



## COMMUNICATIONS TECHNOLOGY GROUP

Number 4 Volume I

June 1965

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NEWSLETTER FUNCTION

This NEWSLETTER is published Quarterly for the Administrative Committee of the IEEE Communication Technology Group, and serves as a vehicle for the dissemination of news items of current importance and interest to members of the COMTECH Group.

Technical Committees and other operating elements of the Group are invited to use this publication as its NEWSLETTER.

Items covering Committee, Chapter, Call for Papers, Meetings, Personal and Professional, and other appropriate news are solicited and should be submitted to the Editors as follows:

General News, Committee Activities, etc.

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THE DEADLINE FOR THE SEPTEMBER 1965 ISSUE WILL BE:

August 1st. All items must be submitted prior to this date.

This issue is published early due to the Communications and GLOBECOM VII convention to be held in Boulder, Colorado, June 7 thru 9. The program and pertinent details concerning this meeting are included in this NEWSLETTER for the benefit of all members. This is THE important meeting of all communicators for 1965. On behalf of the Administrative Committee, we urge you to attend and provide your support.

This is the last issue of the NEWSLETTER for the 1964-65 IEEE season. We have endeavored to bring all members news and pertinent information concerning activities of the Group. Special emphasis has been placed upon the program of Group Events on the national, regional and local scene. We have distributed copies to subscribers of Communications and Electronics in order to inform those members of Group activities during the merger period. We hope they will join our Group and actively participate in its activities.

The IEEE International Convention held in New York the latter part of March was given extensive support by the ComTech Group. A substantial number of technical sessions were sponsored. Volumes 1 and 2 of the Convention Record contain many of the papers presented. Copies of these publications can be ordered directly from IEEE Headquarters. The meeting was highlighted by a panel moderated by Lieut. Gen. (Ret.) James D. O'Connell, Director of Telecommunications Management, Office of Emergency Planning and Special Assistant to President Johnson for Telecommunications. The topic, The World of Communications included discussions by leaders of Airline, Electrical Utility and Transportation Industries concerning their future communication requirements. Those who attended can clearly foresee a bright future for the communications industry.

The COMTECH Administrative Committee and several of the Technical Committees met during the Convention. The September issue of the NEWSLETTER will report details of these meetings.

Chairman R. K. Hellman and Vice Chairman W. Jones were re-elected as AdCom members and Chairman and Vice Chairman respectively. The complete AdCom and Standing Committee roster will be published in the next NEWSLETTER.

INCREASE IN DUES

In accordance with action taken by the Administrative Committee, the membership dues of the Communication Technology Group will increase to \$5.00 effective July 1, 1965 (present dues are \$4.00 per year). This action was necessary in order to continue the high quality services the Group provides. Technical items are published in the TRANSACTIONS while general Group and chapter news are announced in this NEWSLETTER. Both publications are issued quarterly. The Group sponsors an annual Communication Convention which provides a meeting place for communications oriented engineers. Additionally, other important meetings, symposia and activities are supported. \$5.00 is indeed a nominal amount for the privilege of belonging to, supporting, and receiving benefits from an organization representing one of the most important technological areas of our times.

COMMITTEE REPORTS

WIRE COMMUNICATION COMMITTEE

Chairman: W. C. Burnett, Southern Bell Tel. & Tel. Co., Atlanta, Ga.

The three technical sessions of the Wire Committee at the International Convention in New York in March drew a total attendance of 679 (audited figures from the doormen). The most popular session was the one on impulse noise; it attracted 309 engineers.

Forty committeemen and visitors attended the business meeting of the committee. Membership chairman Bill Roberts reported that well over half of the committee members are now members of ComTech; he will continue his efforts to improve this figure.

Reports were made by the task forces of the Wire Committee.

1. Telephone Instrument Testing: Fred Andrews shortly will seek formal approval of the new standard from all members of the committee.
2. Carrier Frequency Coordination: Jim Eppes will prepare a final report, which will be a paper at the NEC in October.
3. Longitudinal Balance Methods: Joe Petrie has organized a task force of about 12; another panel discussion will be held at the NEC.
4. Education and Training: Ben Jeremiah has accepted the assignment of organizing a task force, which will hold its first meeting at Boulder in June. The committee will meet in Boulder on June 7. The Wire Communication technical program at Boulder will be 2 sessions of 8 papers on new developments.

SPACE COMMUNICATION COMMITTEE

Chairman: J. L. Jatlow, ITT Federal Laboratories, Nutley, N. J.

The Space Communication Committee has been very active this year in sponsoring sessions at the IEEE technical conventions. At the International Meeting in New York, it sponsored two sessions. For the First IEEE Annual Communications Convention, it is sponsoring five sessions and also co-sponsoring one panel discussion. For the National Electronics Conference in Chicago in October 1965, the Committee is sponsoring a panel discussion on "Multiple Access as Related to Communication via Satellite Repeaters."

J. L. Jatlow, having served as Chairman for the last year and one-half, is now turning over the reins to C. Mannal who will be Chairman effective July 1, 1965.

1966 IEEE COMMUNICATIONS CONFERENCE

Plans are now being formulated for the 1966 IEEE Communications Conference to be held in Philadelphia, Pa. June 15-17, 1966. The meeting will be the second annual conference to be held by the Communications Technology Group. This conference will have the joint sponsorship by the Philadelphia Section and the University of Pennsylvania, and several other IEEE Groups will present sessions.

The Conference is under the General Chairmanship of Mr. W. H. Forster.

The aim of the Conference is comprehensive coverage of all phases of communications - from theory and research, through development, manufacture, and operation of new systems. It is the objective of the technical program to provide continuity of sessions for engineers and scientists with specialized or general interests in communications. The significance to communications of computers will be highlighted by the participation of the GC.

The Technical Program Committee is interested in hearing from potential authors. Please address suggestions for topics and authors to the Technical Program Chairman, A. E. Joel, Jr., Bell Telephone Labs., Room 2G-330, Holmdel, N. J. 07733.

This will be the only IEEE Conference for 1966 devoted exclusively to communications. High quality papers on all phases of communications are being solicited by the ComTech Group Technical Committee and the participating Institute Groups.

CHAPTER'S COMMITTEE REPORT

There are now officially 25 ComTech Chapters. New York (Metropolitan), Orlando, and Southeastern Michigan have been added to the list in our March issue.

COMTECH CHAPTERS

Baltimore (Inactive)	New York (Metropolitan)
Boston	North Jersey
Canaveral	Oklahoma City (Inactive)
Chicago	Orlando
Connecticut	Philadelphia
Dallas	San Francisco
Denver-Boulder	Seattle
Florida West Coast	Southeastern Michigan
Long Island	Syracuse (Inactive)
Los Angeles (Metropolitan)	Toronto
Mohawk Valley	Twin Cities
Monmouth	Washington, D. C.
Nebraska	

POTENTIAL CHAPTERS

Roger McSweeney, Chairman of the Chapters Committee, IEEE G-ComTech, 67 Broad Street, New York 4, N. Y. would like to hear from individuals who are interested in forming Chapters in the following sections:

Montreal	San Gabriel
Princeton	Santa Monica Bay
San Fernando	Tokyo

Mr. McSweeney reports that interest in forming new Chapters has been initiated in Birmingham, Phoenix, Pittsburgh, Rochester and Providence.

For those of you residing in the Providence area, contact Prof. Richard F. Hill of the Dept. of Electrical Engineering at the University of Rhode Island in Kingston. He would like to hear from individuals connected with the U. S. Navy Underwater Sound Laboratory at New London, Conn.; Raytheon ASW Plant at Portsmouth, R. I.; USN Underwater Ordinance Station at Newport, R. I.; Brown University and other organizations in the Kingston-Providence area.

Roger McSweeney further reports that one of the happiest events of the year was the revival of our Los Angeles Chapter by Mr. W. L. Bacon. The Southern California Sections of Orange City, San Fernando Valley, and Santa Monica Bay each also have sufficient ComTech members to support Chapters and they should be fertile fields for further organizational efforts.

Conversion of the former C-E Division of the New York Section into a ComTech Chapter was another notable event during the past year. We now have Chapters in all large metropolitan centers that have over 50 ComTech members with the exception of Tokyo (86 members) and Montreal (72 members). We would like to organize Chapters in those two cities.

Chapters having more than 100 members as of Dec. 31, 1964 are as follows:

	Members
Washington, D. C.	448
New York (Metropol.)	413
North Jersey	309
Boston	300
San Francisco	291
Philadelphia	249
Chicago	169
Long Island	153

CHAPTER REPORTS

<u>Baltimore</u>	Inactive
<u>Boston</u>	No activity reported
<u>Canaveral</u>	No report

Chicago

No activity to report

Connecticut

No report

Illinois

No report

Denver-Boulder

The big news here is the forthcoming IEEE Annual Communications Convention to be held June 7-9 in Boulder. Everyone is looking forward to a very excellent and comprehensive technical program, supplemented by an interesting line-up of social events, tours, etc. The Advance Program will be mailed to about 30,000 on approximately April 5. Hopefully, many will combine this Convention with a family vacation; there will be plenty of things planned for the family (mountain trips, etc.) to keep them occupied while the conferences are in session.

On Tuesday, March 2, a meeting was held at the University of Colorado in Boulder. Dr. Wm. M. Brown, from the University of Michigan and The Institute of Science & Technology at An Arbor, Mich. was the Speaker discussing the subject of "Least Squares Optimization of Radar and Communication Systems." Dr. Brown (M'57) was born on Feb. 14, 1932, in Wheeling, W. Va. He received the BSEE degree in 1952 from the University of West Virginia, and the MSE degree in 1955 and D. Eng. degree in 1957 from the Johns Hopkins University.

From 1952 to 1954, he worked in the Air Arm Division of Westinghouse. During 1954 to 1957, he was at the Johns Hopkins Radiation Lab., where he was a project leader in electronic countermeasures. He worked for a year at the Institute for Defense Analyses, Washington D. C., and taught at George Washington University. Since 1958, he has been with the University of Michigan where he is an associate professor in electrical engineering and acting head of the Radar Laboratory.

In the discussion, a mathematical model for radar and analog communications was developed. The model involved complex representation of the signals and complex parameter filters. Optimum receivers and optimum prefilters were discussed. The least squares optimization was extended by considering conjugate linear as well as linear forms; the role of phase lock in such systems was studied. Finally, nonlinear receivers and nonleast squares criteria were discussed, and basic results on the estimation of nonlinear transformations of Gaussian signals were given. Such nonlinear transformations correspond to modulations which we wish to communicate; e. g., the amplitude, phase, or frequency of a signal amounts to a nonlinear transformation of the signal, and we derive optimum nonlinear receivers for such modulations.

On Monday, April 19, Dr. Norman Abramson from the University of California at Berkeley discussed "Detection and Estimation in the Presence of Spatially Correlated Noise." Dr. Abramson received his AB in Physics from Harvard (1953), MA in Physics from UCLA (1955) and Ph. D. in EE from Stanford (1958). Since 1955, he has been with the Stanford EE Department, where he is an Associate Professor. As of January, 1965, he is on leave as a visiting professor at Berkeley.

His researches in coding, information theory, and general statistical communications are numerous and well known. He is the author of a book, "Information Theory and Coding" by McGraw-Hill Book Co., N. Y. (1963) and he serves as the editor of the Holden-Day series on Communication and Information Processing. Member of SIAM, Commission VI of URSI, and AdCom Chairman of the IEEE Information Theory Group. His talk will discuss the properties of arrays of sensors or "spatial matched filters" which may be used for both signal detection and parameter estimation. In particular, the directivity of such arrays will be derived and shown to depend not only upon the array configuration, but also upon the spatial correlation of the noise and the signal autocorrelation.

Florida West Coast

No report

Long Island

Mr. Walter Arndt has been appointed Secretary Treasurer of the chapter, replacing Dr. W. Miller, who had to resign for medical reasons.

On Feb. 17, 1965, a meeting was held at the Long Island Graduate Center, Polytechnic Institute of Brooklyn. This meeting, addressed by Prof. Mischa Schwartz, Head of the Elec'l Engr. Dept., Polytech

Inst. of Bklyn. was attended by 25 members of the Long Island Chapter.

The talk covered two areas of current interest:

- 1) Application of Hilbert transform techniques to problems in single sideband transmission and reception, and to the narrowband representation of signals and noise;
- 2) Applications of the concept of abstract vector spaces to optimum demodulation of analog signals in the presence of randomly fading media were demonstrated.

A question-and-answer period followed the formal part of the meeting.

Los Angeles

The Chapter has been revived by Larry Bacon assisted by Russ Mackay, D. H. Potter, J. B. Orton, J. G. Mosley and S. N. Shepherd.

A technical meeting was held on Jan. 5, 1965 at which Mr. Roy O'Dien of the Pacific Telephone & Telegraph Co. spoke on Electronic Switching (PABX) System. Eighty-five engineers attended the talk.

Another technical meeting was held on Feb. 2, 1965 at which Mr. P. I. Welch of the Pacific Telephone & Telegraph Co. spoke on Network Systems (Dedicated). Eighty-two engineers attended the talk.

A technical meeting on the ETV System engineered by California Interstate Telephone Co. took place on March 2nd. Mr. M. R. Hartsock from Calif. Interstate Tel. Co. was the speaker.

Mohawk Valley

No report

Monmouth

In January, Alfred Mack, Mgr. of Systems Engineering Activity for RCA, N. Y. Systems Lab. presented a talk on "Asynchronous Multiplex Principles" at the joint meeting of the Monmouth Chapter G-ComTech and the Monmouth Subsection, N. Y. Chapter, IEEE. Mr. Mack summarized general types of asynchronous multiplex, and discussed coding, decoding, processing gain and graceful degradation. He also covered parametric relations among signal to noise performance, numbers of simultaneous transmissions and bandwidth.

Mr. Martin Masonson, Senior Staff Scientist of the RCA N. Y. Systems Lab. presented a paper on "System Adaptive Techniques" at the local chapter meeting held in April. Mr. Masonson presented the results of a study for the Defense Communications Agency applicable for the DCS in the 1975 time frame. Major emphasis was on adaptive diversity systems for HF data and anti distortion systems for land-line circuits. Of particular interest was means for achieving bit error rates of one in one million or less in sustained operations on long haul circuits built up of land-line, HF, and submarine cable connections. Data rates of interest were 2,400 bits per second in 3 to kc channels and 38,400 bits per second in 48 kc channels.

Nebraska

No report

New York

No report

North Jersey

Mr. Wm. E. Bloecker, International Systems Engineer at the AT&T Co., was the speaker at the April meeting. Mr. Bloecker traced the evolution of the International Telecommunications Union (ITU) from a bilateral agreement between two European states to regulate telephone traffic into its world-wide scope embracing all the methods of telecommunications.

The organization of the ITU, its purpose, its method of work and its accomplishments were discussed. Also treated was the importance of its operations to the Communications Common Carriers of the United States in establishing world-wide communications and the role played by these carriers in its achievements.

The nominating committee consisting of I. R. Coggeshall, T. H. Crowley, and R. McSeeny proposed the following slate of chapter officers for the year beginning July 1, 1965:

Chairman A. Roetken  
Bell Telephone Labs. Inc.

Vice Chairman J. Harvey  
Sichak Associates

Secretary G. Halder  
Bell Telephone Labs. Inc.

Financial & Facilities Officer F. Westheimer  
ITT Communications Systems

On January 19, Mr. W. S. Alberts, Vice President of DECO discussed the subject of "VLF Communications Systems."

Oklahoma City  
Inactive

Orlando

The IEEE Executive Committee at its meeting on Nov. 18, 1964 approved the establishment of a Chapter in the Orlando section.

Officers are:

Chairman - Charles W. Finnigan, Martin  
Vice Chairman - Thos. J. Rudd, Southern Bell  
Secretary Treasurer - Austin O. Roche, Dynatronics

The first technical meeting will be held April 7th presenting a paper entitled: "REDUCTION OF PULSE ERROR RATES IN PULSE POSITION MODULATION SYSTEMS" . . . . by M. J. Wiggins.

Philadelphia

The next meeting will be held on Monday, April 19, at the University of Pennsylvania. The subject will be "VHF Pipeline System for a Petroleum Company in Columbia, South America."

Election of officers was held and the incoming Chairman is Mr. M. K. Wilder from RCA.

San Francisco

On Wednesday, March 31, 1965, Mr. George Rezos, Supervising Engineer-in-Charge of Communications, State of California, opened his talk on the state's communications systems by outlining the needs of the system and how they were being met.

By the use of slides, Mr. Rezos gave a vivid description of how the California Highway Patrol communicates when apprehending law violators. He described how the highway maintenance crews are able to keep in close touch with snow removal equipment, trucks, etc. In addition, mobile radio systems are used extensively by the forest service, especially by crews fighting forest fires. There are 85 base stations and 18 mobile relays in one area alone. This district covers six southern California counties.

Microwave radio is another remarkable aspect of the States Communications System. There are 19,000 channel miles on 2,300 route miles.

During the question and answer period several points of the talk were covered in more detail.

Forty-one were in attendance at the "Meet the Speaker" dinner, which was held at Rod's Frontier Restaurant. There were 77 in attendance at the meeting, held in the Pacific Telephone Co. Auditorium, 140 New Montgomery Street, San Francisco, Calif.

In the absence of Owen E. Thompson, Chairman, Fred Beale conducted the meeting. He announced that the nominating committee has chosen a slate of officers for the coming year. Members can expect their ballots in the mail within two or three weeks.

Seattle

No report

Southeastern Michigan

The IEEE Executive Committee at its meeting on Feb. 13, 1965 approved the establishment of the Southeastern Michigan Chapter.

Donald H. Ebert served as chief organizer and is first chairman of the new Chapter. Fred Bauer and Richard Maslowski are Vice Chairman and Secretary, respectively.

Syracuse

Inactive

Toronto

No report

Twin Cities

Dr. Jan A. Narud was the speaker at the Communication Technology sponsored Section Meeting, Tuesday, March 16, at the Curtis Hotel.

Dr. Narud is director of Integrated Circuits Research and Development, Motorola Semiconductor Products, Inc., Phoenix, Arizona, and his talk will be on "Some Reflections on Microelectronics."

The current impact of microelectronics on communications systems has only recently received added impetus through drastic price reductions and stepped up production, and the result is an acceleration of their use in present generation equipment designs. Dr. Narud reflects on microelectronics, with special emphasis on the various requirements in the communications field. Latest microminiaturized communications circuits are explored, and many of the factors which affect their cost and performance are presented in light of the most recent technological advances.

Washington

No report

NATCOM XI CALL FOR PAPERS

NATCOM XI will be held in mid-October, 1965. The Mohawk Valley IEEE Section and Region I will sponsor this well recognized and honored symposium. Persons interested in presenting papers and organizations planning exhibits are requested to contact the General Chairman who is:

E. William Morris  
General Electric Co.  
Utica, N. Y.

Authors are requested to submit 500 word summaries prior to June 30, 1965. In accordance with past fields of interest, subjects on communication systems and technology are invited for presentation. A symposium Record will be distributed at the meeting. The Program will be announced in the September issue of this NEWSLETTER.

The Editor wishes to thank Mr. Richard C. Benoit, Chairman, Board of Governors of the Symposium, for providing this information.

FIRST IEEE ANNUAL COMMUNICATIONS CONVENTION TO BE HELD JUNE 7-9, 1965, IN BOULDER, COLORADO

The First IEEE Annual Communications Convention, covering all aspects of communications technology, will be held June 7-9 in Boulder, Colorado. This convention, initiated by the IEEE Communication Technology, is expected to provide a major annual interchange of information on theory, methods, and measurements among the several communication disciplines. In addition to the Communication Technology Group, other active organizers and participants include the IEEE Groups on Information Theory, Audio, and Space Electronics/Telemetry. The convention, which is being hosted by the University of Colorado and the Boulder Laboratories of the National Bureau of Standards, is really three conferences in one, including in addition to some 30 General Sessions, the 7th International Symposium on Global Communications (GLOBECOM VII) and an Information Theory Symposium. Convention Highlights include the following:

- \* GENERAL SESSIONS: Sponsored by the various Technical Committees of the Communication Technology Group and by the Audio and Space Electronics/Telemetry Groups, these sessions will cover the complete breadth of communication technology. Fields of interest include Communication Systems, Radio Communications, Space Communications, Communication Switching, Wire Communications, Data Communications and Telegraph Systems, Telemetering, Audio, and Space Electronics/Telemetry.
- \* GLOBECOM VII: This symposium, with the theme this year of "Channel Characterization and Adaptive Communication Techniques," will deal extensively with methods of describing, measuring and interpreting the characteristics of communication channels, and with techniques for adapting to these characteristics. Tutorial sessions covering the entire range of radio and wire communication channels will be offered, including a panel discussion on the symposium theme.
- \* INFORMATION THEORY SYMPOSIUM: Theme for this symposium is "Time Varying Channels," which closely parallels and complements the GLOBECOM VII theme. The emphasis here, however, will be directed more to the information theory aspects of such channels, rather than descriptions of the channels themselves. In addition to the more familiar radio and wire channels, special sessions on Underwater Channels and Seismic Channels will be presented. A panel discussion on Communication Systems with Adaptive and Learning Features will be held Monday evening.
- \* PROCEEDINGS AND PREPRINTS: Each registrant will receive a copy of the Convention Record, incorporating either complete copies or digests of papers presented at the Convention. In addition, individual preprints of papers may be purchased at the Convention or from IEEE Headquarters following the Convention. Post-conference copies of the Record will be available from IEEE Headquarters at a cost of \$10.00.
- \* SOCIAL EVENTS: An active social program has been planned for both attendees and families. In addition to the Convention Banquet and Social Hour, an informal Chuckwagon dinner on Flagstaff Mountain and a number of tours to points of interest in the "Colorful Colorado" countryside have been arranged.
- \* EXHIBITS: A list of presently scheduled exhibitors is given below. A number of additional exhibits are expected prior to the exhibit deadline of May 1, 1965. Persons interested in exhibit space should contact the Exhibits Chairman prior to this date.

GENERAL INFORMATION

Travel Arrangements

Boulder is located 27 miles northwest of Denver, to which it is linked by an express turnpike. Denver is served by several major airlines, railroads, and bus lines. In addition to regular bus service from downtown Denver (45 minute trip), direct service from Stapleton International Airport is available at selected times.

Registration

Registration fees for the convention have been established as follows:

	Advance	Regular
IEEE Members	\$14	\$15
Non-Members	17	18
Students	2	2

Advance registration may be accomplished by sending the required fee to the following office, postmarked not later than May 29:

Bureau of Continuation Education  
University Memorial Center  
University of Colorado  
Boulder, Colorado 80304

Regular registration, as well as check-in for advance registrants, will be held in the lounge of Kitteredge Commons, University of Colorado, from 2 to 8 PM on Sunday, June 6 and at the University Memorial Center on Monday, June 7 beginning at 7:30 AM.

Accommodations

University Residence Halls

Rooms and meals will be available in the University of Colorado Residence Halls on a first come first served basis. Registration for these rooms should be made early to assure accommodations.

Rates for a room on Sunday, Monday, and Tuesday evenings and meals from Monday breakfast through Wednesday noon lunch, but excluding dinner on Tuesday evening are as follows: Single room (limited) \$25.00 per person, Double room \$20.00 per person. Corresponding rates for children 12 years and under are \$22.00 and \$17.00 respectively. Persons desiring to remain through Wednesday night may make such arrangements (at additional cost) during final registration.

Motels & Hotels

Several of the motels and hotels in Boulder have set aside large blocks of rooms for persons who plan to attend the convention. You should make your own reservations. Sending the first night's room charge will assure reservations in case of late arrival. Please identify yourself with the IEEE Convention to assure accommodations! **Make Your Reservations Early!**

Family Activities

Tours - Various tours to points of interest and scenic attractions are planned during the Convention (see Social Events Schedule). Persons desiring to take these tours are advised to register early as participation is limited. All tours will depart from the University Memorial Center. In addition, information concerning conducted tours, private trips, or other activities will be available at the information desk.

Swimming, Tennis, Playgrounds - Two new Boulder public swimming pools will be open during the Convention. Visitors are welcome and charges are nominal. University tennis courts are free. Boulder has several excellent public parks and playgrounds which are easily accessible from the University area.

Camping and Picnicking - Boulder is nestled close to the front range of the Rocky Mountains. Numerous camping and picnic sites are available in nearby Boulder Canyon, as well as in the Boulder Mountain Park, national forests, and Rocky Mountain National Park. It is still chilly at night in the mountains at this time of year. Heavy clothing and warm sleeping gear are advised.

Hiking & Horseback Riding - Several riding stables are located in and around Boulder. Riding and hiking trails lead to scenic areas, many in the Boulder Mountain Parks area adjacent to the city.

Indoor Entertainment - While the emphasis is on outdoor activities, a number of fine restaurants, theatres, amusement parks, etc. are located in the Denver/Boulder area. A list of such entertainment will be available at the information center during the convention.

CALENDAR OF EVENTS

Convention Schedule

Sunday, June 6

2:00 PM - 8:00 PM Registration & Information, Kittredge Commons, University of Colorado

Monday, June 7

7:30 AM - 6:00 PM Registration & Information, University Memorial Center

9:00 AM - 12:00 Noon Group I Technical Sessions

2:00 PM - 5:00 PM Group II Technical Sessions

6:00 PM - 8:00 PM Mile-Hi Social Hour

8:00 PM - 10:30 PM Information Theory Panel Discussion

Tuesday, June 8

9:00 AM - 12:00 Noon Group III Technical Sessions, GLOBECOM VII Tutorial Session-A

2:00 PM - 5:00 PM Group IV Technical Sessions, GLOBECOM VII Tutorial Session B

6:30 PM - 9:00 PM IEEE Banquet (University Memorial Center)

Wednesday, June 9

9:00 AM - 12:00 Noon Group V Technical Sessions

2:00 PM - 5:00 PM Group VI Technical Sessions

Social Schedule

Monday, June 7

10:00 AM - 12:00 Noon Ladies Welcoming Coffee, West Ballroom and the Alumni Hall, University Memorial Center.

1:00 PM - 5:30 PM Tour to Martin-Marietta. Fifteen minute briefing followed by tour of production facilities, showing assembly of Titan III launch vehicle.

1:00 PM - 5:00 PM Tour of NBS. Conducted tour of National Bureau of Standards, Boulder Laboratories.

6:00 PM - 8:00 PM Mile-Hi Social Hour. Partially industry sponsored, at the new Boulder Country Club on Gun Barrell Green.

