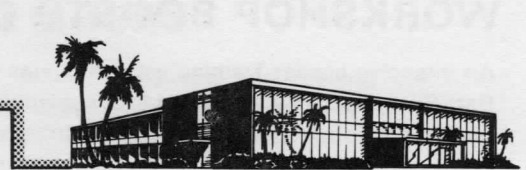




**FAIRCHILD WESTON
SYSTEMS INC.**



FAIRCHILD WESTON SYSTEMS, INC.
DATA SYSTEMS DIVISION
P.O. BOX 3041
SARASOTA, FLORIDA 33578



VOL. VIII, NO. 4

APRIL, 1986

McCLELLAN AFB SYSTEM READIED FOR SHIPMENT

A major Telemetry Ground Data Processing System, for use in connection with processing flight test data on the F-111 aircraft modification program, was readied for shipment to McClellan Air Force Base, Sacramento, Calif., this month.

The system is part of a large contract, valued at \$3.6 million, which includes a new ground data processing system, a ground checkout station, and two new airborne systems. The ground systems are updated versions of the Flight Data Acquisition & Processing System equipments which Data Systems Division delivered to McClellan Air Force Base in 1984.

(In a separate \$750,000 contract, McClellan Air Force Base has ordered some new equipment to upgrade the FDAPS equipment which was delivered to McClellan in 1984. This contract also calls for delivery of five Model 9 Tape Recorders to be used in conjunction with the Ground Checkout system in pre-flight testing on the F-111 aircraft program.)

Members of the team which worked on this large McClellan system included Program Manager Kathy Thompson, Software Engineer Roger Mort, and Don Riker who had system hardware engineering responsibility. Jack Cain and Mike Hutchinson served as consultants and liaison with the previous McClellan systems.

The Ground Data Processing System contains a VAX 11/785 computer and peripherals, along with the telemetry front end and a Model 10 Data Recorder.

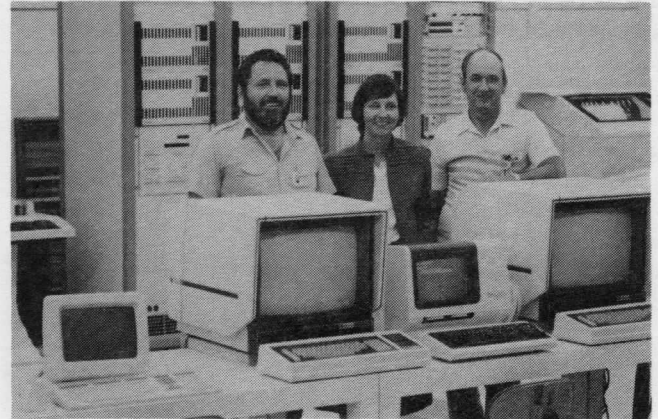
Work is currently underway on the Ground Checkout System and two new airborne systems, and shipment to McClellan is expected in August.

A SALUTE TO SECRETARIES...

*Not just during Secretaries Week,
But all year long -
You have our appreciation
For handling all the details,
Attending to multiple tasks,
Contributing that something extra
That a Secretary adds to each day.
Thank you.*

Your Friends at FWSI

AN EQUAL OPPORTUNITY EMPLOYER M/F/H/V



Roger Mort, Kathy Thompson and Don Riker with portions of the McClellan system being readied for shipment.

UNITED AIRLINES SELECTS OUR AVIATION RECORDERS

United Airlines has selected Fairchild Weston's Cockpit Voice Recorders and Digital Flight Recorders for use on its new fleet of Boeing 737-300 aircraft. United recently announced plans for the 3 billion dollar purchase of 110 737-300 aircraft and six 747 aircraft, to make up one of the largest orders placed for new planes.

"United's selection of our Recorders marks a very significant achievement, since they had been long-time users of competitive CVR and DFR equipment," said Charlie Grouse, Equipment Recorders Marketing Manager. "The window to gain entrance to such potential customers appears only when they procure new aircraft, and many months of effort were required to ensure that our products would be considered for this major fleet expansion."

United is the largest airline in the free world and will be operating almost 500 aircraft when their new aircraft are delivered, according to Charlie Grouse.

"UAL is one of the most respected airlines in this industry. Having them join our growing list of DFR customers -- which includes Delta, Lufthansa, Republic, Piedmont, Finnair and more than 25 other major airlines -- will have a positive effect on our Recorder business that far exceeds this initial purchase," Charlie stated.

WORKSHOP BOOSTS CIRCLE LEADERSHIP SKILLS

An intensive Leader Training workshop was conducted at Data Systems Division April 9-11 for individuals involved in leading Circle activities at our plant. Training sessions were presented by Danny Knight, Quality Circle Facilitator for Sangamo Weston, Oconee; Circle Facilitator Freddie Masse, and Phil Ingram, of FWSI, Sarasota.

Material covered included problem-solving tools, statistical process control, effective communication, and how to run effective meetings. Attendance ranged from 12 to 21 persons from Manufacturing, Engineering and Administration, and included three guests from Oconee, S.C. Participants were new Team Leaders or Leaders who wished a refresher in Team Management Skills.

"The group worked well in teams throughout the workshop," Freddie Masse said. "Their management presentations on the third day clearly demonstrated what they learned as well as their creativity and their ability to teach and utilize problem-solving techniques."



Shown during Leader Training -- Rita McCrea, Berenice Henderson, Robert Mayfield (Oconee) and Phil Luquette at their Line Chart. The Chart depicts the correlation of productivity with increased outside environmental factors such as heat and humidity.

BLOOD DRIVE ON JUNE 17

The Lower West Coast Bloodmobile is scheduled to visit Data Systems Division on June 17. You can help -- yourself, your family, and the families of our colleagues and retirees -- by giving blood.

