

# 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 of the IEEE Open Order Plan (OOP). 1978 Conferences are identified by appropriate OOP sub-option 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.

**Acoustics, Speech and Signal Processing (ICASSP), 3rd IEEE International Conference on**, held Apr 10-12, 1978, in Tulsa, OK; sponsored by IEEE ASSP. *Conf. Record* 847p. LC 76-26361 \$36.00 78CH1285-6 ASSP OOP 1A

**Sessions on:** Electroacoustics and noise measurement; speech processing; signal processing; distortion in audio amplifiers; signal processing methods for ecological systems; processing of seismic and ultrasonic signals.

**Aerospace and Electronics Conference, [30th] National (NAECON)**, held May 16-18, 1978 in Dayton, OH; sponsored by IEEE AES and IEEE Dayton Section. *Proceedings* 3v. 1376p. LC 61-2171 \$30.00 78CH1336-7 NAECON OOP 1B Abstracts in *IEEE Transactions on Aerospace and Electronic Systems* Vol. AES-14 No. 4 Jul 1978 \$10.00 JH42218 (Not distributed under OOP)

**Scope:** The broad range and depth of the forty-three technical sessions and approximately 230 papers cover the advances in aerospace and electronics technologies.

**Bioengineering Conference, 6th New England**, held Mar 23-24, 1978 in Kingston, RI; sponsored by IEEE EMB, Univ. of Rhode Island, ASME, et al. *Proceedings* Ed. Dov Jaron, Pergamon 421p. ISBN 0-08-022678-7 LC 78-51811 \$32.00 78CH1340-9 EMB OOP 1F

**Sessions on:** Cardiovascular system; biomechanics; computer applications in medicine; artificial organs; ultrasound; imaging and signal processing; biomedical engineering education; biomedical imaging; bioelectric phenomena; biomaterials; biomedical instrumentation; modeling and simulation; sports medicine.

**Cement Industry Technical Conference, 19th IEEE (CIT)**, held May 16-19, 1977 in Omaha, NB; sponsored by IEEE IA and IEEE Nebraska Section. *Conf. Record* Approx. 420p. LC 75-28930 \$40.00 77CH1200-5 IA

**Sessions on:** Drive systems; general practices and process equipment; automation; power distribution; maintenance and safety.

**Circuits, Systems and Computers, 11th Asilomar Conference on**, held Nov 7-9, 1977 in Pacific Grove, CA; sponsored by University of Santa Clara, Naval Postgraduate School, IEEE San Francisco Section, et al. *Conf. Record* 492p. LC 78-51637 \$25.00 77CH1315-1 C/CAS

**Coverage:** Circuit theory and design, communication and control systems, computer systems, computer aided design, image processing, digital and analog filtering, topological applications, energy and socioeconomic systems, microwave circuits.

**College Curriculum in Computer Science, Engineering and Data Processing—The 5th Joint College Curricula Workshop in Computer Science, Engineering and Data Processing** (announced in error as 4th Symposium in the Introduction), held Feb 2-3, 1978 in Orlando, FL; sponsored by IEEE C. *Proceedings* 138p. \$16.00 78CH1311-0 C OOP 1E

**Sessions on:** Micros and minis; logic and organization; introduction to computing; courses in systems analysis and design; software design techniques; computer aided instruction; new techniques using Fortran; new curricula concepts in computing; computers in engineering education.

**Computer Architecture, 5th Symposium on**, held Apr 3-5, 1978 in Palo Alto, CA; sponsored by IEEE C and ACM. *Proceedings* 256p. LC 79-91290 \$20.00 78CH1284-9 C OOP 1E **Coverage:** Current trends in special purpose processors; data base architectures; language-oriented architectures; algorithms and analysis; reliability.

**Computer Science and Engineering Curricula, 4th Workshop**, held Jun 6-7, 1977 in Williamsburg, VA; sponsored by IEEE C. *Proceedings* 149p. \$12.00 EH01263. (Not distributed under OOP)

**Coverage:** Curricula implementations which bring hardware and software closer together and optimize the use of microprocessors for CSE education; recent advances in software engineering; the challenge of data base and information systems education; the role of the computer in our social environment.

**Computer Security and Integrity, Tutorial on**, held at Trends and Applications 1977: Computer Security and Integrity Symposium, May 19, 1977 in Gaithersburg, MD. *Tutorial* Approx. 500p. \$12.95 EH01248. See Oct 1977 bulletin for Proceedings. **Coverage:** This set of reprinted papers and the associated tutorial material provide an introduction and overview to current thinking and the state-of-the-art relating to the design and implementation of computer security and integrity safeguards.

