E-SYSTEMS

MELPARTICULARS

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First TRSS Production Units Built

Admiring one of the first TRSS production units are (left to right) Rick Folea, Edith Scarlett and Roy Bailey.

The challenge: reduce the size of a rack-mounted 599-channel receiver currently used by the U.S. Marine Corps to a hand-held walkie-talkie-like unit. Make it operate for a couple of weeks on four C-cell batteries. Add a communication port so it can talk to a remote computer, and add a speaker so a person can "listen" to the RF demodulation. Make it also process U.S. Army and U.S. Air Force messages. Make it waterproof. And do it in nine months.

That is a general description of the original engineering development contract won in a competitive procurement by E-Systems Physical Security Systems Directorate. A major milestone on the follow-on production contract was reached in May when the first four units rolled off the production line before an expected June delivery. A total of 45 units will be delivered this year to Air Force and Marine users.

Dave Gershberg, director of Physical Security Systems, said, "This particular product is important to the growth of our directorate because it links many of the sensors we currently produce. This gives us the ability to provide complete system solutions instead of just sensors to our DoD customers."

The Portable Monitor (PM) receives information transmitted by sensors planted (by hand or air delivered) behind enemy lines that track enemy movements. The information is processed by the PM, displayed on an LCD readout, and sent out a serial port so that a remote computer can log enemy movements over long periods of time.

Because the PM is a hand-held device that will probably be thrown into the back of jeeps, dropped in puddles of water, and used to pound tent pegs, it had to survive a grueling barrage of qualification tests. The tests included dropping the unit 26 times from a height of 4 feet, immersing it in 3 feet of water for a couple of hours, shock, vibration, high/low temperature variations, altitude, salt/fog, etc.

Reid Earley, Program Manager, said Lead Engineers Roy Bailey and Rick Folea and Manufacturing Supervisor Edith Scarlett were instrumental in making the production come together over the last 15 months.

"Congratulations are also extended to everyone who either directly or indirectly supported the TRSS program," he said. **M**

Melpar Successfully Demonstrates COMM DF Sensor

E-Systems Melpar Division has successfully demonstrated its lightweight communications signal intercept and direction-finding (COMM DF) sensor aboard a 25-meter aerostat in Elizabeth City, N. C.

Sponsored by the U.S. Army, the Small Aerostat Surveillance System (SASS) is designed to detect, identify, and track ships and aircraft in special operation/low intensity combat (SOLIC) missions. The SASS program involves the use of an aerostat containing a radar moored to a ship by a steel and kevlar tether. On board the ship are radar operators.

Aerostats currently in use allow radar operators to detect and track ships and aircraft on a radar screen but are unable to identify targets of interest among the legal commercial traffic. By identifying the radar returns, COMM DF can label a radar image as a commercial carrier, an oil ship, a shrimp boat, a commercial airliner, or a special operations target.

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Melpar As I See It. . .

The outlook for the defense industry overall continues to be uncertain. We are all aware of news reports and international developments that indicate a pronounced decline in defense spending. Analysts also suggest, however, that C^3I programs will fare better than other defense budget categories.

This prospect creates an opportunity for Melpar. We can realistically forecast a healthy business future. But achieving sustained growth and winning interesting jobs will not be easy. As a team, we need to be certain that we are efficient and produce quality systems at fair prices. We expect tough competition for C^3I programs. Therefore, we must focus on constantly improving our performance to be the winner.

Recently, we have formalized our TQM program and accomplished related training. We're seeing impressive results from the TQM project teams. For example, the Printed Wiring Board (PWB) design process analysis has yielded an apparent 60-percent reduction in the PWB layout phase. Other projects underway, such as improvements to our purchasing system, offer significant process efficiencies. We are also making good progress in developing a core of training courses to sharpen our knowledge level.

I am also encouraged by the recent distribution to directors of a copy of our existing Division-wide capital equipment data base. The increased availability of this data base and related procedures will help reduce and/or avoid capital equipment costs and improve our management of these assets.

These activities will measurably help Melpar succeed in the current business climate. All of us have a role to play in building our future. Your continued contribution to greater efficiency will be important in achieving our business goals.

Talbot S. Huff

Science Fair Students Receive Savings Bonds from Melpar

Fourteen intermediate and high school students across Fairfax County were awarded U.S. Savings Bonds from Melpar this year.