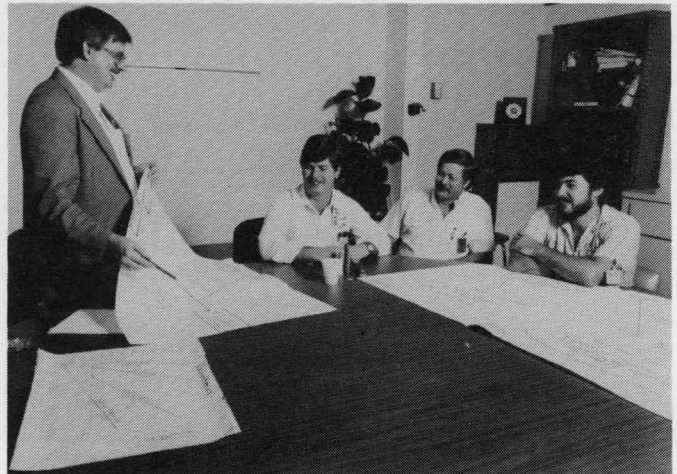
When blood is needed, just call Occupational Health Nurse Debbie Graham, and the units of blood can be transferred from the Fairchild Weston blood bank account to the patient's hospital account.

Want to give blood? Please call Debbie Graham, Ext. 5559, and request your Donor Card.

Thank you for giving the gift of life!



Evelyn Christian (seated), Duane Wilson (Oconee), Kathy Bossert and Teresa Fannin discussing the use of an area graph, to make their point visually, during Leader Training.



At Leader Training Workshop -- Bill MacNeill, John Elliott, Richard Hurst (Oconee) and Brad Jones reviewing cause and effect diagrams before their presentation.

**SPECIAL !
TO MAY 14, 1986**

LOAN RATE CUT TO 11% ON NEW VEHICLE LOANS

Fairchild Sarasota Credit Union's Board of Directors announces a special rate of 11% for new vehicle loans -- until May 14, 1986.

This special rate is effective only for 30 days, to May 14.

Details are posted at the Credit Union bulletin board. For further information, call Lillian Conway, Ext. 5535.

**ACCIDENTS HURT --
SAFETY FEELS GOOD!**

TELEMETRY SYSTEM FOR JPL SUPPORTS ATMOS EXPERIMENT

A new contract has been awarded to Fairchild Weston Systems Data Systems Division by JPL (Jet Propulsion Laboratory, Calif. Institute of Technology), of Pasadena, Calif., for telemetry data reduction equipment in support of the ATMOS experiment. Value of the contract is over \$640,000.

ATMOS stands for Atmospheric Trace Molecule Spectroscopy experiment -- a scientific experiment designed to make measurements of the composition of the upper atmosphere, as part of NASA's Upper Atmosphere Research Program.

The ATMOS experiment is designed to gather data from earth orbit aboard a space shuttle in the future. Funding for the ATMOS project extends over the next ten years. Investigations are also underway to determine whether the ATMOS experiment could be ground-based as well as mounted in future Shuttles. Recent Shuttle Program setbacks will not adversely impact the ATMOS program due to the extensive ground-based testing currently planned.

ATMOS is expected to provide some of the first and most comprehensive data describing the present-day composition of the stratosphere. For example:

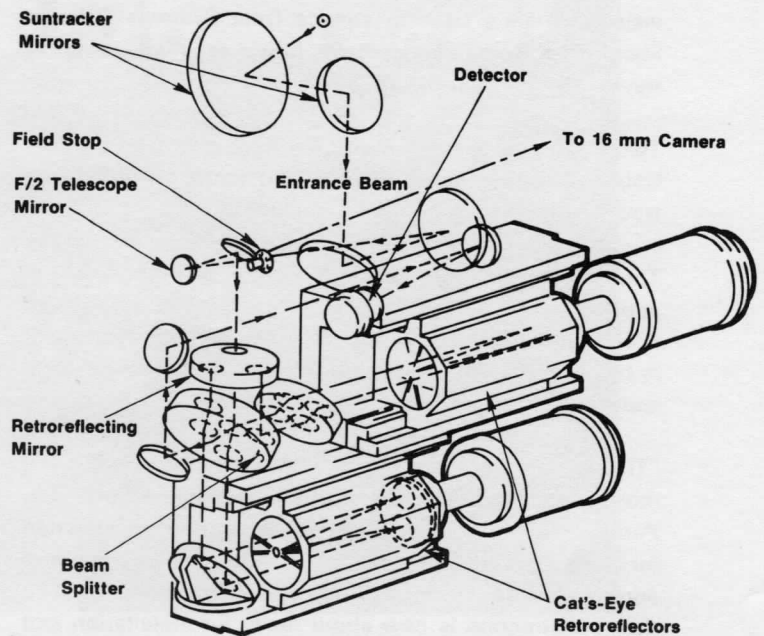
- Previously unexplored regions of the atmosphere will be observed and the composition recorded for the first time.
- ATMOS data will provide a reference source for atmospheric scientists in the future.
- Combined with other measurement programs from platforms such as balloons, rockets, and aircraft, the results will enable scientists, for the first time, to begin to make critical tests of the theoretical models used to describe the physics and chemistry of the stratosphere.
- A firmer basis will be available for analysis of proposed national and international policies to protect the atmosphere.

The Data Systems Division equipments will consist of two systems -- one a "permanent" system, and the other a "portable" system -- to be located at sites such as Kennedy Space Center, Houston and Pasadena. Equipment on this project will be our 8000-series, including our newest EMR 8385 Display Station, and two Model 9 Instrumentation Data Recorders with EDCS. Delivery is scheduled to be completed within one year.

