

# PULSE



**SANGAMO WESTON**  
**Schlumberger**

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

NEWS ABOUT SANGAMO WESTON, SARASOTA

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## CVR HEADED FOR NEW PRODUCTION RECORD

A new Sarasota production record for Cockpit Voice Recorders was in the making as PULSE went to press this month -- 100 CVR's produced in March.

"It is only through the cooperation and teamwork of a lot of employees that we're reaching this Cockpit Voice Recorders production goal," said Hans Kaiser, Aviation Recorders Manufacturing Manager.

"Thanks to the conscientious effort and the interest of many employees, we are producing more Cockpit Voice Recorders this month than we have in nearly 14 years, when comparing an equivalent-sized work force," he explained.

Production of 100 units this month will help us to achieve normal delivery lead time to satisfy our customers' requirements, Kaiser noted.

"The Aviation Recorders group would like to be able to reach all areas -- Stockroom, Purchasing, Harness, P.C. Boards, Machine Shop, Assembly, Test, Inspection, Production Control, Traffic, and many others -- to say 'Well done' for helping to achieve this record," he said.



Representing some of the areas which contributed to this month's Cockpit Voice Recorders Production record were: foreground, Betty Drymon (Assembly); Teresa Smith (Harness); Liz Bell (Assembly); Hans Kaiser (Aviation Recorders Manufacturing Manager); Monica Laskowsky (Printed Circuit Boards); Nancy Chesnut (Assembly); Rita Jeannette (Setup); Jean Burns (Assembly); Howard Graham (Potting Lab). In background, Matt Neelley, Bob Boyer, Phil Ingram (all of Test); Arline Cifaldi (Assembly) and Shirley Huckaby (P.C. Boards).

## AIIE CHAPTER FORMED

A new local Chapter of the American Institute of Industrial Engineers has been organized as the Southwest (Florida) Chapter of AIIE, providing an opportunity for employees to become more active in this professional group. Sangamo Weston's Data Systems Division is hosting the group's initial Sarasota meeting on March 30, at 7:30 p.m.

Employees currently involved in AIIE activities include Skip Brawn, Bill Gibson, George Keegan, Bob Kellett, Pat Kindred, Ray Shuford, Van Stone, Don Swenson and Harry Wendt. For more information, call Van Stone, Ext. 453.

## INSURANCE MONEY \$\$\$

Your group medical insurance claim worksheets and checks will be mailed directly to your home from now on. Our Medical Plan Administrator (Aetna) is cooperating with our Insurance Office to speed up the processing of claims by sending the explanation of your insurance benefits and your checks (when applicable) directly to your residence. Please be sure your current address is on the Benefit Request Form you submit with your claims.



**OPEN HOUSE FOR EMPLOYEES  
& FAMILIES - APRIL 4, 1982**

**1 - 4 p.m.  
SEE YOU THERE!**

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

**An Equal Opportunity Employer M/F/H/V**

## DEXTER NASH TO COORDINATE QUALITY CIRCLES PROGRAM

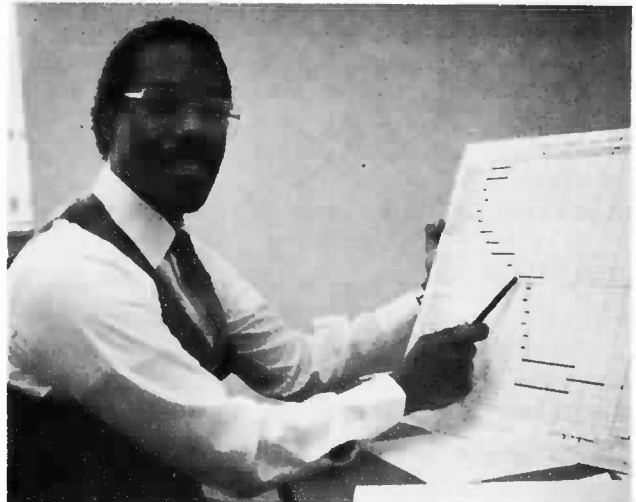
Dexter Nash has been appointed Quality Circles Facilitator for the Data Systems Division, a new position which points toward establishing a Quality Circles program for our facility. He comes to us from GTE Automatic Electric, Genoa, Ill, where he held a similar position.

