

# The 1975 International Microwave Symposium

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**T**HE 1975 IEEE S-MTT International Microwave Symposium was hosted by the San Francisco Chapter of MTT and held at Riekey's Hyatt House, Palo Alto, Calif., May 12-14, 1975.

Our theme, chosen in recognition of the expanding role microwaves are playing in every corner of our lives was "Microwaves in service to man." This theme was developed by organizing individual sessions covering current aspects of microwaves in the fields of communication, transportation, navigation, medicine, and earth resources. Traditional component areas were added including amplifiers, filters and control devices, as well as the newer technologies of computer-aided design and microwave acoustics. Additional topics included MIC's, noise, and microwave measurements.

The Symposium was attended by 630 registrants from the United States and around the world. Fully 30 percent of the 123 papers were delivered by foreign authors from 10 different countries giving our Symposium truly an international flavor.

Thirty-four industrial concerns displayed their technical competence and supported the conference by exhibit-booth purchases, digest listings, and coffee-break sponsorship.

The colorful circus-tent-type exhibit area lent an informal air for product demonstration. An additional 150 nonregistered attendees viewed the exhibits.

Several local firms generously provided time for the many committee members as well as secretarial assistance (see affiliations).

Our smooth-running Symposium was evidence of the untiring efforts of the Steering and Technical Program Committee members. We trust that all those who attended the outstanding technical program, interesting exhibit area, and complementary social functions will join us when we once again host the International Microwave Symposium here in Palo Alto.

## TECHNICAL PROGRAM

The technical program, as prepared and planned by the Technical Program Committee, consisted of 19 sessions including one evening panel session. A list of these sessions is as follows:

### Monday—12 May 1975

- Session 1:* Microwaves in Earth Sensing
- Session 2:* Microwaves in Communication
- Session 3:* Microwave Filters and Components I
- Session 4:* Microwave Generation & Amplification
- Session 5:* Microwave Measurements

*Session 6:* Microwave Filters & Components II

*Session 7:* Professional Action (Panel)

### Tuesday—13 May 1975

*Session 8:* Microwave Integrated Circuits

*Session 9:* Technology Forecasting (Panel)

*Session 10:* Microwave Diode Control Devices

*Session 11:* Computer Aided Microwave Practices

*Session 12:* Millimeter Wave Communications in Japan (invited session)

*Session 13:* Microwave Ferrite Control Devices

### Wednesday—14 May 1975

*Session 14:* Millimeter Wave Systems

*Session 15:* Microwaves in Medicine

*Session 16:* Noise in Microwave Transmission and Applications of Gunn/IMPATT Diodes (Panel)

*Session 17:* Reduction and Measurement of Noise

*Session 18:* Microwaves in Transportation and Navigation

*Session 19:* Microwave Acoustics and Delay Lines

The Technical Program Committee received 198 contributed papers from which it selected 123 papers for presentation at the Symposium. The program contained 31 papers from outside the United States. Countries represented were Japan, France, Canada, United Kingdom, Belgium, The Netherlands, Brazil, Italy, Switzerland, and Norway.

Since late papers were not listed in the program and could not be reported in the *Digest*, they are listed here by title and author.

"Solving the Approximation Problem for Narrowband Bandpass Filters with Equi-Ripple Passband Response and Arbitrary Phase Response," R. J. Wenzel (Wavecom, Northridge, Calif.).

"Technology Forecasting of Receivers in Systems Applications," S. Okwit (LNR Communications, Inc., Hauppauge, N.Y.).

"High Power," J. E. Grant (Hughes Aircraft Co., Torrance, Calif.).

"Microwave Computer Logic and the Future," B. T. Murphy (Bell Laboratories, Murray Hill, N.J.).

"Future Prospects for Submillimeter Waves," K. J. Button (M.I.T. National Magnet Lab., Cambridge, Mass.).

"Design Optimization of Millimeter-Wave PIN Diodes," M. D. Profirescu and R. A. Giblen (Dep. Elec. and Electron. Eng., Univ. College, London, England).

"Microstrip Varactor-Tuned Millimeter Wave Transmitter," B. Glance (Bell Laboratories, Holmdel, N.J.).

"SAW Band-Pass Filters with 60 to 80 dB Rejection in a Three-Transducer Configuration," R. M. Hays and R. B. Brown (Texas Instruments, Dallas, Tex.).

This was the first time that a separate invited foreign session was organized. The Tokyo S-MTT chapter chairman, Professor Shigebumi Saito of the Institute of Industrial Science at the University of Tokyo organized this session: *Millimeter Wave Communication in Japan*.

It was well attended and highly successful. Dr. K. Tomiyasu and Dr. R. W. Beatty worked with the speakers to help with their English presentations.

