
Reliability Society Newsletter

Editors: Gary Kushner and Mark Snyder
Vol. 31, No. 4, October 1985 (USPS 460-200)

Chapter News

Central New England Council:

The 1985-1986 Executive Committee held the first business meeting of the new year, and a very productive one at that. The entire program for the coming year was established, including the monthly meetings, the 1985 Fall Lecture Series, and the 24th Annual Spring Reliability Seminar.

The first monthly meeting was held on September 18, 1985 and the topic was reliability in the Soviet Union as presented by Dr. Michael Elbert, a former Russian engineer with considerable experience in the R/M/A field in Russia. The theme of R/M/A in other parts of the world will be continued in future meetings.

The Fall Lecture Series will be on the Practical Aspects of Reliability and will be under the able direction of Mr. Avery Hevesh. Mr. Hevesh has over 30 years experience in the engineering field, the majority of which is in R/M/A. He is a Fellow of the ASQC and a Senior Member of the IEEE. He is presently with Northeastern University's Center for Continuing Education where he teaches courses in R/M/A and Product Assurance in the evenings.

The 24th Annual Spring Seminar is in the capable hands of Mr. Mark Snyder. The theme for this year's seminar is, "Product Assurance Technologies: Making the Difference." A call for papers has been issued and can be found in this issue of the RS Newsletter.

Sid Gorman
Chairman (1985-1986)

Los Angeles Chapter

A joint dinner meeting of the Santa Monica Bay Section with the Computer and Reliability Society chapters was held at the Hacienda Hotel in El Segundo, California, on Thursday, May 23, 1985.

The principal speaker was Dr. Michael W. Lodato, President of MWL, Inc. of Westlake Village, California. Those attending also heard a report on a soon-to-be-released IEEE Computer Society standard on Software Reliability Metrics given by Dr. Peter Bright of the Aerospace Corporation, who is a member of the Software Reliability Metrics Group.

There was a dinner meeting jointly sponsored by the Los Angeles Chapters of the IEEE Computer Society, Reliability Society and Social Implications of Technology Society at the Hacienda Hotel on June 20, 1985. The speaker was Mr. William A. Miller of The Aerospace Corporation. His topic was "*Computer Privacy Issues and Security Risk Analysis.*"

There was a dinner meeting jointly sponsored by the Los Angeles Chapters of the IEEE Computer Society and Reliability Society at the Hacienda Hotel on August 22, 1985. The speaker was Dr. S. K. Chao of the Hughes Aircraft Company. His topic was: "*Application of Artificial Intelligence (AI) via Automatic Test Equipment (ATE) Software.*"

Mr. Harvey S. Goodman of TRS/DSG who has spent the past four years investigating the application of AI techniques, provided an introductory tutorial that included a brief history of AI, an attempt to define AI (no easy task) and a rundown of current systems.

Denver Chapter

The Denver Chapter of the IEEE Reliability Society in conjunction with Martin Marietta Aerospace will be presenting a one day seminar on artificial intelligence at Martin Marietta in Denver, CO. The date will be November 8,. The seminar will cover design applications and methods as well as reliability and maintainability applications. Please contact Bob Jaquess at (303) 977-3000 or Craig Williams at (303) 977-3000 to reserve a spot or if you have further questions.

Craig Williams
(303) 977-4236

RS Newsletter Inputs

All RS Newsletter inputs should be sent to one of the associate editors, Gary Kushner, 499 Brigham St., Marlboro, MA 01752, or Mark Snyder, Digital Equipment Corp., 14 Walkup Drive (YWO/D12), Westboro, MA 01581, per the following schedule:

For January:	by 15 October
For April:	by 15 January
For July Newsletter:	by 15 April
For October:	by 15 July

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Editors' Message

Your editors regret that we have no message for you this issue, no symposium to commend, and no sermon for inputs. We do, however, encourage the readership to come forward and use this column more meaningfully than we have done for this edition of the Newsletter.

Your Editors,
Mark and Gary

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IEEE Fellow Nominations

It is time to consider any members of the Reliability Society who have earned the honor of being advanced to Fellow grade. The IEEE By-laws define the Fellow grade as one of unusual distinction in the profession, to be conferred only by invitation of the Board of Directors upon a person of outstanding and extraordinary qualifications and experience in IEEE designated fields, who has made important individual contributions to one or more of these fields. A nominee must be a Senior Member of the Institute, and have been a member in any grade for at least five years prior to January 1 of the year of election.