Dexter has a degree in education from DePaul University, and an associate's degree in Industrial Engineering from Morane Valley College, Illinois. He taught school for several years and subsequently worked as Senior Industrial Engineer in production operation training at Molex, Inc., in Illinois.

His background in Quality Circles includes special training at Quality Control Circles, Inc., Las Gatos, Calif., and attending the Dr. Deming Statistical Quality Control Workshop.

Dexter and his wife Michelle and son Jeremy (2-½) recently moved to Sarasota from Naperville, Ill, a Chicago suburb. His other interests include tennis, and playing piano and lower brass instruments, such as trombone, baritone and tuba.

"The thing about Quality Circles which excites me the most is seeing individuals develop their creativity," Dexter says. "Being able to question old norms and processes and



Dexter Nash

generally being able to ask, Why are we doing it this way? Or developing a new concept and allowing individuals to take part in the decision-making process. Eventually, we can all get involved in making our products and jobs better and more effective."

Plans are underway now for establishing a pilot program of a small number of Quality Circles later this year.

## SOME QUESTIONS & ANSWERS ABOUT QUALITY CIRCLES

Q. What are Quality Circles?

A. A Quality Circle is a small group of volunteers from a single work area who meet on a regular basis and are trained to identify, analyze, recommend, and, where possible, implement solutions to problems in their area.

Q. Why is the Data Systems Division installing a Quality Circle Program?

A. Because management is convinced that Quality Circles not only incorporate participative management, but that Circles develop people through training and team involvement.

Q. Where do Circle Members come from?

A. Ideally, members of a particular Circle will be volunteers from the same work area, who do similar work so that the problems they select will be familiar to all of them.

Q. How many members are in a Circle?

A. An ideal size is 7 or 8 members. The size must never be so great that each and every member cannot have sufficient time to participate and contribute at each meeting.

Q. Who decides who can join the Circle?

A. Membership is strictly voluntary. In our initial pilot program, the number of Circles will be limited and there will

probably be more volunteers than there is room for in the program. Once we complete the pilot portion of the program, we hope to increase the program plant-wide and more circles will be formed. Eventually, our goal is to permit anyone who desires to be a Quality Circle member to participate in the program.

Q. What are the objectives of Quality Circles?

- A. The basic objective of Quality Circles is People Building, which translates to:
- Allowing individual employees to have something to say about their work
  - Creating a problem-solving capability.
  - Reducing errors and enhancing quality.
  - Inspiring more effective teamwork
  - Improving company communications and developing improved manager/worker relationships.
  - Developing an attitude of problem prevention.

Q. Are Quality Circles applicable only to manufacturing employees?

A. Absolutely not. The concept has branched out to include many other areas such as Engineering, Material Control, clerical and office personnel.

Q. Is this a new idea?

A. No. Quality Circles were conceived in Japan in 1961. It is relatively new in the United States and is meeting with great success in those companies which have implemented it.

## 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.



**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 check-out of all software modules which have been written and which need to use the as yet unwritten module.

## 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

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.

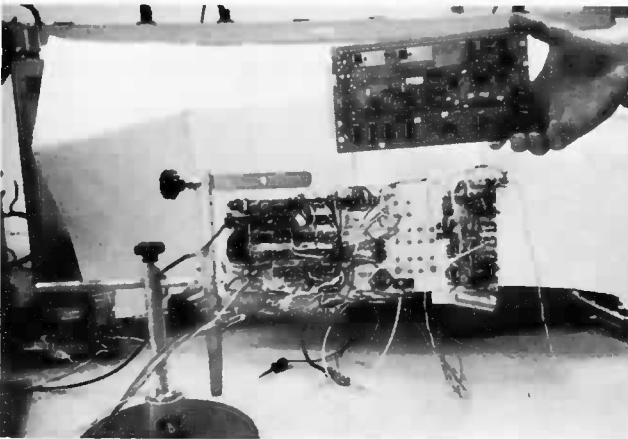
The TNL 1500 Cloud Ceilometer subassemblies are fitted to a chassis located in a single fiberglass housing. The unit is then mounted on a concrete base.

