



# NEWSLETTER

## COMMUNICATION TECHNOLOGY GROUP

VOLUME 2

NUMBER 4

JUNE 1966

### IEEE INTERNATIONAL COMMUNICATIONS CONFERENCE

SHERATON HOTEL — PHILADELPHIA, PA — JUNE 15-17, 1966

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MESSAGE FROM THE CHAIRMAN

Dr. R. K. Hellman  
Hazeltine Corporation  
Littleneck, New York

The well attended AdCom meeting, which took place during the International Convention in New York on March 22, provided the most recent opportunity to review the affairs of the ComTech Group. As the Chairmen of the various committees submitted their reports, one could only conclude that the Group is a healthy organization. Publications, meetings, chapters, finances and professional recognition are all showing sound progress. In size, the Group is the fifth largest in the Institute (fourth largest if student members are excluded), and its further development is based on long-range plans.

This, therefore, seems an appropriate time for a new team of officers to take over. At the AdCom meeting, W. B. Jones and F. D. Reese were elected Chairman and Vice-Chairman for the year starting July 1. On behalf of all members of the Group, I should like to congratulate them and to extend to them our best wishes for a successful year.

As my own two-year term in office comes to a close, I should like to take this opportunity to thank my fellow officers, the members of AdCom and its Operating Committee and the many others who have generously given of their time and energy in support of the Group. Having been involved with voluntary organizations inside and outside of the IEEE over a good many years, I can say that I have never experienced more willing cooperation and higher ability than was given to the common cause by the members of AdCom. I am certain that my successor will wind up his term with a similar feeling of gratitude, as the team transfers the same spirit of support to him.

I am looking forward to seeing many of you at the Communications Conference in Philadelphia in June.

1966  
IEEE  
INTERNATIONAL COMMUNICATIONS CONFERENCE

HIGHLIGHTS

Sponsors: Institute of Electrical and Electronics Engineers  
Communications Technology Group

Institute of Electrical and Electronics Engineers  
Philadelphia Section

Participating IEEE Groups: Audio - Electronic Computers - Electromagnetic Compatibility - Broadcasting - Aerospace and Electronic Systems - Information Theory - Microwave Techniques and Technology

Location: Sheraton Hotel  
1725 John F. Kennedy Boulevard, Phila., Pa.

Dates: Wednesday - Thursday - Friday  
June 15-16-17, 1966

(Refer to Detailed Program Mailed Separately)

The theme of the 1966 International Communications Conference is just that - Communications - From Research to

Systems and Throughout the World. As the second ComTech annual conference, it is a must technical meeting for:

Communications Systems Operators  
Communications Systems Designers  
Communications Equipment Design Engineers  
R&D Engineers and Scientists concerned with advanced technology pertinent to communications.

The 39 session technical program has been organized so that specialists will be able to follow their area of greatest interest through the three days of the seven parallel sessions.

Over 150 speakers from U.S. and abroad will deliver more than 140 papers and participate in day/evening panel discussions. There will be a keynote session, sessions arranged in seven tracks, and four evening panel sessions.

Information Theory - 5 sessions

Adaptive Systems  
Pattern Recognition  
Signal Design  
Signal Detection  
Coding

Speech Processing

Pictorial Displays and Transmission - 2 sessions

Visual Recognition  
Data Conversion

Technology - 4 sessions

Microwave Devices and Techniques  
Optical (Lasers)  
Low Noise  
Electromagnetic Compatibility

Communications System Software

Data Transmission

Systems

The Future of International Telecommunications - (Panel)

Global Communications - Transmission Planning and Systems for Special Needs

National Communications

Government Communications - 2 sessions

Switching - AUTOVON and AUTODIN  
NASA Worldwide Communication Network

Radio - 2 sessions

Reliability and Interference  
Future Allocation of the Radio Spectrum (Panel)

Satellite - 2 sessions

Ground Stations  
System Selection (Panel)

Broadband - 5 sessions

Carrier  
Multiplex  
Digital vs Analog (Panel)  
Operation and Maintenance  
CATV

The keynote session, Wednesday afternoon, assembles an expert panel to discuss - Compatibility - Challenge to Universal Communications. It will include a demonstration of worldwide direct dialing.

Complementing the technical program will be exhibits featuring new developments in communications equipment - including laboratory "brass boards" and the latest in communication test equipments.

Sounds as though there is something for everyone! Yes, this is true - for the gamut of technical interests - and historic Philadelphia in June is included for wives and families.

Guest Speaker: W. Deming Lewis  
President, Lehigh University  
Bethlehem, Pennsylvania

Communications - Concept and Reality

The explosive growth of electrical communications, while solving some problems, has exposed others, both technical and sociological. Concepts and principles of electrical communication may also prove fruitful in these wider areas. Possible application in the field of business, politics and education will be explored.

Exhibition: Operational displays of the latest developments in communications systems, equipment and accessories: Exhibit Hall/Sheraton Hotel.

Conference Report Illustrated condensations -- approximately 800-1000 words in length -- of all papers -- will be published in a letterpress edition of a DIGEST of TECHNICAL PAPERS that will be distributed at the meeting to all conference registrants.

