IN THIS ISSUE . . .

President's Message 1

The Global System: Conditions . . . . . 2

Reference Models of Nations 6

Golf Biofeedback 14

Office Information Systems 21

Inside AESS: Society Constitution 27

Jackson Award Luncheon Remarks 29

Goddard Dinner Address 30

Goddard Essay Contest 30

NAECON '86 Tutorials 31

Letter to Editor 32

Foreign Technology Insert

ABOUT THE COVER . . .

EASCON '86, September 8-10 in Washington DC, is focussing on space. See pages 16 & 17 for more details.

IEEE AEROSPACE AND ELECTRONIC SYSTEMS SOCIETY

The Aerospace and Electronic Systems Society is a society, within the framework of the IEEE, of members with professional interests in the organization, design, development, integration and operation of functional systems for space, air, ocean or ground environments. These systems include, but are not limited to, navigation, avionics, spacecraft, aerospace power, radar, sonar, telemetry, defense, transportation, and command and control.

All members of the IEEE are eligible for membership in the Society and will receive this Magazine and the Transactions upon payment of the annual Society membership fee.

The Society Board of Directors, Officers, and its Committees will be found on cover 3.

EDITOR-IN-CHIEF Lee D. Dickey 1615 White Way Drive, Arlington, TX 76013, (817) 277-9992

ASSISTANT EDITOR — AESS Affairs Joseph F. Kasper TASC, 8301 Greensboro Dr., Ste 1000, McLean, VA 22102, (803) 734-4100 x262

ADMINISTRATIVE EDITOR David B. Dobson 6411 Chillum Place, NW, Washington, DC 20012, (202) 722-2246

CONTRIBUTING EDITORS

Careers Don C. Friedmann 4220 Falstaff Road, Baltimore, MD 21215, (301) 859-6007

Patents Ben J. Goldfarb Westinghouse, MS 1138, P.O. Box 746, Baltimore, MD 21203, (301) 765-2858

Military Systems Rick Kenefic 1001 Playford Lane, Silver Spring, MD 20901

New Horizons Paul J. Nahin 4603 Aboke Lake Drive, Ft. Wayne, IN 46804, (219) 429-5825

Research & Publications Steven Riter Dept. EE, Kingsbury Hall, Univ. NH, Durham, NH 03824, (603) 862-1357

USAB John J. Kelleher Dept. EE, Univ. Texas at El Paso, El Paso, TX 79902

EDITOR EMERITUS Ben J. Goldfarb 3717 King Arthur Road, Annandale, VA 22003, (703) 560-4438

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

Bruno O. Weinschel, President Cyril J. Tunn, Vice President, Educational Activities

Henry L. Bachman, President-Elect Carleton A. Bayless, Vice President, Professional Activities

Charles A. Eldon, Past President Charles H. House, Vice President, Publication Activities

Emerson W. Pugh, Executive Vice President Dennis Bodson, Vice President, Regional Activities

Michiyuki Uenohasha, Secretary John E. May, Director, Standards Activities

Edward J. Doyle, Treasurer Merlin G. Smith, Vice President, Technical Activities

HEADQUARTERS STAFF

Eric Herz, Executive Director and General Manager John F. Wilhelm, Staff Director, Educational Services

Elwood K. Gannett, Deputy General Manager Donald L. Suppers, Staff Director, Field Services

Thomas W. Bartlett, Controller Leo Fanning, Staff Director, Professional Activities

Donald Christiansen, Editor of IEEE Spectrum David L. Stauger, Staff Director, Publishing Services

Thomas C. White, Public Information Sava I. Sherr, Staff Director, Standards Services

Charles F. Stewart, Jr., Staff Director, Administration Services Irving Engelson, Staff Director, Technical Services

IEEE AEROSPACE AND ELECTRONIC SYSTEMS MAGAZINE is published monthly by The Institute of Electrical and Electronics Engineers, Inc., 345 East 47th Street, New York, NY 10017. Responsibility for the contents rests upon the authors and not upon the IEEE, the Society, or its members. IEEE Service Center (for orders, subscriptions, address changes), 445 Hoes Lane, Piscataway, NJ 08854. Telephones: Headquarters 212-705 ext. Information—7900, General Manager—7910, Controller—7748, Educational Services—7860, Publishing Services—7560, Region/Section Services—7751, Technical Services—7900. IEEE Service Center (212) 981-0000, Washington Office/Professional Services (202) 785-5000, NY Telex No. (212) 732-4929, Telex No. 236-411 (international messages only). This Journal is available in either microfiche or printed form. Additional copies may be purchased at $3.00 (first copy only) by IEEE members and $6.00 per copy by nonmembers. Annual subscription price: IEEE members, dues plus Society fee. Price for nonmembers available on request. COPYRIGHT AND REPRINT PERMISSIONS: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limits of U.S. Copyright law for private use of patrons: (1) those posts-1977 articles that carry a note at the bottom of the first page, provided the pre-copy fee indicated in the code is paid through the Copyright Clearance Center, 29 Congress St., Salem, MA 01970, (2) pre-1978 articles without fee. Instructors are permitted to photocopy isolated articles for noncommercial classroom use without fee. For other copying, reprint or republication permission, write to the Director of Publishing Services at IEEE Headquarters. All rights reserved. Copyright © 1986 by The Institute of Electrical and Electronics Engineers, Inc. Printed in U.S.A. Second-class postage paid at New York, NY, and additional mailing offices. Postmaster: Send address changes to IEEE Aerospace and Electronic Systems Society, IEEE, 445 Hoes Lane, Piscataway, NJ 08854. This publication was formerly known as the IEEE Aerospace and Electronic Systems Society Newsletter (USPS 212-506b) which was distributed to members only. Back copies of these issues are not available.