

ONLINE

DIGITAL EQUIPMENT CORPORATION

OCTOBER, 1989



What a Ball!!

(See story on page 6)

Software Product Line Formed



(L. to r.) Peter Kilbourn, Harvey Bramson, Roger Pyle, Peter Watt, John Moss, and Bill Fulton confer on a software problem.

Digital has formed a Software Product Line to support users of DEC products. Inaugurated on the first of September, the software group offers programming assistance to DEC customers in almost any application area.

According to Product Line Manager Roger Pyle, who has more than twelve years of experience under his belt, typical applications include process control, data communications, data reduction, information retrieval, biology, chemistry, numerical control, direct digital control, and many more. Roger stressed that each program results from a customer's request to a DEC sales engineer and each is tailor-made for that customer.

"Our purpose is to further increase the service that we offer customers. The Software Product Line will also provide an additional tool for selling computers and will help to get DEC into areas where there is a potential for new DEC products," claims Roger. He stressed that the sales and field service people will act as liaison; the customers will tell their needs to the field people, who will relay the specifications to Maynard for the systems design.

At present, the Software Support Group is composed of eight people, including Roger, Harvey Bramson, Peter Watt, Bill

Fulton, Bill Klein, Pete Kilbourn, John Moss, and Bob Green, all senior systems programmers with an average of eight years in the computer field. One of the Group's current projects is the design and implementation of a PDP-10 timesharing, on-line quotation inquiry system for a large overseas stock exchange. It is also assisting in the development of programs for a giant PDP-10 typesetting system and developing a small DEC PDP-8 process control system for the petroleum industry.

Conn. Office Moves to Larger Quarters

DEC's former New Haven, Connecticut Office recently moved to larger quarters in Meriden to accommodate the growing staff, which consists of Sales Manager John Benson, Field Service Manager Bill Norris, three applications engineers, eight field service engineers, and three secretaries.

Among Digital's customers in the heavily industrialized state of Connecticut are Allied Computer Systems (a major OEM), United Aircraft (jet engine simulation), and Sikorsky Helicopter (helicopter flight simulation).

DATAFAIR '69

by Val Baillie
U.K. Correspondent

For Digital, DATAFAIR '69 was "one tremendous success."

Organized by the British Computer Society and held at Manchester University, England, from August 25-28, this was the biggest computer exhibition and congress of the year outside the United States.

Digital's presentation was, "Undoubtedly the best at the exhibition," according to more than one visitor to the Digital salon (each exhibitor was allocated a complete lecture hall within the university precincts).

A major factor in the success of Digital's exhibit was the wide range of computers and applications on display. A PDP-12 (with musical accompaniment); a PDP-8/L with the new KV-8/L Graphics Display system; Moore Reed & Co.'s extremely interesting and effective acoustic coupler linked via a G.P.O. telephone to the PDP-8/9 system of Digital's customer — Timesharing Ltd.; the computer-based invoicing system of I.S.I. Ltd., which uses a PDP-8/1; and a PDP-8/L purchased by Applied Computer Systems, Ltd., and delivered to them at the exhibition.

On the show's opening day, BBC television and a sound broadcast program both featured items on the PDP-12, and Bob Thorley of the Manchester office explained in lay terms how the system can be used for medical and industrial applications.

In the course of the three days of the exhibition, 126 boxes of literature were distributed, together with 3,000 of the colorful K-Series posters, each carefully rolled by hand for easy carrying by the visitors — and that's an awful lot of rolling!

ON LINE

Monthly publication for employees of Digital Equipment Corporation and its subsidiaries.

Prepared by Public Relations Department, Digital Equipment Corporation, 146 Main St., Maynard, Mass. 01754

digital

a new face for dec

Most of Digital's recent product brochures and the annual report have a distinctive similarity: unique and attractive lettering on covers and in headings.

The type face is strikingly different. It employs circles as the basic design element and many of the letters interlock. This type face is the result of many hours of painstaking design work by Elliott Hendrickson, Manager of Digital's Art Department. Any graphics expert will confirm that designing an entire alphabet from A to Z is a phenomenally intricate task. Lines and curves must be redrawn many times. Every combination of letters must be anticipated. The job requires not only artistic ability but also considerable expertise in graphics, printing, type faces, etc.

