

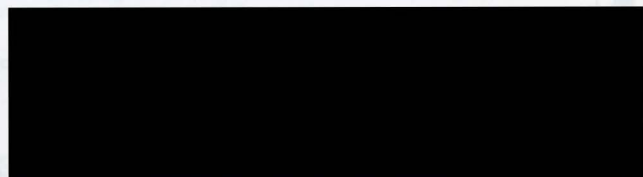


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Official Publication of the Chicago Section • Institute of Electrical & Electronics Engineers • September 1986



TIME SENSITIVE MATERIAL

CALENDAR OF EVENTS

For reservations call the IEEE office 236-4609
(unless otherwise indicated)

Copy Deadline for October Scanfax is Aug. 25, 1986

Sept. 3	"Laser Neurosurgery"	Engineering in Medicine & Biology Society Chicago Chapter	See pg. 11 for details.	Meeting 7:30 PM
9	Monthly Meeting ALL WELCOME	IEEE Executive Cte.	Allen-Bradley Company 910 Pasquinelli Dr. Westmont, IL	Meeting 7:30 PM
23	Combined Meeting All Chicago Region Subsections and Societies	Fox Valley Subsection Northwest Subsection Computer Society Power Engineering Society	Mr. Peter's Banquets Mt. Prospect Plaza Mt. Prospect, IL	Cocktails 6 PM Dinner 7 PM Meeting 8 PM
24	Video Conference	In-Process Control for Manufacturing	IIT Chicago Campus 10 W. 31st St Chicago, IL	9:30 AM to 3 PM
24	"Was Three Mile Island Really An Accident?"	Reliability Society	Midway Motor Lodge 1600 Oakton St. Elk Grove Village, IL	Dinner 6 PM Meeting 7 PM
Oct. 14	Monthly Meeting ALL WELCOME	IEEE Executive Cte.	Allen-Bradley Company 910 Pasquinelli Dr. Westmont, IL	Meeting 7:30 PM
29	"Impact of High Technology on Electrical Construction & Maintenance"	Industry Appls./ Industrial Electronics Society	S&C Electric Co. 6601 N. Ridge Blvd. Chicago, IL	Social/Meeting 6:30-8:30 PM

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Bob Hofmann, Editor
979-3627

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979-5824

Eleanore Burda, Copy Manager
IEEE Office
(312) 236-4609

Change of Address

Send change of address to Roseann Schulz, Member Services, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854-4150. Include your SPECTRUM mailing label is possible. We cannot forward this information for you, so please do not send it to the local office.

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COMBINED SECTION MEETING

ALL SUBSECTION AND SOCIETY MEMBERS INVITED

SEPTEMBER 23, 1986 - 1986-87 KICK-OFF MEETING

LOCATION: Mr. Peter's
1018 Mt. Prospect
(Rand Road & Central)
Mount Prospect, IL

TIME: Cocktails 6:00 PM
Dinner 7:00 PM ★
Keynote Speaker 8:00 PM
Main Speaker 8:30 PM
PES Speaker 9:00 PM

KEYNOTE SPEAKER: Wallace B. Behnke
Vice Chairman - Commonwealth Edison Company
Vice President - Power Engineering Society

TOPIC: Direction of the IEEE & the Power Engineering Society

ABOUT THE SPEAKER: Mr. Behnke was born in Evanston, and received his BS and BSEE Degrees from Northwestern University. He joined Commonwealth Edison shortly after graduation. Commissioned in 1945, he served active duty in the Navy during World War II and the Korean conflict. During his career at Commonwealth Edison, he served in various management positions and in 1980 was promoted to Vice Chairman.

MAIN Speaker: Ms. Pat Hill Hubbard
Vice President - American Electronics Association

TOPIC: Electronics Education Funding

ABSTRACT: Ms. Hubbard will be talking about her work as founder and president of the Association's Electronics Education Foundation which funds doctoral study for US citizens who want to teach electrical/computer engineering or computer science, and her pet projects such as guiding AEA policy positions on Federal and State educational legislative causes.

