



RELIABILITY GROUP NEWSLETTER

Paul Gottfried, Editor
Booz Allen Applied Research
Bethesda, Md. 20014

Vol. XIV, Issue 2 - APRIL 1969

CONTENTS

EDITOR'S NOTES	1
CHAPTER NEWS	2
CHAPTER AWARDS.....	3
HINTS AND KINKS	4
CONFERENCES	4
ADCOM NOTES.....	5-7
HOW TO START A CHAPTER	8
PERSONALIA	9
MEET YOUR ADCOM	10
OFFICERS AND MEMBERS	11
SHORT COURSES.....	11
G-R MEMBERS IN EUROPE (REGION 8).....	11
CHAPTER CHAIRMEN: CORRECTIONS.....	12

EDITOR'S NOTES

This issue contains an unusually large number of photographs, mainly as a result of awards and recognition taking place at the January AdCom meeting. Your editor feels that publicity of this kind is justified by the same reasons that underlie the concept of awards in the first place: recognition by the profession of those who serve it, and incidental inducement to others to join in such service. The membership, whose dues support such activity and the Newsletter, nevertheless should be heard on this and other subjects. Do you see in the Newsletter what you think you should?

chapter news

New Jersey Coast

Stan Grubman of the Army Electronics Command, Fort Monmouth, addressed the joint Reliability/PMP chapter at its November 21 meeting. His subject was "Specifying Component Reliability."

North Jersey

The October 17 meeting featured a Mepco Company panel session on "Established Reliability Resistors."

Philadelphia

The second annual Seminar on Failure Analysis will be held at the University of Pennsylvania on May 22. Papers will be presented on system assurance, the use of failure analyses for improving equipment reliability, microelectronic standardization efforts, automatic testing of complex microcircuits, microcircuit failure mechanisms and failure analysis techniques. Among the speakers will be such authorities as J.J. Bussolini, C.H. Zierdt, Jr., Jayne Partridge, E.A. Doyle, Jr., D. Root, J. Gaffney, G.L. Schnable, H.C. Gorton and R. Anstead. For information contact Bernie Tiger, RCA, Building 16-4, Camden, New Jersey 08102, or Miss Helen Yonan, IEEE, Moore School of EE, University of Pennsylvania, Philadelphia, Pennsylvania 19104.

San Francisco

On October 17, a group tour of the Lockheed Palo Alto Research Laboratory was hosted by Drs. R.G. Stewart and J.H. Anderson. The November 21 meeting was addressed by H.R. Caldwell of Sylvania - Sunnyvale, who presented an "Introduction to Laser Reliability." A full schedule for the second half of the season has been established:

Jan. 16	Is There a Pay-Off for Reliability?	R.B. Allan E.V. Bersinger H. Matosoff
Feb. 20	Reliability Prediction & Measurement	Frank Alonzo Steve Hovan
Mar. 20	Reliability-Maintainability-Safety Interface	Capt. P.J. Stack Sol Malasky John J. Decker
Apr. 17	Product Liability	To be announced
May 15	Computer Aided Design/Reliability Analysis	Frederick P. Tatar
Jun. 19	Integrated Circuit Failure Prevention	To be announced

Twin Cities

The chapter's November 25 meeting consisted of a panel review of Leslie W. Ball's speech on "Reliability and Quality Control of the Future"

Washington

A Workshop in "Mathematical Modeling for Reliability" was organized by Victor Selman and conducted by him and Dr. Carl Harris of the Research Analysis Corporation as the chapter's December 11 meeting. The chapter co-sponsored the Washington Section's five-session lecture series on "Microwave Cadar" during the January-March period. A joint meeting with the PMP chapter on "Parts Screening -- Problems and Procedures" is scheduled for April 16.

Baltimore

At the September 25 meeting, L. D. Eckart of the Applied Physics Lab/Johns Hopkins University addressed the chapter on "Measure to Achieve Ultimate Reliability in the Dodge and Other Satellite Program at the APL/JHU." The November 25 meeting featured William A. Kagdis of the NASA Goddard Space Flight Center on the subject of "Metallization Defects Observed at the Oxide Step, With the Scanning Electron Microscope."

Binghamton

The chapter meeting on November 25 was addressed by two speakers from IBM - Endicott. J.E. Anderson spoke on "Seven Years of OAO" and F.H. Hardie discussed "Architecture for an Extended Mission Aerospace Computer."