**Computer Society International Conference, 16th IEEE (COMPSAC-CON SPRING '78)**, held Feb 28-Mar 3, 1978 in San Francisco, CA; sponsored by IEEE C. *Digest of Papers—Computer Technology: Status, Limits, Alternatives*. 367p. LC 76-17667 \$20.00 78CH1328-4 C OOP 1E

**Scope:** Microprogramming; systems design languages; simulation; scientific computations; semiconductor technology; personal computing; architecture; testing and business machines.

**Computer Software and Applications Conference (COMPSAC 77), 1st IEEE Computer Society**, held Nov 8-11, 1977 in Chicago, IL; sponsored by IEEE C. Selected papers in *IEEE Transactions on Software Engineering* Vol. SE-4 No. 3 May 1978 \$10.00 JH44412. See Jan 1978 bulletin for Proceedings. (Not distributed under OOP)



**Coverage:** Papers for this Special Issue were selected because of the importance of their results in the software engineering area and have been substantially expanded from the versions published in the Proceedings of the Conference. Areas covered include: distributed databases; data flowgraphs, testing software design modeled by finite-state machines; program complexity and programmer productivity; multiprocessor programs.

**Consumer Electronics, 7th Chicago Fall Conference on**, held Dec 5-6, 1977 in Chicago, IL; sponsored by IEEE BCCE and IEEE Chicago Section. *IEEE Transactions on Consumer Electronics* Vol. CE-24 Nos. 1 and 2 Feb and May 1978 \$10.00 each **JH 42887** and **JH42895**. (Not distributed under OOP)  
**Scope:** Consumer electronics and the FCC; advances in TV tubes, tuners and receivers; MOS processes; Citizens Band radio.

**Control of Power Systems Conference and Exposition, 3rd**, held Mar 1-3, 1978 in Oklahoma City, OK; sponsored by IEEE Oklahoma City Section and University of Oklahoma. *Conf. Record* 145p. **LC 77-94201** \$16.00 **78CH1282-3 REG 5 OOP 1H**  
**Coverage:** Papers from both industry and university sectors cover control of generation and its interconnecting transmission system; supervisory control and data acquisition systems and the latest techniques in their design and application; load management and control systems designed for use by the supplier or user of electric energy.

**Digital Communication, 5th International Zurich Seminar on**, held Mar 7-9, 1978 in Zurich; sponsored by IEEE Switzerland Section, IEEE ASSP, IEEE CAS, et al. *Proceedings—Digital Transmission and Switching in Local Networks*. Approx. 225p. \$20.00 **78CH1325-0 ASSP OOP 1A**  
**Coverage:** Local switching; subscriber lines and terminals; local network evolution; signalling and synchronization; signal encoding and modulation.

**Electrical Insulation, 1978 IEEE International Symposium on**, held Jun 12-14, 1978 in Philadelphia, PA; sponsored by IEEE EI. *Conf. Record* 304p. **LC 77-94896** \$25.00 **78CH1287-2 EI OOP 1B**  
**Sessions on:** Aging phenomena; cables; measurement techniques; treeing; gas insulation systems; conduction and breakdown in solids; insulating oils; materials; workshop on splicing for distribution systems.

**Electronic Components Conference, 28th**, held Apr 24-26, 1978 in Anaheim, CA; sponsored by IEEE CHMT and EIA. *Proceedings* 442p. **LC 79-140963** \$25.00 **78CH1349-0 CHMT OOP 1D**  
**Coverage:** Broad spectrum of topics: reliability; interconnections; manufacturing technologies; materials; component technologies; new work in fields relating to the design, manufacture and application of electronic components.

**Frontiers in Education Conference, 7th**, held Oct 24-26, 1977 in Urbana-Champaign, IL; sponsored by IEEE E and ASEE. *Proceedings* 542p. **LC 74-82573** \$25.00 **77CH1240-1 E**  
**Coverage:** Latest ideas and opinions in engineering education, particularly in teaching and learning.

**Fusion Research, 7th Symposium on Engineering Problems of**, held Oct 25-28, 1977 in Knoxville, TN; sponsored by ORNL, IEEE NPS, ANS and US ERDA. *Proceedings* 2v. 1845p. \$75.00 **77CH1267-4 NPS**  
**Scope:** Magnets, coil engineering, superconducting magnets, energy storage and supply systems, vacuum engineering, blanket designs, instrumentation and data handling, systems engineering, plasma and particle sources and plasma heating systems.

