



The EMR-Telemetry News Sarasota, Florida

VOL. IX, No. 5

October, 1974

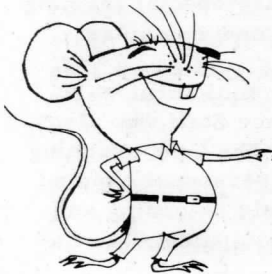
COMPUTER-CONTROLLED DRILLING SYSTEM INSTALLED IN P C AREA



Excellon Mark III-- Irmgard McWhorter positions P. C. boards for drilling by four spindle assemblies. At right are Direct Computer Control Console and input/output unit (teletype).

(SEE PAGE 2 FOR STORY)

C.U. MOUSE REPORTS



c. u. mouse (who lives in the emr employees credit union, and who writes letters to emr employees) stopped in at the pulse office this week to report that your credit union now has assets of \$404,000 -- highest in its history.

little ol' c. u. is pretty smart as mice go. he says there's money on hand now in the credit union for loans, in case you need some. he'd like you to stop in to see him and monica davis (unless you're a cat, in which case he will refer you elsewhere.)

* Reserve the date--Saturday, Dec. 21, *
* for EMR-T's big traditional Christmas *
* Dance. The place is the Penthouse *
* Ballroom of the Holiday Inn, Lido Beach.*
* Details will be announced later. *

VTS DELIVERED TO CANADIAN CUSTOMER

A new EMR Vehicle Testing System (VTS) delivered to SPAR Aerospace Products, Ltd., Toronto, Canada, has scored two "firsts" -- first EMR VTS sold to a Canadian customer, and our first VTS to be used in an urban rapid transit system application.

The \$40,000 32-channel FM telemetry system is to be used by SPAR, a subcontractor in the GO-URBAN transit demonstration project sponsored by the Ontario Government. SPAR is building Linear Induction Motors (LIM) for the Toronto urban transit system, and the EMR VTS is the primary instrumentation system for all phases of the LIM test program. The SPAR vehicle will ride a 1200-foot section of test track with various payloads at speeds up to 70 mph.

"EMR's VTS will transmit telemetry data from the vehicle, receive it at the control facility, and decode it for input to a digital computer," explains Bob Brant, of Export Sales.

(Cont'd on Page 3)

COMPUTER-CONTROLLED DRILLING SYSTEM INSTALLED IN PRINTED CIRCUIT FAB AREA

A new high-speed computer-controlled system for drilling printed circuit cards has been installed in our Printed Circuit Fabrication Department. The sophisticated system provides accurate, fast drilling of complex printed circuit cards-- a basic part of all EMR electronic products.

Two installations make up the system:

-- Excellon Mark III System, weighing 9,000 pounds. (Includes input/output unit or teletype; Direct Computer Control Unit, and four-spindle drilling machine.)

--Opic II Optical Programming and Inspection Center, weighing 3,000 pounds. (Includes measuring machine with fiber-optic illuminator, and optical projection scope, Coordinate Digitizing Recorder, and input/output unit)

Here's how it works: Utilizing the photo artwork which shows the printed circuit hole layout, the Opic II Programmer scans the P. C. artwork and makes extremely accurate optical measurements of the hole locations. These measurements (to the ten-thousandths of an inch) are recorded on punched paper tape and a hard copy printout. The measurements indicate the exact location of each hole to be drilled in each printed circuit card.

This information on the paper tape is then transferred to the computer by means of a photoelectric tape reader. The computer stores the positioning data in its memory. Upon instruction, the computer directs the movements of the work table and drill operations -- following the specific instructions of the punched tape or commands from the input/output teletype unit.

What results is a very rapid, accurate drilling of printed circuit boards. Each of the four spindle assemblies has a speed



Opic II Optical Programming and Inspection Center -- Anne Stinton and Fred Stiefel with new equipment. Measurements from the Coordinate Digitizing Recorder are recorded on the printer and punched paper tape at left.

range of 15,000 to 60,000 rpm, and a drill stroke rate of up to 300 strokes per minute.