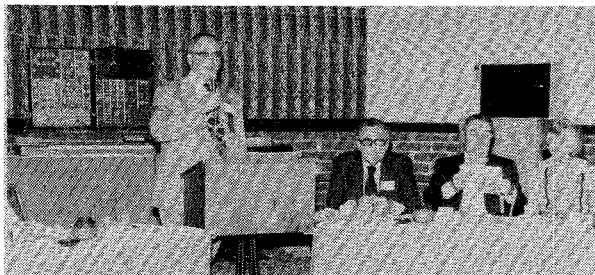
### SOCIAL FUNCTIONS

A Western-style steak barbecue prepared at the nearby Adobe Creek Lodge on Tuesday provided the large turnout with a festive evening.



*Barbecue Attendees:* Mr. & Mrs. Warren Cooper, Sallie and Jack Lepoff (members of Steering Committee) and John Guerrera.

Steering Committee Chairman E. Wesley Matthews welcomed the wives, members, and award recipients to this festive banquet.



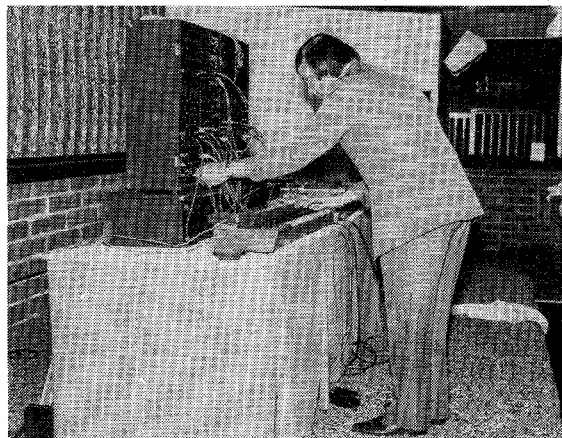
Chairman E. Wesley Matthews welcoming members to the banquet.

Following the dinner and awards, an unusual bit of entertainment was created by Professor Roy Pritts of the University of Colorado's School of Music, performing on the "MOOG Synthesizer."

An active and popular Lady's Program was organized by Ms. Sallie Lepoff with daily visits to scenic spots in San Francisco, Stanford University, and San Jose.

### DIGEST

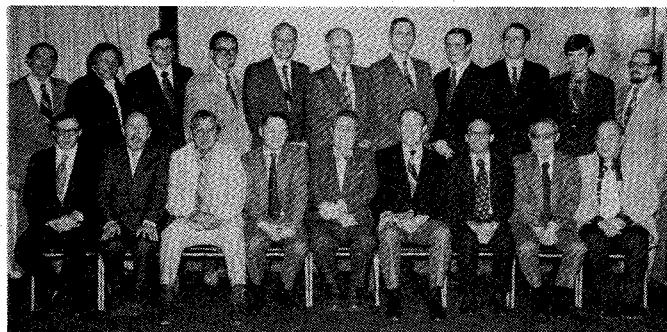
A 377 page *Digest* was ably planned, coordinated, and edited by Jack H. Lepoff. It may be obtained by sending \$20.00 for IEEE Catalog No. 75CH0955-5MTT to: IEEE, 445 Hoes Lane, Piscataway, N.J. 08854.



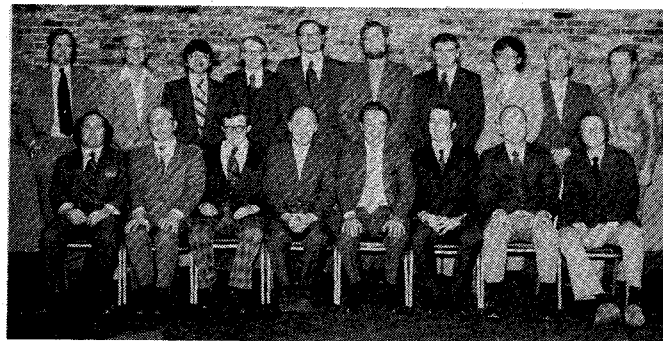
Professor Roy Pritts and the "MOOG Synthesizer."

### SUPPORTING COMMITTEES

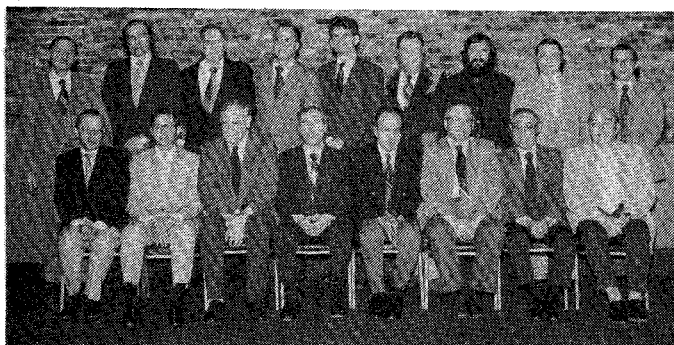
The membership of the AdCom, Technical Program Committee, and Steering Committee contributed many hours in the preparation and presentation of this Symposium. A special thanks in making this one of the outstanding annual meetings of our Society.



