

December 28, 1960

Mr. Ralph E. Lee  
Director of Computer Center  
University of Missouri  
School of Mines and Metallurgy  
Rolla, Missouri

Dear Mr. Lee:

Thank you for your letter of December 22, 1960, inquiring about digital computer systems. I am enclosing with this letter a programming manual for our new PDP-1 (Programmed Data Processor). This is a high speed, 18-bit scientific computer. It has extensive subroutines for doing floating point and trigonometric functions, etc. It uses punched paper tape for input and output, and the base price for a complete operating system is \$110,000. There is no rental plan available for this machine. Please let us know if we can be of further help to you in evaluating our equipment.

Thank you for your interest in DEC.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-10, F-15, Applications Packet.



December 27, 1960

Mr. Robert Jeffries, President  
Data Control Systems, Inc.  
39 Rose Street  
Danbury, Connecticut

Dear Bob:

It was a pleasure to have an opportunity to talk to you on the phone today concerning this medical electronic job at Wright Field. I am enclosing with this letter a packet of information on our PDP-1 computer along with an application note describing the bioelectrical feature that we demonstrated in New York at the Eastern Joint Computer Conference. We have not yet decided whether we will make a bid on this job ourselves, but expect to reach a decision within the next several days. We would be pleased to have an opportunity to demonstrate this particular application of the computer here at our plant to you and any of your associates who might be interested in seeing it.

Should you wish further detail information about the computer, please feel free to contact me. Best of luck in your proposal.

Sincerely,

Earlan E. Anderson  
Vice President

HEA:ecp

Enclosures: F-10, F-15, Applications & Programming Folder



December 27, 1960

Air Force Command and Control Development Division  
Laurence G. Hanscom Field  
Bedford, Massachusetts

Attention: Mr. Thomas M. Walsh, CCKC

Reference: Purchase Request No. 90562

Gentlemen:

This letter will confirm the hand transmittal of the Digital Equipment Corporation proposal of 21 December 1960 in response to your Purchase Request No. 90562.

The DEC proposal is on a fixed price basis only. This preference is based on several factors as noted below:

1. The result of this particular piece of work is a well defined end product as described in our unsolicited proposal of 15 August 1960.
2. Digital Equipment Corporation has never performed CFF work and, therefore, does not have all of the administrative personnel and procedures normally required.

In view of the above, we hereby offer to perform the complete job as described for a total fixed price of \$385,000. net. In connection with this, please note that the estimated price based on the Air Force method using ARDC Form 113 comes up with a Total Estimated Cost and Fixed Fee (Line 14) of \$420,943. In making this estimate we certify that the Engineering Department burden rate of 1.16, the Manufacturing Department burden rate of 2.07, and the General and Administrative rate of 40% of Cost are equal to or lower than



December 27, 1960

Digital Equipment Corporation rates based on our financial statements for the first four months of the current fiscal year beginning July 1, 1960.

**Warranty:** The Dynamic System Simulator and its component parts, as delivered, are guaranteed to be free from design and manufacturing defects for a period of one year following installation. Any component which fails during this period will be repaired or at DEC option replaced.

There will be no charge for service of the machine for a period of one year following installation. This service shall include that necessary to insure proper operation of the machine, repair of any failures that occur, and routine checks during this period. Service contracts beyond the initial year will be available.

This warranty does not cover components which have been modified without DEC approval or have been subjected to unusual physical or electrical stress.

Warranty covering the major components of this system listed below which are not manufactured by Digital Equipment Corporation shall be limited to that warranty provided by the original manufacturer of the item involved:

Typewriters  
Paper Tape Readers  
Paper Tape Punches  
Magnetic Tape Transports

The maximum liability of DEC under this warranty is limited to necessary service calls and repair or replacement of defective parts.