8:00 PM - 9:30 PM Flute Quartet Recital. Auditorium in the Music Building, CU Campus.

Tuesday, June 8

7:00 AM (9:00 AM Eastern Time) - 3:00 PM Air Force Academy Tour. Full dress graduation parade, followed by 20 minute air show, if weather permits. Inspection of grounds after show. Cost of lunch at AFA cafeteria is not included in tour price.

9:00 AM - 3:00 PM Tour to Estes Park. Family outing in this Rocky Mountain National Park village. Price includes lunch at the Gartner Haus.

1:00 PM - 5:00 PM Tour of NBS. Conducted tour of National Bureau of Standards, Boulder Laboratories.

6:30 PM - 9:00 PM IEEE Banquet. The main social event of the convention, at the University Memorial Center. Entertainment by The Taylors Three.

Wednesday, June 9

8:30 AM - 12:30 PM Tour to Brainard Lake. Excursion via Boulder Canyon and Peak-to-Peak Highway to Brainard Lake.

1:30 PM - 5:00 PM Escape to Coors. Bus tour to brewery in Golden. See pure Rocky Mountain spring water turn into free samples.

2:00 PM - 4:00 PM Ladies Tour of NBS. An open house at the National bureau of Standards Boulder Laboratory.

6:00 PM - 8:00 PM Chuckwagon Dinner. A western feed atop Flagstaff Mountain overlooking Boulder. A family activity for people staying overnight.

Technical Program

Sessions are identified by category (i. e., G for General Sessions, IT for Information Theory Symposium, and GC for GLOBECOM VII Symposium); by session period (1 = Monday AM, 2 = Monday PM, 3 = Tuesday AM, etc.); by an identification letter (A, B, C, etc.); and parenthetically by sponsoring Group or Technical Committee, e. g. (Communication Systems).

Monday, June 7

9:00 AM - 12:00 Noon

G-1A Error Control I (Communication Systems)

Session Chairman: G. W. Gilman  
Bell Telephone Labs  
463 West St.  
New York 14, New York

"Coding Concepts for Error Control"  
Robert G. Gallager, MIT

"Communication Channel Attributes as Related to Error Control"  
S. Sussman, ADCOM, Inc.

"Comparison of Various Error Control Techniques"  
A. H. Frey, Jr., IBM

"Time-Spread Coding and its Effectiveness in Transmission over Real Channels"  
A. E. Fein, R. M. Heller, R. G. Marquart, and P. G. Rankin, Westinghouse Electric Corp.

G-1B Visual Communications-Displays (Communication Systems)

Session Chairman: William P. Bethke  
Rome Air Development Center  
Griffiss Air Force Base  
Rome, New York

"Current Type Displays"  
Carlo P. Crocetti, RADC

"Considerations Influencing Display Selection"  
Edmund J. Kennedy, RADC

"Display Organization"  
Anthony Debons, University of Dayton

"User Requirements"  
Herberg Goertzel, Defense Communications Agency

"Influence of Command and Control Display Requirements on Industry and Civilian Benefits"  
Sol Sherr, Sperry Gyroscope

G-1C Space Communication Systems (Space Communications)

Session Chairman: J. L. Jatlow  
ITT Federal Laboratories  
Nutley 10, New Jersey

"Aids for the Gross Design of Satellite Communication Systems"  
G. M. Northrup, Rand Corp.

"Communication System for a Manned Orbital Research Laboratory"  
E. I. Muehldord & R. L. Simis, IBM

"The Quality and Capacity of the FDM/FM Satellite Communication Link"  
G. Frenkel, System Sciences Corp.

"Report of Communication Experiment Conducted with Echo II Satellite"  
H. L. Eaker, Goddard Space Flight Center & J. Ford, Collins Radio Corp.

G-1D Wire Communications I (Wire Communications)

Session Chairman: Alan Culbertson  
Lenkurt Electric Company  
San Carlos, California

"Time Division Hybrids for Telephone Transmission"  
H. E. Feder, Bell Telephone Labs

"A Rapid Method of Determining the Proper Delay Equalizers for Telephone Circuits"  
A. H. Luyken and K. M. Miller, General Telephone Co. of California

"A Review of the Factors Affecting System-Loading Frequency-Division Multiplex Carrier Systems"  
Neal A. Zellmer, Lenkurt Electric Co.

"A New Approach to Telephone Multiplex Carrier Supply Design"  
J. E. Dewar, Northern Electric Company Ltd.

G-1E Data Communications/Telegraph Systems I (Data Communications/Telegraph Systems)

Session Chairman: W. G. Vieth  
Western Union Telegraph Co.  
60 Hudson St.  
New York 13, New York

Program detail not available at time of publication.

G-1F

Telemetry (Telemetering)

Session Chairman: S. M. Chalmers  
Salt River Project  
Phoenix, Arizona

"The Development and Application of a Low Level PCM Data Acquisition System to Aircraft Flight Test Programs"  
L. R. Danello, Dynatronics, Inc.

"Development and Application of a 250 High Level Channel Low Power PCM/FM System in a 465 Cubic Inch Package"  
W. L. Elden and J. M. Walter, Jr., Dynatronics, Inc.

"A Novel PMCM System for Geophysical Research"  
P. A. Toney and J. M. Walter, Jr., Dynatronics, Inc.

"Comparison of Several FM Telemetry Systems"  
D. G. Childers, University of California

IT-1

Time Varying Channels I (Information Theory)

Session Chairman: Mischa Schwartz  
Polytechnic Institute of Brooklyn  
Brooklyn, New York

"Self Similar Turbulence and Non-Wienerian Conditioned Spectra"  
B. Mandelbrot, IBM

"Some Topics in Signal Selection"  
T. Kailath, Stanford University

"Pattern Recognition of Time Varying Signals"  
A. Laemmel, Polytechnic Institute of Brooklyn

"Channel Specification in Strongly Scattering Media"  
A. Parvulescu, Hudson Laboratories of Columbia University

GC-1

HF Communications (Globecom VII)

Session Chairman: A. M. Peterson  
Stanford University  
Stanford, California

"Comments on Use of Oblique Sounders"  
R. Vincent, SRI

"Prediction of HF Channel Characteristics with Frequency Sounding Information"  
G. W. Jull, G. E. Poaps, & J. P. Murray, Defense Research Telecommunications Establish

"Short-term Prediction of the Optimum HF Communication Frequency"  
J. W. Ames and R. D. Egan, Granger Associates

"Proposed Signal Detection Techniques for Ionospheric Sounding"  
L. S. Schwartz, New York University

"A New Look at Polarization Diversity Reception at High Frequencies"  
J. Ames & P. Kennedy, Granger Associates

"Use of Space and Time Correlation in Short-term Ionospheric Predictions"  
T. N. Gautier, NBS

Monday, June 7

2:00 PM - 5:00 PM

G-2A Error Control II  
(Communication Systems)  
Session Chairman: R. S. Boykin  
U. S. Army Electronic Labs  
Fort Monmouth, New Jersey

"Forward Acting and Retransmission Error Control"  
Noah Kramer, STELMA, Inc.

"Diffuse Coding"  
Bernard Goldberg, U.S. Army Electronics Labs

"Sequential Decoding"  
Irwin LeBow, MIT

"Random and Burst Error Control"  
Arthur Kohlenberg, CODEX Corporation

"Cyclic Product Codes - A New Class of Error  
Correcting Codes Adaptable to Diverse Data  
Communication Channels"  
H. O. Burton and E. J. Weldon, Bell Telephone Labs

G-2B Signal Detection  
(Communication Systems)  
Session Chairman: Delmar Ports  
Jansky & Bailey  
Washington, D. C.

"Theory of Signal Detectability"  
R. A. Roberts, University of Michigan (Cooley Lab)

"Optimum Detection of a Stochastic Signal in a  
Gaussian Noise of Unknown Power Level"  
F. B. Tuteur, Yale University

"On Some Properties of Adaptive Neyman-Pearson  
Detectors"  
R. Esposito, D. Middleton & J. A. Mullen,  
Raytheon

"Reception of Non-Orthogonal Signals"  
F. F. Fulton, Lockheed

"Error Rates in FSK Using the Phase Locked Loop  
Demodulator"  
D. L. Schilling, J. Billig & D. Kermisch, PIB

G-2C Microwave Systems  
(Radio Communications)  
Session Chairman: C. R. Kraus  
The Bell Telephone Co. of Pa.  
One Parkway - 16th Floor  
Philadelphia, Pennsylvania

"FM 120/5000, a Mobile Radio Link System"  
I. A. Egger, Microwave Laboratory Systems

"A Review of Unresolved Troposcatter Systems  
Problems"  
A. R. Harcar and L. J. Brown, Philco Corp.

"Microwave Propagation in Inhomogeneous Plasma"  
F. H. Mitchell, Jr., University of Alabama  
Research Institute

"A Versatile High-Speed Radio Path Protection  
System"  
F. S. Beale, Lenkurt Electric Co., Inc.

G-2D

Propagation Relating to Space Communication  
(Space Communication)

Session Chairman: J. G. Barry  
Mitre Corporation  
P. O. Box 208  
Bedford, Massachusetts

"Control of Plasma Collision Frequency for  
Alleviation of Signal Degradation"  
J. Hoffman, Mitre Corp.

"Transmission Characteristics of the Ionosphere"  
D. W. Swayze, Philco

"Predicting the Incidence and Level of Radio  
Frequency Interference in Coordination of  
Microwave and Space Communication Systems"  
D. M. Hinton, Bell Telephone Labs of Canada

"HF Broadcasting from Satellites"  
R. P. Haviland, General Electric

IT-2A

Time-Varying Channels II  
(Information Theory)

Session Chairman: George Cooper  
Purdue University  
Lafayette, Indiana

"Maximum A Posteriori Demodulation of Analogue-  
Type Signals through Random Fading Media"  
M. Schwartz, Polytechnic Institute of Brooklyn

"Continuous Estimation of Signals in a Dispersive  
Channel"  
R. Pickholtz, Polytechnic Institute of Brooklyn

"Optimum Adaptive Receivers for Random Channel  
Communication"  
S. Fralick, Sylvania Reconnaissance Systems Lab

"The Principle of Maximum Entropy"  
J. Spragin, Arizona State University

IT-2B

Information Theory I  
(Information Theory)

Session Chairman: Jack Wolf  
New York University  
New York, New York

"An Information-Theory Approach to Radar  
Detection and Parameter Estimation"  
C. Temes, Federal Scientific Corporation

"Cross-Correlation Analysis of Logarithmically  
Processed Variables"  
N. Hveding and A. N. Ince, SHAPE Technical Centre

"Optimum Homomorphic Filters"  
A. Oppenheim, MIT

"An Analytic Comparison of Block and Recurrent  
Codes for the Correction of Independent Errors"  
C. Freiman and J. Robinson, IBM

GC-2A

VHF Communications  
(Globecom VII)

Session Chairman: N. H. Knudtzon  
SHAPE Technical Centre  
The Hague, Netherlands

"A Rake System for Tropospheric Scatter"  
R. D. Bitzer, D. A. Chesler, R. Ivers & S. Stein,  
Sylvania Electronic Systems

"Tropospheric-Scatter Propagation Tests Using  
a Rake Receiver"  
B. B. Barrow, L. G. Abraham, Jr., S. Stein, &  
D. Bitzer, Sylvania Electronic Systems

"Comparison of Digital Modulation and Detection  
Techniques for a Low-Power Transportable  
Troposcatter System"  
Nils E. Hveding, SHAPE Technical Centre

"Design Concepts for Transportable Ionoscatter  
Systems and Experimental Results"  
P. J. Bartholome & I. Vogt, SHAPE Technical  
Centre

"A New Meteor-Burst System Incorporating ARQ  
and Diversity Reception"  
P. J. Bartholome & I. Vogt, SHAPE Technical  
Centre

"Multipath Propagation Effects Measured in  
Mountainous Terrain"  
E. W. Brown, Jr., General Electric  
Communication Products Dept.

GC-2B

Sporadic E I  
(Globecom VII)

Session Chairman: George Jacobs  
Voice of America  
Washington, D. C.

"The Use of Sporadic E in HF Broadcasting"  
Edgar T. Martin and George Jacobs, VOA

"Backscatter Observations of Sporadic-E  
Propagation During HF Broadcasting"  
Robert Fenwick, Stanford Electronic Laboratories,  
George Jacobs and Sidney Kessler, VOA

"Progress in Predicting Sporadic E"  
Margo Leftin and Ronald P. Graham, NBS

"Methods for Use of foEs Maps in HF Predictions"  
S. M. Ostrow, NBS

Monday, June 7

8:00 PM - 10:30 PM

IT-P

Panel Discussion on Communication Systems with  
Adaptive and Learning Features  
(Information Theory)

Moderator: J. C. Hancock  
Purdue University  
Lafayette, Indiana

Panelists:

N. Abramson, University of California  
P. W. Cooper, Sylvania Electronic Systems  
J. B. Thomas, Princeton University  
H. L. Van Trees, MIT

The discussion will include: Difference between  
adaptive and learning systems. New developments.  
Applications of learning theory to the transmission  
of digital data. Uses of adaptive and learning  
systems in pattern recognition. Practical aspects  
of implementing the theory. What are today's  
problems and where are we going?

Tuesday, June 8

9:00 AM - 12:00 Noon

G-3A

Signal Processing Analysis  
(Communication Systems)

Session Chairman: Armig G. Kandoian  
Communication Systems, Inc.  
Paramus, New Jersey

"The Transmission of Frequency Modulated Signals  
through Linear Systems"  
D. D. Weiner, Syracuse University & B. J. Leon,  
Purdue University

"Analysis of M-Ary Modulated Subcarrier Systems"  
P. D. Shaft, Philco

"Bandpass Waveform Synthesis"  
Giovannoni et al, Magnavox & University of Michigan

"Time Compression in Recording of Errors"  
L. M. Small, CSI

"A New Approach to Time-Domain Equalization  
with Simplified Procedures"  
E. Gorog, IBM, France

G-3B

Low Noise Amplifiers I  
(Radio Communications)

Session Chairman: P. T. Sproul  
Bell Telephone Laboratories  
Whippany, New Jersey 07981

"Low Noise Traveling Wave Amplifiers"  
Boyd P. Israelsen, Watkins Johnson Co.

"System Characteristics of Tunnel Diode Amplifier"  
Norman Chasek, International Microwave  
Corporation

"An X-Band Integrated Strip Transmission Line  
Tunnel Diode Amplifier"  
R. C. Havens, Motorola, Inc.

"Microwave Receiver Interference Characteristics"  
B. R. Hallford, J. N. Ratti, Collins Radio Co.

G-3C

Antenna Systems for Space Communication  
(Space Communications)

Session Chairman: M. Hoffman  
ITT Federal Labs  
492 River Road  
Nutley 10, New Jersey

"An Ultra-Wideband Cassegrainian Feed for  
Satellite Communications"  
P. Foldes & S. Komolos, RCA, Canada

"Design of a Broadband 60 to 914 MC Stripline  
Upconverter"  
A. I. Grayzel & R. S. Berg, MIT

"Radiation Characteristics of Antennas Surrounded  
by Inhomogeneous Diffusing Plasma Sheaths"  
A. R. M. Rashad, Detroit University

"Signal-to-Noise Ratio Improvement in an  
Adaptively Phased Array"  
J. W. Eberle & S. L. Zolnay, Ohio State University

"Balanced-Feeding Type Antennas for Rocket  
Telemetry"  
Fujio Yamashita, Nippon Electric Co. Limited

G-3D Overseas Autovon  
(Communication Switching)  
Session Chairman: A. J. Leininger  
Illinois Bell Telephone Company  
208 West Washington Street  
Chicago, Illinois 60606

"System Design Parameters of Overseas AUTOVON Switching Systems"  
E. J. Glenner, W. C. Miller, and R. J. Murphy,  
Automatic Electric Co.

"Application of Common Control to Overseas AUTOVON Switching System"  
D. K. Lee and H. L. Wirsing, Automatic Electric Co.

"Marker and Matrix Configurations for Overseas AUTOVON Switching System"  
R. M. Schildgen, A. S. Cochran, and J. R. Vandewege, Automatic Electric Co.

"Physical Aspects of Overseas AUTOVON Switching System"  
P. K. Gerlach, E. B. Lopatka, and J. W. Taugner,  
Automatic Electric Co.

"Line and Trunk Design for Overseas AUTOVON Switching System"  
W. A. Lindbloom, R. C. Clark, and L. L. Smith,  
Automatic Electric Co.

G-3E Wire Communications II  
(Wire Communications)  
Session Chairman: (Not available at time of publication)

"The L-4 System - a 3600-Channel Coaxial System with Transistor Repeaters"  
R. S. Graham, Bell Telephone Labs

"A Transformer to Neutralize Magnetic Induction in Telephone Cable"  
G. Y. R. Allen, Osborne Electric Co., Ltd., and R. S. Kallmeyer, Bell Telephone Co. of Canada

"Upgrading with One-Party Subscriber Carrier"  
A. H. Flores and J. M. Flanigan, Rural Electrification Administration

"A New Class of Selected Ternary Pulse Transmission Plans for Digital Transmission Lines"  
J. M. Sipress, Bell Telephone Labs

IT-3 Time Varying Channels III  
(Information Theory)  
Session Chairman: R. L. Shuey  
General Electric Company  
Schenectady, New York

"Bounds on the Accuracy Attainable in the Estimation of Continuous Random Processes"  
H. Van Trees, MIT

"Bounds on the Error Probability of Matched Filter Receivers due to Additive Noise in Flat Fading Channels"  
P. Belle, ADCOM, Inc.

"A Sequential Decoding System Utilizing Distance Properties of Convolutional Tree Codes"  
P. Pfeiffer and S. Lin, Rice University

"N-Orthogonal Phase - Modulated Codes"  
I. Reed and R. Scholtz, University of Southern California

GC-3A Globecom Tutorial Session  
(Globecom VII)  
Session Chairman: E. J. Baghdady  
ADCOM, Inc.  
Cambridge, Massachusetts

"Theory and Definition of Measures of Channel Performance"  
M. Schwartz, Polytechnic Institute of Brooklyn

"Methods of Measuring and Monitoring Channel Performance"  
R. G. Enticknap, Lincoln Laboratories

"Methods of Adapting Circuits to Environments"  
F. E. Froehlich, Bell Telephone Labs

"Communications Systems 0-300 kc/s - ELF/VLF/LF"  
A. D. Watt, DECO

"Communications Systems 300 kc/s - 30 Mc/s - MF/HF"  
B. Goldberg, USAERDL, Ft. Monmouth

GC-3B Sporadic E II  
(Globecom VII)  
Session Chairman: Ernest K. Smith, Jr.  
National Bureau of Standards  
Boulder, Colorado

"The Role of Sporadic-E Propagation in Ionospheric Telecommunications"  
George W. Haydon and Robert M. Davis, Jr., NBS

"Characteristics of Ionospheric Es Propagation and Calculation of Es Signal Strength"  
K. Miya and T. Sasaki, Kokusai Denshin Denwa Co., Ltd.

"Sporadic-E Signal Observations on a 2000 km Path"  
Robert Fenwick, Stanford Electronic Laboratories

"Evidence for Tilts in the Sporadic-E Layer from Backscatter Measurements"  
Clayton Clark, R. D. Harris, D. R. Jensen, and G. P. Francis, Utah State University

2:00 PM - 5:00 PM Tuesday, June 8

G-4A Error Control III  
(Communication Systems)  
Session Chairman: Miles Beckelhaupt  
Rome Air Development Center  
Rome, New York

"A Model for Digital Error Distributions"  
S. Berkovits, E. L. Cohen, & N. Zierler, Mitre Corp.

"Error Correction in Multi-Channel Circuits Employing Cyclic Codes"  
Mu-Yue Hsiao & Kwang Y. Sih, IBM

"A Randomized Decision Feedback System Using Group Codes"  
N. Zaino, RCA, & A. K. Joshi, University of Pennsylvania

"Some Upper Bounds and Lower Bounds on the Minimum Redundancy of an Error Correcting Group Code"  
D. K. Ray-Chaudhuri, IBM (Watson Research)

"On Truncation Error Bounds for Sampling Representations of Band-Limited Signals"  
K. Yao & J. B. Thomas, Princeton University

G-4B Low Noise Amplifiers II  
(Radio Communications)  
Session Chairman: P. T. Sproul  
Bell Telephone Laboratories, Inc.  
Whippany, New Jersey 07981

"Masers for Satellite Communications"  
J. J. Degan, Bell Telephone Labs

"Low Noise 'L' Band Transistor Amplifier Design"  
L. W. Read and G. D. Johnson, Texas Instruments

"A Survey of Low Noise Parametric Amplifiers"  
J. G. Josenhans, Bell Telephone Labs

"Closed-Cycle Refrigeration System for Low-Noise Microwave Amplifiers"  
John T. Harvell and Walter M. Beard, A. D. Little, Inc.

G-4C Space Communication Equipment Design Techniques  
(Space Communications)  
Session Chairman: H. Schutz  
Westinghouse Electric Corp.  
Aerospace Div.  
Friendship International Airport  
Box 746  
Baltimore 3, Maryland

"An Extra Wide Band Communications Satellite Repeater"  
W. Glomb, D. Hershberg, ITT Federal Labs

"A Varacter Frequency Multiplier for an All-Solid-State Satellite Communication System"  
E. E. Bliss & C. D'Elico, RCA

"A Hard Limiting Gain Regulator with Weak Signal Enhancement"  
R. M. Lerner & R. S. Berg, MIT

"Global Communication Satellites - Synchronous, Medium Altitude, or Mixed?"  
F. Altman & R. Heppe, System Sciences Corp.

G-4D Switching System Maintenance and Testing  
(Communication Switching)  
Session Chairman: S. B. Weiner  
Stromberg-Carlson  
100 Carlson Road  
Rochester, New York

"Maintenance Planning on No. 1 ESS"  
L. S. Tuomenoksa, Bell Telephone Labs

"Testing of a Circuit Switching System by Simulating Many Centers on a Single Switch"  
Leon Stambler, RCA

"An Automatic Call-Through Test Set for Step-by-Step System"  
A. L. Fleming, Bell Telephone Labs

"New Extended Range Local Test Desk"  
G. A. Barbary, Bell Telephone Labs

"Maintainability Aspects of the Overseas Autovon Switching System"  
J. P. Jallits, W. F. Stejskal, and W. R. Wedmore,  
Automatic Electric Labs.

G-4E Data Communications/Telegraph Systems II  
(Data Communications/Telegraph Systems)  
Session Chairman: R. M. Kalb  
Remington Rand  
Univac Div.  
St. Paul 16, Minnesota

Program detail not available at time of publication.

IT-4 Time Varying Channels IV  
Underwater Acoustics  
(Information Theory)  
Session Chairman: P. L. Stocklin  
Office of Naval Research  
Washington, D. C.

"Boundary Scattering Effects in Underwater Sound Propagation"  
H. W. Marsh and R. H. Mellen, AVCO Marine Electronics Office

"Theoretical and Empirical Results on the Characterization of Undersea Acoustic Channels"  
A. W. Ellinthorpe and A. H. Nuttall, Litton Systems, Inc.

"Adaptive Realization of the Optimum Receiver for a Sporadic Recurrent Waveform in Noise"  
L. W. Nolte, Cooley Electronics Lab., University of Michigan

"The Self-Adaptive Filter and Optimum Use of an Array"  
H. Mermex, Laboratoire de Detection Sous-Marine

"Time-Varying Problems in Underwater Acoustics"  
Round table discussion led by the authors and chairman.

GC-4 Globecom Tutorial Session & Panel Discussion  
(Globecom VII)  
Session Chairman: E. J. Baghdady  
ADCOM, Inc.  
Cambridge, Massachusetts

"Communications Systems 30 mc/s - 3000 Mc/s - Ionoscatter, Troposcatter, Meteor Burst"  
R. C. Kirby & A. P. Barsis, NBS

"Communications Systems above 3000 Mc/s - Microwave, Space, Optical"  
Robertson Stevens, Jet Propulsion Laboratory

"Communications Systems Wire and Cable"  
F. T. Andrews, Bell Telephone Labs

#### Panel Discussion

#### Panelists:

F. T. Andrews, Bell Telephone Labs  
E. J. Baghdady, ADCOM  
A. V. Balakrishnan, UCLA  
P. A. Bello, ADCOM  
R. G. Enticknap, Lincoln Laboratories  
F. E. Froehlich, Bell Telephone Labs  
B. Goldberg, USAERDL, Ft. Monmouth  
R. C. Kirby, NBS  
M. Schwartz, Polytechnic Institute of Brooklyn  
Robertson Stevens, Jet Propulsion Laboratory  
A. D. Watt, DECO Electronics

9:00 AM - 12:00 Noon

**G-5A Modulation (Communication Systems)**  
 Session Chairman: L. G. Abraham  
 Bell Telephone Labs  
 Murray Hill, New Jersey

"A Qualitative Theory of the Frequency-Differential PSK Modulation System"  
 W. F. Walker, General Dynamics

"A Frequency-Differential PSK Modem for HF Data Communications"  
 T. deHaas, General Dynamics

"Exploiting the Redundancy of Modified Diphase"  
 C. Atzenbeck, RCA (CSD)

"A Pulsed Pseudo-Noise VHF Radio Set"  
 F. Corr, R. Crutchfield & J. Marchese, IBM

"Composite Hyperbolic Coders for PCM System"  
 G. Yazaki, M. Kawashima & T. Higeta, Fujitsu Labs

**G-5B Microwave System Reliability (Radio Communications)**  
 Session Chairman: R. M. Mattern  
 American Telephone and Telegraph Company  
 New York, New York 10007

"Microwave Radio Relay: Attainment of Reliability Objectives"  
 W. T. Barnett, Bell Telephone Labs

"Improving Microwave System Reliability"  
 J. W. Murray and H. M. Flagler, Texas Eastern Transmission Corp.

"The Performance Aspect of Reliability"  
 J. B. Murray, Lenkurt Electric Co., Inc.

Four-man panel discussion of above papers.