Executive Committee Profiles

General Chairman: William H. Forster  
Staff Assistant to President  
International Telephone & Telegraph Co.  
New York, New York

Vice Chairman: Richard Guenther  
Chief Scientist - Surface Communications  
Division  
Radio Corp. of America  
Camden, New Jersey

C. Raymond Kraus  
Consulting Communications Engineer  
Villanova, Pennsylvania

Technical Program Chairman: Amos E. Joel, Jr.  
Director/Local Switching Laboratory  
Bell Telephone Labs, Inc.  
Holmdel, New Jersey

Banquet/Luncheon Chairman: Walter K. MacAdam  
Vice-President - Govt. Communication  
American Tel. & Tel. Co.  
New York, New York

Coordinator of Government Comms.  
Bell Telephone System  
New York, New York



IEEE CC'66  
SHERATON HOTEL - PHILADELPHIA, PA - JUNE 15-17, 1966

ADCOM NEWS

The ComTech Administrative Committee met during the New York International Convention. Dr. A. B. Giordano, Group Secretary is thanked for providing an early draft of the resulting minutes.

The following notes are extracted from these minutes to appraise ComTech members of ComTech trends.

Elections - The following Group Officers were elected in accordance with established procedures:

Chairman: Dr. W. B. Jones  
Georgia Tech

Vice-Chairman: Frank D. Reese, President  
Automatic Electric Labs.

Members-At-Large (Three year terms)

G. R. Cooper  
A. E. Joel  
D. L. Solomon  
C. A. Strom

1966 IEEE International Communications Conference - Philadelphia - Approximately 225 papers have been received from companies and educational institutions. To accommodate as many quality papers as possible, some thought is being given to "ten minute papers" in special sessions for the purpose.

1966 Wescon Participation - Attempts to arouse interest among the ComTech technical committees to participate has not been too successful.

The Meetings Committee plans a call for papers approach for organizing a few sessions in 1967 in addition to papers invited by the TCs. Wescon appears to be the best forum available for this activity.

1967 ComTech Symposium at NEC - Progress is being made towards the use of the conference record to provide individual preprints or preprints by session in advance of the meeting. To accomplish this, the papers will have to be submitted on or before July 1 and reviewed promptly by the TC Chairmen in order to permit this advanced handling. TC Chairmen are requested to inform Mr. Reese as to the total number of sessions they will require at NEC.

1967 IEEE International Communications Conference - Minneapolis - The conference is scheduled for June 12 - 14 to be held at the Nicollet Hotel. The committee will undertake the solicitation of exhibitors.

TC Chairmen are requested to submit program ideas to Dr. Collins, Program Chairman.

1971 IEEE International Communications Conference The selection of a site is under consideration and will be discussed at the June, 1966 meeting of AdCom.

Mr. Reese has contacted, by letter, the Chairmen of the Syracuse, Boston, Montreal, and Dallas Sections. The Syracuse Section has declined on the basis that the ComTech Chapter there is inoperative and the local communications interest is not high. The Boston Section expressed interest but hotel facilities are already congested for 1971. Neither the Montreal or Dallas Sections has replied so far.

Budget - The 1965 experience matched the October 25 1965 forecast within a few dollars. The Group ended the year with publications showing a strong surplus. For 1966 it is hoped that more service can be provided for the membership through the publication of a greater volume of good technical material. So far, this is not the case and another surplus is in prospect.

Membership Committee Report - Mr. Burnett, Chairman, submitted a detailed report of activities which is attached as Appendix 6. A drive for new members, including student members, is becoming very effective.

Mr. Burnett is considering ways of identifying channels through which new members join ComTech. He has held a discussion with Mr. Fink. He is also requesting a better location for the Group Room at the IEEE International Convention. A second printing of the ComTech descriptive brochure is being arranged.

Chairman Hellmann remarked that the growth in membership has been quite appreciable because of the diligent effort of the Membership Committee.

Awards Committee Report - Mr. Mitchell, Chairman, explained that two nominations were prepared for the new Hernand and Sosthenes Behn Award in International Communication. The Committee approved one nomination and a sponsoring letter was sent to the Awards Board. The other nomination came quite late and there was not sufficient supporting material to reach a judgment on the merits of the case. A letter sent to the Awards Board made this point:

Mr. Mitchell reiterated the need for submitting supporting information on time so that intelligent action can be taken. We should avoid becoming a "rubber stamp" operation.

Discussion Involving Technical Committees - Vice Chairman Jones reported on his investigation of difficulties being experienced by the Technical Committees. He talked to many of the TC Chairmen and concluded that the major issues relate to maintaining an active committee membership, attracting outstanding papers from the ComTech membership, and formulating a procedure for directing conference papers into the Transaction.

Vice-Chairman Jones recommended that five points be considered:

1. Size of TCs membership and appointment tenure.
2. Maintain a balanced geographical distribution.
3. Hold an annual meeting of TC Chairmen to review status.
4. Assign the Vice-Chairman of AdCom to organize these annual meetings.
5. Prepare a guide of successful TC practices.

Chairman Hellmann thanked Vice-Chairman Jones for his report and emphasized the need to overcoming the apparent weaknesses in the TC organization. He requested that comments be sent to Vice-Chairman Jones during the next four weeks.

Wire Committee - Chairman Hellmann recommended that Mr. A. F. Culbertson be appointed Chairman of the Wire Communication Committee to complete Mr. Leffel's unexpired term of two years. The recommendation was moved, seconded, and carried. Mr. Culbertson was requested to recommend a Vice-Chairman before the June meeting.

