SAN FRANCISCO SYSTEM

This giant display is part of a large system currently being readied for shipment to San Francisco. The equipment, called a Municipal Transit Supervisory Power Control System, will serve to monitor San Francisco's "Muni" trolley system. It provides constant monitoring of the power system. In case of a power outage, this Supervisory Power Control System will allow power to be re-routed to the area affected. Our system includes numerous racks, remote units, peripherals and software. Project Technician Dick Van Deusen and Project Engineer Len Zeiler (standing) are pictured with the system.

* * * LATE BULLETIN * * *

Late news, just received as PULSE was going to press:

Data Recorders Salesman of the year is STEVE HOFF, of Conroe, Texas, with total 1980 sales of over $1,000,000. The number two Salesman for Data Recorders for 1980 was DICK DE LONG of Cupertino, Calif.

RON KREBS, Western Regional Manager, Irvine, Calif., took the 1980 Regional Manager of the Year Award.

Congratulations to the winners.

MAJOR MOVES UNDERWAY FOR BETTER WORK FLOW

Improved productivity and better work flow are the main reasons for some major moves and construction now taking place in the Production and Machine/Fab Shop areas.

Work has started in the Metal Fab area on building a Short Run Shop, Tool and Die Shop, Dispatch Center, Machine Maintenance Shop, and offices for Supervisors.

In the Assembly areas, we are relocating Printed Wiring Assembly groups, Cabling groups, and Data Systems Assembly. These moves in Assembly will allow for installation of some new equipment, plus shelves for work-in-process, and generally improve the work flow for better efficiency. A new vapor degreaser and an oven have already been installed.

In the Machine Shop/Metal Fabrication area, there will also be new equipment. Currently awaiting installation are a new milling machine, new cut-off saw, and new hydraulic press.

"Our efforts are aimed at improving Fab Shop efficiency by providing an area specializing in production of small

Production continues as employees move. Already in their new location, but not yet fully settled in, are these employees in Data Recorders Printed Wiring Assembly.

An Equal Opportunity Employer M/F/H/V

INTRODUCING THE EMPLOYEES IN . . . SYSTEMS ASSEMBLY

The Systems Assembly group has many responsibilities. These include installation of standard products into mini racks such as the Model 708, FAA, and XPRT; assembly of one-of-a-kind custom products; system rack assembly, including SWS racks, and custom installation of systems in vehicles such as vans, trailers, and railroad cars.

Working from limited documentation and verbal information from engineers or technicians, these employees, under the supervision of George Phillips, are constantly involved with a variety of interesting new projects.

Dave Clouse
Manager, Telemetry &
Industrial Systems Production

Group Leader JUDY BOYD (left), EVELYN WHITE (seated) and B. J. MATTHEWS are shown with a Remote Monitoring Unit which is being wired for a NASA windmill system.

VICKI KOHN and ANNETTE ROSIER (seated). Annette is working on wiring an anemometer simulator for an FAA system.

PAT WETJEN (left) and BOB MOORE, Systems Assembly Technician, are shown with some of the complex cables in one of the racks for a flight test system destined for Argentina. "Dressing" cables is one of the tasks performed by our Systems Assembly group.

DON WHITE (left) and JIM COX are working on mechanical assembly of racks for SWS.
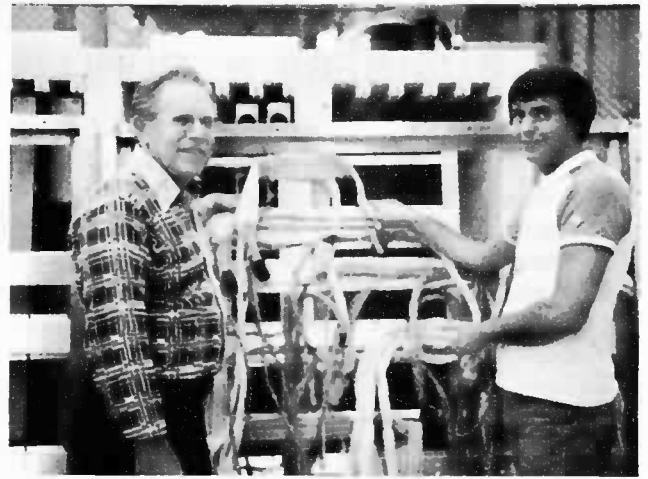
LINDA SITTLER and BOB DIETZ with a power supply for a Supervisory Control system to be used in a power system in Mexico.