**G-5C New Switching Systems (Communication Switching)**  
 Session Chairman: A. E. Joel, Jr.  
 Bell Telephone Laboratories  
 Room 2G-330  
 Holmdel, New Jersey

"An Automatic Telephone Intercept System"  
 R. L. Bence, Southwestern Bell Tele. Co., and  
 G. F. Abbott, IBM

"Design of an Automatic Intercept Switch"  
 J. M. Regan and J. A. Ceonzo, IBM

"Common Control Switching System SA-1 Community Crossbar Office"  
 A. Vennos, Northern Electric, and J. M. Long, Bell Telephone Co. of Canada

"A Multi-Computer Message Switching Data Processing System"  
 Edmund U. Cohler, and Harvey Rubenstein,  
 Sylvania Electronic Systems

"TIDES, A New Concept in Time Division Switching"  
 Allan A. Kunze, Rome Air Development Center

**G-5D Data Communications/Telegraph Systems III (Data Communications/Telegraph Systems)**  
 Session Chairman: F. E. Froehlich  
 Bell Telephone Labs  
 Holmdel, New Jersey

Program detail not available at time of publication.

**G-5E Audio Sessions (Audio)**  
 Session Chairman: Winston E. Kock  
 NASA Electronics Research Center  
 Cambridge, Massachusetts

"The Lincoln Laboratory Experimental Terminal Channel Vocoder"  
 Joseph Tierney & John N. Harris, MIT

"Speech Compression for Digital Voice Communications: An Overview and a Projection"  
 Caldwell P. Smith, Air Force Cambridge Research Laboratories

"Comparison of AM and PFM Techniques for an Infrared Audio Communication System"  
 Roger S. Boyd and Alan L. McBride, Texas Instruments

"Economical High-Frequency Recording"  
 Marvin Camras, ITT Research Institute

"Audio Problems in Space"  
 Winston E. Kock, NASA Electronics Research Center

**G-5F Space Communications and Telemetry Panel Discussion**  
 Sponsored by the Space Electronics and Telemetry Group in cooperation with the committees on Telemetry and Space Communications

Future Trends - Similarity and Diversions

Moderator: Robert W. Rochelle  
 National Aeronautics and Space Administration  
 Goddard Space Flight Center  
 Greenbelt, Maryland

Panelists and Areas:

"Biomedical"  
 William A. Shafer, M. D., General Dynamics/Convair

"Industrial"  
 William F. Cruess, Dresser Controls

"Space Sciences"  
 William C. Lindsey, Jet Propulsion Laboratory

"Space Applications"  
 Louis Pollack, International Telephone & Telegraph Federal Laboratories

"Oceanographic"  
 James M. Snodgrass, Scripps Institution of Oceanography

"Flight Vehicles"  
 Clarence R. Morrison, National Aeronautics and Space Administration

**IT-5 Time Varying Channels V Seismic Channels (Information Theory)**  
 Session Chairman: Norman Abramson  
 University of California  
 Berkeley, California

"Basic Geophysical Aspects of Seismic Communications"  
 G. Phillips, Mandrel Industries, Inc.

"Noise Characteristics of the Seismic Channel"  
 R. Haubrich, University of California

"Criteria for Filtering of Seismic Signals"  
 H. Briscoe, MIT

"The Design of an Optimal Seismic Receiver"  
 N. Gaarder, Stanford University

"Long Range Communication by Deep-Mantle Seismic Paths"  
 K. Powers, RCA

**GC-5 Channel Characterization (Globecom VII)**  
 Session Chairman: S. Maley  
 University of Colorado  
 Boulder, Colorado

"On the Instantaneous Real-Time Measurement of Multipath & Doppler Spread"  
 P. A. Bello, ADCOM, Inc.

"Digital Communication Over Fixed Time Dispersive Channels"  
 J. L. Holsinger, Lincoln Laboratories, MIT

"A Sequential Transmitted Reference System for Communication in Random or Unknown Channels"  
 G. D. Hingorani, Sylvania Electronic Systems Applied Research Lab., and J. C. Hancock, Purdue University

"Signal and Channel Parameter Determination Using Decision Threshold Devices"  
 H. F. Rush, 827 W. Hunting Towers, Alexandria, Virginia

"The Reception of Time Dispersed Pulses"  
 D. A. George & D. C. Coll, Carleton University & Defense Research Telecommunications Establishment

"A Receiver for Time-Dispersed Pulses"  
 D. C. Coll & D. A. George, Defense Research Telecommunications Establishment

2:00 PM - 5:00 PM

Wednesday, June 9

**G-6A Communication Systems (Communication Systems)**  
 Session Chairman: Jes Schlaikjer  
 ITT  
 New York, New York

"North American Air Defense Command (NORAD) An Integrated Communication System"  
 Heidbrak and Smith, Mountain States Tel & Tel Co.

"A Procedure for Analyzing Weather Info Comm"  
 Harper & Rubin, CSI

"A New Multi-Purpose High Density MX System"  
 J. D. Owen, General Electric

"Design Studies for Reliable Long-Range Ground-to-Air Comm"  
 A. N. Ince & H. P. Williams, SHAPE Technical Centre

"Error Probabilities Due to Atmospheric Noise & Flat Fading in HF Digital Communication System"  
 P. A. Bello, ADCOM

**G-6B Signal Processing (Communication Systems)**  
 Session Chairman: Robert Regis  
 Hazeltine Research  
 New York, New York

"Matched Filter Design with RC Active Delay Networks for Low Data Rate Signal Processing"  
 R. G. Hove, Boeing Aero-Space

"Effect of Synchronization Error in Pseudo-Random Carrier Communications"  
 W. Gill, Lockheed

"Signal Coding for Transmission and Resolution Using Graph Theoretic Methods"  
 C. V. Ramamoorthy, Honeywell

"Experimental Determination of Moments and Distributions for Noise and Signal Plus Noise after Detection and Filtering"  
 P. Trafton & D. W. Tufts, Harvard University

"A Vector Space Analysis of Certain Communication Systems"  
 R. M. Gagliardi, University of Southern California

**G-6C Space Communication Terminal Techniques (Space Communications)**  
 Session Chairman: George Brunette  
 Rome Air Development Center  
 Rome, New York

"The Lincoln Experimental Terminal Signal Processing System"  
 P. R. Drouilhet, MIT

"Mobile Satellite Communications Terminals"  
 C. R. Tieman, Bendix

"A Comparison Study of Pseudo-Noise and Conventional Multiplexing for Multiple Access Satellite Communications"  
 H. Blasbalg, IBM

"The Lincoln Experimental Terminal"  
 P. Rosen & R. V. Wood, AT&T

**G-6D Panel Discussion (Communication Switching)**  
 Computer Simulation of Communications Networks - Techniques and Applications  
 Session Chairman: J. H. Weber  
 Bell Telephone Laboratories  
 Room 2G-512  
 Holmdel, New Jersey

Moderator: Edward Cooper  
 Defense Communications Agency

Panelists:  
 Leonard Kleinrock, UCLA  
 Peter Shoenfeld, NBS  
 Stephen Sobel, Mitre Corp.  
 Joseph Weber, Bell Telephone Labs  
 Robert Weber, ICS Communication Systems  
 Richard Zitzman, IBM

IT-6A

Time-Varying Channels VI  
(Information Theory)

Session Chairman: Charles Stutt  
General Electric  
Schenectady, New York

Simulators:

"Theory of a Tapped Delay Line Fading Simulator"  
S. Stein, Sylvania Electronics System

"Laboratory Simulator for Frequency Selective Fading"  
R. Freudberg, Sylvania Electric Products

"Simple Baseband Fading, Multipath Channel Simulator"  
W. F. Walker, General Dynamics

"Stored Ionosphere"  
B. Goldberg, R. L. Heyd, & D. Pochmerski  
Ft. Monmouth, New Jersey

"Random Channel Simulation and Instrumentation"  
K. K. Clarke, Polytechnic Institute of Brooklyn

Round table discussion of simulators

IT-6B

Information Theory II  
(Information Theory)

Session Chairman: D. L. Schilling  
Polytechnic Institute of Brooklyn  
Brooklyn, New York

"Spectral Density Function of Multilevel Continuous Phase FM"  
J. Salz, Bell Telephone Labs

"A Quantum Field Description of Communication Systems"  
L. Jelsma and L. Bolgiano, University of Delaware

"An Extension of Green's Condition to Cross-Ambiguity Functions"  
R. De Buda, Canadian General Electric Co.

"Laguerre Functions of the First Kind in Signal Design and Representation"  
R. Gonsalves, Northeastern University

GC-6

Adaptive Techniques  
(Globecom VII)

Session Chairman: A. V. Balakrishn  
UCLA  
Los Angeles, California

"The Design of Some Synchronous & Asynchronous Adaptive Receivers"  
H. J. Scudder, General Electric

"A New Method of High-Speed Adaptive Serial Communication through any Time-Variable and Dispersive Transmission Medium"  
M. J. DiToro, Cardion Electronics, Inc.

"Design and Performance of a New Adaptive Serial Data Modem on a Simulated Time-Variable Multipath HF Link"  
M. J. DiToro, J. Hanulec and B. Goldberg, Cardion Electronics, Inc.

"On an Adaptive Sequential Detection System"  
Chi-hau Chen & K. S. Fu, Purdue University

"A Modem for Digital Error Distributions"  
S. Berkovits, E. L. Cohen & N. Zierler, Mitre Corp.

THE NETWORK HOTLINE

The purpose of this column is to publish information concerning the professional activities of ComTech Group members as it will be of interest to the entire Group. This includes both personal as well as corporate items. After all the organizations which support us in our IEEE endeavors deserve credit, and mention. Let me hear from you out there whenever you have news of interest. The address is: Gunther (Gus) Karger, Editor, Radiation Inc. 725 Rosada Street, Satellite Beach 37, Fla.

If you are too busy to lift up your pen, but wish to inform us of something interesting, lift up your telephone and call me at 305-723-1511. The deadline for the Sept. issue is Aug. 1.

Charles A. Strom, Jr. was recently appointed assistant Chief, RADC, Communications Div. at Griffiss AFB, Rome, N. Y. This is the highest civilian position in the Communication Div. Mr. Strom has been for many years very active in IEEE Communication activities. He is a member of the ComTech Administrative Committee and Chairman of its Communication Discipline Technical Committee. On behalf of the Group, the Editor extends congratulations and best wishes.

W. Y. Lang, a member of the ComTech Administrative Committee, has retired from a long career with the Bell Telephone Labs. However, he will continue IEEE activities in his various capacities and will support handicapped persons from a communications standpoint. Mr. Lang will enter the consulting field on telegraph and data apparatus. His address is: Springland, Towaco, N. J.

Joseph L. Ryerson formerly Technical Director, Rome Air Development Center, Communications Div. was recently appointed to the position of Technical Director, SHAPE, Technical Center, The Hague, Netherlands. This is the top technical position at the SHAPE center and includes diplomatic functions related to NATCOM meetings in the Utica, N. Y. area and was the Technical Program Chairman for NATCOM IX and X.

Armig C. Kandoian has been appointed Vice President and General Manager of Communications Systems Inc., Paramus, N. J.

John E. Mutty formerly associated with the Deputy for Communications Systems Management ESD, USAF, has joined RCA, Burlington, Mass.

J. W. Halina is now with ITT, Europe. Joe, if this reaches you, let us know where you are.

Charles W. Vadersen, formerly with ITT Communications Systems, has joined General Dynamics Electronics in Rochester, N. Y.

Oliver G. Becker, Where are you?

E. A. Kent has been promoted to Associate Director, Communications Systems, Inc., Falls Church, Va. Congratulations Ed.

Promotion at Teletype Corp - R. R. Smessaert has been promoted to Project Director of Product Development. Ray was recently a Project Supervisor in Product Research.

Mr. Smessaert graduated from ITT in June of 1940, and joined Teletype as Assistant Engineer in Research and Development. From 1942 to 1946, he served in the Signal Corps and as a Cryptographic and Radio Teletype Repair Officer in the Navy, returned to Teletype in 1946.

Ray is a long-time member of the IEEE, a past vice president and president of the Teletype Credit Union, and for eight years was Chairman of the Teletype Club Christmas Party. He and his wife, Betty, have six children, ages six through twenty-two, and live at 4951 N. Claremont, Chicago.

GENERAL NEWS

University of Colorado and National Bureau of Standards will conduct a course on

THE FUNDAMENTALS OF ELECTRO-MAGNETIC PROPAGATION . . . . . June 28 - July 16

The objectives of this course are to provide a concentrated study of the Fundamentals of Electromagnetic Propagation, recent advances in propagation research, and applications of theory to the design and development of communication systems.

This course will be somewhat similar to the radio propagation course offered by the National Bureau of Standards, in conjunction with the University of Colorado, in 1961 and again in 1962. However, the 1965 course will include several topics not previously treated.

The course will cover propagation at frequencies ranging from VLF up to and including optical frequencies. The course will cover space propagation as well as atmosphere propagation.

The following is a list of topics that will be included in the course:

1. Ray Theory and Ray Tracing Techniques
2. Introduction to Mode Theory and Full Wave Methods
3. Characteristic of the Medium
4. Propagation in the Frequency Range 10-200 kc/s
5. Propagation in the Frequency Range 200-2000 dc/s
6. Propagation in the Frequency Range 2-30 Mc/s
7. Propagation above 30 Mc/s
8. Optical Propagation
9. Antenna Systems
10. Noise, Receiving Systems
11. Modulation

The course will be conducted at the Central Radio Propagation Lab. of the National Bureau of Standards in Boulder, Colo. There will be approximately 60 one-hour lectures. The lectures will be primarily from the National Bureau of Standards, but there will be some from other research laboratories.

A tentative list of lecturers for the three-week course in Electromagnetic Propagation is as follows:

Dr. C. G. Little	National Bureau of Standards
Dr. J. R. Wait	" " " "
Dr. Ken Davies	" " " "
T. N. Gautier	" " " "
D. D. Crombie	" " " "
Dr. D. C. Hogg	Bell Telephone Laboratories
Dr. Petr Beckmann	University of Colorado
Dr. E. J. Baghdady	Adcom Incorporated
Dr. Robt. DeGrasse	Quantum Science Corp.
Dr. W. V. Tilston	Sinclair Labs., Ltd.
R. S. Lawrence	National Bureau of Standards
W. Q. Crichlow	" " " "

Contact for details: Prof. S. W. Maley  
Dept. of Elec'l Engineering  
University of Colorado  
Boulder, Colo.

XIIth INTERNATIONAL SCIENTIFIC CONGRESS ON ELECTRONICS - ROME, ITALY - JUNE 18-29  
IInd SESSION

"RECENT DEVELOPMENTS ON DIGITAL TECHNIQUES"

A- Telecommunication

The use of P. C. M. for short-haul and junction trunks is already a standard feature of telephone systems in U. S. A. and it is at the experimental stage in many European countries. It lies within the theme to investigate the fundamental characteristics of these systems, i. e. :

- number of channels
- number of quantizing levels
- sampling rate
- bandwidth
- type of cables (non loaded audio type and multipair cable)
- repeater spacing

As far as use of digital techniques for long distance telecommunication is concerned, a survey of the most advanced studies is very interesting.

As a matter of fact, U. S. A. technicians are trying to extend P. C. M. on coaxial cables with economical characteristics to trunk circuits of the primary network.

One of the systems under study is based on the multiplex of a number of speech channels (nearly 3000) by time division and transmission after 8 bit code conversion (256 quantizing levels).

"WORLD-WIDE TELEPHONE COMMUNICATION" CONFERENCE

In cooperation with the Nachrichtentechnische Gesellschaft (NTG) VDE (Association of Communications Engineers in the German Association of Electrical Engineers) the German Section of the IEEE will hold a conference entitled "Weltweiter Fernsprechverkehr" (World-wide Telephone Communication) in Munich from Sept. 15-17, 1965. This conference is intended as a contribution to the International Traffic Exhibition (Internationale Verkehrsausstellung - IVA), which is scheduled to be staged in Munich from June 25 to Oct. 3, 1965.

The conference will present a summary view of the transmission requirements occasioned by world-wide telephone communications, the transmission systems qualified to meet these requirements, and the problems involved in maritime cables and satellite connections. Besides operational questions, network configuration and traffic routing, other topics from the switching sector scheduled for coverage are direct distance dialing systems, the requisite signals and how to transmit them, as well as automatic rate registration and accounting.

The final program will be available by June, 1965. Information can be obtained through the Secretary of the German Section of the IEEE, Dr. -Ing. H. H. Burghoff, 6 Frankfurt/MS 10, Stresemann Allee 21, VDE-Haus, Federal Republic of Germany.

INTERNATIONAL CONFERENCE ON "U. H. F. TELEVISION"  
LONDON - 1st and 2nd SEPTEMBER 1965

An international conference on "U. H. F. Television" will be held in London on Wednesday and Thursday, 1st and 2nd Sept. 1965.

Aspects to be covered include receiver and transmitter design, propagation, receiving and transmitting aerials, parametric amplifiers, and test equipment.

The conference has been timed to take place during the Radio Show, which this year will be held from Aug. 24 - Sept. 4, and will have an international content, so that visitors to the Show can participate.

The sponsoring bodies, the Institution of Elec'l Engineers Electronics Div., the Institute of Elec'l & Electronics Engrs, the Institution of Electronic and Radio Engineers, and the Television Society, are inviting papers and contributions. In the first instance synopses of about 250 words should be submitted to the UHF TV Conference Joint Secretariat, 8-9 Bedford Square, London, W. C. 1, by April 20, 1965.

Complete papers and contributions of not more than 2,000 words or the equivalent including diagrams, should arrive by June 1, 1965.

SYMPOSIUM ON SIGNAL TRANSMISSION AND PROCESSING

A Symposium on Signal Transmission and Processing will be held at Columbia Univ. on May 13 and 14, 1965. The symposium is sponsored jointly by the Circuit Theory Group of the IEEE and the Dept. of Elec'l Engineering, Columbia Univ. In conjunction with the Centennial Celebration of the School of Engineering and Applied Science, Colum. Univ.

The object of the symposium is the presentation of papers on the fundamental aspects of characterization and design of signal transmission systems; with particular reference to the matching of signal and channel characteristics for optimum performance.

Seventeen technical papers will be presented at four technical sessions Random Signal Processes, Signal Design, Signal Characterization and Signal Detection & Processing. All papers to be presented have been reviewed in accordance with the customary policy of the G-CT. These papers will appear in a Conference Record which all paid registrants will receive at no additional cost.

The registration fee for IEEE Members will be \$13 if paid before Apr. 15, 1965, and \$15 thereafter. Full-time students will be registered free of charge.

A registration desk will be located in the lobby of Ferris Booth Hall, Columbia Univ. on May 13 and 14. An additional information desk will be open in the lobby of the New York Hilton Hotel.

Address all inquiries to: Prof. Omar Wing, Dept. of Elec'l Engrg. Columbia Univ., New York 27, N. Y.



IEEE COMMUNICATION TECHNOLOGY GROUP  
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Case, R.L.  
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Chais, A.F.

Chang, S.H.  
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Cohen, P.  
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Haire, P.F.  
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Mullo, M.P.

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Nelin, B.D.  
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Silverstone, D.M.

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Smith-Vaniz, W.R. Jr.  
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Theall, C.E. Jr.  
Tuteur, F.B.  
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Van Lidth De Jeude, C.P.  
Van Oostendorp, G. Han  
Wadhams, S.C.  
Weissman, D.  
Weston, B.J.  
Wollensack, F.E.  
Wu, W.I.L.

Elmira-Corning

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Mulligan, J.M.

Ithaca

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Goldstine, H.E.  
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Lombardi, M.W.  
Lyons, W.  
McCristall, J.A.  
McGovern, M.J.  
McPherson, D.L. III  
Malchman, F.L.  
Marotta, A.R.  
Masak, R.J.  
Masnick, B.J.  
Mazzochi, J.J.  
Mehlman, S.J.  
Meixner, V.G.  
Meneer, W.R.  
Mertz, P.  
Metal, D.  
Milazzo, S.  
Churchill, F.E.  
Clarke, R.L.  
Cohen, A.L.  
Cohen, H.  
Colbert, R.P.  
Conkling, C.R. Jr.  
Crosby, M.G.  
D'Angelo, F.  
Deal, C.J.  
De Filippis, L.S.M.  
Deutsch, S.  
Di Matteo, P.L.  
Di Toro, M.J.  
Dolin, M.  
Dollin, R.  
Dong, H.L.M.  
Driscoll, F.X.  
Duttera, W.S.  
Eachus, W.J.  
Edmonds, R.J.  
Ellis, R.  
Ferrara, J.P.  
Fletcher, J.C.  
Forsyth, P.C.  
Frank, R.L.

Long Island (Cont'd.)

Roth, H.H.  
Rowinski, S.J.  
Sanderson, G.H.  
Sanial, A.J.  
Schindler, J.P.  
Schreiber, H.H.  
Schroeder, R.P.  
Schwab, C.E.  
Scire, F.J.  
Scott, J.  
Seebinger, F.L.  
Selin, G.H.  
Shaw, W.  
Smola, H.  
Snow, W.C. Jr.  
Squitieri, A.  
Spalding, G.R.  
Sperling, J.G.  
Strauss, H.J.  
Tanner, D.E.  
Teltscher, E.S.  
Tenenbaum, F.  
Turner, F.T.  
Van Duzee, R.M.  
Vogelman, J.H.  
Ward, W.P.  
Watson, R.F.  
Weber, R.H.  
Weber, T.A. Jr.  
Weissman, W.A.  
Wenrich, J.R.  
Westman, H.P.  
Wolfe, M.L.  
Woodworth, F.B.  
Zadoff, S.A.

Maine

Affel, H.A.  
Cooney, J.R.  
Schilling, R.E.  
Sheppard, E.M.  
Shively, E.H.  
Stearns, M.G.  
Wood, E.L.

Mid-Hudson

Adey, C.C.  
Berk, M.A.  
Brooks, G.W.  
Chapman, W.D.  
Draminski, D.J.  
Eisiminger, C.I.  
Howson, J.C.  
Kivel, D.  
Leake, A.  
Levinson, B.  
Linder, A.J.  
Linton, J.H.  
Lyon, J.R.  
Mahar, T.F.  
Malloy, J.J.  
Markle, R.E.  
Mennerich, K.A.  
Minero, R.H.  
Rogers, L.S.  
Sabbah, J.  
Schaffer, H.G.  
Steigerwalt, G.F.  
Stern, S.E.  
Stone, B.L.

Mohawk Valley

Beers, R.H.  
Benoit, R.C. Jr.  
Bikis, A.

Burrows, W.R.  
Bussey, H.C.  
Carlson, H.A.  
Carney, P.G.  
Conn, R.M.  
Cooper, B.  
Crowley, H.J.  
Dartt, C.C.  
Diamond, F.I.  
Eisenlord, E.R.  
Entzminger, J.N.  
Fishner, S.  
Flatt, J.C.  
Frohman, E.D.  
Gallup, B.H.  
Graettinger, W.F.  
Hierholzer, F.J. Jr.  
Iuorno, S.J.  
Kunze, A.A.  
McLaughlin, R.G.  
Marks, R.L.  
Moldt, R.G.  
Mantier, R.  
Oglesby, R.G.  
Pangburn, L.R.  
Partlow, F.M.  
Pracht, W.A.  
Rathke, R.C.  
Roberts, W.L.  
Schrieber, D.L.  
Seideman, S.  
Selover, E.E.  
Siegel, G.H.  
Smith, D.R.  
Strom, C.A. Jr.  
Ulrey, H.J.

New Hampshire

Bartelink, E.H.B.  
Brown, C.R.  
Campanella, M.E.  
Cooney, R.T.  
Fenn, W.D.  
Gilbo, A.W.  
Hutchins, L.H.  
Knight, N.  
McFadden, J.H.  
McIsaac, W.L.  
Martin, J.A.  
O'Neil, J.F. Jr.  
Pacheco, W.G.  
Shirley, M.A.  
Vaughan, T.J.  
White, W. Jr.  
Woodruff, T.E.

New York

Aaronson, G.  
Abbott, H.H.  
Acker, M.  
Adler, B.  
Adolf, S.P.D.  
Afshar, G.H.  
Aivazian, D.G.  
Albanese, A.P.  
Alliot, E. Jr.  
Alma, A.  
Amory, R.W.  
Anderson, B.S.  
Anderson, C.F.W.  
Antin, J.  
Arnold, J.W.  
Arnstein, W.  
Balan, J.C.  
Balsdon, E.J.  
Barkey, R.

Barr, S.M.  
Batchelor, J.C.  
Becker, F.K.  
Beckham, C.L.  
Bell, F.A.  
Bennett, W.R.  
Berezin, E. Miss  
Berkowitz, M.W.  
Bernardi, A.R.  
Bernstein, R.I.  
Bethel, C.D. Jr.  
Bially, T.  
Bickel, H.J.  
Bihari, S.A.  
Bloom, F.J.  
Boesewetter, W.W.  
Boguslawski, H.A.  
Boniello, A.  
Bonny, M.S.  
Boorstyn, R.R.  
Booth, R.P.  
Borck, C.A.  
Boss, W.O.  
Boughtwood, J.E.  
Bowyer, L.R.  
Boykin, R.S.  
Brennan, D.G.  
Brookman, J.J.  
Brooks, H.E.  
Brown, A.L.  
Brown, M.A.  
Brown, T.M.  
Bryson, W.B.  
Buchsbaum, W.H.  
Buegler, J.A.  
Bullwinkel, E.C.  
Burkhard, H.F.  
Burnell, L.G.  
Burton, H.O.  
Byam, L.A. Jr.  
Camizzi, V.J.  
Canfora, A.E.  
Caplan, N.  
Caporale, J.J.  
Carey, V.L.  
Carlin, A.R.  
Carlson, C.A.  
Casey, M.J.  
Castle, B.B.  
Castro, A.A.  
Cestaro, R.G.  
Chapman, H.W.  
Chewey, V.C.  
Clarke, K.K.  
Clements, W.L.  
Clutts, C.E.  
Cohen, E.  
Cohen, M.M.  
Collis, S.R.  
Cooley, A.G.  
Cooper, F.S.  
Corneretto, A.  
Cotter, M.A.  
Crager, W.C. Jr.  
Cumber, W.C.  
Dancis, D.E.  
Davis, C.F.  
Derzai, M.  
Deutsch, H.  
De Witt, H.W.  
Dickson, F.H.  
Diedrichsen, L.D.  
Di Santi, N.  
Dixon, J.T.  
Domidion, W.G. Jr.  
Dosik, P.H.