"A conservative estimate is that the new drilling system is capable of doubling the volume of work which we previously produced on three hand-operated Quadrills," says Fred Stiefel, Manufacturing Engineer. Operators Anne Stinton and Irmgard McWhorter, former Quadrill operators, are learning how to operate the new system. (Two of our Quadrills have been sold.) One of our Cal Lab Technicians will also receive special training on maintenance of the new machines.

Installation of the new equipment was done by our Maintenance Staff who also built the new room for the Opic scanning system. Our Traffic personnel handled the delicate job of safely unloading and delivering the heavy equipment.

PULSE - The EMR-Telemetry News
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BLOOD AVAILABLE WHEN IT IS NEEDED

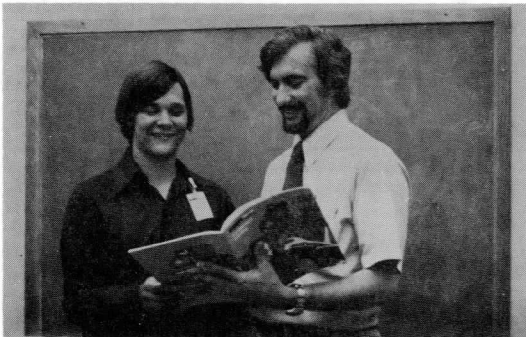
EMR's Blood Bank is a valued benefit to you and your family in time of need. You and the members of your immediate family are eligible to receive blood from the EMR account, thanks to the EMR donors who have given their blood via the Lower West Coast Blood Bank.

If you or a member of your family require blood, simply phone our Personnel Department and request that the needed number of units be released from the EMR Blood Bank Account. EMR will arrange for the release of the units.

The saving to you and your family is \$25 per unit of blood. And, even more important, the blood from EMR donors may help to save a life.

The Lower West Coast Blood Bank, at 1875 Arlington, is open on Mondays from 8 a. m. to 7 p. m., and Tuesday through Friday from 8 a. m. to 4 p. m. Many EMR employees and their families are regular donors.

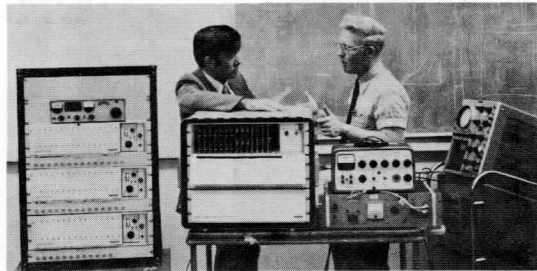
CAREER DAY VISIT



Riverview High School Student John Lazar (left) and Jay Marshall, of EMR's Engineering Organization, discussed careers in engineering during the Sarasota Chamber of Commerce Career Day on Oct. 22. John's intense interest in a career in electronics prompted him to select EMR to be his company host during the community wide project for students.

EMR VTS DELIVERED TO CANADIAN CUSTOMER

(Continued from Page 1)



John Connor (left) SPAR Instrumentation Engineer, with EMR's Ron VanderVliet. Portable VTS transmitting unit is under Mr. Connor's arm; base station receiving units are at left.

"We expect this order to serve as a stimulus to future EMR export business in Canada and elsewhere, since SPAR is in the highly visible urban rapid transit market," Bob said.

Prototype SPAR vehicles use rubber tires, but advanced designs will incorporate magnetic levitation for friction-free suspensor

EMR Vehicle Test Systems have gone to a wide variety of clients, including all the major U. S. auto manufacturers. Our VTS equipment is used in testing cars, trucks, earth-moving equipment, tractors and other farm machinery, and even snowmobiles. University labs use our VTS for vehicle safety research, and the VTS equipment has been exported to Poland, Italy and Australia, in addition to this recent Canadian sale.