ABOUT THE SPEAKER: Pat manages the Association's engineering education and management programs department. Pat works out of the AEA Palo Alto, CA office and is coming to help the Chicago IEEE section start off the 1986-87 meeting year. Pat is an informative and entertaining speaker and comes to us with outstanding credentials. She has an MSEE from Stanford University and is working toward her Phd from the University of San Francisco.

PES Speaker: Herb Decker
Director of Marketing - Engineering & Transportation
Modular Computer Systems, Inc. (MODCOMP)

TOPIC: Evolving Technology in SCADA Systems

ABSTRACT: Mr. Decker will review the current state of the art in SCADA technology and future trends in meeting industry's ever more demanding requirements. Covered will be price, performance and versatility of the central station, transmission media remotes as well as software from the operating system to application packages. Industries highlighted are electrical distribution, water management, pipeline and traffic control in various environments.

ABOUT THE SPEAKER: Mr. Decker has over 20 years experience in data acquisition and process control in the power, chemical, paper and pulp and process industries. For the past 2½ years, he has been Director of Marketing & Transportation with Modcomp, a manufacturer of high performance mini-computers and systems.

FOR RESERVATIONS: Call Eleanore Burda at 236-4609.

*DINNER: \$11 at door, \$10 if reserved by Sept. 19.

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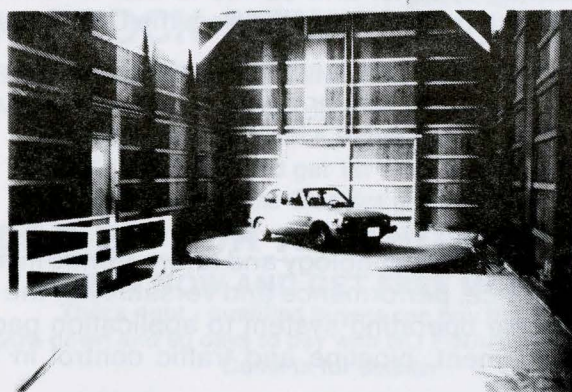
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PLACEMENT SERVICE

The Chicago Section is now offering a Placement Service for its members free of charge. The program is intended for those who are Member Grade and above and is a positive step to help our members who are unemployed. If interested in any of the applicants listed below, call the IEEE office (236-4609) for their name and phone number. If marked "confidential," the applicant will be contacted by the IEEE office so that he/she may contact the prospective employer.

- B27 — BSEET GPA 3.95/4.00 - looking for field engrng.-electronics engrng. position
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- B29 — MBA, BSEE, exp. in finance, planning, market analysis, engineering operations.
- B30 — Director of Engineering - electro-mechanical product design/mfg. MSEE.
- B31 — Software engineer - research, teaching, databases, microprogramming, OS, AI.
- B32 — BSEET entry level pos. exp. in field service/telecom equipment.

- B33 — Proven engr. mkt. mgr. biomedical & innovative products, MSEE, MBA, prod., mgt.
- B34 — BSEET DeVry AA graduate (female) congenial-very dependable - seeks top co.
- B35 — BSEET entry level posi. in field service engr. exp. in digital-sperry, eqmnt.
- B36 — Engineering executive - hi tech inst. mfr. proven productivity imprvmt.
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- B39 — BSEET - Purdue Penn State GPA 5.0/6.0 entry level position in engineering.
- B40 — BSEET - looking for entry level field service or test engr. position
- B41 — Manager - exp.: billing, purch., sales-bldg.; sec. & maint.-vehicle: dispatch & maint.

If you are an IEEE member and unemployed, call or write for the necessary form. Direct your request to: IEEE Placement Service • 125 S. Clark St. - Room 1545 • Chicago, Illinois 60603.