Los Angeles Council

Ray E. Schafer of Hughes Aircraft - Fullerton spoke on "Sequential Bayes Procedure for Reliability Demonstration" at the chapter meeting on November 13.

Mohawk Valley

The October 29 chapter meeting heard Wayne Nelson of General Electric Co. RDC - Schenectady on the subject of "Graphical Analysis of Incomplete Failure Data." Joseph B. Brauer of the Rome Air Development Center discussed "Microwave Testing - Matching the Value with the Cost" at a meeting on January 14.

Montreal

At the chapter meeting held November 19, C. Gray of Northern Electric Company - Ottawa spoke on "Reliability Testing and Associated Problems Automatic Testing" and C. L. Heinrichs of Canadair - Montreal discussed "Life Test Calculations." The chapter's activities for the current season ended with the final lecture in the Reliability Training Session lecture series and the awarding of certificates on February 25. More than 55 people -- more than double the chapter's membership -- attended the lecture series which was keynoted by Alan Oxley of Canadair (and former Regional Director), and included as lecturers Chuck Heinrichs, Len Ruggins, and Rathin Neogy of Canadair and Joe Kelly of Canadian Marconi.

The Reliability Group Newsletter is published quarterly by the Reliability Group of the Institute of Electrical and Electronics Engineers, Inc. Headquarters Address: 345 East 47th St. New York, N. Y. 10017. Sent Automatically and without additional cost to each member of the Reliability Group.

Second-Class postage is paid at New York, N. Y.

CHAPTER AWARDS



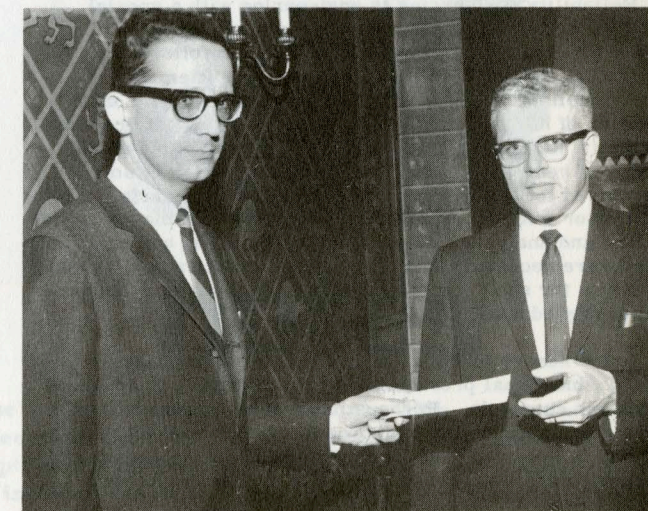
The awards, payable to the parent Sections, are based on chapter and member activities.



The 1968 Chapter Awards were made to the incumbent chapter chairmen at the January 20 AdCom meeting. Val Monshaw is shown presenting the first place certificate to Max Tall, Philadelphia chapter



the second place check to W. J. Gray, Boston chapter



and third place to Paul Gottfried, Washington chapter.

Hints and Kinks

Paul Gottfried
Booz, Allen Applied Research Inc.
Bethesda, Maryland

Most of us graybeards in the Reliability game grew into it from other parts of the engineering world without benefit of formally Reliability-oriented education, picking up the required tools along the way -- maybe a statistics course here, a little practice in decision theory there. It seems just barely possible that the doubts and questions contained in this column arise from the distorted vision of the self-educated -- but they're worth posing anyway, if only in the hope of anguished rebuttal from the pedagogues.

The core question is not whether Reliability can be taught; that it can be taught somehow, sometime, to someone, has been demonstrated by a number of present members of the profession. What is doubtful -- on observation of some recently-arrived practitioners -- is whether Reliability can be taught to those lacking certain elements of non-academic background or by means of some prevailing curricula.