ANNIVERSARY GREETINGS

Congratulations to the four EMR-T employees observing five-year service anniversaries with the company this month. Reaching this major milestone are:

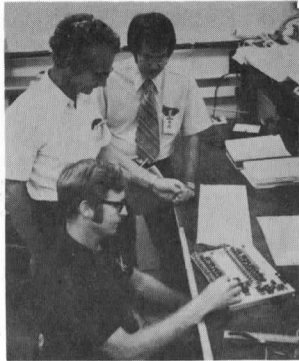
1969

Wiltsie W. Luke
Jean M. McCurry
T. Mike Moninger
Don L. Shumaker

QUALITY IS SPELLED Y-O-U

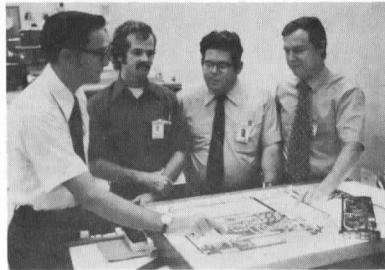
ONLY YOU CAN PUT QUALITY INTO EMR PRODUCTS

1. DEVELOPMENT



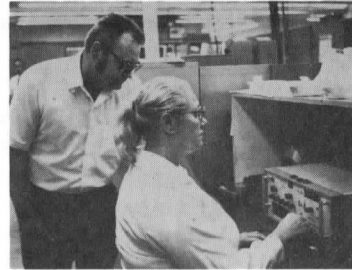
Quality is built into EMR products. Early Development of new products calls for careful component selection and breadboarding. John Belt (seated), Bob Hughen and Fred Conger know how vital quality is.

2. DESIGN



Quality design and packaging involves teamwork among Engineers, Technicians, Draftsmen, Designers. Hal Roberts, Ron McDeed, John Turpin and Dwight Dagenais discuss complex printed wiring layout and the prototype for a new product.

3. COMPONENTS



Good components are needed to achieve quality. In Receiving Inspection, Hazel Taylor tests integrated circuits and other components which go into our products. Don Sittler (L) is concerned with failure analysis.

4. P. C. PLATING



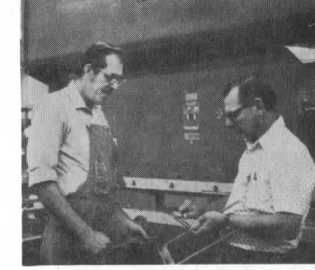
Copper-clad boards such as the one Clay Osgood is checking, become printed circuit cards in our equipment. Chemical baths and etching processes require critical quality control.

5. P. C. FABRICATION



Printed circuit cards require precision and care. Their plated circuits form the "foundation" on which components are mounted. Here Rita Jeannette checks a P.C. panel.

6. METAL FABRICATION



Metal Fabrication includes sawing, milling, drilling, shearing, punching, bending, welding. Dick Peck and Mike Gerack look over sheet metal parts produced on Dick's press brake. Again, quality is vital.

7. METAL FINISHING



Quality metal finishing goes into EMR products. Here Joe Eaton puts metal parts into anodizing solution. Irriditing, cadmium plating, silk screening, painting and other finishes assure quality in the appearance and durability of our equipment.

14. SERVICE

Our Customers want equipment that works right. Bob Voss (L), of our Silver Spring (Md.) Field Service Office, and Harry Durrett, Customer Service Specialist, know how important quality is to the Customer.



15. Y-O-U

Your picture should be here. Wherever you work, only YOU can put QUALITY into your job. Our Customers depend on you.

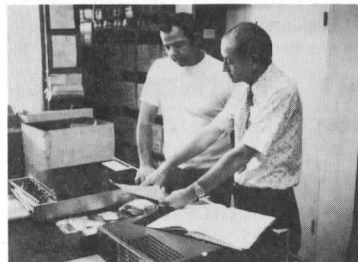
 EMR is known for making quality equipment. But it's not easy!
 Good design, trusted components, excellent workmanship, intensive testing, and careful inspection - these are all part of making quality products.
 But the most important ingredient is Y-O-U. Only YOU can put QUALITY into your job.

Good quality means satisfied customers--customers who come back to EMR with more orders. Orders mean jobs for us.

Quality is everybody's job. Quality can't be inspected in. It's built in.

And the Final Inspector is the CUSTOMER. Let's keep him happy with quality products from EMR.

13. SHIPPING



At final checkout before shipping, Charles Harris (L), of Q.C., turns over the products, manuals, etc., to Eddie Sleeman, of Traffic, for careful packing and shipping, so that our Customers receive the best we can offer.

