PULSE

EMR

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EMR TELEMETRY ON BOARD ANOTHER OSO SATELLITE

A PCM telemetry data handling system designed and manufactured by EMR-Telemetry is again functioning on board an Orbiting Solar Observatory. OSO-6, the sixth successful OSO in a continuing solar research program for NASA, was launched on August 9 to study the sun's phenomena, such as solar flares, from a 350-mile-high orbit above the earth's masking atmosphere.

On board OSO-6 are seven highly complex scientific experiments for measuring solar radiation, solar activity and radiation coming from outside this solar system. Our PCM data handling system gathers data from these experiments for transmission to ground-based observers.

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ADDITIONAL TAPE DECKS BUILT FOR SCHLUMBERGER

EMR-Telemetry is again building equipment for Schlumberger Well Services, Houston, to assist in the search for oil.

Work is currently in progress on an order from SWS for ten tape deck assemblies to be used in sophisticated electronic processing of oil well logging data. The order is for tape decks similar to the incremental tape recorder portion of the TTR (Truck Tape Recorder) assemblies which EMR-T built for SWS in recent years. EMR-T has delivered more than 50 TTR's to Schlumberger.

The TTR and the current tape decks are part of Schlumberger's advanced Com-

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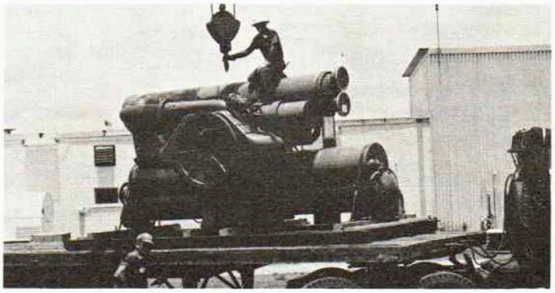
PLANT IMPROVEMENT PROGRAM CONTINUING

Work is continuing on EMR-T's plant improvement program.



Shown here is the delivery of a new air conditioning unit which will become part of a re-engineered and beefed-up air conditioning system. The unit weighs 7-1/2 tons and has a 340-ton capacity. It will replace three smaller, old units now in the Production Building. This new unit will be interconnected with two currently-operating 300-ton units, via an underground water-circulating system, to form an improved EMR-T air conditioning network serving all the buildings. The new system will permit switching over from one unit to another in the event of mechanical failure.

Painting of inside walls and ceilings in the Production Building is now nearing completion. Members of the Plant Engineering staff have been working nights and weekends to finish painting the huge building with the least possible disruption to work areas. Interiors of the Cafeteria Building, the S Building, and Administration Building are scheduled to be painted during the next several months.

ANTIQUE BOTTLE HUNTING HAS BECOME INTR

Hunting for antique bottles has become an intriguing hobby for several EMR-Telemetry employees--a hobby which leads them to historic sites, to old, nearly-forgotten towns and even to old garbage dumps.

Three of our most active "bottlers" are Waymon Warren, his wife Dora Warren, and Dale Aylward. All have become avid bottle hunters during the past two years. Dale Aylward, a Welder Mechanic, and Waymon Warren, a Machinist, have both been employed in Fabrication, in Production, since 1962. Dora Warren is a Quad-Drill Machine Operator in Printed Circuit Fabrication, and has worked here since March, 1963.

The Warrens now have almost 1000 highly interesting--and often valuable--antique bottles which they have collected during their frequent weekend bottle hunting expeditions. Dale Aylward's collection totals about 300 bottles. "With two small boys at home, my wife and I find our time for bottling is limited," he says.

Where do you start? "Usually you begin by studying local history, old maps, and reading articles about old settlements, 'ghost towns' and old forts," Dale explains. "For example, when the Jefferson Center building was built opposite the civic center, it was discovered the site was once an old Sarasota garbage dump--an ideal place to start hunting for old bottles. Or, a friend and fellow bottle-ologist tells you about a spot in Yankeetown. You consult with long-time area residents about likely spots, survey old maps, do some exploring and then start digging."

