NOVEMBER '67 VOLUME XIII NUMBER 3

impulse®

GO AHEAD, BE CREATIVE !

PUBLISHED BY THE CANAVERAL SECTION OF THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS

IMPULSE

Formerly the Indian River Engineer

NOVEMBER 1967 / Volume 13, Number 3

Published every month except July and August by the Canaveral Section, Institute of Electrical and Electronics Engineers

Address All mail to:
IMPULSE
17 South Palm Boulevard
Melbourne, Florida 32901
(305) 723-8428

Members: Send address change to:
IEEE
345 East 47th Street, New York,
New York 10017

Executive Editor
William D. Ashman
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1967 - 1968
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THE CHAIRMAN SPEAKS GUNTHER KARGER

ROADBLOCKS TO CREATIVITY

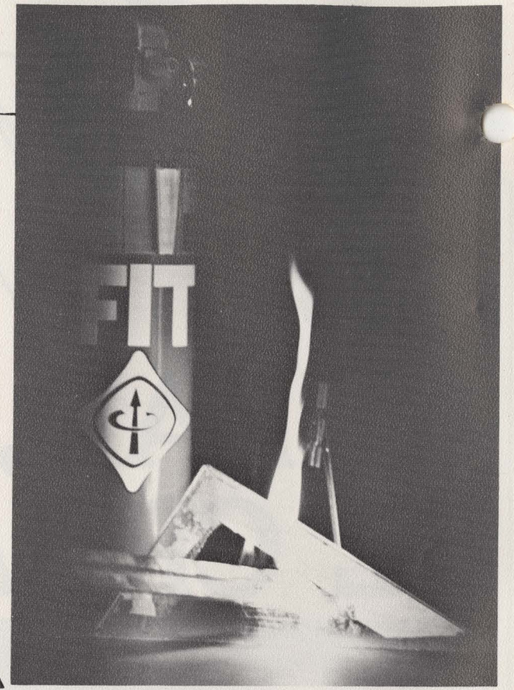
"It won't work!" "You are a rabble-rouser!" "Too costly!" "Not proven!" "You haven't been here long enough!" "It's too new and radical!" "I'm afraid what the boss will say."

How many times have you encountered these roadblocks when suggestions are made to fellow engineers and managers? How many times have you returned to your desk after a meeting featuring three hours of reasons why it can't be done? How many times have you wanted to sit in a quiet place for two hours and just think about a knotty problem but can't because there is no place but your desk, which is surrounded by a sea of heads and a myriad of noisy and unrelated discussions?

Did you give up? Were the roadblocks too many and too high? Have you fallen into the lair of averageness and wondered into the forest of seats that sway with the tide?

cont'd page 5

BY BILL ASHMAN
EDITOR



A HELPING HAND

On Friday, October 13, we were privileged to see the results of efforts put forth by a few men. The event was a joint meeting of the Canaveral Section and the *IEEE* student chapter at Florida Institute of Technology. The men who deserve compliments for the fine gathering are Dr. Harry Weber, head of the Electrical Engineering Department at *FIT*, and his staff.

Several years ago, while on a business trip to this area, my host made mention of an appointment he had at a local institution. Not only had I never heard of Brevard Engineering College, I couldn't even find it on my way out of town. Today, that same institution has over 800 students and, I should add, is highly recognized in space technology and oceanography. By coincidence, I met a young student in a local store who comes from my home town in Rhode Island. Why had he journeyed so far for school? Primarily, he thought it had the most to offer in the studies of space.

From this type of young person, searching for a good education, Dr. Weber has enrolled 125 from the EE course for the student chapter. At a time when draft card burnings and demonstrations are in vogue, these young people have shown a desire to learn. This includes some knowledgeable young ladies also and they did a lot for the atmosphere at the meeting.

Enrollments in engineering schools has taken a drop in recent years. One of the reasons is lack of promotion. Young people today need all the encouragement we can give them in pursuing an engineering profession. I hope that each of us will use every opportunity we get to help Dr. Weber and his student chapter.

