.

SOLID STATE ENGINEER

• Will provide engineering assistance in the development of Solid State Sensors for advanced guidance systems. Responsible for managing Sensor development subcontracts in silicon and/or gallium arsenide materials systems. MS or PhD in EE or Physics with at least 3-5 years experience in Electro-Optic Sensors or related semiconductor devices required.

PACKAGING ENGINEER

• To assist in the conceptual development and detailed packaging design of electronic systems and subsystems. Particular strength in the areas of mechanical analysis; thermal cooling mechanisms; the packaging of circuits; physics of related materials; semiconductor and fabrication processes; line impedance and transmission theory; and military specifications desired. Considerable knowledge of and experience with thin-and-thick-film hybrid microcircuit technology is required.

POWER ELECTRONICS

• Conceive and develop advanced power and control systems. Work on active magnetic bearings, power conversions of flywheel energy storage systems, and high bandwidth electronic power converters and drives. MS or PhD in EE.

• Design of test equipment for receivers and torque motors. Familiar with test equipment design, procedures, and analysis. BSEE.

COMMUNICATIONS/NAVIGATION

• Radio communication-navigation systems analysis using modern control, estimation, signal processing, system integration, and software techniques.

• Analyze and assess inertial measurement unit performance in benign and dynamic environments. Statistical analysis of rocket sled, flight and lab test data using statistics, Kalman filtering and Fortran programming techniques.

• Technically evaluate advanced navigation sonar system for application to modern weapons systems. Involved in test program, data reduction, system configuration evaluation, and integration studies.

COMPUTER SYSTEM ENGINEER

• Primary responsibilities will include computer system functional design for space-airborne application, with emphasis on hardware/software interaction and fault-tolerant operation. BS required with at least 3-5 years experience in redundant systems and multiple computer strategies preferred.

Please forward your resume with salary history to: John J. McCarthy, The Charles Stark Draper Laboratory, Inc., Dept. IES384, 555 Technology Square, Cambridge, MA 02139. Or call John collect at (617) 258-2678. We are an equal opportunity/affirmative action employer. M/F. U.S. Citizenship required.

SYSTEMS ENGINEERS . . .

find that OAO is . . . where the technology of the future meets the challenges of today.

OAO, one of the top 100 NASA contractors and top 500 Defense contractors has a strong commitment to providing the highest caliber of professional services and products to both government and industry. Our enviable record of growth and distinguished reputation for innovation in modern technology, research and development and new scientific fields validates that . . . OAO is a place where the technology of the future meets the challenges of today!

Currently, we have outstanding long term lead engineering positions at our **SUBURBAN WASHINGTON, D.C.** and **OMAHA, NEBRASKA** locations on state-of-the-art projects. These openings play a key role on our design team which builds hardware/software MINI and MICRO processor systems. In addition, you will • specify systems architectures to meet customer specifications • select hardware • perform cost benefit trade-offs.

Selected candidates will be creative Systems Engineers with a BSEE (ASEE a plus) and experience designing mini and micro processor systems for real time applications. Your background should include • computer communications • local area networks • computer graphics and display processing • spacecraft imagery processing • state-of-the-art video systems. Proposal writing skills, excellent communication abilities, a familiarity with current state-of-the-art equipment and processors a definite plus.

At OAO you'll find a unique combination of high corporate visibility, professional challenge, unlimited opportunities, excellent salaries and a superb benefits package.

For prompt consideration, please call or send resume to:

Marc Tappis
(301) 345-0750



7500 Greenway Center
Greenbelt, Maryland 20770

an equal opportunity employer m/f/h/v

FOR ENGINEERING LEADERS ONLY.

If you are a senior hardware or software engineer who aspires to a senior leadership position, you should consider these rewarding opportunities at Analogic. Analogic is an innovator in state-of-the-art measurement and signal processing computer technology with broad applications in science, medicine and engineering. We need senior engineers to lead, manage, and inspire engineering development teams on a number of major projects.

Current projects include ground-breaking work in Diagnostic Imaging (Computer-Assisted Tomography, Digital X-Ray, Nuclear Magnetic Resonance, and Ultra-sound); Wave Form Analysis equipment; Automatic Test Equipment; Industrial and Robotic Instrumentation; and many more equally exciting projects.

Contact Analogic today if you want to lead one of these projects—and work for a growing, extremely viable and stable firm which offers high-level, leadership-oriented, entrepreneurial engineers an exceptional environment for growth. These are significant positions of responsibility and technical challenge, and extremely rewarding for the right individuals.

Please send your resume in confidence to Joseph F. Costello, Director of Personnel. Evening interviews can be arranged.

ANALOGIC

Solutions, not Stogans

Audubon Road

Wakefield, MA 01880

BIOMEDICAL/CLINICAL ENGINEERS BIOMEDICAL EQUIPMENT REPAIR TECHNICIANS

Applications are invited from suitably qualified personnel to join the newly formed Biomedical Engineering Services Group at King Khalid University Hospital in Riyadh, Saudi Arabia.

ENGINEERS

Require BS or MS degree in Engineering with Biomedical Engineering options. Several years experience in a health care environment is essential. Certification as a Clinical Engineer would be advantageous. Positions will be oriented towards technical support and supervision, training and management in a support services organization.

TECHNICIANS

Require Associate degree from a recognized technical institution, or equivalent military training. AAMI certification as BMET would be advantageous. A minimum of three years medical equipment repair experience in a hospital environment is essential.

BENEFITS INCLUDE

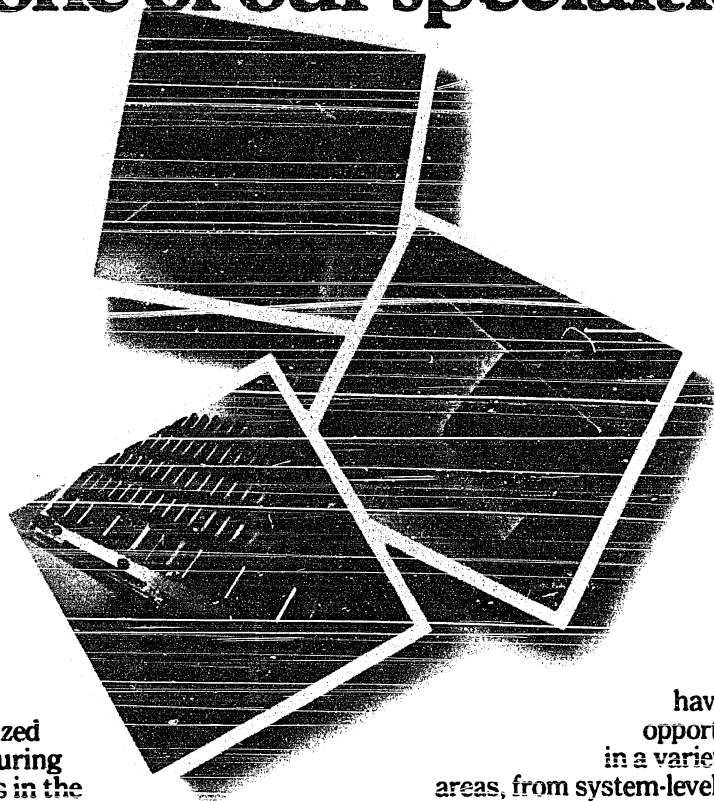
Competitive salary
Return air tickets
Furnished accommodation
Medical and dental care



Please forward your resume, together with copies of your academic credentials and letters of reference to the following address:

KING KHALID UNIVERSITY HOSPITAL
2425 WEST LOOP SOUTH, SUITE 450
HOUSTON, TEXAS 77027

Software engineering at Kodak. Putting good things in small packages is one of our specialties.



From computerized manufacturing operations in the production of Kodak disc film to the design and fabrication of output driver chips for business systems equipment, computer professionals at Kodak excel at thinking small.

But Kodak's commitment to computer technology is big. Across the board, we have need for experienced, technically oriented computer scientists and software engineers.

Steady growth and diversification

have created opportunities in a variety of areas, from system-level architecture to the development of software for real-time command and control subsystems in complex electromechanical hardware.

If you have the necessary skills and drive to meet the challenge of working for a corporation in the forefront of technology, send your resume today to:
Personnel Resources,
Eastman Kodak Company,
Dept. DIEE,
Rochester, NY 14650.



Kodak. The right place. The right time.

