

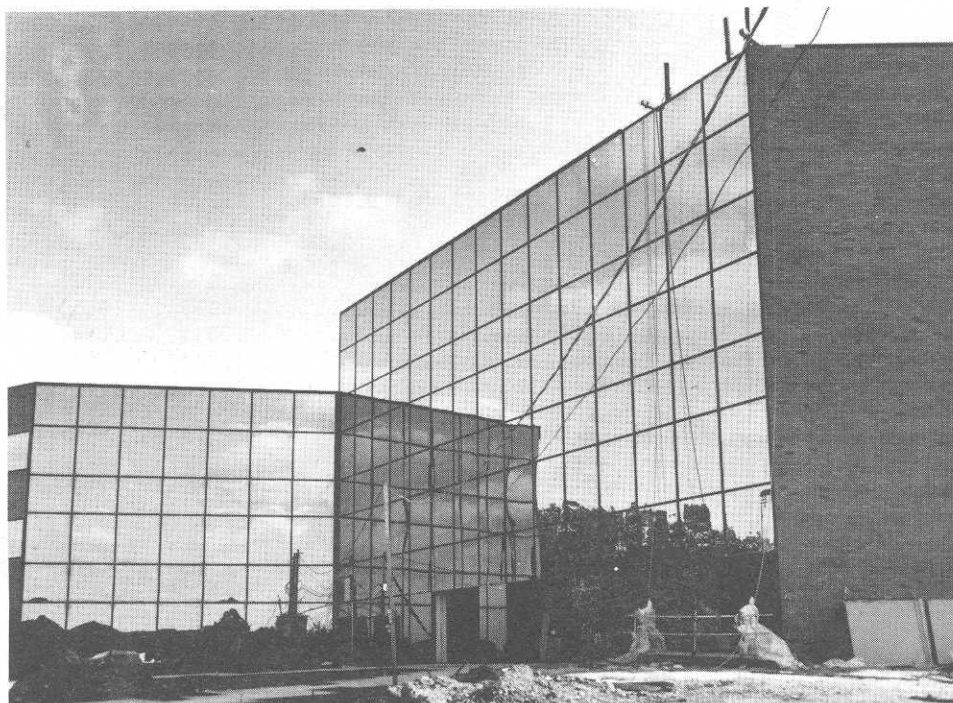
MELPARTICULARS

Volume 3, Number 5

E-Systems, Melpar Division

October 1982

SECOND PHASE OF FAIRFAX FACILITY...



as of September's end.

December is rapidly approaching and so is the scheduled opening of E-2, the second building at the Melpar Division's Fairfax facility. The four-story addition will provide approximately 60,000 square feet of additional space. Included on the first floor of the new facility are a full-service employee cafeteria which will offer hot entrees as well as sandwiches; stock and supply rooms, a receiving/shipping area and loading dock; Personnel offices; a dispensary, and Security offices. The second, third and fourth floors of the new building are slated for offices with

a multiple-use conference room located on the fourth floor.

The third building of the complex, E-3, is now in the planning stage. It is targeted for phased occupancy beginning in October 1983 with final occupancy during the first quarter of 1984. It will feature a lower level and three floors and contain approximately 100,000 square feet.

When complete, Melpar's Fairfax facility will house 215,000 square feet and bring the total space for the Division to over a half a million square feet.

MIS INSTALLS FLEX IN SUPPORT OF DORADO

In support of a current DORADO related effort, the MIS Directorate recently installed a program called FLEX. FLEX is the name of Life Cycle Cost model which uses the estimated cost of low-level components and the time-phased recognition of maintenance and inflation to determine the Life Cycle Cost of the entire project. By simulating different design, material, reliability, and maintenance costs, FLEX enables the user to develop a

series of different total Life Cycle Costs. The data then enables the user to analyze performance-cost tradeoffs and select the design most supportive of the user's goals.

Only one portion of FLEX, the Operational and Support portion, was required for this exercise. To install the system, MIS members had to convert the Life Cycle Cost model, designed to run in a larger and more powerful

FLEX Cont. on page 4

TALBOT S. HUFF NAMED TO TASK FORCE BY GOVERNOR ROBB

Vice President and General Manager Talbot S. Huff was selected by Virginia Governor Charles S. Robb to serve on a newly created task force on science and technology. The task force includes academicians, elected officials and executives from highly technical industries.

