IEEE publications bulletin

This Bulletin is the official announcement vehicle for IEEE publications, and information and educational services. Its purpose is to list as they become available all conference records, standards, special issues of Transactions and Journals, and other nonperiodic publications that may be purchased from IEEE Service Center.

Conference Publications

The publications listed below have become available since the last issue of this bulletin and, except as noted, were sent automatically to present subscribers to the appropriate option and suboption of the IEEE Open Order Plan (OOP). All conference publications are identified by appropriate OOP suboption codes. For completeness, the listing includes special issues or sections of IEEE periodicals that are devoted to IEEE conferences, as well as Conference Publications in the strict sense. Out-of-Stock items may be found in the Engineering Societies Library in New York City and in all libraries that subscribe to OOP.

For your convenience, the LC catalog card number is printed inside IEEE publications. Commencing with the July 1979 issue all pre-assigned LC numbers are announced in the entries. The standard availability of LC cards for pre-assigned numbers is approximately six months after publication date.


Coverage and Sessions: Topics deal with the application of control theory to the real world. The JACC program consists of three parts: (1) Theme Sessions, (2) Sponsored or Invited Sessions, and (3) Contributed Papers. The theme sessions have been selected because of their timeliness in the field of control. The theme topics: control of large space structures; nonlinear systems; microprocessors in control; measurements and components; biomedical applications; large scale systems; automation in manufacturing. Other session topics: microprocessor and distributed system control software concepts; control: inferential, adaptive, feedback, linear multivariable, manufacturing and process; transportation; plant control and optimization; digital signal processing; identification and model reduction; microcontroller applications; system simulation; instrumentation and control in energy and environmental systems; partitioning estimation algorithms; systems—distributed and hierarchical process control, man-machine, dynamic, satellite; digital simulation of stochastic processes; biofeedback; new fossil energy and electric power plants; asymptotic techniques in flight dynamics and control; estimation; modeling of physiological systems and parameter estimation; digital control in human rehabilitation; water resources system analysis—risk and uncertainty; process control and automation; guidance and control.

AUTOTESTCON '79 International Automatic Testing Conference, held Sep 19–21, 1979 in Minneapolis, MN; sponsored by IEEE AES, IEEE IM, and IEEE Minneapolis Section. Conf. Record. 380 p. $25.00. 79CH1488-6 AUTO. OOP 1 B, C, H.

Scope and Sessions: AUTOTESTCON '79 examines how new technologies will contribute to lower program costs. The professions involved in the ATE industry are challenged to examine their social responsibilities in combating inflationary trends as we stand on the threshold of the 1980's. The past is also examined in a contribution by Fred Ligouri, Sr. Member, Naval Air Engineering Center titled "A History of AUTOTESTCON—The First 15 Years." Sessions cover industry/DOD ATE status report; ATE—design applications, control and support software, standards, special purpose systems, calibration: commercial test program set; military test program set: built-in-test/system integrated test: automated test system cost drivers: international systems: test generation techniques: approaches to testing new technology: new test techniques: automatic test system selection techniques: automatic test program generation: testability: military systems: software verification and validation: large system maintenance.

CATV Reliability, 4th Conference on, held Feb 27–28, 1979 in Denver, CO: sponsored by IEEE BCCE and SCTE. Conf. Record. 74 p. $18.00. 79CH1475-3 BCCE. OOP 1 C.

Coverage: The Conf. Record contains "program and abstracts" and nine conference papers. This 1979 Conference is a departure in some ways from the three prior meetings. Since the cable television/broad band communication industry has entered the age of satellite communications, is exploring fiber optics as a viable medium, and making more use of two-way and data communications than ever before, contributions on these "blue sky" technologies are included. The real-world and reliability in CATV system design are represented in the abstracts and papers on computers and engineering. Manpower, personnel, management and training talk of current programs used by operating companies, cooperative efforts with university systems and plans for the future. The steps of good engineering practice in new builds, extensions and rebuilds are dealt with in system construction.