But why design a type face when so many — from Aurora to Windsor — are available? "I had two reasons," explains Elliott. "First, for product identification. Second, there was a need to 'tie' all our product brochures together graphically."

He has appropriately named the new type face "Elliott Outline." While it could conceivably catch on fast in the world of graphics, it will be used only on Digital products and Digital publications. In trade jargon it could be described as "a display, sans serif, gothic type face."

Elliott says he "threw out the rule book" resolving that there would be "no other type face anywhere like it." And he really gave it character, the most distinctive features being the interlocking letters and the uniform rotundity. The letters have something else that can be found in no other type face: they also interlock upwards and downwards to create unusual artistic designs.

The letters "pdp" gave Elliott his first inspiration. After doodling with them for several days, he latched onto the circles, which he then used in the design of as many other letters as possible. "The circles in my letters are like the little circular lights that flash on and off on the front of computers," he points out. "They lend themselves very appropriately to computer products."

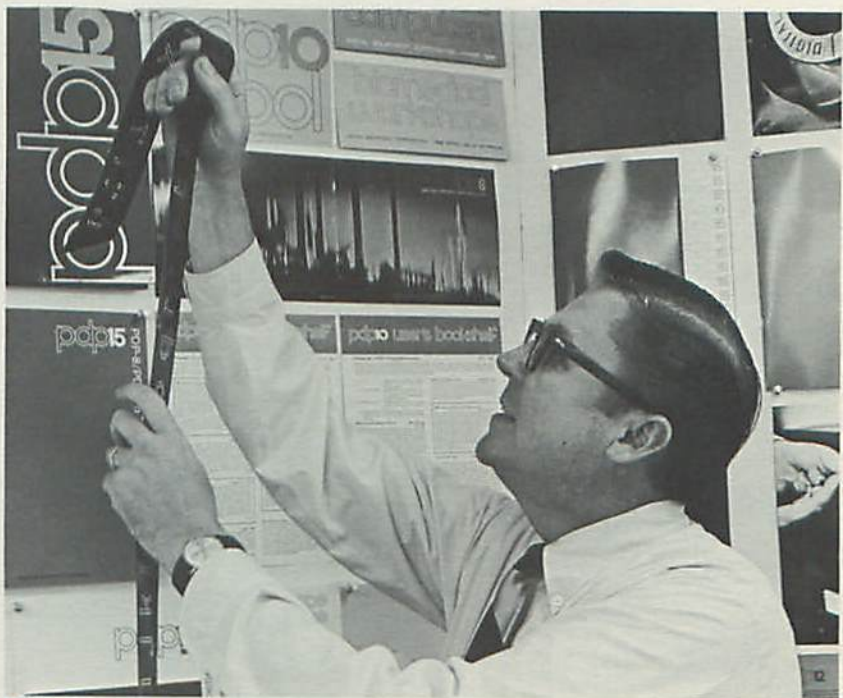
Every letter in Elliott's type face is lower case; there are no capitals. He says he selected the outline style "because there are fewer outline faces around."

Digital's Operations Committee and Marketing Review Committee have enthusiastically approved Elliott's design. Several new products already employ the new lettering and it also appears on all recent product brochures.

Elliott ran his own art studio before coming to Digital five years ago (Digital had been one of his major accounts). He has also been associated with Nason Design Associates and Gunn Studios, both very prominent Boston-based design firms.

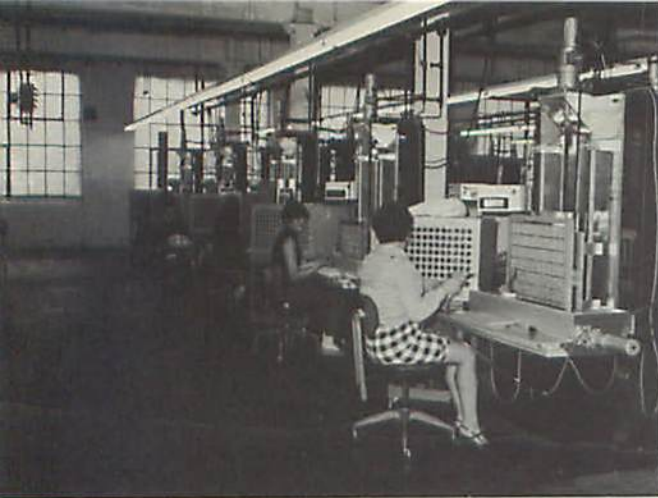


Examples of promotional literature using "Elliott Outline."



