BOEING ORDERS ADDITIONAL IUS TELEMETRY EQUIPMENT

Boeing Aerospace Company, Seattle, Wash., has awarded Fairchild Weston's Data Systems Division an order for additional hardware to be added to a major contract for telemetry processing equipment to be used in support of the Air Force's inertial upper stage (IUS) missions. This add-on contract is valued at over $1,000,000.

Work has been underway on the earlier contract, valued at over $6,000,000, since December, 1986. This major program is known as RTTADDS -- real time telemetry, analysis, diagnostic and distribution system. The system will be used by Air Force personnel at the Satellite Control Facility in Sunnyvale, Calif., to monitor telemetry during IUS missions. Our system will allow Boeing and the Air Force to control and evaluate the performance of the IUS during development and testing in pre-launch and launch phases of the IUS program.

"This contract adds seven more VAX GPX workstations to the original 14, bringing the total to 21," Program Manager Tom Pittet said. "In addition, five stand-alone workstations were added for

OPEN ENROLLMENT ANNOUNCED FOR DENTAL INSURANCE PLAN

Now is the time for you to enroll in Data Systems Division's Dental Plan, if you or your eligible dependents did not enroll earlier. A special one-time Open Enrollment Period, from March 1 to March 18, 1988, is now being offered to all regular full-time employees who have been with the company for more than one month. The coverage will be effective April 1, 1988.

Details are posted on bulletin boards and mailings have been sent to all Field Offices, for your information. Please call Alma Sanger in our Benefits Office (Ext. 5526) if you wish to sign up for dental coverage at this time.

Dental Plan coverage is described in your Employee Guide. The current cost is $2.82 per week for the employee, spouse and eligible dependents, or $.98 per week for employee only. This cost has remained the same since the Dental Plan was introduced in1982. The company and employees share the cost of the plan.

MICHELLE CRAWFORD IS WINNER IN FEBRUARY ENERGY CONTEST

Michelle Crawford, Program Librarian in our Engineering Computational Services group, captured a $50 U. S. Savings Bond as the winner in the TGIF Team's Energy Savings Awareness Contest this month.

Michelle predicted that the January electricity usage for Data Systems would be $48,215. The actual bill for the month ending February 5 was $48,632.86 -- ANOTHER NEW LOW FOR RECENT ELECTRICITY BILLS!

Mike Matthews and Bill Icely congratulate Michelle Crawford on her winning entry in the TGIF Team's Energy Savings Awareness contest. Michelle is the second winner of a $50 U. S. Savings Bond in the 90-day contest. Your last chance to enter the contest is March 7!

WE MAKE THEM TO LAST!

Data Systems Division's ongoing commitment to quality really pays off in good customer relations.

Word came to our Export Department recently from Alan Coles, Solartron (England) Service Department, that an EMR Model 2731 PCM Frame Synchronizer has been in continuous operation at a customer's location for ten years. The unit is part of a satellite receiving system, located at a Royal Aircraft Establishment facility in Lasham, England.

Congratulations to everyone who contributes to good design and quality workmanship!

AN EQUAL OPPORTUNITY EMPLOYER M/F/H/V

BOEING ORDERS ADDITIONAL IUS TELEMETRY EQUIPMENT

installation at the Boeing facility in Kent, Wash., and the Air Force Space Division facility in El Segundo, Calif.

The RTTADDS program will provide technical support to the IUS Operations Working Group and the RTTADDS Site Preparation Working Group to help plan the installation, test and transition of the RTTADDS to the operational environment at the Consolidated Satellite Tracking Center (CSTC) in Sunnyvale, Calif.

"There are several major program milestones coming up during the next seven months," Tom Pittet said. "The RTTADDS program team has worked very hard and the customer and the potential users are very happy with the results to date.

"The future for RTTADDS type systems business appears to be bright with many potential customers desiring information and demonstrations," the Program Manager said.

TELEMETRY/COMPUTER SYSTEM SHIPPED TO MARUBUN, JAPAN

A Data Systems Telemetry/Computer system was shipped to Japan in late January for integration into a larger system by our Sales Rep firm, Marubun. The ultimate customer is KHI (Kawasaki Heavy Industries) in Japan. The system is valued at over $500,000.

