

ORLANDO  
SECTION  
NOTES



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VOLUME XII, NUMBER 1

SEPTEMBER, 1977

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**RUSSELL E. THEISEN**

*MAN OF THE YEAR*

(SEE PAGE 5)

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\* **BARBEQUE (SEE PAGE 10)**

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**PUBLISHED BY ORLANDO SECTION  
INSTITUTE OF  
ELECTRICAL AND ELECTRONICS ENGINEERS**

7068786 M\* D15  
STANLEY W FRANCIS AUG10  
4831A NORTH GOLDENROD RD FL 32807  
ORLANDO

# COPPERHEAD (CLGP)

## A single round, not a barrage.

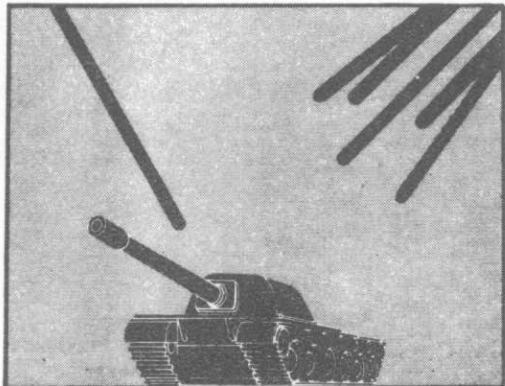
The Army's cannon-launched guided projectile, COPPERHEAD (CLGP), can destroy a moving tank with a single round from miles behind the front lines, a task that often requires hundreds of rounds of conventional shells.

Its cost effectiveness does not stop there. It requires no special handling or launching equipment, no specially trained crews. It is fired from an ordinary 155 mm howitzer by regular artillerymen. (An Army test crew used standard artillery loading and firing procedures on every round in the highly successful prototype test program).

COPPERHEAD (CLGP) employs a forward observer, remotely-piloted vehicle or helicopter to designate the target with a laser beam. The "smart" projectile, fired just like a conventional

shell, seeks out the target with uncanny accuracy, even under conditions of darkness or in marginal weather and low cloud ceiling conditions.

The successful COPPERHEAD (CLGP) is being developed by the Orlando division of Martin Marietta Aerospace under the direction of the U.S. Army Armament Command. With technical and operational feasibility positively demonstrated, it is a remarkably cost-effective deterrent weapon.



MARTIN MARIETTA

## CHAIRMAN'S CORNER

I would like to thank all members who have agreed to serve for another year, as well as those new committee members who have volunteered their services for this year. We are looking forward to a successful year for IEEE in Orlando.

There are a few committee chairmanships still open at this time. We would encourage anyone interested in serving in any capacity to contact one of the Executive Committee members listed on the inside back cover. We are especially interested in finding a new editor for the Section Notes. Leo Mallette has done an outstanding job. However, he is completing his graduate work and may leave the area in the near future.

Please put October 8 on your calendars for the Annual BBQ. Al Levy and his committee have things well underway and promise a fine time. We are also planning an early December banquet and tour of the campus hosted by the Student Chapter at FTU.

Bill Rhoden  
Section Chairman

## MEETING NOTICE

### POWER ENGINEERING SOCIETY AND INDUSTRIAL APPLICATIONS GROUP

PROGRAM FOR TUESDAY SEPTEMBER 13, 1977

- Topic:** Low Cost Energy Management  
(Principles of Demand Control and Load Cycling)
- Speaker:** Dr. Paul Blaiklock, P.E.  
Production Manager  
Datametries Division  
Gould Inc. Wilmington, Mass.
- Location:** Essex Bldg. Suite 101  
3101 McGuire Blvd., Orlando, Fla. behind Gold Triangle  
and Irelands, near Fashion Square Mall
- Time:** Program: 8:00 P.M.

The following are the newly elected officers of the Orlando Section, Power Engineering Society and Industrial Applications Group for the 1977-78 year.

- Chairman:** Dr. H. C. Towle 275-2610
- Vice Chairman:** Jim Lynes 824-4674
- Secretary:** D. R. Miller 862-7600

## FTU STUDENT CHAPTER

The student chapter ended its summer quarter with a program entitled "Career Development Engineering Opportunities", presented by Mr. James Gracey, FTU's director of the student placement center.

Student chapter emphasis next quarter will be on real world engineering involvement as opposed to the school environment. Hopefully many students can, with your help, get a better understanding of what we might be doing as engineers. With this idea in mind we started a "Spend a Day with an Engineer" program. Leo Mallette has volunteered his help, but this program will not succeed without YOUR help. If you are interested, please call me at 275-2786.

The following undergraduate student members of IEEE graduated last month (Ed. note. The editor finally made it too!)

Robert E. Cara    Paul F. Doherty    Karen J. Fletcher    Charles Griffin  
Edward P. Hassler    Winifred K. Horne    David L. Wilson

Miss Winifred Horne won our outstanding graduating senior award for this quarter. Win has been treasurer and vice-chairman of the student chapter and has also been active in the AFROTC cadet group.

Fred L. Malfa,  
Student Chapter Chairman

## COMING ON OCTOBER 20

A visit to AT&T's underground carrier installation in Windemere, to learn about the L-5 carrier, an FDM system with 10,200 channels per pair of coaxial tubes.

## MEETING NOTICE VEHICULAR TECHNOLOGY GROUP

PROGRAM FOR THURSDAY SEPTEMBER 22, 1977

**Topic:** General Organizational Meeting  
**Location:** Hewlett-Packard Company  
6177 Lake Ellenor Drive  
(Orlando Central Park)  
**Time:** 5:45 P.M. (No Dinner)  
**Information:** John Gilbert (859-5492 home)  
(849-2213 office)

Plans for the year will be formulated, placing heavy emphasis on vehicle locating techniques. Recommendations for nationally known speakers will be sought from the membership. The new officers for 1977-78 are:

Chairman: John Gilbert  
Vice Chairman: Ben Thomas  
Secretary: Westley Eddy

**MAN OF THE YEAR****RUSSELL E. THEISEN**

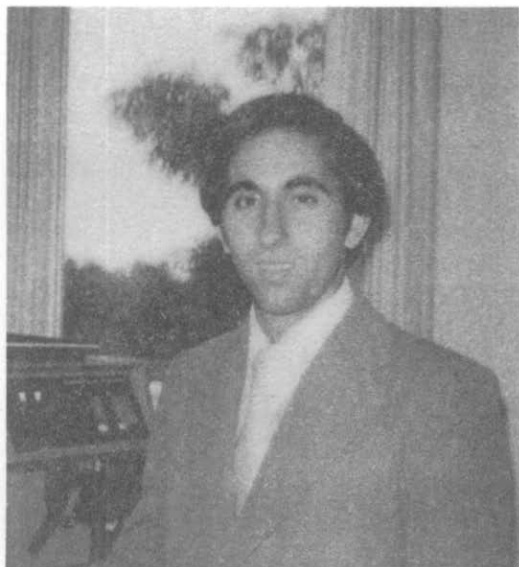
Russ is a system software staff engineer at Martin Marietta Aerospace, where he is developing the Tactical Communications Control Facility (TCCF), an advanced military communications system. His experience also includes the development of the prototype to the army standard test system MATE, and the Versatile Automatic Test System (VATS), a test system for satellite communications equipment.

He has been deeply involved in the IEEE at the chapter, section, regional, and national levels of the computer society. He has served as chapter chairman, area 3 chairman, and is at present a member of the governing board of the IEEE Computer Society at the national level. He is the chairman, or an active member, of eleven national professional committees of the computer society, and the American Federation of Information Processing Societies (AFIPS).

He has served the IEEE Orlando Section by his participation in many committees. At present he is vice-president of the section.

Russ has also been active in local community affairs - Director of the Winter Park Pines Community Association, YMCA Activities, and Orange County Library Services Advisory Board. For his seven years' work on the library board, he was recently recognized with a Distinguished Service Award by the Orange County Commission.

Russ is scheduled to present the tutorial "Specifications in Software Development" at the COMPCON Fall 1977 conference in Washington, DC this month. There he will receive the Distinguished Services Award of the IEEE Computer Society.



## MEETING NOTICE COMPUTER SOCIETY

PROGRAM FOR WEDNESDAY SEPTEMBER 28, 1977

- Topic:** Single Chip Microcomputers  
**Speaker:** Mr. Lenard Persin  
Microcomputer Application Engineer  
INTEL Corporation  
**Location:** Orlando Public Library  
10 N. Rosalind Ave.  
**Time:** 7:00 P.M.

Mr. Persin will present a preview of INTELS expanding single chip micro-computer family, with actual useage of the INTEL 8084 in a CRT monitor game. Both software and hardware will be covered. Further, the actual game will be demonstrated.

## AWARDS

Also, the following received Outstanding Service Awards at our annual installation banquet:

- Joe Pullara: Region III PAC Chairman  
Jim Walter: Area 4 Chairman  
Leo Mallette: Publications Chairman

In addition, Joe Pullara was recognized for his oratorical proficiency.

## MTT SOCIETY

So far we have no program planned for the 1977-78 year as we do not presently have a new slate of officers. If you are interested in maintaining an active MTT Chapter in Orlando, and are willing to serve as an officer, please contact:

Dean Bowyer - 352-2483 Office; 299-7368 Home

No one will be expected to do the whole job. That is, I will obtain a full slate of officers before asking you to take office. Remember, we are a co-host chapter for the 1979 International Microwave Symposium to be held in Orlando.



a creative exchange of ideas

## 1978 IEEE REGION 3 CONFERENCE AND EXHIBIT

APRIL 10, 11, 12

SHERATON ATLANTA INN

## CALL FOR PAPERS

Authors are invited to submit papers describing new developments in the theory, concepts, methodology and applications of Electrical and Electronic Engineering. Only original, unpublished papers will be accepted. Each author's presentation will be limited to 20 minutes. Papers and attendance from areas outside Region 3 are encouraged.

Student papers are encouraged. See your IEEE Student Branch Counselor for details.

Proceedings of the conference will be available at the time of Registration. An advance program with preregistration forms will be mailed in February 1978.

**For More Information Contact:**

T. T. McDugald

Southern Bell

P. O. Box 4455

Room 195

Atlanta, Georgia 30302

## FTU - SOUTH ORLANDO RESIDENT CENTER (SORC)

Director: Dr. Richard C. Harden, P.E.  
Telephone: (305) 855-0881

7300 Lake Ellenor Drive  
Orlando Central Park

## FALL 1977 SCHEDULE

| PFX                                | QTR<br>NO. | HRS | COURSE TITLE   | ALL PM CLASSES<br>SORC TIME / DAY  |
|------------------------------------|------------|-----|--|------------------------------------|
| COLLEGE OF BUSINESS ADMINISTRATION |            |     |  |                                    |
| FIN                                | 350        | 3   | Personal Investments                                   | 6-8:50 Thurs                       |
| MGMT                               | 301        | 3   | Management & Organization Behavior                     | 6-8:50 Tues                        |
| COLLEGE OF EDUCATION               |            |     |  |                                    |
| * EDPE                             | 691        | 4   | Administration of Recreation Programs                  | 6-9:50 Tues                        |
| EDTA                               | 480        | 3   | Overview of Education                                  | 6-8:50 Tues                        |
| * EDVE                             | 491        | 4   | Vocational Education Topics                            | 6-9:50 Mon                         |
| * EDVE                             | 512        | 4   | Contemporary Programs Vocational Education             | 6-9:50 Wed                         |
| * CONTINUING EDUCATION CLASSES     |            |     |  |                                    |
| COLLEGE OF HUMANITIES & FINE ARTS  |            |     |  |                                    |
| ENG                                | 391        | 3   | ST: Death and Dying                                    | 6-8:50 Wed                         |
| COLLEGE OF SOCIAL SCIENCES         |            |     |  |                                    |
| SOC                                | 345        | 4   | Juvenile Delinquency                                   | 6-9:50 Mon                         |
| SOC                                | 362        | 4   | Contemporary Women & Society                           | 6-9:50 Tues                        |
| SPE                                | 101        | 3   | Fundamentals of Oral Communication                     | 6-8:50 Thurs                       |
| COLLEGE OF ENGINEERING             |            |     |  |                                    |
| T CEES                             | 401        | 3   | Environmental Engineering - Chemical<br>Lab on Campus  | 9-9:50 Mon-Wed<br>11AM-1:50 PM Fri |
| T CEES                             | 411        | 4   | Environmental Engineering - Water Supply               | 7-8:50 Mon-Wed                     |
| T CEES                             | 501        | 3   | Environmental Engineering - Chemistry<br>Lab on Campus | 9-9:50 Mon-Wed<br>9-11:50AM Sat    |
| T CEES                             | 531        | 4   | Geotechnical Engineering II                            | 7-8:50 Tue-Thurs                   |
| CEES                               | 541        | 4   | Intermediate Mechanics of Materials                    | 5-6:50 Mon-Wed                     |
| T CEES                             | 581        | 4   | Water Resources Engineering                            | 5-6:50 Tue-Thur                    |
| T EECs                             | 513        | 3   | Introduction to Digital Systems                        | 8-8:50Mon;8-9:50Wed                |
| T EECs                             | 543        | 3   | Coherent Optics Applications                           | 5-5:50Mon;5-6:50Wed                |
| EECS                               | 551        | 3   | Signal & System Analysis                               | 5-5:50Tue;5-6:50Thur               |
| T EECs                             | 552        | 3   | Digital Signal Processing                              | 6-7:50Mon;7-8:50Wed                |
| T EMCS                             | 471        | 3   | Engineering Mathematical Analysis                      | 5-5:50Tue;5-6:50Thur               |
| T IEMS                             | 502        | 3   | Probability for Engineers                              | 4-5:50Tue;5-5:50Thur               |
| T IEMS                             | 602        | 3   | Engineering Economic Analysis                          | 6-7:50Tue;7-7:50Thur               |
| T IEMS                             | 624        | 3   | Operations Research I                                  | 5-5:50Tue;5-6:50Thur               |
| T IEMS                             | 640        | 4   | Systems Dynamics                                       | 8-9:50 Tue-Thur                    |
| T MEAS                             | 537        | 3   | Energy Conversion                                      | 5-5:50Mon;5-6:50Wed                |
| T MEAS                             | 653        | 3   | Advanced Engineering Instrumentation                   | 8-9:50Mon;8-8:50Wed                |
| T MEAS                             | 686        | 4   | Convection Heat Transfer                               | 6-7:50Mon;7-7:50Wed                |

T = Lecture on TV Tape

TV COURSE TIMES CAN BE ADJUSTED IN INDIVIDUAL CASES

FOR WORK OR SCHEDULE CONFLICTS

## UNIVERSITY OF FLORIDA TELECONFERENCE COURSES

Courses presented through Florida Educational Telephone Network (FETN). FETN is a two-way point-to-point audio communications system with loud speakers and several classroom microphones. Two pre-taped audio lectures are presented each class period with a discussion interval with the teacher between lectures. Additional courses will be offered in the Winter and Spring quarters. Registration materials available at SORC. The following are 10 week courses starting the first week in October.

| FIELD      | DAY  | TIMES         | COURSE TITLE   |
|------------|------|---------------|--|
| Nursing    | Tue  | 7:00- 9:00 PM | Infection Control for Health Care Institutions   |
| Nurs/Pharm | Thur | 6:30- 8:00 PM | Therapeutic Principles of Selected Diseases  |
| Pharmacy   | Wed  | 6:30- 8:00 PM | Toxicology in Pharmacy Practice  |
| Pharmacy   | Wed  | 8:30-10:00 PM | Enhancing the Efficiency of Pharmacy Operations  |
| Pharmacy   | Mon  | 8:00-10:00 PM | Pharmacology of Drugs Used in Heart Ailments, Anemia, Malignancies, Gynecology, and Obstetrics |



Aug 22 SPECIAL STUDENTS ONLY, Students not desiring formal admission to the university may apply and register for classes using the non-degree application form as late as Sept 28 9/28 at SORC. Registration deadline on the Main Campus is 9/30 between 1-4 and 5:30-7 PM. All such students will be admitted on a space-available basis.

#### GENERAL REGISTRATION INFORMATION

- Registration at SORC, 12 noon to 5 PM daily, later by appointment.
- After contacting your advisor you may register at SORC only if your total FTU course load is SORC courses; otherwise, you must register at Main Campus for both SORC and Main Campus courses.
- If you must register for SORC and Main Campus courses, do so during regular campus registration. Should you wait until ADD-DROP you take the chance of a course being filled, or cancelled due to lack of enrollment.
- Previously admitted students may register at SORC by TELEPHONE TO SORC subject to the above cited rules (excluding Continuing Education). Students registering for Continuing Education courses must register in person but no later than the first night of class.

#### Aug 22 CURRENTLY ENROLLED STUDENT REGISTRATION AT SORC

thru Registration after 9/16 must be done at Main Campus on Sept. 20 thru 23 at appointed time or later if registration is still in progress. After this date, use late registration with \$25 late fee.

*FEE STATEMENTS MUST BE PICKED UP AT THE CENTER BEGINNING SEPT. 20*

#### Aug 22 NEW STUDENTS & READMITTED STUDENT REGISTRATION

thru After 9/21 registration can be made 9/23 on the Main Campus without penalty.

Sept 21 SORC Late Registration begins Sept. 26 WITH PENALTY.

