

# ONLINE

MARCH 1968

DIGITAL EQUIPMENT CORPORATION

## Computer Lab Joins DEC Product Family



A new member has been added to DEC's ever-expanding family of products. The newcomer, called "Computer Lab," is a low-cost high-performance device for teaching digital logic and computer fundamentals. It can be used for classroom training, home, or office study.

High schools, where it can be used to help students understand computers, will probably constitute one of Computer Lab's major markets. It is compact, portable, easy to use, and will sell for \$445. Each unit will be accompanied by a workbook containing 10 basic experiments and 30 sub-experiments.

The Computer Lab was first introduced this month at a special seminar sponsored by Digital for high school teachers in Toronto. It will also be on display at the IEEE show in New York.

One of the unusual aspects of Computer Lab is that it will carry the label, "Made in Canada." It was designed by Engineer John Hughes, Toronto, a native Canadian and a graduate of the University of New Brunswick, and will be completely manufactured and produced at DEC's Carleton Place, Ontario, plant.

The new device will permit the user to perform a set of 10 experiments, covering the complete spectrum of digital logic. The experiments start with an introduction to binary concepts and include basic logic, the use of Boolean Algebra, binary counting, and systems design techniques. Two or three students can use the lab at a time.

Since the installation and servicing of digital computers requires a detailed knowledge of common logic functions, the Computer Lab can also serve as a valuable training tool for computer technicians. The circuits used in C.L. are identical to those used in DEC computers, and many of the experiments are exact copies of functions performed in computers.

Because of the rapid growth of computer usage in all fields of business, research, and industry, there is a growing need for more and more nontechnical people to become familiar with computer fundamentals. The low cost and portability of the Computer Lab also make it an ideal learning device for either home or office study programs.



Production Manager Walter Spittle, left, and President Ken Olsen stand in front of Digital's new offices on Arkwright Road, Reading. Mr. Olsen was on hand for the opening of the new building which is opposite Digital's existing Reading facilities.

# Appointments — Promotions — Transfers

Recent personnel changes include the following promotions, transfers, or appointments:



NORMAN HUTCHINGS

Norman F. Hutchings has been appointed to head Digital's accounting activities in Europe. Born and educated in England, he has been residing and working in the Boston, Massachusetts, area. He has also held senior accounting positions with firms in San Francisco and Sao Paulo, Brazil. Mr. Hutchings is a Chartered Accountant in the U.K. and also a Certified Public Accountant in the U.S.



JOHN TREBENDIS

John Trebendis has been promoted to Supervisor of Metal Shops and will be in charge of fabrication of all metal parts, machine parts, finishing, silk screening, and cabinet wood-working. John joined DEC six years ago as a stock clerk, was later promoted to stock room supervisor, and then to buyer in the Purchasing Department.



ROD BELDEN

Rod Belden, who has been heading production in Reading, England, has transferred to Rochester, New York, where he will be District Sales Manager. Rod, who holds degrees from Cornell, Yale, and the Harvard Business School, joined Digital in 1964 as an applications engineer. He helped organize the production facilities in England.



DANIEL P. SULLIVAN

Daniel P. Sullivan has joined Digital as Metal Shops Manager. He had been serving as Methods and Tool Engineering Manager with Raytheon, Waltham. He is a graduate of Northeastern University and resides in Walpole.



PETER T. KOCH

Peter T. Koch has joined the Personnel Department and will initially be responsible for coordinating all professional employment activities. He will also handle manpower planning and staffing activities. He comes to DEC from the Ford Motor Co., Dearborn, Michigan, where he served as Supervisor of Salaried Personnel and Training. Born in Greenfield, Massachusetts, he earned a BA from Upsala College and an MBA from Wayne State University.

## More Space Added In Reading, England

President, Ken Olsen, last month officially opened Digital's new office and training center at Arkwright Road, Reading, England. The new building will provide sales engineers with additional conference rooms to work with customers on applications and programs. It will also be used for expanding Digital's training facilities.