Dora and Waymon Warren have a four-wheel-drive "Bronco" which takes them over some of the rough countryside, and a camper-trailer for staying in remote places. From there on, it's hunt, probe and dig.

Waymon and Dora Warren show their "Dr. Kilmer" a prized "Vandenberg" bottles. At right, Dale Aylwa with a drum-embossed sample from his collection.

"We use a metal rod and probe beneath the surface carefully so that you don't break the glass," Dora explains. "When we hear the clink of a piece of glass, we use a pronged cultivator to dig into the surface, and then we use our hands."

What kind of bottles do you look for? "At first you're interested in all kinds, especially if they are corked bottles. Gradually you learn to tell the difference between them, their ages, and value," Waymon says. Then there are certain identifying marks--mold seams, embossed lettering, pontil marks, blob top, sheared lip, bubbles. Mostly you're interested in old bottles made before the automatic bottle machines of about 1900 or so."

Antique patent medicine bottles with embossed descriptions of the cure-alls they contained are among the interesting finds. For example, "The Great Dr. Kilmers Swamp Root, Kidney, Liver & Bladder Remedy" (about 1880).

"Some of the Watkins patent medicine bottles have a 'trial' mark on them," Dora noted. "It seems the Watkins sales-

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UING HOBBY

man would go from house to house by horse and buggy (nearly 100 years ago) and leave the prospective customer a bottle of liniment with a trial mark embossed on it. On his next round he would pick up the bottle, and, if the customer had not used it past the trial mark, there would be no charge."

"Many old bottles made between 1880 and 1910 will gradually turn purple or amethyst when exposed to the sun's ultraviolet rays," Dale relates, "because the old glass contained manganese. If the glass is aqua, light green, or light blue, it does not turn purple."

Dale is especially intrigued with the local history. "For instance, I've learned about an old Fort, about 1841, at Cocoanut and Fifth Street, where some 800 people were based for about a year during the Seminole Indian campaign under Zachary Taylor."

What are these old bottles worth? "It varies, of course," Waymon says. "Some are just decorative or worth only a few dollars. On the other hand, I bought a Vandenberg Gin (1860) for $32.50, and I've seen them listed as high as $75." To display their large collection, Dora and Waymon have enclosed their open porch and built floor-to-ceiling shelves.

An addition to the ranks of bottlers is Paul Shetler, a Machinist in Fabrication, who recently started bottle hunting on his vacation in Ohio. Ernie Wright, of Materials, is another bottle collector. With the growth of antique bottle collecting, there are now bottle shows, clubs, and special publications for bottle collectors. Last Friday night, for example, Waymon, Dora, Dale and Paul traveled to Apollo Beach to attend a meeting of a new Bay Area antique bottle collectors club where the bottlers can exchange information and also trade duplicates from their collections.

Waymon summed up the bottle-hunting fever: "There's an old saying: 'One man's trash is somebody else's treasure!'"

EMR TELEMETRY ON BOARD ANOTHER OSO SATELLITE (Continued)

EMR-T has supplied PCM telemetry systems to Ball Brothers Research Corp., Boulder, Colorado, (prime contractor to NASA for the OSO spacecraft) for the successful OSO missions of February, 1965, March and October, 1967, January, 1969, and the most recent launch. Three previously-launched OSO's (one launched over two years ago) and still operating, and our highly reliable telemetry systems have continued functioning well. Each OSO is designed for a life expectancy of six months, but all previous spacecraft have far exceeded these goals.

Four small boxes hold the entire PCM system. Each of the two digital multiplexer/encoder packages measures just over 4 x 3 x 6 inches and weighs less than 75 ounces. Each of the two analog subcommutator packages is about 3 x 3 x 6 inches weighing less than 40 ounces.

OSO-6 is circling the earth every 96 minutes. Data is recorded on tape on board the spacecraft and played back in five minute "dumps" to ground stations.