*FEE STATEMENTS MUST BE PICKED UP AT THE CENTER BEGINNING SEPT. 23*

#### Sept 26 CLASSES BEGIN

Sept 26 LAST DAY FOR READMISSION, LATE REGISTRATION, NON-DEGREE REGISTRATION, ADD, DROP, OR WITHDRAWAL (with full refund) AT SORC. Students

Sept 28 may accomplish the above on the Main Campus on the following dates and times:

9/27 = 9 AM - 4 PM

9/28 = 9 AM - 12 Noon

9/29 = 12:45 - 3 PM

5:30 - 6 PM

ALL LATE REGISTERING STUDENTS WILL BE ASSESSED A \$25 LATE FEE AND WILL REGISTER ON A "SPACE-AVAILABLE" BASIS. (NON-DEGREE REGISTRATION IS NOT A LATE REGISTRATION)

Sept 30 FEES DUE IN CASHIER'S OFFICE. Midnight postmark accepted.

TEXTBOOKS ON SALE 1st WEEK OF CLASS. CHECK OR MONEY ORDER ONLY.

## MEETING NOTICE COMMUNICATION SOCIETY

PROGRAM FOR THURSDAY SEPTEMBER 22, 1977

**Topic:** The role of Communications in Law Enforcement

**Speaker:** From Orange County Sheriffs Dept.  
Communication Center duty Officer

**Location:** Orange County Courthouse Annex  
Central Ave. Entrance (corner Magnolia)

**Time:** Dinner 6:30 P.M. (from menu)  
Kahler Plaza Inn  
151 E. Washington St.  
Program 7:30 P.M.

**Reservation:** Mrs. Royer (830-3314) before September 19, 1977.

# ANNUAL BARBEQUE

SATURDAY OCTOBER 8, 1977

**Social:** 6:30 P.M.

**Dinner:** 7:00 P.M.

**Dance:** 8:15 P.M.

**Location:** Florida Power Bear Lake Recreational Facility

**Price:** \$6.00 (\$5.00 Student)

The entree will be steak dinner with all the trimmings (mushrooms, vegetable, and baked potatoe) with iced tea or coffee (soft drinks and beer will be available from the cash bar).

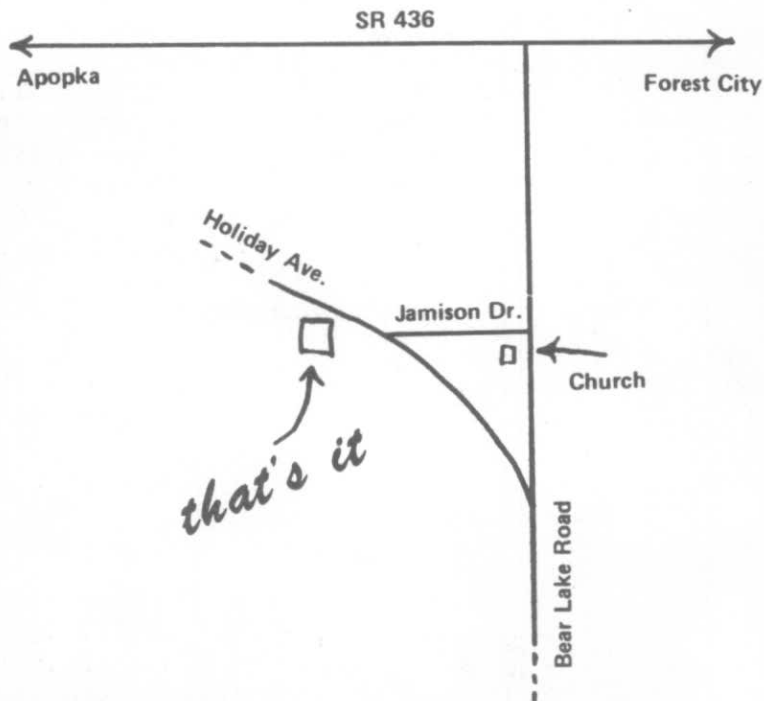
Tickets are available from members of the Executive Committee, listed on page 11 of this issue.

After dinner, square dancing lessons will be given to the pro's and neophytes alike. You must get your tickets in advance **SO GET YOUR TICKETS AS SOON AS POSSIBLE.**

**STEAK DINNER!**

**SQUARE DANCING!**

**DOOR PRIZES!**



## 1977/78 IEEE EXECUTIVE COMMITTEE

## EXECUTIVE BOARD

|                    |                        | BUSINESS | HOME     |
|--------------------|------------------------|----------|----------|
| Chairman           | William H. Rhoden      | 859-2900 | 671-3469 |
| Vice Chairman      | Russell E. Theisen     | 352-3886 | 671-4139 |
| Secretary          | Dr. Ernest E. Erickson | 275-2414 | 671-5026 |
| Treasurer          | Richard McCoy          | 352-3612 | 628-4181 |
| Group Chapter Rep. | Bill Cram              | 841-9015 | 647-4123 |

## COMMITTEE CHAIRMAN

|                       |                       |          |          |
|-----------------------|-----------------------|----------|----------|
| Jr. Past Chairman     | Dr. Ed McCarter       | 275-2786 | 647-0134 |
| Sr. Past Chairman     | Harold Downing        | 351-9962 | 628-0676 |
| Program, Arrangements | Dick Bergen           | 849-9760 | 862-0347 |
| Membership            | Melvin Kelch          | 849-9760 | 859-1533 |
| Education Committee   | Dr. Fred Simmons Jr.  | 275-2786 | 299-3857 |
| Conference Committee  | George McClure        | 352-3782 | 647-5092 |
| Publicity             |                       |          |          |
| Student Activities    | Dr. Richard C. Harden | 855-0881 | 855-5775 |
| Barbeque              | Al J. Levy            | 352-3914 | 843-7619 |
| Awards                | Dr. Bruce Mathews     | 275-2786 | 645-0549 |
| Student Chapter       | Fred Malfa            | 275-2786 | 273-6168 |
| IEEE-FES Liason       | Ed Griffin            | 352-2132 | 671-2680 |
| Engineers' Week       | Dr. Brian Petrasko    | 275-2549 | 678-1177 |
| Member-at-Large       | Homer Wilson          | 646-8230 | 855-0934 |
| Member-at-Large       | Eugene V. Dashiell    | 859-2900 | 859-2497 |
| Member-at-Large       | James Walter          | 351-9966 | 339-2071 |
| MTT-79                | Dr. James Wiltse      | 352-4255 | 876-2561 |
| Publications          | Leo A. Mallette       | 275-2786 | 568-4586 |
|                       |                       | 352-2148 | 671-9920 |

## GROUP CHAPTER CHAIRMEN

|          |                 |          |          |
|----------|-----------------|----------|----------|
| AES      |                 |          |          |
| COMM     | Richard Kolsby  | 830-3479 | 645-2422 |
| COMP     | Dr. Ben Patz    | 646-4649 | 855-3685 |
| MTT      |                 |          |          |
| PS & IAG | Dr. Herb Towle  | 275-2610 | 671-0265 |
| PAC      |                 |          |          |
| VTG      | John D. Gilbert | 422-2431 | 859-5492 |

Published monthly by the Orlando Section of IEEE, except during the months of July and August. Inquiries regarding advertising and/or announcements should be forwarded (before the tenth of the previous month) to Mr. Leo A. Mallette, Editor, Route 8 Box 781, Orlando, Florida 32807.

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ORLANDO SECTION  
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ORLANDO, FLORIDA

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Orlando, Florida  
Non-Profit  
Organization



This new 3 1/2 digit microprocessor-based LCR meter meets requirements for laboratory, production line and quality assurance inspection measurements. Fully automatic operation means that the operator simply selects the function and the loss parameter, one of the three test frequencies, then inserts the device to be tested. The LCR meter does the rest - selects the proper range and equivalent circuit mode. This feature enables the operator to test a wide range of semiconductors, filter coils, pulse transformers, capacitors and many other devices quickly and accurately.

Called the Hewlett-Packard 4262A Digital LCR Meter, the new instrument measures capacitance from 0.01 picofarads to 19.99 millifarads, inductance from 0.01 microhenries to 1999 henries, and resistance from 1 milliohm to 19.99 megohms. D and Q (loss) are also measured; D is measured from 0.001 to 19.9 and Q from 0.05 to 1000. A deviation measurement is also provided which compares two successive measurements - establishes the range of a trimmer capacitor for example.

Accuracy of the 4262A is typically 0.2% of reading. Measurement frequencies are 120 Hz and 10 kHz. Test signal level is 1 volt (50 millivolts may be selected in the parallel capacitance mode), there are three internal dc bias levels, and both series and parallel equivalent circuit modes are provided.

P. O. Box 13910  
Orlando, Florida 32809  
Phone 859-2900

FOR FURTHER INFORMATION  
CONTACT

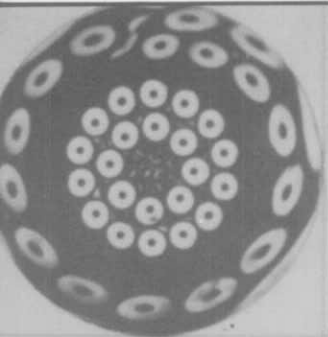
**HEWLETT • PACKARD**  **SALES AND SERVICE**



# ORLANDO SECTION NOTES

VOLUME XII, NUMBER 2

OCTOBER, 1977



## L-5 COAXIAL SYSTEM



COMMUNICATION SOCIETY TOUR  
(SEE PAGE 5)

\* BARBEQUE (OCTOBER 8)

PUBLISHED BY ORLANDO SECTION  
INSTITUTE OF  
ELECTRICAL AND ELECTRONICS ENGINEERS

**L**ess than twelve hours after the Autumn Forge exercises had begun, hostile forces had smashed NATO's anti-tank defenses and were rolling virtually unopposed.

This is just one more demonstration of the threat that led to the development of Copperhead, the Army's cannon-launched guided projectile. It gives artillerymen something they never had before — the capability of destroying a moving tank from miles beyond the front lines with a single round — not a barrage.

Copperhead creates no extra manpower demands. It is handled just like any other 155mm round by gun crews with no special training. (In the highly successful prototype test program, every round was fired by an Army test crew using standard artillery loading procedures.)

How does it work? A forward observer, remotely piloted vehicle, or a helicopter equipped with laser designator, marks the target with invisible light. The round is fired from artillery positions miles away and homes in on the target with pinpoint accuracy even in darkness or in marginal weather and low cloud ceiling conditions.

Developed by the Orlando division of Martin Marietta Aerospace

under the direction of the U.S. Army Armament Research and Development Command, Copperhead will help to create a better balance of power in Western Europe by countering massively superior numbers with superior technology.

For more information about Copperhead, write:

Orlando Division  
Martin Marietta  
Aerospace  
P.O. Box 5837,  
MP #89  
Orlando, Florida  
32805

MARTIN MARIETTA



**Autumn Forge, Fall 1976.  
It was only a  
war game.  
That was a good thing  
for Western Europe.**

## CHAIRMAN'S CORNER

We would like to thank Dr. David Flinchbaugh for volunteering to serve as our Orlando Section Professional Activities Committee Chairman for 1977-78. We are expecting that Dr. Flinchbaugh will have several interesting speakers for us this year.

The First PAC activity planned is a short-course entitled "Career Workshop" which will be held on December 19, 1977. More details are in this issue on page 6.

Mr. David Williams of Hewlett-Packard Company will serve as our Section Publicity Chairman. Anyone desiring to publicize a meeting should contact David at 859-2900 or P.O. Box 13910, Orlando, Fla. 32809.

Thanks again to both new members of our Section Executive Committee. I hope to see all of you at our Barbeque on Oct. 8.

Bill Rhoden  
Section Chairman

## MEETING NOTICE VEHICULAR TECHNOLOGY GROUP

VEHICULAR TECHNOLOGY GROUP will hold a meeting during the month of October. The subject and speaker had not been chosen at the time of publication. For further information, contact the chairman, Mr. John Gilbert, whose telephone numbers appear on page 7 of this issue.

### MEMO

**To:** Group Chapter Chairmen  
**From:** Bill Cram, Group Chapter Representative

In order to serve you better as your Group Chapter Representative, I would like to suggest that in the event you are going to be absent from a meeting of Executive Committee and desire a report submitted, you telephone me at 841-9015 or 423-0555. If I am not there, give your report to Mrs. June Dickey or Mrs. Weathington. Either of those ladies will see that I get it and I will make your report for you.

**COVER:** Different views of AT&T's L-5 carrier system. Upper left, and lower photo were furnished courtesy of Bell Laboratories RECORD. "Copyright 1973, Bell Telephone Laboratories, Inc. Reprinted by permission, Editor, Bell Laboratories RECORD." Upper right photo by Theodore Flagg.



|    | MON                        | TUE         | WED                         | THUR                          | FRI                          |
|----|----------------------------|-------------|-----------------------------|-------------------------------|------------------------------|
| 3  |                            |             |                             | <b>BBQ</b>                    | <b>SATURDAY<br/>OCT. 8</b> → |
| 10 | ← <b>INFORMATION THY</b> → |             |                             | <b>VTG*</b>                   |                              |
| 17 |                            | <b>COMP</b> | <b>AES<br/>MTT</b>          | <b>COMM</b>                   | <b>OCT</b>                   |
| 24 | <b>VET'S<br/>DAY</b> ←     |             | <b>FUSION RESEARCH</b>      |                               | →                            |
| 31 | <b>HALL-<br/>OWEEN</b>     |             |                             |                               |                              |
| 7  | ←                          |             | <b>MIDCON</b>               | →                             | <b>NOV</b>                   |
| 14 |                            |             |                             | <b>VTG*<br/>COMM<br/>COMP</b> |                              |
| 21 |                            |             |                             | <b>TURKEY</b>                 |                              |
| 28 |                            |             |                             | <b>DINNER *<br/>AT FTU</b>    |                              |
| 5  | ← <b>HANUKKAH</b> →        |             | <b>ELECTRON<br/>DEVICES</b> |                               |                              |
| 12 |                            |             | <b>COMP</b>                 | <b>COMM<br/>*</b>             | <b>DEC</b>                   |
| 19 | <b>WORK-<br/>SHOP</b>      |             |                             |                               |                              |
| 26 |                            |             |                             |                               |                              |

\* TENTATIVE, CHECK WITH CHAIRMAN



## BARBEQUE

ANNUAL BARBEQUE is coming up soon (October 8th). Get your tickets from members of the Executive Committee, listed on page 7 of this issue. Again, I shall be wearing red suspenders, come over and introduce yourself.

Leo  
Editor

## MEETING NOTICE COMMUNICATIONS SOCIETY

PROGRAM FOR THURSDAY, OCTOBER 20, 1977

**Tour:** Tour of AT & T's underground L-5 carrier installation in Windemere.

**Speaker:** Dick Rutherford  
Senior Engineer, Southern Bell

**Times:** Dinner: 6:00 PM (from menu)  
Tour: 7:00 PM

**Location:** Hilton House of Beef  
3200 W. Colonial Dr. (W. of John Young Pky)

**Reservations:** Mrs. Royer at 830-3314, before October 19.

**Advance Meeting notice: Communications Society.**

Coming on Thursday, November 17, 1977; a tour of the Wall Street Journal Data Communication System and Printing Facility.

## MEETING NOTICE COMPUTER SOCIETY

PROGRAM FOR TUESDAY OCTOBER 18, 1977

**Topic:** Fairchild Single Chip Microcomputers

**Speaker:** Mr. George Smallwood  
Fairchild Field Applications Engineer

**Times:** Dinner: 6:00 PM (From menu)  
Program: 7:30 PM

**Locations:** Dinner: Talk of the Town  
6107 S. Orange Blossom Tr.

Meeting: H-P Building  
6177 Lake Ellenor Dr.

Mr. Smallwood will discuss and demonstrate their F-8 development system with the H-P 2644A mini-data station.

# JOINT MEETING NOTICE

## AES-MTT-LOGISTICS SOCIETY

PROGRAM FOR WEDNESDAY OCTOBER 19, 1977

**Topic:** The Viking Program, Past and Future

**Speaker:** Mr. John Goodlete  
 Technical Director, Viking Program  
 Martin Marietta, Denver Division

The times and locations of the dinner and meeting were not available at the deadline for publication. Those interested in attending may obtain details by contacting Dean Bowyer (352-2483), or Dick McCoy (352-3612). Announcements will also be made at the Barbeque.

## IEEE SELF HELP "CAREER WORKSHOP"

MONDAY DECEMBER 19, 1977

Probably the most important service which IEEE can provide its membership is to help you stay happily and productively employed. IEEE has been successful in contracting with the leading authority in the field, John Crystal, and his firm, Life Management Services, to conduct career workshops for you. John Crystal has been helping people find jobs and redirect their careers for 20 years. He and his firm have helped several thousands of people implement the Crystal Process over that time span. This tax-deductible course will be offered at the FTU South Orlando Resident Center, in Orlando Central Park from 8:00 to 5:00 PM on Monday December 19, 1977. If you are interested, please mail the following form to: Educational Director, IEEE Services, 445 Hoes Lane, Piscataway, N.J. 08854.