**Training:** Digital Equipment Corporation will provide training for maintenance personnel and programmers at the



Air Force Command and Control  
Development Division

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December 27, 1960

DRC factory in Maynard, Massachusetts. The maintenance training will be of an "on the job" type and will take place during the final testing of the simulator prior to shipment. Up to four persons for a period of four weeks can be accommodated. The programmer training is of a familiarization nature and will cover up to six persons for a period of two weeks. Both of these training programs are based on the assumption that the personnel being trained are familiar with the basic theory of the type equipment involved. Emphasis will be placed on familiarizing them with the particular details and operation of this simulator.

I trust that this supplementary information will be helpful to you in evaluating our proposal and quotation of 21 December 1960. If you should wish additional information, please feel free to contact me at your earliest convenience.

Sincerely,

Earlan E. Anderson  
Vice President

HEA:ecp

CC: Mr. Lou Geary  
Building 1511  
AFCCDD



December 23, 1960

Mr. John A. Moore  
Programming Supervisor  
The Reader's Digest  
Pleasantville, New York

Dear Mr. Moore:

Thank you for your letter of December 15, 1960, requesting information about Digital Equipment Corporation.

Since no DEC stock is available on the market, no annual reports to the stockholders describing the corporation activities are prepared.

DEC is manufacturing a line of proprietary products which are described in the literature I am enclosing.

Thank you for your interest.

Sincerely yours,

Harlan E. Anderson

HEA:ecp  
Enclosure: CL



December 22, 1960

Dun & Bradstreet Metalworking Directory  
P. O. Box 178  
Allentown, Pennsylvania

Attention: M. E. Mc Kenzie, Editor

Gentlemen:

Thank you for your letter enclosing proof sheets for listing in the 1961 DUN & BRADSTREET METALWORKING DIRECTORY.

Upon review, we feel that future listings in your Directory would not be appropriate for Digital Equipment Corporation. We sincerely appreciate your listing us in the past.

Very truly yours,

Harlan E. Anderson  
Vice President

NEA:ecp



December 9, 1960

Mr. Adrain E. Johnson, Jr.  
Assistant Director  
Louisiana State University and  
Agricultural and Mechanical College  
Computer Research Center  
Baton Rouge 3, Louisiana

Dear Mr. Johnson:

Thank you for your letter of November 30, 1960, indicating your plans for expanding your computer activities during the next few years. I am enclosing with this letter literature on our new Programmed Data Processor which we manufacture. This machine is patterned after a general purpose computer now in use at the Electrical Engineering Department of M.I.T. Their computer is known as the TX-0 and has been an important factor in many of the pioneering applications of computers.

One of the outstanding features of the PDP is its oscilloscope which is used as an output media, and when used with the light pen, is a very flexible way for an operator to work with a computer. For example, he can literally draw graphs and curves on the oscilloscope which can then be read into the computer. Features like this are, of course, in addition to the fact that PDP is an outstanding general purpose computer. For example, it has capability for 100,000 additions per second.

If any people from your group plan to attend the Eastern Joint Computer Conference next week in New York City, the PDP-1 computer will be on exhibit there, and we would be pleased to discuss it further with you. In any



Mr. Adrain E. Johnson, Jr.

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December 9, 1960

event, I hope you find the enclosed literature of interest,  
and we would be pleased to hear more about your needs.

Sincerely,

Earlan E. Anderson

HEA:ecp

Enclosures: F-10, F-15

COPY



December 8, 1960

Mr. Aaron Galvin  
M.I.T. Lincoln Laboratory  
Post Office Box 73  
Lexington 73, Massachusetts

Dear Mr. Galvin:

Here is the Programming Manual for our PDP-3 computer which you requested on the telephone today.

If you have any questions, or if I can be of any help whatsoever, please be sure to call me.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosure: PDP-3 Manual



December 7, 1960

Mr. Royal Carter  
U. S. Navy Purchasing Office  
929 South Broadway  
Los Angeles, California

RE: Programmed Data Processor - 3 for U.S.N.O.T.S.  
DEC Proposal of October 28, 1960

Dear Mr. Carter:

This letter will confirm our telephone discussion of 2 December 1960 regarding the proposed lease of a PDP-3 computer. This letter may be considered as an amendment to the original proposal and will expire along with the proposal on 28 December 1960 unless accepted or extended by that time.