Elliott Hendrickson, designer of the font, examines a filmstrip of "Elliott Outline" for photocomposition.

a b c d e f g h i j k l m n o p q r s t u v w x y z ! : ; . , ' ?



One of the ten rows of wirewrap machines at Carleton Place.

PDP-8/L System Controls 60 Wirewrap Machines at

Carleton Place



Keith Lamb, (r.) Shift Supervisor and Computer Operator, prepares to hook up a wire list in the computer room, while Dick Mitchell (c.) debugs a new wirewrap program.

A huge, numerically-controlled wirewrap facility is currently being installed at Digital's Carleton Place, Ontario, plant.

When completed, the system will consist of 60 wirewrap terminals (operating two shifts), a considerable increase over the former facilities, which were composed of four terminals at Maynard and eleven at Carleton Place.

The installation is composed of two systems: two PDP-8/L's, which control 30 wirewrap machines and two PDP-8's, which control 30 more. In each system, one computer is always on standby while the other is in operation.

The system was designed by Digital's Process Engineering Group, under the direction of Ron Cajolet, and the Canadian facility will be supervised by Bob Trotter.

Wirewrapping is a process of attaching wires to pins. It is faster and more reliable than the traditional soldering process.

Bob explains the sequence of operations as follows: A PDP-6 computer generates a list of pin positions, which is stored on PDP-8/L disks. The PDP-8/L sequentially takes 100-word blocks from the disks and transfers them to core memory. Then, on command from the operator at one of the wirewrapping stations, the PDP-8/L calculates the next move from the x and y coordinates listed for the next positions and commands stepping motors to move the logic frame to the new position.

The computer keeps the operator informed at all times of the present wiring positions, the length of wire being used, whether or not the current wiring position is the beginning or the end of a wire, and the route the wire will take between

pins. It is possible for the operator to command the system to step backward through the list, if necessary. It is also possible to jump any number of wires back or forth in the list.

Future plans call for the installation of an AWT (Automatic Wire Tester) in Canada similar to the one on Maynard. Each logic frame manufacturer will be plugged into an interface connected to the PDP-8/L, which will sequentially check each pin in the entire logic frame. As many as 11,000 pin connections can be checked in less than 2½ minutes! The PDP-8/L will print a list of the faulty connections so that they may be repaired.



Melbourne Engineer is "One-Man Army"

Tony Mercer, Field Service Engineer, Melbourne, Australia, has become known as "Melbourne's one-man field service army."

He gained the title after a particularly hectic week in which he installed four PDP-8/L's - two at Kodak Research Labs, one at Elmaco Plastics, and one at C.S.I.R.O. Building Research.

"With all this practice Tony reduced the time to get an acceptance signed to two hours," states Manager Max Burnet; "this must be a new record."

Digital Has New Rochester Office

Digital-Rochester recently moved into a new office complex in the Brighton area of that city. DEC occupies half of the first floor of the glass and natural wood building at 130 Allens Creek Road at

Monroe Avenue. DEC's personnel will use the office for further sales work and for service to the more than 150 computer installations in the Rochester area.





Bowers



Conley



Chertkow



Devlin

Promotions and Appointments

Steve Bowers, who has been serving as Advertising and Sales Promotion Supervisor in the European Region, will soon return to Maynard as Advertising and Sales Promotion Supervisor. In Europe, Steve organized and supervised Digital's advertising, product promotion, trade show and public relations programs. In his new position he will report to Marketing Communications Manager Gabe d'Annunzio and will be responsible for all product advertising and promotion programs. Before coming to Digital in 1966, Steve served in the Public Relations Department at the Sylvania Electronic Products Division.

Charles Conley has been named Manager of PDP-8 Software Development. He has been with Digital for two years and has worked on PDP-8 FORTRAN, BASIC-8, and the Disk Monitor System software. His group is responsible for the development of compilers, operating systems, data communications programs and other basic system software. Charles has a BS in Computer Science from the University of Missouri and has held positions in the Applied Mathematics Division of the Argonne National Laboratory in Chicago.