Melpar awarded 14 intermediate and high school students $100 and $200 U.S. Savings Bonds in May for outstanding science fair projects reviewed by a panel of Melpar judges. The projects were presented at the 35th annual Fairfax County Regional Science and Engineering Fair held in March and April for the high school and intermediate students, respectively.

The students received their Savings Bonds at an awards luncheon held at the Westwood Country Club in Vienna, Va. This year marked the fifth year in a row that Melpar has honored local students. Organization of the awards was done by Rick Brooke, member of the technical staff of the Systems Engineering Directorate within Electronic Systems. At the awards ceremony, Vice President and General Manager Talbot Huff presented each student with a Savings Bond.

Project titles this year ranged from the simple to the complex including "Why Do Traffic Jams Occur?" and "Robotics: Can Sensory Touch Be Applied?" Two students, Scott Switzer of Thoreau Intermediate and Shawn Smith of Thomas Jefferson High School, took a few moments after the awards ceremony to describe their projects.

Scott Switzer's project was entitled "Burglar Alarms" and dealt with combining light and movement sensors into one burglar alarm system. Switzer's research showed that no existing burglar alarm system had both features, causing consumers to purchase two different alarm systems to detect both light and movement. By putting the photocell, which picks up light, and the magnetic switch, which detects movement, in the same burglar alarm system, Switzer devised a way to save consumers money.

"A Flexible Design for Electronic Video Games" was the title of Shawn Smith's project. His goal was to build a video game from scratch using simple chips. He built a 4-bit processor that included a CPU, an arithmetic unit, and registers. He also defined his own instruction set and wrote the programs for his CPU. Smith called the design "flexible" because if a person wanted to change the game, only the program would have to be altered.

Switzer and Smith are just two of the many students honored by Melpar since the Company's involvement in the County Science Fair. The purpose of Melpar's interest in science education, said Rick Brooke at the ceremony, is "to encourage young scientists to stay in the fields of engineering and science and become scientists in the future." **M**

Thanks go to the following Melpar employees who helped judge the students' projects:

Carmen Benitez
Mohammed Boudaoud
Timothy Cooper
Shannon Roseman
Paula Franks
Mark Heslep
Tei Ito
Grace Jenkins
Dave Jones
Elena Lawrence
Bill Rinard
Chris Roller
James Sealock
Wayne Sherba
Doug Vujcic
Marilyn Zett

COMM DF Sensor Cont. from pg. 1

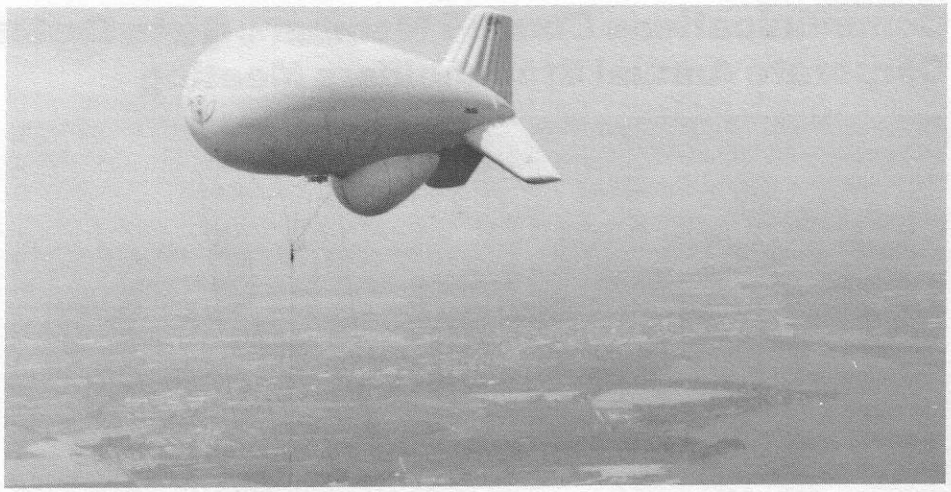
COMM DF was originally developed for remotely piloted vehicle applications. As a result, it is very light, doesn't require much power and has a lot of capability in a small package. Because of these features, it was exactly what the Army was looking for to use in its SASS program.