Dick Haase is Project Engineer for this contract. Members of our proposal/sales/negotiation team included Tim Gatton, Jack Long, and Earl Studenwalt in Sarasota, and Julian Cecio of our Laguna Hills, Calif., Sales Office.

The ATMOS experiment is described in JPL/NASA literature as follows:

"Today we are aware of some 40 different molecular



Schematic of ATMOS interferometer optical arrangement.

species in the inventory of atmospheric gases, all of which play a role in the chemistry of the atmosphere and in its interaction with the Sun's radiation. The concentrations of some of these gases are believed to be changing, for reasons which are not well known, and must be carefully studied. The first requirement for understanding the atmosphere is to obtain precise measurements of its composition on a global basis, including its most minor constituents."

Principal concerns focus on the ozone layer and on the climate. The JPL/NASA literature further states:

"The ATMOS instrument, a modified Michelson interferometer, operates in the infrared portion of the electromagnetic spectrum. It consists of a sun-sensing and tracking system for acquiring the signal, a telescope to collect the infrared radiation for optical processing by the interferometer, a detector cooled to 77° Kelvin which converts the interferometer signals into electrical data, and data processing electronics which send the information to the data system..."

"The experimental technique ATMOS uses is based on the fact that molecules absorb specific wavelengths of the incoming solar radiation. By measuring this absorption of solar radiation by the atmosphere, and by examining which wavelengths are absorbed, ATMOS will determine the detailed molecular composition of the atmosphere. ATMOS will thereby provide a baseline of data against which to detect future changes in atmospheric composition..."

TRAVELING FOR CUSTOMER SUPPORT CAN BE INTERESTING

Customer Support personnel are regularly called upon to visit customer's sites to service Data Systems Division equipment. Some service calls, however, involve a lot of travel. To India, for instance.

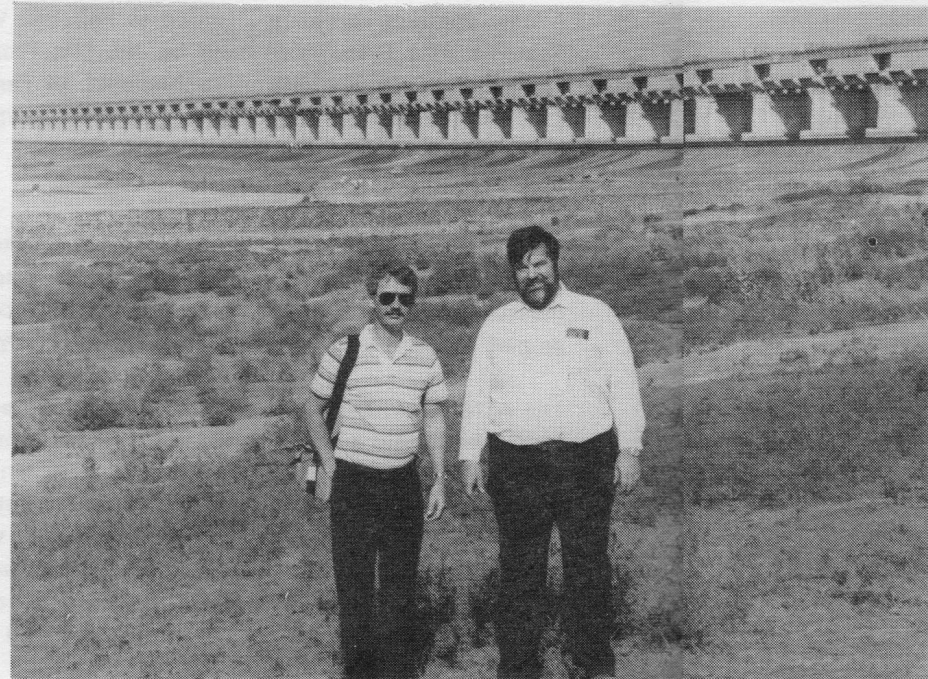
Two Customer Support men, Jim Apperson (Detroit) and Bob Petrey (Sarasota), recently did some long-distance traveling to several countries, including India.

The Indian customer location was a barrage, or dam, approximately six miles in length, across the Godavari River, southwest of Calcutta. There the Indian Government is building the dam as part of a flood control system and water conservation effort.

"The area is very dry most of the year, but during the monsoon season there are heavy rains and flooding," Bob Petrey explained. The new dam has been under construction for some time, and our company provided a large amount of equipment to control the flood gates some years ago. The dam construction is now about ready for installation and checkout of the control equipment. Bob and Jim were assigned the responsibility for assuring that the electronics is in good working order.

"There are about 175 gates, and each gate is about 60 feet wide, and can be lifted about 30 feet," Bob reports. "On the one side, the dam retains about 30 feet of water. On the other side of the dam, conditions were dry as could be."