This system included the Model 8385 Display Station, with disk formatting, and with dual stream 8000-series front end, and special real-time 15-channel printout.

Members of the team were Project Engineer Mike Weed, Project Technician Chris Freeberg, along with Art Tackman, Software Engineer Paul Weller, with software contributions from Beth Putnam and Mona Lewis. Harry Durrett, of Export, handled this sale, and Rosemary Williams had Contract Administration responsibility.
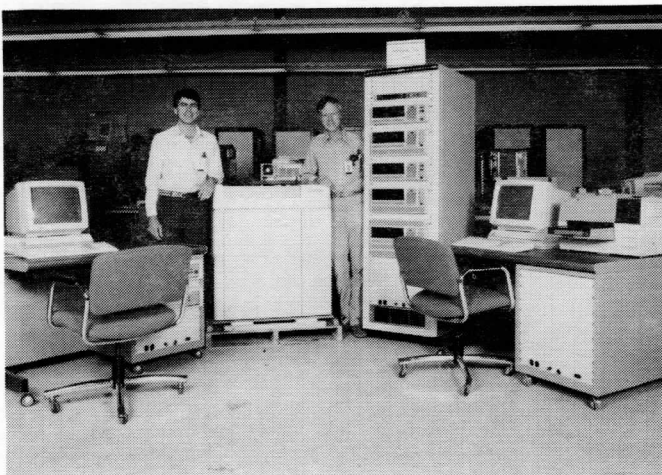
Mike Weed and Chris Freeberg with Telemetry/Computer system shipped to Japan.

MICHELLE CRAWFORD IS WINNER IN FEBRUARY ENERGY CONTEST

The Great Industrial Facilities Team, which is sponsoring the 90-day Energy Savings Awareness Contest, invited all employees to suggest ways to save energy, and also to enter the monthly contest with a prediction of the actual electricity bill. Your estimate of our February electric power usage should be dropped in the contest box by March 7. This is the final month in the contest, and results will be announced in the March issue of PULSE.

There will also be one Grand Prize Suggestion winner at the end of the 90-day contest. This part of the contest allows you to make your best suggestions on how more energy can be saved.

Electrical power usage at Data Systems Division is a big expense item each month. In 1987 our division spent over $767,500 on electrical power. The figures were even higher in 1986 and 1985. The TGIF Team's goal is to reduce electric power usage by 5% during this 90-day period, to be reflected In the March-April billing, after the close of the contest.

Energy savings awareness is paying off, with much lower electricity bills in December, 1987 and January, 1988. Efforts by Plant Engineering to implement energy savings have been very successful recently. Data Systems Division's total electricity expenses in 1987 were $170,000 lower than in 1986, and 1988 is off to a promising start.

Boxes for your contest entry are located in the Cafeteria, Breakaway Snack Area, and SPS. Each employee may enter once each month. REMEMBER, THIS MONTH'S DEADLINE IS MARCH 7 -- YOUR LAST CHANCE TO WIN!

COST/SCHEDULE WORKSHOP PRESENTED HERE FEB. 15-17

An intensive training seminar on project management was presented at Data Systems February 15-17 for key employees who get involved in the complexities of managing projects.

The workshop dealt with work definition, responsibility assignment, scheduling, budgeting, accounting, analysis, and baseline management. Specifically, the seminar addressed C/SCSC -- COST/SCHEDULE CONTROL SYSTEMS CRITERIA, a term which will be heard frequently in the future in our industry.

U. S. SAVINGS BONDS -- A GOOD, SAFE INVESTMENT

if you're thinking about your children's education or saving toward your retirement, and you want a good safe investment, you might want to consider U. S. Savings Bonds. There's a handy payroll savings plan, and you can kick off your Savings Bond investment program with just a few dollars a week. Your money grows at a very favorable (variable) rate, too!

See Karen Peterson, in Payroll, to sign up. It's a smart move !