Besides the actual sensor, Melpar engineers devised a way to mount an antenna array on the aerostat so that it conformed to the shape of the aerostat. In this manner, the COMM DF system and the radar can operate simultaneously.

"Those antennas were one of the major accomplishments of the whole program," says Dick Landauer, an operations analyst who worked on the project. "Our competitors have not come up with a way to mount antennas on an aerostat that are compatible with an active radar."

Currently, there are 27 aerostats planned for use by the Army, Coast Guard, Customs, and the Air Force that require COMM DF capability. A procurement to outfit these aerostats with Melpar's COMM DF could mean significant business over the next several years.

According to Program Manager Dennis Husch, in light of flattening defense budgets, this new development is an excellent opportunity for Melpar.



The Small Aerostat Surveillance System hovers during a test flight over Elizabeth City, N.C., with Melpar's COMM DF aboard.

"It means that we can become a real contributor to SOLIC operations by transferring existing technology to a new mission," says Husch.

However, without the work of Melpar's E-Teamers, says Husch, the opportunity would never have been possible.

"The COMM DF electronics is just a thing–a hunk of iron. It can do what it's supposed to do, or it can be a doorstop," says Husch. "What transforms it from a doorstop to an opportunity for new business is people–people working above and beyond the level normally expected.

"What we're really selling here is not a box of electronics because a lot of companies can make that. What we're selling is the ability to put the right team together and make that box do what the customer wants it to do." **M**

Special thanks go to all the people who redefined the "Quick" in quick reaction capability and made a successful demonstration of COMM DF possible, including:

Oscar Von Bredow	*Carl Snyder*
Tei Ito	*Hung Nguyen*
Tom Sterling	*Mary Loos*
Dick Landauer	*Ken King*
John Zakaski	*Melissa Call*
Jeff Altenhoff	*Barbara Harris*
Franco Lubinsky	*Ellen Hayes*
Kerry Rowe	*Steve Carpenter*
Brian English	*Gordon Steever*
Dana Johnson	

TQM News

The Melpar Division has begun to implement TQM (Total Quality Management). TQM is an organized approach that aims for continuous improvement in all areas of our business. It focuses on increasing customer satisfaction by improving performance in terms of cost, schedule, and quality.

To date, work in Melpar's TQM program has included:

- A TQM workshop and training session for top management
- Establishment of a TQM steering committee
- Pilot TQM process-improvement teams
- Initiation of five additional TQM process-improvement teams

In late March, Melpar's vice presidents, directors, senior program managers, and TQM facilitators attended a 16-hour session led by Dr. Mildred Pryor, Jenifer Heard, and Carl Smith of the Greenville Division. The session covered TQM philosophy and some TQM tools. During the session, top management worked on identifying major obstacles to improvement, processes with major opportunities for improvement, and statements describing each organization's primary purpose or mission.

The newly established TQM steering committee is led by Melpar Vice President and General Manager Talbot Huff. Lynn Garland serves as the committee's TQM coordinator. In March, the TQM steering committee decided how TQM projects will be selected and how time spent on TQM will be monitored.

Since November, a director-level pilot team has been working on reducing cycle time of the printed wiring board (PWB) design and development process, which includes the engineering design, layout, and procurement phases. Team members include Dennis Krausman, John Monahan, Ron Strout, Tom Bailey, Ron Stanton, Howard Wheatley, Wayne Thomson, and Lynn Garland. The team has analyzed the current process, determined root causes of some of the delays, and begun to implement improvements. Some improvements currently being worked on include:

- Improved valid and allegro libraries
- Increased use of the auto-placement and auto-routing layout tools
- Electronic transfer of PWB layout data to vendors to avoid time-consuming photoplot generation, checking, and regeneration
- Increased valid disk capacity
- Development of a training program
- Development of engineering procedures and guidelines to improve consistency among engineering groups and to improve design processes

Cont. on page 5

Communications Council Members Go to Dallas for Corporate Annual Stockholders Meeting

Among other Divisions' Communications Council Representatives are Melpar's Marty Hunter (left) and Pam Rice (right).

The following is an account by Communications Council representative Pam Rice of the E-Systems Corporate Communications Council Meeting and the Annual Stockholders Meeting:

On Monday, April 23, Marty Hunter of the Fairfax facility and I flew to Dallas, Texas, to represent the Melpar Communications Council at the Corporate Stockholders Meeting. Each division of E-Systems had Communications Council representatives at the meeting.