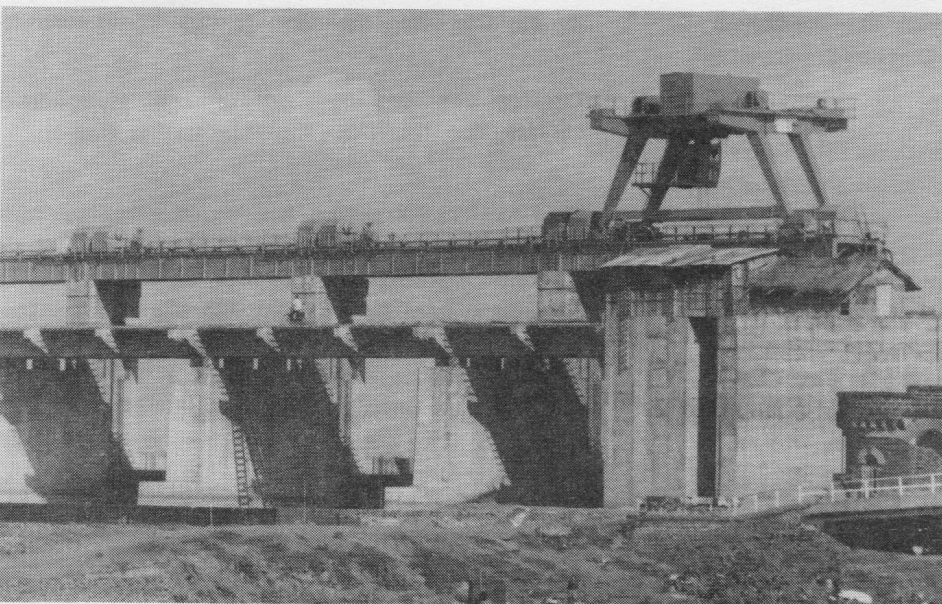
The two Customer Support men had to climb high atop the barrage and walk long distances to reach the various



Bob Petrey and Jim Apperson, with a portion of an arm of the six-mile-wide Godavari barrage (dam) in India.

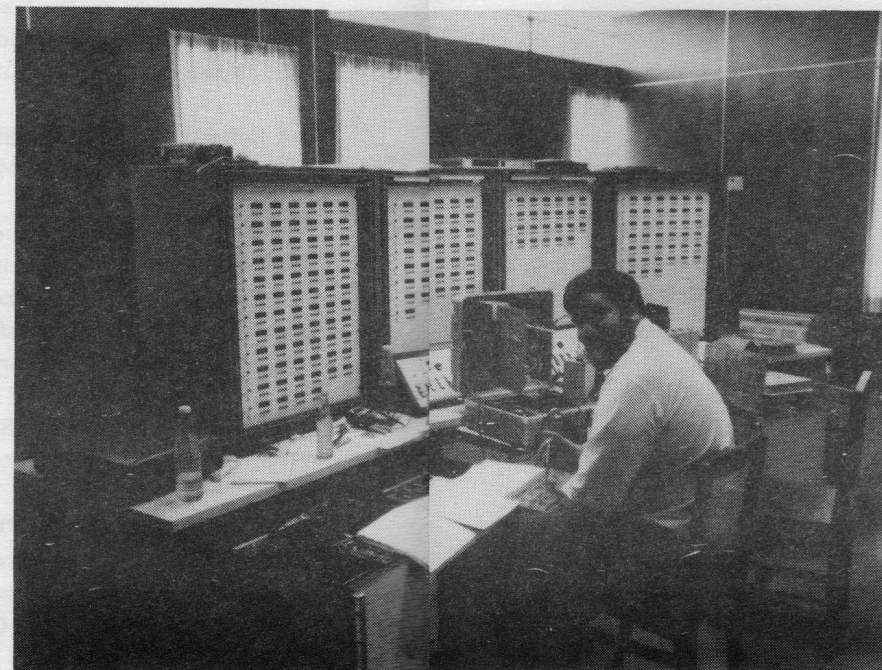
locations where the remote units have been installed. The India visit followed Bob's bout with amebic dysentery which had him hospitalized in Taiwan for six days during the trip. Jim Apperson withstood the rigors of the trip well, considering their travel in India took place during a nationwide strike which made for some travel tensions.

Here are some photos Jim and Bob took in India --



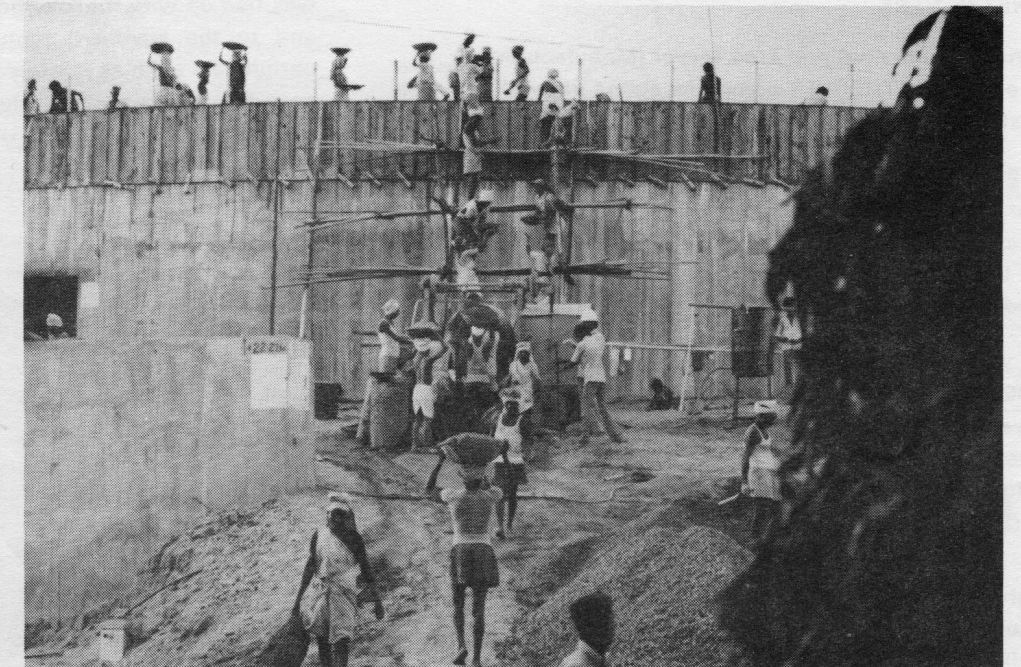
View of a small section of the Godavari barrage (dam) project. White object at top left is one of our remote control units for raising six of the 175 gates. There are 31 "remotes" in the system. Note small figure on bicycle on roadway, for relative size of project.