NEW OFFICERS

Based on an election conducted on June 9, 1986, the new officers of the Antennas & Propagation/Microwave Theory & Techniques Societies Chicago Chapter, effective July 1, 1986, are:

Chairman: Dr. Madhu S. Gupta
Department of Electrical Engineering
and Computer Science
University of Illinois at Chicago
Chicago, Illinois 60680
(312) 996-2313

Vice Chairman: Dr. Thomas T.Y. Wong
Department of Electrical and Computer Engineering
Illinois Institute of Technology
Chicago, Illinois 60616
(312) 567-5796

Secretary/Treasurer: Mr. Wayne R. Openlander
Micro Now Instrument Company
8260 N. Elmwood Street
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NEW! IEEE CHICAGO SECTION PLACEMENT SERVICE - The Chicago Section is pleased to announce a new service for members. We will be providing space, free of charge, for members who are seeking employment.

Members who wish to participate should fill out the form below and send it to the IEEE office. Your one line description will be printed in the next three issues of Scanfax. Employers who are interested, can phone the IEEE office, (236-4609), and will be given your name and phone number. If you have noted "confidential" on the form, we will take the names and numbers of the company representatives that call and inform you who they are so that you may contact them.

Sample ads: AA - Hybrid Microcircuit Designer - thick and thin film.
AB - Heavy Electric Power Equipment Rep - proven sales record.
AC - Technical Writer - specialized in military radar manuals.

We feel this is a positive step to help our members who are out of work. The program is intended for those who are at Member Grade and above.

The information on this form will be given to prospective employers who call unless you note "CONFIDENTIAL" on the top of the form. If you accept employment, please notify us immediately so that we may clear our files.

Each ad will run in three consecutive issues of Scanfax. Deadline is the 25th of the second month preceeding issue. For example, an application received on February 20 will be in the April issue; one received March 3 will be in the May issue. Scanfax is not published in July or August.

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125 S. Clark Street - Room 1545
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September 24, 1986

“Was Three Mile Island Really An Accident?”

The redundancy and defense in depth will be discussed by Professor Kenneth Buchert, formerly Chief Civil Structural Engineer of the Bechtel Corporation and involved in the design of 25 nuclear power plants. He will describe the design criteria for the containment building and how the incident related to the design criteria. A brief comparison will be made between the Soviet Chernobyl type reactor and the U.S. type reactor. The topic has general interest to all of us because of the potential hazards.

This informative dinner meeting will be held on September 24, 1986 by the Reliability Society. Call Elearnore at 236-4609 for reservations. See Calendar of Events for further details.

A Message from Joe Feitler, your new Section Treasurer

Following the recent installation of the new Section Officers we would like to tell you about our imminent plans and needs for the financial aspects of Section operation:

1. We are in the process of selecting a PC and appropriate software for a Section-owned system. We hope to have the financial reports look very similar to the current ones (and perhaps improve them).
2. As a later part of the new system we would like to add the ability to create and maintain some small special mailing lists in label format. For example, the names and addresses of the Section Executive Committee may be provided to the Chapters and Subsections to include these people on meeting notices supplementing the SCANFAX announcements.
3. Information on proposed budgets (forms, explanations, and a copy of the previous year's budget) will be sent out in the near future so that the 1987 Fiscal Year (starting January 1st) budgets can be given to the Finance Chairman by October 15th.
4. Chapter, Subsection, and Special Events Chairmen should prepare separate budget proposals for any IEEE Satellite Seminars, locally sponsored tutorials and conferences, or national/international meetings which involve a financial risk to the Section and/or need some interim funding ("advances") from the Section.
5. Meeting announcements should make maximal use of SCANFAX to attract a larger attendance to meetings by members not belonging to the sponsoring activity and to reduce mailing costs.
6. The Section Executive Committee will consider innovative ideas to serve the Section members better with the aid of special funding.