\* \* \* \* \*

#### MEMBERSHIP

Chairman: Wm. C. Burnett  
Southern Bell  
Post Office Box 2211  
Atlanta, Georgia 30301

All 25 members of the Membership Committee of the ComTech Group have been hard at work in promoting ComTech memberships in their respective areas of responsibility.

Examples of this activity are many. Letters have been directed to the superintendents of communications with railroads all over the country. Contacts are being made with engineering faculty in the United States and Canada to encourage both faculty and students to join. (The cost to a student is only \$1 per year.) Considerable promotional activity has been carried on in government communications groups. In several industries chief engineers have been written to the effect that there are distinct advantages in their engineers belonging to ComTech.

ComTech had a promotional table at the International Convention in New York in March and at the Region III meeting in Atlanta in April. This type of activity will be expanded at future major meetings of IEEE.

Several individuals who are not members of the committee have done yeoman service in signing new ComTech members. Outstanding among these is Glenn Bell of Southern Bell Telephone in New Orleans.

12 members of the committee met for luncheon and a very constructive discussion of committee work during the IEEE Convention in New York in March. A similar meeting will be held in Philadelphia in June.

The committee chairman is delighted with the strong interest that has been exhibited by the committee members. They are working hard and have set in motion forces that will show substantial results in the form of membership growth.

\* \* \* \* \*

#### COMMUNICATIONS DISCIPLINES

Chairman: C. A. Strom  
RADC  
2000 Bedford Street  
Rome, New York 13440

The Communication Disciplines Committee held a Workshop in San Juan, Puerto Rico this past January. New Modulation and Multiplexing Techniques were recently tested over the tropo path from Puerto Rico to Grand Turk Island. The Workshop discussed the results of these tests.

There were 81 attendees at the workshop and the discussions were very lively. As a result of the two day meeting, I feel that the attendees had a much better feeling for the problems encountered in a very long tropo path. Many of the conferees came forth with suggestions for overcoming problems encountered in operating over this long tropo path. Some of the attendees wanted more information on the fine grain correlation between errors and instantaneous propagation; hence, suggestions were made for future work in this area.

The conferees were emphatic in stating that the high density tropo and microwave systems should not be considered as competing in any way with the narrower bandwidth, very long path tropo system which is engaged in carrying a large amount of digital data. Specialized solutions can be developed for the latter but they will be quite complex.

#### RADIO COMMUNICATIONS

I. T. Corbell, Chairman  
Radio Communications Committee  
Microwave Associates, Inc.  
South Avenue  
Burlington, Massachusetts 01804

Radio Committee members were session organizers for twenty-seven papers and assisted on twenty-eight more. These papers are being processed for publication in the TRANSACTIONS. The Radio Communications Systems Committee will sponsor two sessions at NEC in Chicago. A number of new committee members have been appointed effective June 1966, and are helping with committee work in the interim period. The last committee meeting in March in New York was well attended and successful.

\* \* \* \* \*

#### TELEMETERING

Chairman: F. Vinton Long  
P. O. Box 592  
Shreveport, La. 71102

Vice Chairman is:  
S. D. (Steve) Chalmers  
Salt River Power Project  
P. O. Box 1980  
Phoenix, Arizona

Our new Secretary is:  
Hartley A. French  
Trans-Canada Pipe Lines, Ltd.  
150 Eglinton Ave., E.  
Toronto 12, Ontario, Canada

\* \* \* \* \*

#### DATA/TELEGRAPH COMMITTEE

Chairman: Mr. W. G. Vieth  
Western Union  
60 Hudson Street  
New York, New York  
10013

Mr. W. Y. Lang, Nominations Chairman, has submitted the following slate of Committee Officers which were elected unanimously.

Chairman: R. M. Kalb  
Vice-Chairman: Ken Young  
Secretary: Claude Kagan

\* \* \* \* \*

#### THE NETWORK HOTLINE

Dr. William M. Mazer has been appointed Manager, Corporate Advanced Systems Laboratory, American Electronic Laboratories, Springfield, Virginia

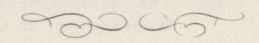
Gunther Karger, Communications Systems Engineer, Pan American World Airways, GMRD, was recently elected Fellow, British Interplanetary Society.

Wilbur A. Serwat has been appointed Federal Government Marketing Manager by the Digitronics Corporation.

Mr. Serwat's responsibilities include the direction of the company's marketing efforts to Federal Agencies and the Military Departments. Prior to joining Digitronics, he had been Federal Government National Accounts Manager for Control Data Corporation and previously had been District Manager for Honeywell, Incorporated, Electronic Data Processing Division.

Mr. Serwat graduated from DePaul University and is a member of the Association for Computing Machinery. He is a World War II veteran, married, with two children, and resides in Rockville, Maryland.

Harold A. Levine has recently been appointed Manager of the Countermeasures Systems Division of Instrument Systems Corporation. He will supervise ISC's engineering activities which span the fields of active and passive electronic countermeasures.



School of Electrical Engineering  
Purdue University, Lafayette, Indiana

#### MODERN ASPECTS OF COMMUNICATION THEORY

##### TWO WEEK INTENSIVE COURSE

JUNE 6 - 17, 1966

#### PURPOSE

The short course is designed to provide a logical development and exposition of the more important concepts in communication theory which have evolved in recent years and to provide attendees with sufficient familiarization with these concepts to allow effective use and understanding of current literature and research results in this field.

#### FOR WHOM INTENDED

The short course is intended for communications engineers, scientists, teachers, and other qualified persons interested in the design of modern communication systems or the methods of characterizing and analyzing systems with random signal inputs.