-4-



Jim Apperson at central control station console for Godavari dam control system.

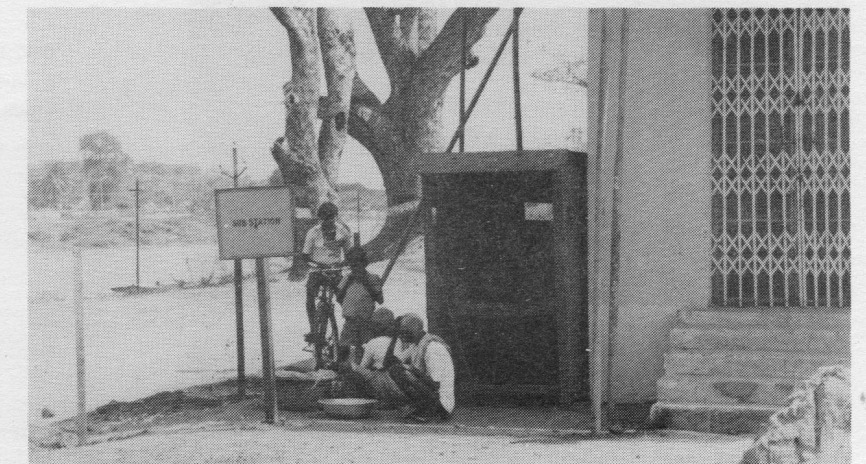
TRAVELING FOR CUSTOMER SUPPORT CAN BE INTERESTING



Godavari dam roadway construction underway.



Control Room of the Godavari dam project.



Scene from the front of the Control Room of the Godavari dam project. Sign refers to a power sub station. Some of the pictured residents use the box-like structure as their home.

ETHERNET LAN INSTALLED AT DATA SYSTEMS DIVISION

ETHERNET IS HERE.

Fred Paine (Engineering) and Fred Meyer (Manufacturing) announce that an ETHERNET communications network is being installed at Fairchild Weston.

ETHERNET is a Local Area Network, called a LAN in the computer world, manufactured by the Digital Equipment Corporation (DEC), and designed to be a communications network linking everyone connected to the VAX, CAD, CAM, and AMAPS systems.

For two years the Manufacturing department has been using a DEC PDP-11/70 as a Computer Aided Manufacturing (CAM) system to support fabrication, assembly, test, and numerous other manufacturing functions. Users of the PDP-11 had to go through the computer to link to any other system in the company, including AMAPS and the CAD system.

"Although this system was a vast improvement over the old manual way of doing things, one computer just couldn't handle all the CAM functions efficiently, and a computer failure seriously upset the manufacturing process," Fred Meyer said. "Obviously, a backup computer was needed along with a more efficient way of communicating between computers."

Meanwhile Engineering was having similar problems. The DEC VAX had proven to be an extremely useful tool for many in the company besides those in Engineering who found it indispensable.

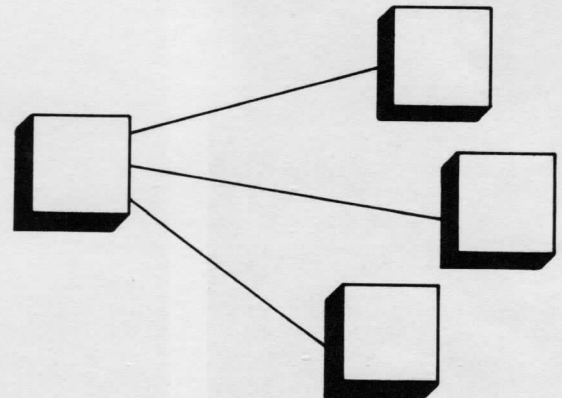
"The trouble with success was that everyone wanted a terminal connected to the VAX. As long as the number of users was reasonable, multiplexers connected to the finite number of 'ports' on the computer could handle the input/output load," Fred Paine said. "But as the number increased, more and more of the VAX's processing capability

was tied up with the 'overhead' of routing messages from and to the keyboard terminals, other computers, and peripherals such as printers. In other words, the VAX was spending too much of its valuable time being a switchboard operator!"



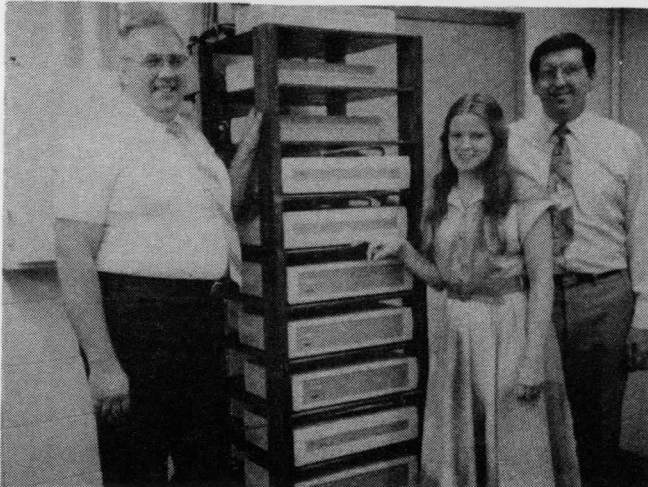
AN EXAMPLE OF AN ETHERNET APPLICATION -- Bob Carlson (at left) is seated at Data Recorders automatic test equipment station. Standing, Fred Meyer's arm is near the terminal server which connects up to eight terminals to Ethernet. Seated at right, Woody Griggs is near the PDP-11/73 which runs the automated test programs for three stations.