SERVICING DATA RECORDERS FOR SPACE SHUTTLE LAUNCH

Jim Ratcliffe, of Fairchild Weston Systems' Field Service group, was on site for the launch of Space Shuttle III at the Kennedy Space Center last week. He was on stand-by duty to assure that our SABRE IV Data Recorders under Launch Pad 39A were functioning to gather real-time vibration data for the vehicle and launch complex.
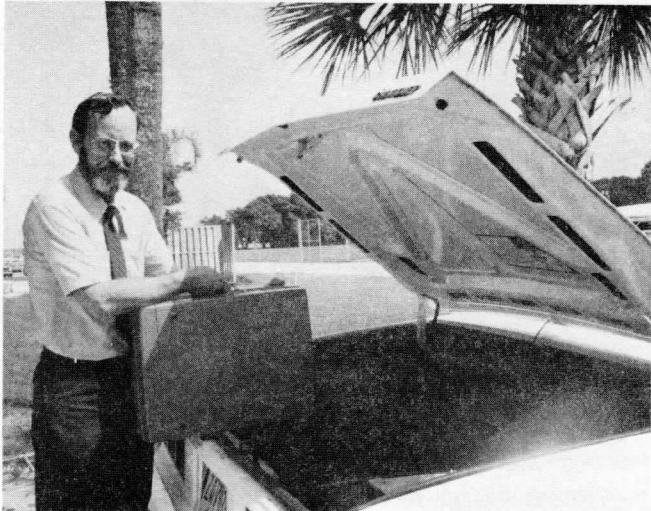
Jim Ratcliffe, of Fairchild Weston Systems Field Service, loading a portable scope and other required service items as he headed for the Space Shuttle launch at the Cape.

Jim was scheduled to be on hand from 8 a.m. Sunday until pad closure. The SABRE IV 28-track recorders continue taking data until the pad is cooled off and shut down after launch.

"Fairchild Weston Systems Field Service is in the process of cross training data recorder specialists and telemetry specialists," reports Scott Blair, Manager of Field Service. "This cross training improves our response time to our customers. It also opens new areas for employee advancement and reduces the overall costs to the company," he said.

$$ INSURANCE TIPS $$

Want fast action on your insurance claim? Be sure to include the Insured Employee's name and Social Security number on each bill you submit -- and also on the blue Benefit Request Form you complete with your new claims each year. The computerized records of our Insurance Administrator (Aetna) are organized by Social Security number.

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SEE YOU AT THE OPEN HOUSE CELEBRATING 25 YEARS IN SARASOTA

NEW PATENT GRANTED FOR MULTIPLEX FILTER

Sangamo Weston was recently notified of the granting of a new patent for Joe Lehmann's design of a "Reduced Sample Rate Data Acquisition System." This is Joe's fifth U.S. patent.

"Technical innovation is key to the success of our business," said General Manager Kent Morgan. "The company can be justifiably proud of inventors such as Joe who develop useful patentable concepts that help give us a competitive edge."
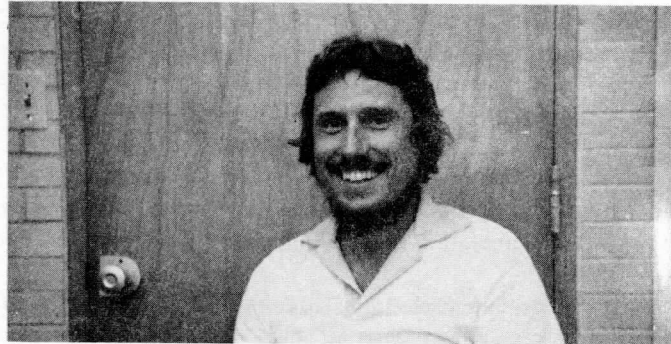
Joe Lehmann

Senior Principal Engineer Joe Lehmann has been with our company in Sarasota since 1958. He described his new development as follows:

"The patent is for a reduced sample rate data acquisition system. The value gained by using this system is that fewer samples are required to fully include all of the information of the data of interest. This results in less system resources, (that is, computer time, computer memory, recording tape) to process and store the information. Also, a system of fixed resources can process and store more information," Joe said.

"Key to this achievement is the application of digital signal processing. A digital filter provides outstanding performance compared to classically implemented analog filters. Additionally, a single digital filter economically operates upon many channels of data," Joe Lehmann explained.

Joe Lehmann is currently a member of the Fairchild Weston Systems group in Sarasota.