Circuits and Systems, [12th] International Symposium on, held Jul 17–18, 1979 in Tokyo, Japan; sponsored by IECE CAS and IEEE CAS. Proceedings. 1091 p. LC 79-87921 (preassigned). $50.00. 79CH1421-7 CAS. OOP 1A.

Coverage: This is the 12th annual IEEE International Symposium on Circuits and Systems, and the 2nd IECE (Institute of Electronics and Communication Engineers of Japan) International Symposium on Circuits and Systems. The explanation for this is that the 1st international conference on circuit and system theory was held in Kyoto in 1970 under the sponsorship of the IECE and this is the first follow-up conference held in Japan. The Symposium is devoted to all aspects of theory, design and applications of circuits and systems in the widening field of engineering and science. Emphasis is placed on new concepts and approaches for the analysis and design of circuits and systems, computer aided techniques, new devices and circuits, and other topics of interest. The program is balanced on both theory and practice and features special sessions to discuss current practices and future trends in circuit and system design. Sessions: digital filters—FIR, IIR, multidimensional; filters—active, active RC, CCD, switched capacitor; electromechanical filters— surface wave and body wave; computational complexity; network analysis; control systems; integrated-circuit design aids; graph theory; CAD applications and programs; system, stability, nonlinear system, and nonlinear circuit theories; computerized layout; networks—distributed, multivariable, switched capacitor, large-scale, and nonlinear; communication; circuits; passive network synthesis; problems—multi-
modeling and applications of World Systems in areas relating to six sympoia topics: systems science; pattern recognition and expert systems; computer simulation; environmental systems; computer-based design; and communication systems. These symposia house 34 technical sessions. Workshops cover such topics as: collectively owned systems; computer performance and system ordering; synchronization, timing machine, and verification.

Computer Society International Conference, 19th IEEE (COM-}
PON FALL '79; held Sep. 4-7, 1979 in Washington, D.C., sponsored by COM-}
PON. OOP '79: Outputs: Extending Our Reach. 484 p. LC 79-8187 (pess-
signed), $25.00. IEEE CAS: Conference Record (pessigned).

Scope and Contents: This is the first IEEE Computer Society Conference (COMCON) devoted to computing systems for computer character. The theme of the Conference is reflected in contributions representing growth of computing systems from the state of the art in biomedical engineering and to discuss the safe and effective use of these systems. Devices based on this interaction will allow all specialties and professions in the health care community to communicate more effectively to advance biomedical research and to improve patient care. Sessions: signal processing and imaging; computers in medicine; biostatistical and bioinstrumentation; clinical engineering: non-invasive diagnostic technology; standards, ethics, and regulation; computer-aided therapy; general principles of biomedical engineering; devices based on this interaction.


Scope: Computer software development continues to be a key to the success of computer applications; modern computer science continues the COMCON tradition of examining ways to improve the performance of computer systems. Special emphasis is placed on software requirements, data base management, and distributed processing. Computer systems include a variety of computers to the needs of consumers, particularly in areas such as biomedical, telecommunications, and automation. As the technology of digital systems continues to improve, new uses for digital systems are found in the everyday lives of people. As the computer and input/output systems are integrated into various applications in the system and/or logic level sample. The sample of the contributions includes: systems software for use in digital systems. An automatic LSI design and test system; ADLIB—a modular, software-based test system; SLIDE—an LSI hardware describer; CASE—a language for automatic software development; and Archimedes, a performance prediction from a computer hardware describer; MODAL—a system for digital hardware description and simulation; and a hardware description language as part of a CAD tool for LSI.

Computer Networking, see Local Computer Networking

Computer Science, 26th Symposium on Foundations of, held Oct 24-26, 1979 in Detroit, MI; sponsored by IEEE C. Conf. Record, 431 p. $22.00. 79CH1171-2C. OOP 1F.