The Fellow Committee, appointed by the Board of Directors, has the responsibility of making recommendations to the Board of Directors for nominees to be conferred the grade of Fellow. The Fellow Committee depends primarily upon information furnished by a nominator to point out the qualifications and unique contributions of a candidate. This information is supplemented by an evaluation by the appropriate society and comments from Fellow grade references who can attest to the candidate's achievements.

Any person who is sufficiently knowledgeable of a candidate's achievements can serve as a nominator. If you are

aware of a deserving candidate and would like to pursue a nomination, please contact the Reliability Society Awards and Nominations Chairman for assistance:

Naomi J. McAfee
Westinghouse Electric Corp.
P.O. Box 746, MS 246
Baltimore, MD 21203
(301) 765-3400

You may also obtain a nomination kit by request to:

Staff Secretary
IEEE Fellow Committee
345 East 47th Street
New York, NY 10017
Telephone: (212) 705-7750

Included in this Newsletter is a listing of all Fellow grade members of the Reliability Society who may be used as references for a proposed candidate.

IEEE Publishes 1984 Index to IEEE Publications

New York, NY, July 20, 1985: The Institute of Electrical and Electronics Engineers, Inc. announces publication of the *1984 Index to IEEE Publications*. In 1984, IEEE's massive periodicals and publishing programs accounted for over 125,000 technical pages. The annual Index is the only index that covers the totality of IEEE publishing.

The latest combined Index provides quick access to all IEEE-published papers, articles, conference records, and other communications covering every facet of electrical/electronic/computer science and engineering. The 1984 Index lists over 21,000 technical items and contains 130,000 entries. Information is provided by author and subject.

The Author Index contains a primary entry for each item arranged alphabetically under the name of the first author. Complete bibliographic information, including coauthor names, title of the item and type of item, is given. The Subject Index, also arranged alphabetically, contains multiple index entries for each item, as well as cross-reference pointers

where required by subject matter.

The 1984 Index covers 55 periodicals—including the IEEE Transactions, journals and magazines specializing in all electrical/electronic fields, including biomedicine, geoscience, nuclear and plasma science, pattern analysis, oceanic engineering and cybernetics. Access to over 50,000 periodical pages is provided. In addition, the Index covers over 70,000 nonperiodical pages. These include the papers presented at over 150 IEEE-sponsored conferences worldwide, as well as all new IEEE and ANSI/IEEE Standards, IEEE PRESS books, IEEE Technical Reports, and miscellaneous publications.

The Annual Index is an essential reference for all those who need to keep abreast of new developments in science and engineering. The *1984 Index to IEEE Publications* (JH73411) is priced at \$100.00 for IEEE members and \$200.00 for non-members. The Index can be ordered postpaid from the IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854-4150.

1986 INTERNATIONAL RELIABILITY PHYSICS SYMPOSIUM

March 31 - April 4, 1986 • Anaheim Marriott Hotel • Anaheim, California

CALL FOR PAPERS

The twenty-fourth Annual Symposium, co-sponsored by the IEEE Reliability and Electron Devices Societies, emphasizes device reliability as the dominating influence in the development of new VLSI technologies and circuit designs. With the awareness that today high reliability is the norm for VLSI, the 1986 Symposium will emphasize the role of design, processing, packaging and testing for building-in high reliability. Papers are especially solicited in this area; however, work in all areas of reliability physics will be included in the program.

Papers should deal with work on:

- Physics of Failure Mechanisms - Quantitative models and mechanisms of component failure.
 - Hot Electrons
 - Electromigration
 - Oxide Breakdown
 - Contact Degradation
 - Metallization Fatigue
 - Soft Errors
- Failure Analysis Techniques - Advanced or simplified, as they are applied to specific problems.
- Accelerated Testing and Screening - Emphasizing the physical mechanisms which validate testing and screening techniques.
 - Burn-in
 - Smart Oven Testing
 - Wafer Level Testing
 - Correlation with Observed Reliability in the Field
- Design and Process Control For Reliability - Relating specific design concepts and process controls to part reliability.
 - Latent Defects
 - Particle Control
 - Computer Aided Manufacturing
 - Statistical Process Control
 - Starting Material and Processing Material Controls
 - Margin Testing and DRAM Repair Criteria
 - Oxide and Metal Process Monitor and Reliability Testing
 - Design Rules for Improved Reliability