REPORT

COM TECH

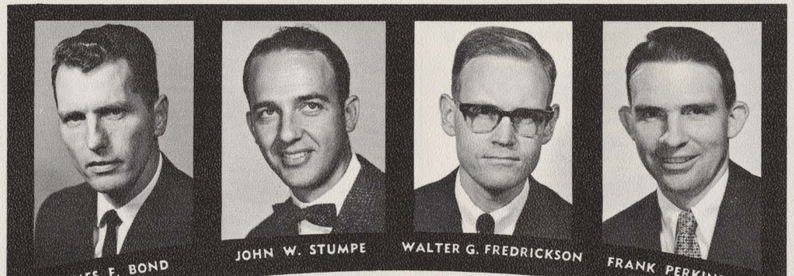
The Canaveral Chapter IEEE Communication Technology Group met on September 25 at Ramon's on the Causeway, Cocoa Beach. Dr. Arnfinn Moe Manders, Associate Professor of the University of Florida, and also Treasurer of the COMTECH Group, presented a talk on DIGITAL SIMULATION AND ARTIFICIAL INTELLIGENCE. There were fifteen present.

The Executive Committee met prior to the regular meeting, and the major order of business was the appointment of W. W. Crissinger as Vice Chairman, succeeding Mr. John Kolarcik, who has moved from the area. Also, Mr. W. P. Blanks was appointed Publicity Chairman. In addition, the budget for the coming year was discussed at the Executive Committee meeting.

HAPPY THANKSGIVING!
the staff

NOV. 27

COMTECH PANEL



DISCUSSION:

ADVANCED DIGITAL COMMUNICATIONS

Mr. Bond is an Associate Principal Engineer at Radiation Incorporated, Systems Division. He received his education at Florida Southern and the University of Texas where he received a B.S.E.E. degree in January 1958.
Mr. Bond currently is Project Manager of terminal systems associated

Mr. Stumpe is an Associate Principal Engineer in the Information Handling Systems Section of Radiation Incorporated. He is presently serving as group leader of the Data Transmission Systems group. In this capacity he has been responsible for numerous programs related to the Data Compression field.

Mr. Fredrickson has contributed to the design and management of numerous digital data handling and communications systems. His current responsibilities include the management of complex system analysis and computer programming tasks for message switching and command/control systems

Mr. Perkins is an Associate Principal Engineer with Radiation Incorporated, Systems Division. He received his education at the Georgia Institute of Technology and received his B.S.M.E. (With Honors) in 1951. He is a member of Tau Beta Pi.
In his activities at Radiation Incorporated he

cont'd back page

TOPICS

James F. Bond -
Associate Principal Engineer

"Torn Tape Terminal Equipment"

High speed paper tape processing equipment presently in use in Southeast Asia will be described. This equipment includes the Tape Recall system, the Automatic Multiple Address and Routing System and other associated systems used to speed the flow of teletype traffic through message centers.

John W. Stumpe -
Associate Principal Engineer.

"Voice and Facsimile Terminal Equipment"

Recent developments in the application of bandwidth reduction techniques provide practical systems for high quality digital voice and facsimile transmission over normal voice grade circuits. A test tape will be used to demonstrate the performance of the digital voice technique.

Walter G. Frederickson -
Section Head.

"Store-and-Forward Message Switching Sytems"

With the advent of the digital computer, a new era of high speed, automatic message switching systems has developed. These systems are capable of handling a wide variety of traffic from terminals similar to those discussed by the two previous speakers. Store-and-forward operation makes maximum utilization of the available transmission facilities.

Frank A. Perkins -
Associate Principal Engineer.

"Trunk Terminals and Transmission Facilities"

To provide effective operation of the automatic message switches, sophisticated trunking facilities and terminals are necessary connecting links. These terminals utilize the latest developments in the areas of synchronization, coding, multiplexing and modulation techniques. Techniques will be briefly described.

TRANSFERS
NEW MEMBERS

Allen, W. D.	Carpenter, W. J.	Jones, J. H.	Neel, W. F.	Slayton, I. B., Jr.
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Campbell, C. C.	Jenkins, R.	Morrison, R. L.	Schwindt, A. J.	Woodruff, L.