**IEEE Region V Conference, 1978**, held Apr 16-18, 1978 in Tulsa, OK; sponsored by IEEE Tulsa Section, IEEE Region V and

IEEE Tulsa PES-IAS Chapter. *Conf. Record—Energy '78*. 274p. **LC 77-94200** \$25.00 **78CH1283-1 REG 5 OOP 1H**  
**Sessions on:** Energy storage, economics, management, conservation and systems planning; solar-thermal-electric energy conversion; control related technologies; energy saving technologies; renewable energy sources; electric utility technology; solar technology; energy systems modeling; computers and energy systems; wind energy systems.

**IEEE Region 6 (Western USA) Conference, 1978**, held Apr 12-14, 1978 in Alamogordo, NM; sponsored by IEEE Region 6 and IEEE Alamogordo-Holloman Section. *Conf. Record—Electronics in Resources Management*. 114p. **LC 78-51713** \$15.00 **78CH1316-9 REG 6 OOP 1H**  
**Sessions on:** Technological and energy resources; new and alternate energy techniques; load management; atmospheric and meteorological problems; remote sensing and microprocessors.

**IEEE SOUTHEASTCON '78 (Region 3 Conference)**, held Apr 10-12, 1978 in Atlanta, GA; sponsored by IEEE Region 3 and IEEE Atlanta Section. *Proceedings—A Creative Exchange of Ideas*. 556p. **LC 75-140142** \$35.00 **78CH01314-4 REG III OOP 1H**  
**Sessions on:** Electromagnetics; biomedical engineering; scene content analysis; telecommunications; continuing education; optoelectronics; aerospace electronics; power systems; computer systems; solar energy; radar systems; management; image processing; instrumentation; controls; filter design; electronic devices; human response to electroacoustic stimulation; environmental system analysis and control; computer aided design; microprocessor applications; aerospace instrumentation.

**Magnetics Conference (INTERMAG), 1978 International**, held May 9-12, 1978 in Florence, Italy; sponsored by IEEE MAG, Associazione Elettrotecnica Italiana and Societa Italiana di Fisica. *Digest of Papers* Approx. 330p. **LC 72-649866** \$15.00 **78CH1341-7 MAG OOP 1D**. Full papers to appear in *IEEE Transactions on Magnetics* Vol. 14 No. 5 Sep 1978 \$10.00 **JH43703**  
**Scope:** Magnetic materials properties and processing; bubble memory materials and systems; electronic transformer design; magnetic recording systems; superconductivity; permanent magnet materials and applications; magneto-optics.

**Microcomputer Conference (MICRO-DELCON), 1978 Delaware Bay**, held Mar 20, 1978 in Newark, DE; sponsored by IEEE C and IEEE Delaware Bay Section. *Proceedings* 68p. \$12.00 **78CH1330-0 C OOP 1E, 1H**  
**Coverage:** Fifteen papers on microcomputers including sessions on: How to get started; systems organization and new architecture; microcomputer development tools; microcomputers in business; case studies.

**Mini and Micro Computers (MIMI 77), International Symposium on**, held Nov 16-18, 1977 in Montreal; sponsored by IEEE Reg. 7, IEEE C and ISMM. *Proceedings* 318p. \$20.00 **77CH1347-4 C**  
**Coverage:** Modular computers and systems; hardware; software; interfacing; education; applications; personal and home computing; the COSTPRO tradex terminal.

**Nuclear Science Symposium Tutorial Courses**, held in conjunction with 1977 Symposium, See Apr 1978 bulletin for Proceedings, published in *IEEE Transactions on Nuclear Science* Vol. NS-25 No. 1 Feb 1978 891p. \$10.00 (not \$20.00 as reported in Apr 1978 bulletin) **JH43385**. Tutorial session papers in *IEEE Transactions on Nuclear Science* Vol. NS-25 No. 2 Apr 1978 (p. 893-952) \$10.00 **JH43893**. (Not distributed under OOP)  
**Coverage:** Tutorial courses: *Semiconductor Detectors and Acquisition, Processing, and Display of Medical Images*.

