PULSE

EMR

The EMR-Telemetry News

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ART STUDENTS PLANT SEEDLINGS AT EMR TREE FARM

It was Saturday afternoon, March 6. A caravan of cars and a bus--some flying the green and white ecology flag--stopped at EMR-Telemetry's property on Fruitville Road, and out stepped more than 50 Ringling School of Art students. In just about an hour, the student volunteers had planted 500 red cedar seedlings among the 11,000 slash pine trees already growing on EMR-T's Tree Farm.

The art students were participating in a special Ecology Week, with lectures and voluntary clean-up chores around the community, all emphasizing environmental improvement. In cooperation with County Forester W. J. Schilling, of the Division of Forestry of the State Department of Agriculture, the students arranged to plant 500 additional trees at EMR. The Division of Forestry supplied the trees, and the students provided the enthusiastic muscle!

EMR-T's tree farm was established in February, 1969, as part of an advanced waste treatment facility which processes EMR-T's industrial and sewage wastes. EMR manufacturing wastes are initially batch treated in our industrial waste treatment facility. Sewage is treated in our sanitary waste treatment plant. The effluents from the two facilities are then combined and used to sprinkle the 15-acre tract of trees at the northwest corner of EMR-T property bordering Fruitville Road.

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NEW S-BAND TRANSMITTER USES TINY MICROCIRCUITS

That little box held by Clyde Brackett, of our Microcircuit Facility, and admired by Bill Bernard (left) and Dave Bryant, of Engineering, is EMR-Telemetry's new Model 3602 S-Band Transmitter.

The 20-cubic-inch, 2.5-watt Transmitter is the newest and smallest to date of EMR's line of telemetry transmitters, and utilizes tiny microelectronics devices to permit much smaller volume along with ruggedized construction. The result--a very rugged, small, S-Band Transmitter capable of operating efficiently under extreme environmental conditions such as shock, vibration and acceleration.

The new transmitter has already passed its qualification and acceptance tests, and will soon be on its way to our customer. The customer has ordered a number of the new Model 3602 Transmitters for delivery over the next few months. Bill Bernard, of Data Communications Engineering, is Project Engineer.

* * * FIRST SKYLAB AIRBORNE TELEMETRY SYSTEM SHIPPED * * *

A major milestone in EMR's "Airlock" Program was reached in January with the shipment to McDonnell Douglas Astronautics Company, St. Louis, of the first complete flight telemetry system. The Airlock is one part of NASA's Skylab cluster of spacecraft.

EMR-T's airborne PCM telemetry equipment which was delivered in St. Louis on January 25 consists of 14 Low Level Multiplexers, 11 High Level Multiplexers, two Programmers and one Interface Box. Work is continuing on the Skylab/Airlock Program here in Sarasota, with spares and a second flight system scheduled to be delivered to McDonnell during the next four months.

This airborne PCM telemetry system is scheduled to fly on the nation's first Skylab--an early manned orbiting station--planned for launch by the National Aeronautics and Space Administration in 1973. Skylab will serve as living quarters and work area for three astronauts for three stays in space of up to two months' duration.

Literally hundreds of EMR employees have participated in the Skylab (Airlock) Program since the several-million-dollar contract was awarded in 1968. "Design, manufacture and test of the Skylab airborne telemetry system and the two ground-based Computerized Airlock Test Sets (CATS) required the combined know-how of Engineers, Technicians, Draftsmen, Assemblers, Machinists, Secretaries, and many others," noted Program Manager A. S. Van Bueren.

EMR's Airborne PCM Telemetry System for Skylab. In foreground: high level and low level multiplexers; background: two programmers with interface box in center.

SKYLAB -- due to be launched in 1973.

"Skylab is a good example of how it takes the whole team of skilled EMR employees working together to do the job," said General Manager Leo G. Chappell. "This Program has required our best effort at EMR-T in Sarasota as well as in Minneapolis, where EMR-Computer personnel cooperated to provided the CATS computer."

EMR's airborne telemetry hardware on Skylab will monitor and encode measurements of internal and external spacecraft environments and on-board experiments for transmission to earth. Our telemetry system is capable of handling nearly 2000 channels of telemetry data.

In addition, EMR's ground-based computerized test sets (CATS) are used to test the Skylab telemetering multiplexers, programmers and interface box. One CATS system was shipped to McDonnell Douglas, St. Louis, in May of last year. There McDonnell Engineers use the CATS for acceptance testing of the EMR telemetry flight hardware and for continuing tests as the telemetry is installed in the spacecraft. The second CATS remains here for in-house testing of the airborne telemetry equipment still being built.

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M. E. Herbst, Editor

William A. Sewell, DCAS Quality Assurance Representative at EMR-T; Howard M. Jory and W. R. Wollenberg, of McDonnell Douglas, with Wayne Brinton, of EMR-T, as interface box passed one of many inspections.