In the following or related areas:

- VLSI (Microprocessors, Memory, PLA, DRAM, Redundancy, and Repair, etc.) - MOS, Bipolar, CMOS, I²L, SOS
- Semiconductor/Insulator Interfaces, Contacts and Metallization
- Packaging, Bonding, Die Attach, Coatings and Encapsulation
- Hybrids (Materials, Processes and Components)
- Displays, Sensors, and Solar Cells
- Microwave, Optoelectronic, and SAW Devices
- GaAs Devices and Interface Effects on III-V Devices
- New Devices and Technologies
- Passive Components
- Attachment of Leadless Ceramic Chip Carriers and other Surface Mount Technologies
- Medical Electronics
- Automotive Electronics
- Low Temperature Operation

The deadline for submission of abstracts is October 10, 1985. Prospective authors are requested to notify the Technical Program Chairman before September 10, 1985 of their intention to submit an abstract and the topics to be discussed. Authors must submit a 50-word descriptive abstract and 300-500 word summary appropriate to describe a 20-minute paper. Authors are encouraged to obtain presentation releases prior to submission of summaries on October 10, 1985.

In a cover letter to the Technical Program Chairman, the author must clearly state: (1) the purpose of the work, (2) how it advances the knowledge of reliability physics, (3) the results of the investigation, and (4) any related work published or presented recently by the author. The 50-word abstract, suitable for publication in the advance program, should be typed on a separate sheet, and include the title of the talk, name and affiliation of the author (s), complete return address, and telephone number. A two-page, camera ready summary must also be submitted in a single-sided typewritten format on 8-1/2" x 11" paper, suitable for immediate reproduction, review, and publication. No photo-

graphs are permitted, due to printing restrictions; however, appropriate figures and line drawings are acceptable within the two-page total length restriction. The title, name and affiliation of authors, complete return address, and telephone number should appear on the first page, and the paper title and author's name on the second page. Forward abstracts and summaries to:

Robert W. Thomas, Technical Program Chairman
1986 International Reliability Physics Symposium
Rome Air Development Center, M.S. RBRE
Griffiss AFB, N.Y. 13441-5700
(315) 330-3730

A limited number of late news papers reflecting important new developments will be considered on a space available basis. Deadline for late summaries is 1 March 1986. Authors will be required to submit a finished paper at the Symposium for publication.

Criteria used by the Program Committee to select papers for the symposium are:

- The work must be new and previously unpublished.
- Evidence of the quantitative results and analytical models of studied phenomena must be given in the abstract.
- The purpose and results of the work and how it advances the state of the art must be clearly described.

Authors of accepted papers will be required to submit their slides and paper manuscripts for review by their session chairman before February 20, 1986. Visual aid legibility is mandatory. Only horizontal format 35mm slides will be permitted. Papers will not be approved for presentation if the slide quality is unacceptable. Final versions of manuscripts for all papers must be submitted at the symposium for inclusion in the proceedings.

For general conference information contact:

Lucian A. Kasprzak
1986 International Reliability Symposium
IBM
44 South Broadway
White Plains, N.Y. 10601
(914) 686-5683

Shrinking Dimensions—Growing Reliability Problems? Workshop on Sub-micrometer Device Reliability

Dates: November 6 and 7, 1985

Location: Clemson University, Camp Hope Meeting Center, Clemson, SC

Format: Informal with Camp Hope location chosen to emphasize a "retreat" atmosphere.

Introductory talks discuss the present status of reliability and give examples of failure mechanisms currently under investigation.

Generic workshop sessions on wearout, defects (infant mortality), and overstress attempt to extrapolate these reliability concerns to future constructions containing as many as 100 million transistors per chip.

Cost: Registration fee will cover all workshop expenses and include meals, but lodging will be separate charge of approximately \$15 per night.

Goal: To assess the anticipated degree of severity posed by reliability to future ultra-dense IC structures and to recommend priorities for reliability research investigations.