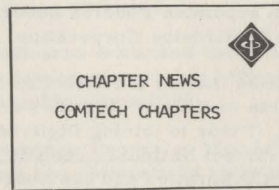
#### COURSE OUTLINE

##### First Week

Time and Frequency Domain Concepts  
Probability Theory  
Random Processes  
Correlation and Spectral Analysis  
Response of Linear Systems and Random Signals  
Optimum Filtering  
Generalized Signal Representation  
Signal Design  
Statistical Decision Theory  
Channel Characteristics and Models  
Detection of Known Signals in Noise



Detection of Signals with Unknown Parameters in Noise  
 Sequential Detection  
 Estimation Theory  
 Optimum Demodulation for Analog Signals  
 Adaptive Systems  
 Learning Systems



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

CANAVERAL

The reactivation of the Canaveral Chapter, IEEE Communication Technology Group has been enthusiastically supported by the technical community. Since the reactivation in November 1965, there have been two very interesting programs, very well attended. There will be election of officers at the Annual Meeting to be held April 25, 1966.

The Nominating Committee consisted of Messrs. Gunther Karger, Chairman; C. F. Merrigan, and John Kolarick. The recommendation of the Nominating Committee was that the currently elected officers should continue for a full term. Each officer was contacted and agreed to serve during the 1966-67 year, if elected. Accordingly, the Nominating Committee submits the following slate for your consideration:

- Chairman - Dr. B. E. Keiser, Manager, Plans and Programs, KSC Communications Project, RCA Service Co.
- Vice Chairman - Lawrence Lerner, Systems Manager, Range Control Systems, Pan American World Airways, GMRD
- Secretary - Rollo Christensen, Director, Data System Market-Radiation Inc.
- Treasurer - Richard K. Snelling, Supervising Engineer, Southern Bell Telephone & Telegraph Co.

Biographies of the nominees are as follows:

Bernhard E. Keiser

B. E. Keiser, Manager, Plans & Programs Section, KSC Communications Project, holds the Doctor of Science degree in Electrical Engineering from Washington University, St. Louis, Mo. In 1959, he joined the Radio Corp. of America. In his present capacity, he is responsible for the planning of new communications systems to be used at the Kennedy Space Center.

He is a member of Tau Beta Pi (Engineering), Pi Mu Epsilon (Mathematics), a full member of Sigma Xi (Scientific), and a senior member of the IEEE. He is listed in the "American Men of Science" and in "Who's Who in the South and Southwest". He is Chairman of the Canaveral Chapter of the IEEE G-ComTech.

Lawrence Lerner

Mr. Lerner is Systems Manager, Range Control Systems of PAA/GMRD. He has been with PAA since 1963. Mr. Lerner is a graduate of the City College of New York and holds an MS in EE from NYU. Prior to joining PAA, Mr. Lerner was Engineering Director at Rixon Electronics, and a Laboratory Manager at Melpar Inc.

Rollo Christensen

Mr. Christensen is Director of Data Systems Marketing for Radiation Inc. at Melbourne, Fla. He has been associated with Radiation Inc. for 4-1/2 years. Mr. Christensen graduated from Northwestern University with a BSEE degree in 1955. Prior to joining Radiation, Mr. Christensen was associated with the Ampex Corp. and Northwestern University's Aerial Measurement Laboratory.

R. K. Snelling

Mr. Snelling is Supervising Engineer for Southern Bell Telephone & Telegraph Co. at Cocoa, Fla. He has been associated with this company for the past ten years. Mr. Snelling graduated from the University of Florida, College of Engineering in 1955. He attended the one-year Bell System Regional Transmission School at Clinton University in 1963. He is a registered professional engineer in the field of electrical engineering in the State of Florida. He is a senior member of the IEEE and currently treasurer of the G-ComTech. Additional nominations by chapter members may be made from the floor at the Annual Meeting providing the candidate has given prior consent. The election shall be by direct vote of the members at the April 25 meeting to be held at Ramon's Causeway Restaurant, Cocoa Beach, Fla.

Richard E. Jones

At a recent meeting of the IEEE, G-ComTech Canaveral Chapter, Mr. Richard E. Jones, Director of Communications, National Range Div., gave a presentation on network communications for space, and a live demonstration of the quality of the communications to remote sites throughout the world. The highlight of the evening was the live communication hookup from the Cocoa Beach Carriage House meeting facility. Through the efforts of the Air Force at the East Test Range, instant connections were made to such remote spots as Hawaii, London, England, Canberra, Australia.

In his presentation, Mr. Jones traced the history of rocket, missile and space development in the United States, along with the parallel development of the communications systems and techniques that were required to support these operations. Comments were made about the early communications for the ranges which consisted of submarine cables without repeaters, and single sideband radio transmission. These early communications left a lot to be desired in the quality of recovered data.

Films were shown depicting the launching of the latest missile systems, including the Titan, showing the Jettison of the solid strap-on boosters, Polaris submarine launches, launch and destruction of the Atlas-Centaur, McDivitt and White launch and spacewalk, rendezvous movies and the Soviet spacewalk. It was stated that in the future, communications between spacecraft voice will be digitized and will be part of the unified tracking and telemetry system. The role of communications plays an important role in the doctor's evaluation of astronauts' condition just from their voice.