**Petroleum and Chemical Industry Conference, 24th**, held Sep 12-14, 1977 in Dallas, TX; sponsored by IEEE IA. *Conf. Record* 275p. **LC 73-641120** \$28.00 **77CH1229-4 IA**  
**Scope:** Treatment of all matters within the jurisdiction of the Industry Applications Society in which the emphasis or dominant factor specifically relates to production, manufacturing, transportation of petroleum and chemical products.

**Power Engineering Society Discussions and Closures of Abstracted Papers from the Winter Meeting, 1977 IEEE**, held Jan 30-Feb 4, 1977 in New York; sponsored by IEEE PE. Approx. 165p. **LC 76-4401** \$16.00 **77CH1191-6 PWR** See Oct 77 bulletin for Conf. Record and Abstracts.  
**Coverage:** Written discussion to papers presented at the Winter Meeting and authors' closing statements.

**Power Generation Conference, 1977 Joint ASME, IEEE and ASCE**, held Sep 18-21, 1977 in Long Beach, CA; sponsored by IEEE PE, ASME and ASCE. *Conference Record—IEEE Papers only*. Approx. 175p. \$16.00 **77CH1234-4 PWR**. This publication contains the full text of all IEEE papers presented at the Conference. These papers are also published in the *IEEE Transactions on Power Apparatus and Systems*, either in full "F" or in abstract "A" form. Abstracts of all "A" papers appear in *IEEE Transactions on Power Apparatus and Systems* Vol. PAS-97 No. 2 Mar/Apr 1978 \$15.00 **JH43992**. The full text of all "F" papers will appear in various 1978 issues of the *Transactions*.  
**Coverage:** Energy development; station design; current operational problems associated with automatic generation control; reliability analysis for nuclear generating stations; qualification of electrical equipment for Class 1-E nuclear power generating stations; turbine generator control and protection.

**Power Industry Computer Applications Conference (PICA), 10th IEEE**, held May 24-27, 1977 in Toronto, Canada; sponsored by IEEE PE and IEEE Toronto Section. (See July 1977 bulletin for Conf. Proceedings) *Supplement to Conf. Proceedings* 150p. Proceedings price, \$32.00, includes Supplement **77CH1131-2 PWR (Sup.)** Abstracts in *IEEE Transactions on Power Apparatus and Systems* Vol. PAS-97 No. 2 Mar/Apr 1978 \$15.00 **JH43992**. (Not distributed under OOP)  
**Sessions on:** Nuclear power computations; management and control of units and plants; system dispatching and control; system expansion planning; power engineering education; interactive computing and graphics; system dynamic performance; forecasting; electromagnetic transient simulation; improved techniques for system planning; modeling and simulation; real time applications; system security and state estimation; modeling power system components. *Supplement* contains written discussions and authors' closures.

**Product Liability Prevention Conference, (PLP-77 East), 8th** held Aug 22-24, 1977 in Hasbrouck Heights, NJ; sponsored by IEEE R. *Proceedings* 220p. \$15.00 **77CH1249-2 R**. (PLP-77 West, held Mar 16-18, 1977 in Palo Alto, CA, available from PLP Conference, New Jersey Institute of Technology.)  
**Coverage:** Multi-disciplined discussion on product liability prevention among engineers, lawyers and insurers.

**Quantum Electronics, 10th International Conference on**, held May 29-Jun 1, 1978 in Atlanta, GA; sponsored by IEEE QE, AIP, UPS, et al. *Digest of Technical Papers* 718p. **LC 77-93421** \$7.50 **78CH1301-1 QEA OOP 1D**  
**Sessions on:** High resolution spectroscopy; free electron lasers; solid state lasers, optical materials, detectors and devices; tuneable lasers and spectroscopy; laser induced chemistry; nonlinear susceptibilities and spectroscopy; chemical and molecular lasers; novel applications and laser-produced plasmas; nonlinear optics and picosecond laser techniques; infrared gas lasers; autoionizing states and ultraviolet generation; laser interactions in condensed media; laser isotope separation; phase conjunction and nonlinear optics applications; quantum optics; UV and excimer lasers; multiphoton excitation and generation.

**Railroad Conference, 21st Joint ASME/IEEE/AAR**, held Apr 11-13, 1978 in St. Paul, MN; sponsored by IEEE IA and ASME. *Conference Publication—IEEE Technical Papers* 46p. \$8.00 **78CH1345-8 IA**. (ASME Technical papers, \$3.00 each, available from ASME) OOP 1B  
**Sessions on:** Efficiency improvements and control of trains; energy requirements for powering and braking trains; dynamics and control of railroad equipment.