For Additional Information Contact: Dr. Jay W. Lathrop (803) 656-3375

Preliminary Agenda

Tuesday evening, November 5, 1985

6:00–10:00 Check-in at Camp Hope

Wednesday morning, November 6, 1985

7:30–8:30 **Breakfast**

8:30–8:45 **Welcome**

8:45–9:15 **Keynote**

9:15–9:30 **Break**

Present Status of IC Reliability—

User's Viewpoint

9:30–9:50 Industrial/Consumer

9:50–10:10 Space (NASA)

10:10–10:30 Defense (DOD)

10:30–10:45 **Break**

Present Status of IC Reliability—

Manufacturer's Viewpoint

10:45–11:05 MOS

11:05–11:25 Bipolar

11:25–12:00 **Discussion and Summary of Present Status of IC Reliability**

12:00–1:00 **Lunch**

Wednesday afternoon, November 6, 1985

Examples of Failure Mechanism Research

Wearout Mechanisms

1:00–1:20 Electromigration

1:20–1:40 Charge Injection

Defect Mechanisms

1:40–2:00 Corrosion

2:00–2:20 Particulate Contamination

2:20–2:35 **Break**

Environmental Overstress

2:35–2:55 ESD

2:55–3:15 Ionizing Radiation

Working Group Sessions

Wearout, Defect, Overstress

5:30–6:30 **Social Hour** (Cash bar)

6:30–7:30 **Dinner**

7:30– **Informal Discussions**

Thursday morning, November 7, 1985

7:30–8:30 **Breakfast**

8:30–10:00 **Working Group Sessions** (continued)

Wearout, Defect, Overstress

Working Group Reports and Discussion

10:00–10:30 Wearout

10:30–11:00 Defect

11:00–11:30 Overstress

11:30 **Concluding Remarks and Formal**

Adjournment

11:30–12:30 **Lunch**

Reliability Chapter Boston Section IEEE

Call for Papers

The Twenty-fourth Annual Spring Reliability Seminar has been scheduled for April 17, 1986. The seminar will be hosted by the IEEE Boston Section Reliability Chapter. The theme of this year's seminar will be, "Product Assurance Technologies: Making the Difference."

A call for papers is issued in the following broad topic areas:

- Reliability
- Maintainability/Supportability/Testability
- Availability
- System Safety
- Integrated Logistics Support
- Life Cycle Cost/Design-to-Cost
- Reliability Improvement Warranties
- Software Reliability/Quality Assurance
- Human Factors
- Reliability Growth

Interested authors should prepare and submit an abstract of 300 to 500 words, accompanied with a biographical sketch, by November 1, 1985. Selected authors will be notified by December 20, 1985. Completed papers, suitable for reproduction in the seminar Proceedings, will be required by March 1, 1986.

Abstracts and biographical sketches should be sent to:

Ms. Vivian Thorsen
Technical Program Chairman
Raytheon Company
EDL-N9
528 Boston Post Road
Sudbury, MA 01776

Questions concerning the seminar may be directed to Mr. Mark Snyder, Seminar Chairman, at (617) 870-2018.

The Avionics Maintenance Conference (AMC) is an air transport industry activity serving the needs of the industry in matters of avionics maintenance. Its objectives are promotion of improved avionics systems, equipment reliability and performance. It is the medium for the exchange of information among users, repair facilities, installers, suppliers, manufacturers, and designers of avionic systems and components, as a professional approach to maintainability and maintenance practices.

This review of conference activity and task group meetings is abstracted from the "AMC Report" which is the Proceedings for the AMC. A limited number of 'Reports' are available from Mr. Larry Carpenter, Executive Secretary-AMC, Aeronautical Radio, Inc., 2551 Riva Road, Annapolis, MD 21401.

Open Forum Review

The 35th meeting of the Avionics Maintenance Conference in Open Forum was held April 16-18 in Cedar Rapids, Iowa with pre-conference meetings held April 15. There were 519 attendees from 66 airlines, 99 manufacturers, 6 airframe manufacturers (including a first time attendance by Fokker), and 6 other organizations.

Several people attending this year's AMC have indicated that this will be their last appearance. Alan Carmel of the Continental Group, who chaired the first Task Group ever formed by AMC, is retiring this year. Colonel Lester of Delta, past AMC Chairman and current Chairman of the BITE Task Group, has announced his retirement as of mid-year. Jack Flavin of FAA, a long-time attendee and friend of the industry, also has announced his retirement.

At the Operator's Session, the Secretary was able to announce that the airlines would be allowed to reprogram their own EPROMS under newly formulated FAA guidelines. This action, initiated as a result of the 1984 Open Forum, will bring significant financial relief to the airlines in the future.