We spent all day Tuesday getting to know one another and touring places in and around Dallas. We went to Las Colinas, which is one of the largest planned communities in the United States. Las Colinas is based on the same concept as Reston, Va., but on a much larger scale.

We soon went on to Reunion Tower, a building which is 50 stories high and provides a spectacular view of Dallas. Later, we visited the site of John F. Kennedy's assassination, which remains unchanged since the day of the shooting. The window from which he was shot has been set up to look like it is still half open with a shadow of a figure nearby.

By the end of the day, the whole group had gotten to know each other, and we separated for the evening, tired but happy.

On Wednesday, we went to the Corporate Headquarters for the stockholders meeting. After having been shown around the building, we met Mr. E. Gene Keiffer, E-Systems chairman and chief executive officer, and Mr. A. Lowell Lawson, president and chief operating officer.

At the stockholders meeting, Mr. Kieffer introduced the directors, officers, and visitors. He then outlined the purpose of the meeting, gave the results of the elections, and gave a presentation on E-Systems and where the Company is headed. In his briefing, several points were stressed:

(1) Our business base is not hurt by the reduction in East-West tensions. But because other companies will be trying to get into our business areas, we must strive to be more competitive.

(2) To become more competitive, we must improve quality and performance. We must question the way we do things. The answer "because that's the way we've always done things" is no longer acceptable.

(3) People make up the Company and determine how well it does. The Company goes home every night and comes back every morning.

After the meeting was adjourned, we all went to a Mexican restaurant for lunch, said goodbye, and then headed back to the airport to fly home. **M**

Melpar Hosts Seminar on Alternatives to CFCs

Everybody's getting in on cleaning up the environment, including Melpar.

In May, Melpar hosted a meeting put together by the Capital Chapter of the Surface Mount Technology Association (SMTA) on alternatives to ozone-depleting chlorofluorocarbon (CFC)-based solvents. The meeting was organized by Carol Lalley and Rocco Tenaglia, senior industrial engineers at Melpar's Fairfax facility. Approximately 80 representatives from 20 different companies attended the seminar. Speakers for the program included Dr. Kirk Bonner of Allied-Signal, Inc., Mr. Donald Elliott of Electrovert Ltd., and Mr. Carroll Smiley of E. I. du Pont de Nemours and Company.

Melpar and other members of SMTA are interested in discusing alternatives to CFC-based solvents because many of the cleaning agents used on the electronics we manufacture contain CFCs. Air conditioners and refrigerators, the primary hosts of CFCs, cause the majority of the damage to the earth's ozone layer.

Donald Elliott, director of Advanced Technology at Electrovert Ltd., was one of three panelists invited to discuss the timely topic of finding methods for cleaning electronics other than using ozone-depleting CFCs.

CFCs are widely used because they are extremely stable, are compatible with a wide variety of materials, have low toxicity, and can mix and maintain a boiling point (called azeotrope) with a wide variety of substances. But because CFCs are carriers of chlorine, which is what really depletes the ozone in the stratosphere, discussion has centered on eliminating the use of CFCs.

In 1989, the Montreal Protocol, an international agreement ratified by 53 nations, went into effect. This agreement requires

Cont. on next page

Talbot Huff Receives Honorary Ph.D.

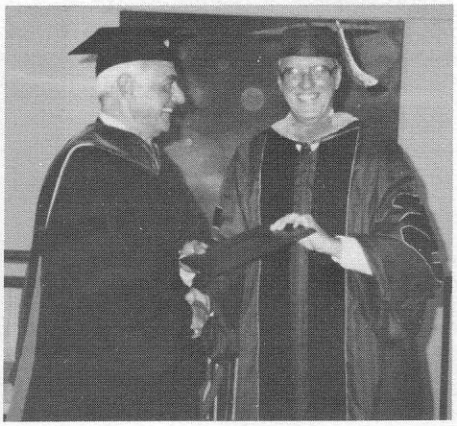
In May, Melpar's Vice President and General Manager Talbot S. Huff Jr., was awarded an honorary Doctor of Science degree from the George Washington University in Washington, D.C.