NAME \_\_\_\_\_ Member \$40. \_\_\_\_  
 HOME ADDRESS \_\_\_\_\_ Non-member \$60. \_\_\_\_  
 \_\_\_\_\_ Student \$25. \_\_\_\_  
 \_\_\_\_\_ Unemployed  
 Home Phone \_\_\_\_\_ Member \$20. \_\_\_\_

Reserve a place for me at course 5 in Orlando

## 1977/78 IEEE EXECUTIVE COMMITTEE

## EXECUTIVE BOARD

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| Chairman           | William H. Rhoden      | 859-2900 | 671-3469 |
| Vice Chairman      | Russell E. Theisen     | 352-3886 | 671-4139 |
| Secretary          | Dr. Ernest E. Erickson | 275-2414 | 671-5026 |
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| Group Chapter Rep. | Bill Cram              | 841-9015 | 647-4123 |

## COMMITTEE CHAIRMAN

|                       |                       |          |          |
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| Jr. Past Chairman     | Dr. Ed McCarter       | 275-2786 | 647-0134 |
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| Program, Arrangements | Dick Bergen           | 849-9760 | 862-0347 |
| Membership            | Melvin Kelch          | 843-8484 | 859-1533 |
| Education Committee   | Dr. Fred Simons Jr.   | 646-4491 | 299-3857 |
| Conference Committee  | George McClure        | 352-3782 | 647-5092 |
| Publicity             | David Williams        | 859-2900 | 671-4408 |
| Student Activities    | Dr. Richard C. Harden | 855-0881 | 855-5775 |
| Barbeque              | Al Levy               | 352-3914 | 843-7619 |
| Awards                | Dr. Bruce Mathews     | 275-2786 | 645-0549 |
| Student Chapter       | Fred Malfa            | 275-2786 | 273-6168 |
| IEEE-FES Liason       | Ed Griffin            | 352-2132 | 671-2680 |
| Engineers' Week       | ( )                   | ( )      | ( )      |
| Member-at-Large       | Homer Wilson          | 646-8230 | 855-0934 |
| Member-at-Large       | Eugene V. Dashiell    | 859-2900 | 859-2497 |
| Member-at-Large       | James Walter          | 351-9966 | 339-2071 |
| MTT-79                | Dr. James Wiltse      | 352-4255 | 876-2561 |
| Publications          | Leo A. Mallette       | 275-2548 | 568-4586 |

## GROUP CHAPTER CHAIRMEN

|          |                      |          |          |
|----------|----------------------|----------|----------|
| AES      |                      |          |          |
| COMM     | Richard Kolsby       | 830-3479 | 645-2422 |
| COMP     | Dr. Ben Patz         | 646-4649 | 855-3685 |
| MTT      |                      |          |          |
| PS & IAG | Dr. Herb Towle       | 275-2610 | 671-0265 |
| PAC      | Dr. Dave Flinchbaugh |          | 859-4855 |
| VTG      | John D. Gilbert      | 849-2213 | 859-5492 |

Published monthly by the Orlando Section of IEEE, except during the months of July and August. Inquiries regarding advertising and/or announcements should be forwarded (before the tenth of the previous month) to Mr. Leo A. Mallette, Editor, Route 8 Box 781, Orlando, Florida 32807.

ORLANDO SECTION  
I.E.E.E.  
ORLANDO, FLORIDA

U.S. POSTAGE  
PAID 2.1¢  
Permit No. 3492  
Orlando, Florida  
Non-Profit  
Organization



This new 3½ digit microprocessor-based LCR meter meets requirements for laboratory, production line and quality assurance inspection measurements. Fully automatic operation means that the operator simply selects the function and the loss parameter, one of the three test frequencies, then inserts the device to be tested. The LCR meter does the rest - selects the proper range and equivalent circuit mode. This feature enables the operator to test a wide range of semiconductors, filter coils, pulse transformers, capacitors and many other devices quickly and accurately.

Called the Hewlett-Packard 4262A Digital LCR Meter, the new instrument measures capacitance from 0.01 picofarads to 19.99 millifarads, inductance from 0.01 microhenries to 1999 henries, and resistance from 1 milliohm to 19.99 megohms. D and Q (loss) are also measured; D is measured from 0.001 to 19.9 and Q from 0.05 to 1000. A deviation measurement is also provided which compares two successive measurements - establishes the range of a trimmer capacitor for example.

Accuracy of the 4262A is typically 0.2% of reading. Measurement frequencies are 120 Hz and 10 kHz. Test signal level is 1 volt (50 millivolts may be selected in the parallel capacitance mode), there are three internal dc bias levels, and both series and parallel equivalent circuit modes are provided.

FOR FURTHER INFORMATION  
CONTACT

P. O. Box 13910  
Orlando, Florida 32809  
Phone 859-2900

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# ORLANDO SECTION NOTES

VOLUME XII, NUMBER 3

NOVEMBER, 1977



## COMMUNICATION SOCIETY TOUR

**PUBLISHED BY ORLANDO SECTION  
INSTITUTE OF  
ELECTRICAL AND ELECTRONICS ENGINEERS**

**T**hey were analyzing a study of Terminal Guidance for Indirect Fire (TGIF) sponsored by the Advanced Research Projects Agency. Their conclusion: An Army cannon-launched guided projectile would provide a significant response to the threat of hostile tanks. The outcome was the development of Copperhead.

Copperhead can destroy a moving tank with a single round from miles behind enemy lines, doing the work of hundreds of conventional shells. This "smart" projectile needs no special handling

or launching equipment, no training crews, no added troops. It is fired from an ordinary 155mm howitzer by regular artillerymen. (An Army test crew used standard artillery loading and firing procedures on every round in the highly successful prototype test program.)

Copperhead uses a forward observer, remotely-piloted vehicle or helicopter

to designate the target with a laser beam. Fired just like a conventional shell, it seeks out the target even in darkness or in marginal weather and low cloud ceiling conditions.

Developed by the Orlando division of Martin Marietta Aerospace under the leadership of the U.S. Army Armament Research and Development Command, Copperhead is a remarkably cost-effective weapon.

For more information, write: Orlando Division  
Martin Marietta  
Aerospace  
P.O. Box 5837,  
MP #89  
Orlando, Florida  
32805

**MARTIN MARIETTA**



**"TGIF"**

**Friday, September 25, 1970.  
A group of men sat around a  
map of Western Europe.**

## CHAIRMAN'S CORNER

We had a very financially successful BBQ again this year, thanks to Al Levy and his committee. Everyone seem to enjoy all the good food and entertainment. The Square Dancing seemed to be the highlight of the occasion. And as usual we gave away Door Prizes. A great time was had by all, and we missed all of you who could not be with us.



Please make plans now to attend The Career Workshop which will be held on Monday, December 19 at the FTU-South Orlando Resident Center, we expect this to be great interest to all those interested in further advancing their careers in engineering. Contact Dr. Fred O. Simons at 646-4491 for further details. See the announcement on Page six.

Bill Rhoden  
Section Chairman

## MEETING NOTICE COMPUTER SOCIETY

PROGRAM FOR THURSDAY NOVEMBER 17, 1977

**Topic:** Computers and Land Use Planning

**Speaker:** Dr. D. L. Slotnick  
Professor of Computer Science, Professor in Center for  
Advanced Computation, Professor of Landscape Architecture,  
University of Illinois, Urbana-Champaign

**Location:** Orlando Hyatt House, Key West Room  
6375 Space Coast Parkway, Kissimmee  
Northeast corner of I-4 and SR-192

**Times:** Social: 6:00 PM  
Dinner: 7:00 PM  
Program: 8:00 PM

**Dinner cost:** \$10.70

**Reservations:** Dr. Patz 855-3685  
or 275-2816  
or 275-2786  
or 646-4649  
or 646-4696

Mr. Mendorf 831-2185  
or 352-4617  
Dr. Healy 843-5952  
or 646-4491  
Mr. Griffin 671-2680  
or 352-2132

The role of interactive computers in locating satisfactory sites for land-using activities based on the activities requirements and the land's natural attributes. Also the problem of land-use optimization from a mathematical programming point of view.

# JOINT MEETING NOTICE COMMUNICATIONS SOCIETY VEHICULAR TECHNOLOGY GROUP

PROGRAM FOR THURSDAY NOVEMBER 17, 1977

**Topic:** Wall Street Journal Data Communication  
and Printing Facility

**Speaker:** Mr. Steve Brandt

**Locations:** Dinner: Piccadilly Restaurant  
Gold Key Inn (7100 SOBT)

Tour: 2301 Presidents Drive  
Orlando Industrial Park (South of Sand Lake Road)  
Or meet at Gold Key Inn at 7:10 PM

**Times:** Dinner: 6:00 PM (from menu)  
Tour: 7:30 PM

**Reservations:** Mrs. Royer (830-3314) before November 16.

# MEETING NOTICE POWER ENGINEERING SOCIETY AND INDUSTRIAL APPLICATIONS GROUP

PROGRAM FOR TUESDAY NOVEMBER 8, 1977

**Topic:** Solar Hot Water Heating; Design and Evaluation  
for Residential Application

**Speaker:** Mr. Albert H. Marshall  
Engineer-Advanced Systems Concept Lab  
Naval Training Center

**Location:** Essex Building, Suite 101  
3101 Maguire Blvd., Behind Gold Triangle

**Time:** 8:00 PM



# FTU STUDENT CHAPTER

## FTU STUDENT CHAPTER

The student chapter held its first meeting of the quarter on September 29, 1977. The chapter decided on speakers and equipment demonstrations as being most beneficial to our professional development. Steven Fruit, Speakers Chairman, may be calling on you for help. The EECS department at FTU has a number of new faculty members. The student chapter would like to welcome:

Dr. Basile Dimitriadis (S.U.N.Y. at Buffalo)

Dr. Sedki Riad (U. of Toledo)

Mrs. Aicha Riad (Completing Ph.D. at U. of Colorado)

Mr. Leo A. Mallette (M.S.E., at FTU)

We wish them the best. . .

Fred L. Malfa  
Student Chapter Chairman

## MEETING NOTICE

# AMERICAN SOCIETY OF MECHANICAL ENGINEERS

PROGRAM FOR TUESDAY NOVEMBER 8, 1977

**Topic:** Fun with Metals

**Speaker:** Dr. Robert Pond  
Chairman, Dept. of Mechanics and Materials  
Science, Johns Hopkins University

**Location:** Fox-Fire Inn, Lakeland, Florida

**Times:** Dinner: 7:00 PM (\$7.00)  
Program: 8:00 PM

Fun with metals is audience participation talk which is directed towards the broad theme that individuals are much more cogent in the field of metallurgy than they realize. Several simple, but illustrative, experiments on metals are carried out. Some exciting, but commonly unknown areas in the field of metallurgy are discussed.

# MEMORANDUM

To: All the IEEE Group Chapter Chairman

From: Bill Cram, Group Chapter Representative

It has been called to my attention that my previous memorandum under the subject above was out of order.

It is the responsibility of the Group Chapter Vice Chairman or Secretary to be present at the Executive Committee Meeting to make the report in the absence of the Chairman.

Therefore, the Group Chapter Chairmen are urged to encourage their Vice Chairmen and Secretaries to attend the Executive Committee Meetings often in order to become familiar with the proceedings.

It is my function to represent you on the Executive Board, to look after your interest and to act on your behalf.

Please call on me anytime you believe I can serve you.

## IEEE SELF HELP "CAREER WORKSHOP"

MONDAY DECEMBER 19, 1977

7300 LAKE ELLENOR DR.

Probably the most important service which IEEE can provide its membership is to help you stay happily and productively employed. IEEE has been successful in contracting with the leading authority in the field, John Crystal, and his firm, Life Management Services, to conduct career workshops for you. John Crystal has been helping people find jobs and redirect their careers for 20 years. He and his firm have helped several thousands of people implement the Crystal Process over that time span. This tax-deductible course will be offered at the FTU South Orlando Resident Center, in Orlando Central Park from 8:00 to 5:00 PM on Monday December 19, 1977. If you are interested, please mail the following form to: Educational Director, IEEE Services, 445 Hoes Lane, Piscataway, N.J. 08854.

NAME \_\_\_\_\_ Member \$40. \_\_\_\_\_  
 HOME ADDRESS \_\_\_\_\_ Non-member \$60. \_\_\_\_\_  
 \_\_\_\_\_ Student \$25. \_\_\_\_\_  
 \_\_\_\_\_ Unemployed \_\_\_\_\_  
 Home Phone \_\_\_\_\_ Member \$20. \_\_\_\_\_

Reserve a place for me at course 5 in Orlando

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| COMP     | Dr. Ben Patz         | 646-4649 | 855-3685 |
| MTT      | <i>Dean Bowyer</i>   |          |          |
| PS & IAG | Dr. Herb Towle       | 275-2610 | 671-0265 |
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ORLANDO SECTION  
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ORLANDO, FLORIDA

U.S. POSTAGE  
PAID 2.1¢  
Permit No. 3492  
Orlando, Florida  
Non-Profit  
Organization



This new 3 1/2 digit microprocessor-based LCR meter meets requirements for laboratory, production line and quality assurance inspection measurements. Fully automatic operation means that the operator simply selects the function and the loss parameter, one of the three test frequencies, then inserts the device to be tested. The LCR meter does the rest - selects the proper range and equivalent circuit mode. This feature enables the operator to test a wide range of semiconductors, filter coils, pulse transformers, capacitors and many other devices quickly and accurately.

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FOR FURTHER INFORMATION  
CONTACT

P. O. Box 13910  
Orlando, Florida 32809  
Phone 859-2900

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# ORLANDO SECTION NOTES

VOLUME XII, NUMBER 4

DECEMBER 1977



PUBLISHED BY ORLANDO SECTION  
INSTITUTE OF  
ELECTRICAL AND ELECTRONICS ENGINEERS

IEEE CAREER  
WORKSHOP  
IT'S FOR  
**You!**



SEE  
PAGE 3

1. YOUR UNDEREMPLOYED
2. YOUR MISEMLOYED
3. YOUR UNEMPLOYED,  
OR SOON WILL BE.

**T**hey were analyzing a study of Terminal Guidance for Indirect Fire (TGIF) sponsored by the Advanced Research Projects Agency. Their conclusion: An Army cannon-launched guided projectile would provide a significant response to the threat of hostile tanks. The outcome was the development of Copperhead.

Copperhead can destroy a moving tank with a single round from miles behind enemy lines, doing the work of hundreds of conventional shells. This "smart" projectile needs no special handling

or launching equipment, no training crews, no added troops. It is fired from an ordinary 155mm howitzer by regular artillerymen. (An Army test crew used standard artillery loading and firing procedures on every round in the highly successful prototype test program.)

Copperhead uses a forward observer, remotely-piloted vehicle or helicopter

to designate the target with a laser beam. Fired just like a conventional shell, it seeks out the target even in darkness or in marginal weather and low cloud ceiling conditions.

Developed by the Orlando division of Martin Marietta Aerospace under the leadership of the U.S. Army Armament Research and Development Command, Copperhead is a remarkably cost-effective weapon.

For more information, write: Orlando Division  
Martin Marietta  
Aerospace  
P.O. Box 5837,  
MP #89  
Orlando, Florida  
32805

**MARTIN MARIETTA**



**"TGIF"**

**Friday, September 25, 1970.  
A group of men sat around a  
map of Western Europe.**

# IEEE "CAREER WORKSHOP"

MONDAY DECEMBER 19, 1977

7300 LAKE ELLENOR DR.

Probably the most important service which IEEE can provide its membership is to help you stay happily and productively employed. We have been successful in contracting with the leading authority in the field, John Crystal, and his firm, Life Management Services, to conduct career workshops for you.

If you find yourself in one of the "silent boxes" of work, you're not unique. The employment system within U.S. industry frequently directs us towards these "silent boxes." The job interview with resume, for example, puts control of your employment future in your employer's hands. But, since the resume is history, he hires you for your past. Is it any wonder that so many people in this world have unfulfilling jobs?

The IEEE career workshops will offer you new insights into the existing employment system, and new techniques for dealing with it.

## New insights

Here as an example are the 8 great myths of the world of work, as Crystal sees it.

1. The system renders us powerless to control our own lives.
2. Job hunting or choosing a career depends on knowing "what's out there."
3. We can define exactly "what's out there" because our country has an excellent occupational information system.
4. We can rely on others to manage our lives because there is an effective linkage between vacancies and job hunters.
5. There are many professional resources available with the job hunter's best interest at heart.
6. Any job hunter's first and greatest need is to have a good resume.
7. If your career is phased out, you have to be retrained.
8. The person who gets the job is the one who knows the most about performing that job.

## New techniques

You learned planning in school, and you practice it daily. You plan for others—your boss, his boss, your spouse, your children, your family. If you're like most of us, you plan much more for others than for yourself.

The silent boxes appear to be made of steel, but they collapse before planning of a special kind. Crystal calls it the Life/Work Planning Process. It involves planning by yourself, for yourself, your life, your work.

It is both teachable and learnable like any other planning process. IEEE members report that this process has changed the way they perceive the world of work, helped them to make successful job changes and, for some, to design new jobs and life-styles to their own individual requirements.

Because of the significance of this concept, IEEE has reduced the normal one-day workshop price from \$60 to \$40. Unemployed members pay half that, and non-members receive a significant reduction as well. Please feel free to register friends and associates.

This tax-deductible course will be offered at the FTU South Orlando Resident Center, in Orlando Central Park from 8:00 to 5:00 PM on Monday December 19, 1977. If you are interested, please mail the following form to: Educational Director, IEEE Services, 445 Hoes Lane, Piscataway, N.J. 08854.

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 HOME ADDRESS \_\_\_\_\_ Non-member \$60. \_\_\_\_\_  
 \_\_\_\_\_ Student \$25. \_\_\_\_\_  
 \_\_\_\_\_ Unemployed  
 Home Phone \_\_\_\_\_ Member \$20. \_\_\_\_\_

Reserve a place for me at course 5 in Orlando

# MEETING NOTICE

## COMPUTER SOCIETY

PROGRAM FOR WEDNESDAY DECEMBER 14, 1977

- Tour:** Tour of Martin Marietta Corporation's Simulation Lab
- Speaker:** Mr. Bruce Baker  
System Manager, Simulation Lab
- Time:** Program: 5:30 P.M. Dinner: Afterwards
- Location:** Guidance Development Center  
Take I-4 to Kirkman (435), follow South past Sand Lake Road,  
follow Perimeter Road around Martin Marietta, and park at  
Guidance Development Center (GDC).