INTRODUCING THE EMPLOYEES IN ... SYSTEMS ASSEMBLY

DEBBIE LAHMERS is shown wiring and soldering unibus terminators for CSU (Cyber Service Unit) racks for SWS systems.

Supervisor GEORGE PHILLIPS (left) and Systems Assembly Technician PAT HORTON. Pat is hanging cables on a matrix for an SWS system.

One employee, Barbara Donaldson, is missing from these photos of the Systems Assembly group.

THE NAME SANGAMO -- WHERE DID IT START ?

SANGAMO -- an interesting name. Where did it come from? Around Springfield, Illinois, where Sangamo Electric was located for many years, the local tradition attributes the name to several possible sources.

According to Charles (Chris) Patton, former Engineer with Sangamo Electric, and now an early retiree, the local legend says that an early French explorer (Charlevoix) was probably canoeing down the Illinois River, and one of his Indian guides may have pointed to a tributary and called out something like "Sagi-ong" (meaning "river-mouth"). Assuming that to be the name of the river, Charlevoix recorded it as "Saguimont," and the name "Sangamon" evolved over the years. Thus the river and county came to be called Sangamon.

"Another local story is that the founders of Sangamo Electric, back in the 19th century, thought they were naming the company after a Chief of the Illini tribe, Chief Sangamo," Mr. Patton said.

Schlumberger acquired Sangamo Electric in 1975, and the Data Recorders product line was subsequently moved to Sarasota. Some 56 Sangamo employees and their families transferred to Sarasota from the Springfield area about May, 1978.

Bill Kessler, of Data Recorders Marketing, was transferred to Sarasota from Springfield. He has named his sailboat "Sangamon." Whenever someone asks Bill what the name "Sangamon" means, he replies, "Roughly translated, Damn Fast Canoe."

QUESTIONS & ANSWERS ABOUT OUR BENEFITS

Q. What kind of dental coverage do we have?

A. Certain specific dental surgical procedures are covered. For example, oral surgery for impacted wisdom teeth can be covered, and also any osseous surgery (cutting into the bone of your mouth). However, please note that braces, bridge work, and fillings are NOT covered. If you are going to have oral surgery, you can ask your dentist to fill out a blue Benefit Request Form, IN ADVANCE, describing the specific procedures and diagnosis, and our Insurance Office will send it to Aetna to get an estimate of what will, or will not, be paid. Call Wendy Schroyer, Ext. 526, for details.

Q. Are any of my medical bills not subject to a deductible?

A. Yes. Hospital bills...Surgery bills...Assistant surgery... Anesthesia...Radiology and Pathology*

*Note: Diagnostic tests, such as radiology and pathology, to be covered, must be consistent with the diagnosis. Diagnostic tests to determine the cause of specific symptons are covered at 80%. Please note the difference between a routine health checkup (not covered) and diagnostic tests for a specific ailment, which are covered.

Q. I had very few medical bills in 1980. I did have a couple of doctor visits during October, November and December, but not enough to meet my 1980 deductible. Can I use them toward 1981 medical expenses?

A. Yes. Save your medical bills of October, November, and December, 1980, and utilize them toward meeting your deductible in 1981. This applies to covered medical expenses during the last quarter of the year, if you did NOT meet your deductible in 1980.

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SMALL AS A BUG...POWERFUL AS A GIANT ...

MICROPROCESSORS AFFECTING OUR BUSINESS & OUR LIVES

By William N. Waggener
Senior Staff Engineer
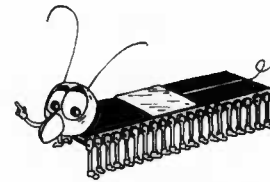
A few years ago, the term MICROPROCESSOR emerged from "Silicon Valley" in California (an area near San Francisco with a heavy concentration of electronics companies) and into the mainstream of our lives. Today there is hardly an individual in urban America who does not have some daily contact with the microprocessor.