The Open Session began with introductions and segued into an impressive audio-visual show provided by Collins. There were two speakers this year, Lowell Batson, Vice President/General Manager of Collins Air Transport Division and Edward Crane, President and CEO of Ozark Airlines.

Two Steering Group members retired this year, John Laviolette (Air Canada) and Carmelino Granito (Avensa). The AMC presented Certificates of Appreciation and then turned the podium over to Frank Chandler, Chairman of AAI for further award presentations. AAI presented Volare awards to John Laviolette/Air Canada and Bill Romans/Sperry. A special Chairman's award from AAI and a special Man of the Decade award from AMC went to Colonel Lester/Delta.

The open forum discussions covered the following systems

areas: Product Support and Test, Communications, Navigation, Autoflight, Electrical, Engine Indication, Aircraft Fuel, and Other Systems.

Everyone contacted had positive feelings about the content and conduct of the meetings and most were looking forward to the Airlines International Electronics Meeting (AIEM) in November and the 1986 AMC.

Task Group Meetings

TG-103/Test Equipment Guidance (TEG). Chairman Gerry Bunch (TWA) presented an overview of the TEG activities presently in an active status. These included: Project Paper 606, Electrostatic Sensitive Devices; ARINC 616, Avionics Subset of ATLAS; ARINC 605, ATLAS Users Guide; ARINC 602A, Test Equipment Guidance; and ARINC 608, Standard Modular Avionic Repair and Test (SMART).

The newest activity the Subcommittee has undertaken is ARINC 608, SMART. Under this topic Chairman Bunch stated that one of the goals of the SMART System was to reduce the high cost of avionic black box testing. This goal can be achieved through lower programming cost, lower ATE costs, and common shared cost industry standard compilers.

TG-104/Reliability Reporting. Chairman Don Logan (Pan American), reviewed the history of AMC reliability reporting. The new report format was reviewed. A suggestion to add four quarter averages for category mean and deviation was made. The campaign to enlist manufacturers in determining which part numbers are similar from a reliability viewpoint was reported as going well. The expanded input from more airlines should be available this year.

TG-110/BITE. Chairman Colonel Lester (Delta) described the group's goals and the progress made towards achieving them. Working jointly with the Airlines Electronic Engineering Committee's (AEEC) BITE Subcommittee, TG-110 had met four times so far and developed BITE Project Paper 604 through three drafts. The third draft, circulated with AEEC Letter No. 85-024/BITE-18, would be reviewed at the group's April 30-May 1, 1985 meeting in Arlington, Virginia. The version of the Project Paper to emerge from that meeting should be sufficiently mature to present to AEEC for adoption.

AMC Seminar on Leadless Components. Moderator John Laviolette/Air Canada introduced the guest speakers for the Leadless Components Seminar. They were: Mr. Alex Taylor of Boeing; Mr. Dan Elder of Sperry; and Mr. Andy Hauter of Collins. The speakers provided an excellent slide presentation on leadless components ranging from their manufacture to their implementation into today's high technology equipments. Following the presentation a panel of experts fielded questions from the attendees.

In February 1985, the U.S. Air Force approved a Reliability and Maintainability Action Plan *R&M 2000*. *R&M 2000* was prepared at the direction of the Secretary of the Air Force and the Chief of Staff to institutionalize the Air Force's commitment to improved R&M. A Special Assistant for Reliability and Maintainability (AF/LE-R) has been established on the Air Staff to serve as a focal point for R&M, to integrate the efforts of the Research and Development and Logistics communities, and to oversee the execution of *R&M 2000*. The following is extracted from the action plan *R&M 2000* Executive Summary signed by Lt Gens Leo Marquez (DCS/Logistics and Engineering), David L. Nichols (DCS/Plans and Operations), and Robert D. Russ (DCS/Research, Development, and Acquisition).

Reliability and Maintainability (R&M) are critical elements of effective weapon systems. The Air Force has rapidly developed and applied new technology and as a result pushed the performance of our systems to new plateaus of capability. However, operational effectiveness also depends on our ability to successfully support these complex systems in ever more hostile environments. This intensified threat has put a higher premium on R&M. For this reason, the Air Force is committed to accelerating the improvement of R&M across our weapon systems.