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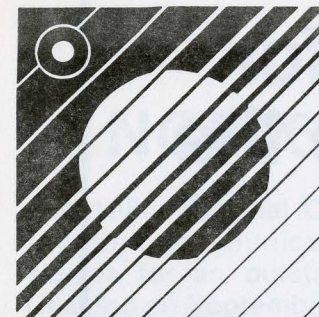
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- Electrical and mechanical engineers working on factory automation projects
- Advanced planners in major corporations whose job is to specify capital equipment
- Manufacturing managers
- Capital equipment builders
- Degreed engineers with practical experience in factory automation.

SUPPORTING DOCUMENTATION:

- A Complete Set of Notes
- Charts
- Bibliographies
- Presenters' Biographies

FUTURE TOPICS:

1986

Data Communication Systems
December 4, 1986

1987

(Dates and Titles to be Announced)

- Automated Manufacturing
- Electronic Packaging
- Micro Contamination Control
- Optical Disks

LOCAL INFORMATION:

Time: 9:30 A.M. - 3:00 P.M.

Location: Stuart Building; Ill. Inst. of Tech.
10 W. 31st St.
Chicago, Ill.

For more details call: Eleanore at (312) 236 4609



IEEE 15th Videoconference

IN-PROCESS CONTROL FOR MANUFACTURING

September 24, 1986 11:00 A.M. - 4:00 P.M. Eastern Time
(10:00 A.M. - 3:00 P.M. Central Time)

A systematic approach to in-process control for the manufacturing process can result in significant gains in productivity throughout the manufacturing operations of a company. These gains are increasingly achievable with the falling cost of computing power. The purpose of the videoconference is to make the participants familiar with the basic concepts for in-process control in manufacturing. Furthermore, specific applications on control of some manufacturing processes will be discussed and demonstrated. The videoconference will cover issues related to control parameters, sensing devices, control strategy, and hardware/software requirements for in-process control of manufacturing processes.

PROGRAM OUTLINE:

Dr. George Chryssolouris

The Concept of In-Process Control

- Introduction
- Sensors
- Actuators
- Computer Interfacing
- Control Strategy
- Computers for In-Process Control

Dr. John Powell

In-Process Tool Sensing

- Overview
- Fundamental principles
- Types of sensors
- Force-based systems for lathe applications
- Acoustic emissions systems for breakage detection
- Applications examples
- Comments on economic impact of in-process tool sensing

Dr. Stephen S. Wilson

Machine Vision in Industry

- Overview
- Types of Industrial Inspection
- Technical Problems
- Solutions
- Software
- Special Purpose Hardware
- Typical Examples

Amos Rogers

In-Process Control for Forming Processes

- Elements of the In-Process Control System
- Application of the In-Process Control System
- Operation
- Expansion

All Presenters

Panel Discussion

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AD	Component Engineering
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AH	QC/Rel/Test/Sids Engineering
AI	Systems Engineering
AJ	Research & Development Staff
AK	Purchasing/Procurement
AL	Sales/Marketing
AM	Other

JOB FUNCTION (ONE ONLY)

AREAS OF MAIN PRODUCT INTEREST

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AO	Passive Components
AP	Electro-Mechanical Components
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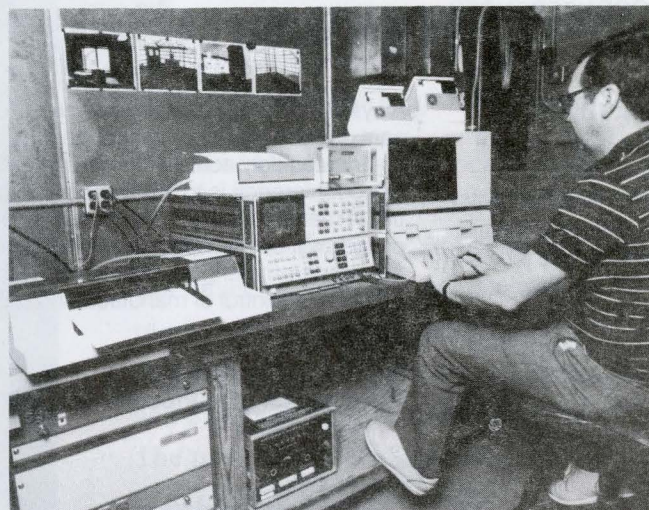
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The NCF86 Communications Banquet on Monday evening will feature a major address by Edmund B. Fitzgerald, Chairman of Northern Telecom Ltd. The Communications Banquet will also provide the setting to honor 32 outstanding students from the 16 prestigious NEC affiliated universities.