The early Mercury tracking and communications network was limited to occasional voice and not-too-efficient teletype. The later Gemini tracking and communications network was greatly improved making use of quality submarine cables and other communications. For example, the Syncom satellite played a major role in the transmission of pictures of the recovery of the Gemini spacecraft.

The second portion of the meeting consisted of a live hookup to several points of the world. Arrangements were made prior to the meeting for a communications hookup via Bell Telephone Co. to the Cape Communications Control. Mr. Jones made the first contact to the Coastal Crusader ship located 2200 miles southeast of Florida. This connection was made via submarine cable to Antigua and then single sideband to the Coastal Crusader ship. The report back from the Coastal Crusader indicated an air temperature of 76° and a water temperature of 70°. Contact was then made with Antigua and then to Ascension Island. From Ascension Island the contact was switched to the other side of the United States to Vandenberg Air Force Base and Vandenberg Control. The time at

Vandenberg was 7:35 P. M., with a report from Vandenberg that the weather was perfect. From Vandenberg, contact was established with Wheeler Control in Hawaii.

From London, England came the words that it was dry and cold, the time was 0239 Zulu time. Contact was then made to Australia, where the words came back that it was "perfectly beautiful here, 73° and 12:40 PM on Tuesday." Both sides of the conversations were heard "loud and clear" during the evening demonstration. However, difficulty was encountered in attempting to make contact with Eniwetok.

It was interesting to note the differences in background and quality used in the various hookups. These hookups were performed through the use of cable, underground cable, high frequency radio lines. In addition to the live transmission, tapes were played representative transcriptions of a recent Gemini flight, which pointed up the problems encountered in communicating with spacecraft orbiting the earth.

A large crowd enthusiastically heard Mr. Jones' speech and live communications demonstration. This is the first time a presentation with this type of demonstration was given at Cape Canaveral.

The next meeting of the IEEE ComTech Group, Canaveral Chapter will be held April 25 at Ramon's Restaurant at the Cocoa Beach Causeway, where Mr. David L. Solomon, Technical Adviser to the Assistant Secretary of Defense/Administration, National Communications System Staff, will give a presentation "The National Communications System." Mr. Solomon will describe steps taken by the President to form a new national integrated communications system and will discuss the evolution of this system, together with a description of some of the major components.

Charts of the organization of the various facets of the NCS will be shown and some of the national global networks comprising the present national assets of the federal government's communication facilities will be presented.

Mr. Solomon joined the Office of the Secretary of Defense in 1963, where he now is the Technical Advisor to the Assistant Secretary of Defense for Administration, and on the Staff of the National Communications System. This Staff, on behalf of Mr. Robert S. McNamara, Executive Agent of the NCS, reviews and coordinates all activities of the NCS, including systems design, planning, budgeting and operations of all Federal military and civil agencies' telecommunications.

Mr. Solomon graduated from the School of Electrical Engineering at Purdue University in 1936, and joined the Western Union Telegraph Co. in Chicago as Transmission Engineer, performing studies and making field trips throughout the telegraph plant in the middle and far west.

He subsequently joined the International Telephone & Telegraph Corp. in N. Y. C. where he was engaged in engineering and production activities in a large telecommunications factory and conducted liaison with military and other government entities regarding telecommunications operations, plants and overseas practices. Mr. Solomon was appointed Assistant Chief Telephone Engineer at Stromberg-Carlson Corp. where his responsibilities included all engineering and systems planning. Mr. Solomon joined the U. S. Army Signal Corps in 1950 as a Supervisory Electronic Engineer and remained there until 1963. During this time, he was deeply involved in systems engineering for many large overseas communications networks and frequently acted as consultant to other government agencies on specialized related activities.

COLUMBUS

In response to interest expressed by 100 potential members, the Columbus ComTech Chapter was founded. The inaugural meeting was held in October, 1965 at which time Mr. Roger McSweeney associated with IT&T and National IEEE Director for the ComTech Group, described National and International activities of the ComTech Group. The technical portion of the meeting was presented by Mr. Wm. Kiester, Bell Telephone Labs., who spoke on computer technology in communications.

Chapter activities continued with a meeting in February held jointly with the Aerospace & Electronic Systems Chapter. Mr. Richard Dahlem, Semiconductor Specialists Inc., Chicago, Illinois, spoke on integrated circuits.

The annual business meeting will be held on May 4. A tour of facilities for development and manufacture of modern communications switching equipment will follow. These facilities are located at the Bell Telephone Labs. - Columbus and the Western Electric Works - Columbus.

CONNECTICUT

At a meeting held Jan. 18, 1966, the Connecticut Chapters of the IEEE G-ComTech and the G-A&E voted to merge becoming effective immediately. Connecticut Section Chairman, Lloyd Jones, appointed David Ostrom Chairman of the joint Charter Steering Committee.

Electronic Switching Systems was the topic of a meeting, sponsored by the joint Connecticut Chapter of the IEEE G-A&E and G-ComTech held at the Yankee Silversmith Inn, Wallingford, Conn. March 15, 1966. Mr. Sydney Blackwood, a senior engineer with the Southern New England Telephone Co. discussed the system organization of electronic switching apparatus for telephone system use. During the business portion of the meeting, the joint Chapter voted approval of the proposed bylaws.

The Annual Meeting of the joint Chapter will be held in the auditorium of the Southern New England Telephone Co., 300 George St., New Haven, at 7:30 p. m., Thursday, April 21. At this meeting, the Nominating Committee will submit names for 1966-67 offices as follows:

Chairman	William Latham
Vice Chairman	Harry O'Connell
Secretary-Treasurer	Edward Foster

Succeeding the business portion of the meeting, Audio Engineering will be discussed. Mr. Frank Comerchi of CBS Labs., Stamford, will be Program Chairman for the evening.