An equal opportunity employer manufacturing photographic products, fibers, plastics, chemicals, and electronic equipment. Plants in Rochester, N.Y.; Kingsport, Tenn.; Windsor, Colo.; Longview, Tex.; Columbia, S.C.; Batesville, Ark.; and a sales force all over the U.S.

ELECTRICAL ENGINEER PHOTOVOLTAICS

SOHIO's growing photovoltaic program is seeking an engineer interested in contributing to the creation of our photovoltaic business. This position offers an opportunity to grow with this new energy technology from commercialization to full division status.

You will be responsible for designing cost efficient electrical systems and subsystems, and testing electrical components as needed. A BSEE (advanced degree preferred) and 3+ years' experience in electrical engineering are required. Previous photovoltaic experience and knowledge of balance of systems a definite asset.

This position at our state-of-the-art Development Center in northern Ohio offers an exceptional opportunity for personal and professional growth, an excellent salary commensurate with experience and comprehensive benefits. SOHIO's relocation package for new hires includes all normal moving expenses. Homeowners also qualify for

mortgage interest differential allowance, third party home purchase and other features typically restricted to internal transfers.

For immediate, confidential consideration, please send a detailed resume of your accomplishments to:

Peter J. Piro, Senior Executive Recruiter
THE STANDARD OIL COMPANY (Ohio)
 1424 Midland Building - 600IE • Cleveland, Ohio 44115
 An Equal Opportunity Employer M/F/H/V
 NO THIRD PARTY INQUIRIES, PLEASE
 "Help us Help to Assure America's Energy Future"



R&D PROJECT MANAGER

Power Electronic Systems

Conceptualize & Develop New Power Electronic Projects for Enhanced Electric Energy Control and Conservation

- Apply semiconductor device and power electronic research management capability to the development of advanced circuit topologies for adjustable speed drives, electrotechnologies and residential/commercial/industrial equipment
- Provide a total energy delivery system perspective when projecting economic benefits, resolving technical issues and coordinating project activities with government, industry and utilities
- Monitor technical and fiscal progress of 5-10 R&D Projects conducted by EPRI contractors. Extensive travel required
- Identify future power electronic system R&D directions

The successful candidate will have at least 8-10 years experience in power electronic systems development and applications of inverters, converters and electrical control hardware. Project Management experience with excellent oral and written communications skills essential. BS/Electrical Engineering (or equivalent) with advanced degree desirable, but experience is more important than specific degrees.

EPRI, an R&D firm chartered to provide Research and Development for all segments of the U.S. Electric Utility Industry, offers a stimulating environment and competitive salaries, benefits and relocation program. For immediate consideration, please send your resume, including salary requirements, to Bill Minor, Employment Administrator, EPRI, 3412 Hillview Ave., P.O. Box 10412, Palo Alto, CA 94303. (415) 855-2368. An equal opportunity employer. Individuals only apply.

EPRI

ELECTRIC POWER
RESEARCH INSTITUTE



WE'VE GOT THE PROFESSIONAL AND TAX ADVANTAGES YOU'RE LOOKING FOR. Resource Sciences Arabia Ltd., the Saudi Arabian affiliate of Holmes & Narver Services, Inc., is seeking communications professionals for positions in Saudi Arabia. These positions are 12-month, single-status contracts, which offer superior compensation, liberal vacations, and free food and lodging. These positions require that you be eligible for a U.S. or Canadian passport.

If you have a BSEE or other related degree and have been involved in telecommunications software or hardware, we have openings for you in support of ARAMCO communications projects. We need engineers who are familiar with GTE and Northern Telcom systems and equipment, SL-1, 2 EAX, and C-1. We also need specialists in outside plant, switching, VHF/UHF, communications facilities design and application, and communications data base and software applications.

If you are interested in these positions, please forward a copy of your resume, which will be evaluated immediately. No phone calls, please. Qualified candidates will receive a response in the near future. Send resume to E.K. Houser, Dept. IS0384.

**HOLMES & NARVER
SERVICES, INC.**

999 Town & Country Road
Orange, CA 92668

Equal Opportunity Employer

MEET THE CHALLENGE

Hayes Hayes Hayes Hayes Hayes Hayes Hayes
Hayes Hayes Hayes Hayes Hayes Hayes Hayes
Hayes Hayes Hayes Hayes Hayes Hayes Hayes

...with Hayes in Atlanta!

At Hayes Microcomputer Products, we're challenging the future of the computing industry today... stretching technology beyond its limits with ongoing research... and providing some of the top technical minds in the world with the most advanced tools available — like computer-aided engineering systems and automated assembly and manufacturing, including robotics equipment.

**The challenge is tomorrow...
put Hayes in your future!**

SENIOR DESIGN ENGINEER

Your responsibilities will include providing design support for development of microprocessor-based data communication products. Digital signal processing, analog filters, and standard digital design experience required, in addition to adherence to strict quality, reliability and performance requirements. A BS/MS EE with 5 or more years experience in microprocessor-based design and digital signal processing experience are required. Data communications product design and active filter (Analog) design highly desirable.

SENIOR INDUSTRIAL ENGINEER

Will provide close coordination between Production and Design Engineering from the product conception phase through the production phase. Duties will involve analyzing existing production processes and determining ways to modify existing processes, and developing new processes to maximize production efficiency. Will assure producibility of new products through close coordination with Design Engineering including active participation in design reviews, and will provide feedback to Design Engineering regarding producibility improvements and compatibility of design with automatic production equipment and production processes. Will assist production in planning, scheduling and coordinating production start-up. Develops and maintains manufacturing standards utilizing M.T.M., M.O.S.T., or Predetermined time study methods. Along with recommending and cost-justifying capital equipment needed, will plan, schedule and coordinate installation and start-up of new equipment. Requires an individual with strong team orientation, BSIE and 5+ years experience in a high volume automated production environment in the electronics industry. Experience in the requirements of production engineering also necessary.

QUALITY/RELIABILITY ENGINEER

Will perform material evaluation, failure analysis, and reliability testing. Will also design experiments and equipment to support testing methods. Must have BSEE or equivalent with some formal education in statistical process control. Experience of 3+ years as an engineer with at least 2 years involved with reliability testing. Familiarity with basic programming techniques needed. Pascal experience helpful. Requires a thorough understanding of statistical analysis, failure analysis and corrective action design. A Certified Quality Engineering Certificate preferred.

PRODUCT ENGINEERS

Your responsibilities will include Product/Project Design and Development requirements, signal pathing producibility evaluation, enclosure and packaging design and qualification testing. An EE degree with at least 3 years experience in project/product engineering are required. Familiarity with automation and qualification testing highly desirable.

RESEARCH ENGINEER

Familiarity with microcomputers, design walkthroughs and testing procedures to perform systems design and analysis as part of new product development. Will also perform research and development activities related to modem development. Evaluates and analyzes competitive products and develops forecasts of the technical directions of the personal computer modem market, in conjunction with the marketing department. Evaluates technologies such as digital signal processing, custom VLSI semiconductor design, including switched capacitor filter design and in-house design of custom circuits, and other technologies as appropriate for use in modem and communication systems design. Performs development design work and writes design specifications for new designs. Masters degree in Electronics Engineering, Computer Science or Computer Engineering with 4 years experience in electronics. Must have strong background in digital signal processing and modems. Experience in design using digital signal processing, writing and presentation of specifications/proposals and in the use of simulators for circuit performance evaluation desired.

PRODUCTION/TEST EQUIPMENT ENGINEER

Responsible for planning, specifying, designing (with aid from Design Engineering) procuring and maintaining all product-related test equipment used by manufacturing. Provides input to the Department Manager regarding major test equipment requirements for capital budgeting purposes. Performs a liaison function between R&D engineering and manufacturing relating to test equipment and test specifications. Also provides training and guidance to the test technicians in the form of test procedures. Requires BSEE and at least 2-3 years experience in the electronic test equipment industry. Must be familiar with latest developments in the electronics industry and have proficiency in one or more computer languages: BASIC, Fortran, Pascal, etc.

Our Norcross location, a convenient suburb of Atlanta, offers a moderate cost-of-living, a mild but seasonal climate and a vast array of year-round cultural and recreational activities. Hayes offers a state-of-the-art working environment that affords career challenge with the fourth fastest growing private company in the nation — along with unlimited advancement potential. The compensation package is exceptional and includes a comprehensive profit sharing program.

To receive prompt consideration, please send resume and salary requirements in confidence to

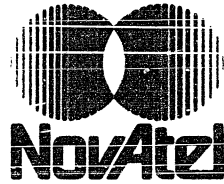


HAYES MICROCOMPUTER PRODUCTS, INC.