Huff received the degree during the School of Engineering and Applied Sciences commencement ceremonies at which he also delivered the commencement address.

During his address, Huff went over the vast technological changes that have occurred in the past three decades. He also predicted that in the next 10 years, the new mass availability of computational power, data storage and communications will have a tremendous effect on the engineering profession.

Huff encouraged each of the students receiving undergraduate degrees to continue their education with graduate study.

"Emphasize theory, not application," he said. "Theory survives. Applications don't.



Talbot Huff (right) receives an honorary Doctor of Science degree from Harold Liebowitz, dean of the School of Engineering and Applied Sciences at George Washington University.

"To be successful in an engineering career, you must not only stay current, you must take the lead," said Huff. "You must not only keep abreast of rapidly changing technology, you must broaden your outlook and encompass disciplines outside the engineering profession. Because the engineer has the scientific and technical background to understand what can be done, the engineer also has a responsibility to help decide what should be done."

Huff, who joined Melpar in 1978, received his bachelor of science in electrical engineering from the Massachusetts Institute of Technology in 1962 and his MSEE from Rice University in 1967. He was selected an IEEE Fellow in 1988.

While assisting the School of Engineering and Applied Sciences, Huff has been a member of the steering committee of the Industrial Liaison Program of the Department of Electrical Engineering and Computer Sciences. He is currently working in the planning for the engineering research center at the George Washington University's Northern Virginia campus. **M**

CFCs ALTERNATIVES Continued

that all CFCs be phased out, with 95 percent of the phaseout occurring by the year 2000.

There are several options for alternatives to CFCs including HCFC (hydrochlorofluorocarbon) solvents, and semi-aqueous and aqueous solvents, all of which were discussed by the panel members. Dr. Bonner presented the advantages of the Allied-Signal version of an HCFC solvent called Genesolv 2010, while Mr. Smiley discussed a semi-aqueous alternative made by Dupont called Axarel 38. Mr. Elliott provided an analysis of three aqueous cleaning methods. After the presentations, SMTA members were invited to ask questions of the three panelists.

According to Steve Basile of the Johns Hopkins University Applied Physics Lab, the CFCs in agents used to clean electronics represent only 8 percent of the cause of the ozone depletion. Nevertheless, it is significant that Melpar and many other companies are seeking alternatives for the CFCs currently used in their businesses. **M**

BIG SAFARI REUNION ANNOUNCEMENT

Three reunions are planned for AFLC Big Safari members/alumni, associates, and supporting organizations in October 1990. (Big Safari is a long-term, ongoing Greenville Division program which has involved a number of Melpar employees.) Tentative dates are the 12th in Ontario, Calif., the 19th in Dayton, Ohio, and the 27th in Dallas, Texas. If you are interested in attending, please send your name, address, number attending, and location preference to Big Safari Reunion, John Reynolds, E-Systems Greenville Division, P.O. Box 6056, CBN 181, Greenville, Texas 75403-6056, or call (214) 457-4990. **M.**

TQM NEWS Cont. from pg. 3

• A procedure for avoiding recycling for cosmetic and nonfunctional errors

Results so far have been impressive. In recent months, layout cycle time has been reduced to 9 weeks, as opposed to 22 weeks the cycle had previously taken.

Because of the success of this pilot TQM project, five more TQM process improvement teams have been added. These teams will be looking at capital equipment acquisition, engineering change notices, recruitment and retention of employees, customer repairs, and major program review. **M**

Know Your Benefits ...

Melpar Employee Computer Purchase Program

Employees may finance the purchase of personal computers and related equipment through the use of the Division Employee Computer Purchase Program. It is expected that the use of the personal computer will enhance the employee's job performance. However, the program is open to all employees regardless of salary level or job content.

This program allows an employee to finance up to $1,500 of personal computer equipment through an interest-free salary advance plan. All monies advanced to an employee through the plan will be repaid to the Company through payroll deductions; the minimum deduction per pay would be $50, with a maximum repayment time of 26 pay periods.

Interested employees can obtain the required Purchase Order FAF-5117 from Aileen Sundstrom, Benefits Office, and the instructions pertaining thereto, or call her on extension 2626. **M**

HealthTalk . . . **Summertime is Lyme Time**

The warm days of late spring and early summer mean lots of things to young children: longer daylight hours, more outdoor play, hiking, camping, walking in the woods. . .and ticks. Again this year, more Americans will suffer from Lyme disease (spread by the tiny deer tick) than from Rocky Mountain spotted fever (spread by the larger, better known dog tick).