AWARDS PRESENTED

The United Way of Sarasota County presented awards recently to Sangamo Weston employees for our contributions to the United Way campaign.

General Manager Kent Morgan and Mrs. Morgan received awards for their United Way campaign work. Special recognition also went to Ron Johnson and Tom Thomas for their considerable extra effort for the United Way as Sangamo Weston "loaned executives."

BREADBOARDS ARE USED IN R & D -- BUT NOT FOR SLICING BREAD

A "breadboard" in the Engineering Department is one step in the development of a new circuit or a new product. These breadboards are not used for slicing bread.

Martin Belkin, of Data Recorders Engineering, gives the following explanation:

During the early phases of a product development program, it is prudent to test the conceptual or paper design before significant funds are committed for documentation and tooling. One way to confirm that design goals can be met is through the building and testing of breadboards.

Breadboards can come in many forms and can check electrical or mechanical functions. The actual breadboard structure is usually dictated by the particular problem that requires resolution. For example, if the designer is concerned about the effect of stray capacitance in a wide-bandwidth amplifier, the designer would require a breadboard that is wired to resemble the final printed circuit layout.

On the other hand, circuits that are not critical to layout may look like three-dimensional mobiles, or may be placed on commercially available quick-connect boards that do not require soldered or wire-wrapped connections.

Breadboards have been used for decades to provide a quick, inexpensive way to check the performance of an electrical circuit. With the advent of computers, circuit simulation is often used as a substitute for breadboarding. However, until simulation models for analog circuits attain a higher level of sophistication, breadboarding will remain a useful development technique.
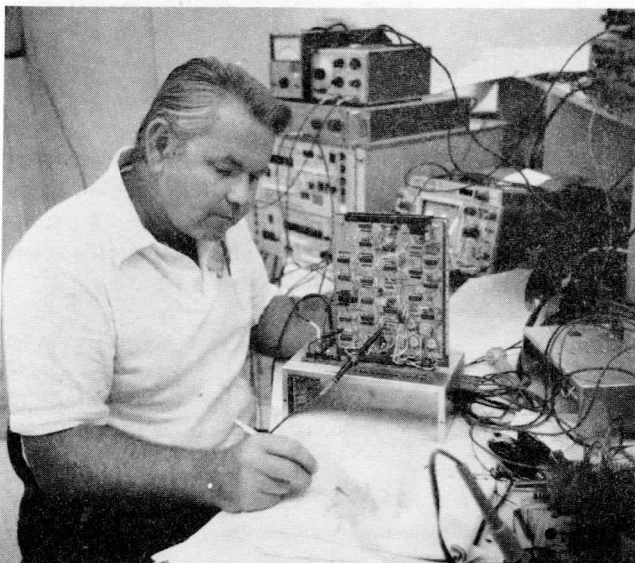
Ty Rigdon, of our Telemetry Engineering Lab, is shown with a breadboard for a bit sync design. He is checking the performance or function of a circuit design. Breadboards verify form, fit and functions, prior to building an Engineering prototype, the forerunner of Manufacturing's Pilot Production.

In mechanical designs, "breadboards" are often called mock-ups. They are models to demonstrate the size, configuration, and interaction of the various parts before the design is finalized.
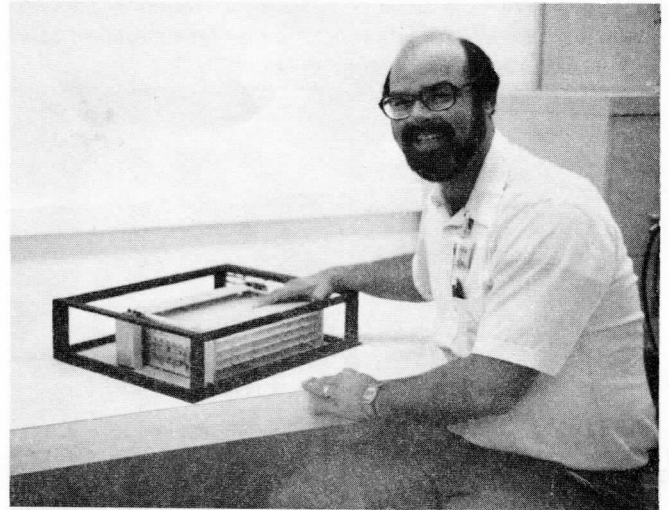
Phil Potts with a different kind of breadboard -- a mock-up of a mechanical design for a new product chassis. Phil is investigating a new housing for a variety of future products. Mechanical mock-ups check the functional design and packaging for accessibility, cooling, and the best way to package a unit for manufacturing.