The group, established by Robb through an executive order, is designed to attract new industry to the state and to develop education programs to support future-oriented industries.

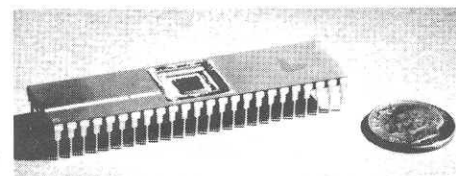
LARGE-SCALE IC REDUCES SYSTEM SIZE AND COST

Melpar's first large-scale integrated circuit is here. The Pulse Code Modulation Decoder, or PCMD, developed by the Ground Systems Department, is currently being installed in one of our major systems. The PCMD is a programmable device that recovers either audio or digital data from a digital downlink bus. Unlike hybrid devices that Melpar has manufactured for many years, the PCMD is a semi-custom gate array manufactured through a subcontractor. The gate array has over 4000 transistors on a 0.2-inch square "chip".

The PCMD was developed to reduce the physical size, power, weight and cost of the data recovery equipment in some of Melpar's major systems. The large amount of data recovered by these systems would require many printed circuit boards resulting in increased costs and lower system reliability. The PCMD is housed in a single 48-pin integrated circuit package as shown in the accompanying photograph. This device replaces a printed circuit board having approximately forty-six integrated circuits.

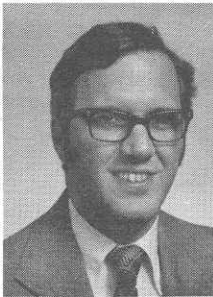
Engineers in the Ground Systems

PCMD Cont. on page 5



Size of PCMD emphasized by dime

Melpar as I see it...



During the past few years, Melpar management has taken an increased interest in education, not only because of the needs of Melpar's employees, but also because of its position in the Northern Virginia community.

Three years ago a George Washington University graduate program in Electrical Engineering and Computer Science was initiated at Melpar where the facility became the center for the off-campus program supported by a Northern Virginia consortium of industries. Working with many of these companies, Melpar also took the lead in the establishment of an Industrial Liaison Program. This program provides avenues for high technology companies to work with the University in providing support for expanding research, thereby enhancing the reputation of the University.

At George Mason University we have helped in the establishment of programs in the high technology fields of computer science and electrical engineering. We have combined our efforts with those of area companies to attract and support the caliber of professors necessary to teach a first-rate technical program.

While our efforts have been primarily related to graduate and undergraduate education, we are also aware of the need to strengthen the science and math curriculums in the area's junior and senior high schools. Our interaction has focused on the guidance counselors in surrounding schools. Melpar has hosted visits from several groups of counselors to familiarize them with the future employment needs of technical companies in the area, as well as the careers available to engineers and scientists at Melpar.

Over the next few years, companies will be expanding their roles of assessing the schools to develop curriculums that will meet the changing needs of the 21st century. In the coming years, Melpar will continue to encourage the Division's involvement in numerous community affairs. We regard this as being part of our responsibility to the community in which many of our employees and customers live.

Talbot S. Huff

MELPAR DISPLAYS E-130 RPV AT AFA EXHIBITION



Richard Tallman of Advanced Programs talks with USAF Lt. Col. Brian Watson at the Air Force Association Exhibition held at the Sheraton Washington Hotel in September.

Security Spotlight

Many of us are not assigned a private secretary, so when we need a typist to transform our scrawl into readable text, we sometimes go to a secretary outside of our group, who is willing to take on the added task. We leave the draft and return to our desk, deeply grateful that this urgent project will soon be completed. *But wait!* What is the nature of the material? Is it classified? At what level? Is it compartmented or otherwise restricted as to who may have access? Is the typist who is working on the paper cleared to the classification level and have current access? If the material is classified or compartmented, is it allowed in the area where the typing is being done?

Questions such as these must be resolved before release is made. Remember, it is the responsibility of the author to determine the classification of the material and to insure that it is handled only by those authorized to do so. If in doubt, check with the Security Office.

MELPAR'S GW PROGRAM GETS HIGHEST REGISTRATION TO DATE

The George Washington University Department of Electrical Engineering and Computer Science graduate program, hosted by the Melpar Division of E-Systems, has had its most successful registration since the start of the program in 1979.