In addition to the Communications Banquet, many opportunities exist for participants to meet and exchange ideas, solutions and knowledge. Luncheons, receptions and hospitality suites offer comfortable settings for dialogue.

The National Communications Forum is a continuing education program of the National Engineering Consortium, a nonprofit engineering organization affiliated with 16 universities. NCF86 is also sponsored by the United States Telephone Association and the International Communications Association.

For further NCF86 information, contact NCF at 312-828-0008.

SEPTEMBER 3 MEETING OF THE CHICAGO CHAPTER ENGINEERING IN MEDICINE AND BIOLOGY SOCIETY

The first meeting of 1986/87 series of the Chicago Chapter of the Engineering in Medicine and Biology Society will be held on Wednesday September 3, 1986 at 7:30 P.M. The speaker will be Dr. Leonard Cerullo, Assistant Professor of Surgery (Neurosurgery) of the Northwestern University School of Medicine. The title of Dr. Cerullo's talk will be "Laser Neurosurgery".

The meeting will be held in the main conference room of the Department of Physiology at Northwestern

University's Chicago Campus (not in Evanston). The address is Ward Building Room 5-322, 303 E. Chicago Ave., Chicago IL. After 5:00 P.M. you must enter through the Searle Building at 320 E. Superior (around the corner). The conference room is on the fifth floor. There are public parking lots 2 blocks away on Erie Street near Lake Shore Drive.

All EMBS members and any interested non-members are urged to attend.

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ISSUE	COPY DUE	MAILED ON
OCT.	AUG. 25	SEPT. 15
NOV.	SEPT. 29	OCT. 15
DEC.	OCT. 27	NOV. 15
JAN. 87	NOV. 24	DEC. 15
FEB.	DEC. 29	JAN. 15
MAR.	JAN. 26	FEB. 14
APR.	FEB. 23	MAR. 16
MAY	MAR. 30	APR. 15
JUNE	APR. 27	MAY 15

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VICE-CHAIRMAN:	MR. JIM PALMATIER ALLEN-BRADLEY 910 Pasquinelli Dr. Westmont, IL 60559	312-325-6750
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MIDCON/86

Dallas, TX. ...The 7th annual Midcon high technology industrial electronics exhibition and conference returns to the Dallas Convention Center September 9-11, 1986.

Companies exhibiting in over 750 display booths will show the latest and best products available to an expected 15,000 design, manufacturing and test engineers, specifiers, and buyers during the three day event. There will be 21 two-hour technical sessions in the Professional Update Program.

On Tuesday, September 9, the Midcon/86 Keynote luncheon will feature Dean O. Morton, chief operating officer of Hewlett-Packard Company. He will discuss what he sees as the causes and implications of the recent slowdown in the electronics industry. Tickets are \$20.

Five all-day fee tutorials will be offered during Midcon. Titles of the tutorials are:

- Technical Writing That Sells
- How to Develop Better Software at a Lower Cost
- Grounding and Shielding Electronic Instrumentation
- RISC Microprocessor Architecture
- Statistical Process Quality Control:
How to Fight the Battles and Win the War

Midcon is sponsored by IEEE Regions 4 and 5; Dallas and Chicago Sections, IEEE; Central U.S. Council ERA (Electronic Representatives Association); Southwest and Chicagoland Chapters, ERA. It is produced by Electronic Conventions Management, Los Angeles, CA.