Scope: Program committees are invited to submit papers on: computational complexity, formal languages, mathematical theory of computation, switching and automata theory, and theory of programming languages and formal semantics. Papers may cover some of the following subjects: algebraic complexity, arithmetics, algorithmic number theory, formal languages and formal semantics, Boolean circuit complexity, computational complexity, computer algebra, cryptography, databases, decomposable searching problems, distributed process-
practice of AC and DC ground-fault protection for under-ground coal-mining face ground; ground-fault short-circuit protection in underground coal mining-U.K. practice; use of cable surface temperature to detect high-resistance splices; detection of failures; and application of line frequency systems. New technology—application of computers to mining control; new techniques: modern distribution; solid-state relaying applied to high-voltage distribution in mining.

Oceans '85, 5th Combined Conference, held Sep 17-19, 1985 in San Diego, CA; sponsored by IEEE Council on Oceanic Engineering, MTS, and IEA, Section, Record. Section 789, $45.00. 97814157-08 CE (OEC P O E 1 A).

Coverage: The theme of this conference, "The Technical Challenge of Inner Continental Shelf," was broad in scope to accommodate the numerous and various technologies, sciences and participation in the development of ocean activities. The program is designed to give several different perspectives into the current research, development and the technology being utilized in learning about the ocean environment and in the tapping of ocean resources. The sessions highlight the recent research, development and technological applications in areas such as ocean energy, ocean energy systems, shiptake support, naval architecture, bysea systems, undersea vehicles, navigation, ice and Arctic engineering, instrumentation, diving technology, and marine and oceanographic applications. A sample of session topics: Acoustics—transducers and sonar systems; computer applications; ice and Arctic engineering; ocean energy; ocean profile and bottom instrumentation; security of offshore resources; Space Shuttle support; water pollution; and marine resources.

Petroleum and Chemical Industry Conference, 26th, held Sep 10-12, 1985 in San Diego, CA; sponsored by IEEE 1A Record, Section 789, $45.00. 97814157-66240 (copy empty). Section 790, $42.00. 97814157-432-3A (O E 1 B).

Scope: The scope of PCIC is the treatment of all matters within the scope of petroleum and chemical societies in which the emphasis or dominant factor specifically relates to production, manufacturing, use and transportation of petroleum and chemical products. General Technical sessions cover topics which are relevant to the protection and harm of storage or power systems—a change in the course of treatment. Session papers will include major contributions in transit phenomenon in the motor control and other motor control. Several sessions will address UPS systems for large computer facilities for example. Chemical and electrochemical areas have papers like developments in liquid metal switching and high efficiency liquid light sources and systems. Field testing of sub- electric cables and local isolation problems are part of the production sessions. In the transportation sessions, dominance.

Semiconductor Laser Conference, 6th International, held Oct 30-Nov 1, 1985 in San Francisco, CA; sponsored by IEEE Conference on Quantum Electronics, Section, Record. Section 791, $45.00. 97814157-81977 (CE). Coverage: This issue of the IEEE Journal of Quantum Electronics marks the sixth special issue devoted to semi-conductor lasers. The scope of the conference has expanded into categories that one readers can find a particular topic more easily: reliability, GaAs/GaP/growth, reliability, semiconductor laser systems, device application, and growth. This Conference addresses the discussion of test-related problems and addresses potential solutions to these problems. The emphasis of the purpose of integrated circuits into "sys-"tem is not on the whole system but on the one chip. This one chip is the base board at the level board has mandated the inclusion of testing and testability methodologies and processes in the design and use of semiconductor laser systems. A program content viewpoint, the 1985 Conference includes robust memory test as a formal section and refines the specific increased emphasis on the subject of analog test. Sessions: design for testability; testing; bubble memory, memory, component architecture, microprocessor, fabrication, IC, board, board microprocessor, high speed, test equipment correlation; digital and analog test problems; soft test at board level; memory test; analog test design and test pattern generation; test economics; design for-testability and testability.