Space released in the present factory, which is situated exactly opposite the new building, will be used to boost production for the United Kingdom and Europe. The continuing success of the DEC Reading factory, producing the PDP-8, PDP-8/S, and PDP-8/I family of equipment, has been a big factor in the need for increased space.

With the local factory, DEC has been able to offer very short deliveries on all of its small computer equipment, and to give immediate delivery of PDP-8 and PDP-8/S computers.

## DEC Computer Performs On Television Program



Star of a WCBS-TV, New York, weekly children's program was a DEC PDP-8/S. It was demonstrated by WCBS Science Editor, Earl Ubell.

"My name is PDP-8/S. What is your name?"

"Mary."

"I am glad to meet you. How are you?"

"I'm fine!"

"Do you want to know how I work?"

"Yes."

"Ask Mr. Ubell."

This conversation, between a DEC computer and an eight-year-old girl, occurred in the studio of WCBS-TV, New York, and was watched by a metropolitan New York audience of about 350,000 children on Sunday, March 3.

The PDP-8/S was selected for "Around the Corner" -- a weekly children's program by WCBS-TV science editor, Earl Ubell. He used it to explain how computers are used and what can be done with them. Eight boys and girls participated in the TV demonstration, taking turns "conversing" with the computer with the aid of a teletype and using the 8/S to solve arithmetic problems.

Mr. Ubell said he selected the 8/S for his program because of its compact size and the ease with which it could be demonstrated to children.

## FOCAL Will Simplify Computer Programming

We have DEC, PDP, FLIP CHIP, and DECUS. And now can add FOCAL to the Digital family of acronyms. FOCAL, a Digital trademark, is the name of a new computer language design to simplify programming.

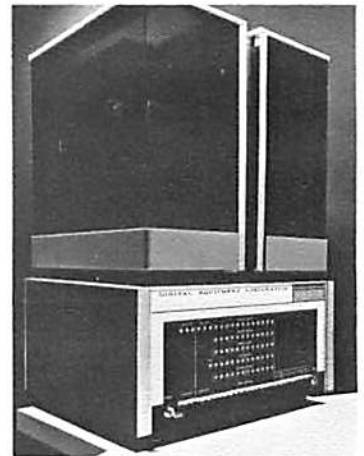
FOCAL (for FOMula CALculator) provides a set of simplified techniques that permit the user to communicate directly with the computer as if it were a desk calculator having the ability to remember and repeat what it had done before. Thus the user has the advantages of the computer put at his disposal without the requirement that he master the intricacies of machine language programming.

One of the advantages of a computer is that once a problem has been formulated for it, it can be made to repeat the same steps in the calculation over and over again. Until now, the job of generating the program was costly and time-consuming, and it generally required the talents of a specialist called a programmer. For many modest jobs of computation, a person unfamiliar with computers and programming would use a desk calculator or slide rule to avoid the delays, expense, and bothersome details of setting up his problem so that the programmer could understand it.

FOCAL was written especially for the educational market to be used as a student's problem-solving tool. It may be modified to understand commands in a foreign language.

Much of the credit for the preparation of FOCAL goes to Application Programmer, Rick Merrill, PDP-8 Marketing.