Doyle, F.H.  
Drum, G.F.  
Dudley, R.B.  
Eckstein, A.  
Edgren, H.C.  
Efros, V.L.  
Eggert, J.  
Eisenlohr, D.M.P.  
Embrechts, A.C.  
Engel, N.S.  
Engh, P.B.  
Englander, B.  
Engle, V.M.  
Epstein, M.  
Epstein, S.  
Ercolino, M.D.  
Erickson, D.H.  
Espersen, G.A.  
Evans, E.R.  
Ewasyszyn, M.  
Ewen, J.J.  
Falknor, F.B. Jr.  
Fansler, B.J.  
Fatseas, N.  
Feinstein, J.  
Feldman, E.F.  
Feldman, M.  
Finkel, E.  
Fischer, W.H.  
Fitzgerald, J.H.  
Fitzpatrick J.K.  
Flattau, T.  
Fleckenstein, W.O.  
Fong, M.W. Cha  
Forest, O.J.  
Frank, J.  
Frankel, T.  
Frankle, J.T.  
Freudenberg, B.  
Friedrich, S.  
Fritz, C.B.  
Furman, F.  
Furth, F.R.  
Galione, W.J.  
Geen, W.E.  
Geldston, S.  
Gerkenmeier, O.F.  
Gerrish, A.M.  
Giacketti, N.  
Gibbons, J.  
Giloth, P.K.  
Gimpelson, L.A.  
Giordano, A.B.  
Given, I.  
Goldberg, B.  
Goldschmidt, K.  
Goldsmith, A.N. Dr.  
Goodwin, J.M.  
Gordon, B.S.  
Gordon, S.A.M.  
Gottfried, R.K.  
Kurz, L.  
Govinski, W.  
Grassman, W.J.  
Greenfege, S.  
Griebell, C.A.  
Griffith, P.E.  
Groner, A.D.  
Groth, W.B.  
Grumblatt, J.J.  
Gryb, R.M.  
Gudz, D.V.  
Haas, C.W.  
Habib, S.  
Hannon, La Fayette  
Hansell, C.D.

New York (Cont'd.)

Harmon, R.N.  
Harris, J.R.  
Haszto, E.D.  
Hauschild, R.L.  
Hellman, R.K.  
Hershler, A.  
Lucky, R.W.  
Higdon, R.V.  
Hilbert, E.W.  
Hirschel, J.  
Hodson, V.M.  
Hoffman, E.  
Homa, R.M.  
Hopper, K.D.  
Horzempa, J.J.  
Hudson, G.P.  
Hunt, D.W.  
Hunt, L.E.  
Hussein-Biyal, N.A.  
Ikrath, K.  
Impey, R.V.  
Iriye, E.H.  
Iurica, J.A.  
Jacobsohn, W.M.  
Jacoby, D.L.  
Jatlow, J.L.  
Joel, A.E. Jr.  
Johannesen, J.D.  
Johnson, C.V.  
Jones, A.A.  
Jones, D.H.  
Kales, W.R.  
Kalpaxis, J.A.  
Kane, J.R.  
Kargan, H.A.  
Karlsson, E.E.  
Kaye, H.W.  
Keigher, B.J.  
Keiles, Y.  
Kelb, A.J.  
Kelly, M.J.  
Kerdock, A.M.  
Kerdock, R.S.  
Kertz, H.L.  
Kitts, H.L.  
Klein, M.S.  
Klein, T.J.  
Klingenberg, K.H.  
Klose, D.R.  
Kochant, W.M.  
Kohan, A.  
Kolodny, I.  
Konian, R.R.  
Korte, J.F.  
Kourse, S.B.  
Kreider, D.M.  
Kretzmer, E.R.  
Krevsky, S.  
Krull, R.  
Kulinyi, R.A.  
Kullback, I.  
Kurz, L.  
Labanca, D.L.  
Landauer, W.  
Landerer, H.  
Lane, R.F.  
Lang, W.Y.  
Langenthal, I.M.  
Latwaitis, W.W.  
Laude, J.L.  
Lawless, W.J.  
Layburn, R.L.  
Lefrak, F.H.  
Lehr, S.  
Libby, R.L.

Liebman, P.M.  
Ligori, J.  
Lindsay, T.E. Jr.  
Litchman, W.S.  
Livingston, J.R.  
London, M.M.  
Long, H.E.  
Lucky, R.W.  
Luhan, F.C.  
MacAdam, W.K.  
Majkiewicz, E.B.  
Malthaner, W.A.  
Mandl, H.J.  
Marcus, G.A.  
Marshall, S.L.  
Martin, J.E.  
Martinson, F.L.  
Marzoli, A. Dr.  
Mather, R.B.  
Mattes, A.J.  
Mauksch, G.S.  
Mauzey, P.T.T.  
May, H.F.  
McCabe, R.P.  
McConnell, J.H.  
McCullough, E.R.  
McDonough, V.T.  
McKechnie, J.D.  
McKellan, W.  
McQuillan, R.J.  
Mehl, H.F.  
Meng, D.R.  
Mengani, C.M.  
Meranda, J.I.  
Metzner, J.J.  
Millar, J.Z. Col.  
Miller, A.H.  
Miller, H.G.  
Moller, G.R.  
Montgomery, G.D.  
Moore, J.C. Jr.  
Morgan, E.K.  
Morris, D.  
Movember, R.  
Moyes, E.D.  
Muller, J.H.  
Murbach, J.F.  
Murphy, R.P.  
Myers, O.  
Myslicki, R.L.  
Nelson, E.A.  
Nunan, K. W. Sr.  
O'Brien, J.A.  
Oh, S.J.  
Oliveros, E.V.  
Olsen, W.A.  
Olwig, R.F.  
Onder, K.  
Oppenberg, G.A.  
Orefice, G.T.  
Osgood, D.T.  
Ostberg, O.S.  
O'Sullivan, T.J.  
Ottenberg, E.C.  
Pappas, A.L.  
Parkins, G.  
Parsons, T.W.  
Parzen, B.  
Paterno, P.M.  
Paty, D.G.  
Pearson, H.A.  
Peixoto, E.S.  
Pennoyer, D.H.  
Perle, R.C.  
Perlman, S.  
Phanos, S.

Phelps, C.H. Jr.  
Piatoff, E.B.  
Pickholtz, R.L.  
Pilliod, J.J.  
Pisarski, J.  
Plum, R.R.  
Port, E.  
Pugliese, L.  
Rabinowitz, J.  
Rand, R.A.  
Ranky, B.  
Rappaport, S.S.  
Rappeport, M.A.  
Rea, W.T.  
Reaves, A.L. Jr.  
Reed, J.  
Regis, R.  
Rehm, M.P.  
Rehm, T.C.  
Ressler, H.C.  
Reyes, C.  
Rice, D.W.  
Richardson, G.  
Richman, D.  
Riehs, R.C.  
Rife, D.C.  
Ringstad, E.  
Robbins, A.  
Robinett, L.L. Jr.  
Robison, P.E.  
Robison, R.M.  
Rochwarger, M.M.  
Rogers, W.J.  
Rosen, D.J.  
Rosenkrantz, D.J.  
Ross, A.H.  
Rothenbuecher, E.H.  
Ruchkin, D.S.  
Rudin, H.R. Jr.  
Runyon, J.P.  
Rushing, L. Jr.  
Russell, W.J. Jr.  
Ruweid, R.G.  
Ryan, W.  
Ryan, W.R.  
Saltzberg, B.R.  
Salzman, S.  
Schiller, M.  
Schilling, D.L.  
Schlaikjer, J.E.  
Schmidt, A.  
Schneider, P.  
Schulz, P.R.  
Schuster, G.M.  
Schwartz, E.I.  
Schwartz, M.  
Schwarz, G.R.  
Schwarz, J.  
Schwenzfeger, E.E.  
Selber, F.  
Selender, H.  
Seley, E. L.  
Segner, S.M.  
Senn, G.F.  
Seufert, W.M.  
Seymour, A.M.  
Shafer, W.L. Jr.  
Shampnoi, W.R.  
Shaw, R.C.  
Sherman, J.B.  
Shipman, W.A.  
Short, W.P.  
Shuster, R.G.  
Silva, A.A.  
Simmons, C.H.  
Simms, R.E. Jr.

Skinner, F.J.  
Smith, F.W.  
Smith, J.H. Jr.  
Smith, S.B.  
Snyder, R.L.  
Sorieri, M.A.  
Spiro, G.  
Stanford, C.H.  
Stevenson, M.J.  
Stiefel, R.C.  
Stiles, K.P.  
Stone, R.C. Jr.  
Strahill, J.A.  
Strasser, J.A.  
Stubbs, L. Jr.  
Tada, Y.  
Talley, D.  
Talley, T.J.  
Tarantolo, G.J.  
Tepper, C.  
Tesar, R.C.  
Thomas, G.W.  
Townsend, R.  
Trimble, G.R. Jr.  
Trucker, J.R.  
Ugelow, L.  
Uhran, J.J. Jr.  
Ulfers, H.E.  
Van Horn, R.H.  
Varanelli, A. Jr.  
Varenhorst, F.G.  
Vaughan, V.N. Jr.  
Vitolo, A.A.  
Vogt, G.F.  
Wachtel, A.  
Wagner, L.H.  
Walker, H.N.  
Walsh, J.M.  
Walton, J.S.V.  
Weber, J.H.  
Weber, L.A.  
Weiblen, R.E.  
Weida, R.L.  
Weissglass, C.P.  
Weissman, L.  
Weldon, E.J. Jr.  
Wichtendahl, W.J.  
Widmer, A.E.  
Willett, E.  
Williams, R.D.  
Wilkie, J.C.  
Wilpon, S.I.  
Wolejsza, C.J. Jr.  
Wolf, J.K.  
Wolff, J.H.  
Wolinsky, A.  
Wolontis, V.M.  
Wong, W.K.T.  
Wood, J.A.  
Wunderlich, N.E.  
Yorinks, L.H.  
Yoshida, K.R.  
Young, V.J.  
Young, W.R.  
Zdravos, C.  
Zeiner, G.E.  
Zenchoff, P.  
Zillger, W.H.  
Zydney, H.M.  
Zykorie, H.M.

Northern New Jersey

Aaron, M.R.
Abraham, L.G.
Albrecht, H.W.
Anderson, C.D.
Andrews, F.T. Jr.
Armstrong, C.A.
Arnaud, J.P.
Arnold, A. Jr.
Arnold, C.G.
Arnold, H.B.
Aronstein, R.H.
Assadourian, F.
Atwood, J.B.
Atzenbeck, C.R.
Bacon, C.W.
Bailey, A.
Baird, D.R.
Barker, L.R.
Barnabic, E.V.
Barnett, W.T.
Barrios, A.A.
Bayliss, E.T.
Becken, E.D.
Beeny, L.S.
Bemis, E.W.
Benner, A.N.
Blanchett, W.C.
Blatz, R.E.
Blom, B.V.
Boeck, C.F.
Bohacek, P.K.
Boland, J.N.
Borman, E.C.
Boyd, R.C.
Boyhen, E.P.
Brain, B.
Brown, R.I.
Brown, T.G.
Bruce, R.A.
Brundage, J.H.
Bruun, S.W.
Bullington, K.
Bullock, D.B.
Busignies, H.
Campbell, D.R.
Carballo, R.A.
Caroselli, F.
Carson, D.N.
Caruthers, R.S.
Chipp, R.D.
Chisholm, D.A.
Clapp, R.H.
Clark, O.P.
Cocchiaro, M.
Coffrin, W.E.
Coggeshall, I.S.
Conway, J.F. Jr.
Cook, J.S.
Cooper, B.
Cory, S.I.
Cox, J.E.
Crawford, J.A.
Cyrier, L.A.
Damon, M.H.
David, F.
Davidson, C. III
Davis, E.S.
Dehoney, R.J.
Deiss, E.W.
De Maio, S.J.
De Rosa, L.A.
Devera, G.E.
De Witt, R.G.
Diamond, B.S.
Dickieson, A.C.

Dietsch, C.G.
Dimock, P.V.
Doherty, W.H.
Dolan, F.J.
Dolinko, L.
Dorros, I.
Drake, A.W.
Dudley, H.
Duerig, W.H.
Dugal, P.J. Jr.
Dzula, B.
Eager, G.S.
Edwards, J.K.
Ellis, B.T. Jr.
Emling, J.W.
Epstein, P.L.
Evans, H.W.
Ewoldt, H.J.
Fairweather, B.A.
Fatovic, J.
Faulkner, L.W.
Feiner, V.
Fennick, J.H.
Fetko, J.F.
Fierro, R.A.
Fineman, T.P.
Fitting, R.C.
Foley, J.J.
Forder, J.B.
Franco, A.G.
Frank, J.E.
Frank, R.J.
Franke, H.C.
French, H.A.
Freud, E.L.
Frisch, F.W.
Ganias, T.E. A.
Gerlach, G.G.
Gilbert, E.A.
Glomb, W.L.
Gluchoski, W.J.
Gluck, A.M.
Godley, P.F. Jr.
Goldman, H.
Goldshine, A.D.
Granlund, J.
Gray, R.E.
Green, M.W.
Greenberg, H.
Greenfield, G.
Groudan, A.L.
Guenther, R.
Hansell, P.D.
Hansen, J.R.
Harvey, C.C.
Harvey, J.B.
Harris, F.
Hatch, R.W.
Hauptschein, A.
Hayum, R.
Hefehe, J.R.
Heiser, W.H.
Helder, G.K.
Herbig, A.J.
Higgins, W.H.C.
Highleyman, W.H.
Himes, D.I.
Hochgraf, L.
Holmstrom, J. R.
Huber, G.H.
Huntley, H.R.
Hyneman, J.R.
Imboldi, E.
Jachimowicz, L.
Jackson, J.
Jacobs, B.H.

Jacobs, I.
Janoff, A.
Jensen, C.A.
Joehlin, N.C.
Johannes, V.I.
Johnson, A.C.
Johnson, W.A.
Johnson, W.K.
Jones, A.F.
Jung, H.D.
Kadin, J.
Kandoian, A.G.
Kassan, J.D.
Keder, V.
Kelley, R.A.
Kiker, J.M.
Kirsche, R.N.
Kittiver, C.
Kloster, D.E.
Knapp, G.F. Jr.
Kneeter, C.P.
Kolodin, L.
Konotchick, J. Jr.
Kovarcik, R.S.
Kowalski, S.J.
Krantz, A.
Kuhn, T.G.
Kulesha, K.J.
Langford, R.C.
Lappin, D.
Larson, B.G.
Lauver, R.M.
Lebleboojian, G.
Lechleider, J.W.
Leed, D.
Legg, V.E.
Le Vine, D.J.
Levine, E.
Liljegren, J.C.
Lloyd, A.G.
Macina, N.A.
Magenheim, B.
Makowy, W.
Manicardi, N.F.
Martin, T.J.
Masnaghetti, R.K.
Mattern, R.M.
Maurushat, J. Jr.
Mayo, J.S.
McAnaney, D.H.
McClure, R.B.
McDonald, R.A.
McKay, K.G.
McKenzie, A.A.
McMillan, J.D.
McSweeney, R.
Meacham, L.A.
Merrill, F.G.
Metsky, D.
Miles, F.A.
Millard, J.B.
Mindes, B.M.
Mineo, J.R.
Misenheimer, H.N.
Mitchell, D.
Moreno, C.N.
Morgan, K.C.
Morrison, C.G.
Morrison, R.L.
Mosher, R.E.
Mottram, E. T.
Mount, E.
Muller, R.A.
Murdock, A.E.
Murray, J.L.
Nexon, V.J.

Nielsen, M.I.
Niemic, S.A.
Noecker, J.A.
Olson, R.C.
Osborn, P.H.
Osborne, H.S.
Ostlund, E.M.
Packard, G.N.
Pain, D.H.
Panter, P.F.
Parowski, G.C.
Parry, C.A.
Perry, D.P.
Peterman, W.C.
Peters, G.J.
Peterson, A.C.
Phelps, G.H.
Phillimore, H.R.
Pietrantonio, F.V.
Place, H.
Pocius, C.F.
Podell, R.L.
Polkinghorn, F.A.
Pollack, L.
Polyzou, J.
Price, E.E.
Pritchard, E.M.
Puder, R.K.
Rapaport, H.
Raynsford, C.K.
Reich, S.
Reichle, W.E.
Richardson, P.H.
Robertson, J.P.
Roetken, A.A.
Rosenthal, C.W.
Rosenthal, M.S.
Rounds, P.W.
Rubin, M.
Rukin, M.B.
Ryaby, J.P.
Samson, R.L.
Sandretto, P.C.
Sapiro, A.M.
Scarborough, H.B.
Schachtman, M.G.
Schmidt, A.E.
Schmidt, W.M.
Schneider, A.
Schneider, H.L.
Schonfeld, T.J.
Schramm, C.W.
Schreiner, S.M.
Schultz, J.L.
Schulz, F.J.
Schwartz, M.
Seabury, E.S.
Sefton, R.E.
Selwyn, D.
Serenio, C.A.
Shangraw, C.C.
Shapiro, O.
Sheffield, B.
Sheridan, T.R.
Sichak, W.
Simkovich, J.R.
Simpson, L.C.
Skibneski, C.E.
Slepian, D.
Smith, H.H.
Smith, H.L.
Snediker, J.B.
Spanos, W.M.
Sproul, P.T.
Sproul, F.A.
Stein, E.

Northern New Jersey (Cont'd.)

Stein, Ernest
Steiner, J.W.
Stephens, W.
Stevens, Z.J.
Stickle, R.L.
Straube, H.M.
Strong, W.A.
Stuff, A.O.
Summer, E.E.
Sunde, E.D.
Surenian, D.
Thatcher, T.W. Jr.
Thompson, W.T.
Tidd, W.H.
Tobias, J.
Tongue, B.H.
Trendowski, C.R.
Troell, R.E.
Trucksess, D.E.
Tuppen, A.R.
Tusso, J.R.
Tyrlick, W.V.
Uotinen, W.H.
Vieth, W.G.
Vitkovits, S. Jr.
Wallace, R.E.
Walrath, D.J.
Walter, J.J.
Watts, R.N.
Webster, F.D.
Weible, N.R.
Weiser, F.E.
Welber, I.
Weppler, H.E.
Westheimer, M.
Whalen, A.D.
Wheeler, G.W.
Wickliffe, P.R. Jr.
Wilding, J.V.
Wilewski, H.M.
Willson, F.E.
Woodin, R.H.
Woodward, R.J.
Yockel, A.P.
Young, C.B. Jr.
Young, N.H.
Zarins, E.

Princeton

Allen, M.B.
Baumunk, J.F.
Benko, G.M.
Bernstein, A.L.
Berry, G.L.
Bishop, J.D.
Bisignani, W.T.
Brandinger, J.J.
Brereton, C.H.
Cornetz, W.
Daskam, S.W.
Davey, J.R.
Davisson, L.D.
Dawson, S.R.
Detwiler, S.P.
Devieux, C.
Dow, O.E.
Feryszka, M.
Gollhardt, R.W.
Good, L.H.
Gubin, S.
Hachenburg, V.
Handelsman, M.
Kagan, C.A.R.
Kishi, H.J.

Koep, K.J.
Kurland, M.
Laport, E.A.
Lerner, A.M.
Liu, B.
Moschytz, G.S.
Norton, M.
Osofsky, A.J.
Poch, W.J.
Riley, J.R.
Romeiser, M.B. Jr.
Roth, S.
Rugarber, R.R.
Sanford, R.F.
Schneider, J.N.
Silverman, D.
Spencer, T.
Student, S.G. Jr.
Taylor, F.H.
Thomas, J.B.
White, H.E.
Whyland, J.B.
Wilder, J.
Wooldrige, A.C.
York, R.K.
Zonis, F.I.

Providence

Baer, E.W. III
Bartram, J.F.
Bliss, Z.R.
Cady, W.G.
Dandreta, W.
Hill, R.F.
Hilliard, E.J.
Keefe, T.J. Jr.
Kirkland, R.E.
Manfredi, C.C.
McGinnes, R.J.
Plóciak, E.V.
Ponichtera, A.H.
Sherman, A.

Rochester

Bartholomay, D.R.
Bass, G.A.
Bettin, R.
Boyer, R.P. Jr.
Cheney, C.F.
Cooper, J.D.
Dobbin, R.R.
Donaher, T.P.
Doyle, W.J.
Ellis, T.E. Jr.
Ertman, R.J.
Fox, R.S.
Gienger, J.A.
Hildreth, A.E. Jr.
Husung, D.L.
Jones, R.W.
Judson, J.F.
King, R.W.
Laythe, R.F.
Leetsch, E.
Marcopulos, D.P.
Miller, D.L.
Naugle, R.B.
Nierrit, F.
Ozone, K.
Pearce, J.G.
Perreault, D.A.
Pharis, W.W.
Portz, H.G.
Pyes, N.R.

Ramos, A.S.
Rogers, R.J.
Roza, J.E.
Sanders, E.W.
Schwartz, F.A.
Sibley, H.C. Jr.
So, H.C.
Soderman, D.A.
Torpie, J.D.
Tryon, L.E.
Van Horn, J.H.
Voelcker, H.B. Jr.
Waddell, R.B.
Wheeler, J.L.
White, R.J.
Winchell, W.L.
Yurgealitis, E.W.
Zarccone, C.J.

Schenectady

Alexander, N.W.
Anderson, R.E.
Cassella, A.C.
Demaree, F.E.
Dewire, D.S.
Fong, K.
Lienhard, R.M.
Milton, R.T.
Overeynder, B.W.P.
Scudder, III, H. J.
Shuey, R.L.
Siegert, R.H.
Stutt, C.A.
Ward, H.C. Jr.
Whitten, J.R.

Springfield

Morin, R.A.

Syracuse

Altes, S.K.
Applebaum, S.P.
Bloomquist, R.G.
Cheng, D.K.
Coniber, G.A.
Costas, J.P.
Crow, E.O.
Deal, D.L.
Deakey, F.R. Jr.
Eaton, R.C.
Edwards, K.A.
Egtvedt, M.D.
Embree, C.R.
Erickson, B.K.
Fawcett, J.W.
Feinman, R.D.
French, R.W.
Golubjatnikov, O.
Heins, R.J.
Johnson, G.L.
Johnson, R.A.
Kipp, K.J.
Kneuer, J.G.
Korolenko, A.V.
Moore, R.A.
Morris, A.E.
Oleyar, M. Jr.
Olmsted, C.C.
Rodems, J.D.
Schalzzetti, M.R.
Schwarzlander, H.
Sproul, S.S.
Swanson, R.W.
Walker, R.K.
Weimar, J.E.

Widmann, L.C.
Williams, J.B.
Woods, C.R.
Zahora, L.J.

Vermont

Berry, S.L.

Worcester

Briggs, T.A.
Kallin, R.L.
Plummer, R.B.
Wolniewicz, R.S.

REGION 2

Akron

Katzenmeyer, H.C. Jr.
Kelly, C.M.
Koller, W.B.
Kylin, D.H.
Smith, D.J.
Telew, W.
Third, J.H.

Baltimore

Berkovits, R.J.
Blasbalg, H.
Bowman, D.P.
Carroll, T.J.
Carter, J.C.G.
Ciesluk, W.J. Jr.
Cooke, W.C. Jr.
Cooper, J.E.
Dauer, F.W.
De Andrade, W.C.
Diamond, D.M.
Diemer, F.P.
Donaldson, R.W. Jr.
Evans, A.L.
Farmer, W.C. Jr.
Fein, A.E.
Fleishman, L.S.
Fulner, R.L.
Garrison, C.P. Jr.
Goodhue, W.W.
Hanley, N.B.
Hanson, H.A.
Harcarufka, J.F.
Heck, J.R.
Hedges, C.D. Jr.
Holloway, W.W.
Hunt, V.R.
Illenberger, J.E.
Jacob, M.I.
Jacomini, O.J.
Johnson, J.L.
Jones, W.R.
Kaplan, I.I.
Karpinski, A.L.
Keeler, R.E.
Kinn, T.P.
Kohlenstein, L.C.
Krause, S.R.
Kuegler, G.K.
Laden, H.N.
Lance, R.R.
Leach, R.F.
Leap, G.A.
Lilly, R.G.
Lindow, I.L.
Mackey, W.M.
Marie, C.S.
Martel, R.J.
Martin, J.W.

Baltimore (Cont'd.)

Mayher, R.J.  
McConnell, V.  
Metz, R.J.  
Miller, D.A.  
Mongold, G.E. Jr.  
Newhouse, P.D.  
Newman, S.J.  
Osborne, E.F.  
Penwell, G.N.  
Pettus, J.D.  
Prochazka, A.M.  
Putschi, H.N.  
Quintiliani, S.M.  
Ralston, G.  
Ransom, J.R.  
Rapp, L.  
Rice, W.M.  
Rosenblatt, H.  
Roush, R.G.  
Rubis, C.J.  
Sargent, C.R.  
Scanga, W.A.  
Shireman, D.W.  
Simmons, R.L.  
Skolnik, M.I.  
Smeltzer, R.F.  
Smith, E.L. Jr.  
Smith, R.J.  
Stefan, R.S.  
Stein, L.E.  
Tharp, N.B.  
Thomas, A.G.  
Trinter, V.E.  
Ulman, L.J.  
Vergara, W.C.  
Walker, B.F.  
Waters, W.M.  
Wedel, J.O. Jr.  
Wells, D.F.  
Wernlein, C.E. Jr.  
Wolff, S.S.  
Wright, R.E.

Canton

Bright, L.D.  
McFeely, H.H.

Central Pennsylvania

Baker, W.L.  
Baxter, F.C. Jr.  
Chihorek, J.P.  
Divany, R.B.  
Edgein, K.R.  
Farr, F. Jr.  
Haag, H.D.  
Hanks, N.D.  
Horne, D.R.  
Kelly, J.K.  
Lawther, J.M.  
Lewis, J.O.  
Lopez, A.F.  
Lyon, C. M.  
Rowlands, R.O.  
Smith, J.P.  
Taylor, J.G.  
Workman, W.F. Jr.  
Yonker, F.H.

Cincinnati

Abuls, D.  
Anderson, G.D.  
Bopp, C.  
Busby, L.A.  
Collins, W.H.

Daily, C.F.  
Jones, L.E.  
Middendorf, J.P.  
Pienkowski, O.E.  
Ramsey, J.T.  
Rhody, H.E.  
Scott, V.J. Jr.  
Stacy, R.A.  
Stahl, K.L.  
Stoudt, J.M.  
Tulloss, W.S.  
Watkins, D.P.  
Westmark, J.E.  
Weyand, R.P.  
Wissel, F.A.