CALENDAR

LOCAL

Nov. 14: "Engineering Management and the Engineer"; Speaker; Dr. George Kennedy, Head, Management School, F.I.T.; Time and Place; Ramons Restaurant, Cocoa Beach; Social 6:00 p.m.; Dinner 7:00 p.m. $3.75 per person.

Dec. 22, 1968: "Advances in Strategic Communications" with emphasis placed on long haul switchable system design concepts. Speaker: Mr. Don Worthington of DCA; Time and Place: TBA*

ATTEND LOCAL MEETINGS!!! SUPPORT U/R SECTION

NATIONAL & INTERNATIONAL

Nov. 6 - 8: Reliability Physics Symposium; Location: Statler Hilton Hotel, Los Angeles, Calif.; Sponsors: G-ED, G-R; Information: George Jacobi, Ill. Inst. of Tech. Res. Inst., 10 W. 35th St., Chicago, Ill. 60616 DL 4/15/67

Nov. 6 - 8: Conference on Speech Communication and Processing; Location: Kresge Aud., Cambridge, Mass.; Sponsors: G-AE, AFCRL; Information: B. Gold; C. P. Smith, AFCRL (CRBS), L. G. Hanscom Field, Bedford, Mass. 01730 DL 6/15/67 (papers)

Nov. 8 - 9: Symposium of the Affil. of N.C. Sections; Location: Hotel Sedgefield Manor House, Greensboro Coliseum, Greensboro, N.C.; Sponsors: Affil. of N.C. Sections Information: D. C. Watkins, Bell Tel. Labs., Dept. 6325, 801 Merritt Dr., Greensboro, N.C. 27407

Nov. 9 - 10: Western Conference on Broadcasting; Location: Ambassador Hotel, Los Angeles, Calif. Sponsors: G-B

Nov. 13 - 16: Engineering in Medicine & Biology Conference; Location: Statler Hilton Hotel, Boston, Mass.; Sponsors: G-EMB, JCEMB; Information: David Geselowitz, Moore Sch. of E.E., University of Penna., Phila., Penna. DL 7/31/67 (Abst.)

Nov. 14 - 16: Fall Joint Computer Conference; Location: Anaheim Convention Center, Anaheim, Calif.; Sponsors: G-C, AFIPS; Information: H. T. Larson, Philco-Ford Corp., Ford Rd., Newport Beach, Calif. DL 4/14/67 (papers)

Dec. 5 - 7: Vehicular Conference; Location: New York Hilton, New York; Sponsors: G-V.

NOV. 14

"ENGINEERING MANAGEMENT & THE ENGINEER" *Speaker;*

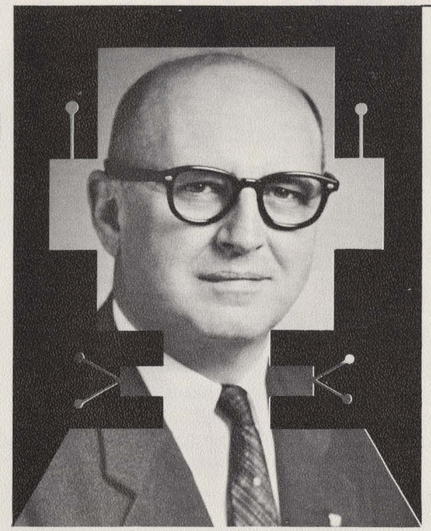
DR. GEORGE KENNEDY
Head, Management School
Florida Institute of Technology

GROUP: Engineering Management Meeting
RAMONS RESTAURANT, Cocoa Beach, Fla.
6:00 P.M., Social Hour; 7:00 P.M., Dinner
CONTACT: D. C. Ma[illegible] The Bo[illegible] Co., M/S FP-76,
Cocoa Beach, Florida . . . Office 784-5461, Residence 773-2168

This is the first and organizing meeting of the IEEE Group on Engineering Management. All interested persons are invited to attend.

SECTION MEETING, NOV. 30

COMPUTORS & THE HUMAN MIND



DONALD G. FINK
IEEE
GENERAL MANAGER

Mr. Fink has written a book based on this subject which led him to undertake the study of the application of computers in the intellectual pursuit of engineering and scientific purposes. He will trace some of the ordinary numerical manipulations into problems dealing with things as well as fantastic applications in this area.