For Next OSO

In our Special Systems Department, under B. J. Tucker, work is now underway on a contract for the U. S. Naval Research Laboratory, Washington, D. C., to develop the prime experiment for OSO-H, the next in the series of OSO's, expected to be launched in 1970. This scientific experiment, known as a White Light Coronagraph, will observe the sun's corona or sun streamers. The sun's corona is a gaseous halo surrounding the sun, with streamers shooting out intermittently to distances of hundreds of thousands of miles from the surface of the sun.

FLAG FOOTBALL TEAM FORMING

EMR-T's Flag Football Team is recruiting players for the season which starts September 2. Call Dave Tharpe, 239, or Team Manager Jim Maguire, 441, to participate in this fast, non-contact form of football.

SARASOTA PLANT HAS INTERNATIONAL GROUP OF VISITORS

Customers and representatives from Canada, France and Sweden were among the visitors at EMR-Telemetry last week.

Visitors from the Canadian Aerospace Engineering Test Establishment are pictured here with one of the EMR Model 371 Airborne PCM Telemeter systems ordered by the Canadian Department of National Defence. The group was in Sarasota last week for a training course and indoctrination on the EMR equipment soon to be shipped to Canada. Equipment includes three systems made up of the EMR Model 371 and Model 246A FM Transmitters, plus a Model 8457B Test Box.

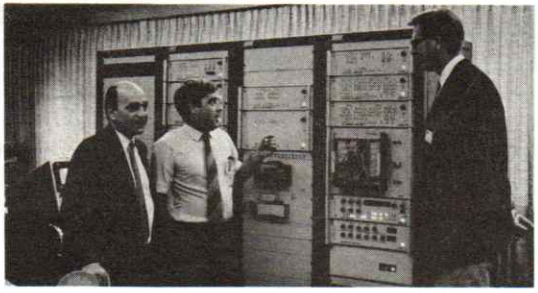
EMR-Telemetry personnel who conducted the training course were: Wiley Dunn, Ron Gadway, John McQueen and Harry Ray.

Pictured (left to right) are Warrant Officer Joe Bedard, Cpl. George Shadwell, both of the Canadian Armed Forces, Uplands, Ontario; Nick Zotoff, Department of National Defence; Warrant Officer Bob Audette and Lt. Jim McNeil, Canadian Armed Forces, Cold Lake, Alberta. At far right is Wiley Dunn, EMR-T Engineer in Airborne PCM Systems.

FROM FRANCE, SWEDEN

Two European representatives of Schlumberger companies visited here last week for a two-day briefing on some of our latest computer-controlled telemetry boxes. They were Felix Popovitch, of Societe d'Instrumentation Schlumberger, Paris, and Jan Carlsen, of Schlumberger Svenska AB, Stockholm.

Both men are engaged in selling EMR equipment abroad, and are currently participating in a computer training course at EMR-Computer, Minneapolis. Carlsen recently booked his first EMR computer system order which includes two EMR-T products--a Model 2701 Analog Multiplexer/Quantizer and 2761 Telemetry Data Channel.



Pictured here in our Engineering Data Processing Lab (left to right) are Felix Popovitch, of Paris; Peter Smith, of Applications, EMR-T, and Jan Carlsen, of Stockholm.

ADDITIONAL TAPE DECKS BUILT FOR SCHLUMBERGER (Continued)

puter-Dataphone system by which Schlumberger personnel can transmit oil well logging information by telephone from remote oil drilling sites to a computer center for rapid processing.

TTR tapes of oil well logs are transmitted by Dataphone and a Data Receive-Transmit Unit to a Schlumberger computer center for fast processing. After computer computations, the results are transmitted by phone to the customer's offices. This long distance data transmission and analysis--say, from Alaska to Houston to Denver--is possible in a matter of hours, saving the customer much valuable time in the expensive hunt for oil.

BOWLING BEGINS SOON

Now is the time to sign up for the Men's Bowling League which starts September 3 at the Sarasota Lanes at 6:45 p.m. See bulletin board notices, or call Jim Rexrode, Ext. 414.