Dept. IFFF 384
5923 Peachtree Industrial Blvd.
Norcross, GA 30092

An Equal Opportunity Employer M/F

We don't stand on our past accomplishments... and we'll never stand still.



NOVATEL COMMUNICATIONS LTD., a new force in the telecommunications marketplace, has outstanding opportunities for

R.F. Engineers

Your primary responsibilities will be: Perform Research and Development on UHF/VHF circuits for use in advanced mobile communications equipment. This will include:

- Circuitry design of receivers and transmitters in the 400 - 800 MHz range;
- Component selection;
- Test equipment design;
- Fixtures design;
- Liaison with Test Engineering and Purchasing; and
- Shielding and antenna design.

You will have at least 3 to 5 years' experience in R.F. Design, knowledge of circuit board technology, thick film, integrated circuits and R.F. solid state devices. A B.Sc. (EE) is required. The successful individuals will become part of a team of design engineers, creating state-of-the-art communications products in a work environment only one hour away from the best downhill skiing in North America.

We offer an attractive remuneration package and excellent career growth potential. If you would like to see your skills and expertise rewarded financially and professionally, please forward your detailed resume to: **Director of Personnel, NovAtel Communications Ltd., Suite 310B, Esso Plaza, East Tower 425 First Street S.W., Calgary, Alberta T2P 3L8.**

ENGINEERING CAREER OPPORTUNITIES

Our intensified commitment to research and development has created exciting career opportunities in our advanced technology group. Each position places you on the forefront of exciting new technologies. You can visibly impact on our international engineering efforts.

ELECTRONICS ENGINEER ADVANCED CONCEPTS

You are an innovative electronics engineer familiar with the latest technological advances, and with an in-depth knowledge of components and the ability to use them in creative ways. Required are a BSEE and a keen analytical mentality.

ELECTRONICS ENGINEER ADVANCED DEVELOPMENT

You are a talented, volume based electronics designer able to take a product from concept to production. You can apply mathematical and computer based analysis techniques and understand the relationship between your work and state-of-the-art manufacturing processes.

Our beautiful Maryland location is an academic and cultural center. We offer a comprehensive salary and benefits program and the resources of our dynamic Fortune 250 environment. To investigate please send your resume or a letter stating your interest to:



**DEPARTMENT SLS
ADVANCED TECHNOLOGY
BLACK & DECKER
701 E. JOPPA RD.
TOWSON, MARYLAND 21204
Equal Opportunity Employer**

Digital Signal Processing Applied To Communications

Codex is a leading manufacturer of state-of-the-art data communications equipment. Our engineering positions are located near Route 128 in Canton, MA just 20 minutes from Boston. Our phenomenal growth rate and strong commitment to promotion from within creates an environment for maximum career advancement in the 80's.

Our Modulation Products Research Department offers an excellent working environment conducive to professional growth. The ideal candidate for this department is a person with a solid academic background and demonstrated capability for innovation, allied with a strong motivation to see his or her ideas realized in commercial products.

Positions are available at all levels for research and advanced development in

- **High-Speed Voiceband Modems**
- **Speech Coding**
- **Image Compression**

An MSEE/PhD degree with emphasis on digital signal processing and communication theory, speech coding or image compression is required. Computer simulation experience and familiarity with real-time micro-processor systems is desirable.

Codex offers competitive salaries and a comprehensive benefits package including dental insurance and profit sharing.

Interested candidates should forward a resume, in confidence, to Mr. Ron Koloski, CODEX CORPORATION, Dept. 203, P.O. Box 567, Canton, MA 02021.

codex

MOTOROLA INC.
Information Systems Group

An Equal Opportunity/Affirmative Action Employer M-F-V

ENDOWED CHAIR in Computer Assisted Engineering. The Colorado State University College of Engineering is pleased to announce that nominations and applications are being sought for the newly created George T. Abell Professorship of Computer Assisted Engineering. The holder of this chair will provide scholarly leadership in the development of computer assisted engineering programs and in curriculum development. The holder will also participate in the instruction of formal courses and provide leadership for the development of an externally funded research activity in computer assisted engineering. Applicants and nominees should have a doctoral degree in engineering or a field closely related to computer assisted engineering. Nominees should be qualified for an appointment as Professor in one of the departments of the College. The College has accredited undergraduate degree programs in Agricultural, Chemical, Civil, Electrical, Mechanical, Engineering and Engineering Science, and graduate programs to the Ph.D. level exist in all of the academic departments. The College of Engineering and its departments are committed to establishing a center of excellence for computer assisted engineering. Toward this end, a Center for Computer Assisted Engineering is being organized which will have about 2.0 million dollars of equipment to support engineering education and research. In addition, the College of Engineering currently operates two DEC PDP-11/780 VAX's for engineering applications and a PDP-11/70 text processing system. Modern facilities for this equipment are presently being constructed as part of a 2.3 million dollar state-appropriated project. Colorado State University also has a CDC CYBER 205 super-computer which operates in conjunction with two CDC CYBER 720's. Information submitted in support of an application or nomination should include a curriculum vitae, names of three references, and a statement of research interest. This information should be sent to: Dr. Terry G. Lenz, Abell Professorship Search Committee, College of Engineering, Colorado State University, Fort Collins, Colorado 80523 before April 15, 1984. Colorado State University is an equal opportunity/affirmative action employer. 314 Student Services Building.

The Network of TOMORROW... Today at **UNINET**

While other companies are anticipating and planning for tomorrow, we are already there.

UNINET, a UNITED TELECOM company, is offering true state-of-the-art opportunities in the further development of our Fourth Generation Public Data Network. This network employs a fully distributed microprocessor architecture based upon 80186 and 80286 processor modules in a four-level bus hierarchy.

We offer the unique opportunity to apply your expertise in support of the design and development of a Public Data Network that achieves sophistication in high-level protocols and data switching rates unattainable under previously available technologies. We see this as a major breakthrough in providing a practical solution to today's business communications problems.

NETWORK SCIENTISTS

Immediate opportunities for applied research exist in the areas of:

- Packet and message switching strategies
- High-level network protocols including routing and congestion

- Incorporation of satellite facilities into backbone services
- Evaluation of theoretical topologies
- Analysis of algorithms
- Network management and control
- Protocol translation schemes

UNINET offers an environment which encourages creative applied research and development addressing the most current opportunities in data networking. Candidates possessing advanced degree in Computer Science and Mathematics with significant experience in network architecture and network design are encouraged to apply.

DATA NETWORK SOFTWARE ENGINEERS

Immediate opportunities exist for the development of:

- Network Configuration and Control Systems (VMS)
- Network and Access Control Systems (RMX)

Candidates should have a strong background in the implementation of CCITT packet network protocols or network management and control protocol. Applicants desiring positions in network

access engineering should possess detailed knowledge of X.3, X.28, X.29 and X.25 as well as synchronous DTE protocols. SNA experience is considered desirable. Degreed computer scientists with formal software engineering experience are encouraged to apply.

If you feel that your expertise can assist us in the further development of our future network, we invite your inquiry into the positions available. UNINET offers an excellent environment for career advancement and rewards.

For immediate consideration, forward your statement of qualifications in confidence to:

UNINET, INC.