RESERVE BY NOV. 28TH

PHONE: Harry McElveen, 636-9007 **TIME:** 6:30 P.M., Social: 7:00 P.M., Dinner
PLACE: GOLD ROOM, Ramada Inn, Cocoa Beach, Fla. **PRICE:** $4.00 per person

Mr. Fink was graduated in 1933 from the Massachusetts Institute of Technology with the degree of Bachelor of Science in Electrical Communications. In 1942, he was granted the degree of Master of Science in Electrical Engineering by Columbia University. Following his graduation, Mr. Fink was a research assistant on the staff of the Departments of Geology and Electrical Engineering at M.I.T. In 1934, he joined the staff of the journal ELECTRONICS and served as its Editor-in-Chief from 1946 to 1952.

Obtaining a leave of absence from his editorial duties in 1941, Mr. Fink became a member of the staff of the Radiation Laboratory at M.I.T.; in 1943, he headed the Loran Division. He then transferred to the Office of the Secretary of War as an expert consultant on radio, navigation, and radar. During his war service, Mr. Fink traveled over 80,000 miles from Cairo, Egypt, to Darwin, Australia, siting Loran Stations and arranging for use of the Loran System by the Allied Forces. In 1946, he participated in the atom bomb tests at Bikini, as a civilian consultant in the staff of Admiral Blandy.

In 1948, Mr. Fink was Chairman of the IRE Television System Committee, and in 1950, he was a member of the Senate Advisory Committee on Color Television (The Condon Committee). He was Vice Chairman of the National Television System Committee, 1951 to 1952.

In 1952, Mr. Fink joined the research staff of the Philco Corporation. In 1956 and 1957 he was Editor of the PROCEEDINGS OF THE IRE and in 1958 he served as President of the Institute of Radio Engineers, traveling 65,000 miles in that year attending IRE conferences throughout Europe and North America. In March 1961, he was appointed Vice President, Research, of Philco Corporation and later was appointed Director of the Philco Scientific Laboratory.

Since 1957, Mr. Fink has been an active member and consultant of the Army Scientific Advisory Panel, which advises the Secretary of the Army "in the field of Science and matters related thereto." He is Chairman of the Electronics Advisory Group of the U.S. Army Electronics Command.

Mr. Fink is the author of numerous books, including ENGINEERING ELECTRONICS, PRINCIPALS OF TELEVISION ENGINEERING, TELEVISION STANDARDS & PRACTICE, MICROWAVE RADAR, RADAR ENGINEERING, TELEVISION ENGINEERING, COLOR TELEVISION STANDARDS, TELEVISION ENGINEERING HANDBOOK, THE PHYSICS OF TELEVISION, and COMPUTERS AND THE HUMAN MIND. He is Editor-in-Chief of THE STANDARD HANDBOOK FOR ELECTRICAL ENGINEERS.

He is a Fellow of the IEEE and of the IEE (London), and a Fellow of the SMPTE: a member of Tau Beta Pi, Sigma Xi, and Eta Kappa Nu. In 1965 he was selected Eminent Member of Eta Kappa Nu. In 1951, he was awarded the IRE Radio Fall Meeting Plaque for "many contributions to the television industry." He holds the Medal of Freedom and the Presidential Certificate of Merit for his overseas war-time service. He holds two patents on stereophonic systems.

In January 1963, Mr. Fink became General Manager of the IEEE (The Institute of Electrical and Electronics Engineers, Incorporated), a professional society which combines the former American Institute of Electrical Engineering (AIEE) and the Institute of Radio Engineers, Inc. (IRE). As head of the Institute staff, Mr. Fink is responsible for serving a membership of over 150,000 and for the publication of 42 technical journals dealing with electrical engineering and electronics.