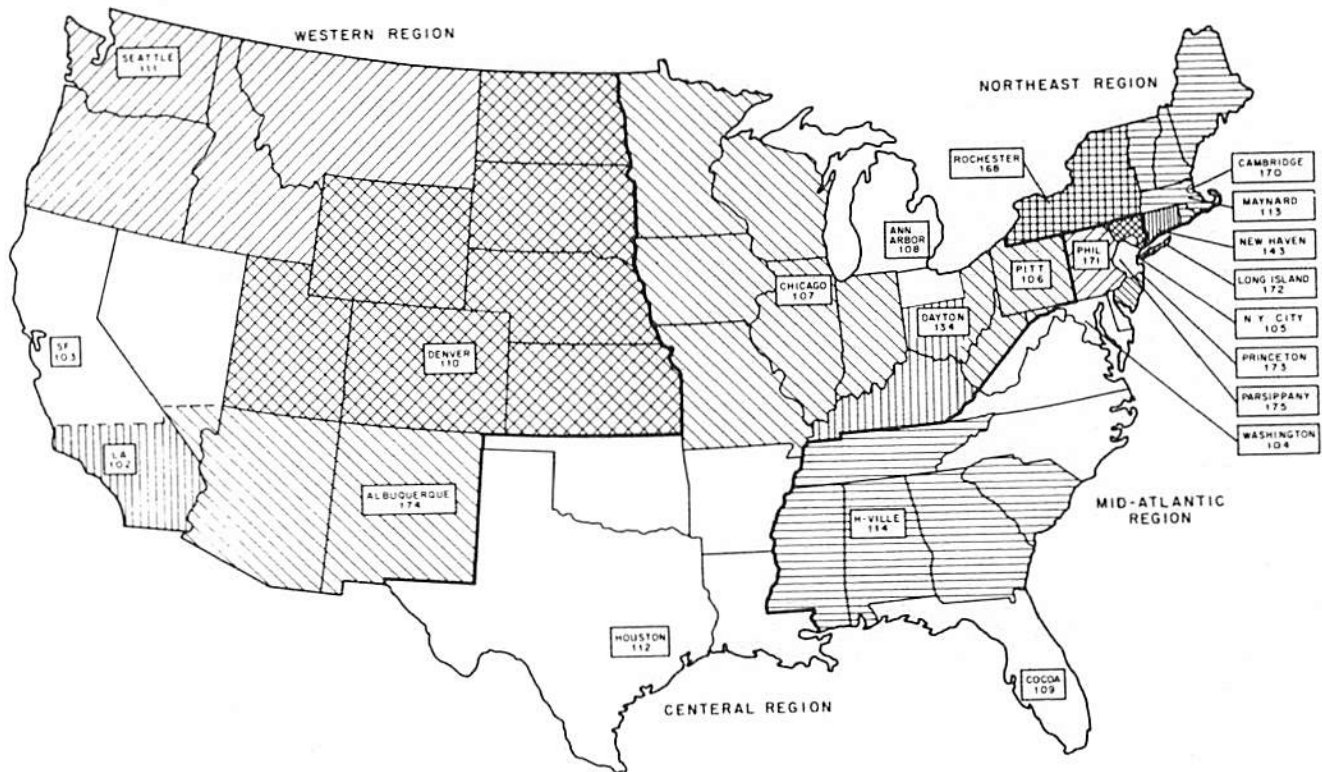
## More Awards For PDP-8



A PDP-8 computer is on its way to Ljubljana, Yugoslavia, where it will be included in an exhibit of the best contemporary U.S. designs. The much-praised PDP-8 was selected for display at the third Biennial Show of Industrial Design in Ljubljana by the exhibit committee of the Industrial Designers Society of America.

The PDP-8 has won several awards, including a Design USA award, and "Industrial Design" magazine's annual award. The PDP-8's virtues are not only aesthetic. Now boasting over 1,200 installations, this is one of the most popular computers ever offered.

## New Map Shows District, Regional Boundries



This map shows cost center numbers, locations, and boundaries of Digital's sales offices, districts, and regions. Shaded and white areas show the districts served by the various sales offices. Thick black lines denote regional bound-

aries. Most recent additions to DEC's field offices are: the Palisades Park, New Jersey, office serving New York, and the Cocoa, Florida, office.

## Ski Enthusiast Rents Plane To Reach Best Snow Areas



Victor Benveniste, Test Systems Engineering, pilots a Cessna 172 on weekend ski trips.

Digital engineer, Victor Benveniste, has found a way of combining two totally different hobbies, skiing and flying. It's simple. In order to get in as much skiing as possible, he pilots a rented plane to various ski areas. Besides allowing him to get the maximum out of his two hobbies, flying to ski resorts has several other advantages. By plane he can go wherever the snow is best, even up into Canada late in the season when the snow is melting farther south. The cost is reasonable because he can return the same day, avoiding the expenses of overnight lodgings.