**Reliability and Maintainability Symposium, 1978**, held Jan 17-19, 1978 in Los Angeles, CA; sponsored by IEEE, AIAA, AIIE, et al. *Proceedings—Assurance Essentials: Motivation, Management, Methods*. 530p. + cumulative author index (1970-1978), cumulative ASQC descriptor index (1970-1976) and cumulative key word index (1975-1978). **LC 78-132873** \$24.00 **78CH1308-6 R OOP 1F**  
**Coverage:** Technical methodology, problems encountered and progress made in the field. Symposium is the prime forum for information in the assurance sciences.

**Simulation Symposium, 11th**, held Mar 15-17, 1977 in Tampa, FL; sponsored by IEEE C, ACM, and SCS. *Proceedings* 353p. **LC 78-51723** \$20.00 **78CH1327-6C OOP 1E**  
**Coverage:** Information related to digital computer simulation, including a wide range of applications and simulation languages.

**Software Engineering, 3rd International Conference on**, held May 10-12, 1978 in Atlanta, GA; sponsored by IEEE C, ACM and US NBS. *Proceedings* 341p. **LC 78-51707** \$25.00 **78CH1317-7C OOP 1E**  
**Sessions on:** Language and educational issues; software design and reliability; prospects for program verification; program analysis; formal analysis; human factors; system design; operating systems; testing; software portability; problems of the 1980's.

**Solid-State Circuits Conference, 1978 IEEE International (ISSCC)**, held Feb 15-17, 1978 in San Francisco, CA; sponsored by IEEE SC, IEEE Philadelphia Section, University of Pennsylvania, et al. *Digest of Technical Papers* 228p. **LC 59-44023** \$30.00 **78CH1298-9 SSC OOP 1A**  
**Coverage:** Broad scope of topical papers ranging from basic circuits to full sixteen-bit microprocessors on a single monolithic integrated circuit. Digital sessions report on 64Kbit RAMs, ROMs, and CCDs. Full sessions on monolithic filters and CODECs for telecommunications that represent emerging areas of IC applications.

**Subscriber Loops and Services, [3rd] International Symposium on**, held Mar 20-24, 1978 in Atlanta, GA; sponsored by IEEE COM, IEEE Atlanta Section, IEEE, et al. *Conf. Record* 248p. **LC 74-75944** \$20.00 **78CH1279-9 COM OOP 1C**  
**Coverage:** Examination of the systematic design of integrated digital networks, impact of new services and the development of cost effective tools and new technologies to permit reliable operation of expanded distribution systems.

**Trends and Applications 1977: Computer Security and Integrity Tutorial**, See Computer Security and Integrity, Tutorial on

**Vehicular Technology Conference, 28th IEEE**, held Mar 22-24, 1978 in Denver, CO; sponsored by IEEE VT and IEEE Denver Section. *Conf. Record—Technology on the Move*. 558p. **LC 74-156349** \$30.00 **78CH1297-1 VT OOP 1B**  
**Sessions on:** Automatic vehicle location systems; communications at 800 MHz; communications testing, techniques and interference; electric vehicles; electric propulsion and control; automated guideways transit; recent advances in automotive electronics; guided radio propagation; marine systems; regional communications center technology and operation; people movers.



## Special Issues

The special issues listed below have become available since the last issue of this Bulletin. Special issues devoted entirely to conferences are listed in the Conference Publications section.

**Digital Signal Processing; IEEE Transactions on Communications** Vol. COM-26 No. 5 May 1978 \$10.00 **JH42960**

**Coverage:** Processing of data for voiceband transmission; processing of signals for digital radio transmission; processing of visual signals; transswitchers, special terminals and techniques; TDM/FDM transmultiplexers.

**Electromagnetic Measurement Science; Proceedings of the IEEE** Vol. 66 No. 4 Apr 1978 \$10.00 **JH41970**

**Coverage:** Broad survey review/tutorial papers in electromagnetic measurements techniques, concepts, and applications; microwave measurements; interactivity of the computer in measurement systems; measurements involving newer science and technology; problems in measurements of fields and antennas.

**Fine Line Device Fabrication; (special section, p. 402-434) IEEE Transactions on Electron Devices** Vol. ED-25 No. 4 Apr 1978 \$10.00 **JH43174**

**Coverage:** Descriptions of the successful fabrication of fine line devices using advanced lithographic techniques; pattern generation techniques from the resist processing point of view; the process of examining and analyzing the completed device.