EMC

The Electromagnetic Compatibility (EMC) Chapter of the Canaveral Section held its first fall meeting at the Sheraton Cape Colony Motor Inn in Cocoa Beach, Florida, on the evening of September 25, 1967. The evening's program consisted of a seated dinner and a formal panel discussion. Mr. H. D. McKay of ITT-Federal Electric Corporation, the Chapter Chairman, presided over the meeting, and Mr. D. W. Montgomery, of the Boeing Company, Chapter Vice-Chairman was the panel moderator.

The panel consisted of Mr. Gus Karger, Mr. John Bush, and Mr. Robert Hokkanen. Mr. Karger, of the Boeing Company, is the Chairman of the Canaveral Section. Mr. Bush of Pan-American Airways is the immediate past Chairman of the Canaveral Chapter of the G-EMC. Mr. Charles North is the Chairman of the National G-EMC Committee on Education, a member of the G-EMC administrative committee, and president of EMC Incorporated of Orlando, Florida. Mr. Robert Hokkanen is with the Naval Training Devices Center in Orlando, Florida.

The panel discussed three topics an EMC course, a regional EMC symposium, and IEEE specifications. As a result of the discussion, the panel concluded that (1) the Canaveral Chapter should form a committee to develope a tutorial course on an engineering level for the instruction of EMC design and test techniques, (2) the Canaveral Chapter should sponsor a regional symposium and/or sponsor sessions at the Region III meeting in December 1968, and (3) the IEEE should avoid generating new specifications, but should concentrate on standardizing EMC definitions and terminology. ◆

CHAIRMAN

(cont'd)

It is the individual's responsibility to **persist** in presenting new techniques and methods that are pressingly required for the solution of present problems and needs of the future. It is also his responsibility to **insist** that the environment within which he works is conducive to creativeness and commensurate with the responsibility he holds. The alternative is the absence of professionalism and the question whether he is engineering the world of tomorrow or donning the gray collar of the skilled worker. ◆

CANAVERAL DAYTONA

RELIABILITY CHAPTER MEETING

October 23 marked the first meeting of the fall season for the joint Canaveral/ Daytona Reliability Chapter. The dinner meeting was held at Dobbs House Inn, Ormond Beach.

The meeting program featured a presentation on the **PRINCE/APIC** System, **PRINCE/APIC** is an acronym for Parts Reliability Information Center/Apollo Parts Information Center. The topics discussed were the objectives, capabilities, operations, responsibilities, sources of data and services of the system in supplying parts and material information to the aerospace community. The program was augmented by a slide-tape presentation narrated in part by Wernher von Braun. Mr. E. R. Ritch, Chief, Program Coordination Group at NASA, Huntsville, presented the program.

The next Reliability Chapter meeting will be held in the Canaveral area in early December.

COMTECH PANEL (cont'd)

JAMES F. BOND

with digital communications involving developing higher speed and more sophisticated digital communications and automation of message traffic.

Prior to joining Radiation Incorporated, Mr. Bond was responsible for electrical facility design Atlantic Missile Range.

JOHN W. STUMPE

These include projects such as the TV Data Compaction Study, the Telemetry Redundancy Analyzer, the Digital Voice Compression Study and a portion of the Facsimile Bandwidth Compression Study.

Prior to joining Radiation Incorporated Mr. Stumpe served as Assistant to the Vice President of Sorban Engineering, Inc.

Mr. Stumpe received his bachelor's degree in electrical engineering from the University of Florida in 1955.

WALTER G. FREDRICKSON

Mr. Fredrickson received the BEE degree with honors from the University of Florida, and has done graduate work at the University of Maryland and Florida Institute of Technology. He has authored several papers on switching systems, computer controlled data handling and telemetry data processing. He is a member of the graduate EE faculty at FIT and a member of Instrument Society of America, Society for Information Display, Sigma Tau and Phi Kappa Phi.

FRANK PERKINS, JR

has been active in company-sponsored and government-sponsored research in synchronization of PCM signals. He participated in the research and design of PCM bit and group synchronizers for high bit rate accurate reception of PCM/FM telemetry data.

Mr. Perkins has participated in design and development work on a variety of digital and analog equipment, including low level multiplexers, A to D converters and digital analog converters.

Prior to joining Radiation, Mr. Perkins served as Chief Engineer of a company manufacturing CW tracking systems, etc.

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