Breadboards and mock-ups can apply to computer software programs, too.

"There are basically three types of 'disposable' software," explains Mike Kelly, of our Telemetry R & D Software Engineering area. "That is, software which is written, but never used in the final product." Mike describes them as follows:

MODELING - software which is written to evaluate the characteristics of a system before that system has been built. One of the main characteristics which is evaluated is the performance of the system. A model can indicate the performance is not what was anticipated, and the system design can be changed -- not the finished product.

For example, if the product were an automobile, the model would simulate the automobile. By giving the model information such as engine horsepower, driving speed, etc., the gas mileage can be evaluated, using the model. If the gas mileage is not what was anticipated, the engineers might change the design of the transmission or engine to meet the desired gas mileage performance, and the car, when finally built, can meet the performance specifications.

STUB - a temporary software module which substitutes for a software module not yet written. This allows the checkout of all software modules which have been written and which need to use the as yet unwritten module.

-4-

# ENERTEC CLOUD CEILOMETER TO BE SOLD, SERVICED HERE

Enertec, a sister Schlumberger company in France, and Data Systems Division's Industrial Systems group in Sarasota are working together to introduce Enertec's Cloud Ceilometer to potential customers in the U.S.A.

The Ceilometer measures cloud height from the ground. It has practical application at airports where the level of the
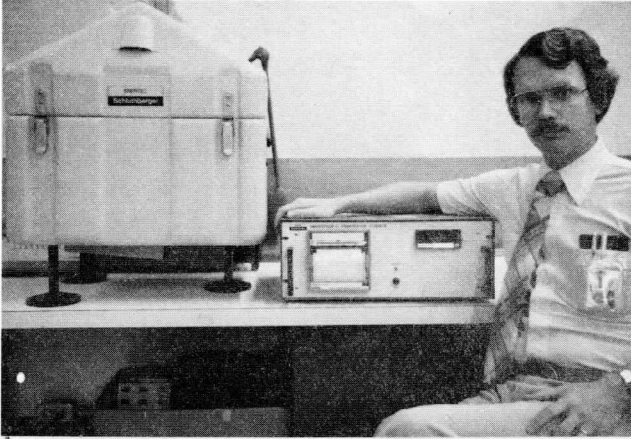
Bob Petrey with Cloud Ceilometer housing (at left) and the ET1504 digital display and strip chart recorder.

BREADBOARDS (Cont'd from Page 4)
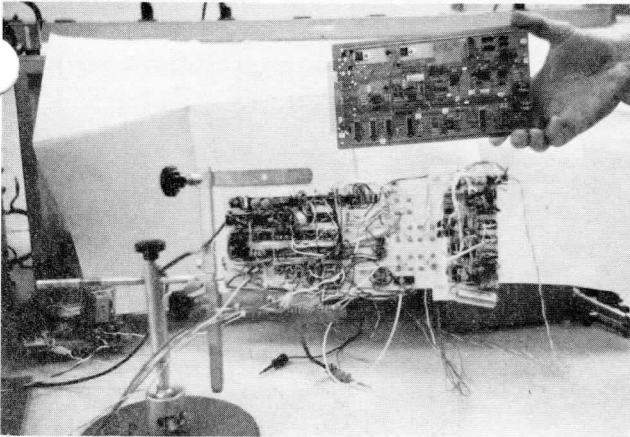
This data recorder electrical breadboard (lower unit) becomes a prototype printed circuit board (upper unit) prior to going into production. Using a breadboard during the design phase saves much time and expense.

Example: Software Module A needs to get a random number generated by Software Module B. Software Module B is not yet designed. Software Module A cannot be checked out because it can't get the random number it needs. However, a Software Stub can quickly be written that gives the same number every time so that Module A can be checked out.