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/O Unit incorporates a digital display for directly reading the cloud base height, as well as a strip chart recorder.



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.

TESTING - 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.



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 Industrial Systems



In Data Processing



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.

# REMEMBER WHEN?

## OUR TEST DEPARTMENT JUST 25 YEARS AGO

It was summer, 1957. The small electronics company known as Electro-Mechanical Research had just moved into its newly-built Production Building.

The 45,000-sq. ft. building appeared, mirage-like, in the wide open 90-acre field at the corner of Fruitville Road and Packinghouse Road. Some personnel in Ridgefield, Conn., were getting ready to move to Sarasota. Locally, a few of our Sarasota Pioneers were already at work.

Today, 25 years later, the Data Systems Division of Sangamo Weston occupies a building with nearly 300,000 square feet under roof, and our volume of business has grown many times over.

In the photo, on the test bench near Don Roberts, are a few Model 75 VCO's (Voltage-Controlled Oscillators) such as were used in the old "Martin Package" -- an airborne telemetry package used in testing the Titan I missile.



A view of our Test Department 25 years ago. In the left foreground was Don Roberts, now Manager of our Industrial Systems' Field Service. Some other current employees who were in the Test Department at the time include Randy Mitchell, Don Riker, Dan Toler, Bud Thurmond, Paul Weller.



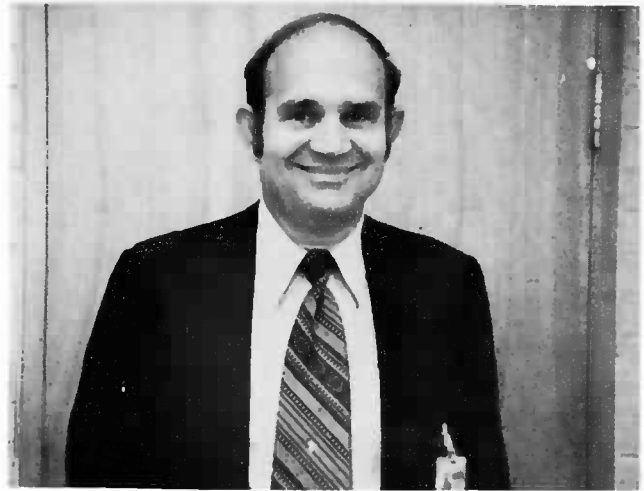
Recognize this smiling gentleman at his Test Department set-up in August, 1957?

# HAPPY ANNIVERSARY

Special anniversary greetings to this group of employees who observed major service anniversaries during March.



Congratulations to our 25-year Sarasota "Pioneers" (seated) Tracey Hardy, Betty Cobb, Eddie McDonald, and Mable Altman. Standing are Don Roberts and Opal Black, both observing 25 years with the company in Sarasota this month. Standing in the center are Joan Brothers and Jack Billman, both completing 15 years in March, and at right, George Emigh, 5 years.



Congratulations to Bud Thurmond who completed 25 years of service this month.



**NOTHING -- BUT NOTHING  
PROTECTS YOU BETTER THAN  
CONSTANT SAFETY AWARENESS**



## MINIATURE HORSES WIN HEARTS, TROPHIES AND RIBBONS

Marc Kolchakian, of Traffic, and his wife Barbara showed their four registered miniature horses at the Sarasota County Fair this month and captured all kinds of trophies and ribbons.

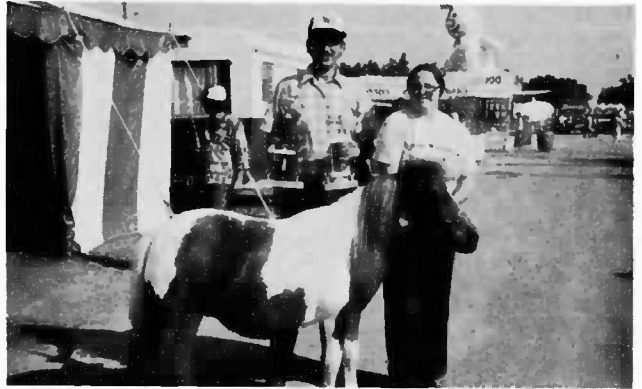
These miniature horses are a maximum of 34 inches high, measured from the withers (the ridge between the shoulder bones of a horse, or roughly the base of the mane).