Question 1.

We have carefully reviewed the lease rate and termination fee and hereby offer the following changes to be incorporated in the Lease:

- a. Rental, Page 3 - Change the monthly rate to one forty-second instead of one fortieth.
- b. Termination Option, Page 5 - Change the termination fee percentage from 90% to 65%.

Question 2.

The Government may exercise its Purchase Option as stated in the Lease at any time during the lease period and is entitled to the credit which is applicable at that time. In connection with this, a new Purchase Option Credit



Mr. Royal Carter

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December 7, 1960

Table I is enclosed. The changes in this reflect the new lower monthly lease payments.

Question 3.

The title to the equipment will pass to the Government whenever the Purchase Option is exercised, and the balance of the agreed valuation less the credit is paid. In this connection, note that at the end of 48 months the purchase option credit exactly equals the agreed valuation of the computer.

Question 4.

The last percentage figure in the original Purchase Option Credit Table was a typographical error. The new Purchase Option Credit Table enclosed has been carefully checked. However, should you find any discrepancies of this kind, please let me know.

Question 5.

If the equipment covered by the proposed lease were inoperative for alteration or maintenance necessary to fulfill the warranty, the Government would be entitled to an adjustment on the lease payments. For example, if you were unable to use the computer for one month, it would seem reasonable that no lease payment would be due for that month and that the end of the lease be extended by one month.

Question 6.

The PDP-3 computer is offered as a commercial proprietary item. It is the double word length version of the PDP-1 computer which has been sold previously. I am enclosing with this letter a copy of our bulletin F-10



Mr. Royal Carter

- 3 -

December 7, 1960

which has had wide distribution. The base price of both the PDP-3 and PDP-1 are included in this literature.

As mentioned in our proposal of October 28, 1960, we warrant that the prices charged the Government are the same as those charged to all other customers. The question of whether the PDP-3 machine is the best buy for the Government from a technical and economy viewpoint is one which has been given considerable study by the U.S.N.O.T.S. personnel. We were first contacted by them on 10 July 1959 when they were beginning a survey of a large number of actual or potential computer manufacturers.

I hope that the above information and changes in our proposal will help you in evaluating it. We feel that the work being planned by the U.S.N.O.T.S. personnel vitally needs a PDP-3 computer as an important element in their simulation system. Their schedule attests to the urgency of their program, and we are most anxious to cooperate. Please let me know if there is anything further we can do to help expedite their work.

Sincerely,

DIGITAL EQUIPMENT CORPORATION

Harlan E. Anderson  
Vice President

HEA:ecp  
Enclosure 1

CC: Mr. Lloyd Maudlin, U.S.N.O.T.S.



**DIGITAL EQUIPMENT CORPORATION  
Maynard, Massachusetts**

**TABLE I**

**Purchase Option Credits**

<u>Expired Rental Time</u>	<u>% of Total Rental Payment Applicable Toward Purchase</u>	<u>Expired Rental Time</u>	<u>% of Total Rental Payment Applicable Toward Purchase</u>
1 month	75.75%	1 month	81.75%
2	76.00	2	82.00
3	76.25	3	82.25
4	76.50	4	82.50
5	76.75	5	82.75
6	77.00	6	83.00
7	77.25	7	83.25
8	77.50	8	83.50
9	77.75	9	83.75
10	78.00	10	84.00
11	78.25	11	84.25
1 year	78.50	3 years	84.50
1 month	78.75	1 month	84.75
2	79.00	2	85.00
3	79.25	3	85.25
4	79.50	4	85.50
5	79.75	5	85.75
6	80.00	6	86.00
7	80.25	7	86.25
8	80.50	8	86.50
9	80.75	9	86.75
10	81.00	10	87.00
11	81.25	11	87.25
2 years	81.50	4 years	87.50



December 5, 1960

**Itak Corporation  
Information Technology Laboratories  
Waltham, Massachusetts**

**Attention: Mr. Norman H. Taylor, Vice President**

**Gentlemen:**

Digital Equipment Corporation is pleased to propose the purchase of a DEC Programmed Data Processor - 1 by Itak Corporation. The FDP-1 will be as specified in the attached manual.