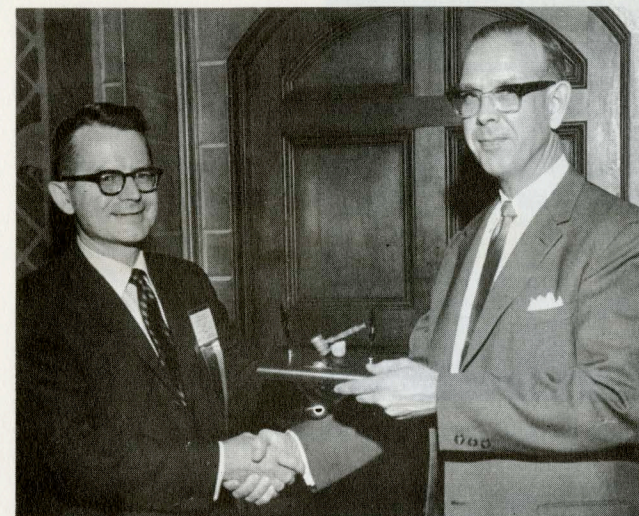
Let's go back one step to two prevailing criticisms of the products of basic engineering education. The first is: a graduate of an ECPD-approved curriculum isn't really an engineer until after he has dirtied his hands a few times. This may not be a criticism of education -- getting hands dirty may be a necessary supplement to, not properly a part of, the educational process. The second criticism is: the schools are teaching second-rate science, not engineering. This criticism may or may not be valid, and if valid may merely reflect unavoidable problems induced by rapidly changing technology. In any event, there are serious doubts concerning the readiness of a freshly-minted engineering graduate to practice engineering.

Reliability engineering is engineering with a special orientation and involves a number of tools beyond those provided by a basic engineering education. It follows that an individual should be an engineer before he attempts to become a Reliability engineer; if he is not an engineer upon completion of his undergraduate education, he is not prepared to become a Reliability engineer by further education alone. This line of reasoning is supported by observation of some who acquired the M.S. degree in Reliability engineering without prior working experience: they tend to be mathematical modelers and analysts, not engineers. Modeling and analysis certainly are necessary and very useful activities, but should preparation for such activities be the sole or primary purpose of Reliability education?

In the academic world, it is established practice to stipulate educational prerequisites for admittance to advanced courses and curricula. Perhaps it would be appropriate to introduce experience prerequisites for graduate-level programs in fields such as Reliability engineering, and perhaps such requirements should be applied to the faculty as well.

conferences

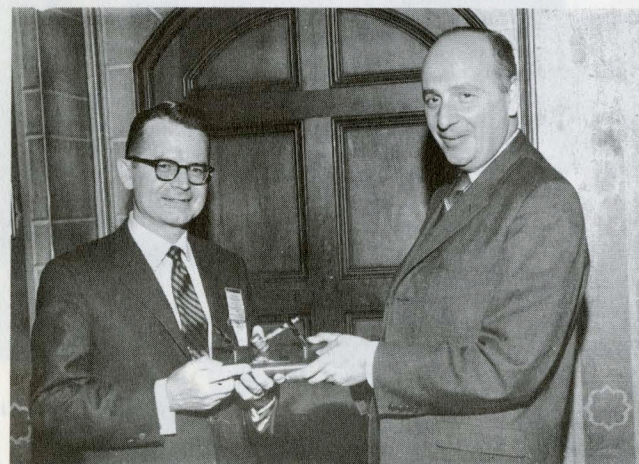
- May 5-7 1969 Electrical & Electronic Measurement & Test Instrument Conference - Instrument and Measurement Symposium, Skyline Hotel, Ottawa, Canada.
- May 5-8 1969 IEEE International Congress on Instrumentation in Aerospace Simulation Facilities, Polytechnic Institute of Brooklyn, Farmingdale, Long Island.
- May 19-21 1969 National Aerospace Electronics Conference (NAECON), Sheraton-Dayton Hotel, Dayton, Ohio.
- May 22-23 1969 IEEE Workshop on Applied Magnetics, Sheraton Park Hotel, Washington, D. C.
- June 3-5 1969 Conference on Microelectronics (IEEE, IEE, IERE, The Institute of Physics and The Physical Society), Congress Theatre, Eastbourne, Sussex, England.
- June 16-21 Fourth Congress of the International Federation of Automatic Control, Warsaw, Poland.
- June 17-20 Joint National Meeting of AAS and ORSA, Brown Palace Hotel, Denver, Colorado.
- June 22-27 1969 IEEE Summer Power Meeting (Theme: RELIABILITY), Sheraton-Dallas Hotel, Dallas, Texas.
- June 30-July 4 Conference on Application of Operational Research to Reliability (NATO Science Committee), Turin, Italy. Registration deadline May 1. Details: Mr. E. M. Scheuer, The Rand Corporation, Santa Monica, California.
- July 7-9 Eighth Reliability and Maintainability Conference (AIAA, SAE, ASME), Brown Palace Hotel, Denver, Colorado.
- July 7-11 1969 IEEE Annual Conference on Nuclear and Space Radiation Effects, Pennsylvania State University, University Park, Pennsylvania.
- September 8-12 1969 International Symposium on Man-Machine Systems (IEEE, IEE), St. John's College, Cambridge, England.
- September 16-19 1969 Solid State Devices Conference (IEEE, IEE, The Institute of Physics and The Physical Society), University of Exeter, Exeter, Devon, England.
- September 21-26 Intersociety Energy Conversion Engineering Conference (IEEE, AIChE, ASME, AIAA, SAE, ANS, ACS, MTS), Statler Hilton, Washington, D. C.