12. PRODUCT TESTING



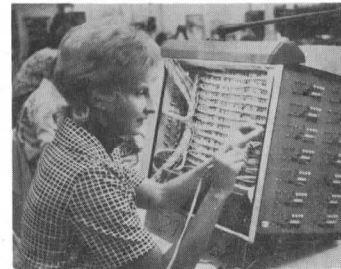
TEST--where it all comes together. Products undergo intensive testing before shipment. John Brisbin and Bill England (above) and other Test Technicians perform debugging and acceptance testing to assure that products meet all performance specs.

11. INSPECTION



Quality Control Inspector Evelyn Sweeting is shown working on in-process inspection of a Model 1510 Real Time Spectrum Analyzer. Inspectors carefully check each product before giving it the EMR stamp of approval.

10. WIRING



Quality is vital when you're soldering and interconnecting hundreds of wires, as Pat Bowers is doing in electrical assembly of this unit.

8. SET-UP



In our Materials set-up area, components are drawn from stock, pre-formed and sorted into bins -- ready for Assembly. Julie D'Amelio, Effie Anderson and Bunny McFarland know it's important to do it right!

9. ASSEMBLY



Fannie Belle Johnson consults a drawing while working on the mechanical assembly of a front panel. Quality-conscious workmanship means better EMR products.

NEW PENSION LAW NOW BEING STUDIED

"How does the new Pension Law affect me?" That's a question EMR employees --and others throughout the nation--are asking.

Pension Plan legislation recently enacted is being carefully studied by Schlumberger and EMR to assure that our Schlumberger Retirement Plan will be in compliance with the provisions of the new law. The effective date for any required revisions to the Schlumberger Retirement Plan is January 1, 1976.

The new law, called the Employee Retirement Income Security Act of 1974, was enacted September 2, 1974.

PENSION INSURANCE

One immediate effect of the new Act is that employers must carry pension termination insurance to guarantee vested benefits to employees under the company's Pension Plan. EMR is required to pay the first premium of this annual insurance premium by December, 1974. The current rate for this termination insurance is \$1 per Pension Plan participant annually. It is paid to the new Government corporation called the Pension Benefit Guaranty Corporation.

The Internal Revenue Service and the Department of Labor are both involved in administration and enforcement of the law.

The Employment Retirement Income Security Act contains many requirements which call for increased record keeping by the Company--periodic reports on the Plan, annual reports to participants, funding requirements, etc.

"In general, the Schlumberger Retirement Plan is believed to be within the guidelines of the new Act," said Richard C. Brogan, Personnel Manager. "There are a few

areas which may require revisions to our Plan. These are now being studied and will be put into effect by the required date. A few changes will affect participation by some EMR employees."

Some of the areas of interest in the new law are:

Eligibility

a) One year of service or age 25, whichever is later OR

b) Upon reaching age 25 and having accrued three years of service or more, a maximum of three years of pension credit may be applied to an employee's pension plan. Previously, no prior credit was applied upon attainment of age 25.

c) Defined benefit plans may exclude new employees hired within five years of normal retirement age (65). Previously, 10 years was the normal minimum requirement for pension eligibility.

Vesting

Schlumberger Plan vesting of 100% after ten years of service is acceptable under the new Act.

Computing Years of Service

There are new, special rules which relate to breaks in service and under what circumstances service before and after a break must be aggregated for the purposes of participation, vesting and accrual of benefits. (The new rules are now under study.)

Joint and Survivor Annuities

Retirement Plans must offer a joint & survivor annuity to married participants; participants may elect or reject this option. (This provision is now under study.)

- - -

The Schlumberger Retirement Plan is one of our employee benefits. Our Pension Plan is completely Company funded, and employees do not contribute to the Pension Plan.

(CONT'D ON PAGE 7)

Pension Law (Cont'd)

Ten EMR-Telemetry employees have retired from the Sarasota plant in recent years, and a number of these employees elected early retirement.

"It may be some time before we get clarification on some of the fine points of the new regulations," Mr. Brogan said. "Meanwhile, our Retirement Plan is now in compliance with current laws, and will be updated as required by the deadline of January 1, 1976."

LIFE IS RARELY DULL IN EMR FIELD SERVICE

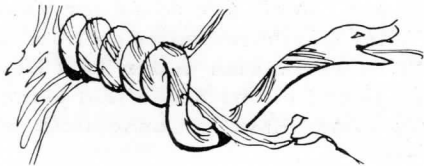
Field service work out in the boonies can be fun -- well, interesting, anyway.