This lab is the most modern facility for the study of air born fire-control systems. The system includes a motion base, and a man-interface, which is a simulated cockpit. Since Martin Marietta is a controlled access facility, you must give your name to one of the following before December 7, 1977.

|  |                      |             |
|--|----------------------|-------------|
| <b>Reservations:</b> Dr. Patz 855-3685 | Mr. Mendorf 831-2185 | Mr. Griffin |
| or 275-2816                            | or 352-2220          | 671-2680    |
| or 275-2786                            | Dr. Healy 843-5952   | or          |
| or 646-4649                            | or 646-4491          | 352-2132    |
| or 646-4696                            |                      |             |

## FTU STUDENT CHAPTER

FTU Student Chapter is closing the Fall quarter with a talk by Mr. R. Smith, of Rockwell Internationa. Mr. Smith will speak on Space Shuttle Communications. I appreciate the assistance of the Orlando Section for their help during my term as chairman. The following IEEE student members are graduating from FTU this month: Jim Dowe; Fred L. Malfa; Frederick Cobb; Frederick Preston; William J. Selph.

The best of luck to all of us.

Fred L. Malfa  
Student Chairman

## IEEE COMPUTER SOCIETY

FALL TUTORIAL 3 DECEMBER 1977

- A) Microprocessors in the Power Industry and Industrial Process Control  
Lecturer: Mr. Cary Ringle, Con Edison.
- B) Distributed Processing and Data Communications  
Lecturers: Mr. Seymour Ratner, Citibank NY, NY  
Mr. Stuart Bell, STNC.

**Times:** 9 AM to 5 PM

**Registration:** Mr. Cary Ringle (212) 460-2395

**Cost:** IEEE members \$ 75.00  
IEEE students \$ 45.00 Nonmembers \$ 95.00



**Instrument Society of America**  
**Canaveral Section**  
**and**  
**Canaveral Section IEEE**  
**cordially invite**  
**Orlando Section of IEEE**  
**to attend**  
**Joint Meeting**  
**on**  
**December 1, 1977**  
Convention Hall atop Merritt Island Fire Department  
Merritt Island, Florida

**Topic:** Laser Direct-Fire Weapon Simulators

Dr. Brian E. Petrasko, Science and Engineering Coordinator, Academic Programs, State University System of Florida, will discuss application of lasers in direct-fire weapon simulators. Dr. Petrasko will describe design methodology in the development of laser direct-fire weapon simulator system. The discussion will include: Gunnery and Engagement training requirements • The use of lasers for simulating direct-fire weapons • One-way systems and two-way systems (retro-reflective) • Simulation fidelity in one-way systems • Atmospheric turbulence and its impact on multiple weapon engagement training • Modeling a laser atmospheric communication channel • Model verification using an instrumented laser test range • Summary - cost effecting training using lasers.

Dr. Petrasko will also briefly discuss his role as Science and Engineering Coordinator, Academic Programs, State University System of Florida.

**Speaker:** Dr. Brian E. Petrasko is the Science and Engineering Coordinator, Academic Programs, State University System of Florida. Dr. Petrasko is on leave of absence from the faculty of the Florida Technological University, Department of Electrical Engineering and Communication Sciences from 1972 - 1977.

While on the faculty of Florida Technological University, Dr. Petrasko was also engaged by the Naval Training Equipment Center, Orlando for tasks associated with the development of a laser direct-fire weapon simulator system, MILES. Dr. Petrasko served as a U.S. representative on a NATO Working Panel on Laser Direct-Fire Weapon Training Simulators in Brussels, Belgium in 1976. He is also a member of the IEEE Computer Society.

**Time:** 6:30 - 7:15 PM Hospitality Hour  
7:15 PM Dinner 8:00 PM Program

**Menu:** Roast Beef **Dinner:** \$5.00

**Reservations:** Please Call:

Nancy Smith 859-2900

**Location:** From intersection of State Road 3 (Courtenay Parkway) and Merritt Island Causeway (SR 520) continue one block south to Magnolia Avenue, turn right and continue to 270 Magnolia Avenue.

## FTU—SOUTH ORLANDO RESIDENT CENTER (SORC)

Director: Dr. Richard C. Harden, P.E.  
Telephone: (305) 855-0881

7300 Lake Ellenor Drive  
Orlando Central Park

| QTR  |     | WINTER 1977 SCHEDULE |                                      | ALL PM CLASSES   |            |
|--|-----|----------------------|--------------------------------------|------------------|------------|
| PFX  | NO. | HRS                  | COURSE TITLE                         | SORC TIME / DAY  |            |
| COLLEGE OF BUSINESS ADMINISTRATION                                   |     |                      |                                      |                  |            |
| FIN  | 301 | 5                    | Finance                              | 6-8:50T;         | 6-7:50R    |
| MGMT   | 355 | 3                    | Management                           | 6-8:50           | Thur       |
| COLLEGE OF EDUCATION   |     |                      |                                      |                  |            |
| * EDVE   | 401 | 4                    | Philosophy & Principles of Tech Educ | 6-9:50           | Mon        |
| * EDVE   | 402 | 5                    | Methods of Teaching Tech/Voc Subject | 6-9:50           | Mon        |
| * EDVE   | 421 | 4                    | Curriculum Planning for Voc. Educ.   | 6-9:50           | Mon        |
| * EDVE   | 422 | 4                    | Evaluation of Occupational Inst.     | 6-9:50           | Mon        |
| * EDVE   | 423 | 4                    | Analysis of Learning Applied to Voc  | 6-9:50           | Mon        |
| * EDVE   | 451 | 4                    | Occupational Education Facilities    | 6-9:50           | Mon        |
| * EDVE   | 602 | 4                    | Administration in Vocational Educ.   | 6-9:50           | †Tue       |
|  |     |                      |                                      | †starting Jan. 3 |            |
| COLLEGE OF HUMANITIES & FINE ARTS                                    |     |                      |                                      |                  |            |
| THA  | 310 | 4                    | History of the Motion Picture        | 6-9:50           | Tue        |
| COLLEGE OF NATURAL SCIENCES  |     |                      |                                      |                  |            |
| * MATH   | 100 | 4                    | Principles of Mathematics            | 6-9:50           | Thu        |
| * MRA  | 491 | 3                    | ST: Medical Record Update            | 9-11:50 & 1-3:50 | Alt. Sat   |
| * CONTINUING EDUCATION CLASSES                                       |     |                      |                                      |                  |            |
| COLLEGE OF SOCIAL SCIENCES   |     |                      |                                      |                  |            |
| COM  | 310 | 4                    | History of the Motion Picture        | 6-9:50           | Tue        |
| PSY  | 310 | 4                    | Abnormal Psychology                  | 6-9:50           | Wed        |
| SOC  | 311 | 4                    | Social Anthropology                  | 6-9:50           | Mon        |
| SOC  | 343 | 4                    | Community and Social Welfare         | 6-9:50           | Tue        |
| COLLEGE OF ENGINEERING   |     |                      |                                      |                  |            |
| T CEES   | 402 | 3                    | Env Engr - Chemical Foundations II   | 7-7:50           | Mon-Wed    |
|  |     |                      | Lab on Campus                        | 10 AM - 12:50 PM | Tue OR Fri |
| T CEES   | 412 | 4                    | Environmental Engr - Wastewater      | 8-9:50           | Mon-Wed    |
| T CEES   | 417 | 4                    | Environmental Health                 | 5-6:50           | Mon-Wed    |
| T CEES   | 502 | 3                    | Env Engr - Chemistry II              | 9-11:50 AM       | Sat        |
|  |     |                      | Lab on Campus                        | 7-7:50           | Mon-Wed    |
| T CEES   | 620 | 3                    | Groundwater and Seepage              | 5-5:50T;         | 5-6:50R    |
| EECS   | 531 | 3                    | Modern Control Design                | 7-7:50M;         | 7-8:50W    |
| T EECS   | 613 | 3                    | Computer System Design               | 5-5:50M          | 5-6:50W    |
| T EECS   | 653 | 3                    | Communication Theory                 | 5-5:50T;         | 5-6:50R    |
| T EECS   | 662 | 3                    | Amplifier Design                     | 7-7:50M;         | 6-7:50W    |
| T EMCS   | 572 | 3                    | Engineering Mathematical Analysis    | 5-5:50M;         | 5-6:50W    |
| T EMCS   | 630 | 3                    | Discrete Systems Simulation          | 6-7:50M;         | 7-7:50W    |
| ENGR   | 486 | 3                    | Energy and Man                       | 6-8:50           | Thurs      |
| T IEMS   | 503 | 3                    | Statistics for Engineers             | 6-7:50T;         | 7-7:50R    |
| T IEMS   | 521 | 3                    | Engr Reliability & Quality Assurance | 5-5:50T;         | 5-6:50R    |
| T IEMS   | 625 | 4                    | Operations Research II               | 7-8:50           | Tue-Thur   |
| T MEAS   | 541 | 3                    | Intermediate Dynamics                | 5-5:50M;         | 5-5:50W    |
| T MEAS   | 653 | 3                    | Advanced Engineering Instrumentation | 5-5:50T;         | 5-6:50R    |
| T MEAS   | 688 | 3                    | Radiation Heat Transfer              | 6-7:50T;         | 7-7:50R    |
| T = Lecture on TV Tape TV COURSE TIMES CAN BE ADJUSTED IN INDIVIDUAL |     |                      |                                      |                  |            |
| CASES FOR WORK OR SCHEDULE CONFLICTS                                 |     |                      |                                      |                  |            |
| REGISTRATION INFORMATION IS AVAILABLE BY CALLING THE SOUTH ORLANDO   |     |                      |                                      |                  |            |
| RESIDENT CENTER 855-0881 CLASSES BEGIN JANUARY 5, 1978               |     |                      |                                      |                  |            |

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## IEEE ENGINEERS WEEK AWARDS PROGRAM

### CALL FOR NOMINATIONS

As part of the Section meeting during National Engineer's Week in February '78, the Orlando Section will announce Engineer's-of-the-Year for all Chapters providing a nominee. From these, a Central Florida Electrical Engineer-of-the-Year will be chosen. All local Groups and Society chapters (including the Professional Activities Comm. and the FTU Student Chapter) are urged to submit nominees. Those Section members desiring to present additional nominees may nominate by petitions signed by 8 or more Orlando Section members.

### QUALIFICATIONS

The nominee must be a current member of the IEEE in good standing and may be of any grade from Student through Fellow inclusive. The nominee need not be a member of any Group or Society of the IEEE.

### FORM OR NOMINATION AND SELECTION CRITERIA

The form of the nominations is left to the groups providing the nominations. It is to be emphasized, that nominations should be in enough detail that the candidate may be fairly and completely evaluated for the Section award according to the criteria listed below. It is suggested that a minimum concise nomination should consist of a resume, activities list, and a cover letter explaining why he has been chosen as the Chapter Engineer-of-the-Year and Section Nominee. Nominations should be addressed to the Awards Committee Chairman and are due to be received no later than January 15, 1978. The Awards Committee will be pleased to answer any questions that arise.

**THE ELECTRICAL ENGINEER OF THE YEAR WILL BE SELECTED BY THE AWARDS COMMITTEE WHO WILL EVALUATE THE CANDIDATES BY THE FOLLOWING POINT SYSTEM:**

1. The quality and quantity of contributions through efforts on Research, Development, Design, Managerial, Educational and other equivalent engineering areas. (70)
2. Contributions to the IEEE. (10)
3. Publications, Patents, and associated activities. (10)
4. Memberships, Accomplishments, and Responsibilities in other technical and Professional groups and activities and in various activities of benefit to the Community and Society in general. (10)

### PRESENTATION OF CANDIDATES AND AWARDS

Each nomination entity will provide a three minute introduction of their candidate. Each Chapter nominee will receive a framed certificate as Chapter Engineer-of-the-Year. The candidate selected as Central Florida Electrical Engineer of the Year will receive a plaque. No other plaques will be presented at this meeting.

Bruce E. Mathews  
Chairman, Awards Comm.  
2111 Dyan Way  
Maitland, Florida 32751

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ORLANDO, FLORIDA

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This new 3½ digit microprocessor-based LCR meter meets requirements for laboratory, production line and quality assurance inspection measurements. Fully automatic operation means that the operator simply selects the function and the loss parameter, one of the three test frequencies, then inserts the device to be tested. The LCR meter does the rest - selects the proper range and equivalent circuit mode. This feature enables the operator to test a wide range of semiconductors, filter coils, pulse transformers, capacitors and many other devices quickly and accurately.

Called the Hewlett-Packard 4262A Digital LCR Meter, the new instrument measures capacitance from 0.01 picofarads to 19.99 millifarads, inductance from 0.01 microhenries to 1999 henries, and resistance from 1 milliohm to 19.99 megohms. D and Q (loss) are also measured; D is measured from 0.001 to 19.9 and Q from 0.05 to 1000. A deviation measurement is also provided which compares two successive measurements - - establishes the range of a trimmer capacitor for example.

Accuracy of the 4262A is typically 0.2% of reading. Measurement frequencies are 120 Hz and 10 kHz. Test signal level is 1 volt (50 millivolts may be selected in the parallel capacitance mode), there are three internal dc bias levels, and both series and parallel equivalent circuit modes are provided.

FOR FURTHER INFORMATION  
CONTACT

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Phone 859-2900

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**ORLANDO  
SECTION  
NOTES**

**FRED M. LINK**

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## CHAIRMAN'S CORNER

I hope you all had a pleasant Holiday Season. We are looking forward to an interesting 1978 in IEEE.

We have a number of meetings with the various technical societies coming up in January. Everyone seems ready to make a running start in 78.

The next Section meeting will be the Engineers' Week Banquet in February. You should make plans to attend. The annual Engineer-of-the-Year Award will be presented, as always, at that meeting. Contact Ed Griffin if you need further details.

Bill Rhoden  
Section Chairman



### "THE HISTORY AND GROWTH OF TWO-WAY RADIO FROM 1927 TO NOW"

**Dinner:** 7:30 PM (from menu)

**Program:** 8:30 PM

Reservations are required by Monday January 16, 1978 to Herbert Zwarra (339-1894), John Gilbert (849-2151), or George McClure (352-3782).

His audiences pay attention as radio pioneer Fred Link speaks from personal experience in tracing the history and growth of two-way radio. An outstanding speaker and a colorful personality, as a founder of Link Radio Mr. Link participated in the development of FM two-way mobile radio and knew many of the great personalities whose contributions are well-remembered. His illustrated talk with first-hand stories will be of interest to members, students, and guests alike.

### FUTURE PROGRAMS PLANNED BY THE VEHICULAR TECHNOLOGY CHAPTER

The National Plan for Navigation, Arthur Goldsmith, U. S. Dept. of Transportation.

The Spectrum and Land Mobile Innovation, Neal Pike, Federal Communications Commission.

(Dates and locations for these programs will be announced in future Orlando Section Notes.)

### THE FTU STUDENT CHAPTER

The FTU Student Chapter held elections for the Winter and Spring 1978 terms. The new officers are:

**Chairman:** Tom Riordan

**Secretary:** Bob Stafford

**Vice Chairman:** Susan Wymier

**Treasurer:** Pete Kleinschmidt

The first meeting of the quarter is planned for Thursday January 12, 1978.

# SOCRATES

## WINTER PARK TELEPHONE'S AUTOMATED SERVICE ORDER NETWORK

The Communications Society is sponsoring a tour and dinner meeting on  
Thursday, January 26, 1978

at the

W. P. Telephone's Corporate Headquarters Building  
850 East Altamonte Blvd. (SR 436)  
One half mile east of Lord Chumleys Pub

Speaker: Joel Swan  
Data Processing Director

**Social:** 6:00 PM

**Dinner:** 6:30 PM (Lord Chumleys Pub)

**Tour:** 7:30 PM

Reservations are required and should be made before January 25, 1978 to  
Ms. Royer at 830-3314

## REMINDER

Nominations from each group and society for Engineer-of-the-year is due on  
January 15, 1978. Please see the December issue of the ORLANDO SECTION  
NOTES for details.

B. E. MATHEWS  
Chairman, Awards Committee

## THE POWER ENGINEERING SOCIETY AND INDUSTRIAL APPLICATIONS GROUP OF THE ORLANDO SECTION ARE PLANNING A TECHNICAL MEETING

### DURING JANUARY

Particulars were not available at press time. For information please contact:

Jim Lynes 824-4674

Joe Miller 646-8236

847-9453

644-7049

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## COMPUTER ARCHITECTURE AND DATA BASE MANAGEMENT



The Computer Society is sponsoring a technical meeting and dinner on  
Wednesday, January 11, 1978  
at the

First Federal Savings and Loan Office  
SR 436, Diagonally across from Altamonte Mall

Speaker: Dr. Bruce Berra  
Professor of Engineering, Syracuse University

**Social:** 6:00 PM

**Dinner:** 6:30 PM (Irelands, 620 SR 436, Altamonte)

**Program:** 7:30 PM

In the past few years, increased emphasis has been given to the solution of data based management problems with non-sequential computer architecture. These architectures have included distributed logic devices, front end/back end organizations, associative/parallel processors and computers developed solely for the handling of data. In this talk, Dr. Berra will review the state of the art in the field and discuss some possible future directions. Dr. Berra is a distinguished visitor and is chairman of the special interest group on information retrieval of the ACM.