Lyme is an imitative disease, so called because the symptoms closely resemble those of better known ailments. The spiral bacterium which causes the disease was first discovered in 1977 by a physician investigating what he thought was a massive outbreak of juvenile rheumatoid arthritis. In later stages, the symptoms resemble those of Alzheimer's disease and multiple sclerosis.

The disease develops in three stages of progressive severity and danger. Symptoms of phase one, which generally appear from a matter of days to several weeks after the tick bite, may include skin rashes, sore throat, backache, headache, fever, vomiting, chills, and fatigue. Four out of five victims suffer from erythema chronicum migrans (ECM), a chronic migrating red rash, just as its name translates. In this early stage, the disease is easily mistaken for a cold or the flu. Diagnosis is made even more complicated because nearly a third of the victims will either be unaware of having been bitten by a tick, or will have forgotten it by the time the first symptoms of the disease appear.

If left untreated, the disease progresses to its second phase. More serious and potentially life-threatening than the early period, this stage is distinguished by neurological disorders such as meningitis, encephalitis, and Bell's palsy (facial paralysis). In addition, more than half of the second stage victims suffer some form of arthritis. A far smaller percentage may experience cardiac complications such as abnormal heart rhythm and inflammation of the heart and its surrounding sac.

In phase three, patients begin to experience more severe arthritic symptoms in the knees and other joints or, less frequently, chronic depression, memory loss, and other symptoms typically associated with Alzheimer's disease and multiple sclerosis.

Fortunately, despite the serious medical dangers, Lyme is a highly treatable disease. The earlier it is diagnosed, the simpler the treatment will be. In the early stages, antibiotics (penicillin, erythromycin, tetracycline, etc.) effectively control the bacterium. Even in cases where the disease is allowed to progress into the second or third stages before treatment begins, intravenous antibiotics have proved effective.

Less than a dozen people, of the thousands of cases diagnosed each year, are known to have died of Lyme disease. Still, it is potentially dangerous and should be taken seriously. If you or any member of your family develops any of the early symptoms, particularly the ECM rash, visit your doctor as soon as possible. Be sure to tell him if you know, or suspect, you may have been bitten by a tick.

The best way to prevent Lyme disease is to avoid being bitten. To minimize the risk posed by disease-carrying ticks, treat shoes, socks, and pants legs with insect repellant before spending time in the woods or tall grass. Wearing ankle-high boots or tucking your socks into your pants leg makes it less likely for a tick to get underneath your clothing.

When you get home, undress and check yourself and your children for ticks. While they are small (only 1/8 inch long), deer ticks are plainly visible to the naked eye. Careful visual examination and bathing soon after coming indoors are the best ways to find and remove ticks before they have a chance to dig in. **M**

HealthTalk is a community service of Fairfax Hospital, Falls Church, Va.

Congratulations to the Winners!

Talbot Huff (*center*) congratulates this year's Savings Bond winners. (*From left to right*) Betty Hahn, Judy Martinowsky, Roger Lyons and Tom Moxon. Not pictured: Charles Wood and Marilyn Van Wagner.

Six E-Teamers were awarded $100 U.S. Savings Bonds in the prize drawings for Melpar's 1990 Savings Bonds Campaign. To be eligible for the drawings, a Melpar employee must have been participating in the payroll savings plan, must have increased his or her allotments, or must have been a canvasser. Two names were drawn from each category.

This year's drawings resulted in the following winners:

- **All employees saving**
  Roger Lyons
  Charles Wood
- **Savers who increased their allotments**
  Tom Moxon
  Judy Martinowsky
- **Canvassers**
  Betty Hahn
  Marilyn Van Wagner

As of this writing, a corporate grand prize winner has not been announced. Results of this year's campaign, division-wide and company-wide, will be published in the August issue of *Melparticulars*. **M**