The problem is not unique to Fairchild Weston. When a time-sharing computer is introduced into a company, the most obvious way of using it is to connect keyboard terminals directly into its time-sharing ports.



Then as other computers are added, these clusters are usually linked together directly from computer to computer.

As the network becomes more complex, the computers become less efficient because of their added traffic functions, causing a significant slow-down in computer operation.



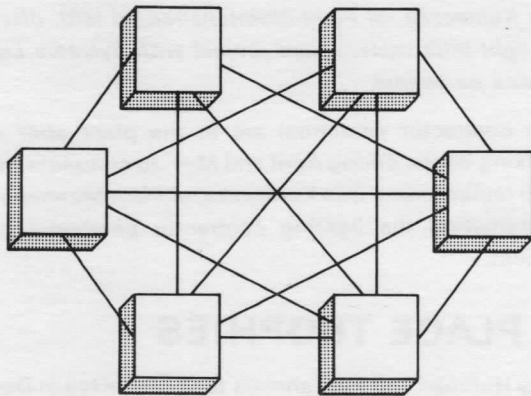
Ed Domrzalski, Teresa Fannin and Fred Paine with some of the Ethernet controllers which support terminals, computers, and even customer systems in Engineering. Ed installs and maintains Ethernet hardware, and Teresa is responsible for all of the networking software. Fred has responsibility for Engineering networking design and implementation.

ETHERNET LAN INSTALLED AT DATA SYSTEMS DIVISION

The cost in terms of expense and computer overhead of such a "point-to-point" communications system rises extremely rapidly as you add computers to it:

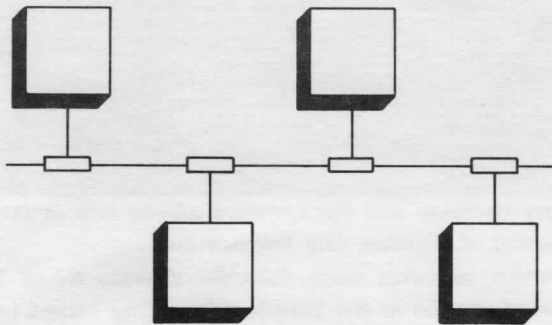
No. of Computers	No. of Links
2	1
3	3
4	6
5	10
6	15

So if Manufacturing needed more PDP-11's and Engineering added some more VAX's and MicroVAX's the cost of linking them would become prohibitive and the efficiency of the added computers would be reduced to a fraction of their potential.



That's where the LAN or Local Area Networks come in. A LAN is simply a hardware link arranged in a special configuration designed to bring some sort of efficient structure to the communication process. Since the problem is so widespread, there has been a great deal of interest in LAN's in the last few years.

A majority of the problems with the various configurations seem to be solved by the ETHERNET bus configuration.



Here, all nodes (computers or other network input/output devices) are connected to a single cable which could be called an "intelligent" bus. All terminal activity is "off-loaded" to the nodes, meaning that ETHERNET itself

handles all the switching operations. Failure of a node is confined to its location and does not affect the other nodes on the network.

Expansion of the network is a simple matter of extending the ETHERNET bus. And every terminal on the bus has direct access to any other computer, or peripheral connected to it.

At the present time there are three large VAX computer systems in Engineering and the PDP-11 computer in Manufacturing Engineering connected to the ETHERNET communications network. In addition, there are approximately six to eight MicroVAX computers and 12 Terminal Servers representing 100 terminal users supported on the network.

Shortly the VALID Computer Aided Engineering system will also be added to the Engineering network. In Manufacturing, a system of PDP-11/73's will be installed in each major production area and connected to the network, providing the backup needed to prevent production down-time.

Potential future links to the network include the recently installed CAD IBM computer system, personal computers, file servers and high speed print servers serving multiple computer systems. In addition when the need arises ETHERNET will be expanded to provide network links to remote locations.



Special thanks to Fred Paine and Fred Meyer for their expertise and contributions to this story.



SCOTT HAVENS ELECTED STS CHAPTER PRESIDENT

Scott Havens, of Telemetry Technical Publications, was elected President of the Suncoast Chapter of the Society for Technical Communications this month.

Among the group's active participants at Data Systems Division are Sue Nurczyk, Area Program Representative for Sarasota; Bill MacNeill and John Wood, Newsletter Co-Editors; Carolyn Peet, Membership Chairperson; Naomi Fiacable, Public Relations Chairperson; and Dale Munson, Employment Chairman. Other STC members here at Data Systems include Mark Hanigan, Margarida Karahalios, Don Lignore and Ron Spadoni.

The Society for Technical Communication's next meeting will be Thursday, May 8, in Clearwater. Individuals interested in technical communication are invited to attend. For details, please see the bulletin board announcements, or call a member of the STC. Scott Havens is at Ext. 6721.

NEW PLANT LIGHTING IS MORE COST & ENERGY EFFECTIVE

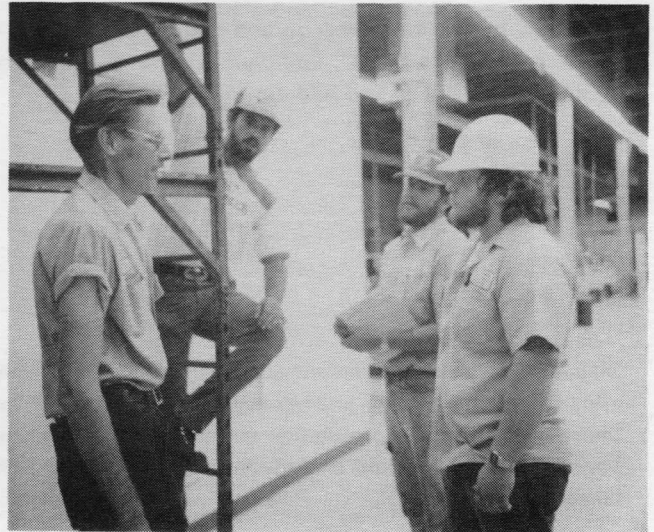
Replacing light bulbs? Sounds simple enough.