A United Telecom Company
ATTN: Cheri McDougall
Dept. IE-3
10951 Lakeview Avenue
Lenexa, Kansas 66219

An Equal Opportunity Employer

Calendar of Non-IEEE meetings

(Continued from p. 81)

International Symposium on the Performance of Computer-Communication Systems, March 21-23, 1984. Zurich, Switzerland. Contact Werner Bux and Harry Rudin, IBM Zurich Research Laboratory, Saumerstrasse 4, CH-8803 Ruschlikon, Switzerland. 01 724 27 27

Management Techniques for Improving Work Force Productivity (IIE), March 26-27, 1984. Amfac Hotel, Dallas/Fort Worth Airport, Dallas, Texas. Contact Lane Gardner Camp. 404-449-0460

or
Phil Harrison

404-237-8202

Sixth NC Industrial Automation and Robot Conference and Exposition (SME, UCIMU), March 26-30, 1984. Milan Fair, Milan, Italy. Contact Leslie Hossack, Society of Manufacturing Engineers, One SME Drive, P.O. Box 930, Dearborn, Mich. 48121. 313-271-0023

Advanced Technologies Exposition (MHI), March 27-29, 1984. The Astrohall, Houston, Texas. Contact Lynn C. Hecklinger, Management Executive-Communications, The Materials Handling Inst. Inc., 1326 Freeport Rd., Pittsburgh, Pa. 15206. 412-782-1024

Conference on the Teaching of Electronic Engineering in Degree Courses, March 27-29, 1984. Hull Univ., England. Contact Conference Secretariat, Dept. of Electronic Engineering, The Univ. of Hull, HU5 7RX, England. 0481 46311, ext. 7113

Ninth Annual AAAS Colloquium on R&D and Public Policy, March 29-30, 1984. Shoreham Hotel, Washington, D.C. Contact AAAS Office of Public Sector Programs, 1776 Massachusetts Ave., N.W., Washington, D.C. 20036. 202-467-5441

Engineering Deans Institute (ASEE), April 1-4, 1984. Grand Canyon, Ariz. Contact Barbara L. Remy, Manager, Member Activities, American Society for Engineering Education, Suite 200, Eleven duPont Circle, Washington, D.C. 20036. 202-638-7000

Speech Tech '84 (Media Dimensions Inc.), April 2-4, 1984. St. Moritz Hotel, New York, N.Y. Contact Stanley Goldstein, Publisher, Media Dimensions Inc., 525 E. 82 St., New York, N.Y. 10028. 212-680-6451

Eighth International PCI (Power Conversion) Conference and Exhibition and Sixth International Motor Conference and Exhibition, held concurrently April 2-5, 1984. Resorts International Hotel, Atlantic City, N.J. Contact Intertec Communications Inc., P.O. Box 2889, Oxnard, Calif. 93034. 805-658-0933

Third International Symposium on Photo-Duplicating Technology (SPSE), April 2-5, 1984. Dunes Hotel and Country Club, Las Vegas, Nev. Contact Robert H. Wood, Executive Director, Society of Photographic Scientists and Engineers, 7003 Kilworth Lane, Springfield, Va. 22151. 703-642-9090

Test and Measurement World Expo, April 3-5, 1984. Brooks Hall, San Francisco, Calif. Contact Meg Bowen, Test and Measurement Expo, 215 Brighton Ave., Boston, Mass. 02134. 617-254-1445

International Teleconference Symposium (AT&T, Comsat, ITT World Communications Inc., MCI International, RCA Global Communications Inc., Satellite Business Systems, and TRT Telecommunications Corp.), April 3-5, 1984. Philadelphia, Pa. Contact Conference Administrator, International Teleconference Symposium, c/o Comsat, 950 L'Enfant Plaza, S.W., Washington, D.C. 20024.

New Jersey-New York Sections of the Instrument Society of America Joint Spring Symposium and Exhibition, April 4-5, 1984. Giants Stadium Club, East Rutherford, N.J. Contact John Foyder, Phillips Co., 236 Green St., South Hackensack, N.J. 07606. 201-488-3008

The Hannover Fair, April 4-11, 1984. Hannover, West Germany. Contact Hannover Fairs Information Center, P.O. Box 338, Route 22 East, Whitehouse, N.J. 08888. 800-528-5978 (In N.J.: 201-534-9044)

Sensor Technology for Untended Manufacturing (CASA/SME), April 5-6, 1984. Hyatt Regency Woodfield, Schaumburg (Chicago), Ill. Contact Lisa Sellers, Special Programs Dept., Society of Manufacturing Engineers, One SME Drive, P.O. Box 930, Dearborn, Mich. 48121. 313-271-1500, ext. 389

Comdex—Winter (The Interface Group), April 5-7, 1984. Convention Center, Los Angeles, Calif. Contact Peter B. Young, Linda Vogel, or Lew Shomer, The Interface Group Inc., 300 First Ave., Needham, Mass. 02194. 800-325-3330 (In Mass.: 617-449-6660)

Introduction to Environmental Control in the Pulp and Paper Industry—Seminar (Technical Association of the Pulp and Paper Industry), April 7-8, 1984. Hyatt Regency, Savannah, Ga. Contact Meetings Dept., Tappi Hq., Technology Park—Atlanta, Atlanta, Ga. 30348. 404-446-1400

First Medical Imaging and Instrumentation Symposium (SPSE), April 8-10, 1984. Hilton Hotel, Las Vegas, Nev. Contact Society of Photographic Scientists and Engineers, 7003 Kilworth Lane, Springfield, Va. 22151. 703-642-9090

Faculty and Research Positions

In the Department of Electrical Engineering and Computer Science

The Polytechnic is the largest, most extensive technological university in greater New York and is a leader in engineering enrollment in New York State. More than 1,000 undergraduates follow programs toward degrees in E.E., Computer Engineering, and Computer Science; graduate programs in E.E., C.S. Electrophysics and System Engineering have about 500 students (full-time and part-time).

Applications are invited for tenure track positions from individuals with Ph.D. degrees appropriate for teaching and research in the following areas: solid-state devices and VLSI circuit design, electro-optics, optical communications, photonics, digital signal processing, software engineering, computer architecture, and CAD. Visiting Professor, Industry Professor and Research Scientist positions are also available in some areas, based on achievements and professional stature. Instructor's positions are also open.

The department's annual research expenditure of over \$2.5 million is largely associated with the Microwave Research Institute, the Center for Digital Systems, the New York State Center for Telecommunications and the Institute of Imaging Sciences. Its educational and research programs enjoy considerable support from the electronics, computer and avionics industries. Those organizations located in the New York City/Long Island region also participate in cooperative research projects and offer abundant consulting opportunities.

We offer a competitive salary and excellent benefits. Applications should be sent to:

Professor Leonard Shaw,
Head, Department of Electrical
Engineering and Computer Science

Polytechnic
INSTITUTE OF NEW YORK

333 Jay Street
Brooklyn, N.Y. 11201

equal opportunity
employer m/f/h/v



Fiber Optics

MCI moves single mode out of the lab into the network... fast.

Here's another example of the new pace in the telecommunications industry, initiated by MCI engineers.

The superior information-carrying capacity of single mode optical fibers was well known. But the extremely small geometry (9-10 microns) created problems with connectors, line-up, splicing, source coupling, etc. Consequently, the less efficient but easier-to-use multi-mode system was being pursued despite shortcomings: less carrying capacity, more frequent need for repeaters, and smeared pulses. Higher costs, caused by these inefficiencies, would be passed on to customers.

MCI engineers, not conditioned by the luxury of complacency, aggressively pursued single mode. Working with sophisticated potential suppliers and assuring them multi kilometer orders if successful, single mode fiber optics moved from lab to production in less than a year. The results: Ultra high capacity 405-465 megabit systems made possible. Pulse smear

all but eliminated. Number of repeaters required in line greatly reduced. Significant cost reduction.

Telecommunications, isolated so long from the competitive community, now bursts with opportunity for technological advancement. MCI engineers scour the high tech centers of the world to stay in the vanguard of the telecommunications revolution. And when a billion dollar giant like MCI is doubling in size each year by providing better technology at lower costs, you can be sure that the engineers making it possible are respected and rewarded.

If you would like to consider a career at MCI, we have outstanding opportunities in many disciplines. Please send your resume to:
Janice Wamstad.

MCI Telecommunications Corporation
Human Resources, Dept. 135
1133 19th Street N.W. Washington, D.C. 20036
An Equal Opportunity Employer M/F/H/V

MCI Telecommunications
Corporation

Environmental Conference and First Environmental Trade Fair (Tappi), April 9-11, 1984. Hyatt Regency, Savannah, Ga. Contact Meetings Dept., Tappi Hq., P.O. Box 105113, Technology Park-Atlanta, Atlanta, Ga. 30348 404-446-1400

Intergraphics '84 (SME, WCGA), April 9-11, 1984. Tokyo, Japan. Contact James McLaughlin, Manager, Special Interest Events, Society of Manufacturing Engineers, One SMF Drive, P.O. Box 930, Dearborn, Mich. 48121 313-271-0023

Advanced Power System: Analysis (ETI Learning Center), April 9-12, 1984. San Francisco, Calif. Contact Jacqueline Frobosa, Marketing, Electro-Test Inc., P.O. Box 159, 3470 Fosterla Way, San Ramon, Calif. 94583 415-920-6668

Powercon 11—Eleventh International Power Electronics Conference and Exhibit (Power

Concepts Inc.), April 9-12, 1984. Loew's Anstole Hotel, Dallas, Texas. Contact Ronald Birdsall, Power Concepts Inc., P.O. Box 5226, Ventura, Calif. 93003 805-656-1890

Sixth Annual International Conference on Computer Capacity Management—ICCM (Institute for Software Engineering), April 9-12, 1984. Washington, D.C. Contact Inst. for Software Engineering, 510 Oakmead Parkway, Sunnyvale, Calif. 94066 408-749-0133

First ATE Northwest '84 Conference, April 9-12, 1984. San Mateo, Calif. Contact ATE Northwest Coordinator, Morgan-Grampian Expositions Group, Two Park Ave., New York, N.Y. 10016 212-340-9780

International Symposium on Satellite-Aided Search and Rescue (CNES), April 9-13, 1984.