DENVER-BOULDER

On Dec. 8, 1965, Dr. Richard Roberts, Electrical Engineering Dept. University of Colorado spoke to the G-ComTech on "Some Aspects of Receiver Design in Communication Theory." Ten members attended this meeting.

LOS ANGELES

On Feb. 1, Mr. Wong and Mr. Bob Moodayan of the Honeywell Corp. discussed "Computers as Used in Communications Network." Fifty-nine people were in attendance.

NEW JERSEY COAST

A survey was conducted of the chapter membership fields of technical interest, by means of a post card questionnaire. A total of 97 returns was received. The results of the survey will be used as a guide in selecting technical topics and guest speakers for future chapter meetings, to serve the widest possible range of membership interest, and thereby encourage higher attendance at the meetings.

Dr. Henry Jasik of Jasik Labs. New York, will be the guest speaker at the April 20 meeting of the Chapter. He will discuss advances made in antenna design evolved over the past five years. The talk will include new techniques of antenna design in the VLF, HF and microwave regions. Dr. Jasik is a nationally recognized authority in the field of antennas and the editor of the Antenna Engineering Handbook. The talk will be given at the Little Silver Firehouse, Little Silver, N. J. at 8:00 P. M. and will be preceded by a pre-meeting dinner at the Crystal Brook Inn, Eatontown, N. J. at 6 p. m.

The slate of officers for next season has been nominated and will be voted on during the last seasonal meeting of the Chapter in June 1966. The slate of officers nominated are as follows:

Chairman	Secretary
SEYMOUR KREVSKY RCA - NYSL - 75 Varick St. New York	RON WHALIN Bell Tel. Labs. Holmdel, N. J.
Vice-Chairman	Treasurer
PETER MARESCA USA - Satellite Comm. Agency Ft. Monmouth, N. J.	LEONARD SHUCAVAGE USAE Com Labs Ft. Monmouth, N. J.

NEW ORLEANS

Welcome to the Group. Mr. Glenn E. Bell, Southern Bell Tel. Co. served as organizer for the Group.

NEW YORK

An unusual and informative discussion on "The Engineer and Law" will be featured at a dinner-meeting sponsored by the G-ComTech of the N. Y. Section IEEE to be held at the Brass Rail Restaurant, 40th St. & Park Ave., on Wednesday, May 11, 1966. The banquet room will be open for a social hour at 5 P. M. and dinner will be served promptly at 6 P. M.

Mr. F. M. Gibson, Patent Coordinator, American District Telegraph Co., will present practical and interesting information on inventions, trade secrets, and the engineer's responsibility to an employer in regard to these. Some popular myths about methods of protecting an invention will be exploded. Ample time for open discussion will follow.

All members of the G-ComTech are urged to attend and enjoy this social evening. Election of officers for the year 1966-67 will also be held. Turkey dinner with appropriate trimmings will be served. Cost for members of the G-ComTech will be \$2. To all others, to whom a cordial invitation is extended, the cost will be \$4.

In order to make arrangements, reservations must be received before May 9, 1966. Please make your check payable to G-ComTech and mail to: F. G. Hill, A. D. T. Co., Inc., 155 - 6th Ave., New York, N. Y. 10013.

On April 28 at 9:30 A. M., an Inspection Trip will be made to the New Jersey Bell Telephone Co.'s Electronic Switching Exchange, at Succasunna, N. J. to inspect the No. 1 Electronic Switching System (ESS). No. 1 ESS exploits the new developments in computers to build a brain system in this revolutionary new telephone exchange. The system has the potential to follow switching schemes of an almost limitless variety, depending upon the particular user's needs. Some of the services that No. 1 ESS can provide are: automatic dialing for a list of often-used telephone numbers, automatic setting up of conference calls, and allowing a user to communicate directly with a computer over any telephone.

An animated movie of the features of the exchange will be shown. This will be followed by a tour of the facilities. Technical personnel from the Bell System will be on hand to answer questions.

Starting on April 19, the Education Committee will begin Part III "Design Applications of Wideband Data Systems" of its lecture series on Communications Transmission. The dates and subjects are as follows:

Date	Subject
April 19	Microwave Systems
April 26	Radio propagation & frequency allocation
May 3	Radio systems design
May 10	Pulse Code Modulation
May 17	" " "
May 24	Wideband Data

Speakers for Part III are as follows:

April 19, 26 & May 3 -- T. L. Leming, Director of Telecommunications Engineering, Dallas Division Collins Radio Corp.

May 10 and 17 -- Jim Polyzou - Manager for Multiplexing and Terminal Eqpt., Sam J. DeMaio - Section Head and James Clark - Member Technical Staff, IT&T Corp.

May 24 -- R. T. James - Wide Band Transmission Systems Engineer - AT&T Co.

All Part IEEE lectures will be held in the Western Union Auditorium at 160 West Broadway on Tuesday evenings from 6:30 - 8:30 PM. Further information can be obtained from Mr. W. J. Carroll, Chairman Education Committee (Tel. 212-394-1250).