There were 104 course registrations in seven course offerings. Melpar accounted for 43 of the class registrations with other Northern Virginia industry personnel making up the remaining 61 class registrations. Course offerings this semester include CSci 159, Programming and Data Structures; CSci 213, Discrete Structures in Computing; CSci 216, Information Retrieval Systems; EE 204, Stochastic Signals and Noise; EE 208, Digital Image Processing; EE 244, Communication Theory II; and EE 277, Satellite Communications Systems. The most popular course this semester among E-Teamers was EE 204 which had 22 registrations, 13 from Melpar.

For more information about the program, consult the GW Bulletin Board or call Ed Wright of GWU's Division of Continuing Education at 676-7024.

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E-Systems, Melpar Division

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Norma Hayden, Bob Hood, Charlie Jones, Karen Jones,
Susan Love, Hal Marine, Bill Moeller, Jerry Perry,
Mike Smith, Mary White

HOLIDAY SCHEDULE For Remainder of 1982

THANKSGIVING
Thurs., Nov. 25 and Fri., Nov. 26
WINTER HOLIDAY WEEK
Fri., Dec. 24 thru Fri., Dec. 31

VIDEO PRODUCTION GROUP OFF TO GOOD START



Video production group, Susan Love, Bob Flanagan and Bob Brett

A Video Production Group has been organized in Technical Services under Henry Mauldin. This group plans to promote Melpar within its potential client community, as well as train and/or brief employees on a broad spectrum of topics, including security, company procedures and product development.

Robert Flanagan, Manager of Operations Analysis in Systems Engineering, began to assemble the fledgling video organization at Melpar about two years ago. Melpar had purchased a VHS half-inch basic video camera and recorder for general purpose use. During this period several successful tapes were produced, which helped to convince management of the value of creating a full-time, fully equipped video unit within the Division.

With that goal in mind, more sophisticated equipment was purchased, all in the three-quarter-inch U-Matic format so favored in industry and professional video production. This included a new color video camera, several monitors, editing player and recorders, and a microprocessor-operated edit controller. Additional equipment, including a half-inch recorder and a special effects generator unit for split-screen video, and character generation are planned for the near future.

Located on the ground level of the Falls Church facility, the Video Group office includes a studio area, tape editing facilities, and the video tape library.

Susan Love and Bob Brett of the video staff have been busy preparing and editing tapes. A computer training course for the Software Products Group has just been completed, while

COMPUTER AIDS DRAFTING

The Drafting Department of Technical Services recently acquired a new Computer Aided Design (CAD) System, a Gerber PC 800. This computerized system will be used to transform Printed Circuit (PC) board design layouts into final artwork masters for PC board manufacture. In addition to the PC master patterns, future possible uses for the CAD System include schematics and mechanical drawings. The acquisition of this new equipment will result in a more cost effective, better quality end product.

The CAD System assures the accuracy of the end product by replacing a manual method with a computer-controlled one. With the CAD System, the PC design goes from a sketch or previous PC artwork directly through the design station or through the digitizer where the layout is electronically "drawn" into a computer format for storage and processing. Once the PC artwork is in a computer format, the circuitry, solder-mask, marking and drill tape for each board are produced automatically with a minimal effort.

Prior to the acquisition of the new system, Drafting created master patterns for PC boards in a 2-to-1 format which was then photographically reduced.

One of the major advantages of the computer format is that the component mounting holes are set on a grid in multiples of 10 mils so that the PC boards can be automatically drilled. The cost of automatic drilling is about one tenth that of manual drilling. The image is created in a 1-to-1 format and the photographic reduction step is omitted, eliminating the environmental factors that impair the dimensional stability of the PC master pattern and increasing the accuracy of front-to-back registration.

Initially six E-Teamers were trained to operate the CAD System: Cary Crocker, John Hood and Jim Vogel of the PC shop; Jim Wood, a mechanical drafter; Doug Snow, a senior engineering technician, working with wire lists; and John Trops, an electrical drafter. There is currently a double shift work schedule on the system with a third shift being considered.



Doug Snow, Jim Wood, John Trops, John Hood, Cary Crocker and Jim Vogel (left to right) listen to the instructor from Gerber Scientific.

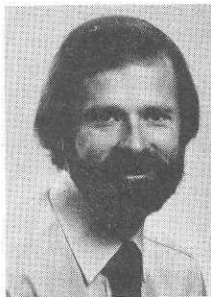
action footage of RPV test flights on location was taped as an engineering evaluation tool.