Reservations are required and should be called in to one of the following officers:

|                   |                      |                      |
|-------------------|----------------------|----------------------|
| Dr. Patz 855-3685 | Mr. Mendorf 831-2185 | Mr. Griffin 671-2680 |
| or 275-2816       | or 352-2220          | or 352-2132          |
| or 275-2786       | Dr. Healy 843-5952   |                      |
|                   | or 646-4491          |                      |

## AN OPTICAL FABRICATION AND TESTING WORKSHOP



AN OPTICAL FABRICATION AND TESTING WORKSHOP is being held in Orlando, Florida at the Carlton House Hotel on February 17-18, 1978. The workshop is sponsored by the Optical Society of America. The two day educational seminar will span manufacturing techniques, component testing, test instruments, optical systems, and practical techniques in the ever broadening field of optics. The 16 speakers will present their material in tutorial style to enhance learning by the attendees. Also, several nationally known companies will exhibit their equipment and capabilities in the optical sciences. A registration fee of \$70.00 (\$50.00 students) includes the lectures, exhibits, and a complete set of notes. For information contact: Neil Mohon, 3307 Balsam Drive, Winter Park, Florida, 32792, USA, 305/646-5464.

|    | MON                   | TUE             | WED                     | THUR                               | FRI                  |                   |              |
|----|-----------------------|-----------------|-------------------------|------------------------------------|----------------------|-------------------|--------------|
| 2  |                       |                 |                         |                                    | MTT PAPER DEADLINE   |                   |              |
|    |                       |                 | ← S.S. PHYSICS →        |                                    |                      |                   |              |
| 9  |                       |                 | COMP                    | FTU STUDENT CHAPTER                |                      | JAN               |              |
| 16 |                       | VTG             |                         |                                    |                      |                   |              |
| 23 |                       |                 |                         | COMM                               |                      |                   |              |
|    |                       | ← RELIABILITY → |                         |                                    |                      |                   |              |
| 30 |                       |                 |                         | COLLEGE CURRICULA IN COMP. SCIENCE |                      | FEB               |              |
|    | ← PES CONF →          |                 | ← BIO MEDICAL →         |                                    |                      |                   |              |
| 6  |                       |                 | CLEOS                   |                                    |                      |                   |              |
| 13 |                       | PSIA *          |                         |                                    | IEEE AWARD BANQUET * |                   |              |
|    | ← AES CONF →          |                 |                         |                                    | OSA WORKSHOP →       |                   |              |
| 20 |                       |                 | COMP<br>ENGR FAIR - FTU | VTG *<br>COMM                      |                      | ENGR WEEK BANQUET |              |
| 27 |                       |                 | ← POWER SYSTEMS →       |                                    |                      |                   |              |
|    |                       | ← COMPCON →     |                         |                                    |                      | MARCH             |              |
| 6  |                       |                 |                         |                                    |                      |                   |              |
| 13 |                       | PSIA            | ← SIMULATION CONF →     |                                    |                      |                   | COMP SEMINAR |
| 20 |                       |                 |                         | COMM                               |                      |                   |              |
|    |                       |                 | ← VTG CONF →            |                                    |                      |                   |              |
| 27 |                       |                 |                         | VTG *                              |                      |                   |              |
| 3  |                       |                 |                         |                                    |                      | APRIL             |              |
|    | ← COMP ARCHITECTURE → |                 |                         |                                    |                      |                   |              |
| 10 |                       |                 |                         |                                    |                      |                   |              |
|    | ← SOUTHEATCON →       |                 |                         |                                    |                      |                   |              |

\* TENTATIVE DATES

## 1977/78 IEEE EXECUTIVE COMMITTEE

## EXECUTIVE BOARD

|                    |                        | Business | Residence |
|--------------------|------------------------|----------|-----------|
| Chairman           | William H. Rhoden      | 645-3444 | 671-3469  |
| Vice Chairman      | Russell E. Theisen     | 352-3886 | 671-4139  |
| Secretary          | Dr. Ernest E. Erickson | 275-2414 | 671-5026  |
| Treasurer          | Richard McCoy          | 352-3612 | 628-4181  |
| Group Chapter Rep. | Bill Cram              | 841-9015 | 647-4123  |

## COMMITTEE CHAIRMAN

|                      |                       |          |          |
|----------------------|-----------------------|----------|----------|
| Jr. Past Chairman    | Dr. Ed McCarter       | 275-2786 | 647-0134 |
| Sr. Past Chairman    | Harold Downing        | 849-9868 | 628-0676 |
| Program Arrangements | Dick Bergen           | 425-6311 | 862-0347 |
| Membership           | Melvin Kelch          | 843-8484 | 859-1533 |
| Education Committee  | Dr. Fred Simons Jr.   | 646-4491 | 299-3857 |
| Conference Committee | George McClure        | 352-3782 | 647-5092 |
| Publicity            | David Williams        | 859-2900 | 671-4408 |
| Student Activities   | Dr. Richard C. Harden | 855-0881 | 855-5775 |
| Barbeque             | Al Levy               | 352-3914 | 843-7619 |
| Awards               | Dr. Bruce Mathews     | 275-2786 | 645-0549 |
| Student Chapter      | Tom Riordan           | 275-2786 |          |
| IEEE-FES Liason      | Ed Griffin            | 352-2132 | 671-2680 |
| Engineers' Week      |                       |          |          |
| Member-at-Large      | Homer Wilson          | 646-8230 | 855-0934 |
| Member-at-Large      | Eugene V. Dashiell    | 859-2900 | 859-2497 |
| Member-at-Large      | James Walter          | 351-9966 | 339-2071 |
| MTT-79               | Dr. James Wiltse      | 352-4255 | 876-2561 |
| Publications         | Leo A. Mallette       | 275-2548 |          |

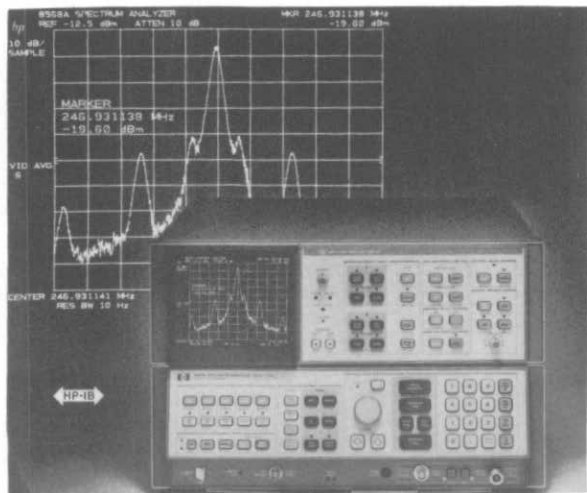
## GROUP CHAPTER CHAIRMEN

|          |                      |          |          |
|----------|----------------------|----------|----------|
| AES      |                      |          |          |
| COMM     | Richard Kolsby       | 830-3479 | 645-2422 |
| COMP     | Dr. Ben Patz         | 646-4649 | 855-3685 |
| MTT      |                      |          |          |
| PS & IAG | Dr. Herb Towle       | 275-2610 | 671-0265 |
| PAC      | Dr. Dave Flinchbaugh |          | 859-4855 |
| VTG      | John D. Gilbert      | 849-2213 | 859-5492 |

Published monthly by the Orlando Section of IEEE, except during the months of July and August. Inquiries regarding advertising and/or announcements should be forwarded (before the tenth of the previous month) to Mr. Leo A. Mallette, Editor, Route 8 Box 781, Orlando, Florida 32807.

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**Spectral Purity:** noise sidebands >80 dB below peak of CW signal at frequency offsets  $\geq 20 \times$  resolution bandwidth ( $\leq 1$  kHz resolution BW)  
**Accuracy:** internal frequency standard aging  $< 1 \times 10^{-9}$  parts/day ( $2 \times 10^{-7}$  /year) of calibration; center frequency  $\pm$  (2% of frequency span + frequency standard error  $\times$  center frequency + 100 Hz)

#### AMPLITUDE

- Range:** -137 dBm to + 30 dBm  
**Scaling:** dBm, dBmV, dB $\mu$ V with 10,5,2 or 1 dB per division; or linear voltage scale  
**Accuracy:**  $\pm 2.5$  dB with 90 dB displayed range

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# ORLANDO SECTION NOTES

VOLUME XII, NUMBER 6

FEBRUARY, 1978



IEEE AWARDS BANQUET  
LORD CHUMLEY'S PUB  
FRIDAY FEBRUARY 17th

## NATIONAL ENGINEERS WEEK



19 - 25

FEBRUARY

ENGINEERS WEEK BANQUET  
CONTEMPORARY HOTEL WDW  
SATURDAY FEBRUARY 25th



FOR DETAILS SEE PAGE 6

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## CHAIRMAN'S CORNER

February is the month in which the Engineers' Week activities are held. The first activity of the month is our own IEEE Awards Banquet on Friday, February 17, at Lord Chumley's Pub in Altamonte Springs. The annual Engineer-of-the-Year Award will be presented at that meeting. Further details elsewhere in this issue.



The next event of Engineers' Week will be the Engineering Fair at the Engineering Building at FTU. This will run all day both February 22 and 23. Be sure to go out and support our student chapter.

The final event of Engineers' Week will be the Florida Engineering Society's Engineers' Week Banquet. It will be February 26. Our Engineer-of-the-Year will be a candidate for the FES award. Attend and support our candidate.

Bill Rhoden  
Section Chairman

## ENGINEERS FAIR; PART OF ENGINEERS WEEK 78

Engineering students at Florida Technological University will observe National Engineers Week by sponsoring the Seventh Annual Engineers Fair to be held Wednesday and Thursday, February 22nd and 23rd.

The Fair will center around student competition in areas such as; individual display, individual project, group project, and technical society display. In addition there are plans for a college-wide student paper competition.

The highlight of the fair will be the three contests, which are open to everyone. These contests are: I) **STRUCTURES**, building a span with toothpicks, and a minimum weight, II) **EGG DROP**, building a container to drop an egg from the top of the engineering building, and III) **WATER TRANSFER**, transfer 8 ounces of water from the top of the engineering building to a cola bottle on the sidewalk below.

Organizations and local companies will be represented. If you have not been contacted and would like to set up a display from your company, contact Jodi King at 275-2156.

The Fair will be held in the engineering building at FTU from Noon to 9 PM on the 22nd and 10 AM to 4 PM on the 23rd. This gala event will be open to the public at no cost or obligation. **PLAN TO ATTEND.**



# MANAGEMENT OF SOFTWARE DEVELOPMENT

The Computer Society is sponsoring a technical meeting on  
Wednesday February 22, 1978  
at the

Orlando Public Library  
10 N. Orlando Rosiland Ave., Downtown Orlando

Speaker: **Dr. Noah Prywes**  
Professor of Computer Science, U. of Penn.

**Time:** 7:00 PM

Dr. Prywes is the developer of the MULTI-LIST data base management system which he employed in the Navy aviation inventory control system. The lecture is based largely on Dr. Prywes' experience with management of large scale systems. Reservations are required, and should be called in to one of the following:

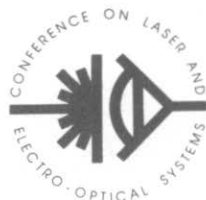
Dr. Patz 855-3685  
or 275-2816  
or 275-2786

Mr. Mendorf 831-2185  
or 352-3184  
Dr. Healy 843-5952  
or 646-4491

Mr. Griffin 671-2680  
or 352-2132

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## AN OPTICAL FABRICATION AND TESTING WORKSHOP



AN OPTICAL FABRICATION AND TESTING WORKSHOP is being held in Orlando, Florida at the Carlton House Hotel on February 17-18, 1978. The workshop is sponsored by the Optical Society of America. The two day educational seminar will span manufacturing techniques, component testing, test instruments, optical systems, and practical techniques in the ever broadening field of optics. The 16 speakers will present their material in tutorial style to enhance learning by the attendees. Also, several nationally known companies will exhibit their equipment and capabilities in the optical sciences. A registration fee of \$70.00 (\$50.00 students) includes the lectures, exhibits, and a complete set of notes. For information contact: Neil Mohon, 3307 Balsam Drive, Winter Park, Florida, 32792, USA, 305/646-5464.



# MINI/MICRO SECOND ANNUAL COMPUTER SYMPOSIUM AND FAIR

Will be held in the Engineering Building at Florida Technological University on Saturday, March 18, 1978. At press time there were over 25 exhibitors, and 15 speakers on topics ranging from IBM small computer systems, Motorola 6800 family components, Tektronix computer graphics, and 32 bit machines. Detailed information on the exhibitors and titles of the talks, will be available shortly after these NOTES reach you, i.e. the first week in February. If you do not receive a program in the mail, either wait for the March issue of the ORLANDO SECTION NOTES or contact one of the following:

Dr. Ben Patz (305) 275-2816, 2786

Dr. Chris Bauer (305) 275-2236

Dr. Al Lang (305) 275-2341

Mr. Pete Arnett (305) 275-2703

Mr. Leo Mallette (305) 275-2786

## NEW DEVELOPMENT IN SMALL MOTOR DESIGN

The Power Engineering Society and Industrial Applications Group  
will sponsor a meeting on  
Tuesday March 14, 1978  
at the  
Essex Building  
3101 Maguire Blvd. Suite 101  
Time: 7:30 PM



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**Bill Rhoden**

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## IEEE ANNUAL AWARDS BANQUET

The fourteenth annual awards banquet of the Orlando Section of the Institute of Electrical and Electronics Engineers will be held the seventeenth of this month to honor a few of our outstanding contributors to the field of electrical engineering from the central Florida area. Plan to attend, socialize, and enjoy the superb meals that Lord Chumleys Pub is famous for.

**Date:** Friday, February 17, 1978

**Location:** Lord Chumley's Pub  
Half mile east of the Altamonte Mall

**Times:** Social: 6:30 PM  
Dinner: 7:30 PM  
Program: 8:30 PM

**Price:** \$7.50 includes tax and gratuity

**Entree:** Ten ounce sirloin strip steak

**Tickets:** Are required in advance, and are available from members of the executive committee (page 7) before Friday, February 10, 1978. The dinner will be held in the banquet room, enter through the door on west side of the Pub, and take the elevator to the banquet room.

**Speaker:** [REDACTED]

JULIAN RENFROW OF MARTIN MARIETTA  
TALK: ENGINEERING LIABILITY

## VEHICULAR TECHNOLOGY GROUP

**VEHICULAR TECHNOLOGY GROUP.** The scheduled meeting for the month of February has been cancelled due to the speaker being unable to adjust his schedule; however, a meeting is scheduled for March 30, 1978.

## 1977/78 IEEE EXECUTIVE COMMITTEE

## EXECUTIVE BOARD

|                    |                        | Business | Residence |
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| Chairman           | William H. Rhoden      | 645-3444 | 671-3469  |
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| COMP     | Dr. Ben Patz         | 646-4649 | 855-3685 |
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| PAC      | Dr. Dave Flinchbaugh |          | 859-4855 |
| VTG      | John D. Gilbert      | 849-2213 | 859-5492 |

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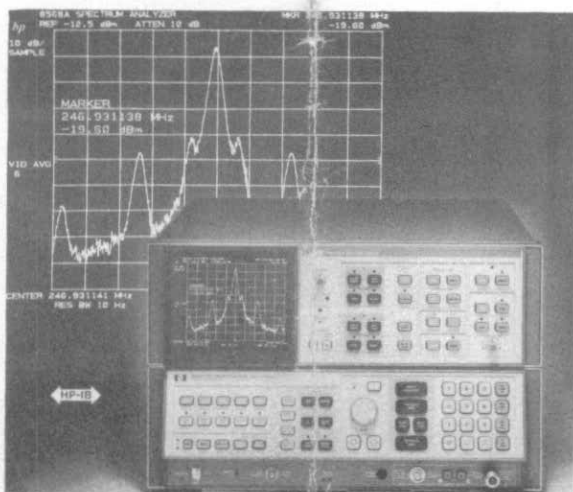
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### FREQUENCY

- Range:** 100 Hz to 1500 MHz  
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**Spectral Purity:** noise sidebands >80 dB below peak of CW signal at frequency offsets  $\geq 20 \times$  resolution bandwidth ( $\leq 1$  kHz resolution BW)  
**Accuracy:** internal frequency standard aging  $< 1 \times 10^{-9}$  parts/day ( $2 \times 10^{-7}$  /year) of calibration; center frequency  $\pm$  (2% of frequency span + frequency standard error  $\times$  center frequency + 100 Hz)

### AMPLITUDE

- Range:** -137 dBm to + 30 dBm  
**Scaling:** dBm, dBmV, dB $\mu$ V with 10,5,2 or 1 dB per division; or linear voltage scale  
**Accuracy:**  $\pm 2.5$  dB with 90 dB displayed range

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**ORLANDO  
SECTION  
NOTES**

**VOLUME XII, NUMBER 7**

**MARCH 1978**

**MINI / MICRO  
SECOND ANNUAL  
COMPUTER SYMPOSIUM AND FAIR**

Florida Technological University  
Engineering Building  
Orlando, Florida

**SATURDAY, MARCH 18, 1978**

**JOINTLY SPONSORED BY:**

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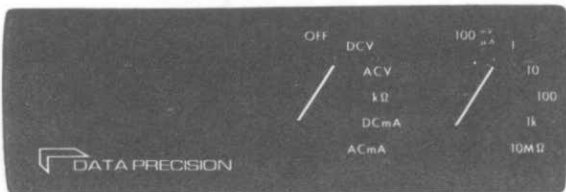
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**EDITOR'S NOTE**

The Computer Society is sponsoring their second annual mini/microcomputer symposium the 18th of this month. This special symposium issue of the ORLANDO SECTION NOTES is made possible by the advertising seen on these pages. A great deal of work went into this issue, and my thanks are extended to Mr. Steve Barnoske for the many telephone calls he made, and to the staff of Seminole House Printers. The symposium program is this month's centerfold, and the exhibitors are listed on page six. The deadline for advance registration is March 11th, so turn to page 11 and fill out the application. An omission in the last issue; I would like to thank Ed Griffin for the design and construction of the cover. Ever had a yearn to try your hand at editing a newsletter? Give me a call, and you could give me a hand on one or two issues.