On March 16, 1966, New York Traffic Commissioner Barnes and Mr. Eugene J. Venaglia addressed a jointly sponsored meeting of IEEE's N. Y. Section, G-ComTech and the Transportation Div. at the Carnegie International Center Bldg. Commissioner Barnes discussed the NYC Traffic Control Program appraising NYC's traffic problems against a background of training, experience and observation of traffic conditions and control methods, in most major cities in the U. S. and 20 foreign countries. Mr. Venaglia reviewed the various types of problems encountered in designing systems for Vehicular Traffic Control. He described the system being produced for NYC as an example of one mode of solution to the general vehicular traffic control problem.

SACRAMENTO

The IEEE Executive Committee, at the meeting on Feb. 15, approved the petition for the establishment of a local Chapter of the IEEE G-ComTech within the Sacramento Section.

Mr. R. J. Paul served as organizer of the Chapter.

SAN FRANCISCO

On the evening of Dec. 1, 1965, the G-ComTech held a meeting at the Lockheed Auditorium in Palo Alto. A meet-the-speaker dinner was held at Hick's Swiss Chalet preceding the presentation entitled "DATEL Service of ITT World Communications, Inc."

Mr. Kenton Wilder discussed the technical aspects of the new Data Transmission Service developed by IT&T World-Com, Inc.

The topic "Communications for the Power Industry" was presented by R. J. Brown of Pacific Telephone & Telegraph on Feb. 23. Preceding the talk, a no-host meet-the-speaker dinner was held at Schroeder's in San Francisco at 6:00 P. M.

On March 30, following dinner at Henry's Fashion in San Francisco, 80 G-ComTech members and guests attended an interesting talk by David Noton of Bechtel Corp. "Communications for the Bay Area Rapid Transit."

He described all of the various types of communications equipment involved in the one-billion dollar rapid transit system which will serve San Francisco, Alameda and Contra Costa Counties. He described the final communications network which will include 1) systems for use by BART personnel, 2) systems for use by or to BART passengers, and also 3) Data Transmission Systems.

One of the difficult choices encountered by the Bechtel engineers was that of choosing the optimum system for communication between the train and the control stations. Systems considered included 1) mobile radio (underground tracks cause problems in strength of reception) 2) Power Line or Contact Rail Carrier (which may have high noise levels) and 3) Inductive Carrier (which is no longer available in the U. S.)

The final meeting of the year will be held at the Instructional Television Center, Educational Bldg., San Jose State College, San Jose at 8:00 P. M., Wednesday, May 11, 1966, following dinner at 6:15 at the Spartan Cafeteria at the College. The speaker is Glen Pensinger, San Jose State College; he will address the group on the subject of "Television for Instruction."

An election of officers was held prior to the subject presentation. The officers for the coming year (1966-67) are as follows:

Chairman	Robert Howland, Pacific Telephone
Vice-Chairman	C. G. Griffin, Lenkurt Electric Co.
Secretary-Treasurer	Ed Combs, Lynch Communications Systems, Inc.

SEATTLE

On Jan. 27, John J. Mueller, Deputy Director of King County Office of Civil Defense, spoke on the subject of "The Kent Washington Emergency Operating Center." Its Facilities and Relationship to Federal, State and Local Defense Units. A tour of the Kent Washington Civil Defense Emergency Operating Center was included in the evening activity. Twenty-four members were in attendance.

Mr. Mueller described some of the history and development of Defense Center from the original construction in 1957 to the present. He explained the chain of command from Federal thru State Civil Defense Agencies, and that local police, sheriff and fire departments are under their jurisdiction during times when a state of

emergency is declared to exist. The center is completely manned by 180 volunteer workers each of whom devote approximately 20 hours a week to the effort or to study pertaining to civil defense.

Mr. Bollman, Radio Officer, spoke about the communications facilities units and some of the problems encountered in the operation of several transmitters in a very congested area.

The tour of the underground emergency operating center illustrated the culmination of planning effort to equip, shelter and sustain 75 workers for two weeks under emergency conditions.

At the March 23 meeting, Mr. C. David Lunden of the Boeing Co. discussed the subject of "Long Distance Ground-Air-Ground Communication via Syncom Satellite."

His work on the development of Aircraft Antenna's for this purpose was illustrated by slides and the progress in the state of the art was presented. He pointed out that existing Satellite transmitting power of 1 watt, without the benefit of highly directional antennas at either end of the circuit, and a path loss of approximately 160 DB at 130 MHz resulted in very marginal signals. Also that these signals often suffer a rotation of polarization upon entering the earth's magnetic field, which the receiving antenna must be designed to accommodate. Successful contact by both Teletype and Voice has been accomplished. Mr. Lunden supplemented his talk with a Pan American World Airways Sound Slide presentation on the same subject. This production pointed out that an Aircraft Communication Satellite is being planned with 400 watts effective radiated power and 4 channel capability. Commercial application of the method is anticipated within two years.

The next meeting is scheduled for May 3 at the King TV Studios, 327 Aurora Ave., North, Seattle, Washington. Election of officers for the 1966-67 season followed by a tour of the "King TV" Studios comprises the evening schedule.

SHREVEPORT

The Shreveport ComTech Group was formed in the summer of 1965. The formal petition submitted to IEEE headquarters requesting authority for formation of the group was signed by 35 IEEE members. At the organizational meeting held in June, Mr. R. W. Bains, United Gas Corp., was elected Chairman and Mr. Virgil Holobaugh, FAA, was elected Secretary.