Cleveland

Baillis, J.W.  
Daykin, D.R.  
Elze, R.P.  
Guentzler, R.E.  
Hammack, H.F.  
Herrick, R.H.  
Hoff, H.B.  
Jeremiah, B.T.  
Kessler, J.C.  
Kres, A.J.  
Livensparger, K.L.  
Kylin, D.H.  
Lewis, G.S.  
Maly, E.A.  
Nottenburg, R.A.  
Pietch, J.P.  
Proctor, T.  
Romoser, P.E.  
Scheible, A.H.  
Scott, E.P.  
Stocker, C.P.  
Toncich, S.V.  
Whalen, P.P.  
Wozniak, A.J.

Columbus

Anderson, E.S.  
Anzelmo, F.D.  
Aro, E.  
Brenner, C.H.  
Catterall, J.M.  
Cohen, D.  
Compton, R.T. Jr.  
Cressman, D.E.  
Crooks, R.K.  
Ehlschlager, A.J.  
Elliott, G.L.  
Frye, R.E.  
Goodman, A.R.  
Grass, T.C.  
Haselwood, J.L.  
Heckendorn, H.R.  
Holcomb, W.L.  
Jackson, S.P.  
Jaeger, J.H.  
Kerr, J.J.  
Lamprey, R.V.  
Luethy, R.E.  
McDowell, J.E.  
Mason, W.F.  
Mahler, J.  
Mentzer, C.A.  
Miller, O.R.  
Mueller, P.L.  
Nojiri, G.K.  
Nupp, W.D.  
Peake, W.H.  
Pearsall, F.M. Jr.

Pfeifer, E.  
Pienkowski, E.C.  
Reinhard, K.L.  
Schaffer, A.H.  
Sorensen, R.W.  
Stoutenburg, D.V.  
Stuart, W.D.  
Svoboda, D.E.  
Sweet, R.J.  
Warren, C.E.

Dayton

Barker, J.I.  
Benson, M.C.  
Boomer, J.K.  
Bowling, G.D.  
Brauner, E.J.  
Broberg, P.W.  
Brown, G.T. Jr.  
Currie, J.D.  
De Fries, W.G.  
Dennis, J.L.  
Dolan, B.A.  
Egan, W.E.  
Gauder, C.C.  
Gobbel, J.T. Jr.  
Gray, W.R.  
Hoversten, E.V.  
Lazur, E.  
Mage, J.M.  
Maly, E.A.  
Makinson, G.E.  
McGowan, R.J.  
Merifield, J.W.  
Neil, A.N.  
Romoser, K.W.  
Perkins, P.E.  
Pitinsky, L.  
Rose, L.H.  
Simopoulos, N.T.  
Weber, S.E.  
Werner, J.A. III

Delaware Bay

Barber, J.L.  
Hannibal, J.O.  
Shappell, C.E. Jr.  
Walton, E.K.

Erie

Davis, J.  
Schultz, H.L. Jr.  
Shaner, H.W.  
Van Houten, E.H.

Johnstown

Thwaites, R.H.

Lehigh Valley

Brownell, R.M.  
Hafenaier, H.F.  
Jones, R.C.  
Perkinpine, R.W.  
Seferyn, J.J.  
Stammerjohn, L.W.  
Von Bergen, J.D.  
Waer, R.R.  
Wentzel, L.S.  
Wohlfart, E.  
Zillig, D.J.

Lima

Haferd, F.H.  
Nupp, W.D.  
Ots, A.  
Simpson, R.J.

Svala, C.G.  
Wopat, R.M.

Philadelphia

Adkins, W.R.  
Allen, J.R.  
Appel, W.N.  
Apple, L.S.  
Apriletti, C.A.  
Auerbach, I.L.  
Avella, N.R.  
Bachofer, H.L.  
Bailey, R.E.  
Bargellini, P.L.  
Bash, I.F.  
Bates, R.L.  
Beaver, J.A. Jr.  
Bedrosian, S.D.  
Benner, T.A.  
Berkowitz, R.S.  
Bigelow, E.C.  
Binks, R.  
Blackwell, W.C. Jr.  
Blasberg, L.A.  
Bolgiano, D.R.  
Bond, H.A.  
Bondy, M.F.  
Booth, A.T. Jr.  
Boreen, H.I.  
Bowen, D.C.  
Brock, F.M.  
Brown, J.N.  
Brown, R.P.  
Bry, J.C.  
Bryon, J.E.  
Bucher, T.T.N.  
Bullock, J.B.  
Burset, B.C.  
Butler, J.G.  
Cameron, H.F.  
Campopiano, C.N.  
Canale, S. Jr.  
Chadwick, P.S.  
Chudleigh, W.H. Jr.  
Clemson, D.B.  
Cohen, D.  
Coleman, A.H.  
Collins, H.B. Jr.  
Combella, E.M.  
Congdon, W.H.  
Connolly, J.  
Connor, W.J. Jr.  
Conrad, A.F.  
Cook, E.  
Cornelius, H.J.  
Cox, J.A.  
Cramer, B.G.  
Cunningham, T.P.  
Dahlberg, R.S. Jr.  
Darreff, F.P.  
Daub, G.  
De Credico, R.J.  
Deml, A.J.  
Di Russo, E.  
Dix, T.S. Jr.  
Dorsay, T.A.  
Dunn, E.B.  
Edwards, N.E.  
Ehrich, W.G.  
Emerle, E.K.  
Falvey, T.L. Jr.  
Fastring, R.A.  
Feller, J.B.  
Fey, R.C.  
Foo, S.K.

Philadelphia Cont'd.

Foran, J.W.  
Ford, D.W.  
Forster, W.H.  
Frary, R.S.  
Freeman, B.  
Friend, A.W.  
Funk, K.A.  
Galleshaw, J.J.  
Garcia, S.C.  
Garfield, E.E.  
Gayer, R.L.  
Glazer, B.G.  
Glenn, A.B.  
Goldman, H.B.  
Goldman, S.  
Goodman, H.  
Goodwin, P.G.  
Gottlieb, M.  
Greenberg, D.  
Gregory, T.R.  
Gumacos, C.  
Haag, G.H.  
Hagen, D.L.  
Hahn, P.M.  
Hall, R.W.  
Halpern, H.M.  
Hannan, W.J.  
Harcar, A.R.  
Harris, W.A.  
Hartshorne, F.A.  
Hauer, C.A.  
Heckelman, T.J.  
Hennessy, G.C.  
Hermann, P.E.  
Hockeimer, H.E.  
Hoffman, L.E.  
Hoffman, N.N.  
Hollis, R.W.  
Holshouser, J.R. Jr.  
Honert, G.B.  
Howland, H.R.  
Huber, C.H.  
Hudgings, D.W.  
Hudgins, W.D.  
Hunter, R.D.  
Hurd, R.G.  
Hurst, S.R.  
Hymas, D.G.  
Into, A.N. Jr.  
Jeffery, R.J.  
Jellinek, E.  
Jeruchim, M.C.  
Johnson, M.C.  
Kalkman, E.C.  
Kashtan, S.  
Keller, E.W.  
Kennedy, J.J.  
Kern, R.J.  
King, E.  
Kirk, D. Jr.  
Klammer, R.J.  
Kleotka, J.A.  
Kotler, S.J.  
Kraus, C.R.  
Kraus, M.H.  
Kroll, P.C. II  
Kroupa, H.F.  
Ku, Y.H.  
Kuhle, R.C.  
Lambert, W.H.  
Lawson, C.C.  
Lawton, R.S.  
Lazarus, F.F.

Leonard, J.F.  
Levy, W.A.  
Lex, R.G.  
Lieberman, G.  
Ling, D.A.  
Livingston, H.N.  
Lockhart, J.C.  
Lohse, E.  
Lounsbury E.P.  
Lowden, R.P.  
Luscombe, C.F.  
Lynn, S.  
Magasiny, I.P.  
Mallalieu, F.R.  
Marsh, D.R.  
Martinson, L.W.  
Massaro, M.J.  
Masurat, G.  
Mathwich, H.R.  
McFall, T.J.  
Miamiian, L.R.  
Middleton, W.W.  
Miller, A.R. Jr.  
Miller, K.K.  
Mitchell, W.T.  
Modricker, C.S.  
Moff, R.J.  
Moll, A.P.  
Muckel, F.H.  
Nardontonia, J.A.  
Neubauer, J.R.  
Nickett, G.R.  
Niemann, E. Jr.  
Novik, J.  
O'Brien, T.J.  
O'Neill, M.J.  
Osbarh, B.F.  
Peebles, P.Z.  
Peterson, C.E.  
Potosky, M.  
Price, W.E.  
Prihar, Z.  
Puigdollers, E. Jr.  
Ralph, S.F.  
Randall, N.C.  
Riley, V.W.  
Rivera, R.W.  
Roberts, M.J.  
Robinson, H.A.  
Robinson, J.O.  
Rocamora, R.L.  
Rogers, D.H.  
Rose, H.E.  
Roop, R.W.  
Ross, W.L.  
Rubenstein, H.  
Rulifson, R.R.  
Ryan, V.F. Jr.  
Ryan, W.J.  
Saks, H.L.  
Sapp, D.H.  
Sayer, T.C.  
Schlueter, R.C.  
Sharp, C.B.  
Showers, R.M.  
Simons, K.A.  
Smith, J.F.  
Smith, R.C.  
Solomon, K.  
Sorius, A.  
Speights, M.T.  
Spiegel, S.S.  
Stahl, R.A.  
Steele, R.W.

Story, T.H.  
Teacher, C.F.  
Tenney, R.F.  
Thomas, J.K.  
Thompson, L.E.  
Thompson, R.L.  
Thomson, D.N.  
Lohse, E.  
Turner, R.J.  
Urkowitz, H.  
Veldhuis, A.C.  
Viostek, R.F.  
Visher, W.A.  
Wagner, R.J. Jr.  
Wagner, R.L.  
Wai, K.N.  
Waitkeneus, J.  
Wald, S.  
Walker, R.B.  
Weiner, M.  
Wheeler, B.F.  
White, O.S.  
Wickizer, G.S.  
Wilder, E.H.  
Wilder, M.K.  
Windrick, P.F.  
Witherspoon, J.M.  
Woessner, W.J. Jr.  
Wolf, L.  
Wolin, L.  
Yang, T.  
Zebrowitz, S.  
Zimmerman, M.S.

Pittsburgh

Anderson, G.T.  
Angel, K.W.  
Beattie, B.H.  
Behrend, W.L.  
Betsh, K.W.  
Bossart, P.N.  
Eggers, C.W.  
Farr, K.E.  
Freeland, A.F.  
Foss, W.B.  
House, H.E.  
Jenkins, J.A.  
Klesken, D.L.  
Macey, E.A.  
Malmberg, P.R.  
Masterson, R.J.  
Moore, C.H. Jr.  
Nutter, R.S. Jr.  
O'Shea, R.P.  
Paynter, D.H.  
Rathbone, D.E.  
Roscoe, A.M. Jr.  
Sander, H.F.  
Schaeperkoetter, L.C.  
Scott, J.P.  
Seneadza, S.K.  
Shutterly, H.B.  
Sziklai, G.C.  
Williams, D.S.  
Williamson, A.G.

Sharon

Grödecki, G.E.

Southern New Jersey

Barton, T.H.  
Clavier, A.G.  
Jones, F.F.  
Kester, R.E.  
Knight, G.T.  
Burkhardt, R.H.  
Claar, C.N. III  
Clemmons, J.W.  
Faulkner, W.H. Jr.  
Gadbois, G.S.  
Gardner, G.F.  
Guth, R.W.  
Myers, D.E.  
Rippon, S.G.  
Spitzer, E.E.  
Washington, D.C.  
Adair, G.P.  
Ahlgren, J.D.  
Alberts, W.S.  
Albertson, F.W.  
Alexander, M.H.  
Altenburg, A.J.  
Altman, F.J.  
Amis, C.W.  
Anderson, L.D.  
Anderson, R.V.  
Anderson, W.R.  
Andrew, R.T.  
Andrews, M.C.  
Arneith, A.P.  
Awramik, J.  
Ayer, W.T.  
Babbitt, E. Jr.  
Babcock, J.H.  
Ballard, A.H.  
Ballard, J.L.  
Ballard, M.E.  
Barclay, A.S.  
Barna, J.  
Barnett, J.S.  
Bartelt, J.E.  
Batson, J.A.  
Batten, J.C. Jr.  
Bayne, J.  
Bechtold, W.C.  
Beck, H.M.  
Begue, G.P.  
Belcher, H.P.  
Belford, K.R.  
Bell, W.S.  
Benice, R.J.  
Bergman, A.A.  
Beyene, B.  
Birch, J.N.  
Bisaga, J.J.  
Bistrup, J.H.  
Blasdel, F.G.  
Boggs, G.E.  
Bogley, P.C.  
Bouchey, S.H.  
Bradshaw, W.E. II  
Brady, M.E.  
Briskman, R.D.  
Broderick, T.E.  
Brown, D.J.  
Brown, H.M.  
Brown, T.W.  
Browne, S.  
Burgess, J.M.  
Burrows, C.R.  
Bush, G.P.  
Cahan, P.J.  
Carey, R.B.  
Carpenter, R.J.  
Carr, L.H.  
Carrick, R.L.  
Carson, A.R. Jr.

Washington, D.C. (Cont'd.)

Carter, R.P.
Caston, B.F.
Chadwell, W.L.
Chandler, C.C.
Chappuis, C.K.
Chen, S.N.C.
Chirwa, M.K.
Christopher, P.F.
Chu, Y.
Clark, M.C.
Clark, R.L.
Clark, V.C.
Clarke, A.B. Jr.
Coffee, J.M.
Cohen, J.
Cole, J.E.
Cole, R.I.
Cole, W.M. Jr.
Colligan, F.S.
Collins, J.
Cook, F.W.
Coombs, E.M.
Corbett, C.K.
Corkill, J.F.
Cottrell, J.E. Jr.
Coulter, M.D.
Counts, T.M.
Cowan, B.
Crabill, P.F. Jr.
Crago, R.P.
Crummer, R.N.
Crutchfield, A.E.
Cushing, R.E.
Dalke, H.
Dalle Mura, P.H.
Darnall, W.H. III
Darracott, H.T.
Davis, E.D.
Davis, L.B.
Davis, R.C.
Dawson, H.E.
Deal, W.R.
Dean, C.E.
Deckelman, F.C.
Decker, K.M.
De Hart, W.D.
Demas, G.K.
Dent, J.R.
De Socio, G.
Dickinson, W.
Dittberner, D.L.
Dixon, G.C.
Donald, B.L.
Dooley, G.F.
Doyle, E.J.
Duncan, H.S.
Dupree, J.N.
Durkovic, J.E.
Dyke, E.
Early, D.M.
Eaton, C.B.
Edward, C.E.H.
Edwards, N.P.
Ellersick, F.W.
Engel, J.S.
Fama, C.S.
Felton, W.W.
Filipowsky, R.
Fine, H.
First, W.W.
Fitch, G.E.
Fivel, M.J.
Floegel, M.E.
Flores, A.H.

Fondrk, J.S.
Foxe, M.
Frank, F.P.E.
Frederick, Sr. C.L.
Frederick, E.W.
Freeman, J.T.
Frenkel, G.
Fromke, F.A.
Galane, I.B.
Gancie, J.J.
Gates, H.P. Jr.
Gautney, G.E.
Gautreaux, A.A.
Gaze, R.H.
Gentry, E.B.
Gerhardt, J.C.
Getman, G.A. Jr.
Giaudrone, T.D.
Gibson, A.L.
Goodrich, E.E.
Gordon, C.W.
Gould, G.A.
Gould, R.G.
Goyette, P.E.
Graham, K.J.
Gray, L.F.
Green, W.C.
Greenwood, D.R.
Gretz, R.W.
Griffin, L.L.
Hagerling, S.W.
Halvorsen, H.W.
Harris, M.L.
Hawkins, R.L.
Haynes, W.A. Jr.
Hazelett, S.E.
Headstrom, R.L.
Heffernan, P.J.
Heisler, K.G. Jr.
Henry, V.F.
Herrlin, R.C.
Hesse, G.L.
Hettinger, J.R.
Hibbert, J.J.
Hilton, G.E.
Hitt, R.E.
Hoch, P.
Hocking, L.J.
Hodges, M.F.
Hodgin, W.J.
Hollis, J.L.
Holzer, W.H.
Hormats, M.A.
Huke, J.A.
Hultberg, R.M.
Hunsicker, F.L.
Inciardi, R.A.
Issette, A.L.
Jackson, C.H.
Jacobs, G.
Jahoda, J.R.
James, J.L.
James, W.G.
Jansen, J.
Jansky, C.M. Jr.
Jean, F.H.
Jenson, C. L.
Joffe, N.
Johnson, C.W.
Johnson, J.E.
Johnson, K.C.
Johnston, A.M.
Jones, G.C.
Jones, M.E.
Jones, W.C.

Katz, P.
Katzin, M.
Kemeny, E.S.
Kengla, C.A.
Kennedy, W.A.
Kent, E.A.
Kershner, S.W.
Kiichli, J.A.
King, W.P.
Kirby, R.S.
Kitchener, R.A.
Kleckner, C.C.
Knickel, E.R.
Komiske, P.T.
Kovar, M.M.
Krahe, L.R.
Krantz, F.H.
Krccek, J.A.
Krochmal, A.F.
Kups, E.F.
Kutz, R.E.
Kuzminsky, I.
Kyle, D.N.
Kymmell, A.W.
Laine, R.O.
Laker, E.F.
Lambidakis, P.G.
Larsen, P.J.
Larson, B.J.
Laughlin, C.R. Jr.
Leavitt, W.E.
Lee, P.H.
Lefkowitz, H.
Lending, R.D.
Leonhard, J.
Lepper, W.E.
Levandosky, N.R.
Levengood, L.J.
Levin, W.S.
Levine, R.H.
Lieberman, R.A.
Light, L.
Lindamood, T.C.
Linker, M.E.
Little, J.L.
Lord, J.E.
Luff, F.T.
Lynch, T.J.
Lyon, W.T.
Mack, S.J.
Magdeburger, P.E.
Maichle, R.J.
Malm, R.
Mansberg, G.
Marks, M.
Marquart, R.G.
Martin, G.
Martin G.C.
Mazer, W.M.
McCluskey, P.M.
McDonough, T.J.
McEachen, A.D.
McGinnis, C.E.
McGowan, J.E.
McKesson, L.J.
McLeod, J.S.
McNeil, G.E.
McWiggan, T.J.
Meenahan, W.J.
Meisinger, H.P.
Metz, H.I.
Metzger, S.
Michaels, J.V.
Mickey, L.
Miles, P.D.

Miller, D.L.
Miller, R.L.
Mironov, A.
Mischler, E.F.
Mitchell, F.T. Jr.
Monsen, P.
Moore, R.C.
Morakis, J.C.
Morelli, M.
Morris, F.W. Jr.
Morrison, P.
Muehldorf, E.I.
Mundell, K.C.
Munsell, C.E.
Munson, H.D. Jr.
Murray, J.T.
Myers, R.F.
Neely, G.M.
Norton, M.H.
Norton, M.L.
Norton, W.M. Jr.
Nowakoski, D.B.
O'Brien, B.C.
O'Bryan, R.L.
Oittinen, K.E.
Olson, J.C.
Onory, G.S.
Orr, C. B. Jr.
Oscanyan, P.C.
Pace, N.C.
Page, O.D.
Pai, M.
Palmer, L.C.
Pankowski, B.J.
Parker, J.F.
Patch, H.W. Jr.
Peltzer, K.E.
Pentz, R.M.
Peters, S.M.
Petry, C.A.
Peugh, W.E.
Pichetto, P.B.
Pickering, T.A.
Pierce, R.C.
Pike, W.N.
Plehn, A.D.
Plotkin, I.
Pollow, C.H.
Poor, V.D.
Portmann, P.A.
Ports, D.C.
Powers, R.C.
Prescott, H.
Pride, R.W. Jr.
Prisekin, C.
Prisutti, M.J.
Prout, F.M.
Pruitt, J.A.
Puente, J.G.
Quenstedt, R.E.
Quinn, T.P.
Quintavell, C. Jr.
Rall, P.M.
Rasmussen, A.R.
Rawls, L.E.
Ray, R.N.
Reese, M.R. Jr.
Reiser, D.G.
Renner, J.J.
Reppard, D.L.
Reynolds, R.H. Jr.
Ricciardelli, A.M.
Riesz, W.H.
Rifkin, M.
Riley, I.H.

Washington, D.C. (Cont'd.)

Rizzoni, E.M.
Roberts, W.K.
Robertson, T.L. Jr.
Robinson, L.M.
Robinson, R.C.
Rockwell, P.
Rodatus, E.J.
Rogers, D.C. Sr.
Rohrer, R.E.
Rovang, R.J.
Roy, L.B.
Royce, R.K.
Runyon, C.A.
Ryan, D.C. Jr.
Saltman, R.G.
Sanborn, R.L.
Sanders, C.W.
Sargent, C.J.
Scheinman, A.H.
Schottland, F.D.
Schulherr, R.M.
Schwartz, J.W.
Schwartz, S.
Scibilia, W.R.
Scott, D.L.
Scott, R.M.
Scott, Robt. M.
Segal, B.R.
Selby, H.A.
Shapiro, G.
Shen, K.
Shera, P.C.
Sherrick, D.C.
Silins, A.
Simis, R.L.
Simon, T.E.
Singer, C.H.
Smith, D.K.
Smith, W.M.
Smyth, T.J.
Petry, W.R.
Snell, N.M.
Solomon, D.L.
Soma, R.
Soohoo, E.L.
Spencer, C. L.
Spraitz, J.P.
Stelter, L.R.
Stewart, J.L.
Stone, D.L.
Strother, J.F.
Strothers, H.
Sullivan, A.H. Jr.
Sutton, R.A.
Svedlow, J.D.
Swan, N.C.
Syptak, H.G.
Talley, R.P.
Tap, R.N.
Taylor, R.E.
Terashi, T.
Thompson, D.H.
Thouin, D.E.
Thurber, J.R.
Toth, E.
Townsend, C.W.
Townsend, M.R.
Tredwell, J.
Turnipseed, T.E.
Tuttle, J.O.
Unga, A.J.
Uvaas, C.M.
Van Blerkom, R.

Van Valkenburgh, R.A.

Varhus, H.H.
Vea, T.H.
Vignali, J.A.
Vincent, A.R.
Vogel, H.O.
Vokes, J.C.
Wainwright, R.A.
Waldschmitt, J.A.
Wallace, J.D.
Walsh, J. P.
Walter, J.C.
Warwick, J.C.
Waters, R.W.
Watkins, C.F.
Watkins, W.H.
Webster, E.M.
Weigel, R.L.
Weihe, V.I.
Weinschel, B.O.
Welch, C.M.
West, H.R.
Wheeler, L.B.
Whitenight, D.N.
Whittemore, P.B.
Williams, C.H.
Wilмотte, R.M.
Wilson, S.L.
Winter, R.E.
Worne, B.E.
Worthington, D.T.
Worthington, J.W. Jr.
Wright, C.S.
Wright, M.E.
Yaplee, B.S.
Yates, W.A. Jr.
Yeh, L.P.
Yost, W.E. Jr.
Young, W.D.
Zborofsky, R.A.
Zitzmann, F.R.
Zumba, C.F.

West Virginia

Akers, J.W.
Gary, W.R.
Sinsel, P.W.
Young, D.A.

Williamsport

Aimar, M.B.
Harris, R.S.

REGION 3

Alabama

Chapman, P.W.
Dixon, B.F.
Herrin, J.B.
Ivey, H.L.
Patton, F.A.
Smith, D.L.
Tillman, E.R.
Willis, P.A.

Atlanta

Armesto, R.
Badgett, A.F.
Berry, J.B. Jr.
Betts, R.W.
Billings, R.H.
Bond, D.E.
Burnett, W.C.
Camp, R.W.

Creel, J.D.
Dechovitz, J.
Dunphy, H.B. Jr.
Edwards, D.T.
Elgarresta, L.
Elliott, R.G.
Evans, B.D.
Fay, D.B.
Finn, D.L.
Flemister, H.A.
Forrest, M.E. Jr.
Fowler, N.B.
Freese, W.E.
Gallemore, W.G.
Glaze, G.O.
Goins, R.L. Jr.
Harrell, S.R.
Hester, S.D.
Howard, D.A. Jr.
Jones, R.T.
Jones, W.B. Jr.
Kratsch, P.H.
Lifshitz, S.
Mayo, W.T. Jr.
McDugald, T.T.
McMahon, D.W.
Montgomery, B.E.
Pettit, R.H.
Robertson, L.T.
Schisler, C.W.
Sergo, J.R. Jr.
Strean, B.M.
Stuhr, F.V.
Sullivan, W.L.
Thompson, D.L.
Trudel, J.D.
Williamson, J.T.
Wilson, D.G.

Baton Rouge

Butler, C.M.
Hart, R.A. III
Henry, R.R.
Hudson, A.B.
Roberts, B.G.
Tims, E.F.

Canaveral

Anderson, J.P.
Bradbury, L.D.
Brown, H.H.
Clarson, J.C.
Dopmeyer, R.R.
Ferguson, R.E.
Gallagher, C.A.
Grace, B.J.
Grace, R.M.
Hansell, C.W.
Henderson, R.P.
Jimeian, F.
Karger, G.
Keiser, B.E.
Knights, J.E. Jr.
Lane, J.R.
Lapp, D.N.
Lerner, L.
Martin, A.R.
Mason, F.M.
Neelands, L.J.
Orlov, I.
Pelchat, G.M.
Perkins, F.M. Jr.
Pester, R.F.
Peterson, H.O.

East Tennessee

Bowman, S.J.
Haynes, W.M. Jr.
Lentz, N.D.
Thompson, G.R.

Evansville-Owensboro

Hancock, R.J.

Florida West Coast

Bailey, D.C.
Blachowicz, L.F.
Borges, L.E.
Donaldson, M.R.
Ehrhorn, R.W.
Feldhusen, R.L.
Garrott, L.O.
Glenn, R.

Phillips, J.E.
Randolph, R.C.
Robinson, E.M.
Ruggieri, F.A. Jr.
Scharla-Nielsen, H.
Sissom, A.W.
Turvey, F.P.
Uzel, F. Jr.
Wade, R.J.
Webster, R.E.
Webster, W.C.
Whitworth, W.D.
Wren, A.W. Jr.