Leo A. Mallette  
Publications

**CHAIRMAN'S CORNER****CHAIRMAN'S CORNER**

I am writing this prior to the Engineers' Week Banquet. I would like to congratulate all the nominees, in advance. It is a great honor to be nominated by one of the technical societies. Each one nominated is a winner. I will wait until next month to congratulate the Engineer-of-the-Year.

Please be sure to attend and support the Microprocessor Seminar being held at FTU on March 18. Dr. Ben Patz and his committee have an excellent line-up of speakers and exhibits. There should be something going on to interest every EE and engineering manager in this area.

Bill Rhoden  
Section Chairman



ANNOUNCING...



**Times:** Dinner: 6:30 PM  
Program: 7:45 PM

**Reservations:** Mrs. Rhea Royer, prior to March 15, 1978.

Mr. De la Roche will discuss the historical and theoretical basis for revenue requirements in public utility economics. Principles of development of rates and tariffs will be explored. He will also discuss some different rate and tariff offerings. Time permitting, toll separations will be discussed along with engineering valuations and depreciation.

## REVENUE REQUIREMENTS AND THE PUBLIC UTILITY

The Communications Society  
is sponsoring  
a technical meeting on

Thursday March 16, 1978  
at the

Winter Park Telephone Co. Inc.  
Altamonte Springs

Speaker: **Mr. Jim De la Roche**  
Special Studies Administrator

## NEW DEVELOPMENT IN SMALL MOTOR DESIGN

The Power Engineering Society and Industrial Applications Group  
will sponsor a meeting on

Tuesday March 14, 1978

at the

Essex Building

3101 Maguire Blvd. Suite 101

**Time: 7:30 PM**



**28th IEEE**  
**VEHICULAR**  
**TECHNOLOGY**  
**CONFERENCE**

DENVER, COLORADO  
MAR. 22 through 24, 1978



The VT Group is sponsoring their 28th annual conference at the REGENCY, 3900 Elati, Denver, Colorado 80216 (303-433-6131). There will be a micro-wave mobile symposium, and a micro-processor seminar held during the symposium. Plan to attend.



# SEE PRO-LOG AT THE FM ASSOCIATES BOOTH AT THE COMPUTER SYMPOSIUM AND FAIR AT F.T.U. MARCH 18TH

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# PRODUCT DISPLAYS

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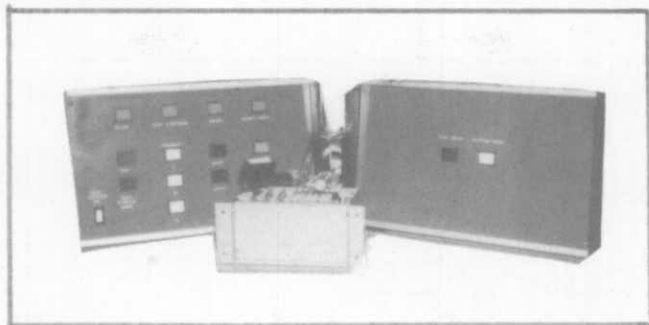
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CONFERENCE

| TIME          | SECTION I<br>ENGR. BLDG. ROOM 359   |   |  |
|---------------|---|---|--|
| 8:00 - 9:00   | REGISTRATION  |   |  |
| 9:00 - 9:30   | WELCOME AND CONFERENCE<br>DR. BEN PATZ, JR.   |   |  |
| 9:45 - 10:45  | IBM's Small Computer Systems Family: IBM  | Automated on the Joint System Engineering<br>Mini's in Mr. Don Hu   |  |
| 10:45 - 11:00 | CONFERENCE  |   |  |
| 11:15 - 12:15 | Electronic Funds Transfer at Point of Sale:<br>Mr. Warren Wubker - Pres. of Transaction<br>Data Systems/Microcomputers for<br>Business Applications: Economy Computing                | Microcomputers<br>Mr. Tom Switching<br>Microprocessors<br>Series    |  |
| 12:30 - 1:15  | <p><i>Delta Comm.</i></p> <p>The Business Applications of the Micro Nova<br/>Computer: Mr. Bill Moore - Sales Engineer<br/><i>Dave Peters</i> Col-In-Co., Inc. <i>VADIC Corp.</i></p> | Distribution<br>Electronics   |  |
| 1:30 - 2:30   | Recent Developments in Computer Graphics<br>Hardware: Tektronix/Intellegent Terminals<br>for Mini/Micor Systems: Mr. Fred Stone -<br>Engineer Hewlett Packard                         | Implementation<br>Costs: Mr. Stone<br>Engineer<br>for Aero<br>Space |  |
| 2:45 - 3:15   | Software Test Planning for Real Time<br>Systems: Ms. Barbara J. Pemberton -<br>Senior Engineer - Martin Marietta  | Mini  |  |
| 3:15 - 3:30   | CONFERENCE  |   |  |
| 3:45 - 4:45   | PROM, Technologies and Program-<br>ming: Dick Woods - VP Data I/O   |   |  |

**MICRO  
ANNUAL  
SYMPOSIUM AND FAIR  
EXHIBIT SCHEDULE**

| SECTION II<br>ENGR. BLDG. ROOM 360   | SECTION III<br>ENGINEERING AUDITORIUM  |
|--|--|
| <p>SECTION II – ENGINEERING BUILDING LOBBY<br/>EXHIBITS OPEN 8:00 - 5:30</p>   |  |
| <p>SECTION III OVERVIEW – ENGINEERING AUDITORIUM<br/>FLORIDA TECHNOLOGICAL UNIVERSITY</p>  |  |
| <p>Test Equipment for the Processors<br/>Services Interior Intrusion Detection<br/>:Mr. Robert Martin - Director of<br/>Engineering - Fourdee/Div. of Emerson<br/>Electric Co.<br/>The Ready Room: Try Before You Fly:<br/>Norman - Engineering Psychologist -<br/>Human Factors Laboratory NTEC</p> | <p>Recent Developments in the<br/>6800 Series Motorola</p>   |
| <p><b>FREE BREAK AND EXHIBITS</b></p>  |  |
| <p>Computer Applications in Telephony:<br/>McKinney - Manager: International<br/>Log Systems for Stromberg Carlson/<br/>Processors at Harris: Mr. Larry Hand -<br/>Engineer - Harris International</p>   | <p>Microcomputers for Animation Control:<br/>Mr. Paul Swanitz - President of AACTS<br/>Engineering/Logical Games and Puzzles<br/>on Computers: Mr. David Digby - Computer<br/>Architect at Martin Marietta</p> |
| <p>Word Processors: Mr. Forrest Summer<br/>Engineer - Computer Laboratory<br/>NTEC</p>   | <p>The VAX: 11/780 - A32 Bit Minicomputer:<br/>Digital Equipment Corporation</p>   |
| <p>Using a Microcomputer for Minimum<br/>Robert McNamara - Senior Design<br/>Engineer/Martin Marietta/A Microcomputer<br/>Space Applications: Dr. E. H. Lowe -<br/>Staff Engineer - Martin Marietta</p>  | <p>Real Time Computer Generated<br/>Imagery: General Electric - Daytona</p>  |
| <p>Computer Network Systems:<br/>Mr. Tom Weathered <i>Fred Stone</i><br/>Engineer/Hewlett Packard</p>  | <p>Modern Software Development Techniques<br/>for Microcomputer Based Systems:<br/>Mr. Jim Welty - Engineer - Tektronix</p>  |
| <p><b>FREE BREAK AND EXHIBITS</b></p>  |  |
|  | <p>Software Development of Microcomputer<br/>Based Systems on a Minicomputer:<br/>Mr. Charles Codling - Regional Systems<br/>Manager - Perkin Elmer Data Systems</p>   |

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| Mr. Leo Mallette | phone (305) 275-2548       |

**CONFERENCE FEE SCHEDULE**

**Check Appropriate Status  
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|  | Pre-<br>registration | Registration<br>at Conference |
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| Member of a Sponsor Society .....          | \$15                 | ... \$20                      |
| Non-Member .....                           | \$20                 | ... \$25                      |
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| Student Non-Member* .....                  | \$ 8                 | ... \$10                      |

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## COURSE TITLE

## COLLEGE OF BUSINESS ADMINISTRATION

MGMT 350 3 Business Concepts 6 - 8:50 Thurs

## COLLEGE OF EDUCATION

\* EDPE 591 4 ST: Physical Fitness & Leisure Activities 5 - 8:50 Tues  
 \* EDTA 480 3 Overview of Education 6 - 8:50 Tues  
 \* EDVE 401 4 Philosophy & Principles of Technical Educ. 6 - 9:50 Mon  
 \* EDVE 402 5 Methods of Teaching Technical/Vocational Ed. 6 - 9:50 Mon  
 \* EDVE 421 4 Curriculum Planning for Vocational Education 6 - 9:50 Mon  
 \* EDVE 422 4 Evaluation of Occupational Instruction 6 - 9:50 Mon  
 \* EDVE 423 4 Analysis of Learning as Applied to Voc/Educ. 6 - 9:50 Mon  
 \* EDVE 461 4 Instructional Analysis in Indus/Tech Educ. 6 - 9:50 Mon  
 \* EDVE 601 4 Philosophical Foundations of Vocational Educ. 6 - 9:50 Tues  
 \* EDVE 603 4 Supervision in Vocational Education 6 - 9:50 Mon  
 \* EDVE 604 4 Cooperative Programs in Vocational Education 6 - 9:50 Wed

## COLLEGE OF HUMANITIES &amp; FINE ARTS

HIST 425 4 European Diplomatic History; 1914 - Present 6 - 9:50 Wed  
 \* HUM 201 4 Landmarks in Western Humanities 6 - 9:50 Thurs  
 \* OFF-CAMPUS CREDIT CLASSES

## COLLEGE OF NATURAL SCIENCES

STAT 301 4 Fundamentals of Probability & Statistics 6 - 7:50 Mon-Wed

## COLLEGE OF SOCIAL SCIENCES

SOC 331 4 Social Problems 6 - 9:50 Mon  
 SOC 346 4 Criminology 6 - 9:50 Tues

## COLLEGE OF ENGINEERING

T CEES 591 3 ST: Civil Environmental Engineering Model 5-5:50 M; 5-6:50 W  
 T CEES 614 3 Water & Wastewater Systems Design 8-8:50 M; 8-9:50 W  
 T CEES 615 3 Atmospheric Pollution Control 6-7:50 M; 7-7:50 W  
 T CEES 618 4 Solid Wastes Management 5 - 6:50 Tues-Thurs  
 T EECS 535 3 Electric Power Generation & Distribution 5-6:50 M; 5-5:50 W  
 T EECS 621 3 Digital Computer Systems 7-7:50 T; 7-8:50 R  
 T EECS 632 3 Optimal Control Systems 8-9:50 M; 8-8:50 W  
 T EECS 655 3 Communication Systems 5-5:50 M; 5-6:50 W  
 T EECS 664 3 Operational Amplifiers 5-5:50 T; 5-6:50 R  
 T EMCS 574 3 Analytical Methods in Engineering 6-7:50 T; 7-7:50 R  
 T EMCS 631 3 Continuous System Simulation 5-5:50 T; 5-6:50 R  
 T IEMS 532 4 Management Information Systems I 7 - 8:50 Mon-Wed  
 T IEMS 610 3 Project Engineering 5-5:50 M; 5-6:50 W  
 T IEMS 629 4 Production & Inventory Control 8 - 9:50 Tues-Thurs  
 T MEAS 591 4 ST: Solar Systems 8 - 9:50 Tues-Thurs  
 T MEAS 638 3 Environmental Thermodynamics 7-8:50 M; 7-7:50 W  
 T MEAS 671 4 Gas Dynamics 7 - 8:50 Mon-Wed

T = Lecture on TV Tape

TV COURSE TIMES CAN BE ADJUSTED IN INDIVIDUAL CASES  
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 CLASSES BEGIN MARCH 27, 1978

## ORLANDO SECTION NOTES RATE SCHEDULE

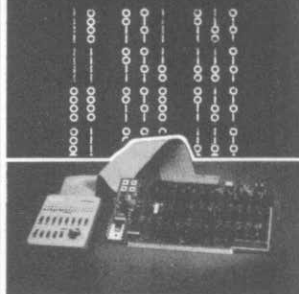
ORLANDO SECTION NOTES; published monthly except July and August to inform IEEE members, and selected other interested parties, of meetings, tours, tutorials, and other events of interest in the Orlando area. Eight to sixteen pages are published the first of each month by the Orlando Section of the Institute of Electrical and Electronics Engineers.

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### How does this grab you?

The Model 150 plugs into one slot of an S-100 computer and "grabs" fifty-six major signals. Fifty-six. That's more troubleshooting and training visibility than any other logic analyzer can offer you. Need to look at signals external to the bus? No problem. The Model 150 even incorporates a fully-independent 8-channel analyzer identical to the popular Model 100A. (See *Popular Electronics*, Feb. 1977.)

A remote-control plug-in pod provides fingertip control over all triggering, data collection and display functions. So plug the Model 150 into your computer — you may never unplug it again.

Complete kit and manual ..... \$369.00\*  
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## 1977/78 IEEE EXECUTIVE COMMITTEE

## EXECUTIVE BOARD

|                    |                        | Business | Residence |
|--------------------|------------------------|----------|-----------|
| Chairman           | William H. Rhoden      | 645-3444 | 671-3469  |
| Vice Chairman      | Russell E. Theisen     | 352-3886 | 671-4139  |
| Secretary          | Dr. Ernest E. Erickson | 275-2414 | 671-5026  |
| Treasurer          | Richard McCoy          | 352-3612 | 628-4181  |
| Group Chapter Rep. | Bill Cram              |          | 647-4123  |

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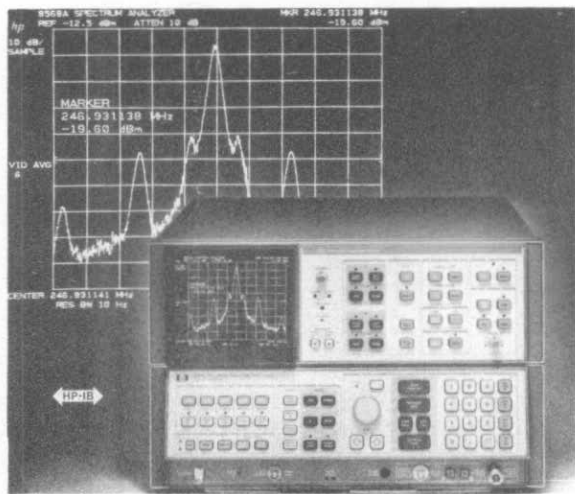
## GROUP CHAPTER CHAIRMEN

|          |                      |          |          |
|----------|----------------------|----------|----------|
| AES      |                      |          |          |
| COMM     | Richard Kolsby       | 830-3479 | 645-2422 |
| COMP     | Dr. Ben Patz         | 646-4649 | 855-3685 |
| MTT      |                      |          |          |
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| PAC      | Dr. Dave Flinchbaugh |          | 859-4855 |
| VTG      | John D. Gilbert      | 849-2213 | 859-5492 |

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## HP 8568A SPECTRUM ANALYZER

### PERFORMANCE SUMMARY

#### FREQUENCY

- Range:** 100 Hz to 1500 MHz  
**Resolution:** 10 Hz to 3 MHz bandwidths in 1,3,10 sequence  
**Spectral Purity:** noise sidebands >80 dB below peak of CW signal at frequency offsets  $\geq 20 \times$  resolution bandwidth ( $\leq 1$  kHz resolution BW)  
**Accuracy:** internal frequency standard aging  $< 1 \times 10^{-9}$  parts/day ( $2 \times 10^{-7}$  /year) of calibration; center frequency  $\pm$  (2% of frequency span + frequency standard error  $\times$  center frequency + 100 Hz)

#### AMPLITUDE

- Range:** -137 dBm to + 30 dBm  
**Scaling:** dBm, dBmV, dB $\mu$ V with 10,5,2 or 1 dB per division; or linear voltage scale  
**Accuracy:**  $\pm 2.5$  dB with 90 dB displayed range

FOR FURTHER INFORMATION  
CONTACT

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**MINI / MICRO  
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Engineering Building  
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**SATURDAY, MARCH 18, 1978**

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**DATA PROCESSING MANAGEMENT ASSOCIATION**  
Central Florida Chapter

**AMERICAN COMPUTING MACHINERY**  
Central Florida Chapter



### Who should attend this conference?

ANSWER: Industrial Engineers, Electrical Engineers, Data Processing People, Managers, Teachers, Students, Radio Amateurs, Computer Hobbyists, and anybody else interested in this new and rapidly expanding field of computer technology.

### For further information contact:

|                  |                            |
|------------------|----------------------------|
| Dr. Ben Patz     | phone (305) 275-2816, 2786 |
| Dr. Chris Bauer  | phone (305) 275-2236       |
| Mr. Pete Arnett  | phone (305) 275-2703       |
| Dr. Al Lang      | phone (305) 275-2341       |
| Mr. Leo Mallette | phone (305) 275-2548       |

### CONFERENCE FEE SCHEDULE

Check Appropriate Status  
(Lunch included in all Fees)

|  | Pre-<br>registration | Registration<br>at Conference |
|--|----------------------|-------------------------------|
| Member of a Sponsor Society .....          | \$15                 | \$20                          |
| Non-Member .....                           | \$20                 | \$25                          |
| Student Member of a Sponsor Society* ..... | \$ 6                 | \$ 8                          |
| Student Non-Member* .....                  | \$ 8                 | \$10                          |

\* Fee covers Luncheon Expenses with Free Conference Admission.