.STING - Software which is written to test the functionality and performance characteristics of vendor's equipment, such as disks, printers and graphic displays, as well as other software modules making up the system.

cloud "ceiling" is an important safety factor as aircraft are coming in for landing.

Bob Petrey, of Industrial Systems' Service group, traveled to France in February for training on the installation and maintenance of the Enertec Ceilometer.

One initial unit is currently being installed for a Government agency in the Washington, D.C. area for evaluation and comparison with other instruments for measuring cloud height.

"A favorable report on the Enertec Ceilometer could result in future business for Enertec and for Data Systems Division," reports Bill Hardman, Marketing Manager for Industrial Systems.

"Data Systems Division would be responsible for sales and service, and there is potential for manufacturing the units here as well," Bill said.

The TNL1500 Cloud Ceilometer subassemblies are fitted to a chassis located in a single fiberglass housing. The unit is then mounted on a concrete base.

The instrument uses the "optical reader" principle, measuring the time taken by an impulse to cover the path from the ground to the cloud base and back. A safe, very low power laser diode is used, with emission in the infra-red spectrum, with very short impulse duration. A separate ET1504/0 Unit incorporates a digital display for directly reading the cloud base height, as well as a strip chart recorder.
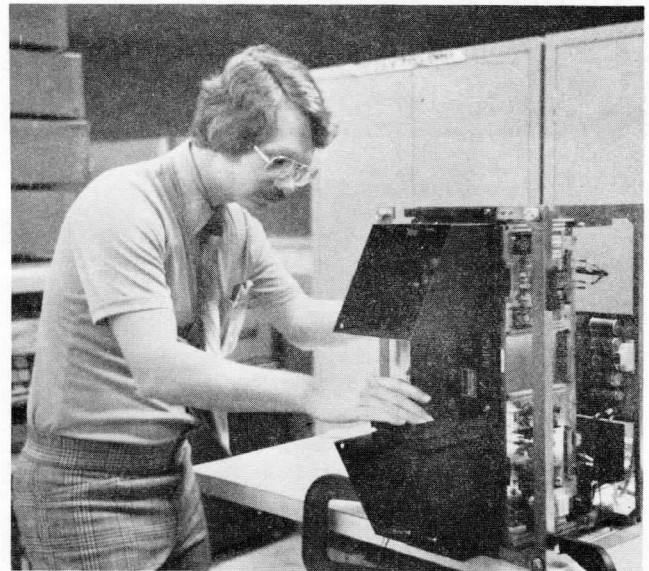
Bob Petrey with electronic subassemblies of TNL 1500 Cloud Ceilometer produced by Enertec, of France.

CELEBRATING ...
... TWENTY-FIVE YEARS
IN SARASOTA IN 1982.

TEACHERS VISIT PLANT FOR CAREER AWARENESS DAY

Twenty-three classroom teachers from the Sarasota County school system visited Data Systems Division for a special "Career Awareness Day" and plant tour on March 17.

The office of Career Education for Sarasota County schools requested that the teachers be given the opportunity to visit our plant for exposure to the world of work and its implications for the classroom environment, and to extend teacher awareness of student career potential in this area.

The teachers heard about our company and about the skills, educational requirements and experience needed for various positions with our company.

Participants included General Manager Kent Morgan, Martin Belkin, Dave Clouse, Dale Dennis, Charlie Grouse, Randy McHone, Linda McKinney, Ray McPartlin, Roy Paxton, George Prozzo, Jud Strock and Linda Walker.

Here are some views of the group visiting various areas in our plant, with their Data Systems Division hosts:
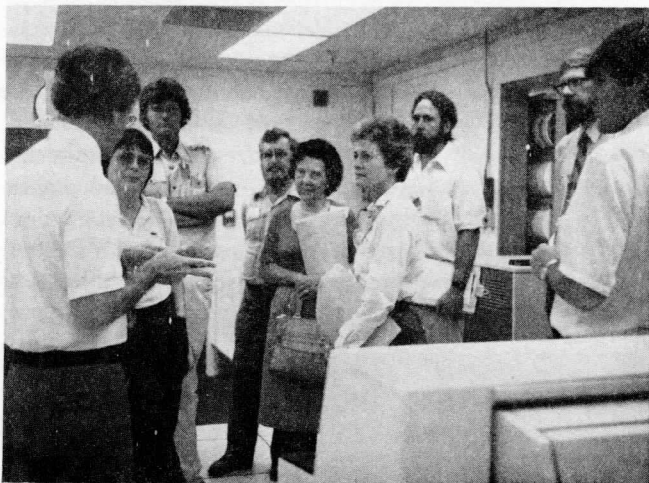

In Metal Fabrication

In Telemetry Systems

In Data Processing

In Industrial Systems

In Word Processing

CONGRATULATIONS!