Jon Brown, of Customer Service, joined Alan Benik in Georgia recently during installation of the EMR Environmental Monitoring System near Lake Allatoona, Cartersville, Ga., for the Corps of Engineers.

While at work on the field installation, the two men spotted a five-foot-long snake, just a little too close for comfort.

"Alan firmly announced that because the snake's pupils were circular, it was non-poisonous," Jon relates. "Then, right after I picked it up, and the snake was still wriggling, Alan said, 'Or is it the other way around?'"

See the Cafeteria bulletin board for color shots of Alan, Jon and Snake, plus views of Scott Blair at his work station for NASA, Wallops Island, Va.



PAINT SPRAY BOOTHS REBUILT, ENLARGED

Water wash spray booths in EMR-T's Paint Department have been completely renovated and enlarged. The two water wash booths literally wash paint pigments out of the exhaust air in our painting operation. Air is drawn through a continuous curtain of moving water and suspended paint particles are scrubbed out.

The result is no airborne pigment pollution as well as no paint hazard for cars in our parking lot. Also most important is the safety factor for employees who do the paint spraying.



Horace Mink, of our Paint Department, demonstrates effectiveness of renovated paint spray booths. In the background is a "waterfall" which washes paint pigments out of the air.

Both "waterfall rooms" are now eight-foot booths and will accommodate the larger systems which also require EMR's quality paint finish.

The complete renovation was handled by our own Maintenance department.

GOOD FORTUNE SMILED ON THEM

Good fortune smiled on two EMR-Telemetry employees and their families this month. Here are their stories ---

EMERGENCY LANDING IN EVERGLADES ENDS WELL

Jean Mazza's adventure began with a near-tragedy--a forced landing in the Everglades in a small, single-engine plane.



It ends well with Jean and three members of her family rescued, unhurt, by a Coast Guard helicopter.

Jean (of Customer Service) and her husband, Richard, and her parents, Mr. & Mrs. Clare Hellenberg, had been sight-seeing in Key West on Sunday, Oct. 13. As they flew back to Sarasota in the Hellenbergs' six-seater Piper Cherokee, the engine of the six-months-old plane blew up. Mr. Hellenberg's skillful piloting brought the plane to a safe emergency landing in the Everglades on a short, flat stretch of muckland covered with sawgrass and surrounded by pine trees.

"Just a few minutes earlier or later, and we might have come down in the water, the swamp, or hit some trees," Jean relates. "We had refueled in Key West, and the gas is stored in the wings, so we were very lucky that my Dad could just 'float' the plane down to a soft landing.

"Our radio Mayday signals went unanswered for 20 minutes," she continued. "Finally an Eastern airlines pilot heard and answered the radio distress call. Within five minutes a big Coast Guard plane called an Albatross flew over. They were returning from the Yucatan on an unsuccessful rescue mission. They asked us to count to ten several times while they homed in on us and fixed our position.

"Soon after that a big Coast Guard helicopter from the Opa-locka base landed



All safe after emergency landing in the Everglades.

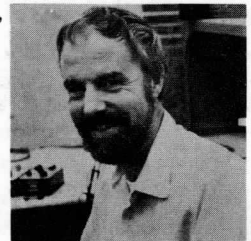
and rescued us. I was really glad to see it," Jean says. The adventure took place about 4:45 p. m. Upon landing at the Opa-locka field, near Miami, the group rented a car and drove back to their homes on the west coast. "We were all so glad to be alive," she said.

How does she feel about flying now? "Well, my mother and I aren't enthusiastic about it, but Richard and my Dad still think it's great. Dad was flying the day after the accident--checking out the location of his plane. "

©©©

LUCKY CRUISE WINNER

Chris Freeberg's wife, Connie, is the lucky winner of a contest sponsored by the Holiday Department Store and WSPB. Her prize? A ten-day Caribbean cruise for two!



Chris Freeberg

Chris and Connie are bound for Venezuela and other Caribbean ports on Nov. 29. Chris, a Technician in our Test Department, is one of our Ridgefield pioneers, having joined EMR in Connecticut back in 1956.