The Kolchakians' four miniature horses are registered with the International Miniature Horse Registry. They are Midnight Velvet, 31 inches high, a four-year-old mare; Estralita 33-1/2 in., a five-year-old mare; Little Buccaneer, 34 inches, a two-year-old colt; and 34-inch-high Cookie Pie, an 11-year-old pinto mare.

With two of their horses in foal now, the Kolchakians plan to raise and sell some foals. "But mostly, we just have these miniature horses because we enjoy them so much," Marc said.

The price of a miniature horse can range from \$1,000 to \$20,000, depending on the horse's configuration.

Marc and Barbara and their horses make their home on his father's 30 acres in Myakka City.



Barbara and Marc Kolchakian with Cookie Pie and some of her trophies.

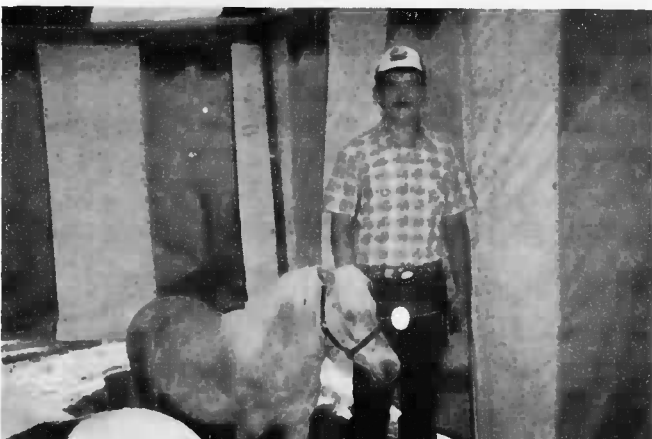


Retiree Richard Kolchakian and son Marc with Midnight Velvet

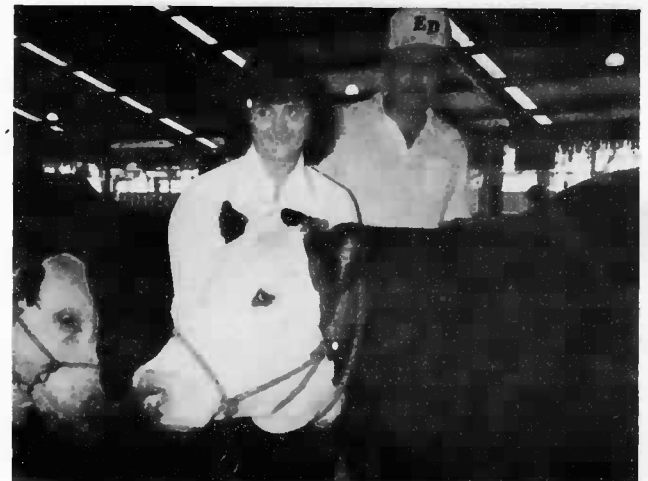
Another prize-winner at the County Fair was Teri Ann Sleeman, 16-year-old daughter of Eddie Sleeman, of Traffic. Teri's 1225-pound steer "Buster" brought \$2.90 a pound at auction. A member of Future Farmers of America, and Riverview High Junior, Teri garnered a first place for Buster, plus awards for overall grooming, showmanship, and superior exhibitor. In addition, Teri's 255-pound hog, "Twiggie," brought \$2.00 a pound and won a red ribbon, plus a superior exhibitor award. Teri Ann also took second place in dairy judging.



Pete Athas, of our Paint Shop, helped show Little Buccaneer for the Kolchakians.



Estralita and Marc Kolchakian at County Fair miniature horse show.



Teri Ann Sleeman, and her dad Eddie Sleeman, of Traffic, with her steer, "Buster," at County Fair.