Dave Chertkow has joined Digital as Engineering Manager for the PDP-8 group. He had been serving as Director of Systems with KinOTrol Inc. in Houston, Texas. Dave also served with Raytheon as a hybrid systems analyst and with RCA in Alaska as a team leader in charge of a real time data acquisition facility.

James J. Fleming has joined Digital's personnel staff as a Personnel Supervisor. Jim is responsible for Salary Administration and Personnel Research. Most recently, Jim served with Raytheon Co. as manager of Wage and Salary Administration. He is a liberal arts graduate of Stonehill College.

Mauritz Fredriksen was recently named Manager of Applications Software and is now responsible for computer applications packages for all product lines. Current projects include: TSS/8, graphics packages, physics applications, GLC systems, PDP-10 Real-Time Monitor, etc. Since coming to Digital in 1966, Mauri has worked on various systems programs. Last year, he went to Australia to participate in the final stages of negotiations for implementation of a PDP-10/PDP-8 system for the Stock Exchange of Melbourne. Born in Norway, he attended high school in the U.S. and graduated from M.I.T.

Richard P. Devlin has joined Digital as Physics Marketing Manager. He comes to us from Raytheon Co. where he had been in charge of marketing electronic components and educational materials. Dick holds degrees from Boston College (BS, physics), MIT (MS) and Wharton (MBA).

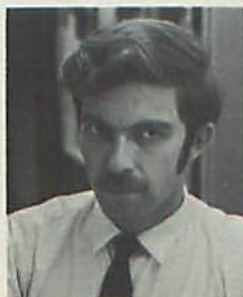
David P. Wilkinson has joined Digital as Plant Personnel Manager for Westfield. He is temporarily in Maynard, and will relocate to Westfield when the plant opens. Dave has served as an employment consultant and as a Personnel Manager with American Motors Corp. in Ewart, Michigan. He received degrees from Loras College, Iowa, and Aquinas Institute, Illinois.

Chris Scott has been appointed Advertising and Sales Promotion Supervisor for the European Region. Since joining Digital in 1967, Chris has handled various product advertising and promotion assignments. He is a graduate of the University of Vermont, where he earned a BS in Economics.

Fleming



Fredriksen



Wilkinson



Scott





Family Day Attracts Record Crowd

DEC-Maynard's Annual Family Day Outing, held on September 13 at Canobie Lake Park, was attended by the largest number of people ever assembled for a Company function, 5,500.

Enjoying the pre-autumn fun in the sunshine, DEC employees and their families and guests consumed 125 bushels of corn, 10,000 ice creams, 7,000 slices of watermelon, and 100 gallons of ice cream, among other things.

In between eating bouts, DEC funsters, not all of whom were children, rode the roller coaster, the antique cars, and the merry-go-rounds; slid down giant slides; and took boat rides. Despite the large turnout, there was a minimum of waiting in line, but nobody seemed to mind, anyway.

The music provided by the Maynard Community Players' Band and the Torch Parade, the latter for dancing, was the culmination of an entirely successful, entirely enjoyable, and entirely exhausting day.



PDP-15 Testers Designed, Built Own Equipment

When the PDP-15 was little more than a gleam in somebody's eye, the PDP-15 Test Group was formed to design and build the required test equipment.

Reporting to Jerry Butler, PDP-15 Engineering Manager, the Test Group was under the direction of Ralph Dieter and included Bob Fitch, John Pratt, Ernie Strange, Bob Bureau, Herve Lavoie, and Phil Despo.

While the PDP-15 was being designed, the Test Group conferred with the design engineers on the project and determined exactly what kind of test equipment would be required. Then they designed and built it.

From the beginning of the project, an important factor has been consideration of the user of the equipment. For example, a person running heat tests in August does not appreciate having 130 degree air blown on him, so a recirculating air chamber was designed to keep the heat entirely within the tester. The Test Group assembled attractive equipment, which looked as if it were ready to ship to a customer. Why bother? According to Ralph Dieter, "We wanted professional-looking equipment for the professional people who would be using it." His rationale is that a person has more respect for and performs better with equipment that is attractive as well as functional.

Each Group member was responsible for the testing of a certain part of the system. Bob Fitch, who has been with the program for a year, assisted in the design of and built the ACT-15 (Automated Computer Test Facility).