1990 Service Awards for May and June

Richard W. Baker
Thirty-five Years

Benjamin F. Hale Jr.
Thirty-five Years

Fifteen Years
Gary D. Goodman

Ten Years
Paulina T. Chen
Charles R. Davis Jr.
Roger R. Earley
Timothy H. Garney
Frank C. Kozuch, Sr.
Steven Meister
Edward G. Preston
David A. Sargent
Bruce R. Smith

Five Years
Luke T. Albertson
William H. Alkire
Dale B. Allen
Willam B. Anderson
Edward J. Boris Jr.
Mitchell E. Bradman
Lucas J. Bragg
Jeffrey D. Campbell
Gregory Collins
Sandra E. Decker
Truong D. Duong
Douglas M. Farinelli
James M. Galimore
Edward T. Gilsbach
Arthur E. Gort
Jeffrey A. Green
Scot D. Halbach
Robert D. Hartland
Henry A. Hastings
Heather A. Hixson
James A. Holt
Leo C. Hopkins, Jr.
Roger A. Ishimoto

Five Years Continued
William H. Jordan
Michael W. Karpinski
Kyle G. Kenyon
Timothy A. Kirk
Robert B. Laverty
Carl H. Layno
Hoang T. Le
Michael E. Lee
Harvey E. Loehr
Dorothy M. Mason
Craig E. Matter
Scott T. Miller
Heather S. Mitchell
Garcia E. Morrow
Dang V. Nguyen
Jeffrey A. Northcott
Anthony W. Nuti
John P. O'Malley
John B. Payne, Jr.
Donald B. Perdue
Joseph C. Roesch
Frank Roll
George L. Saile
Karl J. Samuels
Robert M. Sanetrik
Sally D. Showalter
Donna R. Sisk
David C. Stamps
Robert T. Stratton
Margaret A. Taylor
Kimberly R. Thomas
Joseph T. Thornton
Helen C. Unser
Thai-Huyen T. Vu
Cheryl V. Ward
Rodney O. Williams

CORRECTION:

In the May issue of *Melparticulars*, retiree Bob Braun was incorrectly stated as having 18 years of service. His service at Melpar was actually more than twice that number—37 years.

Movers and Shakers

Falls Church	Promoted From:	To:
A. R. Ardura	Sr Elec Eng	Princ Eng
M. A. Ashe	Assembler	Assembler 1cl
R. W. Baker	Sr Elec Eng	Princ Eng
J. M. Banegas	Report Typist B	Report Typist A
R. L. Beal	Maint Asst	Maint Asst Gr Ldr
M. M. Bruster	Assem Tech	Assem Tech Gr Ldr
J. D. Calloway	Eng Design Asst	Design Eng
C. A. Campbell	CM Coordinator	Sr CM Coordinator
J. T. Chrzastek	Sr Test Tech	Jr Test Eng
B. J. Conant	Assoc Elec Eng	Elec Eng
M. D. D'Orto	Elec Eng	Sr Elec Eng
R. D. Dickerson	Mach A	CAD/CAM Mach Spec
H. T. Dong	Programmer	S/W Analyst
W. E. Ewing	Mech Insp 2cl	Mech Insp 1cl
J. B. Farquhar	Sr Systems Eng	Princ Systems Eng
S. F. Gorman	Elec Eng	Sr Elec Eng
D. E. Greger	Assembler	Assembler 1cl
J. C. Gruenberg	Assembler	Assembler 1cl
G. A. Herzig	S/W Analyst	Sr S/W Analyst
F. J. Holder	Storekeeper	Material Asst
T. R. Ireland	Sr PC Fab Tech Gr Ldr	Sr PC Fab Spec Gr Ldr
J. F. Jensen Jr.	Maint Asst	Maint Mech
D. M. Kallick	Personnel Rep	Programmer
R. G. Kellogg	Jr Test Eng	Test Eng
E. H. Kjeldsen	Systems Eng	Sr Systems Eng
K. K. Litchfield	Sr IS S/W Analyst	Supv S/W Devel
S. C. Littlefield	Prod Sch Coord	Prod Sch Coord Gr Ldr
C. J. Mattes Jr.	Sr Eng Tech	Jr Elec Eng
L. J. Monroe	Doc Control Clerk	Security Asst
F. G. Nadal	Program Mgr	Sr Program Mgr
T. M. Nape	Sr Opr Analyst	Prin Opr Analyst
E. R. O'Brien	Accts Pay Clerk	Sr Accts Pay Clerk
J. E. Parker	S/W Analyst	Sr IS S/W Analyst
V. V. Patterson	Assembler	Assembler 1cl
D. J. Quantrille	Subcont Adm	Sr Subcont Adm
R. Schiller	Princ Sys Eng	Eng Supv
S. R. Shaffer	Princ Eng	Eng Supv
C. E. Shannon	Security Asst	Security Spec
W. T. Sheldon	Assembler	Assembler 1cl
W. D. Sheridan	Princ Design Eng	Eng Supv
D. J. Snow	CAE/CAD Spec	Sr Drafter Gr Ldr
P. N. Williams	Sr Elec Eng	Princ Eng
F. R. Winklareth	Design Eng	Sr Design Eng
Fairfax		
G. L. Borrelli	Sr Elec Eng	Princ Eng
M. I. Carr	Systems Spec	Sr Systems Spec
A. G. Crisp	Sr Test Tech	Jr Test Eng
C. X. Dang	Met Tech	Sr Met Tech
K. E. Gardner	Cost Analyst	Sr Cost Analyst
L. B. Nguyen	Assoc Test Eng	Test Eng
K. D. Seganish	Cost Analyst	Sr Cost Analyst
S. G. Seward	Elec Eng	Systems Eng
T. D. Vu	Test Eng	Sr Test Eng
B. A. Wolf	Sr Elec Eng	Princ Eng