Toulouse, France. Contact T. MacGuligai, Code EC4, NASA Hq., Washington, D.C. 20546; H. Werstiuk, Dept. of Communications, Communications Research Center, Shirley Bay, P.C. Box 11490, Station H, Ottawa, Ont. K2H 8S2, Canada; Y. Zureblov, Morev-lazeputinik, Ministry of Merchant Marine, 1/4 Zhdanova St., Moscow, USSR 103759; D. Levesque, Centre National d'Etudes Spatiales, 129 rue de l'Université, 75007 Paris, France

Second International Conference on Metal-Organic Vapour Phase Epitaxy (British Assoc. for Crystal Growth), April 10-12, 1984. Univ. of Sheffield, England. Contact Dr. P.A. Houston, Dept. of Electronic and Electrical Engineering, Mappin St., Sheffield S1 3JD, England +44 742 78555

Conference on the Security of Small Systems (NBS, North-Holland Publishing Co.), April 12, 1984. NBS, Gaithersburg, Md. Contact Stuart Katzke, B266 Technology Bldg., NBS, Washington, D.C. 20234 301-921-3485

AAMI Nineteenth Annual Meeting and Exhibit: Networks—Resource Potentials, Information Exchange, Interorganizational and International Communications, April 14-19, 1984. Washington Hilton, Washington, D.C. Contact Association for the Advancement of Medical Instrumentation, 1901 N. Fort Myer Drive, Suite 602, Arlington, Va. 22209 703-525-4890

21st Annual Rocky Mountain Bioengineering Symposium, April 16-17, 1984. Univ. of Colorado, Boulder, Colo. Contact Neal Kindig, Electrical Engineering Dept., Campus Box 425, Univ. of Colorado, Boulder, Colo. 80309

World Conference on Engineering and Engineering Technology Education, April 16-19, 1984. Congress Center East, Cologne, West Germany. Contact World Conference, Fachhochschule Köln, 5000 Cologne 21, West Germany 0221 8275 2100

Spring Conference on Applied Optics (OSA), April 17-20, 1984. Conference Center, Monterey, Calif. Contact OSA Meetings Dept., Optical Society of America, 1816 Jefferson Place, N.W., Washington, D.C. 20036 202-223-8130

Simulators Miniconference (Society for Computer Simulation), April 18-20, 1984. Omni International Hotel, Norfolk, Va. Contact Charles A. Pratt, SCS, Box 2228, La Jolla, Calif. 92038

Twelfth Annual Telecommunications Policy Research Conference, April 23-26, 1984. Airlie House, Warrenton, Va. Contact Wilhelmina Reuben Cooke, Citizens Communications Center, Georgetown Univ. Law Center, 600 New Jersey Ave., N.W., Washington, D.C. 20001 202-624-8047 or 8057

ACM Sigsoft-Sigplan Software Engineering Symposium on Practical Software Development Environments (ACM-Sigsoft, ACM-Sigplan, NBS, ONR), April 24-25, 1984. Carnegie-Mellon Univ., Pittsburgh, Pa. Contact Martha Branstad, B266 Technology Bldg., NBS, Washington, D.C. 20234 301-921-3545

Lasers in Manufacturing (SME, LIA), April 24-26, 1984. Hartford, Conn. Contact Steve Palma, Society of Manufacturing Engineers, One SME Drive, P.O. Box 930, Dearborn, Mich. 48121 313-271-1500, ext. 390

Nordic Microcomputer Fair, April 25-28, 1984. Stockholm, Sweden. Contact Johan Martensson, Esselte Bokhandel, Almqvist & Wiksell, P.O. Box 62, S-101 20 Stockholm, Sweden 23 7990

Electronic Production Efficiency Exposition (Network Events Ltd.), May 1-3, 1984. N.E.C., Birmingham, England. Contact Network

ELECTRICAL ENGINEERS

Participate In Exciting Advanced Technology Projects At

Bell Aerospace

As a major contractor in a number of important defense areas, we are now accelerating development work on several well-funded long-term projects. These exceptional opportunities offer substantial career growth potential in the dynamic environment at one of America's most respected engineering organizations.

GEODESY BY MEANS OF INERTIAL INSTRUMENTATION

You'll be responsible for the analysis of Gravity Sensing Systems data. Requires a BS in Electrical Engineering with an MS/PhD preferred. At least 5 years experience should include knowledge of Kalman Filtering, Wiener Smoothing and Cross Correlation Techniques.

ANTENNA DESIGN

The engineer we seek should have at least 5 years experience in the design of Reflector or Phased Array Antennas at Microwave Frequencies. Requires a BS in Electrical Engineering with an MS/PhD preferred.

INERTIAL INSTRUMENT SYSTEM DEVELOPMENT

You'll be responsible for system aspects of a major instrument system development, from design through system integration and test. Requires a BS in Electrical Engineering with an MS/PhD preferred, plus at least 15 years experience in System Engineering, including at least 5 years in Inertial Systems or a related field.

We offer a generous compensation and benefits program. Our Western New York State location offers a clean, four-season lifestyle, reasonable housing costs and many cultural and recreational opportunities. U.S. Citizenship or Permanent Resident Visa required. Apply by sending your resume in confidence to:

E.G. Weiser

BELL AEROSPACE TEXTRON
P.O. Box One, Buffalo, NY 14240

An Equal Opportunity Employer M/F/H/c

Technology... Bell's response to an ever-changing world.

Bell Aerospace **TEXTRON**

**High Technology and Growth
An Unparalleled Combination**

and satellite markets. All divisions of our company are expanding rapidly yet stable expansion. To support this growth we need to fill a number of significant positions.

COMPENSATION is a premium

- Profit sharing plan
- Medical benefits
- Pension plan
- Stock purchase plan

Please use the following reference number to identify the position for which you are applying and forward resume with current salary requirements.

Electronic Packaging

Minimum B.S. in Engineering or Physics

Electronic Packaging Engineer

REQUIREMENTS
Minimum B.S. in Engineering or Physics
Minimum 5 years experience
Design of complex mechanical/electronic networks for spaceflight applications
Skills should include

- aerospace electronics packaging
- thermal and dynamic analysis
- knowledge of/experience in CAD/CAM a PLUS

Ref #0109/13

Circuit Design Engineer

REQUIREMENTS
Minimum B.S. in Engineering or Physics
Minimum 2 years experience
Emphasis on sophisticated analog/digital circuits for spaceflight applications
Background should include

- switching circuits
- digital interface to analog circuits
- D/A, A/D interfaces, etc

Ref #0109/16

Digital Engineer

REQUIREMENTS
Minimum B.S. in Engineering or Physics
Minimum 2 years in design, testing & documentation
Microprocessor, sequential logic, memory systems, PLA, CMOS and bipolar
Assembly language capability essential, high level languages a PLUS
Project management ability desirable
Knowledge of main-frame interfaces helpful

Ref #0109/12

Microwave Engineer

REQUIREMENTS
Minimum B.S. in EE or Physics
advanced degree a PLUS
Two years or more experience in microwave or millimeter wave components or system design
Experience with ferrite and semiconductor components a PLUS
Project management ability desirable
Innovative, growth-oriented candidates desired

Ref #0109/15

Reliability Engineer

REQUIREMENTS
Minimum B.S. in Engineering or Physics
Minimum 3 years experience in this or related field
Knowledge of reliability engineering techniques

- circuit stress analysis
- worst case analysis
- failure modes effects analysis
- system reliability modeling
- testability analysis

Ref #0109/11

R.F. Engineer

REQUIREMENTS
Minimum B.S., advanced degree a PLUS
Several years of design experience up to 470 MHz
Knowledge of high-performance receiver design
Understanding of antennas
Understanding of/experience with repeaters
Knowledge of FCC regulations a PLUS