Central Virginia

Bartley, W.P.
Clement, R.R.
Davids, H.H.
Farmer, R.A.
Gifford, R.P.
Gordon, R.T.
Griffin, F.G.
Hanrahan, J.A.
Hayden, J.O.
Jarrett, H.M.
Jenkins, D.C.
Juncker, S.L.
Kluender, E.C.
Lee, K.O.
Linker, J.B. Jr.
Lowe, R.F.
McAlpine, G.A.
McKee, T.A.
Mueller, O.M.
Pinkerton, D.C.
Pitzer, H.B.
Quarles, L.R.
Roberts, G.E.
Rose, G.D. Jr.
Smees, P.G.
Smith, J.S.
Stiles, C.W. Jr.
Thomas, H.P.
Vadasz, A.J.
Weiner, S.B.

Chattanooga

Brown, R.S.
Bryant, L.A.
Duncan, J.C.
Holmes, H.R. Jr.
Jernigan, D.R.
Moore, R.L.
Myers, J.H.
Smith, R.T.

Florida West Coast (cont'd.)

Grossman, A.J.  
Halpern, P.H.  
Hansel, P.G.  
Kirk, K.W.  
Knight, J.M. Jr.  
Lampkin, G.F.  
Larson, E.V.  
Lugten, L.K.  
Lyon, H.A.  
Mensch, J.R.  
Moore, J.L.  
Pittman, N.W.  
Pokorny, E.J.  
Poppe, M.C. Jr.  
Saraydar, R.A.  
Scott, L.E.  
Seib, K.L.  
Slougher, G.S.  
Uglow, K.M. Jr.

Gainesville

Daley, W.E.  
George, T.S.  
Williamson, E.P.

Hampton Roads

Boyer, W.J.  
Bundick, W.T.  
Collins, J.W.  
Crinklaw, D.L.  
Denbow, K.D.  
Engles, J.W. Jr.  
Howerton, D.J.  
Lawrence, H.M.  
Stevens, C.S.  
Wiecking, K.D.

Huntsville

Boyd, C.M.  
Brittain, K.P.  
Chen, R.H.C.  
Dotson, E.J.  
Frost, W.O.  
Howlett, J.K.  
Kaplan, K.E.  
Little, H.W.  
Montgomery, H.J.  
Newman, W.W. Jr.  
Reynolds, T.G. Jr.  
Scaf, J.E.  
Seid, H.R.  
Steele, N.D. Jr.  
Steen, W.J.  
Straits, R.G. Jr.  
Strohecker, J.P.  
Suzuki, D.Y.  
Tindall, T.O.  
Van Aller, W.H.

Lexington

Fackler, C.M. Jr.  
Frye, J.L.  
Gribbon, H.T.  
Holliday, C.R.  
Krebs, T.G.  
Rahenkamp, R.A.  
Webb, G.T.  
Whitehouse, F.B. Jr.  
Yount, W.R.

Louisville

Rieger, R.J.

Memphis

Jaseph, L.F.  
Miller, T.P.  
Pace, T.K.  
Stephens, W.J.

Miami

Bryant, C.S.  
Coleman, J.R. Jr.  
Cook, H.A.  
Cross, J.H.  
Gordon, L.L.  
Herzog, E.J.  
MacNichol, G.F.  
Selenius, O.E.

Middle Tennessee

Roberson, D.L.

Mississippi

Hanna, H.B. Jr.  
Hataway, M.A.  
Mann, W.W. Jr.  
May, J.E.

Nashville

Bunn, J.C.  
Morgan, J.R.  
Parish, E.W. Jr.  
Ruffner, J.M.  
Thomas, J.S.  
Whittaker, G.W.  
Wilson, J.R. Jr.

New Orleans

Brown, J.H.  
Cronvich, J.A.  
Hallaman, J.C.  
Nolan, B.H.  
Weathersby, T.P.

North Carolina

Armstrong, E.A.  
Arrington, L.H.  
Barnes, R.S.  
Barnes, R.W. Jr.  
Barron, J.I.  
Bartlett, R.E.  
Bishop, R.E.  
Bowman, J.H.  
Clark, H.W.  
Corbell, I.T. Jr.  
Dean, J.K. Jr.  
Dellinger, F.G.  
Fobes, R.D.  
Harrell, D.E.  
Hayworth, C.G.  
Hilburn, W.J.  
Horne, W.H. III  
Johnson, J.P.  
Keblawi, F.S.  
Larson, G.C.  
MacIntyre, A.B.  
McDuffie, D.D.  
McLane, A.R.  
McLaughlin, N.R.  
Meyer, S.F.  
Parrin, H.C.  
Quelch, W.H.  
Ray, K.P.  
Roberts, W.L.  
Sain, W.C.  
Slater, R.C.

Panama City

Dawirs, H.N.  
Wood, L.A.

Pensacola

Scarbrough, H.H.

Richmond

Gale, T.R.  
Keeton, W.I.  
Roberts, W.E.  
Swingle, W.M.  
Tiller, J.K.  
Vellines, W.E. Jr.

Savannah

Engle, C.G.

Smith, I.A. Jr.  
Smith, P.G.  
Smith, W.T.  
Swinney, J.G.C. Jr.  
Sycks, A.C.  
Teal, J.B.  
Walden, R.M. Jr.

Orlando

Anderson, G.F.  
Baxter, C.W.  
Baxter, D.D.  
Chasteen, J.W. Jr.  
Coleman, R.I. Jr.  
Eddy, W.L.  
Finnigan, C.W.  
Grossman, H.W.  
Haas, D.L.  
Heffner, R.W.  
Horton, W.H.  
Hostetter, F.L. Jr.  
Irvine, J.A.  
Jamison, F.J. Jr.  
Kasowski, S.E.  
Layne, J.L.  
Lazarus, D.H.  
Leslie, S.A.  
Levy, A.J.  
Longley, R.M. Jr.  
McCanless, C.P.  
McClure, G.F.  
McGuire, H.E.  
Mailloux, L.D.  
Murphy, J.T. Jr.  
Patrick, W.S.  
Prihar, D.Y.  
Puckett, H.E.  
Rhein, G.W.  
Roberts, E.L.  
Rudd, T.J.  
Severance, F.D.  
Smythe, R.C.  
Suganuma, P.K.  
Varsos, S.G.  
Walter, J.M. Jr.  
Weaver, H.R.  
Whitescarver, C.D.  
Woolsey, W.O.  
Wroten, L.J.

Central Illinois

Ernst, E.W.  
Gudat, A.J.  
Hoyt, W.A.  
Jochem, N.L.  
Pennington, J.W.  
Pollpeter, R.C.  
Salah, J.E.

Central Indiana

Akers, L.A.  
Allen, D.B.  
Bartlett, C.A.  
Boone, G.W.  
Chua, L.O.  
Cooper, G.R.  
Cross, J.R.  
Hancock, J.  
Harbron, T.R.  
Hibbs, E.B. Jr.  
Hood, J.M.  
Lindenlaub, J.C.  
Lovall, D.D.  
Luecke, E.J.  
Luksch, J.A.  
Magar, J.R.  
Mix, D.F.  
Mock, D.G.  
Moench, H.A.  
Niemoeller, D.A.  
Oblinger, F.C.  
Okamoto, R.T.  
Patton, K.M.  
Sappeufield, N.D.  
Skalka, K.P.  
Stephenson, E.P.  
Steury, T.R.  
Sugioka, J.K.

Palm Beach

Latham, J.P.

Panama City

Dawirs, H.N.  
Wood, L.A.

Pensacola

Scarbrough, H.H.

Richmond

Gale, T.R.  
Keeton, W.I.  
Roberts, W.E.  
Swingle, W.M.  
Tiller, J.K.  
Vellines, W.E. Jr.

Savannah

Engle, C.G.

South Carolina

Cory, I.W.

Duffie, J.E.  
Elder, W.W. Jr.  
Gower, L.R.  
Lecroy, E.P. Jr.  
Loesche, W.H.  
Long, O.  
Mayfield, J.T. Jr.  
Miler, G.C. Jr.  
Puckhaber, H.H. III

Virginia Mountain

Berry, G.W.  
Cannon, W.W.

REGION 4

Cedar Rapids

Cox, R.T.  
Craft, L.M.  
Gilmore, C.P.  
Hungerford, L.D.  
Irvine, J.A.  
Kan, J.  
Koch, R.W.  
Martin, E.L.  
Niday, J.O.  
Opsahl, G.I.  
Sellers, G.W.  
Stover, H.A.  
Vink, M.L.  
Wade, W.D.  
Wei, Y-M  
Whisman, D.L.  
Wulfsberg, P.G.

Central Illinois

Ernst, E.W.  
Gudat, A.J.  
Hoyt, W.A.  
Jochem, N.L.  
Pennington, J.W.  
Pollpeter, R.C.  
Salah, J.E.

Central Indiana

Akers, L.A.  
Allen, D.B.  
Bartlett, C.A.  
Boone, G.W.  
Chua, L.O.  
Cooper, G.R.  
Cross, J.R.  
Hancock, J.  
Harbron, T.R.  
Hibbs, E.B. Jr.  
Hood, J.M.  
Lindenlaub, J.C.  
Lovall, D.D.  
Luecke, E.J.  
Luksch, J.A.  
Magar, J.R.  
Mix, D.F.  
Mock, D.G.  
Moench, H.A.  
Niemoeller, D.A.  
Oblinger, F.C.  
Okamoto, R.T.  
Patton, K.M.  
Sappeufield, N.D.  
Skalka, K.P.  
Stephenson, E.P.  
Steury, T.R.  
Sugioka, J.K.

Central Indiana (cont'd.)

Tabaczynski, J.A.  
Warder, G.G. Jr.  
Welch, E.S.  
D.R. Wilkinson  
Wintz, P.A.

Central Iowa

Baird, F.E.  
Benson, C.A.  
Browman, R.A.  
Fowler, R.F.  
Johnston, D.H. Jr.  
Koch, A.L.  
West, R.J.

Chicago

Aagaard, J.S.  
Argoudelis, E.  
Arkell, F.J. Jr.  
Bartha, S.J.  
Bass, S.  
Belcher, J.S. Sr.  
Bell, E.F. Jr.  
Berndtson, E.E.  
Bernhard, L.F.  
Bickel, L.L.  
Bilsens, G.  
Bogdan, R.R.  
Bradbery, J.L.  
Bridges, J.E.  
Brown, A.J.  
Bryan, R.H.  
Bursh, T.W.  
Busch, J.E.  
Buxton, B.L.  
Cain, L.R.  
Callahan, B.E.  
Caputo, J.P.  
Carli, R.J.  
Chasteen, J.T.  
Chiu, P.  
Choncholas, J.J.  
Clark, J.M.  
Cogley, P.J.  
Conklin, R.D.  
Cooper, M.  
Correia, F. Jr.  
Costello, L.B.  
Czeropski, W.P. Jr.  
D'Aniello, J.P.  
Davis, R.H.  
Devale, D.P.  
Dimitroff, C.J.  
Ditthardt, A.R.  
Donnelly, F.  
Dunlap, J.F.  
Eilers, C.G.  
Engelbrecht, L.R.  
Farley, J.E.  
Figlik, R.J.  
Fockens, P.  
Foster, G.E.  
Fu, Y-S  
Gampert, F.C.  
Garrigues, R.D.  
Giffin, G.S.  
Gilbo, E.G.  
Glennner, E.J.  
Goldstein, R.  
Goodfriend, G.M.  
Graziano, V.  
Griffith, B.G.  
Grimme, H.J.

Hajek, R.J.  
Hansen, P.J.  
Harrison, R.L.  
Healy, T.J.  
Heins, J. E.  
Hemming, L. H.  
Henmueller, F. NM.  
Hersh, S. I.  
Hess, W. I.  
Hetrtrick, R. N.  
Hirner, J. A.  
Hodson, L. A.  
Huebner, C. A.  
Hupert, J. J.  
Hutson, D. E.  
Jacobs, M. A.  
Jeffery, T. H.  
Johnson, R. L.  
Jonic, B. D.  
Kargus, A.E.L.  
Kaye, R. K.  
Kazel, S.  
Klem, R. F.  
Kovats, J. R.  
Kowols, G. J.  
Krause, E. H.  
Kroes, D. P.  
Krystal, L. P.  
Kusner, W. J.  
Lamons, R. P.  
Leach, M. J.  
Leahy, P. J.  
Lee, D.K.K.  
Leininger, A.J.  
Leslie, W. G.  
Ludwig, J.T.  
Luplow, W.C.  
Lysaught, T.F.  
Magnuski, H.  
Maier, R.H.  
Mankivsky, A.  
May, J. E.  
McCollum, L.W.  
McKnight, R.W.  
Messerschmidt, H.L.  
Morris, L. P.  
Morrison, R. E.  
Mullerheim, K.  
O'Grady, J.J.  
Padgitt, K.W.  
Palm, J.L.  
Parkinson, J.A.  
Patterson, R.H.  
Peter, D.  
Petric, J.N.  
Pizzica, J.D.  
Powell, C.S.  
Powell, R.D.  
Prichard, R.  
Quist, W. G.  
Rafaels, U.  
Raphel, J.C.  
Reese, F.D.  
Rett, Hubert C.  
Roedel, J.  
Roschke, E.M.  
Roth, L.T.  
Sacco, G.F.  
Scarpelli, N.F.  
Scharding, R.M.  
Schildgen, R.M.  
Schmidt, R.B.  
Schumpert, J.M.  
Schutte, J.P.

Sedik, J.J.  
Seehawer, J.E.  
Shintani, E.H.  
Singer, W.H.  
Slayton, R. D.  
Smessaert, R.R.  
Smith, E.E.  
Smith, T.W.  
Sobel, I.J.  
Solman, F.J. III  
Soria, R.M.  
Splies, P.D.  
Splitt, F.G. Jr.  
Stastny, G.F.  
Steel, F.R. Jr.  
Stella, J.  
Stenerson, C.K.  
Stevens, H.R.  
Stewart, C.W.  
Stroik, R.G.  
Swider, J.A.  
Therkildsen, R.D.  
Toth, W.S.  
Tracy, W.F.  
Tsai, S.  
Tzakis, G.J.  
Ulaszek, J.J. Jr.  
Vaddiparty, Y.P.  
Valcik, L.  
Van Bosse, J.G.  
Van Slyck, W.S.  
Warfield, R.W.  
Warren, C. S.  
Weed, R. P.  
Westerlund, C.T.  
White, E.S.  
Wienczek, Z.  
Winter, N.L.  
Wirsing, H.L.  
Wittkop, C.F.  
Wolfframm, B. M.  
Woolsey, R.J.  
Wray, P.G.  
Yau, Sik-Sang  
Zender, R.G.  
Zenner, W.J.

Fort Wayne

Aldred, E.D.  
Conley, W.H.  
Dow, C. D.  
Ehinger, C.D.  
Erdman, R.C.  
Kaehr, R.R.  
Mast, J.G.  
Quinlan, R.V.  
Rice, W.D.  
Sinish, R.D.  
Zins, W.A.

Iowa-Illinois

Fosholt, S.K.

Madison

Aasterud, J.P.  
Birkemeier, W.P.  
Birr, G.W.  
Brown, G.W.  
Fontaine, A. B.  
Garvey, R.P.  
Helfrecht, K.G.  
Kramer, R.L.  
McCormick, W.S.

Ruiz, J.  
Sohn, S.J.  
Standish, M.J. Jr.

Milwaukee

Connerton, B.J.  
Eriksson, L.J.  
Krueger, C.H.  
Luedtke, R.L.  
Paalu, A.  
Richter, W.  
Saari, L.V.  
Schaller, L.P., Jr.  
Schlicke, H.M.  
Spayth, F.  
Stumpf, H.W.  
Woelfel, E.W.  
Wycoff, D.C.

Nebraska

Andros, T.A.  
Crozier, C.R.  
Danielson, J.R.  
Doll, C.L.  
Farley, W. H.  
Ghormley, R.K.  
Haman, O.L.  
Heidt, D.L.  
Hunt, R.A.  
Jett, C.O.  
Kessler, W.H.  
Risley, M.I.  
Schneider, A.A.  
Stearns, J.W.  
Syverson, F.A.  
Veach, C.V.  
Wycoff, K.H.

Northeast Michigan

Chesney, W.C.  
Fingerle, K.B.

Rock River Valley

Bente, M.H.  
Buscemi, J.V.  
Drake, G. F.  
Evers, H.G.

Siouxland

Graf, E. A.  
Rogers, R.H.

South Bend

Allison, O.  
Banks, R.E.  
Calendine, R.H.  
Cornett, T.D.  
Elliott, W.M.  
Kaeding, A.R., Jr.  
Koster, W.J.  
Myers, B.R.  
Odehnal, J.J.  
Schlitzer, T.J.  
Simmons, W.L.  
Stapulionis, A.R.

Southeastern Michigan

Alexander, P.H.  
Arnold, D. C.  
Auterman, J.L.  
Bauer, F.  
Beam, H.H.  
Bickley, A.W.  
Birdsall, T.G.

Southeastern Michigan (Cont'd)

Burge, F.L.  
Carroll, L.  
Chute, G.M.  
Cohn, A.L.  
Cutrona, L.J.  
DeHaan, R.F.  
Dusenbury, L.B.  
Dute, John C.  
Ebert, D.H.  
Fallis, R.L.  
Faram, H. D.  
Ferris, C.C.  
Garter, M.A.  
Gauss, R.C.  
Gilbo, D.W.  
Gille, F.H.  
Harokopus, W.P.  
Hoellerich, G.  
Holland, L.N.  
Hoyt, E.M.  
Jones, C.P.  
Kent, C.E.  
Kovac, R.E.  
Lanning, H.E.  
Leffel, J.C.  
Leverault, L.A.  
Lewinski, D.J.  
Liepa, L.V.  
Lyon, J.A.M.  
Macnee, A.B.  
Mallat, F.J.  
McLaughlin, J.C.  
Menninga, G.L.  
Metzger, K., Jr.  
Miller, W.T.  
Munster, A.C.  
Newton, D.J., Jr.  
O'Neal, R.D.  
Paprocki, C.R.  
Pressel, P.I.  
Quell, B.S.  
Radcliffe, A.J., Jr.  
Rauch, L.L.  
Ristenbatt, M.P.  
Robinson, D.F.  
Root, W.L.  
Rykala, T.P.  
Scott, Gerald C.  
Siroscopy, J.M.  
Smith, N.  
Smith, R.K.  
Speers, D.F.  
Sterling, S.  
Sweetman, A.P.  
Taras, S.M.  
Thayer, L.L.  
Tieman, C.R.  
Traeger, B.L.  
Treadwell, M.E.  
Wallace, V.L.  
Winner, D.H.  
Winters, C.S.  
Wisner, D.A.  
Zaitzeff, E.M.

Southern Minnesota

Anderson, E.J.  
Bresnan, W.J.  
Christiansen, R.A.  
Cobley, G.A.  
Johnson, E.F.  
Stoltenberg, K.D.

Toledo

Barroeta, V.A.  
Blumberg, J.H.

Chipman, R.A.  
Doktor, L.A.  
Hetrick, E.H.

Twin Cities

Barcus, G.E.  
Barker, J.H.  
Barnard, D.F.  
Barritt, G.W.  
Bigelow, W.B.  
Clark, N. Jr.  
Cox, C.E.  
Dufour, G.L.  
Edwards, P.E.  
Erickson, W.L.  
Fogg, F. D.  
Forchtner, J.  
Grosz, W.S.  
Hennies, S.R.  
Hird, F.S.  
Horan, L.W.  
Janssen, R.A.  
Johnson, E.C.  
Johnson, G.H.  
Johnson, R.A.  
Kahnke, J.  
Kanda, A.F.  
Kogl, L.  
Labelle, G.L.  
Mellon, G.E.  
Meyer, B.L.  
Nelson, G.D.  
Newman, M.M.  
Norton, V.E.  
Paurus, N.W.  
Peterson, O.E.  
Powell, R.M.  
Priebe, N.F.  
Robel, R.B.  
Sabine, L.E.  
Schuck, O.H.  
Schulz, S.W.  
Scott, R.L.  
Smith, R.F.  
Sorum, H.D.  
Thorson, J.M., Jr.  
T'Kach, H.V.  
Ulstad, M.S.  
Vogelzang, W.F.  
Weidenkopf, T.E.  
Werner, L.  
Youngvorst, L.H.

West Michigan

Scott, H. R.

REGION 5

Arkansas

Gibson, G.T.  
McDaniel, D.L.  
Shrader, C.W.

Beaumont

Cox, W.H.  
Sorrel, R.K.

Central Texas

Dolle, W.C.  
Eikner, J.W.  
FitzSimon, D.E.J.  
Lane, R.N.  
McQuown, A.N., Jr.  
Simpson, S.H., Jr.  
Stanley, B.B.  
Vaughan, R.S.

Corpus Christi

Roberts, J.D.  
Yates, C.C.  
Zuch, E.E.

Dallas

Aldridge, J.M.  
Barr, W.W., Sr.  
Booty, D.J.  
Browning, B.L.  
Bruene, W.B.  
Bullock, M.W.  
Clinger, A.H.  
Cramer, G.L.  
Cuesta, N.G.  
Cunningham, A.R.  
Davis, D.K.  
Doherty, J.E., Jr.  
Dowell, K.P.  
Duval, J.F.  
Earhart, C.E.  
Evans, W.T.  
Farmer, T.S.  
Fisher, L.M.  
Frey, H.B.  
Fu, Y.  
Garnett, G.H.  
Geisel, F.J.  
Gohry, H.A.  
Goldberg, H.  
Gorham, J.N.  
Greene, C.E.  
Hallford, B.R.  
Hardgrave, W.F.  
Harris, C.M.  
Harris, W.E.  
Hartman, R.E.  
Hern, H.D.  
Hertel, P., Jr.  
Hill, L.K.  
Holden, W.S.  
Hull, S.B.  
Husbands, H.G.  
Jackson, W.H., Jr.  
Jones, J.W.  
Laskowski, E.A.  
Leming, T.L.  
Lewis, M.T.  
Lewis, R.S., Jr.  
List, B.H.  
Livingston, R.M.  
Majorowicz, G.A.  
Martin, D.W.  
Mason, A.E., Jr.  
Maxwell, K.D.  
Mayo, B.R.  
McBride, A.L.  
McConoughey, S.R.  
McCutcheon, T.L.  
McGuire, R.J.  
McLean, C.H., Jr.  
Miedke, R.C.  
Mitchell, W.D.  
Perry, R.A.  
Pierce, C.H.  
Pitts, W.B.  
Price, J.F.  
Prickett, T., Jr.  
Ragsdale, R.L.  
Rasch, P.J.  
Reisch, F.E.  
Ritchie, C.A.  
Royalty, M.C.  
Schatzel, D.  
Sebesta, G.H.  
Skinner, E.E.  
Smith, H.E.

Denver

Adams, J.E.  
Ax, G.G.  
Ball, L.  
Barghausen, A.F., Jr.  
Barsis, A.P.  
Bellamy, B.C.  
Benshoof, R.W.  
Berry, W.M.  
Bittner, B.J.  
Boatwright, J.T., Jr.  
Brown, R.C.  
Burbey, R.D.  
Carson, L.M.  
Cohen, R.S.  
Cowell, P.K.  
Culver, F.C.  
Decker, M.T.  
Dougherty, H.T.  
Evans, R.L.  
Florman, E.F.  
Gierhart, G.D.  
Gonzalez, Antonio V.  
Hagius, K.S.  
Hamilton, K.E.  
Harris, R.E.  
Herbstreit, J.W.  
Huber, W.H.  
Kerr-Wilson, G.A.  
Kirby, R.C.  
Lewis, R.L.  
Maley, S.W.  
Maloney, L.J.  
Maxwell, E.L.  
Miller, H.P., Jr.  
Morrioni, D.J.  
Nesenbergs, M.  
Norton, K.A.  
Richardson, R.J.  
Ridd, J.M.  
Roberts, W.J., Jr.  
Salaman, R.K.  
Saum, G.H., Jr.  
Smith, E.K., Jr.  
Sparks, J.E.  
Stacey, D. S.  
Stewart, A. C.  
Strelesky, H. J.  
Swanson, R.E.  
Utlaut, W.F.  
Watt, A.D.  
Wicks, P.  
Wilson, Q.C.  
Wiseman, S.D.

El Paso

Baxley, L.H., Jr.  
Chin, B.  
Ekola, E.C.  
Johnson, C.M.  
Kerwin, R.F.

Smith, M.W.  
Snodgrass, D.P.  
Stanton, A.N.  
Steinberg, T.C., II  
Stephenson, W.B.  
Sudduth, J.F.  
Tackett, H.A.  
Varvel, W.M.  
Vilbig, J.L., Jr.  
Waters, W.F.  
White, C.A., Jr.  
Wilkinson, M.M.  
Wormser, J.J.  
Wright, W.W., Jr.  
Ziemer, D.R.

El Paso (Cont'd.)

Poterack, J. L.  
Rojas, A.M.  
Wise, J.A., III

Fort Worth

Carr, W.B.  
Huntington, C.F.  
Perry, J.L.  
Saffle, C.C.  
Thomson, R.W.

Houston

Baldrige, B.H.  
Beck, E.W., Jr.  
Caplan, R.S.  
Coleman, H.E.  
Cornett, J.R.  
Cox, W.B.  
Dennis, G.R.  
Dubuc, G.J.  
Farmer, D.E.  
Ficker, R.H.  
Hazlett, W.S.  
Hines, N.M.  
Hopkinson, E.C.  
Howes, R.B., Jr.  
Hudgins, W.T., Jr.  
Johnston, R.F.  
Jumper, F.  
Lee, D. C.  
Lee, J.L.  
Plagens, L.A.  
Poe, V.  
Schafer, E.L.  
Schutz, T.  
Sheppard, N.R.  
Sims, C.R.  
Skulmeisters, T.K.  
Trout, R.C.  
Williams, C.W.

Kansas City

Blakeley, B.L.  
Brilliant, M.B.  
Corbin, L.D.  
Files, C.O.  
Gipple, C.A.  
Goetsch, E.A.  
Hartwell, L.M., Jr.  
Hayre, H.S.  
Hearson, L. T.  
Huber, R.E.  
Karns, K.B.  
Kesler, J.P.  
Meador, B.F.  
Mitchell, D.F.  
Robertson, A.J.L.  
Schild, G.W.  
Stout, H.L.  
Swan, D.G.  
Trueman, A.W.  
Truske, T.N.  
Wilcox, J.V.

Oklahoma City

Andrews, B.N.  
Andrews, D.E.  
Baker, V.L., Jr.  
Black, E.  
Burroughs, E.H., Jr.  
Davidson, L.A.  
Duran, F.A., Jr.  
Ellis, C. R.  
Frost, R.R.  
Hall, M.G.