Because Skylab will be a long-duration manned space mission, careful attention is given to the reliability of all Skylab systems. EMR's airborne PCM telemetry system has undergone hundreds of hours of rigid qualification and acceptance testing under extreme environmental conditions before the system was ready to ship to McDonnell.

WAGGENER TO GIVE LECTURE ON LASERS

Bill Waggener, Senior Principal Engineer in Research and Engineering, is scheduled to address the Gulf Coast Academy of Sciences on March 30, at 8 p.m., on the subject of Lasers. Bill's lecture and discussion will be presented at the Teaching Auditorium, Hamilton Center, New College. The public is invited, and there is no charge.

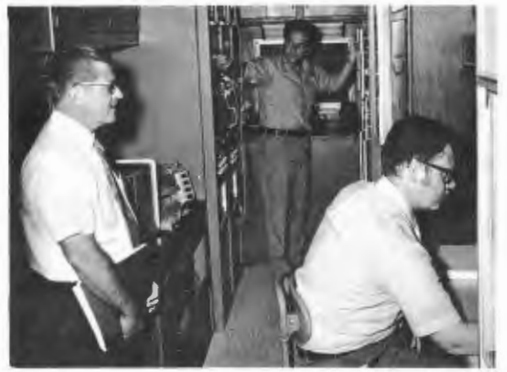
MOBILE T/C SYSTEM READY FOR DELIVERY

Another van-mounted mobile EMR telemetry/computer system has been completed and is now ready for shipment to the U. S. Army Aviation Systems Test Activity at Edwards Air Force Base, Calif. This system joins several other computer-controlled telemetry systems already delivered by EMR for use at the Army's AIDAS facility. (AIDAS stands for Advanced Instrumentation and Data Analysis System.)

The large AIDAS facility is used for real-time flight safety and test data monitoring of new Army aircraft such as helicopters.

In addition to the van pictured here, EMR has delivered an AIDAS Central Ground Station (a telemetry/computer system); a Remote Ground Station (van-mounted mobile T/C system) and several airborne systems. Our equipment includes four EMR 6135 Computers plus large quantities of EMR telemetry.

The EMR systems facilitate rapid processing of flight engineering data. The mobile units serve as quick-look telemetry data reduction systems for on-the-spot evaluation of flight tests at various elevations, and supplement the central AIDAS facility at Edwards AFB.



Inside van, Project Engineer Dick Haase, Joe Faso, and Programmer Mike Scardello, all of Systems, put finishing touches on AIDAS mobile T/C system.

ART STUDENTS PLANT SEEDLINGS (Continued from Page 1)

The trees (and weeds) thrive under the effluent sprinkling system. The original 11,000 slash pine seedlings have grown in two years from less than a foot high to an average of about four feet. Some of the slash pines were lost through "infant mortality" and some had their growth stunted because of poor soil conditions. The 500 red cedars are replacements for these.

In addition to helping the company achieve its goal of being a "non-polluter," the combined tree farm and pollution control system has other advantages: all treated effluent is kept on EMR property, and none is discharged into nearby streams; water is re-introduced into the ground and will again be usable in the future; trees themselves give off oxygen and become pollution fighters; the trees help preserve the watershed. Also, the trees have ultimate market value.

Bob Mohrfeld, Supervisor of Plant and Facilities Engineering, and Harry Yates, Water Treatment Operator, were on hand to assist in the tree-planting on Saturday, March 6. When the students finished planting the 500 seedlings and their car/bus caravan started to leave, Harry Yates

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turned on the sprinkling system. As the jets of water arched over the trees, the quiet Fruitville air resounded to applause and cheers from the students. They then headed west to work on cleaning up the beaches. (Photo by St. Petersburg Times)

And, if you watched the Saturday evening 6 o'clock Pulse news on Channel 13, WTVT, you saw pictures of the students planting trees at EMR and views of EMR-T's waste treatment plant.

ANNIVERSARY GREETINGS

EMR-T employees observing anniversaries of employment during February and March include 47 employees with February service anniversaries and 42 employees with anniversaries in March. Listed here are those of our colleagues marking major service anniversaries of 5 and 10 years:

February	March
1961	1961
Glenn Veal	Dick Haase
1966	Rex Van Tassel
Jon Brown	
Dave Colin	1966
Paul Germond	Sara Hinkle
Bob Heaton	Joe Sheppard
Arlene MacNevin	Norman Siegel

ADS CREATE INTEREST IN VEHICLE TEST SYSTEM

Recent ads for EMR-T's Vehicle Test System have brought responses from dozens of potential customers in a wide variety of industries and countries, according to Gerry Breyton of Product Marketing.

VTS inquiries have come from as far away as Australia, France, Poland, India, and from a broad range of domestic companies including the auto industry, tire companies, and manufacturers of boats, outboard motors, tractors, farm machinery, aircraft, as well as research institutes, state traffic safety labs, and university laboratories.

EMR-T Salesmen follow up each lead in their continuing pursuit of orders from regular customers and new clients.