Past Chairman Marion P. Smith presented desk sets to Richard F. Rollman, the Reliability Group's first AdCom chairman, who took office in 1949.....



Second chairman Leon Bass.....



Third in the series, Victor Wouk.....

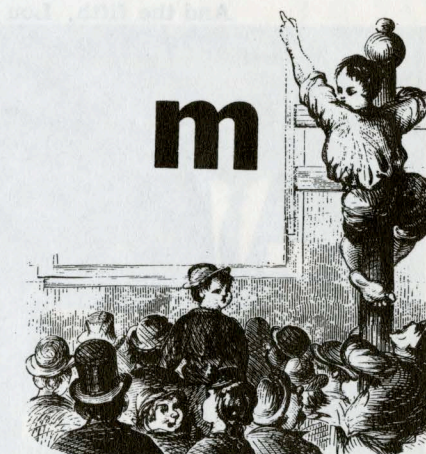
A

d

C

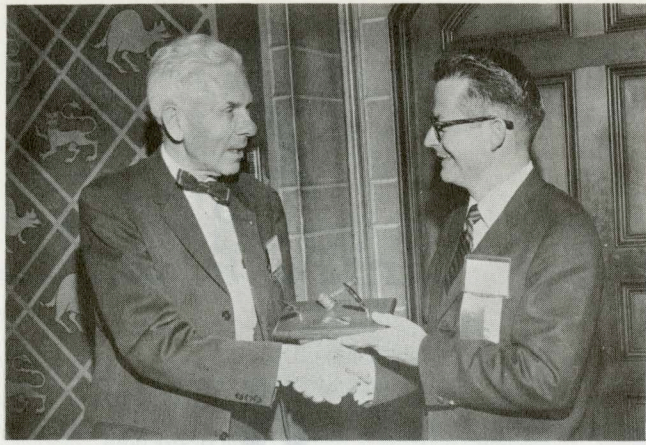
o

m



notes

The AdCom meeting held January 20th, immediately preceding the 1969 Reliability Symposium, was exceptionally pleasant---it was devoted to recognition of individual service and chapters (see Chapter Awards)



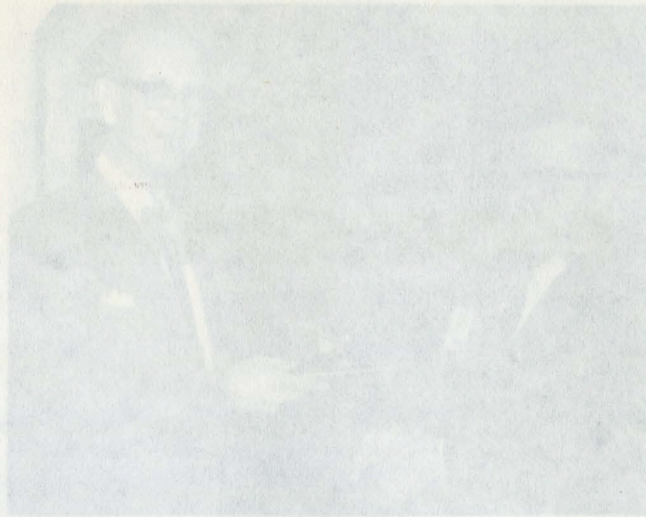
His successor, P.K. McElroy.....