### LUNCH WILL CONSIST OF:

Relish  
Jellied fruit mold  
Salads  
Chicken and/or beef entrees  
Peas, mushroom, rice, breads, plus cake  
Coffee and iced tea will also be served

**REGISTRATION WILL BE  
LIMITED TO 500.**

**COMPUTER SYMPOSIUM**

**B. W. Patz  
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Technical Society \_\_\_\_\_

Street \_\_\_\_\_ Phone \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

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Name \_\_\_\_\_

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Street \_\_\_\_\_ Phone \_\_\_\_\_

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**MINI / MIC  
SECOND ANNUAL  
COMPUTER SYMPOSIUM  
CONFERENCE SO**

| TIME          | SECTION I<br>ENGR. BLDG. ROOM 359   |  | E |
|---------------|---|--|---|
| 8:00 - 9:00   | REGISTRATION  |  |   |
| 9:00 - 9:30   | WELCOME AND CONFERENCE<br>DR. BEN PATZ, F   |  |   |
| 9:45 - 10:45  | IBM's Small Computer Systems Family:IBM   | Automatic<br>on the Joint<br>System<br>Engine<br><br>Mini's in the<br>Mr. Don N<br>Hur |   |
| 10:45 - 11:00 | CONFERENCE  |  |   |
| 11:15 - 12:15 | Electronic Funds Transfer at Point of Sale:<br>Mr. Warren Wubker - Pres. of Transaction<br>Data Systems/Microcomputers for<br>Business Applications:Economy Computing | Micro<br>Mr. Tom<br>Switching<br>Micropro<br>Senid                                     |   |
| 12:30 - 1:15  | The Business Applications of the Micro Nova<br>Computer:Mr. Bill Moore - Sales Engineer<br>Col-In-Co., Inc.   | Distribut<br>Electroni   |   |
| 1:30 - 2:30   | Recent Developments in Computer Graphics<br>Hardware:Tektronix/Intellegent Terminals<br>for Mini/Micor Systems:Mr. Fred Stone -<br>Engineer Hewlett Packard           | Implemen<br>Costs:Mr<br>Engineer -<br>for Aeros<br>Sta                                 |   |
| 2:45 - 3:15   | Software Test Planning for Real Time<br>Systems: Ms. Barbara J. Pemberton -<br>Senior Engineer - Martin Marietta  | Min  |   |
| 3:15 - 3:30   | CONFERENCE  |  |   |
| 3:45 - 4:45   |   |  |   |

**O  
JAL  
M AND FAIR  
EDULE**

| SECTION II<br>INGR. BLDG. ROOM 360  | SECTION III<br>ENGINEERING AUDITORIUM  |
|---|--|
| <p>— ENGINEERING BUILDING LOBBY<br/>HIBITS OPEN 8:00 - 5:30</p>   |  |
| <p>ICE OVERVIEW — ENGINEERING AUDITORIUM<br/>ORIDA TECHNOLOGICAL UNIVERSITY</p>   |  |
| <p>Test Equipment for the Processors<br/>Services Interior Intrusion Detection<br/>Mr. Robert Martin - Director of<br/>ing - Fourdee/Div. of Emerson<br/>Electric Co.<br/>e Ready Room: Try Before You Fly:<br/>orman - Engineering Psychologist -<br/>an Factors Laboratory NTEC</p> | <p>Recent Developments in the<br/>6800 Series Motorola</p>   |
| <p>EE BREAK AND EXHIBITS</p>  |  |
| <p>puter Applications in Telephony:<br/>McKinney - Manager: International<br/>Systems for Stromberg Carlson/<br/>essors at Harris: Mr. Larry Hand -<br/>Engineer - Harris International</p>   | <p>Microcomputers for Animation Control:<br/>Mr. Paul Swanitz - President of AACTS<br/>Engineering/Logical Games and Puzzels<br/>on Computers: Mr. David Digby - Computer<br/>Architect at Martin Marietta</p> |
| <p>Processors: Mr. Forrest Summer<br/>Engineer - Computer Laboratory<br/>NTEC</p>   | <p>The VAX: 11/780 - A32 Bit Minicomputer:<br/>Digital Equipment Corporation</p>   |
| <p>ng a Microcomputer for Minimum<br/>Robert McNamara - Senior Design<br/>Martin Marietta/A Microcomputer<br/>ace Applications: Dr. E. H. Lowe -<br/>f Engineer - Martin Marietta</p>   | <p>Real Time Computer Generated<br/>Imagery: General Electric - Daytona</p>  |
| <p>Computer Network Systems:<br/>Mr. Tom Weatherred<br/>Engineer/Hewlett Packard</p>  | <p>Modern Software Development Techniques<br/>for Microcomputer Based Systems:<br/>Mr. Jim Welty - Engineer - Tektronix</p>  |
| <p>EE BREAK AND EXHIBITS</p>  |  |
|   | <p>Software Development of Microcomputer<br/>Based Systems on a Minicomputer:<br/>Mr. Charles Codling - Regional Systems<br/>Manager - Perkin Elmer Data Systems</p>   |

# PRODUCT DISPLAYS

Classrooms on 1st, 2nd, and 3rd floors of the Engineering Building.

9 AM - 5 PM

Latest state-of-the-art computer and peripheral equipment will be presented by:

ALTAIR COMPUTER CENTER  
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Complimentary coffee  
and doughnuts will be  
served for attendees.







**DR. HERBERT TOWLE**  
**EE OF THE YEAR**

SEE PAGE 6



**ORLANDO**  
**SECTION**  
**NOTES**

VOLUME XII  
NUMBER 8  
APRIL 1978



**MR. NEAL PIKE**  
**WARC — 79**

SEE PAGE 9

# LOW COST LOGIC STATE ANALYZER



KIT-\$229.00

ASSEMBLED-\$295.00

The **Model 100A** has the major features of more costly logic state analyzers. Operates with virtually any scope and logic family; captures and displays sixteen 8-bit words before or after a pre-defined trigger word; formats data in HEX or OCTAL groupings; offers single or repeating truth tables; provides trigger output for waveform analysis.

For more advanced applications, add the mating **Model 10 Trigger Expander** to the Model 100A. This integrated package offers 24 bits, qualifiers, program paging and loop analysis capabilities. Model 10 prices: KIT-\$229.00; ASSEMBLED-\$295.00; Model 100A/10 mounting baseplate-\$9.95.

*Each unit includes a 100-page User's Manual.*



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## CHAIRMAN'S CORNER

Congratulations to Dr. Herb Towle on his selection as the Orlando Section Engineer-of-the-Year.

All of the candidates were highly qualified and all deserved the recognition they received. Thanks to Dick Bergen for arranging the fine banquet and to George McClure for securing our very interesting speaker.

The nominating committee candidate for Section Offices for 1978-79 are as follows:

CHAIRMAN

Russell E. Theisen

VICE CHAIRMAN

Dr. Ernest E. Erickson

SECRETARY

George F. McClure

TREASURER

Dr. Benjamin Patz

The nominating committee was as follows:

Joe Pullara Dr. Jim Wiltse John Tracy

Contact me for details immediately if you would like to submit a petition candidate for any or all of these offices. My telephone number is 645-3444.

Bill Rhoden

### MEMBERSHIP BY Mel Kelch

Total membership at year end (12-31-) for the Orlando Section was 654. Breakdown as follows:

|                 |     |         |
|-----------------|-----|---------|
| Students:       | 42  | (6.4%)  |
| Associates:     | 31  | (4.7%)  |
| Members:        | 475 | (72.6%) |
| Senior Members: | 94  | (14.3%) |
| Fellows:        | 12  | (1.8%)  |

Twenty-two new members joined our section during December. Let's keep them joining!!! If membership information, or literature is needed, please contact Mel Kelch (see inside back cover for numbers).

### CHANGE OF ADDRESS

Report a change of address to IEEE Coding Department, 445 Hoes Lane, Piscataway, N.J. 08854. Remember to include your membership number and ZIP code number.

# MEETING NOTICE COMPUTER SOCIETY

## MICRO PROCESSOR IMPLICATIONS FOR DEFENSE SYSTEMS

The Computer Society is sponsoring a technical meeting on

Wednesday April 19, 1978  
at the

Orlando Public Library  
10 N. Rosalind

**Speaker: Dr. Walter Beam**

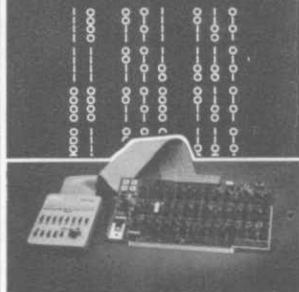
Deputy for Advance Technology in the  
Office of the Assistant Secretary of the  
Air Force (Research and Development)

**Time: 7:00 PM**

Microprocessors are making major inroads into systems functions formerly served by analog or hard wired logic circuits.

Applying them to military systems introduces some new problems and challenges to assure reliability and configuration control. Dr. Beam will address these issues with particular emphasis on software requirements.

# Grab your bus...



...with our Model 150  
S-100 bus  
Logic Analyzer.

- PLUGS INTO ANY S-100 SLOT
- MONITORS ADDRESS, DATA, STATUS, INTERRUPTS AND CONTROL SIGNALS
- CAN ANALYZE EXTERNAL EQUIPMENT
- OPERATES WITH ANY OSCILLOSCOPE

### How does this grab you?

The Model 150 plugs into one slot of an S-100 computer and "grabs" fifty-six major signals. Fifty-six. That's more troubleshooting and training visibility than any other logic analyzer can offer you. Need to look at signals external to the bus? No problem. The Model 150 even incorporates a fully-independent 8-channel analyzer identical to the popular Model 100A. (See *Popular Electronics*, Feb. 1977.)

A remote-control plug-in pod provides fingertip control over all triggering, data collection and display functions. So plug the Model 150 into your computer — you may never unplug it again.

Complete kit and manual ..... \$369.00\*  
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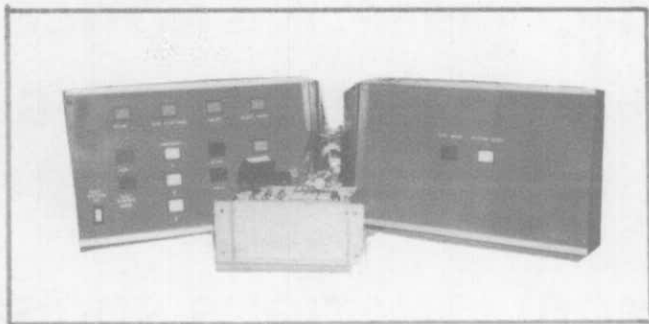
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# JOINT MEETING NOTICE

## VEHICULAR TECHNOLOGY GROUP AND COMMUNICATIONS SOCIETY

- Date:** Thursday, April 17, 1978  
**Location:** House of Beef - Hilton Inn West  
3200 West Colonial Drive  
**Time:** 6:30 - Attitude Adjustment  
7:00 - Dinner (order from Menu)  
8:00 - Program  
**Program:** "WARC-79 Implications to Land Mobile Radio - A  
Continuing Saga"



## LOVE A

For kids 8 to 80, their relatives and friends—our new IEEE T-shirt is colorful, humorous, eye-catching. Blue and green on white cotton/polyester fabric. Available in his or her versions. Order one or more today.

A discussion of U.S. preparations for the World Administrative Radio Conference to be held next year (WARC-79), with emphasis on efforts to assure adequate spectrum for land mobile radio (mobile telephone and dispatch services).

**Speaker:** Neal Pike

Mr. Pike is currently Acting Supervisory Engineer with the Industrial and Public Safety Rules Division of the Safety and Special Radio Services Bureau, Federal Communications Commission. He has previously been associated with Arthur D. Hall, Inc., MCI Telecommunications, Inc., Bell Telephone Laboratories, and MIT Lincoln Laboratories.

**Reservations:** By Monday, April 24, to:

Mrs. Rhea Royer 830-3314

or

John Gilbert 849-2151

### COMPUTER SOCIETY slate for 1978-79

|                           |                 |                 |
|---------------------------|-----------------|-----------------|
| Chairman                  | Don Mendorf     | Martin Marietta |
| Vice Chairman, Program    | Joe Massett     | Martin Marietta |
| Secretary                 | Dr. Gerry White | NTEC            |
| Vice Chairman, Membership | Mannie Connell  | Martin Marietta |

N. T. E. C.

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Quantity Ordered: \_\_\_\_\_

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| ← COMP ARCHITECTURE →     |                       |                   |                           |              |
| 10                        | ← BIO SIGMA 78 →      |                   | ← PATTERN RECOGNITION →   |              |
| ← SOUTHEASTCON →          |                       |                   |                           |              |
| 17                        | ← NAECON →            |                   | ← COMP →                  |              |
| ← ENERGY 78 →             |                       |                   | ← TEXTILE →               |              |
| 24                        | ← COMPONENTS →        |                   | VTG<br>COMM               |              |
| <b>MAY</b>                |                       |                   |                           |              |
| 1                         |                       |                   |                           |              |
| 8                         | PS&IAG                | ← SOFTWARE ENGR → |                           |              |
| ← OFFSHORE TECHNOLOGY →   |                       |                   |                           |              |
| 15                        | COMM(?)               | COMP              | ← ANTENNA - PROPAGATION → |              |
| ← PLASMA SCIENCE →        |                       |                   |                           |              |
| 22                        | ← ELECTRO 78 →        |                   | VTG(?)                    | L.B.         |
| 29                        |                       |                   |                           |              |
| <b>JUNE</b>               |                       |                   |                           |              |
| 5                         | ← NCC →               |                   |                           |              |
| ← PHOTO VOLTAIC →         |                       |                   |                           |              |
| 12                        | ← POWER SOURCES →     |                   |                           |              |
| ← MICRO-INSTRUMENTATION → |                       |                   |                           |              |
| 19                        | ← E-M COMPATIBILITY → |                   | VTG(?)                    |              |
| ← DESIGN AUTOMATION →     |                       | COMM(?)           | COMP                      |              |
| 26                        | ← MICROWAVE SYMP →    |                   |                           |              |

Check page 6 of spectrum, or current issue of notes for details.

**DR. HERBERT C. TOWLE, P.E.  
AWARD WINNER**

The Orlando Section annual awards banquet in February celebrated national Engineers Week by honoring several of its members for outstanding contributions to the profession, and to IEEE. The highest award went to Dr. Herbert C. Towle as he was named "Central Florida Electrical Engineer of the Year". Dr. Towle, Professor of Engineering at Florida Technological University, was nominated by the Power Engineering and Industrial Engineering Societies for his contributions to the electrical industry and his PE&IAS activities. Dr. Towle was also honored at the annual FES Engineers Week banquet. Other group awards for Engineer of the Year were:

Mr. Don Mendorf; Computer Society

Mr. Melvin Kelch; Vehicular Technology

Dr. Benjamin W. Patz; FTU Student Chapter

FTU Outstanding Student Awards:

Mr. Thomas J. Riordan; Outstanding Senior Student

Mr. Francis D. Adams; Outstanding Graduate Student.

Dr. B. E. Mathews  
AWARDS CHAIRMAN



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**CURRENT DEVELOPMENTS IN IEEE**

The Canaveral section of IEEE is sponsoring a technical meeting on  
Wednesday April 19, 1978  
at the

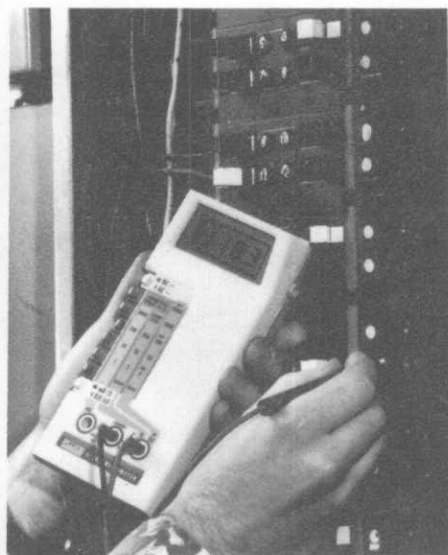
Top of the Cape

Cocoa Beach — 1980 N. Atlantic Avenue

Speaker: **Mr. Irwin Feerst**

Reservations should be phoned-in by noon April 18 to Dr. Horst Poehler  
(1-867-3192), Mr. John Kassak (1-867-4400), or Mr. Wold Newman (1 867-4730).

Dinner - 6:30 PM    Talk - 8:00 PM



## THE LITTLE DMM WITH BIG OWNER BENEFITS

### Measures

**DC, AC Voltage**  
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**Resistance**  
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### Features

**True Portability**  
**3-way Overload Protection**  
**Easy-to-replace Batteries**  
**LCD Indicators**

**8020A**  
**\$169**

Designed for the widest possible range of applications, the 8020A offers every one of the important functions and features in demand today by DMM users, and more. Measurement performance is fully specified and clearly stated for every parameter, and conservative Fluke design means you get instrument specifications you can depend on. Low cost of ownership, worldwide Fluke service and a complete range of measurement accessories make the 8020A ideal for use by servicemen, engineers, technicians and hobbyists.