If you own a video game, a calculator, a microwave oven, one of the recent electronic toys, or any of a variety of other modern appliances, you own one or more microprocessors. If you work at Sangamo Weston, in Sarasota, you will see our products greatly affected by microprocessors.

Just what is this microprocessor that has invaded our daily lives?

Perhaps the term "microcomputer"--increasingly being used in place of microprocessor--is a more apt description. The microprocessor is a computer shrunk to the size of your fingernail. The microprocessor performs all of the functions of the modern large digital computer. It can, for example, take in information from the outside world through a variety of devices, such as switches or keyboards, and can perform a variety of manipulations on the information, including arithmetic and logical operations. The results of the information processing can be used to control external devices such as turning on and off switches, or can display results to a human user.

The TV game is a dramatic example of the use of a microprocessor. When the user turns on the TV game, the microprocessor presents some information to the player in the form of a picture on the TV screen. When the user plays a game using the accessories, such as paddles, keyboards or joysticks, the microprocessor senses the user inputs and processes these to play the game. The results of a player's input to the game can then be converted into some action displayed on the TV screen. The microprocessor controls all the actions of the players, and the machine's response to the player, as well as displaying or storing results. The microprocessor's arithmetic operations can perform simple tasks such as keeping track of the game score for each player, very much as players would do manually.

What is this device that is having such a great impact on our lives? November of this year marks the 10th anniversary of the first announcement of the microprocessor by the INTEL Corporation. INTEL delivered the 8008 microprocessor in 1972 and has produced a succession of processors with ever-increasing performance and ever-decreasing price. Since the delivery of the first microprocessor, the performance has been improved by nearly 1000 to 1, and the price has declined from about $300 to about $3.

The foundation for the microprocessor was laid during the 1960's with the development of large-scale integrated circuits. The LSI circuit technology evolved from the basic transistor and consisted of a method of fabricating thousands of transistors on a single silicon substrate, or base.

To be practical, LSI circuits depended upon finding applications which required large numbers of transistors with a relatively small number of connections to the "outside world," and a large standard parts market, plus a regular structure of devices (devices having a similar geometry).

The first applications to meet these requirements were memory chips--devices able to store large amounts of information in digital form. Calculators and digital computers were a large market for these memory devices.

The microprocessor developed by INTEL engineers had the necessary attributes: the microprocessor had a general use, so that many people could use the same device, thereby creating a standard parts market. The processor required great complexity in circuitry, but the interconnections to and from the device could be limited to about 20 connections. After the original 8008 microprocessor was introduced, INTEL produced a succession of microprocessors, about every two years, with significant performance improvements. Others followed INTEL's lead, and now there are nearly 50 different microprocessors available.

The microprocessor, like its big brother, the digital computer, is most suitable for doing highly repetitive jobs. It is also very good for performing jobs that must be done in some particular order. The control of a washing machine is a good example of a job which does not have to be done very rapidly, but must be performed in a predetermined
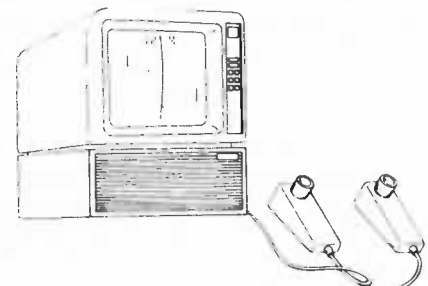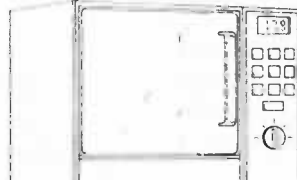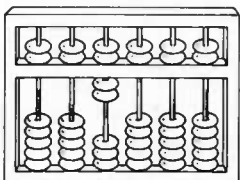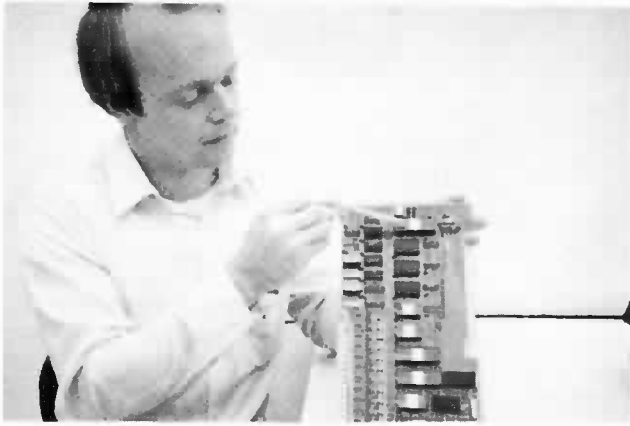
MICROPROCESSORS