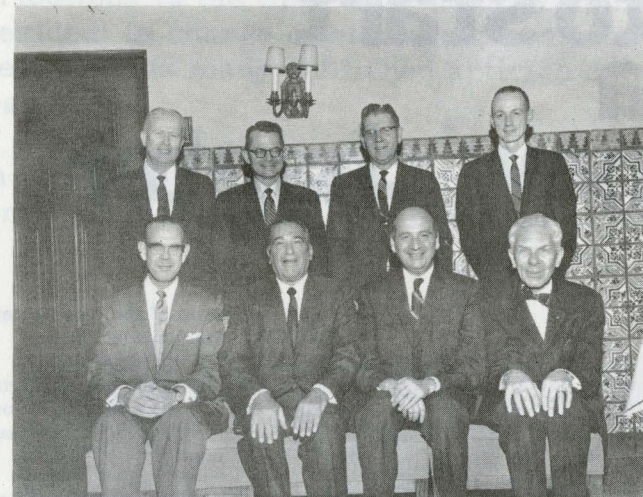
And the fifth, Lou J. Paddison.....



And the retiring seventh chairman, E. F. Jahr.....



Who swapped positions to make the presentation to Marion.



The entire group then posed with incoming chairman Harry Reese.



The January/February issue of Evaluation Engineering contains a history of the Group written by Marion Smith and Cliff Ryerson. New members may wish to read the article to find out how it all came about; old timers may find themselves shedding a few nostalgic tears.

Earlier in the meeting, certificates of appreciation were presented to recently retired Transactions Editor John Connor.....



and another 1968 dropout, retired Newsletter Editor Len Schneider (now Vice Chairman -- Publications).

It was not ascertained whether the pleased smiles reflected joyful appreciation of the certificates or relief resulting from retirement.



HOW to start a new chapter

The last issue of the Newsletter contained a few words on WHEN to start a new chapter. Here's HOW:

1. Write to IEEE Headquarters (TAB or Sections Departments) for a list of members in your Section area and for a Group Chapter Manual and general information.
2. Write to the Secretary of your Section, advising him of your interest in organizing a Chapter.
3. Write to the AdCom Chairman, advising him of your interest in organizing a Chapter.
4. Draw up a petition, addressed to the General Manager of IEEE, requesting formation of the proposed Chapter, and have this petition signed by at least twelve G-R members residing in the Section.
5. Submit the signed petition to the Secretary of the Section for approval by the Section Executive Committee.
6. Forward petition and Section Executive Committee approval to the General Manager of IEEE. He will submit it to the IEEE Executive Committee for approval.
7. When you have been notified that the IEEE Executive Committee has approved the petition, elect officers and report their names and positions to Section, AdCom Chairman and IEEE Headquarters*
8. Furnish copies of pertinent correspondence to the Section Secretary, the IEEE Sections Department and the AdCom Chairman.

*and, please, to the Newsletter Editor!

For additional help or information, contact the Vice Chairman/National Meetings, Chapters and Membership. We all hope to hear from you soon!

PERSONALIA

The 1968 Annual Reliability Award of the Reliability Group went to Jack A. Morton, Vice President of Bell Telephone Laboratories. Dr. Morton is widely known among members of the profession as a result of his six years of service on the Advisory Board of the Annual Symposium on Reliability, his major contributions to the field of Reliability in his capacity as Vice President in charge of electronic components at the Laboratories, and his many published articles and public appearances.

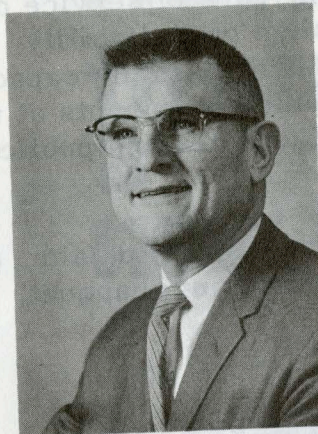
Dr. Morton is shown receiving the award from Ed Jahr, outgoing AdCom chairman, at the 1969 Symposium banquet.



Leonard Doyon, Manager of the Product Assurance Department at the Raytheon Company's Wayland laboratories, recently delivered a 30-hour lecture course on system reliability engineering at the Service Technique des Telecommunications de l'Air, Paris, France. (The lectures were presented in French: Montreal chapter please note.)

William Lowery, Product Assurance Manager for the SAM-D program at the same Raytheon location, recently was elected to a second term on the Contractor's Advisory Board of IDEP.

Meet your AdCom



George L. Beyer, Jr. is the newly elected Vice-Chairman for National Meetings and Membership. He has been a member of the AdCom since July 1966 and recently served as Publications Vice-Chairman. He is a past chairman of the Washington Chapter and was on the Management Committee of the Annual Symposium on Reliability for four years.

George is the Chief of the Safety and Reliability Branch, U.S. Naval Ordnance Laboratory, White Oak, Maryland. He has been with NOL for 26 years, involved in the reliability evaluation and analysis of underwater weapons for the last 15 years.