Phil Despo (l.) and Ernie Strange demonstrate the use of the PDP-15 Memory Exerciser.

John Pratt, working with engineer Dennis O'Connor, developed the I/O bus testers and then, on his own, developed the DW-15, the I/O bus interface, plus several options.

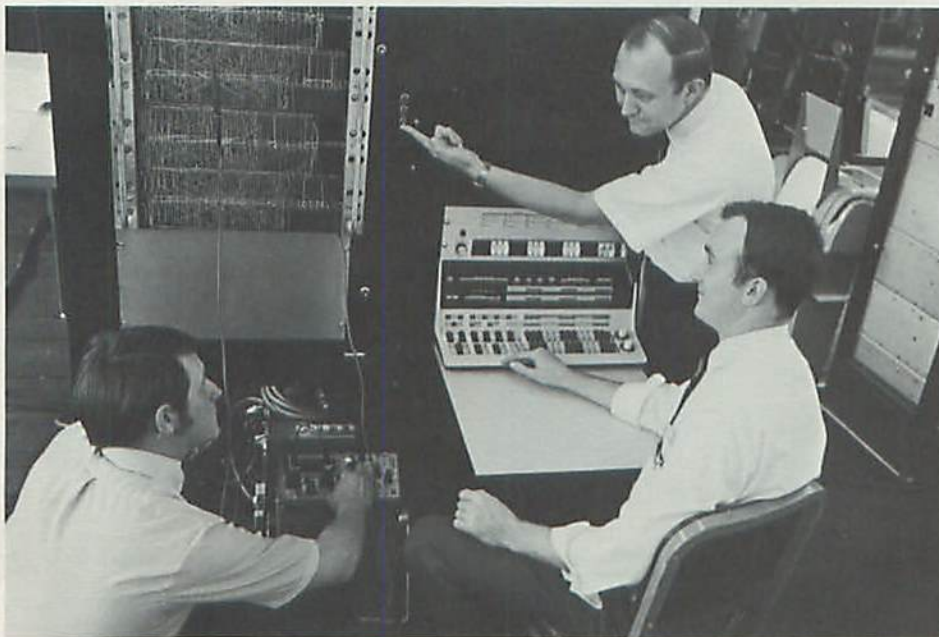
Ernie Strange designed and built the wiring harness boards and tester, laid out and built a large share of the cabling of the PDP-15, and acted in general support of all testing activities. Herve Lavoie developed the console testers as well as a special memory interface for the ACT-15 interface. Phil Despo constructed and checked out the power supply tester and worked on the heat cycling control for the ACT-15. Bob Bureau helped to design and debug the memory exercisers and checked out six units for use on the

memory line. Marv Horovitz's Diagnostic Programming Group supported the entire operation with a large software development effort.

The project, which has been underway for approximately thirteen months, is cutting back now that the construction phase of the PDP-15 testers is finished. While the rest of the Group goes on to other responsibilities, Bob Fitch, Ernie Strange, and Bob Bureau will stay to maintain the existing PDP-15 test equipment and to design test equipment for future hardware. Bob Fitch, having demonstrated outstanding abilities for getting the job done and for working with other service groups, has been appointed Group Leader.



Herve Lavoie (l.) and Bob Bureau examine a memory in Final Test.



Ralph Dieter (r.) flips the heat switch, while John Pratt (l.) and Bob Fitch prepare

to conduct a heat test on the CP I/O station.

Training Dept. Holds Classes in Palo Alto

DEC's Training Department initiated five customer training courses in the Palo Alto Office recently.

According to Jim Davis, Supervisor of Customer Training, his West Coast branch will offer three programming courses, taught by Cynthia Coffin of the Palo Alto Office, and two hardware courses — PDP-8/I hardware and PDP-8/L hardware — taught by Maynard's Charles Wordroup, who has been commuting to California.

Limited to about 12 people each, the courses have been attended mostly by West Coast customers. However, students have come from as far away as Florida, combining business with a pleasure trip.

DEC Office Grows With Houston



DEC-Houston has an ultramodern building with plenty of parking space.