Haynes, J. S.  
Hazelwood, C.A.  
Hines, J.W.  
Hunting, R.A.  
Ledbetter, R.P.  
McKim, W.J.G.  
Mitchell, M.E.  
Mortlock, C.E., Jr.  
Nehrenz, H.H.  
Noyes, J. E.  
Puckett, T.H.  
Schwartz, J.A.  
Thornton, J.W.  
Voth, N.D.  
Watkins, M.W.  
Webb, J.K.  
Weisiger, J.M.  
Williams, W.R.  
Wood, G.J.

Panhandle

Doebbeling, R.D.

St. Louis

Arnoldy, F.R.  
Betten, J.R.  
Boots, T.E.  
Bowen, W.H., Jr.  
Breer, E.T.  
Budd, R.A.  
Delaney, H.R.  
Donahue, P.M.  
Frazier, J.P.  
Gampher, W.G.  
Ghyselinck, J.J.  
Hanley, W.R.  
Holloway, H.R.  
Ihle, D.B., Jr.  
Johnson, D.L.  
Kliros, D.E.  
Komo, J.J.  
Kuhn, G.H.  
Lindenberg, E.C.  
Madden, R.D.  
Preston, L.M.  
Schaedler, K.D.  
Swartz, C.W.  
Terry, J.W.  
Ullrich, D.P.  
Vance, J.G.  
Wesley, D.K.  
Williamson, R.A.

Shreveport

Bains, R.W.  
Brown, J.A.  
Hirsch, O.C.  
Howard, J.D., Jr.  
Hoyt, C.N., Jr.  
Long, F.V.

South Plains

Mast, J.G.  
Pease, L.A.  
Ragland, J.R.  
Salt, S.D.  
Spuhler, H.A.

Tulsa

Hawkins, J.E.  
Hawley, P.F.  
Labarthe, L.C.  
Lainiotis, D.G.  
Nichols, W.R.  
Ounsi, W.  
Schroeder, J.D., Jr.

Shelton, I.G.  
Silverman, D.

West Central Texas

Elrod, F.A.  
Smith, J.P.  
Yoas, R.G.

Wichita

Battin, J.T.  
Harrill, W.D.  
O'Loughlin, J.B.  
Wolfgram, J.K.

REGION 6

Alamogordo-Holloman

Nicholson, Taft

Albuquerque

Adams, R.A.  
Anderson, W.O., Jr.  
Brady, E.T.  
Carey, R.L.  
Favre, R.M., Jr.  
McCarthy, F.M.  
Newby, N.D.  
Roby, E.M.  
Sanders, B.T., Jr.  
Stringfellow, W.M.  
Tillotson, T.C.  
Vayer, R.M.

Anchorage

Dolan, W.A.  
Fulton, D.A.  
Goddard, A.E.  
Goshorn, R.  
Janke, J.A.  
Plimpton, C.W.  
Rourke, K.J.

Antelope Valley

Hitzenhammer, A.D.

Buenaventura

Barker, A.E.  
Edson, D.R.  
Ingram, R.D.  
Lane, R.F.  
Peringer, P.  
Wilson, N.C.

China Lake

Creusere, M.C.  
Long, G.K.

Foothill

Allen, J.H., Jr.  
Armstrong, R.V.  
Auletto, R.L.  
Banach, F.J.  
Barcus, E.D.  
Blyth, R.A.  
Brown, F.W.  
Buckelew, C.T.  
Capps, J.W.  
Cascell, W.S.  
Davis, R.E.  
Dibble, E.F.  
Frank, M.E.  
Garrison, H.D.  
Gibson, E.D.  
Gibson, G.A.  
Girdher, S.L.  
Hawes, R.E., Jr.

Hodder, W.K.  
Howery, R.W.  
Joseph, H.M.  
Kaleta, G.J.  
Karpeles, M.  
Kelley, S.B.  
Luvisi, T.P.  
MacDonald, D.L.  
Mickelson, J.R.  
Potter, D.H.  
Reeves, J.T.  
Rodgers, V.P., Jr.  
Rutledge, J.P.  
Sautter, P.J.  
Walker, M.C., Jr.  
Wolf, J. E.  
Woore, E.H.

Fort Huachuca

Buscall, D.C., Jr.  
Cahoon, C.N.  
Clapper, J., Jr.  
Lamb, J.J.  
Lamberth, H.R.  
Lundy, W.D.  
Maddox, J.A.  
Montasser, A.S.  
Shaver, J.W.  
Spittle, S.E.  
Van Houten, L.P.  
Weatherby, Y.D.

Hawaii

Booth, R.H.  
Brown, V.A.  
Chow, A.V.  
Cook, J.D.  
Dillinger, W.D.  
Dlugosz, S.J.  
Gnagy, J.L.  
Hays, C.H.  
Koken, Higa  
Hill, R.R.  
Houser, C.R.  
Hume, P.D.  
Janda, E.G.  
Link, V.A.  
Mita, D.M.  
Stagner, G.H.  
Turner, H.E.  
Wille, E.A.  
Yuen, C. M.F.

Las Vegas

De Vries, D.H.  
Gilbert, J.D.  
Lawhorn, R.D.  
Nagata, D.M.

Met. Los Angeles

Balluff, R.L.  
Brooks, C.N.  
Cavanaugh, C.J.  
Clabaugh, R.G.  
Cooper, F.E.  
Cunningham, O.L.  
Deininger, C.F.  
De Kimpe, R.A.  
Dlugatch, I.  
Drake, C.W., Jr.  
Emery, W.K.  
Estersohn, N.  
Euler, L.J., Jr.  
Goeder, P.O.  
Herbert, A.W.  
Hyatt, W.R., Jr.

Met. Los Angeles (Cont'd.)

Itami, F.S.  
Kaczor, E.  
Kayner, H.J.  
Knight, E.L.  
Lambert, J.D.  
Lee, H.E.  
Lees, A.B.  
Lindvay, P.D.  
Logan, D.C.  
McCallum, R.D.  
McMullen, D.W.  
Mead, W.H.  
Montgomery, L.K., Jr.  
Mount, B.J.  
Mumaw, J.P.  
Newport, J.B.  
Niemoeller, E.  
Noguerra, J.S.  
Parker, A.T.  
Pereyra, H.E., Jr.  
Porter, W.M.  
Rader, R.D.  
Regan, E.D.  
Sakamoto, R.T.  
Sapper, A.J.  
Shimabukuro, G.T.  
Sydnor, R.L.  
Tudor, J.E.  
Udalov, S.  
Vanderbilt, D.H.  
Weissberg, E.  
Wells, E.A.  
Williams, J.F.  
Yanagi, T.H.  
Zeitlin, S.

Montana

Christie, J.W.  
Erps, F.D.  
Hinkle, D.L.  
Leo, R.E.  
Liquin, F.B.  
Logan, D.J.  
McLean, C.R.  
Mehner, E.W.  
Stenehjem, W.J.  
Weaver, D.K., Jr.

Orange County

Ajioka, James S.  
Ambrose, J.R.  
Beans, J.B.  
Berndsen, P.J.  
Beveridge, R.W., Jr.  
Boycks, E.C.  
Brewer, H.E.  
Brown, S.R.  
Buller, B.T.  
Chambers, J.C.  
Clary, W.T., Jr.  
Counter, J.M.  
Cox, F.B., Jr.  
Dahlin, R.K.  
De Bord, M.J.  
Dellevar, C.J., Jr.  
Di Natale, J.A.  
Doelz, M.L.  
Doran, J.W.  
Ekeland, K.W.  
Evans, G.L.  
Fiege-Kollmann, H.  
Forbath, F.P.  
Foster, F.M.  
French, D.W.  
Gaude, W.G.

Gayton, C.F., Jr.  
Gebhardt, F.L.  
Gilbert, R.A.  
Gildea, R.P.  
Gipple, H.W.  
Gluth, N.P.  
Goldstein, A.  
Good, R.L.  
Gunning, W.F.  
Gurr, J.N.  
Haggai, T.F.  
Hall, J.O.  
Helland, J.C.  
Henry, H.E.  
Hilliard, J.K.  
Hite, H.F., Jr.  
Hume, G.A.  
Huntsman, H.F.  
Jeffrey, H.S.  
Johnson, L.J.  
Johnson, P., Jr.  
Jones, R.W.  
Kastenholz, C.E.  
Kerbs, W.A.  
Kerr, A.  
Kett, L.G.  
Kitchens, W.L.  
Knepper, R.C.  
Koegel, J.H.  
Kries, J.T.  
Kuenne, R.J.  
Lincoln, W.S.  
Link, W.F.  
Long, J.B., Jr.  
Lotterman, S.  
Loumeau, R.F.  
Mallinckrodt, A.J.  
Mast, P.E.  
McAuliffe, G.K.  
Melvin, W.J.  
Motley, D.M.  
Mushin, R.S.  
Nicholson, W.Q.  
O'Brien, W.C.  
Overmier, C.S.  
Paul, C.H.  
Perry, A.D., Jr.  
Pilling, L.H.  
Pope, W.S.  
Reedy, P.H.  
Renshaw, K.H.  
Rheingans, E.A.  
Ritter, V.G.  
Roiz, E.F.  
Rudin, M.B.  
Russell, C.H.  
Sagey, W.E.  
Salzman, G.S.  
Smith, G.Z.  
Smith, R.R.  
Taylor, H.L.  
Teuber, B.K.  
Toffler, J.E.  
Tyrrell, R.G.  
Volder, J.E.  
Weekes, B.B.  
Wilhite, D.B.  
Wilwhite, J.F.  
Witting, E.G.  
Yutzi, G.N.

Phoenix

Attwood, S.W.  
Barto, J.P.  
Bayless, J.W.  
Bergman, C.W., Jr.

Boothe, A.M.  
Donnelly, J.B.  
Echols, R.A.  
Edwards, M.J.  
Elsner, R.W.  
Finell, P.T.  
Flood, B.H.  
Fritsche, A.J.  
Goodman, R.G.  
Goss, G.J.  
Happ, W.W.  
Henderson, R.L.  
Hickman, J.E.  
Hurley, D.T.  
Kerker, R.  
Krasin, E.  
Mac Morran, W.E.  
Mc Ahron, M.C.  
Michel, J.D.  
Minkel, V.I.  
Morton, D.E.  
Norde, L.  
Omiya, E.S.  
Perry, J.J.  
Popejoy, I.J.  
Royden, G.T.  
Schaffner, G.  
Simmons, B.E.  
Sippel, J.A.  
Stuart, H.D.  
Toberman, A.J.  
Veir, R.E.  
Willibald, G.E.  
Yaple, T.L.

Portland

Allen, W.M.  
Curtis, H.T.  
Doel, D.  
Furrer, R.F.  
Hale, J.E.  
Knox, S.G.  
Leung, S.  
Lewis, J.M.  
Linzy, D.W.  
Lund, C.W.  
Marihart, D.J.  
Morgan, L.F.  
Rinker, L.E.  
Spencer, G.A.T., Jr.  
Wang, Cheng-Chi P.  
Weber, L.J.  
Yuen Joe-Nang

Richland

Krahenbuhl, A.L.

Sacramento

Cannon, D.S.  
Davis, W.L.  
Felix, H.E.  
Feller, A.S., Jr.  
Felton, R.P.  
Gish, C.W.  
Hancock, R.J.  
Hoefflich, A.F.  
Horn, C.  
Janssen, W.W.  
Jerome, M.G.  
Koetting, R.J.  
Lattore, V.R.  
Limerick, M.D.  
Mahan, R.E.  
Meadowcroft, H.J.  
Morris, R.J.  
Oyung, P.

Skinner, M.W.  
Taylor, B.E.  
Thomas, J.W.

San Diego

Allen, C.R.  
Anderson, D.L.  
Arcidiacono, A.  
Barker, V.A.  
Bayly, B. De F.  
Bolles, L.W.  
Cram, C.C.  
Crispell, H.L.  
Crooks, J.W., Jr.  
Devereux, W.E.  
Ebert, R.H.  
Fisher, C.R.  
Folkerts, D.H.  
Hamerman, L.  
Hesse, J.F.  
Holcomb, D.E.  
Honer, R.E.  
Kershaw, J.E.  
Kugel, C.P.  
Lee, J. E.  
Nelson, C.A.  
Parker, A.B.  
Proctor, D.  
Ripple, E.G.  
Tamura, Y.  
Tibbals, L.  
Ward, J.A.  
Wilhelm, C.G.  
Wolff, H.G.

San Fernando Valley

Acker, W.W.  
Alpine, P.E.  
Anderson, H.R.  
Apa, F.E.  
Baker, C.R.  
Barquist, B.L.  
Benbrooks, L.A.  
Blancher, D.W.  
Blasjo, M.H.  
Bonness, Q.L.  
Burd, E.M.  
Burdett, D.F.  
Cagnon, R.R.  
Caler, J.W.  
Carter, N.H.  
Chernof, J., Jr.  
Cling, W.J., Jr.  
Cochran, E. D.  
Cohen, I.  
Coward, B.E.  
Cressey, A.E.  
Cronkwright, R.E.  
Dagleish, E.G.  
Daniel, D.B.  
Dell, B.H.  
Dibos, R.A.  
Drengson, R.B.  
Felsman, W.O.  
Fiden, W.H.  
Field, B.  
Frendo, W.J.  
Garabediah, A.  
Gardner, F.M.  
George, R.D.  
Harris, K.W.  
Held, H.  
Henricksen, R.M.  
Hitterdal, A.B.  
Homer, G.E.  
Johnston, E.B.

San Fernando Valley (Cont'd.)

Kato, J.H.  
Kelso, H.L.  
Koerner, C.T.  
Krausz, R.  
Locus, S.S.  
Marsh, K.W.  
Martin, B.D.  
McCormick, J.B., Jr.  
McHenry, L.E.  
Meyer, H.F.  
Morrow, H.W.  
Norby, H.A.  
Parks, H.L.  
Pearson, L.V.  
Pedersen, E.F.  
Pedersen, F.C.  
Pro, S.  
Radmacher, D.S.  
Roberts, D.G.  
Sabaroff, S.  
Salmi, T.W.  
Skinner, W.B.  
Smyrnos, G.J.  
Solat, N.  
Sperling, I.  
Stockhoff, K.C.H.  
Tasker, R.B.  
Tate, R.L.  
Thompson, K.A.  
Tschude, D.E.  
Van Deloo, P.A.  
Walker, L.M.  
Wanselow, R.D.  
Watson, J.M.  
Weinhouse, N.P.  
Weiss, W.J., Jr.  
Welch, D.K.  
Wells, R.W.  
Woldrich, R.J.  
Woodbury, H.L.  
Young, D.W., Jr.

San Francisco

Abrams, R.C.  
Abramson, N.W.  
Addleman, L.A.  
Ahern, P.J.  
Alexander, T.L.  
Anderson, B.D.  
Anderson J.  
Anmuth, M.  
Arens, V.R.  
Armstrong, P.S.  
Ashford, D.A.  
Atchison, J.H., Jr.  
Au, W.K.M.  
Babcock, D.F.  
Baer, M.H.  
Baker, W.L.  
Ballard, E.J.  
Ballard, J.W.  
Bates, J.F.  
Battelle, R. Bard  
Beale, F. S.  
Beatie, R.N.  
Beck, I.C.  
Bederka, S.E.  
Behrends, P.O.  
Benson, S.  
Best, F.G.  
Bleakly, C.J.  
Bogar, J.E.  
Bolander, P.E.  
Borofka, R.P.  
Bothun, R.B.

Boxall, F.S.  
Brey Mayer, K.E.  
Bullock, J.B.  
Buss, R.R.  
Buttmeier, C.J.  
Calfee, R.W.  
Campbell, D.C.  
Canez, M.L.  
Canter, H.L.  
Card, D.R.  
Carll, R.C.  
Carnahan, C.W.  
Cassman, V.R.  
Chan, K.K.  
Chiang, F.C.  
Childers, D.G.  
Christensen, B.  
Clausen, R.P.  
Clifton, W.R.  
Cogswell, W.P.  
Combs, E.E.  
Coombs, W.C.  
Corn, J.W.  
Cover, T.M.  
Culbertson, A.F.  
Dalabakis, E.J.  
Dannenbrink, H.A., Jr.  
Davies, R.S.  
Dawson, C.H.  
Dedinas, D.A.  
De Liban, R.  
Doak, R. S.  
Dole, A.R.  
Downie, W.A.  
Drapkin, P.E.  
Dunlap, H.B.  
Eanes, R.M.  
Earl, W.S.  
Easterday, R.B.  
Eberle, L.P.  
Edwards, M.W.  
Egan, R.D.  
Eineichner, D.E.  
Ekstrand, P.A.  
Eldredge, E.E.  
Engleman, C.L.  
Enslow, P.H., Jr.  
Erickson, L.G.  
Evans, W.E., Jr.  
Fairley, D.O.  
Falck, T.S.  
Fay, G.K.  
Felsing, N.  
Fink, E.A.  
Fire, P.  
Fish, R.H.  
Fisher, R.L.  
Fletcher, M.W.  
Franke, R.T.  
Franklin, L.R.  
Fulton, F.F., Jr.  
Camityan, T.  
Garzoli, F. F.  
Gibson, J. G.  
Gill, W. J.  
Gilliland, G. R.  
Givens, S. D.  
Glaesser, E.  
Goddard, E.G.  
Goossen, G.N.  
Granger, J.V.N.  
Gray, D.A.  
Griffith, C.G.  
Groberg, L.R.  
Grushkin, M.  
Gunn, L.W.

Gunter, R. A.  
Hackett, C.M., Jr.  
Hagn, G.H.  
Hammett, R.L.  
Hargrave, T.A. III  
Harris, Bruce J.  
Harris, H. F.  
Hartbaum, H.K.  
Heine, R.A.  
Helseth, R.S.  
Henderson, W.G.  
Herold, C.D., Jr.  
Hidy, J.W.  
Hill, L.E.  
Hoffman, J.D.  
Hoisington, D.B.  
Holloman, C.J.  
Holmes, R.E.  
Hom, M.  
Howland, R.S.  
Huang, J.J.Y.  
Huber, E.A.  
Huggins, R.A.  
Hyver, G.A.  
Isakson, S.E.  
Isberg, R.A.  
Iverson, Darrell J.  
Jackson, L.B.  
Jenkins, C.D., Jr.  
Jenkins, J.  
Joe, R.H.  
Johannesen, O.M.  
Johanson, P.A.  
Johnson, L.B.  
Jones, E.D.  
Jones, J.H.  
Kailath, T.  
Kaiser, R.L.  
Kanbergs, J.V.  
Kaye, J.M.  
Kelch, J.E.  
Kiessling, R.C.  
Klamm, C.F., Jr.  
Kovalevski, N.N.  
Kramer, A.J.  
Kruger, F.W.  
Lai, B.C.  
Lang, R.B., Jr.  
Lawrence, Otho  
Lee, M. E.  
Lee, S.  
Lee, T.H.  
Lender, A.  
Lieberman, I.J.  
Light, R.H.  
Linden, D. A.  
Linders, T. E.  
Littler, D.  
Lohr, D.  
Lopes, R.R.  
Luby, D. D.  
Lumb, D. R.  
Lutzker, L.  
MacDonald, F.W.  
MacGinitie, G.  
Macovski, A.  
Main, W.F., Jr.  
Malone, J. D.  
Mannas, R.G.  
Marion, H.E.  
Martin, W.L.  
Maximoff, B.S.  
McAulay, R.J.  
McCraney, J.M.  
McFadden, R.R.  
McNaughton, E.F.F.

McVae, D.K.  
Melvin, D.K.  
Merle, C.W.  
Meyer, J.H.  
Miller, E.M.  
Moore, L.  
Morris, G.R.  
Moser, R.W.  
Murray, J.B.  
Nawrocki, J.T.  
Newnum, B.O.  
Noble, M.I., Jr.  
Noller, W.E.  
Noon, J.R.  
Norman, R.H.  
Oestreicher, D.L.  
Oliver, B.M.  
Omura, J.K.  
Oshima, K.  
Panec, G.A.  
Pappenwus, E.W.  
Parker, J.F.  
Pearson, D.R.  
Pekarek, K.L.  
Pera, J.E.  
Peterson, A.M.  
Peterson, D.G.  
Phillips, F.R.  
Popenoe, P., Jr.  
Porter, K.J.  
Pratt, D. S.  
Prince, P.L.  
Prokop, C.D.  
Radke, D.F.  
Radue, P.F.  
Ragan, L.H.  
Redo, D. L.  
Rice, K.E.  
Riddell, A.I.  
Roberts, T.E., Jr.  
Rock, A.L.  
Romans, C.  
Rose, P.L.  
Rosenstein, M.D.  
Ruth, R.W.  
Rypinski, C.A., Jr.  
Sagawa, S.S.  
Sakrison, D.J.  
Schoderbek, J.J.  
Schreiner, K.E.  
Schuchman, L.  
Scott, C.W.  
Segerstrom, R.J.  
Seidman, L.P.  
Shaft, P.D.  
Shapiro, E. B.  
Shaver, H.N.  
Shumway, J.L.  
Sifford, B.M.  
Lopes, R.R.  
Sigari, A.  
Simmons, E.  
Smith, E.P.  
Smith, R.T.  
Solbeau, L.A.  
Spiker, J.J., Jr.  
Stack, B.R.  
Stanley, D.O.  
Stephens, M.L.  
Stephenson, J.M.  
Stewart, J.L.  
Stone, H.S.  
Stoscher, D.C.  
Strachan, P.H.  
Strobele, C.H.  
Swales, S.  
Symonds, C.H.



San Francisco (Cont'd.)

Tenkhoff, P.A.  
Thomasian, A.J.  
Thompson, O.E.  
Tom, N.N.  
Troxell, R.R.  
Tuck, E.F.  
Tudor, H.  
Turin, G.L.  
Turner, H.A.  
Turner, H.G.  
Tuttle, D.F., Jr.  
Valdez, J.P.  
Van Gelder, R.B.  
Vaptanian, P.H., Jr.  
Villard, O.G., Jr.  
Vincent, W.R.  
Wambsgans, B.A.  
Warfel, G.H.  
Waterman, A.T., Jr.  
Watson, H.M.  
Watt, R.M.  
Wattenbarger, J.W.  
Weaver, C.S.  
Weight, D.J.  
Weiner, A.  
White, R.F.  
Whittelsey, S.G., Jr.  
Wildier, K.T.  
Williams, R.D.  
Williams, T.G.  
Wilson, L.H.  
Witherspoon, J.T.  
Wood, F.B.  
Wortman, T.J.  
Wright, B.K.  
Yee, P.  
Zellmer, N.A.  
Zuckswert, S.E.

Santa Barbara

Ackerlind, E.  
Bush, J.  
Frank, C.F., Jr.  
Harger, W.W.  
Hedges, C.P.  
Kelley, G.J.  
Kuypers, J.A.  
Palmer, J.K.  
Prickett, M.J.  
Reiche, L.P.  
Savage, R.P.  
Scott, R.C.  
Weigel, D.H.  
Wildman, A.J.

San Gabriel Valley

Allen, L.P.  
Ashlock, J.C.  
Beenken, H.G.  
Bell, N.W.  
Brandt, R.D.  
Braverman, D.J.  
Broderick, D.L.  
Brookman, R.R.  
Carl, C.  
Davis, D.C.  
Drubin, M.  
Dunnigan, F.A.  
Eyraud, J.P.  
Forys, E.L.  
Fox, E.M.  
Freeman, S.  
Gantsweg, M.  
Gardner, K.N.  
Graham, E.A., Jr.

Habersatter, L.M.  
Harriman, T.J.  
Helms, J.F.  
Jacobs, I.M.  
Kendall, W.B., III  
Knop, C.M.  
Koerner, M.A.  
Lambert, N.E.  
Lehan, F.W.  
Lindsay, W.W., Jr.  
Ludekens, L.E.  
Mathison, R.P.  
Merritt, C.H.  
Miller, W.A.  
Morrison, R.  
Paquin, J.H.  
Parker, G.L.  
Patterson, A.R.  
Pfeiffer, W.F.  
Potter, W.T., Jr.  
Reilly, R.R.  
Riddle, F.M.  
Ross, J.P.  
Sanders, R.W.  
Simmons, E., Jr.  
Sink, R.L.  
Smith, A.J.  
Spellmire, R.J.  
Toukdarian, R.Z.  
Viskanta, V.Z.  
Wilson, R.C.

Santa Monica Bay

Abernathy, O.R.  
Andrew, J.D.  
Aronoff, E.  
Ayers, J.L.  
Baran, P.  
Bedrosian, E.  
Bekey, I.  
Berman, B.  
Bernstein, R.  
Bond, F.E.  
Brewin, H.T.  
Briner, D.M.  
Cannon, H.L.  
Carlyle, J.W.  
Choate, R.L.  
Combs, W.E.  
Court, P.R.J.  
Davis, J.I.  
Davis, T.L.  
Dernham, C.R.  
Dodge, W.A., Jr.  
Erb, G.E.  
Featherstone, J.D.  
Friedman, S.H.  
Gagliardi, R.  
Gapasin, F.G.  
Geiger, A.A.  
Gold, A.R.  
Gould, E.W.  
Gutcheon, W.Y.  
Hannum, A.J.  
Horstein, M.  
Hose, E.  
Hurd, W.J.  
Jeffs, C.R., Jr.  
Jensen, R.D.  
Johnson, J.S.  
Joyce, F.J.  
Karp, S.  
Kelley, R.B.  
King, S.W.  
Kleinrock, L.  
Kroy, W.H., Jr.

Larson, J.C.  
Leondes, C.T.  
Lindholm, C.R.  
Lutz, S.G.  
Makino, R.H.  
McCaron, S.I.  
Mehrbach, E.  
Miller, B.F.  
Miller, K.M.  
Miller, M.L.  
Miller, T.  
Mizell, M.H.  
Moses, R.C.  
Moulton, E.W.  
Nordstrom, G.J.  
Northrop, G.M.  
Norwood, L.R.  
Nutt, J.H.  
Owens, A.T.  
Polcar, J.L.  
Pratt, W.K.  
Pritchard, W.L.  
Rahlf, J.P.  
Raymond, J.L.  
Read, J.L.  
Rousculp, P.J.  
Sensiper, S.  
Sepmeyer, L.W.  
Shallon, S.C.  
Shoulders, H.D.  
Snow, W.B.  
Steen, T.W.  
Stern, K.  
Todd, H.J.  
Van Horne, T.B.  
Vodopia, S.N.  
Walsh, D.H.  
Weiner, J.R.  
Zweizig, J.R.