Ref #0109/14

Events Ltd., Printers Mews, Market Hill, Buckingham MK18 1 JX, England
Buckingham 0280 815226

Conference on Optimization Days 1984, May 2-4, 1984. Concordia Univ., Montreal, Que., Canada. Contact G. Pederczoli or C.L. Sandbom, Dept. of Quantitative Methods, Concordia Univ., 7141 Sherbrooke St. West, Montreal, Que. H4B 1R6, Canada

Eurocast '84—European Cable and Satellite Television Exhibition and Conference, May 5-9, 1984. Basel, Switzerland. Contact Cable and Satellite Television Exhibitions Ltd., 5 Bernatt Way, Tudor Road, Harrow, Middlesex HA3 5QG, England 01-853 7762 or
Swiss Industries Fair, CH 4021 Basel, Messplatz, Switzerland 061-26 20 20

Annual Industrial Engineering Conference and Show (IIE), May 6-10, 1984. Hyatt Regency O'Hare, Chicago, Ill. Contact Lane Gardner Camp 434-449-0460 or
Phil Harrison 404-237-8202

Eighth International Symposium on Biotelemetry (International Soc. on Biotelemetry), May 6-12, 1984. Hotel Croatia, Cavtat, Dubrovnik, Yugoslavia. Contact Dr. H.P. Kimmich, Dept. of Physiology, University of Nijmegen, Postbus 9101, NL-6500 HB Nijmegen, the Netherlands 080-514222

30th International Instrumentation Symposium (Aerospace Industries Div., Test Measurements Div. of the Instrument Soc. of America), May 7-10, 1984. Clarion Hotel Denver Airport, Denver, Colo. Contact Robert F. Clark,

Endevco, 1717 S. State College Blvd., no. 180, Anaheim, Calif. 92806
714-831-9200, ext. 272

Acoustical Society of America's 107th Meeting, May 7-10, 1984. Omni International Hotel, Norfolk, Va. Contact ASA
516-348-7800, ext. 654

Symposium on Applications of Radiation Thermometry (NBS), May 8, 1984. Gaithersburg, Md. Contact Prof. D.P. DeWitt, School of Mechanical Engineering, Purdue Univ., West Lafayette, Ind. 47907 317-494-5020

CAM-I International Spring Seminar Computer Integrated Manufacture—The Management Challenge of the Decade, May 8-10, 1984. Montreux, Switzerland. Contact CAM-I Inc., Conference Services, Attn: Rhonda Gerganess, 611 Ryan Plaza Drive, Suite 1107, Arlington, Texas 76011 817-860-1654

Computer Graphics '84 (National Computer Graphics Assoc.), May 13-17, 1984. Anaheim Convention Center, Anaheim, Calif. Contact National Computer Graphics Assoc., 8401 Arlington Blvd., Fairfax, Va. 22031
703-698-9600

Medical Device and in-Vitro Diagnostic Manufacturing Conference Expo '84 (Expocon), May 14-16, 1984. New York Hilton, New York, N.Y. Contact Expocon Management Associates Inc., 3695 Post Rd., Southport, Conn. 06490
203-259-5734

Communications '84, May 15-18, 1984. National Exhibition Centre, Birmingham, England. Contact Terry Brandon, Industrial and Trade Fairs Ltd., Radcliffe House, Blenheim Court, Solihull, West Midlands B91 2BG, England 021-705 6707

First National Conference of the Canadian Society for Computational Studies of Intelligence, May 18-20, 1984. Univ. of Western Ontario, London, Ont., Canada. Contact Prof. W.E. Elcock, Dept. of Computer Science, Engineering and Mathematical Sciences Bldg., Univ. of Western Ontario, London, Ont. N6A 5B9, Canada

Tenth Annual Conference of the American National Metric Council, May 20-22, 1984. Key Bridge Marriott Hotel, Washington, D.C. Contact ANMC, 5410 Grosvenor Lane, Bethesda, Md 20814 301-530-8333


37th Annual SPSE Conference, May 20-24, 1984. Boston, Mass. Contact Robert H. Wood, Executive Director, Society of Photographic Scientists and Engineers, 7003 Kiliworth Lane, Springfield, Va. 22151 703-642-9090

Printed Circuit World Convention III and 27th Annual Meeting of the IPC (Institute for Interconnecting and Packing Electronic Circuits *et al.*), May 20-25, 1984. Sheraton Washington Hotel, Washington, D.C. Contact Printed Circuit World Convention III, c/o IPC, 3451 Church St., Evanston, Ill. 60203

SAE Government/Industry Meeting, May 21-24, 1984. Mayflower Hotel, Washington, D.C. Contact Dave Mitchell, Manager, Marketing and Communications Div., SAE, 400 Commonwealth Drive, Warrendale, Pa. 15096
412-776-4841

Fourth International Conference on Reliability and Maintainability (CNET, CNES, CEA, ESA, SEE, IEEE cooperating), May 21-26, 1984. Perros-Guirec, France. Contact Roland Gosrin, Centre de Fiabilité, CNET-LAB/ICM, B.P. 40, 22301 Lannion Cedex, France

Semicon-West '84 (Semiconductor Equipment and Materials Institute Inc.), May 22-24, 1984. San Mateo, Calif. Contact Susan Castillo,


**DIRECTOR,
NEW TECHNOLOGY
Television Broadcasting**

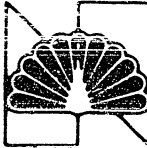
Contribute your professionalism and in-depth knowledge to ongoing operations and future requirements at NBC.

Key position reporting to the Director, Technical Development demands an individual with proven technological mastery. Responsibilities involve the identification of technology, its system application and the development, through vendors, of equipment necessary for implementation. The selected candidate will play a vital role in the planning and achievement of technological standards to assure compatibility with NBC practices. He or she will direct the activities of several television technology disciplines, three senior staff engineers, as well as the Design and Evaluation lab.

Requirements include profound engineering management experience. The design and construction of at least one major broadcast facility is a prerequisite. Thorough knowledge of all television disciplines; considerable system design experience; expertise in the NTSC system strengths and deficiencies; direct first-hand contact with industry state-of-the-art; and management of a TV technical and operations staff in a major market are necessary. Candidates must possess such qualifications as conference and committee chairmanships in professional engineering societies, and will be a recognized authority in the industry, well-published in broadcast technical arts as well. B.S. or B.A. in engineering or business administration is essential, combined with training in broadcasting (and related) fields.

We offer an excellent remuneration package including company-paid benefits and a stimulating environment which encourages excellence. For prompt consideration, please submit resume with salary history to:

Vai Branker/DNT, Suite 1678


NBC

30 Rockefeller Plaza, New York, N.Y. 10020
NBC is an equal opportunity employer

Semiconductor Equipment and Materials Inst.,
625 Ellis St., Suite 212, Mountain View, Calif.
94043 415-864-5111

Canadian Conference on Industrial Computer
Systems (Canadian Industrial Computer Soci-
ety), May 22-24, 1984, Ottawa, Ont., Canada.
Contact R.E. Butler, INCO Ltd., 2060 Flaville
Blvd., Mississauga, Ont. L5K 1Z9, Canada
416-822-3323

Micro Expo '84 (Sybox-Paris), May 22-25, 1984.
Palais des Congrès (C.I.P.), Porte Maillot, Paris,
France. Contact Dianne Brock or Michael
Aivas, Sybox, 2344 Sixth St., Berkeley, Calif.
94710 415-848-8233

Automach-Australia '84 (SME, Robotics Inter-
national, and Computer and Automated Sys-
tems Association), May 23-25, 1984, Sydney,
Australia. Contact Akram Yunas (exposition) or
Paul Borawski (conference), SME World Hq.,
One SME Drive, P.O. Box 930, Dearborn, Mich.
48121 313-271-1500

Mr. Greco, A. Greco & Associates, 3/D
Tyronne, 80 Shirley Rd., Wollstonecraft, 2065,
NSW, Australia 02-439-4014

Fourth Canadian Conference on Engineering
Education (Education Div., Engineering Inst. of
Canada, et al.), May 28-29, 1984, Univ. of New
Brunswick, Fredericton, N.B., Canada. Contact
Prof. Ralph M. Francis, Dept. of Civil Engineer-
ing, Univ. of New Brunswick, Fredericton, N.B.
E3B 5A3, Canada 506-459-4524