**Equipment List and Prices -**

<b>Programmed Data Processor - 1 with 4096 words of memory</b>	<b>\$110,000.00</b>
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**Options:**

- |   |                       |
|---|-----------------------|
| <b>1. 16 inch Cathode Ray Tube Display<br/>for above</b>  | <b>\$1,000.00</b>     |
| <b>2. Light Pen for use with CRT Display</b>  | <b>1,300.00</b>       |
| <b>3. Fully automatic multiply and divide<br/>option for FDP-1</b>                                  | <b>10,300.00</b>      |
| <b>4. Substitution of a Tally Register<br/>Corporation Punch in FDP-1<br/>(60 lines per second)</b> | <b>600.00</b>         |
| <b>5. Magnetic Tape Control</b>   | <b>20,000.00</b>      |
| <b>6. Magnetic Tape Units for above</b>   | <b>15,000.00 each</b> |



December 5, 1969

- |  |                |
|--|----------------|
| 7. 1st Extra Magnetic Core Memory<br>Module 4096 words and includes<br>field switching | \$ 40,000.00   |
| 8. Additional Magnetic Core Memory<br>Modules (4096 words each)                        | 30,000.00 each |
| 9. Real Time Clock (24 bits at 10KHz)  | 5,000.00       |

**Terms -**

This quotation shall remain in effect for 30 days if not accepted or extended by that time. Prices shown are net and full payment is due 30 days after acceptance of the machine by Itek. Prices do not include applicable taxes of local, state or federal governments. All shipments are made f.o.b. Maynard, Massachusetts.

**Warranty -**

The PDP-1 System and its component parts, as delivered, are guaranteed to be free from design and manufacturing defects for a period of one year following installation of the machine. Any component which fails during this period will be repaired, or at DSC option, replaced.

The below information is of the nature of performance objectives and shall only be used as such.

Proper operation of the machine as used above is defined as an average of at least 10 days between failures. A sequence of past failures directly attributable to a single repaired component are to be considered as a single failure when computing average times between failures. If magnetic tape storage is included in this system a relatively low level of random errors in reading are not to be considered failures as used above.

The unscheduled repair time will be, at most, 10 hours



per month.

This warranty does not cover components which have been modified without DEC approval or have been subjected to unusual physical or electrical stress. Failures due to such components or due to equipment connected to the computer without DEC approval are not to be included when computing average time between failures for the purpose of this warranty.

The maximum liability of DEC under this warranty is limited to necessary service calls and repair or replacement of defective parts.

Delivery -

PDP-1 will be delivered 4 months from receipt of a firm order. This means that if the Itek delivery date of April 15, 1961 is to be met, a firm order must be placed no later than 15 December 1960. Between January 1, 1961 and April 15, 1961 computer time will be available on a PDP-1 computer at Digital Equipment Corporation plant in Maynard, Massachusetts for program checkout and preparation by Itek personnel. A maximum of 10 hours per week are available at a rate of \$50 per hour. Cost of this rental time may be applied toward the purchase price of the PDP-1 computer proposed up to a maximum of \$10,000.

Maintenance -

There will be no charge for service of the machine for a period of one year following installation. This service shall include that necessary to insure proper operation of the machine, repair of any failures that occur, and routine checks during this period. Service contracts beyond the initial period are available either at a flat rate or on a per call basis.

\* If magnetic tape option is selected, this part of the system will be delivered within 6 months after receipt of a firm order.



December 5, 1960

PROGRAMS -

PDP-1 will be delivered with copies of all available assembly, compiler and general utility programs including symbolic address assembly programs, floating point sub-routines, in-out programs, maintenance programs, etc.