Focus: Conference papers focus on R & D funding in the U.S. and the status of technological and economic trends and high technology exports, and technology transfer. Specific paper topics: productivity and innovation; radical technological innovation in modern society; Europe's involvement with government; the 96 Congress—members and committees commodity to the federal government; impact of European and R & D; IEEE Policy on Technology: Congressional stimulation; stimulating innovation through U.S. government policy. Record. Content of conference paper contains only reproductions of graphic illustrations utilized during the Conference, along with the appropriate accompanying text.


Scope and Contexts: This fifth conference in the series is intended to identify and encourage research, development, and standardization. Its objectives are dissemination of the promotion of an understanding of current research, the further development and experimentation on the design, construction and use of databases, and the provision of a forum for the exchange of future research and development. In addition, a special focus this year is aimed at applications of databases in developing countries and in less-developed areas. Several of the papers are represented in this issue. Examples of some areas of concentration are performance and space data base security, consistency and control; and query handling strategies.

Special Issues

The special issues listed below have become available since the last issue of this Bulletin. Special issues devoted entirely to cover special technology are reported in the following.


Coverage: This Special Issue highlights automatic test equipment (ATE) for analog systems. This area has maintained a low profile in the recent past, but recent advances in limited funding and commercial interest have resulted in an emphasis on the use of digital circuits. The analog problem has been addressed for on-chip testing. This section includes contributions from industry as well as academia. It is intended for designers of test systems in industry and for systems applications. The first paper is a comprehensive treatment with an extensive reference list titled "Automatic Test Generation Techniques for Analog and Mixed Signal Circuits: A Review." The remaining papers fall under the subheadings: automatic test generation; fault diagnosis and repair; failure mechanisms; and fault dictionary generation.


Content: Japanese broadcasting satellite for experimental purposes, is described. The National Measurement System in microwave and television broadcast programs. Excellent sound television broadcasting in Japan; experimental studies of the Japanese broadcasting satellite as a sound television system; ghost signal reduction by use of magnetic absorbing material on walls; HIFF terrestrial broadcasting in Japan.


Coverage: This special issue on "Circuits and Systems Concepts in Energy Research" contains 12 papers on various aspects of energy research at the University of Colorado Boulder's National Center for Atmospheric Research. A U.S. Department of Energy's research program. Although the specific sessions cited, the program, much less energy research in general, the three papers do give some representative examples of how CAS concepts are being applied to energy research. Feature Articles: The Evolution of a Large Laser Control System— From Shiva to Nova; to High Temperature Geothermal Energy; Master Control and Data Acquisition Using Analog Circuits.


Coverage: This Special Issue on Computational Methods brings together a number of diverse papers spanning a wide variety of applications in circuits and systems. Many of these papers describe work motivated by advances in IC technol- ogy and the advancement of digital and analog technologies. The general areas of emphasis: papers which address the problem of the integration of fields, device model and fabrication and statistical circuit design. Roundout the issue are papers on advanced filter structures and systems that will improve traditional integrated circuit and the use for solving continuous systems. These papers represent the new trend in integrated circuits. If we see the use of advanced applications as well as new techniques. These new tech- niques and methods that the developers are advancing to solving practical problems. Important future advances might allow for further understanding of the developers of algorithms and the users of computer aids.

Curriculum Development in an Era of Rapid Change: IEEE Transactions on Education, Vol. 22, No. 2, May 1979. 97814088-003 (OEP 1 E). Coverage: This issue characterized engineering education for decades, especially since World War II, but it seems that the rate of change now is greater than ever. In the last five years, we have seen the emergence of new technologies with dramatic economics, digital communications, and computer systems, and with the advent of lifilopedia—fungal publications on the internet. The only ones are three from a long list. How can students be prepared for entry into this dynamic curriculum must be constantly redesigned, eliminate some topics as others are added. Modern topics must be included along with fundamentals. This issue contains papers that relate to the above-discussed problems. Papers are of three kinds: those that describe the use of computer and the implementation of specific topics, those that describe the organization and implementation of specific topics, and those that provide specific ideas. Another related feature is a collection of discussions related to the creation of the first program described by the IEEE ad hoc Model Curriculum Committee under the heading "Issues and Opinions."