Until now, our emphasis on R&M has been focused primarily on cost efficiency considerations. Today, however, operational necessities and logistic support considerations such as mobility, vulnerability, and manpower limitations demand we rethink this focus and work for more rapid improvements in our weapon system R&M. To be successful, this requires a fundamental change in the way the Air Force approaches, considers, and manages R&M.

To bring about this cultural change within the Air Force, *R&M 2000* concentrates on six key management objectives. These objectives are aimed at supporting the senior level commitment to R&M, convincing the Air Force and industry of the necessity of this commitment, and focusing our manpower and program resources on institutionalizing this commitment. The major objectives in *R&M 2000* are:

- I. Establish clear direction for R&M improvement through visible goals and policy to increase combat effectiveness and operational supportability.
- II. Establish an organizational infrastructure to implement the essential elements of the R&M improvement program, to form a base of technical expertise, and to build advocacy, authority, and accountability into the R&M program.
- III. Establish an R&M planning system to consolidate R&M efforts, tie R&M to operational goals, and ensure coordination across commands, systems, and technologies.
- IV. Establish a system to ensure accountability, review,

and feedback on the direction and progress of the R&M program.

- V. Establish a communication and motivation program to sustain the commitment to and organizational support for the R&M improvement effort.
- VI. Establish industry commitment to R&M to ensure contractors have the motivation and capability to support Air Force R&M requirements.

This plan will require the commitment of all Air Force commanders. It will affect all of our weapon systems, involve our best people, cut across all our functions, and capture the support of our contractors. We are fully committed to the success of this plan and look forward to your mutual support as we jointly institutionalize improved reliability and maintainability throughout the Air Force.

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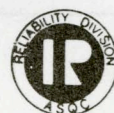
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1985 Oct. 8-10	Melecon '85	Madrid, Spain	Prof. A Luque Instituto de Energia Solar E.T.S.I. Telecomun. UPM Ciudad-Univer Madrid-3, Spain
Oct. 21-24	Autotescon '85	Uniondale, N. Y.	Louis A. Luceri 660 Grand Ave. Lindenhurst, NY 11757 (516) 391-5592
Nov. 6, 7	Shrinking Dimensions Growing Reliability Problems?	Clemson, SC Clemson University	Dr. Jay W. Lathrop
Nov. 19-21	1985 International Test Conference	Philadelphia, PA	Mr. Dale Litherland Electronic Conventions Inc. 8110 Airport Boulevard Los Angeles, CA 90045 (213) 772-2965
Call for Papers Due Oct. 25	16th International Symposium on Fault- Tolerant Computing	Vienna, Austria	Technical University of Vienna
Dec. 1-4	1985 International Electron Devices Meeting	Washington, DC	Melissa M. Widerkehr Courtesy Associates, Inc. 655 15th St. N. W., Suite 300 Washington, DC. 20005 USA Telex No. 440487 Courtesy

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	<i>Journal of Micro-Computer Applications</i>		Barney L. Capehart Dept. of Industrial and Systems Engineering Univ. of Florida Gainesville, FL 32611 (904) 392-1464
Jan. 13-16	Fifth Symposium on Reliability in Distributed Software and Data Base Systems	Los Angeles, CA	5SRDSDS IEEE Computer Society PO Box 639 Silver Springs, MD 20901 (301) 589-8142 TWX: 7108250437 IEEECOMPSO
Jan. 21-23	Annual Reliability and Maintainability Symposium	Las Vegas, NV	Norman Kutner Westinghouse Electric Corporation 401 East Hendy Ave. P.O. Box 499 (MS 21-9) Sunnyvale, CA 94088 (408) 735-2261
April 1-3	1986 Reliability Physics Symposium	Anaheim, CA	H. C. Jones Westinghouse Corp. P.O. Box 1521 MS 3664 Baltimore, MD 21203 (301) 765-7387
April 17	24th Annual Spring Reliability Seminar	Framingham, MA	Ms. Vivian Thorsen Technical Program Chairman Raytheon Co. EDL-N9 528 Boston Post Road Sudbury, MA 01776
June 2-5	Inter-Ram	Syracuse, NY	Paul Wilde Niagara Mohawk Power Corp. Quality Assurance/F-2 300 Erie Boulevard W. Syracuse, NY 13202
July 1-3	16th International Symposium on Fault-Tolerant Computing	Vienna, Austria	H. Kopetz Interconvention Hofburg PO Box 80 A-1107 Vienna, Austria (43) 222-520293

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