But what if you have over 6000 four-foot-long fluorescent bulbs, and 3500 eight-footers to replace? And you want to reduce operating costs and be more energy efficient. That is a sizeable project.

"By replacing the majority of the fluorescent lights in our plant at one time, and by replacing them with energy-efficient fluorescent light bulbs, we will significantly reduce our energy consumption," explains Mike Eisenbise, Manager of Facilities. "We went through the evaluation and competitive bidding process and determined that the new light bulbs will pay for themselves within nine months, while improving our lighting."

An important part of the cost-savings aspect of the project is the Florida Power & Light rebate which amounts to \$10,000.

"We will also be able to reduce the amount of in-house labor we allocate for on-going light bulb replacement by adopting a program of replacing the bulbs on a regular three-year basis. We estimate we can achieve an 80% reduction in time spent changing light bulbs by this planned replacement program," Mike said.



Dan Konieczka, of Plant Maintenance (at left), discusses the light-bulb replacement project with Sylvania Lighting Service personnel.

The contractor personnel are in the plant after regular working hours, during April and May, to complete the light bulb replacement. Dan Konieczka, of Plant Maintenance, is coordinating the lighting contractor personnel on this project.

WOMEN BOWLERS CAPTURE FIRST PLACE TROPHIES

Women bowlers from Fairchild Weston captured trophies at the Sarasota Women's Bowling Association City Tournament held in Englewood March 15-16.

In the team events, Fairchild Weston No. 1 Team rolled 3,096 to gain the top spot in the B Division. The team consists of Regina Devine, Sue Howard, Peggy Huestis, Darlene Klenke, and Linda Sittler.



Fairchild Weston No. 1 Team took first in B Division in the City Bowling Tournament -- Regina Devine, Darlene Klenke and Linda Sittler. Missing from photo are Peggy Huestis and Sue Howard.

Betty Huffman and Pat Lahmers took first place in Doubles, B Division, with a 1371 series.



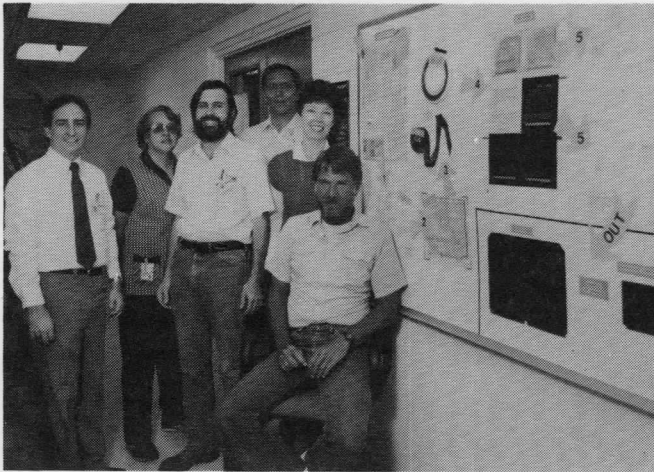
Betty Huffman and Pat Lahmers placed first in Doubles bowling, B Division, City Tournament.

Another women's team, Fairchild Weston No. 2 Team, placed second in the Standard Plumbing Ladies League (Tuesday nights, Sarasota Lanes). The team includes Pat Bowers, Betty Huffman, Pat Lahmers, Alma Sanger, Debbie Woolard, and "Super-Sub" Beverly Gill. They have been invited to compete in the Champion of Champions Tourney (for the top five teams in the various leagues in Sarasota and Manatee Counties) during April and May.

GETTING ACQUAINTED WITH CIRCLE MEMBERS

CAD/CAM TASK MASTERS CIRCLE

Members of the "Task Masters" Circle work in the CAD Department. (CAD stands for Computer-Aided Design.) They are printed circuit designers who interface with Engineering and Manufacturing to generate the needed drawings, artwork and drill tapes to build printed circuit boards, a vital part of our electronics equipment.



Members of the CAD/CAM Task Masters Circle are shown with CAD display in the south hallway. The chart is a Circle project which shows the CAD work flow. Pictured are Ben Robinson, Bev Still, Gary Fuller, Jay Boardman, Darrell Powell and Carroll Cissel. Missing from photo are Jerry Kallenbach and Wayne Shepherd.

JAY BOARDMAN joined our company in March, 1980. He enjoys boating, golf, water skiing and SCUBA diving. In any spare time, he continues to put the finishing touches on the house he built over the past three years.

CARROLL CISSEL is a long-time employee who started with Rixon in Maryland back in 1967 and transferred to Sarasota in 1980. His interests include fishing, riding his motorcycle, and windsurfing.

GARY FULLER joined FWSI three years ago. He is studying for a management degree in the Nova University program.

WELCOME ABOARD TO OUR NEW COLLEAGUES

A warm welcome to the new employees pictured here who joined us during recent weeks. We look forward to working

He enjoys sailing, collecting and reading old books, cooking, and being with his wife and baby daughter.

JERRY KALLENBACH works in CAD on the third shift. He has been with the company since 1980, and includes boating and fishing in his outside interests.

DARRELL POWELL began working in the drafting Department in 1979. Her interests include bicycling, horseback riding, art and music.