1975 S-MTT Administrative Committee. *Left to Right (Standing):* M. Caulton, N. Perner, L. Whicker, S. Adam, G. Oltman, D. B. Anderson, R. A. Sparks, D. Parker, L. Allen, R. Knox, K. Button. *Left to Right (Seated):* D. Wait, R. Beatty, A. Clavin, J. Degenford, W. Cooper, P. Rodrigue, H. Sobol, K. Tomiyasu, H. Stinehelfer.



1975 S-MTT Technical Program Committee. *Left to Right (Standing):* H. Taylor, G. Matthaei, H. G. Kuno, W. K. Kennedy, D. Adams, R. C. Williamson, L. Whicker, G. Chao, P. A. Szente, F. Ivanek. *Left to Right (Seated):* D. Leeson, R. Levy, D. Wait, R. Beatty, S. Adam (Chairman), L. Allen, E. G. Cristal, J. White.



1975 S-MTT Technical Program Committee (*continued*). *Left to Right (Standing)*: M. Caulton, C. Ryan, C. M. Veronda, B. Kulke, R. Hall, R. Ashley, P. Polson, H. Chait, J. Haylice. *Left to Right (Seated)*: H. Okean, J. Wiltse, L. Cuccia, M. Cohn, J. Taub, W. Matthews, K. Tomiyasu, H. Stinehelfer.



1975 S-MTT Steering Committee. *Left to Right (Standing)*: P. Lacy, D. Chambers, J. Lepoff, R. Ruttenberg, R. Bathiany, D. Messner. *Left to Right (Seated)*: S. Lepoff, D. Gray, W. Matthews (Chairman), S. Adam, L. Cuccia. *Not Present for Picture*: D. Parker, D. Weller, J. Stone, M. Waldman, D. Angelakos, B. Auld, C. Susskind, G. Hobbs, R. Snyder, J. de Koning.

### STEERING COMMITTEE

#### *Steering Committee*

*Chairman*: E. W. Matthews (Aeronutronics Ford).  
*Vice Chairman*: D. Parker (Stanford Research Institute).  
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*Vice Chairman*: L. Cuccia (Aeronutronics Ford).

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 D. Chambers (Hewlett-Packard Co.).

#### *Digest Editor*

Jack Lepoff (Hewlett-Packard Co.).

#### *Publicity*

R. Ruttenberg (Kruse Electronics—Div. of Systron Donner).

#### *Finance*

D. Messner (Aertech—Div. of TRW Systems).

#### *Exhibits and Digest Listing*

D. Weller (Hewlett-Packard Co.).  
 J. Stone (Jay Stone Assoc.).  
 M. Waldman (Waldman Assoc.).

#### *Social Program*

S. Lepoff

#### *Members at Large*

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 Bertram Auld (Stanford Univ.).  
 Peter Lacy (Wiltron Co.).  
 Charles Susskind (Univ. California, Berkeley).

### TECHNICAL PROGRAM COMMITTEE

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#### *Vice Chairman:*

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G. Chao  
Tektronics Inc.  
Beverton, Oreg.

B. Kulke  
Univ. California

## MTT Awards for 1974

JOHN B. HORTON

**T**HE highlight of the 1975 annual MTT Symposium banquet was the presentation of MTT Society Awards and IEEE Awards for 1974. MTT President H. W. Cooper presented the Society awards to:

Harold A. Wheeler—Microwave Career Award  
Charles A. Liechti }  
Robert L. Tillman }—Microwave Prize  
Dean F. Peterson, III—Microwave Application Award  
Philip H. Smith—Special Microwave Application Award  
Seymour Okwit—National Lecturer Plaque

IEEE Past President J. J. Guarrera (1974) presented the IEEE Awards to:

Bernard C. DeLoach, Jr.—1975 David Sarnoff Award  
Gordon R. Harrison }  
George P. Rodrigue }—IEEE Fellow Grade Certificates

Information about the awards, biographies of the award recipients, and photographs of the presentation of the awards follow.

### MTT SOCIETY AWARDS

#### *Microwave Career Award*

The Microwave Career Award is presented aperiodically to an individual for a career of meritorious achievement and outstanding technical contributions in the field of

microwave theory and techniques. Harold A. Wheeler received the 1974 Microwave Career Award for his many contributions during his career which began in 1925 with his graduation from George Washington University and extends to his present position of Chairman of the Board of Hazeltine Corporation, L. I., N.Y. As can be seen from his biography, he has been one of the truly outstanding contributors to the microwave field. Dr. Wheeler received a certificate, a plaque, and a cash sum of \$500. A photograph of his certificate and plaque, and his biography are shown.