Ninth International Congress on Metallic Cor-
rosion (National Research Council of Canada,
Canadian Reg., National Association of Corro-
sion Engineers), June 3-7, 1984, Toronto, Ont.,
Canada. Contact Luis Balgovec, Executive Sec-
retary, Ninth ICME, National Research Council
of Canada, Ottawa, Ont. K1A 0R6, Canada
613-993-9000

American Nuclear Society Annual Meeting,
June 3-8, 1984, Hilton Hotel, New Orleans, La.
Contact Thomas H. Row, ORNL/ND-Union Car-
bide, Bldg. 4500 SN MS-S-178, Oak Ridge, Tenn.
37830 615-574-5974

CORM '84 (Council for Optical Radiation Meas-
urements), June 4-5, 1984, National Bureau of
Standards, Gaithersburg, Md. Contact CORM
Secretary Norbert L. Johnson, 3M Center, Bldg.
562-1-16, St. Paul, Minn. 55144
612-733-5939

Computer/Electronic Field Service Conference
and Exposition East (Expocon), June 4-6, 1984,
Hynes Auditorium, Boston, Mass. Contact Ex-
pocon Management Associates Inc., 3695 Post
Rd., Southport, Conn. 06480 203-259-5734

A/E Systems '84—Fifth Annual Exhibition and
Conference on Automation in Design Firms,
June 4-7, 1984, Convention Center, Baltimore,
Md. Contact Ed Mickens, Capelin & Landreth
212-421-1900

ASES Annual Meeting and Solar Technologies
Conference (American Solar Energy Soc.), June
5-9, 1984, Anaheim, Calif. Contact Karen
George, American Solar Energy Soc. Inc., 1230
Grandview Ave., Boulder, Colo. 80302
303-492-6017

Topical Meeting on Ultrafast Phenomena
(OSA), June 12-15, 1984, Conference Center,
Monterey, Calif. Contact OSA Meetings Dept.,
Optical Soc. of America, 1816 Jefferson Place,
N.W., Washington, D.C. 20036
202-223-8130

American Society for Engineering Education
Annual Conference, June 24-28, 1984, Salt
Lake City, Utah. Contact Barbara I. Ramey,
Manager, Member Activities, American Soc. for
Engineering Education, Suite 200, Eleven du-

Pont Circle, Washington, D.C. 20036
202-293-7080

Sixth International Symposium on Coal Slurry
Combustion and Technology (U.S. Dept. of
Energy, Pittsburgh Energy Technology Center),
June 25-27, 1984, Hyatt Orlando Hotel, Orlan-
do, Fla. Contact Charles A. Thomas, U.S. Dept.
of Energy, Pittsburgh Energy Technology
Center, P.O. Box 10940, Pittsburgh, Pa. 15236
412-675-5731

Second World Conference on Transborder Data
Flow Policies (Intergovernmental Bureau for In-
formatics), June 26-29, 1984, Rome, Italy. Con-
tact IBI, Dept. of Policies, P.O. Box 10253,
00144 Rome, Italy 770181/5916041

23rd Annual Symposium of the Washington,
D.C., Chapter of ACM, June 28, 1984, NBS,
Gaithersburg, Md. Contact Al Hankinson, B266

Technology Bldg., NBS, Washington, D.C.
20234 301-921-2208

IFAC Ninth World Conference, July 2-6, 1984,
Budapest, Hungary. Contact Dr. R. Daiman,
P.O.B. 63, Budapest H-1502, Hungary

Biannual Nuclear Electromagnetics Meeting—
NEM '84 (APS, EMCS, USNC/URSI cooperat-
ing), July 2-6, 1984, Hilton Hotel, Baltimore,
Md. Contact Dr. Louis F. Libelo, L&L Associ-
ates, 9413 Bunk Run Parkway, Gaithersburg, Md.
20817 202-394-3150

First International Conference on the Devel-
opment of Flexible Automation Systems (IEE),
July 10-12, 1984, London, England. Contact
Press Office, IEE, Savoy Place, London WC2R
0BL, England. Ref.: 113/83/C 01-240 1871,
exts. 272, 282

Spacecraft Integration Engineering

The Spacecraft Integration Laboratory is responsible for spacecraft electrical integration, electromagnetic and environmental effects engineering including TEMPEST, magnetics, plasma effects, and spacecraft charging, and design of spacecraft electrical integration hardware. The lab also serves as focal point for payload integration activities.

Currently we have opportunities for:

Electrical Systems Design Engineers

Senior Integration Engineers experienced in communications subsystem circuit design. BSEE degree with a minimum of five years experience required.

Ernie Taylor, Bldg. 135/3569, 213.535.8452

EMC Engineers

Intermediate and senior engineers experienced with EMC/EMI and/or TEMPEST requirements and techniques to perform circuit and system EMC analyses and provide design support to equipment and system engineers.

RF Systems EMC Engineers

Senior engineer experienced in the EMC/EMV performance aspects of communications, radar, fire control, navigation and electronic warfare systems in a co-site RF environment. Background in modern numerical electromagnetic techniques and antenna design desirable. Experience in military or commercial electronic systems acceptable.

Electromagnetic Environmental Effects Project Engineers

Responsible for directing efforts of engineering specialists in EMC, TEMPEST, EMV, ESD, and EMP supporting airborne, shipboard, space and ground system projects. Requires experience in any of these technologies, leadership ability, and desire for increased responsibility and visibility.

Jim Spagon, Bldg. 135/3725, 213.535.8444

TRW offers excellent salaries and an outstanding benefits plan that includes medical/dental/vision care and flextime.

If you seek the challenge of diversified assignments in projects like FLTSATCOM, DSP, and GRO, send your resume to our managers at:

**TRW Space and Technology Group
One Space Park
Redondo Beach, CA 90278**

U.S. Citizenship Required
Equal Opportunity Employer

Fifth World Hydrogen Energy Conference (Canadian Hydrogen Assoc., National Research Council Canada), July 15-19, 1984. Sheraton Center, Toronto, Ont., Canada. Contact Conference Services Office, National Research Council of Canada, Ottawa, Ont. K1A 0R6, Canada

International Conference on Ion Beam Modification of Materials, July 16-20, 1984. Cornell Univ. Ithaca, NY. Contact J.W. Mayer, ICSAM '84, Bard Hall, Cornell Univ., Ithaca, N.Y. 14853

Second International Conference on Photographic Papers (SPSE), July 22-25, 1984. The Bayshore, Vancouver, B.C., Canada. Contact Robert H. Wood, Executive Director, Soc. of Photographic Scientists and Engineers, 7003 Kilworth Lane, Springfield, Va. 22151 703-642-9090

Summer Computer Simulation Conferences—SCSC (Society for Computer Simulation), July 23-25, 1984. Copley Plaza Hotel, Boston, Mass. Contact Charles A. Frati, SCSC, Box 2228, La Jolla, Calif. 92038

Seventh International Conference on Pattern Recognition, July 30-Aug. 2, 1984. Montreal, Que., Canada. Contact ICPR Secretariat, 3450 University St., Montreal, Que. H3A 2A7, Canada 514-392-8744

First Annual Microcircuit Pure Materials Conference, Aug. 2-3, 1984. San Jose Hyatt Hotel, San Jose, Calif. Contact Westly Enterprises, 3697 South Court, Palo Alto, Calif. 94306 415-494-7115

International System Dynamics Conference, Aug. 2-5, 1984. Oslo, Norway. Contact Jorgen

Randers, Dean, Norwegian School of Management, Hans Burums vei 30, 1340 Bekkestua, Norway 427-12 20 50

Symposium on Space C³ for the High Frontier (FF Dent of U.S. Air Force Academy, Space Command, U.S. Air Force, Rocky Mountain Chap. of Armed Forces Communications and Electronics Assoc.), Aug. 6-9, 1984. USAF Academy, Colorado Springs, Colo. Contact Mary Morris or James G. Shipley Jr., TTEC Electronic Products Inc., 3650 N. Nevada Ave., Colorado Springs, Colo. 80907 303-577-8110

International Conference on Luminescence—ICL '84 (OSA), Aug. 13-17, 1984. Wisconsin Center, Univ. of Wisconsin, Madison, Wis. Contact Prof. William M. Yen, Dept. of Physics, Univ. of Wisconsin, 1150 University Ave., Madison, Wis. 53706 608-262-1234

Topical Meeting on Industrial Applications of Computer Tomography and NMR Imaging (OSA), Aug. 20-21, 1984. Piccola Island, Man., Canada. Contact OSA Meetings Dept., 1616 Jefferson Place, N.W., Washington, D.C. 20036 202-223-8130