Tie Up those Loose Ends in Your Design Process

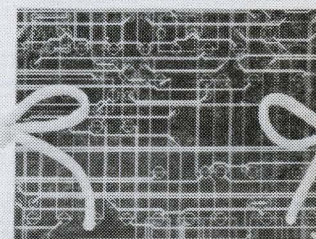
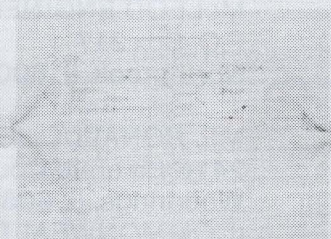
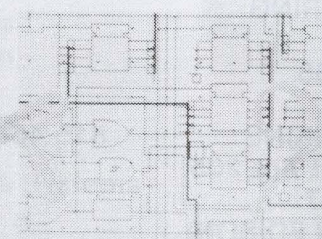
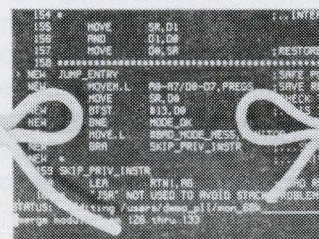
Transferring data from one design application to the next or integrating engineering systems from different vendors can waste precious time and adversely affect design integrity.

HP DesignCenter offers integrated systems to automate software, electronic, and mechanical design. More importantly, HP ties together these activities with electronic links that accurately transfer important data from one application to the next. The result: more time to spend on engineering and less time on manual reentry of data and updating of design files.

For more information on HP DesignCenter systems, software, and support, please write or call HP at:

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-ADV-

1986 - 1987 RELIABILITY SOCIETY OFFICERS CHICAGO CHAPTER

The election of officers and executive committee members for the Chicago Chapter of the IEEE Reliability Society was held on April 18, 1986 at the Annual Awards Banquet and Election of Officers. The meeting was at the Midway Motor Lodge, Elk Grove Village, Illinois.

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Contact any committee member for further information about the Chicago Chapter of the Reliability Society.

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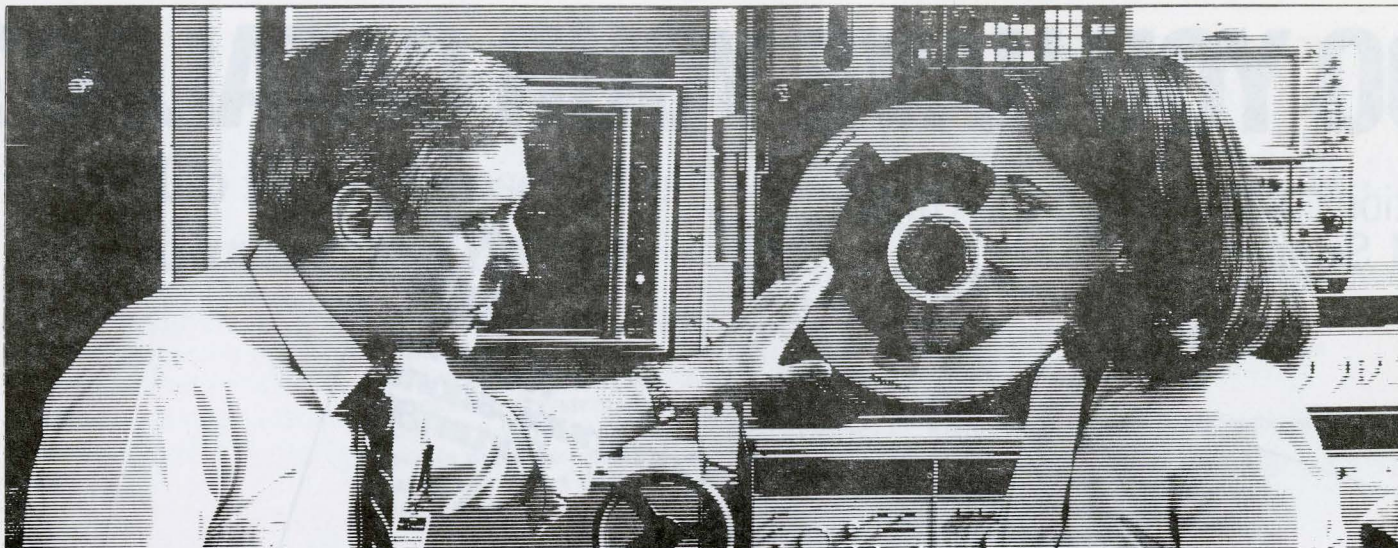
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Manager, Reliability Engineering