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Cover: The Papers in this Special Issue on displays and LED’s are sponsored jointly by the IEEE Electron Devices Society and the IEEE Solid State Circuits Society to relate to the technology of electronic displays or for some of the LED papers, to optical communication systems, and computers. The Papers are based on earlier presentations at the 1978 Biennial Display Research Conference, held at Cherie Hill, N.J., in October 1978 (see April and November 1978 IEEE Conf. Records, 78CH132-15ED, under “Display Research Conference,” 508). Thanks to the authors and the members of the IEEE Specialists Conference on the Technology of Electroluminescence and Diodes, C.A., in November 1978. The remaining papers were submitted directly or were invited. Displays is divided into liquid crystals, other nonimaging displays, and plasma displays. The LED papers in this Special Issue reflect several areas of emphasis. For visual signals, the LED is well suited with III-V devices and applications. Other papers seem to indicate renewed interest in the more traditional areas of LED in II-VI alloys. A relatively new area of major activity, the use of quasiregular III-V alloys, is also reflected in the papers. The application of infrared LED’s to optical communications has stimuclatd much of the current research now being conducted in LED technology.

IEEE Standards


E1.15 standard American National Standard Information System Requirements—Concurrent Use; 1987. 24. $6.00. SH3754-02


C53.1-1989 revision American National Standard Electrical Safety Code; 1989. 15. $45.00. SH6877-03

C126.9-1989 American National Standard Electrical Code; 1989. 15. $30.00. SH3754-03

E70.1-1989 revision American National Standard Electrical Code for Industrial Machinery; 1989. 15. $20.00. SH3754-03


IEEE Std 147-1979 IEEE Standard Definitions of Terms forways and Components; 1979. 24. $4.00. SH2704-03

IEEE Std 380-1979 IEEE Recommended Practice for Testing Electronic Transformers and Inductors; 1979. 24. $20.00. SH3750-03

IEEE Std 4218-1979 IEEE Standard for High-Power-Test Requirements and Power Supplies for Microwave and High-Power Microwave Devices; 1979. 24. $20.00. SH3750-03


IEEE Std 625-1978 Recommended Practice to Improve Electrical Maintenance and Safety in the Cement Industry; August 1978. 24. $6.00. SH3750-03

IEEE Std 726-1979 IEEE Standard Real-Time BASIC for CAMAC; Computer-Aided Measurement and Control; Sep 21, 1979. 20. $3.00. SH3748-05

IEEE Std 748-1979 IEEE Standard for Spectrum Analyzers; 24. $20.00. $3.00. SH3748-05

Miscellaneous Publications


IEEE Journals on Microfilm comprise the world’s major archive on modern electrical/electronics engineering.

IEEE Journals on Microfilm comprise an Information System that provides quick access—for viewing or printout—to the fundamental literature of modern electrical and electronics engineering. Both backfiles and updates are available on 16 mm or 35 mm positive or negative film, in cartridges or reels. All film is processed in accordance with archival standards as set by the National Bureau of Standards.

Backfiles: Date from 1884 through 1975 and include all periodicals of the IEEE’s predecessor societies—The Institute of Radio Engineers and The American Institute of Electrical Engineers. Purchasers of the complete backfiles of all of the IEEE Transactions (1951–1975) are entitled to sizable discounts of the sum of the individual Transactions prices.

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Further Details: For complete details and price list, ask for catalog. Send your request to: IEEE Service Center, Microfilm Service, 445 Hoes Lane, Piscataway, NJ 08854.

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Supplementary Information

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