FRANK BOST, of Telemetry Systems Major Programs, married Martha Church on February 14th at a home ceremony.

DALE DENNIS, of Data Processing, addressed a large community group on Recent Developments in Information Technology on March 4. His lecture was one of a series of seminars for adults sponsored by the Sarasota Institute of Lifetime Learning.

# INTERNATIONAL & U. S. TELEMETRY SALES REPS MEET IN SARASOTA

International Sales Representatives from around the world and our domestic Telemetry Sales Force met in Sarasota January 25–29 for business discussions and introduction to new products. The meetings included numerous Sarasota personnel who interface with the Sales Reps. The visitors are pictured here.

Seated, Harry Durrett (Sarasota); R. Bertrand (Canada); G. Legnani (Italy); J. M. Loeser (France); D. Poleg (Israel). Standing, P. Kirf (Germany); M. Saint Cyr (France); Bob Sayre (Wheaton, Md.); F. Forbes (India); Bud Thurmond (Sarasota); H. T. Liu (Taiwan); Larry Edwards (Milpitas, CA); A. Getlinger (Brazil); Wyatt Bishop (Sarasota); T. Yoshimura (Japan); Paul Mears (Albuquerque, N.M.); F. Grace (England); Y. Hamonic (France).
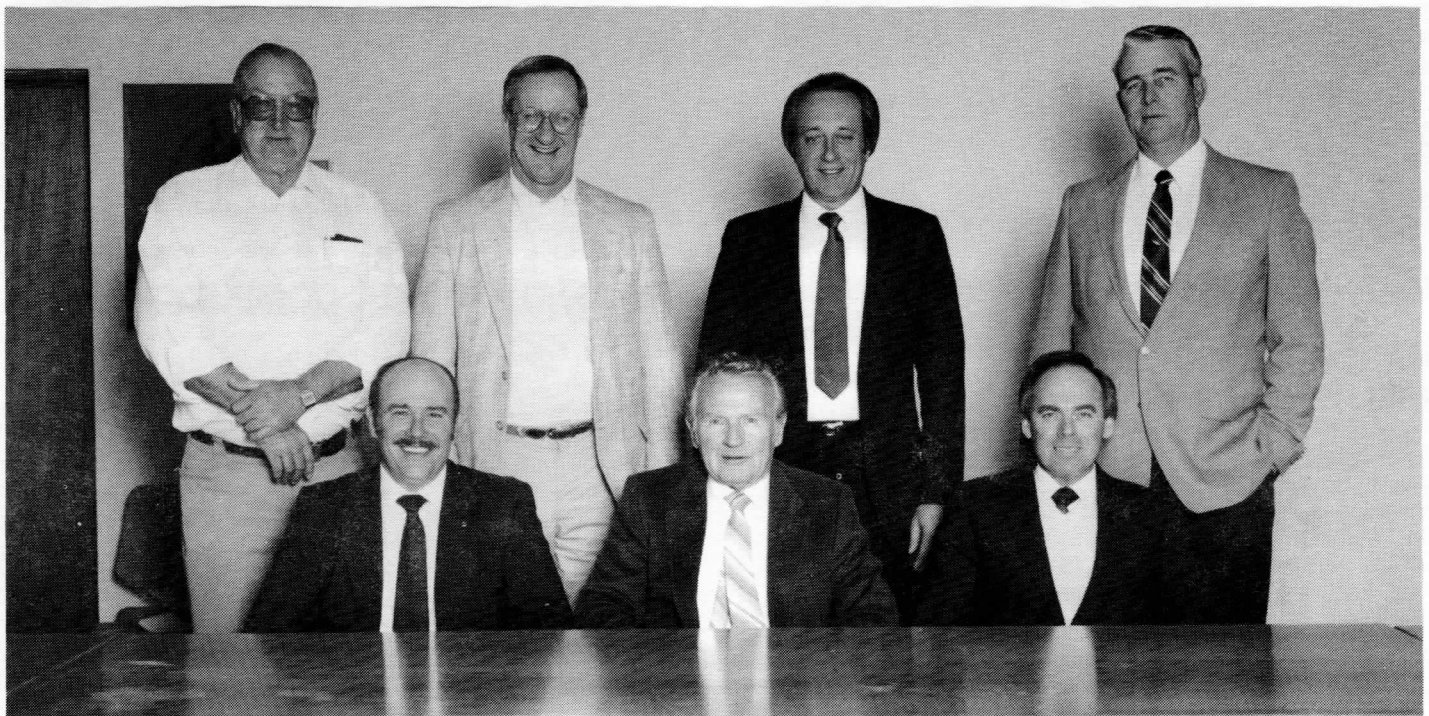
Our Telemetry Domestic Sales Force: seated, Larry Edwards (Milpitas, CA); Carl Steineckert (Lancaster, CA); Terry Miller, currently in Wheaton, Md. Standing, Paul Mears (Albuquerque, N.M.); Bob Sayre (Wheaton, Md.); Bud Hinkel (Milpitas, CA); Wyatt Bishop (Sarasota).