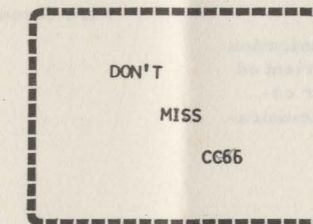
Since the organization, the Group has been responsible for four Section meetings and has held one group meeting. The last meeting of the group was held on March 31, and consisted of a visit to the studios of KTAL, for a field trip and discussion on "Color Television Equipment and Weather Radar."

VANCOUVER

The IEEE Executive Committee, at its meeting on Feb. 15, approved the petition for the establishment of a Joint Chapter of the following Groups within the Vancouver Section:

- G-3 Antennas & Propagation
- G-6 Vehicular Communications
- G-10 Aerospace & Electronic Systems
- G-16 Computer
- G-19 Communication Technology

Mr. G. E. Valde served as organizer and is now interim chairman of the Joint Chapter.



PURPOSE

The broad field of Electrical Engineering needs all encompassing Society such as IEEE to serve the profession as a whole. Serving individual members to their greatest advantage is best accomplished by means of Groups. The Communication Technology Group is such a Group giving coverage in depth in this field.

SCOPE

The scope of the G-ComTech embraces planning, research, development, design, application, construction, installation and operation of all telecommunications including telephone, telegraphy data facsimile, and point-to-point television, by electromagnetic propagation including radio; wire; aerial, underground, coaxial, and submarine cables; waveguides, communication satellites and lasers; in marine, aeronautical, space and fixed station services; repeaters, radio relaying, signal storage and regeneration; telecommunication error detection and correction; multiplexing, carrier techniques; communications switching systems; data communications switching systems; data communications, and communication theory.

FUNCTIONS

The functions of the G-ComTech are to promote close cooperation and exchange of technical information among its members and those of other Groups, committees and divisions of IEEE; to hold meetings for the presentation and discussion of papers; to study and provide for the needs of its members by stimulating research initiating and developing engineering standards; and is to sponsor periodical and special publications.

PUBLICATIONS

The Group publishes and distributes to all its members on a quarterly basis its Transactions on Communication Technology containing the technical papers and discussions produced under the sponsorship of the Group. It also issues special publications having a technical interest or professional value to its members.

In addition, a newsletter issued regularly contains news of Group activity, committee meetings, and announcements of conferences and symposia.

MEETINGS

The G-ComTech sponsors meetings, conferences, symposia and conventions. These may be held independently in coordination with Sections, Regions, other units of IEEE, or other technical organizations.

The Group annually sponsors the IEEE Annual Communication Convention - a major meeting for all communications - oriented engineering interests. In addition, the Group sponsors or co-sponsors special technical conferences of interest to communica-

tion engineers. The Group's participation includes the National Electronics Conference (NEC) and the IEEE international Convention.

LOCAL ACTIVITIES

Chapters of the Group within an IEEE Section or a contiguous Group of Sections provide for local activity within the field of interest of the G-ComTech. Subchapters may be formed to serve a particular area of interest within the scope of the Group where there is sufficient emphasis on this field in a local area to call for continuing activity.

The Chapters may engage in a broad range of activities, such as local general meetings, panel or round table discussions, inspection trips, study Groups and the like. Chapters may assist Group officers and committees in the conduct and coordination of meetings or conferences held by the Group in the local Section.

HOW TO JOIN

Membership in the G-ComTech is open to all IEEE members of every grade including students. If you are already an IEEE member, fill out the attached form and mail it to IEEE Headquarters with the G-ComTech membership fee of \$5.00. (Student fee is \$1.00 if not already a member in another IEEE Group). An appropriate proration will be made by IEEE with respect to the standard billing cycle. If you are not now an IEEE member, you may use the same form indicating interest in IEEE membership. Do not then enclose money; you will be billed for the G-ComTech fee upon becoming an IEEE member.

AFFILIATION WITH COMTECH

Persons whose technological activities do not justify full membership in IEEE but who are interested in the purposes of ComT and wish to participate in ComTech activities, may apply for affiliate membership by filling out the appropriate application form and mailing it to IEEE Headquarters.

COMTECH GROUP TECHNICAL COMMITTEES

- Communication Switching
- Communication Theory
- Communication System Disciplines
- Data Communication & Telegraph Systems
- Radio Communication
- Space Communication
- Telemetry
- Wire Communications

MEMBERSHIP APPLICATION

IEEE COMMUNICATION TECHNOLOGY GROUP

IEEE Headquarters: 345 East 47th Street, New York, N. Y. 10017

Name \_\_\_\_\_ IEEE Membership No. \_\_\_\_\_

Mailing Address \_\_\_\_\_

Company \_\_\_\_\_

I am a \_\_\_\_\_ member of IEEE and hereby apply for membership in the \_\_\_\_\_ (Grade)

- Communication Technology Group. I enclose a check for the Group fee\* (made payable to IEEE)
- I am not now a member of IEEE but would like to join. Please send information.
- I am not a member of IEEE but would like to affiliate with the Communication Technology Group. Please send an affiliate application.

\*Group Fee: \$5.00 for IEEE members of all Grades except students. Student fee is \$1.00 if ComTech Group is first group selected.





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EMPLOYER: \_\_\_\_\_  
TITLE: \_\_\_\_\_

PROFESSIONAL GRADE: \_\_\_\_\_  
(Grade)

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Group Fee: \$5.00 for IEEE members of this Group except students.  
Student fee is \$1.00 if ComTech Group is first group selected.

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