Seattle

Abbey, C.R.  
Albright, D.L.  
Allan, F.S.  
Andreika, J.T.  
Ballata, R.J.  
Barger, S.D.  
Barker, B.A.  
Barnard, G.A., III  
Battis, L.R.  
Belenski, J.D.  
Bergen, L.A.  
Bowles, T.J.  
Carter, J.G.  
Chin, Q.  
Clapham, R.G.  
Creason, A.S.  
Currie, W.E.  
Dalby, T.G.  
Eastman, J.S.  
Eisenbach, M.E.  
Erlandsen, E.K.  
Foley, T.K.  
Geokeyas, M.  
Hoglund, R.H.  
Hove, R.G.  
Iversen, A.J.  
Janes, H.P., Jr.  
Johnson, N.  
Johnson, S.E.  
Judson, H.H., Jr.  
Kinnaman, R.L.  
Kuzeja, C.  
Letwin, A.  
Lightfoot, F.M.  
Lord, J.B.

Lytle, D.W.  
Matava, S.J.  
Matson, P.C.  
Maynard, J.E.  
McDermott, S.J.  
Miller, G.E.  
Moose, P.H.  
Norwood, A.F.  
Oakes, G.K.  
O'Hara, R.N.  
O'Leary, L.A.  
Peedo, E.  
Pierson, L.L.  
Pursel, H.H., Jr.  
Richardson, J.T.  
Roome, G.  
Schlumberger, D.E.  
Scidmore, D.L.  
Seilstad, N.D.  
Shomer, J.E.  
Shuck, D.O.  
Smith, J.W.  
Sullivan, H.G.  
Swisher, B.F.  
Tashiro, S.  
Thieme, R.I., Jr.  
Todd, H.C.  
Toepel, D.G.  
Traub, L.A.  
Weiss, S.P.  
Wilcox, R.C.  
Yamauchi, T.T.

South Bay Harbor

Ayers, H.W.  
Baxter, J.L.  
Beall, K.C.  
Booton, R.C.  
Brinkman, K.L.  
Brubaker, R.H.  
Buterbaugh, J.N.  
Carpenter, D.D.  
Collins, M.H.  
Cook, W.E.  
Costanza, S.T.  
Daniel, R.E.  
Dennis, J.  
Dobbins, W.E.  
Downey, E.J., Jr.  
Dunbridge, B.  
Dye, R.R.  
Eastman, R.S.  
Egger, A.  
Field, F.W.  
Frankel, A.D.  
Freymodsson, J.B.  
Frith, L.O.  
Gottfried, R.E.  
Guggenheim, R.W.  
Hanson, D.L.  
Hennigan, C.L.  
Hicks, R.W.  
Jakus, L.A.  
Johnson, M.D.  
Johnson, W.A.  
Jones, H.J.  
Justice, L.E.  
Kern, W.W.  
Kilchenman, L.U.  
Kivett, J.A.  
Kobayashi, R.T.  
Krupp, M.F.  
Kuhn, H.G.  
Ladd, A.W.  
Lytle, A.C., Jr.  
Matson, D.L., Jr.

South Bay Harbor (Cont'd.)

McKee, A.J.  
McWilliams, J.D.  
Miller, R.T.  
Page, H.F.  
Perez, H.C.  
Pfund, E.T., Jr.  
Schepak, G.  
Scholtz, R.A.  
Shibuya, Y.  
Silva, L.M.  
Skene, R.A.  
Smith, W.K.  
Souter, R.E.  
Sternke, E.C.  
Stockett, T.E.  
Sullivan, D.P.  
Thomas, C.M.  
Thomas, D.W.  
Thorensen, R.  
Tong, K.C.  
Tueling, B.A.  
Vuilleumier, R.F.  
Walker, P.C.  
Weltin, O.K.  
Williams, G.E.  
Wilson, W.J.  
Wray, W.C.

Spokane

Ayeni, D.  
Barnhart, D.L.  
Curtiss, G.R.  
Davies, A.C.

Tucson

Baldwin, H.A.  
Blakely, C.E.  
Clark, H.L.  
Conant, B.K.  
Dickey, W.S.  
Hansell, G.E.  
Hayes, E.A.  
Hoehn, A.J., Jr.  
La Vell, J.J.  
Michalk, E.R.  
Nemec, J.J.  
Oliver, J.K., Jr.  
Richards, D.W.  
Schmidt, E.R.  
Trevor, B.  
Williams, H.C.  
Winkler, M.R.

Utah

Aziz, H.  
Bennion, N.W.  
Bosley, E.  
Holtkamp, C.J.  
Jackson, A.B.  
King, R.C.  
Klein, W.F.  
Rudd, F.S.  
Rushforth, C.K.  
Schauffele, S.A.K.  
Schochet, B.J.  
Stephens, F.D.  
Willhard, W.J.  
Willits, V.L.

Vandenberg

Borden, C.D.  
Chesebro, E.L.  
Gatz, E.C.  
Grismore, G.A.  
Nielsen, R.W.

Teller, W.A.  
Walker, R.E.  
Wood, C.E.

Wenatchee

Carlson, J.W., Jr.

REGION 7

Bay of Quinte

Auns, V.U.  
Burkett, K.V.  
Carter, W.E.H.  
Christie, C.J.  
Coulter, G.R.  
Crocini, R.J.  
Hooker, C.E.  
Minion, W.L.  
Raittinen, B.W.  
Waller, M.J.  
Wilmore, C.R.

Hamilton

Bosisio, R.G.  
Fines, W.W.  
Humbert, V.J.  
Lawrence, H.J.  
Martin, R.H.  
Matthews, D.T.  
Nicholson, C.C.  
Plamondon, B.  
Stanley, L.H.  
Stonelake, D.A.  
Webb, H.H.

Kitchener-Waterloo

Burnett, R.C.  
Hanson, J.V.  
Leeson, F.D.  
Luft, W.A.  
McGee, W.F.  
Paisley, I.R.  
Rendall, R.A.  
Rung, J.D.  
Tremblay, J.B.

Montreal

Agnew, J.A.  
Ahojja, C.R.  
Allen, R.  
Anstey, E.T.  
Argun, H.Z.N.  
Arvisais, G.J.  
Atkinson, D.M.  
Baby, J.  
Bell, J.W.  
Berbekar  
Bleackley, R.S.  
Boulet, J.L.L.  
Bousfield, J.A.T.  
Brake, E.R.  
Buck, L.G.  
Burrow, A.A.  
Capson, D.R.  
Carey, W.H.  
Colberg, G.H.  
Courtemanche, G.J.G.  
Coy, V.M.  
Demers, P.  
Denton, L.M.  
Dicks, J.L.  
Evans, P.R.N.  
Farmer, E.W.  
Fisher, G.T.  
Gonzalez, V.J.  
Goodwin, G.J.

Griffith, W.F.  
Hamilton, H.A.  
Harvey, J.A.  
Heenan, T.F.  
Hemming, G.  
Kozlowski, R.E.  
Kubow, T.J.  
Lappi, D.M.  
Lee, D.F.  
Loader, A.R.  
Mac Kay, C.J.E.  
Mathezer, G.G.  
Maurais, J.B.  
McCavour, R.L.  
McGuire, C.H.  
McPhee, A.J.  
Middleton, D.G.L.  
Miedzinski, J.  
Migneault, G.B.  
Mloduchowski, R.L.  
Montgomery, A.J.  
Munson, D.E.S.  
Nachfolger, N.  
Nickerson, A.D.  
Nowlan, W.J.  
Parady, W.J.  
Pfister, P.  
Pinnell, S.E.A.  
Rawlins, W.A.  
Ridins, V.  
Roach, C.L.  
Robinson, H.A.  
Roloff, W.T.  
Ross, W.R.D.  
Ruskin, J.  
Sankey, C.  
Scholes, D.H.  
Shen, J.Y.  
Sherman, B.N.  
Tapiero, C.  
Terreault, R.C.  
Tullius, N.T.  
Tyrrell, B.W.  
Valin, R.E.  
Warren, F.G.R.  
Wilson, J.L.  
Wisenden, G.A.  
Wright, G.H.

Niagara International

Holden, G.D.  
Juda, H.J.  
Rupp, R.B.  
Waud, E.C.

Northern Alberta

Buzak, E.J.  
Cooke, R.D.  
Dahlberg, L.S.N.  
Ducey, R.J.  
Fujaros, R.G.  
Proudfoot, R.G.  
Schlaak, R.C.

Ottawa

Ashenden, D.B.  
Ashworth, W.W.  
Bennett, J.R.G.  
Blacker, H.L.  
Bonnah, V.A.  
Brooks, G.C.  
Carroll, D.V.  
Chamberlain, W.O.  
Chrome, J.T.  
Cole, W.A.  
Coll, D.C.

Couzens, D.T.  
Davies, N.G.  
Deas, W.  
Dreyer, R.G.  
Duston, R.F.  
Elliott, G.W.  
Fellows, T.G.  
Fraser, D.  
Gillon, N.H.  
Gleason, T.R.  
Glinski, G.  
Graziadei, P.M.  
Green, E.W.  
Halsey, F.T.  
Hatton, W.L.  
Hoddinott, D.N.  
Holmes, W.H.  
Jarvis, J.A.  
Jewell, L.  
Jull, G.W.  
Kaya, P.  
Munson, D.E.S.  
Kelsey, E.S.  
Klassen, W.C.  
Klein, E.J.  
Mac Donald, V.C.  
Mac Kay, J.G.  
Marshall, C.E.  
Nicholls, B.P.  
Nikkel, R.F.  
Penn, A.K.H.  
Sheppard, R.D.B.  
Thompson, F.S.B.  
Timmers, A.G.W.  
Trojanowski, M.S.  
Urban, C.J.  
Von Baeyer, H.J.  
Willows, D.J.  
Wilson, J.E.  
Wilson, R.C.

Quebec

Czobor, S.E.  
Doak, F.C.  
Dranfield, T.M.G.  
Duchesne, R.E.  
Lortie, A.L.  
Michaud, E.  
Pettersen, G.W.E.

Regina

Dennis, L.P.  
Eliason, R.E.  
Houston, J.  
Kaldor, H.  
Lee, S.F.  
Pang, E.E.A.  
Parker, W.J.  
Smith, S.K.  
Toop, A.T.  
Wohlberg, D.B.

St. Maurice

Gervais, P.P.

Southern Alberta

Davis, A.P.  
Dingle, B.K.  
Jamieson, H.W.  
Kuntz, M.M.  
Miller, T.G.  
Olson, L.B.  
Froebel, P.R.

Toronto

Aldridge, R.M.  
Allen, G.Y.R.  
Anderson, C.A.L.  
Anderson, K.G.  
Atwood, J.W.  
Barclay, A.P.H.  
Beardwood, W.T.A.  
Black, G.G.A.  
Bonnar, G.D.  
Bozoki, B.  
Breckenridge, A.G.  
Bridgland, C.J.  
Burley, J.G.  
Caines, T.M.  
Cline, J.C.  
Cooper, G.G.  
Cork, K.G.  
Davis, H.R.  
Dawson, R.A.  
Detcher, A.W.  
Dewey, D.L.  
Dieno, D.W.  
Doeringer, C.E.  
Downs, J.E.  
Easton, K.J.  
Eiranova, A.  
Fisher, J.T.  
Ford, J.H.S.  
Geiger, D.G.  
Graefe, U. P.W.  
Hackbusch, R.A.  
Henheffer, L.J.  
Irwin, R.L.  
Koskinen, M.  
Kraav, J.  
Kwan, J.S.K.  
Le Grow, L.M.R.  
Long, R.J.  
Mark, J.W.  
Mathewson, B.N.  
McBratney, T.J.  
Menkal, R.  
Moon, D.J.  
Nevitt, H.J.B.  
Piechota, A.  
Purdy, T.W.  
Sims, J.L.  
Sipila, O.A.  
Smokorowski, L.F.  
Soanes, S.V.  
Stephen, J.R.  
Stoddart, T.W.H.  
Suyama, E.  
Thompson, D.F.  
Topping, F.V.  
Webster, C.G.  
Wong, S.  
Wulf, J.K.  
Yachimec, P.

Vancouver

Baine, F.E.  
Bealle, D.F.  
Boyd, G.M.  
Broderick, M.J.  
Broughton, W.K.  
Craighead, W.A.  
Cummings, H.A.  
England, D.A.  
Forder, A.F.  
Greenwood, D. B.  
Groberman, L.  
Harrow, A.E.  
Hoyles, H.A.  
Hrycenko, R.E.

Hunter, P.J.A.  
Lockhart, G.P.  
Lynch, T.G.  
McCarter, W.L.  
McLean, C.H.  
Mitchell, K.J.  
Newton, W.K.  
Nordstrand, R.B.  
Oades, J.W.  
Russell, R. T.  
Shellshear, A.A.  
Stuart, D.C.  
Thomas, M.A.  
Vaccani, P.  
Valde, G.E.  
Van Allen, H.M.  
Wilbee, B.D.  
Wilson, N.H.  
Wright, J.H.  
Young, J.B.

Winnipeg

Allen, D.E.M.  
Blicq, R.S.  
Hopper, C.J.  
Horner, S.G.L.  
Mazerall, E.W.  
Murphy, B.F.  
Sparrow, R.E.  
Williamson, K.H.  
Wormell, H.T.

REGION 8

Benelux

Bartholome, P.J.  
Bouchier, P.  
Bourguignon-Famaey, G.  
Boxma, Y.  
Chantrain, X.  
Debois, P.G.  
Delahais, M.L.  
Deschuytere, L.C.  
Desirant, M.C.  
Ensing, L.  
Erkelens, E.  
Fawe, A.L.  
Gevaerts, J.F.L.M.  
Graaff, B.  
Greefkes, J.A.  
Gustin, H.J.  
Halina, J.W.  
Hannesen, H.H.  
Hanotte, P.E.  
Hansen, V.G.  
Hecq, Y.V.  
Hoffmann, J.A.J.L.  
Ince, N.  
Janssens, J.N.  
Liekens, A.F.  
Lulofs, W.  
Nijenhuis, W.  
Op Den Orth, J.M.  
Piket, J.  
Ryerson, J.L.  
Schouten, J.F.  
Spikes, G.G.  
Stumpers, F.L.  
Van Duuren, H.C.A.  
Van Dyl, B.  
Vermeulen, J.C.  
Williams, H.P.

Egypt

Bahig, Hassan  
Gheith, F.

Hakim, Y.A.E.  
Kamal, A.A.

France

Altovsky, V.A.  
Angot, A.M.  
Auricoste, J.  
Babin, F.J.  
Baron, J.  
Bodez, P.M.  
Brady, R.F.  
Capdevielle, R.C.  
Cypser, R.J.  
Dahlman, P.O.  
Deschamps, J.D.  
Deschamps, R.A.  
Enaud, L.G.  
Fromageot, A.P.A.  
Giboin, E.  
Grivet, P.A.  
Israel, R.  
Jeanjean, A.M.  
Klein, G.J.P.  
Labin, E.  
Laurens, A.  
Lavenir, J.C.  
Lebel, J.D.  
Lochard, J.C.  
Mandel, P.  
Mayer, F.P.  
Niel, R.L.  
Pelpe, J.C.  
Ponte, M.J.H.  
Prache, P.M.  
Sokoloff, B.A.  
Sulzer, H.G.  
Valentin, F.F.  
Voge, J.P.

Geneva

Ahmed, A.A.  
Angehrn, T.W.  
Braun, A.F.  
Diggelmann, H.  
Folliott, C.F.  
Gerber, W.  
Gloor, B.  
Guanella, G.  
Holtz, R.F.  
Lang, H.J.  
Oswalt, H.  
Schoeberlein, W.  
Schreiner, E.D.  
Smith, R.  
Snedkerud, O.T.  
Thiemann, H.E.  
Walder, E.  
Weber, H.E.

Israel

Caspi, E.  
Fliderblum, D.D.  
Iloni, A.  
Kahn, F.L.  
Riesel, Z.H.

Italy

Biagioni, M.G.  
Brandt, R.H.  
Canepa, M.  
Carassa, F.  
Castellani, M.F.  
Derossi, A.D.  
De Vito, G.R.  
Di Blasio, G.  
Dobner, L.

Edson, C.R.  
Egidi, G.  
Fagnoni, E.  
Floriani, V.  
Foddiss, G.  
Gommellini, G.  
Koch, R.  
Leardini, T.  
Manzo, S.  
Mazzarella, M.  
Meek, T.J., Jr.  
Mocci, I.  
Ott, F.J.  
Palandri, G.L.  
Pallari, R.  
Peroni, B.  
Rimini, A.  
Rocchi, M.P.  
Schiaffino, P.  
Silleni, S.R.  
Tiberio, U.  
Vergani, A.

Norway

Bakken, O.  
Dahl, H.  
Heimdal, P.  
Hiis, P.T.  
Hoye, A.  
Kulvik, E.  
Meisingset, K.R.  
Rorholt, B.A.

Sweden

Anjou, L.A.  
Aurell, C-G. P.  
Billstrom, O.  
Einarsson, G.  
Elfving, A.L.  
Frisk, T.E.  
Gamstorp, B.O.  
Gertzell, S.G.  
Granqvist, C.E.  
Hellgren, G.P.  
Josephson, B.A.S.  
Karlstedt, L.  
Katzeff, K.  
Knutsson, B. K.J.  
Kruse, O.S.N.  
Laurent, T.  
Lundberg, H.K.B.  
Lundqvist, A.L.  
Lindstrom, G.  
Markesjo, G.A.  
Muller, H.E.  
Olving, S.  
Perers, O.F.  
Persson, K.  
Sundquist, A.  
Westerhult, B.  
Willson, G.

United Kingdom & Eire

Abram, J.V.  
Allen, T.P.  
Anderson, E.W.  
Barlow, H.M.  
Boff, A.F.  
Bowden, B.V.  
Brownlee, G.H.  
Chaffey, R.  
Chow, P.E.K.  
Clark, N.J.  
Clayton, E.G.  
Cuffe, R.C.  
Espley, D.C.

United Kingdom & Eire (Cont'd.)

Fadami, A.  
Harris, K.E.  
Harrison, K.W.  
Hills, W.J.  
Imm, R.C.  
James, H.D.  
Kinross, R.I.  
Laverick, E.  
Lawson, A.N.  
Layzell, L.M.  
MacFarlane, J.W.  
Marzolini, R.G.A.  
Mayer, C.G.  
McCall, D.R.  
McLoughlin, T.J.  
Montgomery, A.W.  
O'Hanlon, D.M.V.  
Oranc, H.S.  
Page, N.W.  
Parsons, A. N.  
Pearson, M.G.  
Pollard, J.R.  
Pudner, A.S.  
Rantzen, H.B.  
Robertson, A.A.  
Sekey, A.  
Shaw, R.T.  
Shoesmith, J.  
Simmonds, J.C.  
Smye-Rumsby, B.A.A.  
Sparkes, J.J.  
Starr, A.T.  
Sullivan, R.W.J.  
Teesdale, A.R.  
Tsao, S.H.  
Van Hasselt, M.  
Warrington, A.R.V.  
Williams, K.F.

West Germany

Aschoff, V.G.L.  
Brueck, L.  
Gundlach, F.W.  
Hahne, K.H.  
Horn, E.H.H.  
Koch, E.L.  
Lewicki, A.E.F.  
Rohde, L.  
Ruhmann, A.A.  
Saal, R.S.  
Schiezel, R.J.  
Schoenfeld, W.H.  
Schuessler, W.  
Unger, H.G.

FOREIGN COUNTRIES

Austria

Bandat, K.F.  
Zemanek, H.

Czechoslovakia

Djadkow, S.  
Kubec, J.  
Szanto, L.  
Vackar, J.F.

Denmark

Gronlund, M.P.S.  
Hansen, G.K.F.  
Isaksson, H.  
Jensen, P.C.  
Nag, D.S.  
Nielsen, A.K.

Norgaard, A.K.  
Poulsen, S.W.I.  
Ranfelt, V.  
Ring, O.  
Svensson, R.

Greece

Hamartos, J.F.  
Kariambas, N.  
Leftheris, J.P.

Iceland

Arnar, G.  
Thorkelsson, S.

Lebanon

Koenreich, J.L.  
Rafidi, F.I.

Libya

Creighton, G.W.  
Thompson, J.G.

Morocco

Mellard, D.

Poland

Wojnar, A.

Portugal

Cortez de Lobao, F.J.

Spain

Espinosa, M.  
Huerta, A.F.  
Linera, J.F.  
Segovia, R.T.

U.S.S.R.

Kazanski, G.P.  
Kostanzan, B.A.  
Zahvatoshin, K.V.

REGION 9

Buenos Aires

Capra, E.L.  
Flint-Halpern, M.  
Margulius, M.  
Raffetto, F.E.  
Remez, L.A.  
Vazquez, E.M.

Chile

Feick, W.

Colombia

Gabriunas, K.B.  
Gamboa, J.E.G.  
Gomez, L.  
Gustafsson, E.B.  
Herrera-Pena, C.I.  
Isherwood, C.F.  
Lopez, A.  
Suarez, J.J.G.  
Villegas, A.A.  
Westerveld, A.

Mexico

De Mello, W.  
Diego, J.M.  
Guaragna, L.E.  
Higuera-Mota, H.R.  
Sunderland, M.  
Vargas, P.J.

Puerto Rico & Virgin Islands

Bonar, J.  
Collyer, K.G.  
Pages, E.V.  
Principe, A.J.  
Rivera, J.A.  
Robinson, R.A.  
Walser, R.J.

Rio de Janeiro

Farmer, F.H.  
Grant, F.W.  
Lisboa, M.H. De A.  
Martins, R.B.  
Netto, O.M.  
Ribeiro, M.P.  
Smith, H.S.

Tokyo

Akiyama, T.  
Aoi, S.  
Bergerman, O.  
Fujii, A.  
Fujiwara, C.  
Fukato, M.  
Gordon, A.D.  
Harashima, O.  
Hasegawa, A.  
Hasegawa, T.  
Hashimoto, R.  
Hayasi, S.  
Hirai, M.  
Hirose, K.  
Hori, T.  
Ibuka, M.  
Ieiri, S.  
Ihara, Y.  
Iida, M.  
Inose, H.  
Iwamoto, Y.  
Iwase, S.  
Kagaya, S.  
Kasahara, M.  
Kasahara, M.  
Kawano, T.  
Kimura, H.  
Kimura, R.  
Kimura, T.  
Kirisawa, K.  
Kitsuregawa, T.  
Kohno, S.  
Komada, Y.  
Konomi, M.  
Koomura, S.  
Kumagai, K.  
Kumagai, T.  
Kunihiro, T.  
Kuroda, K.  
Matsumoto, A.  
Matsuyuki, T.  
Miyaji, K.  
Miyakawa, H.  
Miyakoshi, K.  
Morinaga, N.  
Morita, M.  
Nagata, N.  
Nakagami, K.  
Nakagami, M.  
Nakahara, T.  
Nakamura, J.  
Namba, S.  
Namura, H.  
Nemoto, T.  
Nishino, O.  
Niwa, Y.  
Ochiai, N.

Ogasawara, N.  
Ogawa, T.  
Ohwadano, H.  
Ohwaku, S.  
Okada, M.  
Osatake, T.  
Rokushima, K.  
Saito, T.  
Saito, Y.  
Sanada, H.  
Sasaki, M.  
Sawada, R.  
Sawada, T.  
Sawamura, T.  
Seki, H.  
Sekimoto, T.  
Shibata, K.  
Sugi, C.  
Suzuki, S.  
Tachibana, M.  
Takaba, S.  
Takagi, M.  
Takeo, O.  
Taki, Y.  
Tanaka, R.  
Tanaka, Y.  
Taniguchi, F.  
Tomioka, M.  
Tomono, M.  
Uchida, H.  
Uchinami, S.  
Ugai, S.  
Yamazaki, T.  
Yoshida, T.  
Yoshino, T.

FOREIGN COUNTRIES

Africa

Davey, R.J.  
Gooderham, N.H.  
Lennox, C.H.  
Perttula, F.A.  
Pollard, A.E.  
Thorogood, R.R.  
Tully, A.

Arabia

Al-Ghunaim, A.K.  
Connerton, C.D.  
D'Souza, D.  
Thomas, C.A.

Australia

Badcock, J.M.  
Berzins, G.  
Ellis, L.W.  
Hansen, I.C.  
Honnor, W.W.  
Hope, R.S.  
Lenn, P.J.  
Vaux, L.J.

Bahamas

Hodgson, A.D.

Brazil

Girardelli, L.R.L.  
Szente, P.A.

Ecuador

Evans, E.M.

Formosa

Ong, H-Y.

Guatemala  
Whitehead, J.

Hong Kong  
Chen, Y.C.  
Dale, P.R.  
Eades, E.P.

India  
Banerjee, N.R.  
Edwards, R.B.  
Furtado, A.W.  
Kirloskar, R.L.  
Mahant, M.C.  
Mukerji, M.M.  
Natarajan, K.  
Pal, P. C.  
Raju, D.V.S.  
Rao, K.L.  
Sastry, J.V.  
Shah, J.G.  
Sreenivasan, K.  
Venkataramani, K.

Indonesia  
Noerhadi, L.  
Purman, L.  
Roesharsojo, L.R.M.  
Soekarman, L.  
Soeratman, L.  
Soewasono, L.P.I.  
Sujono, L.W.  
Sutjipto, L.  
Tarwi, L.U.  
Wikanto, L.

Iran  
Mueller, E.H.

Jamaica  
Gauntlett, G.A.R.  
James, W. C.

Malaysia  
Yuan-Lu, Li

Nigeria  
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Okinawa  
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Panama  
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Peru  
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Philippines  
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Velo, C.A.

S. Rhodesia  
Whiteing, R.G.

Sudan  
Klise, K.W.

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Chandaket, P.  
Sakorn, S.P.

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Graham, F.A.

Venezuela  
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Viet Nam  
Fozdar, J.K.

Overseas Military

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Brown, G.  
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Gobs, C.A., Jr.  
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Gustafson, G.R.  
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Richards, H.C.  
Roehr, W.C., Jr.  
Roessling, W.P.  
Ross, W.C.  
Rothermel, R.S.  
Schwartz, A.

Schwartz, A.J.  
Schwartz, P.L.  
Sharko, N.  
Short, M.E.  
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Tulintseff, N.G.  
Turner, R.F.  
Wertman, F., Jr.  
Wilson, T.H.



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