Jim Bailey, Senior Engineer in Industrial Products R & D, points to microprocessor on a printed circuit card. This P.C. card is used as a RECON I Remote Controller in our Supervisory Control systems.

sequence of events. The washing machine goes through specific washing and rinsing cycles which depend upon the size of the load and the type of clothes being washed. Most washing machines of the past 20 years perform the required sequence of events using a motor with a set of switches which are turned on or off in a particular order and after a particular time. Recently, several washing machines have been introduced which use a small specialized microprocessor to replace the functions of the timer motor.

Why would a manufacturer want to replace the timer mechanism with microprocessor control? While the microprocessor does not necessarily cost less than the timer motor it replaces, the microprocessor does offer advantages in reliability and allows the manufacturer to provide a great deal more flexibility in the control of the machine. There are many other applications, similar to the washing machine, where microprocessors are replacing electromechanical components.

● In the next issue of PULSE, we will look at how the microprocessor works; how it affects our lives at Sangamo Weston, and what the future holds for this technology.

EXPORT SALES REPS MEET IN HONG KONG

Our Telemetry Products Export Sales department held its annual Sales Meeting in Hong Kong January 20-25, with Sales Representatives from various parts of the world meeting for intensive training on our telemetry products and systems.

Bud Thurmond and Harry Durrett conducted the training sessions for the 15 Sales Reps in attendance. "Foreign Sales Reps account for about 30% of our overall business, so it is important to keep them well informed," Bud said. "Our 1700 series (XPRT) PCM system and its planned expansions for 1981 were very well received, and increasing Export sales seem to reflect the Sales Reps' enthusiasm about our products," Bud noted.

CONGRATULATIONS !

GUY UNGARO (Data Recorders Field Service) and Debbie Heath Ungaro (formerly in Data Recorders Test) welcomed their new daughter Angela Jo -- three weeks early -- on February 10th. Angela was born in Vicksburg, Miss., and weighed in at 4 lb. 11 oz.

BETH PHILLIPS and MITCH PHILLIPS (both of Data Systems Software) are the proud parents of a new baby girl, Ashley Elizabeth, born February 8 and weighing 7 lb. 10 oz.

RAY THOMAS (Test) and his wife Janice had an early Christmas present in their daughter Lilarie, born on December 15, 1980. She weighed 7 lb. 3 oz.

MARILYN E. LONG (Fab Inspection) became Mrs. John J. Hilborn, Sr., on November 21, 1980, in Port Charlotte, Fla.

BRUCE JOHNSON (Personnel) and Sharon Forrester were married in Ocala, Fla., on February 21.

KATHY BOLEY, Supervisor of our Word Processing group, has been invited to Chair a session on "Equipment Analysis and Feasibility Studies" at a Major User-Industry Conference sponsored by the National Institute for Management Research in Washington, D.C. The conference, entitled "The Automated Office -- Planning and Implementation Experiences," will be held March 2-4, 1981.

CREDIT UNION NAMES NEW BOARD, OFFICERS

New officers and members of the Board of Directors of the EMR Sarasota Employees Credit Union pictured here are: Director Scott Blair; Assistant Treasurer Sue Sutherland; President Mike Wright; Secretary Berenice Henderson; Treasurer Ed Annaratone, and Director Martin Belkin. Missing from photo is Vice President Don Parker.

Other key Committees and personnel in the Credit Union are:

OFFICE: Janice Boldt, and Office Manager Lillian Conway.

CREDIT COMMITTEE: Don Roberts, Chairman; and Bruce Johnson, James Massing, and Loan Officer Donna Mahler.

SUPERVISORY COMMITTEE: Chairman Derek Watkins, Mike Russell and Greg Lambert.

DELINQUENT LOAN COMMITTEE: Chairman Don Parker, and Mike Wright.