BSEE or equivalent, (MSEE preferred), and 8-10 years of reliability engineering experience including 3 years as a manager within an electronics manufacturing environment. Familiarity with military specifications is preferred. Assume responsibility for a staff of 20+ engineers. Position will lead reliability design efforts for all division programs.

Sr. Manufacturing Engineer

BSEE, BSME or equivalent, and 5-10 years experience within a military electronics environment. Will support manufacturing in the specification of technologies and fabricating processes utilized in the assembly of surface mounted devices, leadless chips, and power supplies used in military airborne electronic countermeasures systems. Must provide necessary expertise associated with the resolution of problems inherent to new product introduction into assembly. Familiarity with automated material handling and processing assembly technologies required.

Antenna Design Engineers

BSEE or Physics or equivalent, MS desirable. Requires knowledge of phased arrays, monopulse D.F. systems and millimeter wave techniques.

Power Supply Design Engineers

BSEE or equivalent, MS desirable. Perform IR & D activities involving new techniques development in high voltage microwave/millimeter wave transmission, nanosecond control of high DC voltages and modulation of microwave tube devices.

ADVANCED TECHNOLOGY ENGINEERS

MICROWAVE: Active and/or passive microwave and millimeter wave integrated circuit design experience involving components such as oscillators, amplifiers, mixers, detectors and filters and integrated subsystems. Experience with monolithic microwave integrated circuit research design/development and computer-aided design is required.

RECEIVERS: Conceptual design, fabrication, and test of state-of-the-art receiver systems for ECM/Elint applications. Familiarity with systems architecture, signal processing, and channelized, set-on, and micro-scan techniques is desirable.

ANALOG: Specialists in videoamplifiers, filters, A/D and D/A conversion; background should include feedback theory analysis and computer-aided circuit analysis.

DIGITAL: Design/develop high speed signal processing and control systems; microprocessor controlled hardware, D/A and A/D conversion, digital signal processing utilizing very high speed logic, TTI, ECL, CMOS, GaAs, Gate Arrays and Pal's.

Qualified candidates are invited to submit resume with salary requirements to: **Supervisor Staffing, NORTHROP CORPORATION, DEFENSE SYSTEMS DIVISION, 600 Hicks Road, Rolling Meadows, IL 60008.** We are an equal opportunity employer M/F/V/H. All positions require U.S. Citizenship.

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Death Notices

George W. Austin

George W. Austin, 59, of Montgomery, died Monday, May 12, 1986 at Copley Memorial Hospital. He was born February 24, 1927 in Brookings, South Dakota.

Mr. Austin retired February 22, 1986 after 38 years of service with Commonwealth Edison. He was a member of the Illinois Society and National Society of Professional Engineers, the Association of Energy Engineers, and the IES. He served as Chairman of the Power Chapter, Chicago Section of the Institute of Electrical and Electronics Engineers and Founder and Past Chairman of the Fox Valley Subsection of the IEEE. In 1984 he was awarded the IEEE Centennial Medal for outstanding contributions to the Institute. He was a member of the Fourth Street United Methodist Church and served as a substitute organist for the Yorkville United Methodist Church. He served as president of East Aurora Band Boosters and a number of advisory councils for District 131. He was a graduate from Iowa State University in 1948 and he served as an officer in the United States Navy during World War II and the Korean Conflict.

