



The EMR-Telemetry News

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McDONNELL PERSONNEL GET TRAINING ON CATS

Engineers and technicians from McDonnell Douglas Astronautics Co., St. Louis, have been at EMR-T for two weeks of intensive training in the use of sophisticated computerized testing equipment for a manned orbiting workshop of the future.

Wayne H. Lockwood, EMR-T Project Development Specialist, heads the EMR-T personnel associated with the training class.

The training course provides detailed information about the design and operation of the complex EMR equipment. Lockwood had design responsibility for the computerized Airlock testing equipment.

Work at EMR-T has been underway for more than a year on this long-term contract with McDonnell Douglas to provide a telemetry system for NASA's first manned orbiting workshop, called Skylab.

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Wayne Lockwood (center, seated) at CATS during training course with McDonnell Douglas personnel: Bill Russell, Howard Jory, Bill Loveless, Wolly Wollenberg, Bob Sowers and Art Waidmann.

PREPARING FOR PICNIC

Preparations are in full swing for the tenth annual EMR-T employees picnic next Saturday, May 23, at Sun N Fun Club from 11 a. m. to 4:30 p. m. More than 1,000 employees and members of their families are expected for the event, according to EMR-T Employees Association workers.



Volunteer Chefs Al Coles, Bob Chance, Dick Kolchakian, Dave Bryant, Johnnie Williams and Carl Van Dorn will grill hot dogs and hamburgers at the Picnic.

"Tickets for the Picnic will be distributed to employees next week," Chairman Tom Maresca reports. There'll be lots of food and beverages, games for the youngsters, golf, volleyball, horseshoes, softball, swimming, bingo with prizes, etc.

Want to help? Call the following EEA Coordinators to offer your services:

Facility: Tom Maresca, Ed O'Hara

Food: Carl Van Dorn

Tickets: Ruth Slattery

Games: Joe Faso. Children's Games:

Carolyn Cox; Golf: Tony Brancati;

Horseshoes: Mike Gerack, Julie Henry;

Volleyball: Rod Dagenais

Publicity: Horace Gordon

P. A. System: Bill Bernard

First Aid: Mary Jo Meyers, Marshall

DuBois

McDONNELL PERSONNEL

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In Sarasota for the training are Engineer W. A. Russell, Group Leader A. E. Waidmann, Technicians R. E. Sowers and W. B. Loveless, all of MDAC, St. Louis. H. M. Jory and W. R. Wollenberg, of MDAC, have been resident in Sarasota while working closely with EMR-T during Airlock design and manufacturing stages. Skylab -- formerly known as the Apollo Applications Program -- will serve as living quarters and work area for three astronauts for several stays in space of up to two months each. Launch of Skylab I is planned for late 1972.

EMR's part of this complex project involves developing airborne telemetry hardware and two ground-based test sets to test the Skylab telemetering equipment. The EMR telemetry system will monitor and encode measurements of internal and external spacecraft environments and on-board experiments for transmission to earth. Our telemetry is capable of handling nearly 2000 channels of telemetry data.

Two identical Computerized Airlock Test Sets (CATS) have been designed and built by EMR. Each CATS consists of an EMR 6130 Digital Computer and peripherals, and three racks of sophisticated electronics for testing the 37 Multiplexers, two Programmers and Interface Box which make up the flight hardware for the EMR telemetry system.

One test set remains here for in-house testing of the airborne telemetry equipment now being built. The second CATS will be shipped to St. Louis at the conclusion of the training course. McDonnell Douglas will use the CATS for acceptance testing of the EMR telemetry flight hardware and for continuing testing as the telemetry is installed in the spacecraft.

The high-speed computers and associated electronics in the EMR system permit Engineers to check out the complex system with improved accuracy and speed.

GERMAN CUSTOMER BUYS MORE EMR TELEMTRY

VFW (Vereinigte Flugtechnische Werke) of Munich, Germany, has ordered an EMR-T Airborne PCM System for use in testing a new STOL (Short Takeoff and Landing) cargo plane. Products include Model 371 Airborne Multiplexer Encoder plus associated 2700-series modules.

The order is handled by SOMV, EMR's marketing representatives in Munich, Germany, and marks repeat business with VFW. In an earlier order, EMR-T shipped a Model 371 to VFW, Bremen, for use in flight testing of a new VTOL (vertical takeoff and landing) aircraft.

NAMES IN THE NEWS...

Jim Russell, of Design and Drafting, appeared on Salty Sol's TV sports show recently to tell the Channel 13 TV audience about Sarasota County's Tarpon Tournament. The fishing tourney, sponsored by the Sarasota County Anglers Club, runs from April 25 to July 12 this year. Jim is a Director of the Anglers Club.

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Microelectronics Engineer Dietrich E. Riemer presented a technical paper at the 1970 Electronic Components Conference in Washington, D. C., on May 13. The paper is entitled "The Effects of Geometry on the Characteristics of Thick Film Resistors."

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Ray Ritenour, of Applications, was host to the Sarasota High School Key Club when the group visited EMR-T on Wednesday evening, May 13, for a plant tour. Bob Bush, Clyde Brackett and Julian Cecio were co-hosts and informed the students about EMR products. The SHS Key Club is an honor society sponsored by the Downtown Kiwanis Club.

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Ned Buck, of Digital Engineering, was one of the judges for the Out-of-Door School science fair recently. The 6th grader (a girl) who won top prize had a project entitled -- would you believe -- "Natural Variation Within a Species and Its Significance."