Victor generally rents a four-seat Cessna 172 at Bedford Airport for his ski safaris. The plane, gas included, costs only \$13 per hour. Split between four passengers, the cost of transportation turns into a bargain. He took up flying about ten months ago when he joined Digital and moved into this area from Quebec, Canada. An electrical engineer in Test Systems Engineering, he is a graduate of L'Ecole Centrale des Arts et Manufactures, Brussels, Belgium.

# NEWS NOTES

## LEASING PLANS

Digital has announced a special PDP-8/S leasing plan for educational institutions. Under the plan, Digital's first venture into the leasing area, the PDP-8/S will be offered for either a 12-month or 39-month lease term to prospects who intend to use the computer for educational purposes. The leasing plan will only be offered in the Continental U.S.

## SALES OFFICES

An office has been opened to serve the Florida area. It is located at 412 High Point Drive, Cocoa Beach, Florida, and is staffed by Jim Curry, Sales, and Jud Gilbert, Field Service. The New York area office, serving the Metropolitan New York area including the Hudson River area up to West Point, was moved to Suite #1, 71 Grand Avenue, Palisades Park, New Jersey.

## SCHOLARSHIP

Digital has announced that it will award a \$200 college scholarship to a member of the Maynard High School senior class. The scholarship will be awarded to a student "showing promise of future success in the fields of science or engineering." Selection of the recipient will be made by the Maynard High School's own scholarship committee.



All hands were present for the presentation of a Digital five-year tie-bar to Los Angeles Field Service Engineer Bob Brackett. Members of the Los Angeles field service staff present were (left to right) Lon Tamarra, Joe Delcourt, Bill Arrington, Dick McDonnell, Bob Brackett, Carl Gartley, Secretary Carol Goft, District Field Service Manager Bob Brooks, and Bart Kellogg.

## DEC Computers Are Used In Pipeline Flow Control

The use of Digital PDP-8/S computers for controlling the flow of liquids or gases through pipelines is gathering momentum. Twenty-five PDP-8/S's have been helping control the flow of oil along thousands of miles of pipeline from Canada to the United States. Now a major manufacturer of pipeline control equipment is recommending the use of DEC equipment instead of its own devices.

The company, Scott Corporation of Houston, Texas, manufacturer of the Scott Flowmeter for measuring large volume flow rates of gas through pipelines, is recommending the use of PDP-8/S's to its customers. A study made by Scott revealed that Digital's electronics could supply customer requirements at less cost than Scott's own equipment. Consequently, it is recommending DEC equipment versus its own.

One recent Scott proposal, for the N. V. Nederlandse Gasunie in Holland, is for a gas measurement system operated by a PDP-8/S. The proposed location of the completely automated system will be at a compressor station in the Netherlands. It will monitor the flow of natural gas from large gas fields in North Holland to markets in Europe.

Another company, Interprovincial Pipeline Co., uses twenty-five PDP-8/S computers to control pumping stations along 4,000 miles of pipeline from Edmonton, Alberta, to Buffalo, New York.

## Fifty Computers Ordered By ADR

Digital has logged one of its first major orders for PDP-8/I computers with an agreement to supply the Applied Data Research Corporation in Princeton, New Jersey, with 50 8/I's during the next 10 months. Several other firms have placed equally large single orders with DEC in recent months.

ADR, a software firm, plans to lease about one-third of the fifty computers with software support to educational and industrial establishments. "We aim," said ADR President, Richard Jones, "to bring computers to people who can use them, and to provide them with what they need to bring them quickly and easily into use." The balance of the 50 systems ADR is buying will be used partly for in-house development work in connection with future hardware or software products, and partly for direct leasing to outside users. Mr. Jones, however, emphasized that ADR was not becoming a computer broker.