FISHING TOURNAMENT BATTLES BRISK WINDS TO GET KEEPERS

It wasn't the best day for fishing! Brisk winds whipped up the white caps on the Braden River and the fish tried to keep out of sight, but our hardy fishing enthusiasts turned out and did their durndest. There were 32 entrants in the great Fairchild Weston Third Annual Bass Team Tournament on February 20.

The keepers were few, but the Lunker prize–winner was a good 5 lb. 1 oz. bass, caught by Kyle Kuhn, who was fishing with Mike Curi.

Gift certificates, provided by Fairchild, went to the prize winning teams:

First Place – Mike Curi, Kyle Kuhn

Second Place – Jim Casteel, Bill Nunn

Third Place – Brad Jones, Billy Fincher

Fourth Place – Ron Connolly, Ray Brown

Some additional prizes were provided by Economy Tackle.

Mike Curi and Kyle Kuhn with their 5 lb. lunker which won the lunker prize!

Brad Jones was happy with this two–pound bass.

Fred Krase and Billy Fincher (at right) bring in the boat, but the catch was light.

MARCH 29 BLOOD DRIVE WILL HELP SAVE LIVES

Employees who volunteer to give blood during our Blood Drive on March 29 will be helping fellow employees, retirees and their families with the gift of life. The Lower West Coast Blood Bank's mobile unit will be parked near the front lobby from 8 a.m. to 5 p.m. on March 29 to accept your donation of life-saving blood.

To volunteer, please call Debbie Graham, Ext. 5559, and fill out a donor card before March 22. Whenever you or a member of your family requires blood, just phone Debbie and she will arrange to have the correct number of units credited to the patient's hospital account. Retirees and their families are also eligible for this benefit. YOUR BLOOD IS NEEDED. PLEASE HELP IF YOU CAN.

DIGITAL NEWS LISTS FAIRCHILD AMONG TOP DEC COMPUTER USERS

Digital Equipment Corporation's DIGITAL NEWS lists Fairchild Weston as Number 7 DEC computer equipment user in the OEMS, SYSTEMS HOUSES category –– and among the top 50 DEC customers. Applicon, a sister Schlumberger company, is listed as Number 3 DEC computer user in the same category. (OEMS stands for Original Equipment Manufacturers.)

The listings rank the DEC customers by Digital-related revenues. Had the two Schlumberger units been combined into one dollar total, their ranking would have been Number 2! The semi–annual DIGITAL NEWS 50 ranking, published January 25, indicates that Fairchild Weston moved up from No. 8 in June, 1987, to No. 7, and Applicon rose from No. 6 to No. 3.

Data Systems purchases DEC computers, software and peripherals for use in our Telemetry systems.