21st General Assembly of URSI, Aug. 27-Sept. 6, 1984. Florence, Italy. Contact Prof. Vito Cappellini, IROE, Via Panciatichi 64, 50127 Firenze, Italy

Conference on Vector and Parallel Processing in Computational Science II (AERE Harwell), Aug. 28-31, 1984. Keeble College, Oxford, England. Contact L. Evans, Education and Training Branch, Bldg. 455, AERE Harwell, Didcot, Oxon OX11 0QJ, England 0235 24141, ext. 3108

Tenth European Conference on Optical Communications—ECOC (OSA), Sept. 3-8, 1984. Stuttgart, West Germany. Contact H. Haupt, SEL—Research Center, Helmuth-Hirth Strasse 42, D-7000 Stuttgart 40, West Germany

Fifth Brazilian Conference on Automatic Control and First Latin American Conference on Automatic Control (Brazilian Automatic Control Soc.), Sept. 3-6, 1984. Campina Grande, Paraíba, Brazil. Contact Conference Chairman Dr. Edison Roberto Cabral da Silva, DEE/CCT/UFPB, 58.100 Campina Grande-PB, Brazil

First IFIP Conference on Human-Computer Interaction—Interact '84 (IEE, IFIP, IERE, et al.), Sept. 4-7, 1984. Imperial College, London, England. Contact IEE Conference Services, Savoy Place, London WC2R 0BL, England 01-240-1871, ext. 222

Second International Conference on Optical Fiber Sensors (OSA), Sept. 6-7, 1984. Stuttgart, West Germany. Contact VDE-Bezirksverein Württemberg, im Hause TWS, Lautenschlagerstrasse 21, D-7000 Stuttgart 1, West Germany

International Conference on Alternative Energy Systems: Electrical Integration and Utilization (Coventry Lanchester Polytechnic), Sept. 10-12, 1984. Coventry (Lanchester) Polytechnic, England. Contact Carolyn Hall, Short Course/Conference Organizer, Faculty of Engineering, Coventry (Lanchester) Polytechnic, Piory Street, Coventry CV1 5FB, England 0203 24166, ext. 7606

Third National Conference and Workshop (IES, ESSERI), Sept. 10-13, 1984. Philadelphia Marriott Hotel, Philadelphia, Pa. Contact IES National Office, 940 E. Northwest Highway, Mount Prospect, Ill. 60056 312-255-1561

Electronic Imaging '84 (Morgan-Grampian Expositions Group), Sept. 11-13, 1984. Westin Hotel, Boston, Mass. Contact Electronic Imaging '84, Morgan-Grampian Expositions Group, 2 Park Ave., New York, N.Y. 10016 212-340-9780

Challenging Careers In High Technology Reliability/QA

The challenge of advancing the state-of-the-art in technically superior electronic defense systems is one of the reasons experienced Engineers and Technical professionals choose Goodyear Aerospace for their career. Equally important is the stability and long-term growth emphasis which has put Goodyear in a unique position in this rapidly changing industry. Our Engineering and Technical support staff have the opportunity for personal and professional development based on a strong foundation of total systems engineering for many current and future defense contracts.

Our continued growth and project acquisitions require the addition of highly competent Engineering individuals with the ability and desire to make an impact on tomorrow's defense technology. Current opportunities include:

QA Engineers

Requires a BSEE/ME/Science and 2-5 years experience. Opportunities at several levels of responsibility and reward with unusual growth potential. Requires practical experience in military and/or commercial QA systems to include planning, dimension control, audit and systems control. NDT and supporting statistical analysis, vendor surveillance and project engineering. Must have strong background in manufacturing production of aerospace or related products.

Reliability Engineers

Requires BSEE and 2-5 years background in defense systems high-tech electronics. Will perform design analysis, FMECA, fault-tree, stress and software analysis with some interface with project product quality engineering.

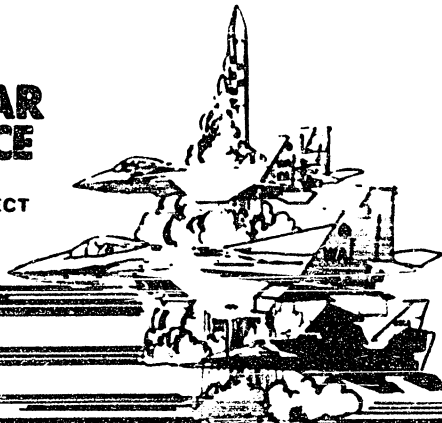
Components Specialist

BSEE with 4 years reliability engineering experience in all facets of military specification electronic components. Responsible for specification preparation for non-standard parts, parts control (per MIL-STD-965) and failure analysis reports.

Goodyear offers an exceptional total compensation package supported by the intangibles inherent in a well-managed, stable company. Our Northeast Ohio location provides an affordable opportunity to choose your lifestyle from metropolitan, suburban and even rural environments. For details or a confidential interview appointment, please contact **B. Leedy Birkel**

**GOODYEAR
AEROSPACE**

Akron, Ohio 44315
(216) 756-3418 COLLECT
Equal Opportunity
Employer M-F-H



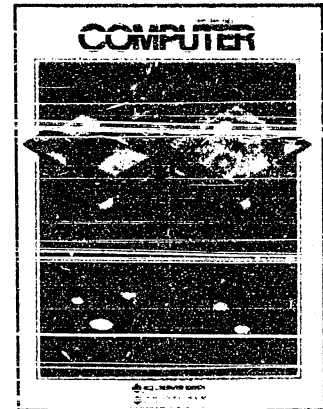
Computers are everyone's business

IEEE MEMBERS:

Join The IEEE Computer Society and receive **Computer Magazine** automatically every month.

HALF-YEAR MEMBERSHIP ONLY \$5.

Computer — tutorials, surveys, new products, news, reviews, conferences (monthly)
Free with membership



A member of any IEEE society may subscribe to these exciting periodicals at low Computer Society member rates:

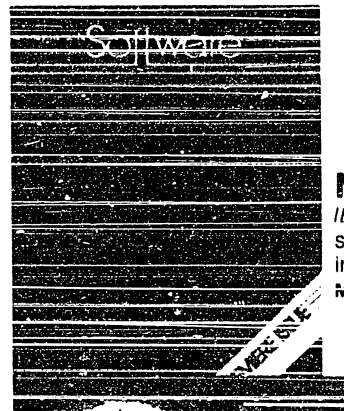
New in 1984

IEEE Design & Test of Computers — design and test techniques and practice (quarterly)
Member sub. fee: \$10/yr.

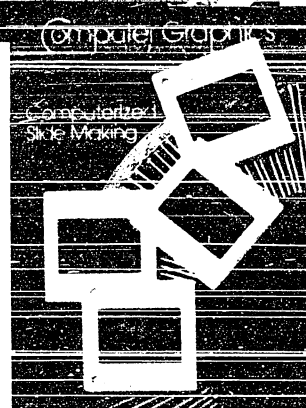


New in 1984

IEEE Software — practical software design tools, implementation, test (quarterly)
Member sub. fee: \$10/year



IEEE Computer Graphics & Applications — display techniques, design, manufacturing and business graphics (monthly)
Member sub. fee: \$20/year



IEEE Micro — applications, design, new developments, standards (bimonthly)
Member sub. fee: \$12/year



Join now and receive a free book (choose one).

- Selected Reprints in Software* — selected papers from *Computer* (282 pp.)
- Microprocessors & Microcomputers (2nd Ed.)* — selected papers from *Computer* (289 pp.)

RATES FOR IEEE MEMBERS ONLY

- Enclosed is my \$5 for half-year Computer Society membership, including *Computer Magazine*.

Enclosed is my payment for a half-year subscription to:

- IEEE Computer Graphics & Applications* (\$10)
- IEEE Micro* (\$6)
- IEEE Design & Test of Computers* (\$5)
- IEEE Software* (\$5)

MAIL WITH CORRECT REMITTANCE TO: IEEE Computer Society
10662 Los Vaqueros Circle
Los Alamitos, CA 90720

Name _____

IEEE membership no. _____

Address _____

City/State/Zip _____

Notes:

- 1 Rates quoted above are good through August 31, 1984.
- 2 This offer applies to current IEEE members only. It does not apply to student members. If you are not a member of the IEEE, write to the address at left for a membership application.