# Magnetic Tape Control Project Completed Early

Some time ago, the Central Processor of DEC's newest large computer, the PDP-10, was described in On Line. The first delivery of a complete system was announced in December. Since then development work has continued on peripheral equipment and memories to complete the PDP-10 line of products.

One of these products is the Magnetic Tape Control, Type TM-10, that is presently being completed by Dave Gross, an engineer in the PDP-10 Engineering Department. A tape

control is one of the most complex peripheral controllers used in any computer system, and is the device by which the computer stores and retrieves information on reels of magnetic recording tape.

The most difficult part of this project for Dave was the requirement that the design phase be completed in two-thirds of the normal time allowed. Showing the same "let's-get-the-job-done" spirit which helped Digital deliver its first PDP-10 ahead of schedule, Dave met the design phase deadline despite the short schedule. He was assisted by technician, Bob Richards.

Dave, a graduate of MIT, joined DEC in 1966 as a tech writer, later becoming a programmer, and then transferred to PDP-10 Engineering.

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## March Anniversaries

### Two Years

Laszlo Balogh	Linda Hope
Ronald Bassin	Peggy Jensen
Mary Bean	Patricia Keller
Richard Bernier	Kenneth Kinchla
Michel Cadot	William Klokman
Harold Coffey	Gail Korsman
Mary Ann Cross	Donald Lind
Christine Czerw	Anthony Liveris
Donna Devno	Kenneth Lizotte
Margaret Dorman	Renate Mann
Paul Fear	Ronald Masulla
Glenn Ford	Ralph Maurice
Paul Gallagher	M. Joan Pierce
John Gaudet	Winifred Recke
Clarie Genereux	Evelyn Sadler
Richard Gorab	Margaret Scandariato
Martin Gordon	Irene Tompkins
Sieglinde Herrera	Josephine Williams
John Hittell	

### Three Years

Paul Alizio	Klaus Kyris
Ruth Amyotte	Mary Lindh
Robert Bariteau	Barbara Marcouillier
Walter Bonin	George Newton
Robert Burg	Robert Packer
Daniel Byron	Lillian Page
Alphonse Czajkowski	David Plummer
Angelo Farinelli	Margaret Rand
Joseph Gaffney	David Reid
Gerald Ganong	Priscilla Rundlett
Daniel Grill	Yvette Ryan
Lucille Hamilton	Ventla Saari
Joseph Head	John Shanahan
Clifford Hickman	Eileen Titus
Marvin Horovitz	Concepcion Tung
James Jordan	George Wood
	Pamela Wyatt

### Four Years

Anthony Baublis	Dorothy Lewis
James Carroll	William MacGregor
Robert Carroll	John Mutzeneek
Douglas Cox	Thomas Norton
Ronald DeVoyd	James Pitts
Janice Dill	William Segal
Manford Doucette	Dorothy Signor
Richard Gopfert	Ronald Smart
R. Perry Harris	Terry Wilkins
Juergen Kesper	John Woodman

### Five Years

Richard Allen	Charles LaValley
Roy Bernier	Dennis McCaffrey
Marie Brackett	Mort Ruderman
Dennis Doyle	Ken Senior
Ann Flagg	Eileen Siniski
Alan Kotok	

### Six Years

Violet Alves	Doris Kearney
Benedetta Barilone	Cy Kendrick
Robert Brackett	Ronald Lafosse
Wilmer Brackett	John O'Connell
James Castano	James Sullivan
David Clark	Anastacia Taylor
Lee Curren	John Trebendis
James DiMauro	Michael Weinstein
Helen Hatch	Stephanie Whigham
Richard Hebden	Mary Wilson

### Seven Years

Theodore Kauppi  
Charlotte Reynolds  
Daniel Wardimon

### Eight Years

Muriel Thompson

### Nine Years

Paul Gadaire, Jr.  
George Gerelds  
Broncia Smale  
Eva Anelons  
Henry Crouse  
Robert Dill