## 1977/78 IEEE EXECUTIVE COMMITTEE

## EXECUTIVE BOARD

|                    |                        | Business | Residence |
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| Chairman           | William H. Rhoden      | 645-3444 | 671-3469  |
| Vice Chairman      | Russell E. Theisen     | 352-3886 | 671-4139  |
| Secretary          | Dr. Ernest E. Erickson | 275-2414 | 671-5026  |
| Treasurer          | Richard McCoy          | 352-3612 | 628-4181  |
| Group Chapter Rep. | Bill Cram              |          | 647-4123  |

## COMMITTEE CHAIRMAN

|                      |                       |          |          |
|----------------------|-----------------------|----------|----------|
| Jr. Past Chairman    | Dr. Ed McCarter       | 275-2786 | 647-0134 |
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| Program Arrangements | Dick Bergen           | 425-6311 | 862-0347 |
| Membership           | Melvin Kelch          | 843-8484 | 859-1533 |
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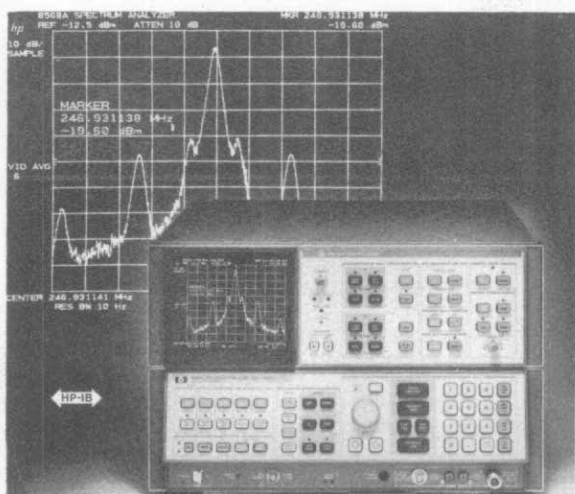
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| VTG      | John D. Gilbert      | 849-2213 | 859-5492 |

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## HP 8568A SPECTRUM ANALYZER

PERFORMANCE SUMMARY

### FREQUENCY

- Range:** 100 Hz to 1500 MHz  
**Resolution:** 10 Hz to 3 MHz bandwidths in 1,3,10 sequence  
**Spectral Purity:** noise sidebands >80 dB below peak of CW signal at frequency offsets  $\geq 20 \times$  resolution bandwidth ( $\leq 1$  kHz resolution BW)  
**Accuracy:** internal frequency standard aging  $< 1 \times 10^{-9}$  parts/day ( $2 \times 10^{-7}$  /year) of calibration; center frequency  $\pm$  (2% of frequency span + frequency standard error  $\times$  center frequency + 100 Hz)

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**Accuracy:**  $\pm 2.5$  dB with 90 dB displayed range

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Orlando, Florida 32809  
Phone 859-2900





# ORLANDO SECTION NOTES

VOLUME XII, NUMBER 9

MAY 1978



## WINTER PARK TOLL CENTER Communication Society Tour THURSDAY MAY 25, 1978

SEE PAGE FOUR

PUBLISHED BY ORLANDO SECTION  
INSTITUTE OF  
ELECTRICAL AND ELECTRONICS ENGINEERS

# INSTALLATION BANQUET

June 2, 1978

## FRIDAY

**TIME:** 6:30 p.m. Cocktails (dutch)  
7:30 p.m. Dinner  
8:30 p.m. Program

**LOCATION:** Imperial House  
129 South Orlando Avenue  
Winter Park, Florida

**DINNER:** Prime Rib  
\$9.00 per person

**PROGRAM:** Installation of Officers  
Presentation of "Man-of-the-Year"

## SPEAKERS

Dr. Jerry J. Suran  
General Electric Company  
Syracuse, New York

Vice President-IEEE  
Education Committee Chairman

"Recent Developments in Professional  
Activities/Education"

Mr. Hans C. Cherney  
IBM Corporation  
Poughkeepsie, New York

U.S. Activities Board - PAC  
Task Force Leader

"Professional Activities 78:  
Challenges and Accomplishments"

**TICKETS:** May be obtained from any executive committee member.

## CHAIRMAN'S CORNER

There were no petition candidates submitted for any of the Section Offices for 1978-79. Therefore, the chairman of the Election Committee (Eugene V. Dashiell) cast a unanimous vote for the Nominating Committee slate, as stipulated in the Section By-Laws. The Officers for 1978-79 are as follows:



|               |                        |
|---------------|------------------------|
| CHAIRMAN      | Russell E. Theisen     |
| VICE CHAIRMAN | Dr. Ernest E. Erickson |
| SECRETARY     | George F. McClure      |
| TREASURER     | Dr. Benjamin Patz      |

These new Officers will be installed at our Annual Banquet, which will be held on Friday, June 2, 1978 at the Imperial House. Further details are elsewhere in this issue.

## NUCLEAR POWER GENERATION

The Power Engineering and Industrial Applications Society is sponsoring a technical meeting on

Tuesday May 9, 1978  
at the

Essex Building

3101 Maguire Blvd. (Behind Gold Triangle)

**SPEAKER:** Mr. W. M. Leaders  
Technical assistant to the president of  
Uranium Recovery Corporation.

**Time:** Program - 7:30 PM

If you wish to be placed on the exclusive PE&IAS mailing list, contact Jim Lynes at 824-4674(B) or 1-847-9453(H).

The slate of officers for the POWER ENGINEERING AND INDUSTRIAL APPLICATIONS SOCIETY are as follows for 1978-79:

|                |                                  |
|----------------|----------------------------------|
| Chairman:      | Jim Lynes - Walt Disney World    |
| Vice Chairman: | Joe Miller - Florida Power Corp. |
| Secretary:     | Geoffrey Dick - Gould Inc.       |

# WINTER PARK TOLL CENTER

## FIVE YEARS OF GROWTH

The Communication Society is sponsoring a tour on  
Thursday, May 25, 1978  
at the  
Toll Center  
500 N. New York Ave. (corner of Swoope)

**Times:**   **Social:**   **6:00 at the Beef and Bottle**  
**Dinner:**   **6:30 [Beef and Bottle]**  
**Tour:**       **7:45**

Reservations are required and should be called into Mrs. Royer, 830-3314 on or before May 24, 1978

# SLATE OF OFFICERS COMMUNICATIONS SOCIETY

The slate of officers for the COMMUNICATIONS SOCIETY for 1978-79 are as follows:

**Chairman:**       Howard Griffin of Southern Bell  
**Vice Chairman:** Chuck Friel of Winter Park Telephone  
**Secretary:**     Joe Budziak of Stromberg Carlson

# IEEE COMPUTER SOCIETY

The COMPUTER SOCIETY has not confirmed their speaker as of the publication date, a special Computer Society mailing will follow.

# KENTUCKY STATEWIDE EMERGENCY COMMUNICATION SYSTEM

The Vehicular Technology Group is sponsoring a technical meeting on:

Thursday May 25, 1978

at the

House of Beef  
3200 W. Colonial

**Speaker:** Mr. Macdonald J. Wiggins

**Social:** 6:30

**Dinner:** 7:00 [from menu]

**Program:** 8:00

Reservations are required and should be called into one of the following before May 22, 1978.

John Gilbert 859-5492 — George McClure 352-3782 or 647-5092



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**\$169**

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## THE LITTLE DMM WITH BIG OWNER BENEFITS

### Measures

DC, AC Voltage  
DC, AC Current  
Resistance  
Conductance

### Features

True Portability  
3-way Overload Protection  
Easy-to-replace Batteries  
LCD Indicators

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305-896-4881**

## SPRING MEETING OPTICAL SOCIETY OF AMERICA

The **spring meeting** of the Optical Society of America will be held on May 6, 1978 at the University of Florida, Gainesville. The meeting will begin at 10:00 AM in Bless Auditorium, Williamson Hall. The invited speaker for the meeting is Professor Dudley Williams. He has worked on mass spectroscopy, microwave spectroscopy, nuclear magnetic resonance phenomena, and infrared spectroscopy, which continues to be his major interest. He has made quantitative studies of gasses in planetary atmospheres and is presently dealing with the determination of optical constants for aerosols which are present in the atmospheres of planets. Dr. Williams is Regents' Distinguished Professor of Physics at Kansas State University and is President-Elect of national O.S.A. This meeting should prove interesting to many EE's in the Orlando area.



Honored guests at the annual Orlando section of IEEE Awards Banquet. From left to right: Tom Riordan, Don Mendorf, Herbert Towle, Frank Adams, Ben Patz, and Mel Kelch. For details, check page 9 of the April issue of the ORLANDO SECTION NOTES.

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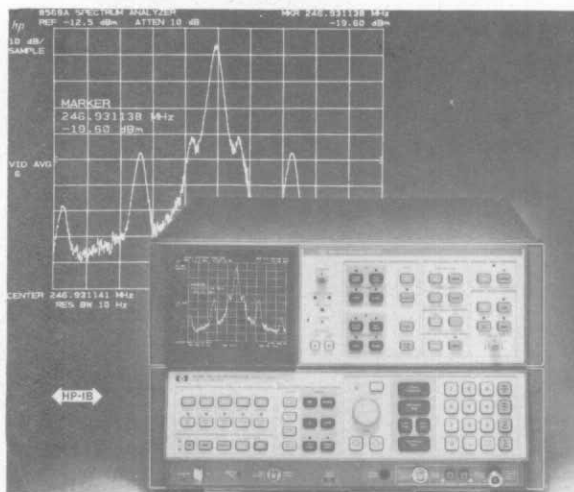
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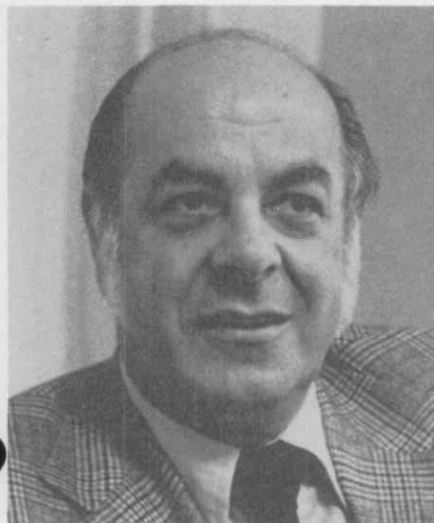
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HANS C. CHERNEY

Hans C. Cherney is employed in the personnel function of the IBM Corporation at its Poughkeepsie, New York, facility. He has contributed to the development of numerous programs involving manpower and government relations, both with IEEE and with other professional organizations. Mr. Cherney currently serves the IEEE's United States Activities Board as Special Advisor for Governmental Affairs, having served as Vice Chairman of that Board in 1976. Mr. Cherney's other affiliations include membership on the Engineering Manpower Commission of the Engineers Joint Council, the AFIPS Committee on Statistical Research and various committees of the National Research Council of the National Academy of Sciences. He has served as a member and assistant to the Chairman of the National Academy of Engineering Committee on Engineering Manpower Policy.



JEROME J. SURAN

Jerry obtained his BSEE degree from Columbia University in 1949. In 1976 he was awarded the degree of Doctor of Engineering, honoris causa, from Syracuse University for his pioneering work in solid-state technology and for the development of the implantable heart pacemaker. He has been active in the development of solid-state devices and circuits and in the management of the Laboratory operations. He is co-author of two books, has published 40 papers and holds 18 patents. He was a non-resident instructor of MIT from 1959 to 1963 and is an adjunct professor at Syracuse University. He was appointed to the Advisory Board of the Syracuse University Institute for Energy Research for 1978. He is currently Vice President of Educational Activities with the IEEE. He was active on a committee of the National Academy of Science, is on the accreditation committee of the ECPD and is a professional engineer in the State of New York.

**DON'T FORGET INSTALLATION BANQUET  
SEE MAY ISSUE OF SECTION NOTES  
JUNE 2, 1978**

---

### CHAIRMANS CORNER

I would like to take this opportunity, in my final month as Section Chairman, to thank all of the members of the Section Executive Committee who have made this a successful year for the IEEE in Orlando. I hope you will all continue to support Russ Theisen throughout the coming year. I know that I will do all I can to help him have an outstanding term as Chairman.

Please attend the Annual Banquet on June 2nd at the Imperial House. We have two very outstanding speakers in Jerry Suran and Hans Cherney. They are traveling a long distance to be with us and deserve our support.

Thanks again for making it a wonderful year. See you at the banquet.

Bill Rhoden  
Chairman

FTU - SOUTH ORLANDO RESIDENT CENTER (SORC)

Director: Dr. Richard C. Harden, P.E.  
 Telephone: (305) 855-0881

7300 Lake Ellenor Drive  
 Orlando Central Park

SUMMER 1978 SCHEDULE

| PFX                                | NO  | QTR<br>HRS | COURSE TITLE                                    | ALL PM CLASSES<br>SORC TIME / DAY |
|------------------------------------|-----|------------|---|-----------------------------------|
| COLLEGE OF BUSINESS ADMINISTRATION |     |            |   |                                   |
| MGMT                               | 301 | 3          | Management & Organization Behavior              | 6 - 9 Tue                         |
| COLLEGE OF EDUCATION               |     |            |   |                                   |
| * EDTA                             | 312 | 4          | Classroom Management & Learning                 | 6 - 10 Wed                        |
| * EDVE                             | 391 | 4          | ST: Vocational Education Teaching Skills        | 6 - 10 Mon                        |
| * EDVE                             | 401 | 4          | Philosophy & Principles of Technical Education  | 6 - 9 Mon                         |
| * EDVE                             | 402 | 5          | Methods of Teaching Technical/Vocational Subj.  | 6 - 10 Mon                        |
| * EDVE                             | 421 | 4          | Curriculum Planning for Vocational Education    | 6 - 9 Mon                         |
| * EDVE                             | 422 | 4          | Evaluation of Occupational Instruction          | 6 - 9 Mon                         |
| * EDVE                             | 423 | 4          | Analysis of Learning as Applied to Voc/Educ     | 6 - 9 Mon                         |
| * EDVE                             | 462 | 4          | Classroom Management in Occupational Education  | 6 - 9 Tue                         |
| * EDVE                             | 511 | 4          | School/Community Relations for Vocational Educ. | 6 - 9 Mon                         |
| COLLEGE OF HUMANITIES & FINE ARTS  |     |            |   |                                   |
| * ENG                              | 103 | 3          | Exploring Literature Through Writing            | 5 - 8 Thur                        |
| * OFF-CAMPUS CREDIT COURSES        |     |            |   |                                   |
| COLLEGE OF ENGINEERING             |     |            |   |                                   |
| T CEES                             | 519 | 4          | Hydraulic Engineering                           | 6 - 8 Tue-Thur                    |
| T EECS                             | 591 | 3          | ST: Fiber Optics                                | 5-5:50Mon; 5-6:50Wed              |
| T EECS                             | 612 | 3          | Synthesis of Electric Filters                   | 5 - 6 Tue                         |
|                                    |     |            |   | 5 - 7 Thur                        |
| T EECS                             | 641 | 3          | Electromagnetic Fields                          | 5 - 7 Tue-Thur                    |
| T EMCS                             | 573 | 3          | Analytical Methods in Engineering               | 5-5:50Mon; 5-6:50Wed              |
| T IEMS                             | 620 | 3          | Queueing Systems                                | 5-5:50Mon; 5-6:50Wed              |
| T MEAS                             | 523 | 4          | Acoustics                                       | 5 - 6:50 Tue-Thur                 |
| T MEAS                             | 591 | 3          | ST: Simulation Techniques in Fluid Mechanics    | 5 - 7 Mon-Wed                     |

T = Lecture on TV Tape

TV COURSE TIMES CAN BE ADJUSTED IN INDIVIDUAL CASES  
 FOR WORK OR SCHEDULE CONFLICTS  
 REGISTRATION INFORMATION IS AVAILABLE BY CALLING THE  
 SOUTH ORLANDO RESIDENT CENTER 855-0881

CLASSES BEGIN JUNE 19, 1978

# CHAIRMAN ELECT'S CORNER

As your Section Chairman elect for the 1978-79 term, I am inspired by your note of approval for the Section elected officers. I speak for all the elected members Executive Board when I say "Thank You" for your vote of confidence. With the excellent people we have this year I feel we will be able to accomplish a great deal and to continue and expand the outstanding tasks undertaken by the Orlando Section last year. I offer my vote of thanks to Bill Rhoden (outgoing Chairman) for his outstanding job, and who has been promoted to Junior Past Chairman, where he will be providing advice and council to the Section. The Section has started early in carrying out the objectives of IEEE. We are being addressed by two National Representatives of IEEE: Hans Cherney, Vice Chairman of the United States Activities Board (USAB), and Jerry Suran, Vice President of Educational Activities and candidate for President of IEEE (1979). Both of these men are deeply involved in furthering the ideal of the Institute of Electrical and Electronics Engineers. The Section has invited Irwin Feerst, the petition candidate for president of IEEE to address the Orlando Section membership on July 7, 1978. It is our hope that by bringing both candidates to you, you will be afforded the opportunity to "Ask the president to be" your questions and thereby become personally knowledgeable of your next presidents way of thinking.

Russ Theisen

Section Chairman Elect



## THE LITTLE DMM WITH BIG OWNER BENEFITS

### Measures

- DC, AC Voltage
- DC, AC Current
- Resistance
- Conductance

### Features

- True Portability
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- LCD Indicators

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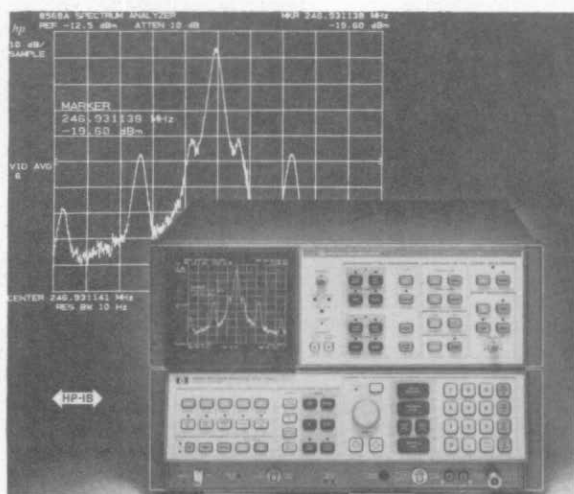
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