Retirees

Jesse R. Baldwin
37 Years

Richard (Bud) O. Funke Sr.
10 Years

James C. Propst
21 Years

Sports Corner. . . Rolling to Season's End

Stroking their way to first place are (left to right) Ray Wills, Jennifer Jones, Gerry Johnson, Gloria Randall and Bob Taylor of the Sho-nuf Strokers team.

The Melpar Mixed Bowling League's season came to a successful end on May 11 with the annual awards banquet at P.J. Skidoo's in Fairfax.

Awards for men's and women's High Average were given to Wanda Horn who averaged 151 and Joe Bullman who averaged 181. Other individual trophies were awarded to Karen Russo (718) and Charlie Jones (716) for high handicap series, and Donna Cafarella (280) and Joe Bickford (286) for high handicap game. Awards for high scratch game went to Penny Payne (202) and Jim Nesmith (247). Linda Frazier and Tom Dolan received high scratch series with 529 and 654, respectively.

This year, Ray Eisenbaugh was named Most Improved Man, and Alana Crisp earned the title of Most Improved Woman. In team competition, the "Sho-nuf Strokers" won first place while the "Spare Me!!'s" took second place.

Election of officers earlier in the spring resulted in Carl Bullard being named President. Also elected were Ray Wills as Vice President and Linda Frazier as Secretary-Treasurer. **M**

Spring Graduates

Congragulations to the following Melpar employees who graduated this spring:

Jeffrey M. Beigie	B.S.	Electrical Engineering	George Mason Univ.
Robert J. Boyle	M.S.	Electrical Engineering	George Washington Univ.
Dale S. Garrett	M.S.	Electrical Engineering	Virginia Tech
Douglas L. Johnson	M.S.	Computer Science	George Washington Univ.
Hai L. Le	M.S.	Systems Engineering	George Mason Univ.
Sikhan O. Lee	A.S.	Electronic Technology	Northern Virginia Comm. College
James W. Sealock	M.S.	Systems Engineering	George Mason Univ.
Dale A. Whiteside	B.S.	Electronic Technoogy	Capitol College
Kenneth G. Williams	B.S.	Business & Mgmt.	University of Maryland

Purple Haze Hits Its Way to First Place Crown

Purple Haze, Melpar's entry in the Fairfax County Men's Softball Industrial League, scored impressive 18-6 and 5-1 victories in June to clinch first place in their division. Currently at 9-5, the team is aiming toward the playoffs which begin July 9.

Top hitting stars include Chris Bilbie, Jim Palermo, Kevin Martin, Jeff Campbell, and Rich Radcliff. Excellent defensive efforts have inspired the pitching by Mike Baker and Danny Kallick.

In addition, a 3-1 start in the Men's Late Open Division has kept Purple Haze looking forward to claiming the county Industrial and Men's Late Open Tournament Crown later in the season. **M**

MELPARTICULARS

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