The Houston Office, located in the sixth largest city in the U.S., opened its doors in 1966 with a staff of three: Sales Manager Tony Liveris, Field Service Manager Earl Cain, and Secretary Peg Bracken. As of this writing, there are eleven more field service engineers, two software specialists, five sales engineers, and five more secretaries.

The Dallas Branch Office opened in November of 1968 to help accommodate the industries, hospitals, and universities in the district. As these institutions have increased in number, so have DEC sales.

Despite the accelerated growth of the Dallas-Houston area, it has kept its easy-going southern ways regarding life styles and hospitality. People from all walks of life and all parts of the country move into this area each month, and it is a combination of all these talents that have helped in the growth of the southwest U.S.

One of the major uses for DEC equipment in the Houston District is petroleum refining, since Houston is the world's petroleum refining capital as well as the center of the nation's greatest petrochemical and chemical industries. Besides extensive use of computer equipment for process control, gas chromatography, and data acquisition in the petroleum industries, 200 Houston firms are engaged in various forms of off-shore exploration and oceanographic enterprises that use computers.

The Manned Spacecraft Center uses a number of PDP-8 and PDP-9 systems in their research and development procedures, and NASA has two PDP-5's in operation at present.

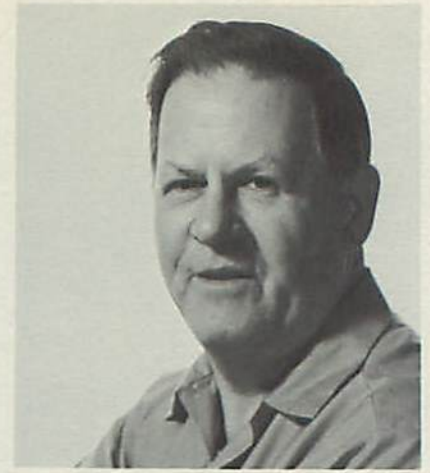
DEC equipment can be found in central

research areas at the Texas Medical Center, world famous for cardiology and cancer research. Several LINC-8's, a PDP-8/S, a PDP-8, and a PDP-12 have been installed at the center, where the PDP-12 is being used by Dr. Michael DeBakey, a pioneer in heart surgery and research. Three more PDP-12's will soon be installed in the Cardiology Department and others have been ordered for several other Center departments. The scientific and medical faculty of the center have shown such interest in the PDP-12 that it may very well become a showcase for DEC computer systems.

Houston is an exciting, fast-paced, and diverse city in which to live and work, and the DEC Sales and Field Service personnel are proud of their achievements in this competitive computer market. They plan to keep growing and meeting the needs of the customers in their area.



The Houston Office's secretarial staff is an example of why southern belles are still admired: (Top row, l. to r.) Bernie Demel, Sales; Dian Wilde, Sales; and Peg Bracken, Sales. (Bottom row) Nancy Busch, Field Service; Wanda Smith, Field Service; and Wendy Marton, Sales.



Art Brazee Retires; Eighth from DEC

When Arthur Brazee retired from Digital on October 1, he became the eighth retiree in the Company's short history.

DEC was in its infancy when Art accepted a position in the Maintenance Department in 1960. At that time, only Building 12 was in use. According to Art, everyone pitched in and did his share of the work (and perhaps even a bit more). Recently, as janitor of 1-5, he has had his hands full just keeping up with that!

With more free time, Art and Mrs. Brazee plan visits to their children in Woburn and Baltimore, where seven grandchildren await them. But they don't plan to stay away from Maynard long. Mineralogy became a hobby of the Brazees while Art was at DEC, and they have a jewelry shop in Maynard. Art polishes and mounts stones and he and Mrs. Brazee make jewelry to order.

Don't expect to see Art in a rocking chair after October 1; you'll have to catch up with him if you want him!

Did You Know That...

DEC computers are gaining wide acceptance in secondary education programs? For example:

— Over 50 DEC computers are now in use in high schools and prep schools throughout the U.S.

— In New England more than a third of the computers being used in high schools are DEC machines.

— Among the public schools in the Greater Boston area using our computers are: Clinton High, Tahanto Regional High, Berlin High, and Lincoln-Sudbury Regional High.

— Pioneering work in the use of computers in high schools is being done through Project LOCAL. This program uses DEC computers linked to classroom terminals at schools in Lexington, Natick, Needham, Wellesley, and Weston.