Survivors include his wife, Dolores; a daughter, Drew of Prospect Heights; a son, Eric of Sunnyvale, California; and a sister, Ann Tabor (Mrs. Tom) of Madison, South Dakota.

He was preceded in death by his parents, Guy and Elizabeth Train Austin.

Contributions in Mr. Austin's memory may be made to the Copley Memorial Cancer Treatment Center of the Interlochen Scholarship Fund, Interlochen Center for the Arts, Interlochen, Michigan 19643.

A memorial service was held Thursday, May 15 at 4:00 P.M. at the Fourth Street United Methodist Church with The Rev. Douglas P. DeGraaf officiating.

Obituary Notice

The Chicago Section of the IEEE would like to express its sympathy at the passing of Eleanore Burda's father, Mr. John Furtek, age 90. Eleanore has been the voice of the IEEE's Chicago Office for many years, as well as a major contributor to the contents and appearance of SCANFAX. She has been handling most of the dinner reservations for our various meetings and answering many questions for our members very competently and efficiently. Therefore we would like to offer our wholehearted support to her at this time.

CHAPTER OFFICERS and HEADS of ORGANIZATIONS

Make sure you have received your 1987 budget forms by Oct. 15, 1986, and return them to the Treasurer, Joe Feitler, by Nov. 1, 1986.

Any questions will be answered by Joe who can be reached at 979-7762 (office) or 383-8773 (home.)

MIDCON DIRECTOR ELECT

The Chicago Section is seeking an individual to serve as the section's representative on the MIDCON Board of Directors. Paul Jahn's term will expire in November of 1987. His replacement should be appointed by the Chicago Section Chairman no later than November 1986. Candidates interested in the position should submit their credentials to the Chicago Section Chairman by the October Executive Committee meeting. The following is an excerpt from the MIDCON operating procedures which should be used to guide the selection of directors:

RECOMMENDED GUIDELINES FOR SELECTING CANDIDATES FOR THE BOARD OF DIRECTORS

I. Objectives:

- A. To obtain the best possible person for the Board.
- B. To develop a pool of talent from which to choose "A", thus providing continuity.

II. Specific Criteria:

- A. A successor director should not come from the same company as their immediate predecessor.
- B. The nominee should have demonstrated satisfactory performance as a MIDCON Committee Chairman or Vice Chairman.
- C. The nominee should be articulate and a person of outstanding character whose visibility will be an asset to MIDCON.
- D. The nominee must have his/her company sanction so he/she will have no problems fulfilling the time commitment and other responsibilities.
- E. The nominee must be a credit to the profession he/she represents as well as have high stature in the community.
- F. The nominee must be well acquainted with the sponsoring organization he/she represents and has preferably held a recent office/management position in that organization.

III. Responsibilities of Directors to their sponsors:

- A. Conduct themselves in a manner consistent with the best interests of the sponsor they represent.
- B. Consider the desires of the membership of their sponsoring organization while striving to produce the best possible MIDCON.
- C. Communicate constantly with their sponsoring organization so they know the sponsors desires and the sponsoring organization knows how the MIDCON Board is functioning.

Service on the board consists of a four year term requiring attendance at five annual meetings commencing in November of 1987. George Thomas is the current junior board member and his term expires November of 1989.

Please do not underestimate the time commitments. The annual meeting requires a week and the annual show requires a week. During the year there are several one-day planning meetings. Your spouse is encouraged to attend the annual meeting.

The MIDCON Director position allows you to serve both the Chicago Section and your industry. Many fine acquaintances can be made during nonrenewable term. Either Paul Jahn or George Thomas is available to discuss the requirements of the position.

1986-1987

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* EXECUTIVE COMMITTEE MEMBER

July 18, 1986

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