Melpar's new Video Production Group expects to be increasingly busy as each production effort acts as an impetus for promoting the use of the Video Group's full potential. Plans are underway to produce a demonstration tape of laboratory model equip-

ment to be shown by members of the Advanced Development Department at trade shows and customer presentations. A training package of some of Melpar's major systems/products is being prepared for Field Service personnel at our overseas sites.

In speaking of the new Video Production Group, Bob Flanagan said, "It's off and running."

HOWARD WHEATLEY HEADS UP NEW DIRECTORATE



Neal Ishman, Vice President of Advanced Development, announced the formation of a new directorate under the leadership of Mr. Howard Wheatley, who joins Melpar as Technical Director of RF and Receiver Products.

According to Mr. Ishman, Receiver and RF Design are an increasingly important part of Melpar's business.

Under Mr. Wheatley's leadership, the group will not only meet the large back order of receiver work, but will work to expand and develop our RF product line to include new search receivers, special purpose demonstrations, micro-min receivers, and develop an extremely small receiver on the order of two pounds or less. Melpar's continued strength in the competitive market has been based on the high performance, small size and low weight of our receivers. Mr. Wheatley will lead two key groups under the management of Mr. Richard Lenert, Product Manager of Communications Receiver Products, and Mr. Edward Clevenger, Product Manager, ESM Sensors.

Mr. Wheatley has nearly twenty years of technical experience in RF and Receiver-related work, including twelve years in line management. He is not new to Melpar, having worked with the Receiver and RF group from 1974-1979 as a Product Manager. Mr. Wheatley received his BSEE from the University of Maryland in 1966 and his MSEE in 1971.

Credit Union News

At the regular monthly meeting of Melpar's Employee Credit Union the Board of Directors declared a 7% dividend plus a bonus of 1% for the dividend period ending September 30, 1982. This marks the second consecutive quarterly dividend totaling 8%.

If you are planning to take out a loan, the Credit Union asks that you plan ahead, as the time required to process a loan can often be as long as two weeks.

During the month of October, the Board of Directors has waived the \$1.00 enrollment fee. If you are not a member, now is your chance to enroll and save a buck!

Library Up-date

On September 22, Melpar's Technical Library hosted a luncheon meeting of the Tysons Corner's Brown Baggers, an informal organization of special librarians in the area. The group meets every other month to discuss issues of interest to librarians within local technical companies and universities. Relying on interlibrary loans, this organization has extensively augmented the reference services of the individual libraries.

Subjects regularly discussed include new products, publishing information and guides. Each luncheon includes a question-and-answer period which has proven most helpful to the participants.

Frequently a vendor or service organization makes a presentation. A representative of the New York Times Information Service described the service's data base during the September meeting at Melpar.

FLEX Cont. from page 1

computer environment than currently exists at Melpar, and then revalidate the model's integrity. The conversion involved internal modifications of the software and associated system routines. Of particular note was the reduction in memory size that had to be made by the MIS team. Other installations have not been able to reduce memory to 800K, a constraint imposed by all the demands on the current Melpar computer environment. Thus Melpar's MIS Directorate achieved a "first" in the eyes of the customer.



the
**United
Way** campaign

Melpar's United Way campaign is scheduled for the week of 18-22 October 1982. As in the past, Melpar lends its support to this very worthy cause. In 1979, 1980, and 1981, we were presented the Silver Award for our outstanding participation in the campaign. We hope this year will be another year in which E-Teamers demonstrate their concern for their fellow citizens through active participation in the 1982 United Way Campaign. This year's chairman, Mike Smith, will be assisted by deputy chairmen Larry Cecchini for Falls Church and Tony Maestri for Fairfax. More information about the United Way and your contributions through payroll deductions will be provided during campaign week.

OVERSEAS EMPLOYEES ENJOY THEIR OWN MELPAR PICNIC



MELPAR SERVICE AWARDS — THIRD QUARTER

Thirty Year Service:

Harry G. Moser, Jr.
(Top, right)

Floyd E. Olszewski
(Bottom, left)

James L. Sibole
(Bottom, right)



Twenty-Five Year Service:

Thomas N. Bevans
Robert C. Earnshaw
Arthur E. Hilker, Jr.
Wilbur J. James
Anthony Maestri, Jr.
Charles H. Nelson, Jr.
Clarence J. Stultz

Twenty Year Service:

Robert L. Burke
Herbert Mueck
Velva E. Weeks

Fifteen Year Service:

John D. Calloway
Robert S. Flanders, Jr.
Marian E. Foster
Marvin L. Via, Jr.