MAJOR MOVES UNDERWAY
FOR BETTER WORK FLOW

quantities, and a dedicated area for building and maintaining tooling and fixtures," explains Eldon Andrews, Methods Engineering Section Manager. "There will also be a central area to dispatch and track jobs in process, and a permanent area for repairing and maintaining shop machinery. Completion of these changes in the Fab Shop is expected by the end of April."

Our Plant Engineering and Maintenance people are heavily involved in all of this work.

HAPPY ANNIVERSARY

Congratulations to the employees observing major service anniversaries during February. Among our big anniversaries this month is Mauri Calvert's -- 30 years of service to his credit.

Jon Brown joined us in 1966; Bunny McFarland (1976), and Ed Domrzalski (1966), all celebrating service anniversaries this month.

Ron Krebs, Western Regional Manager for Data Recorder Sales, Irvine, Calif., marks his fifth service anniversary this month, too.

Dan Rendon, of Fairchild Weston Systems' Irvine, Calif., Field Service organization, observed his big 20th service anniversary in January.

Mauri Calvert, whose service began in 1951.

Dan Rendon, in Irvine, Calif.

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QUALITY QUIZ --
IT'S A-MAZE-ING !

Here's a new puzzle for the Quality Quiz fans -- this one contributed by Mike Russell and Mike Smith -- with the aid of an HP85 Microcomputer.

Find your way through the maze. Then give your answer to your friendly Quality Representative, and you may be one of the three lucky winners of a free lunch in the Cafeteria. Answers must be received by March 11.
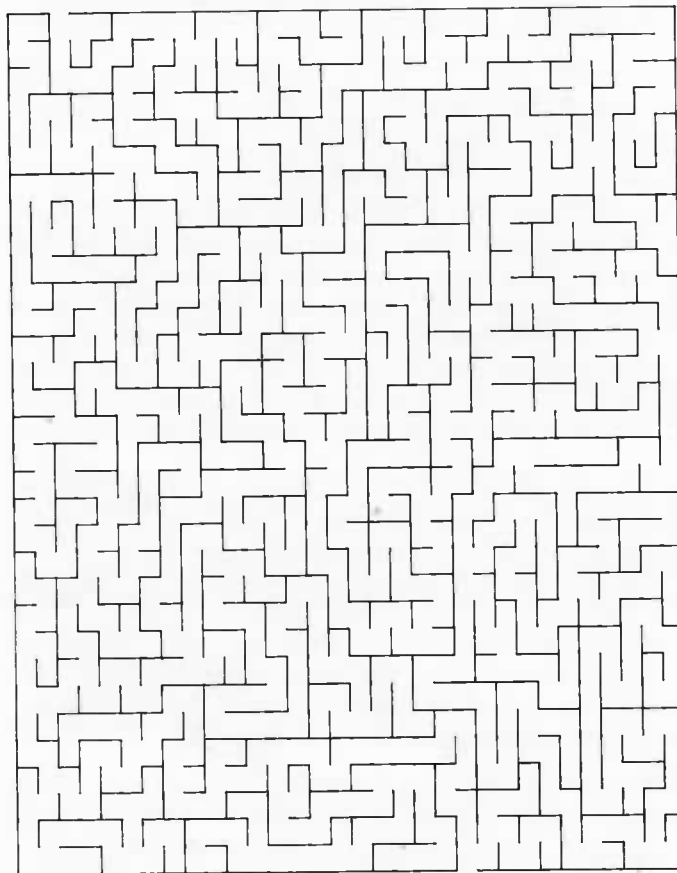
Last month's Quality Quiz (All in the Family) called for you to find the smallest possible number of persons in the family described. Correct answers came from seven employees, and the three employees whose names were drawn for a free lunch are: Larry Bickford, Barbara Donaldson, and Gary Snyder. THE ANSWER: SEVEN.

A TOUGH ONE

In the Quality Quiz which called for the solution of a mathematical problem concerning the amount of the original check, the correct answer was: $14.32. There were just eight correct answers submitted. A tip of the Quiz Master's hat to the employees who sent in correct answers: Chuck Berster, Mark Dismukes, Barbara Donaldson, Dick Dungan, Herb Hasty, Dave Welsh, Dale Woodland, and Dan Woods. Nice going!