BEN ROBINSON, CAD Supervisor, started with our company in Archbald, Pa. back in 1982 and transferred to Sarasota in 1983. Ben's main interests are his wife and two sons, and working with people at his church. In his spare time he enjoys woodworking and building things with his hands.

WAYNE SHEPHERD works on the CAD third shift. He has been with Data Systems Division for two years, and enjoys fishing, boating, camping and hunting.

BEVERLY STILL joined us in October, 1979. She collects miniature furniture and shops at garage sales to find doll houses for her miniatures. Bev also enjoys tent camping at State Parks.

CONGRATULATIONS !

LINDA SITTLER (Systems Assembly) and Brian Reynolds were married on March 1st in a Sarasota wedding. Darlene Klenke (Systems Assembly) was a bridesmaid. The men wore black tuxedos and the women wore white tuxedos. Both the bride and the bridegroom wore tails.

ALEX HAMILTON (Telemetry R & D) married Pamela J. Anderson on March 15 in a Punta Gorda church wedding.

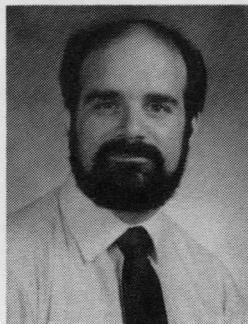
SANDRA HATCHER (Computer Operations) welcomed her new daughter Anjelica on April 12. The baby weighed in at 5 lb. 13 oz.

MIKE HEATON (Stockroom) married Sylvia Vasquez on April 5th in a Sarasota church wedding.

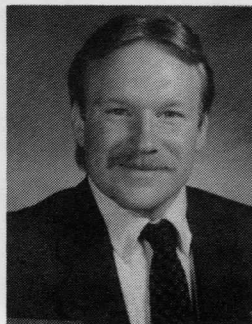
with our new colleagues to achieve Data Systems Division's goals. Happy to have you with us!



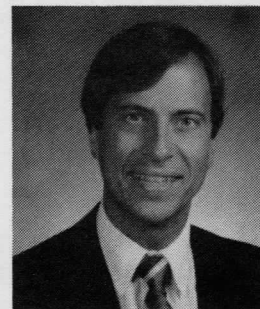
EARL W. HARRIS
Principal Sales Rep
Instrument Recorders
Camarillo, CA.



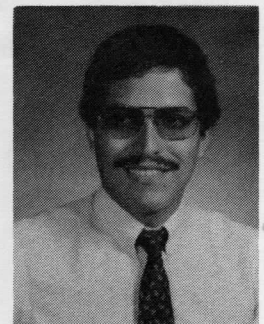
JAMES I. HESS
Assoc. Test Engr.
Signal Processing



GARY S. MARTIN
Telem. Sales Engineer
California Area



MICHAEL A. NASTANSKI
Sr. Configuration
Management Specialist
Quality Assurance



LUIS E. SANDOVAL
Reliability Engineer
Quality Assurance

WE OUGHTA BE IN PICTURES -- AND WE ARE !

A number of Sarasota employees were given an opportunity during early April to appear in a videotape production showing the corporate capabilities of Fairchild Weston Systems, Inc. Produced for FWSI by La Penna Productions, Farmingdale, N.Y., the videotape will portray the company's technical and human resources to let clients know who we are and what we do.

On hand from FWSI, Syosset, N.Y., were Bob Hirsch and

Mike Guarino, plus videotape production personnel from New York, New Jersey, and the Sarasota area.

Videotaping was conducted at Syosset, Archbald, Pa., Sarasota, and Palo Alto, Calif., to capture the essence of our company, its employees and its capabilities.

We hope to be able to show the videotape to employees later this year.



Lights, cameras and video monitor -- all part of making a videotape. Work continues on McClellan AFB telemetry system as videotaping proceeds.

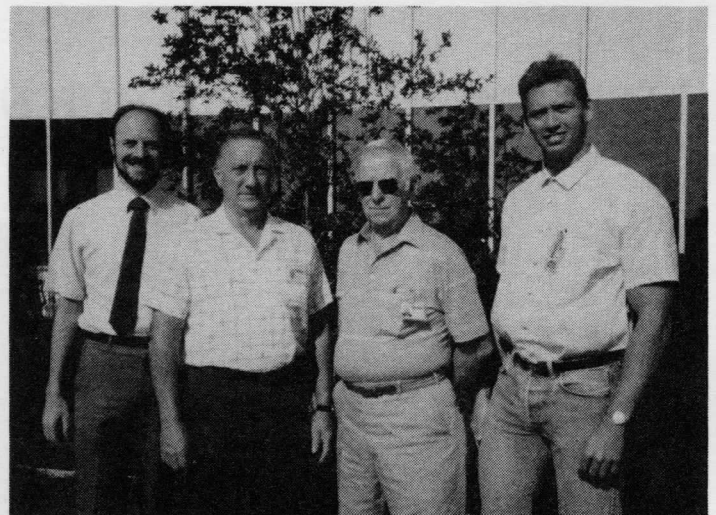
MAJOR SERVICE MILESTONES BEING OBSERVED IN APRIL

Celebrating MAJOR service anniversaries this month are two long-time employees -- Charley Flatley and Ron Connolly --

Charley rounded out 35 years with our company on April 23, and Ron completed 30 years on April 18. Both men transferred to Sarasota from Sangamo Electric in Springfield, Illinois, when our Data Recorders line came to Florida in 1978.



John Ingro, Customer Service Rep, out of our Albuquerque, N. M., office, marked his 10th service anniversary during April.



Congratulations on major service milestones being observed by Karl Hahn (5 years), Ron Connolly (30 Years), Charley Flatley (35 years) and Paul Coyas (5 years).