Ten Year Service:

Joe A. Fenrich
Barbara Moore
Robert A. Pletcher
Douglas J. Snow
Larry D. Whitney
Cameron W. Wood

Five Year Service:

Karen M. Culbreath
Maxine Y. Jackson
Edward C. Quillian

PROMOTIONS — JULY AND AUGUST

From:

R.G. Allen
R.W. Bailey
J.G. Beane
H. F. Bentley
D.S. Berman
C.L. Birch
C.F. Bullard
R.B. Buxton
W.D. Chalkley
J.H. Cole
P. Dietz
J.C. Gentzen
M. Harding
L.A. Hickman
T.J. Jackie
Q. Johnson
G.M. Jones
J. Judy
J.J. King
D.A. Lee
R.I. Lohman
S.R. Lovewell
F.M. Lucas
S.S. Orrison
D.L. Pannkuk
J.C. Pugliese
A.V. Ramirez
N. Rhodes
M.D. Rodgers
R.C. Strauss
G.L. Taylor
J.W. Taylor
J.C. Thomas
T.W. Tipton
J.L. Vasey
L.D. Whitney
C. Wild

To:

User Serv, MIS OP Supv
Computer Maint Supv
Cont Specialist
Eng Supv
S/W Analyst
Sr Report Typist
Prin Design Eng
Eng Manager
Supv MIS Operations
Prin Design Eng
Tech Dir Comm Prod
Mach B
Eng Supv
Material Bus Admin
Test Supervisor
Sr Cost Analyst
Jr Programmer
Assem Tech
Sheet Metal Mech 2cl
Sr Quality Eng
Cost Analysis Supv
Sr Metrology Tech
Assem Tech Grp Ldr
Secretary
Sr Cost Analyst
Mach B
Jr Programmer
Prin Eng
Drafting Supv
Sr Programmer
Cost Analyst
Prin Mech Eng
Planning Supv
Planning Assistant
Test Supv
Sr Cost Analyst
Eng Supv

RETIREE



Louise E. Buckner joined Melpar in 1959.

KBISZ TKBPO PPHFQ

A new employee club dedicated to the education of its members in cryptographic and cryptoanalytic techniques has been formed at Melpar. The club has not yet chosen a name, although J.L. Perry, the ad hoc spokesman for the group, calls it the Melpar Cryptographic Society.

Cryptography is the science of encoding messages to ensure that only the intended recipient understands them. Strictly speaking, the encoding process is called encipherment (or encryption). In order to understand a message, the recipient must decipher (decrypt) it. Cryptanalysis is the art of codebreaking, and is the name for any process used to determine how to decipher messages without any prior knowledge of the encipherment process.

All those interested in learning more about this timely subject are encouraged to attend the club meetings. The first meeting was held September 15th, with the next meeting scheduled October 26. Information will be posted on the bulletin boards.

Headline message: *Happy Halloween.*

PCMD Cont. from page 1

Department evaluated the available methods of circuit reduction. Their findings indicated that gate arrays are a fast and economical method. In July of this year, Melpar received prototypes which were successfully installed in our system. The production of the required quantity is currently in

progress.

This device represents a Melpar effort in using large-scale integration to reduce the size and cost of our systems. It is an important step forward in insuring that we remain competitive in the development of high technology systems.

Sports Corner

GOLF

The second half of the 1982 Melpar golf league season has ended with four golfers taking the lead: Bill "Dr. Hook" Moeller, first place; Andy "Ringer" Nickle, second place; Frank "Mr. Consistency" Morrison and Bob "Mr. Money Hole" Hood tied for third place.

The participants in the overall league champion playoffs (still to be played when MELPARTICULARS went to press) are: Chuck Sisk, Bill Breads, Greg Taylor, Bill Moeller, Andy Nickle and the winner of the Frank Morrison vs. Bob Hood preliminary bout. Watch the bulletin boards for the final results.

TENNIS

The annual tennis tournaments are now in progress signaling the end of the tennis ladder competition. The tournaments include singles in A and B class, overall doubles, and mixed doubles. Good luck to those competing.