TOC--NEW EMR-T PRODUCT IS A CUSTOMER TIME-SAVER

TOC (as in tick-tock) is the name of a new EMR-T product which will save time for our customers. This new product line is different from most products -- it's not hardware. It is software.

TOC stands for Telemetry Operability Check. Three TOC's-- TOC-90, TOC-21, and TOC-31--are complete. They are the first in a new line of software packages or computer programs.

With these TOC computer programs, our customers can speedily set-up and check-out specific EMR 2700-series computer-controlled modules used with EMR 6130 and 6135 Computers.

The TOC identifying numbers indicate the matching 2700 telemetry product--TOC-90 checks out the Model 2790 Signal Simulator; TOC-21 relates to the Model 2721 Signal Conditioner, and TOC-31, the Model 2731 Frame Synchronizer, etc.

Barbara McGuire and Bruce Guthridge, of our Software Systems Department, are the Programmers directly involved in preparing these TOC computer programs.

"These software packages are useful sales tools," Bruce Guthridge explained. "The customer needs this software for fast check-out of our modules in his system. EMR-T hardware has an established reputation for high quality and performance. We are now out to prove to customers that our software is deserving of that same fine reputation."

Just what is software? "People often ask that question," Bruce replied. "A computer program is a procedure. It's a simple, step-by-step set of instructions to tell the computer to perform certain small operations -- such as add, move data, etc. Programmers are the people who write out these instructions to the computer. Once these instructions are put together into a software package, the program can quickly instruct the com-



Programmers Barbara McGuire and Bruce Guthridge with TOC software.

puter on the exact operations you want it to perform over and over again."

Our new TOC software, then, enables our customers to check out the operability of our complex computer-controlled telemetry modules, or a subsystem, in very rapid order. "Should a bit rate or other item not work properly, the computer reports it. But you still need a Technician or Engineer with a scope and probe to go in, find the trouble, and fix it," Bruce said.

"With this TOC software, these three intricate and inter-related 2700-series boxes can be checked out using about 2000 different formats in 15 minutes. There's no way to do this by hand at that speed.

"TOC permits the customer to perform fast, on-site set-up and check-out. Of course, this telemetry operability check does not replace regular Production Testing which is still required," he said.

Additional TOC software packages are now being readied to sell to our customers with our other 2700-series products.

PULSE - The EMR-Telemetry News

M. E. Herbst, Editor

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DEMONSTRATE EQUIPMENT IN SWEDEN AND GERMANY

Sweden, Germany and England were visited by EMR-T men and equipment in April in our increasing export marketing activity.

Jon D. Brown, Customer Service Training Specialist, and Bertil J. Stengard, RF Engineer, flew to Stockholm, Sweden, to teach a week-long PCM training course. Peter M. Smith, International Sales Manager for EMR-T--traveling on other export marketing business -- assisted in Stockholm at an evening question-and-answer session.

Some 30 Engineers from various Swedish industries and government agencies attended the course. EMR-T's portable PCM Decommutator and Model 2795 Signal Simulator were used in Stockholm for PCM equipment demonstrations.

Following the PCM course and demonstrations, Stengard (a native of Sweden) returned to Sarasota. Jon Brown and our equipment traveled to Hannover, Germany, to participate in the Hannover Air Show, along with Schlumberger representatives from SOMV, Munich. At Hannover, our PCM equipment was demonstrated to many interested potential customers.

Leaving Germany, Brown journeyed to England for customer talks at Solartron Electronic Group, Ltd. (a British Schlumberger company) and two Royal Aircraft Establishment facilities. EMR equipment has been installed at the RAE facilities as part of the ground instrumentation for the British Black Arrow program--a technological satellite launcher primarily for developing and testing new satellite components for communication satellite programs. Solartron, contractor for integration of Black Arrow Checkout Stations, has used a large number of EMR-T 2700-series telemetry modules and 3 EMR 6130 Computers for the checkout instrumentation.

The travelers gave us a late-April weather report: Snow in Sweden and Germany!

L. G. CHAPPELL OUTLINES NEW GOALS FOR THE YEAR

In a letter to all employees this week, General Manager L. G. Chappell has set forth new goals based on revised business forecasts for EMR-Telemetry for the remainder of 1970. Summarizing the business situation, Mr. Chappell emphasized that to reach our new objectives requires the support of all people at EMR-T performing our jobs to the best of our ability.

PARTICIPATE IN ISA SHOW

EMR-T equipment was shown in Seattle, Wash., this week at the Instrument Society of America's 16th National Aerospace Instrumentation Symposium. Product lines demonstrated included the 2700 series Digital equipment; 500 series PAM products; 4000 series FM products, and our 3620 S-Band Transmitter.

Active at the show were our West Coast Sales personnel along with John McQueen and Paul Germond from Sarasota. On May 12, Barry Barton and Ed Moller presented a technical paper at one of the Symposium sessions.

ANNIVERSARY GREETINGS

May service anniversaries listed here show those of our EMR-T colleagues observing 3, 5, 7, 10 or more years with the company this month:

<u>1947</u>	<u>1960</u>
Alf Englund	Arch Colwell
<u>1956</u>	<u>1963</u>
Bill Black	John Brisbin
<u>1957</u>	Bert Ekis
Betty Drymon	Cliff Hayter
Bill Gibson	Walt Knopik
Jim Moffat	Bud Lang
Joe Reichert	Lucille McGahee
Joe Smith	Chris Papastrat
<u>1958</u>	Laurel Riley
Joe Lehmann	Jean Wernet
<u>1959</u>	
Louis Egyed	<u>1967</u>
Lillian Pridgeon	Tom Dennison