**Hybrid Technology; IEEE Transactions on Manufacturing Technology** Vol. MFT-6 No. 4 \$10.00 **JH40634**

**Scope:** Role and cost considerations of hybrid integrated circuits; dialog between a design engineer and a hybrid products engineer.

**Image Bandwidth Compression; IEEE Transactions on Communications** Vol. COM-25 No. 11 Nov 1977 \$10.00 **JH40006**

**Coverage:** Psychovisual properties of human vision and related coding techniques; adaptive algorithms for coding images; interframe coding of TV; color coding TV and color images; facsimile coding.

**Large-Scale Systems and Decentralized Control; IEEE Transactions on Automatic Control** Vol. AC-23 No. 2 Apr 1978 \$10.00 **JH42259**

**Scope:** State-of-the-art of theoretical and applied research in the field of large-scale system theory and decentralized control.

**Microprocessor Application; Proceedings of the IEEE** Vol. 66 No. 2 Feb 1978 \$10.00 **JH41954**

**Coverage:** Applications having a direct impact on the consumer: personal computing, programmable video games, automotive and biomedical applications; instrumentation; communications and control; the uses of integer arithmetic in microprocessor environments.

**Optoelectronic Devices and Circuits; Joint Special Issue published simultaneously as IEEE Transactions on Electron Devices** Vol. ED-25 No. 2 Feb 1978 \$10.00 **JH43158** and *IEEE Journal of Solid-State Circuits* Vol. SC-13 No. 1 Feb 1978 \$10.00 **JH44339**

**Coverage:** Overviews and current samplings of major technical activity in optoelectronics: input/output (imaging and display); optical communications technology (fiber-optics components and circuits); signal processing and transducers (infrared arrays, optical isolators, and new circuits utilizing these functions).

## IEEE Standards

**IEEE Std 368-1977 IEEE Recommended Practice for Measurement of Electrical Noise and Harmonic Filter Performance of High-Voltage Direct-Current Systems; Dec 29, 1977. 23p. \$6.00 SH07021**

**IEEE Std 592-1977 IEEE Standard for Exposed Semiconducting Shields on Premolded High Voltage Cable Joints and Separable Insulated Connectors; Nov 29, 1977. 7p. \$4.00 SH06916**

## IEEE Press

**Phase-Locked Loops & Their Application**, edited by William C. Lindsey, University of Southern California, and Marvin K. Simon, Jet Propulsion Laboratory. © 1978 431p. ISBN 0-87942-101-0 LC 77-073101 \$25.95 PC00984 A Book of Selected Reprints.

**Contents:** Basic Theory (Linear and Nonlinear); Acquisition; Threshold; Stability; Frequency Demodulation and Detection; Tracking; Cycle Slipping and Loss of Lock; Phase-Locked Oscillators; Operation and Performance in the Presence of Noise; AGC, AFC, and APC Circuits and Systems; Digital Phase-Locked Loop; Applications and Miscellaneous. A total of 37 reprinted papers.

## Supplementary Information

**Out-of-Stock Publications:** Xerox or microfilm copies of most out-of-stock publications may be obtained from the Engineering Societies Library, 345 East 47th Street, New York, N.Y. 10017; the Library will supply price information on request. Most IEEE Journal issues for 1975 and earlier years are available from Walter J. Johnson, Inc., 111 Fifth Avenue, New York, N.Y. 10003.

**Open Order Plan Subscriptions:** Automatic ordering of nonperiodical IEEE publications is available under an OOP (Open Order Plan). Please request brochure F-72 for details.

**Price information.** All prices listed in this Bulletin are nonmember prices. If you are an IEEE member, please consult listings in *IEEE Spectrum* for the discounted prices to which you are entitled, and mention your member number when ordering.

**Additional Copies of this Bulletin** are available, at your request, for circulation to technical personnel in your organization.

## How To Order

Payment must accompany all orders. (New Jersey residents add 5% sales tax.) Please specify publication title, the product number printed in boldface in the listings, price, and quantity desired. Send all orders to:

Published four times a year at: IEEE Headquarters  
345 East 47th Street  
New York, NY 10017

IEEE Service Center  
Dept. PB  
445 Hoes Lane  
Piscataway, NJ 08854

Managing Editor: Kaarin Kolbre  
Associate Editor: Irene Perry