SUMMER VACATION VARIATIONS

While many of us enjoyed our summer vacation in town or at neighboring beaches, several E-Teamers ventured off the mainland to enjoy more exotic sights.

NORMA HAYDEN of Ground Systems went to Hawaii. Despite the rains, she visited enchanting Oahu, the Arizona Memorial at Pearl Harbor, and took in the view from Diamond Head, as well.

MARION LUGAR of Personnel enjoyed a two-week stay in and around London where she was able to enjoy the picturesque sights of the English countryside.

RON MICHAEL of Publications joined his church choir on a singing tour to Rome, Florence, Venice, Innsbruck, Salzburg, Munich, Rothenberg, Heidelberg, Coblenz, Amsterdam, Brussels, Paris, Canterbury and London. The incredibly beautiful Innsbruck was the highlight of his visit.

BETTY SHERBA of Program Management also went to Hawaii. Among the highlights of her visit were seeing Don Ho at the Hawaiian Hilton, a luau at Germaine's, and the Polynesian Culture Center. She definitely plans to return.

ART STEFANELLI of Ground Systems went to Bermuda and enjoyed

BOWLING

Melpar's mixed bowling league opened its 1982-83 season on September 2nd at the Falls Church Bowl America Center. Sign-ups for the individual teams are presently complete; however, those wishing to substitute should give Mary White a call on extension 3040. The league is looking forward to another fun-filled competitive season.

Officers for the 82-83 season are Laverne Boyd, President; John Hood, Vice President, and Mary White, Secretary-Treasurer.

FOOTBALL

The Melpar Bushwackers touch football team started their season on Tuesday September 21. The 25-man team, coached by Charlie Jones, will play a 12-game schedule with games on Tuesday and Thursday nights. This is the first year of play for the Bushwackers. So, come out and support the team. The schedule and location of games will be posted on the sports bulletin board.

the sunshine and beautiful waters. According to Art, moped riding was hazardous to his health, with crazy drivers everywhere.

BILL STONE of Program Management and his wife spent their 25th Wedding Anniversary enjoying High Tea at the Ritz Hotel in London, England. After relearning to drive English style, they went via Stonehenge to the Coast of Cornwall, and then to King Arthur Country.

KIRBY WONG of Ground Systems enjoyed Victoria, B.C., Canada where he stayed in a turn-of-the-century home and was served scrumptious, healthful breakfasts.

Apologies to all those with fascinating vacations to report that we did not hear about. For the rest of us, there is still the Winter Holiday week to plan.

TRAVEL CLUB DOUBLE BUSES TO ATLANTIC CITY

In coordination with Melpar's Travel Club, Gene Dake organized a one-day trip for 88 E-Teamers and friends to Atlantic City. On Saturday, September 25th, two chartered buses left Melpar's parking lot and headed north with the group jubilantly anticipating large win-

DOC BAILEY RECALLS HIS FIRST SPECIAL OLYMPICS

Computer Maintenance Supervisor Doc Bailey of Ground Systems has been working with Special Olympics since 1978. His involvement began in Los Angeles where he was invited to become a "hugger" at an activity called "Special Olympics." At the time, he had only a faint idea of what Special Olympics was all about. "Hugging," as it turned out, is as much positive encouragement and love one person can give another, especially if the "huggee" is a child with a physical or learning disability. For Doc the Special Olympics became an overwhelming experience of wheel chair races, softball throws, relays and sprints, all performed by children with some degree of handicap. By the end of that first day, Doc recalled shouting, laughing and crying himself into exhaustion; he had clearly made a commitment to these very special athletes.

Four years later he is still involved with the Olympics and he's gotten some help from his German Shepherd, Thor. It seemed only natural to include Thor, as many of the children live in institutions that don't allow pets. Thor is quite happy to be petted by 25 crowding kids and they enjoy the comradeship as well. According to Doc, they both work quite hard at the Special Olympics, but it's worthy of their time and effort.



Doc Bailey with Danny Wetstone, Episcopal High School Special Olympics, and Thor.

Northern Virginia Special Olympics has a year-round schedule and is always looking for volunteers. Watch the Sports Bulletin Board or talk to Doc.

nings. Upon arrival they divided into smaller groups in pursuit of Lady Luck. Although the search met with varying degrees of success it was a happy but tired crowd that returned home late in the night.