George was born in Toledo, Ohio and attended Miami University and the University of Illinois, majoring in Physics. He is a member of Sigma Pi Sigma and Phi Beta Kappa, and is listed in American Men of Science. George and his wife, Mary Ellen, reside in Beltsville, Maryland. Their two daughters are attending college in Michigan.



Richard M. Jacobs, who has been serving as Treasurer, is Associate Professor of Industrial Engineering at Newark College of Engineering and is Director of the Consultant Services Institute, Livingston, New Jersey.

Dick's involvement in and on behalf of the profession has been long and deep. While employed by a number of industrial corporations, most recently Westinghouse and Sylvania, he has been active in IEEE, ASQC, and ASEE and is Assistant Secretary of the Reliability Committee (TC56) of the International Electrotechnical Commission. His work has spanned Reliability, Quality Control, Product Liability and related areas and has produced over 75 papers.

Dick received his bachelor's and master's degrees in Industrial Engineering from Syracuse University. He has taught courses in his areas of interest there and at the Air Force Institute of Technology, Drexel Institute, and Boston and Villanova Universities.

officers & members

Newly elected officers of the AdCom are:

Chairman	H. E. Reese
Vice Chairman/Education, Development & Standards	V. R. Monshaw
Vice Chairman/Technical Operations	W. T. Sumerlin
Vice Chairman/Publications	L. L. Schneider
Vice Chairman/National Meetings, Chapters & Membership	G. L. Beyer, Jr.

Members are:

Term expiring 1969	Term expiring 1970	Term expiring 1971
G. H. Beckhart	E. F. Jahr*	J. E. Dykes
G. L. Beyer, Jr.	V. R. Monshaw	Paul Gottfried
K. Koon	A. M. Okun	C. R. Knight
J. LaCapra	L. J. Paddison	T. L. Regulinski
J. J. Naresky	H. E. Reese	C. N. Thompson
L. L. Schneider	W. T. Sumerlin	H. W. Williams
M. P. Smith (ex officio)		

* ex officio for three years.

SHORT courses

Newsletter policy with respect to short-course announcements, as established by the AdCom, is to provide publication for information only. No endorsement is implied, and no check on course content or instructor qualifications has been accomplished.

New York University

Automation in Electronic Test Equipment: June 16-20, United Engineering Center. Five days, \$265.00.
Write: NYU School of Engineering and Science, Research Division, Bldg. No. 2, 401 West 205th Street, New York, New York 10034

University of Missouri - Columbia

Filter Design Seminar: August 5-8
Computer-Aided Circuit Optimization Workshop: August 11-15. Write: Dr. George W. Zobrist, Department of Electrical Engineering, University of Missouri, Columbia, Missouri 65201

Institute of Environmental Sciences

Tutorial Program on Reliability Testing: April 21-24. Certificated by California State Polytechnic College
Write: Institute of Environmental Science, 940 East Northwest Highway, Mt. Prospect, Illinois 60056 (course to be held at Anaheim, California).

G-R MEMBERS IN EUROPE :Region 8:

Belgium	11
Czechoslovakia	4
Denmark	9
England	20
Finland	2
France	34
Greece	1
Ireland	3
Israel	12
Italy	25
Lebanon	1
Norway	7
Netherlands	12
Poland	1
Scotland	3
Spain	4
Sweden	25
Switzerland	12
USSR	2
West Germany	11
Yugoslavia	1

Looks like there's enough material for a few chapters!

CHAPTER CHAIRMEN: CORRECTIONS

The publication of the names of chapter chairmen in the January issue brought to light a communications gap; five chapters among those responding to an October survey indicated officers differing from those on record with the Newsletter. They are:

Boston

W. J. Gray
RCA
Box 588
Burlington, Mass.

Connecticut

Mr. Palmer B. Smith
8 Bayberry Lane
Darien, Conn. 06820

Mohawk Valley

Mr. Leon Sperling
General Electric Co.
AED
French Road
Utica, N. Y. 13502

North Jersey

Mr. J. H. Gerth
Bell Telephone Labs.
Whippany, N. J. 07981

Twin Cities

Mr. A. Forsman
Honeywell, Inc.
Ordnance Division
600 North 2nd Street
Hopkins, Minnesota

In addition, a recent letter addressed to the listed chairman of the New York - Long Island chapter was returned marked "Left company, left no address".