Installation -

All equipment except magnetic tape will operate from 20 amps of 115 volts single phase 60 cycle power. Each magnetic tape requires an additional 15 amperes. No direct connection of air conditioning to PDP-1 is required. General air conditioning of the building is recommended, but not required. Floor space of the computer is as follows:

PDP-1 Console 3' x 5'

PDP-1 Main Frame 2' x 6'

Each magnetic tape unit adds 2' to the length.

We trust that you will find this proposal acceptable and we look forward to an opportunity to be of service to you. Should you wish additional information, please feel free to contact us.

Sincerely yours,

DIGITAL EQUIPMENT CORPORATION

*Harlan E. Anderson*

Harlan E. Anderson  
Vice President

HEA:ecy  
Enclosures:

CC: Mr. Robert Shannon  
Mr. John Kuipers  
Mr. Larry Buckland



November 29, 1960

Raytheon Manufacturing Company  
225 Crescent Street  
Waltham, Massachusetts

Attention: Noel Elliott, 417

Gentlemen:

Reference is made to your telephone conversation  
with our Mr. Robert Hughes on November 28.

The unit price for the DEC Model 1703 Switch Filter  
is \$30. Delivery will be made within two weeks after  
receipt of order.

Sincerely,

Harlan E. Anderson

HEA:ecp



November 29, 1960

Mr. Bernard Lumbert  
Aerospace Corporation  
Box 4007  
Patrick Air Force Base  
Florida

Dear Mr. Lumbert:

It was a pleasure to have an opportunity to tell you about the Programmed Data Processor on the telephone yesterday, and I hope that you find the enclosed literature of interest. If you or any of your associates have an opportunity to attend the Eastern Joint Computer Conference in New York in a few weeks, I would like to invite you to see a demonstration of the PDP-1 computer. Thank you for your interest in DEC products, and let us know if we can be of further help to you.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosure: F-10, F-15



November 28, 1960

Major William Harris, CCSET-2  
Command Control and Development Division  
United States Air Force  
Hanscom Field  
Bedford, Massachusetts

Dear Major Harris:

I am pleased to furnish you with price estimates for the Programmed Data Processor - 3 (PDP-3) for your evaluation. Prices for Items 1 to 6 are quite firm as of this date. Prices for Items 7 to 9 would be somewhat dependent on your detail technical requirements such as message length, type of entry into the PDP-3, etc.

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Price</u>
1.	1	PDP-3 with 4096 words of memory	\$220,000.00
2.	7	4096 word memory modules @ \$60,000	420,000.00
3.	1	Magnetic Tape Control @ \$20,000	20,000.00
4.	17	Magnetic Tape Units @ \$20,000	340,000.00
5.	1	Card Reader Control @ \$15,000	15,000.00
6.	1	Card Punch Control @ \$15,000	15,000.00
7.	8	CRT Displays @ \$5,000	40,000.00
8.		Telephone Line Inputs approximately \$15,000 each	
9.		Teletype Line Inputs approximately \$5,000 each	



November 28, 1960

The machine delivery is, of course, a function of when an order is placed, but would currently run from 10 to 12 months after receipt of order. The machine would be delivered with programming aids consisting principally of:

- a. FRAP-3 (Symbolic Address Program)
- b. DECAL-3 (Expandable Compiler)

The PDP-1 prototype version of this machine has been successfully in operation for approximately one year, and the first production delivery was made just recently. The magnetic tape units available with the PDP-3 have IBM compatible formats which would be of considerable usefulness in your program.

If you wish further information concerning the PDP-3, please feel free to call upon me.

Sincerely,

Harlan E. Anderson

HEA:ecp



November 23, 1960

Mr. Larry P. Kelly  
National Aeronautics & Space Administration  
Procurement and Supply Division  
21000 Brookpark Road  
Cleveland 35, Ohio

Dear Mr. Kelly:

This letter will confirm our telephone conversation of today regarding Digital Equipment Corporation policy on cancellation or changes in purchase orders. In order to achieve the maximum discount, you may order equipment for deliveries scheduled over a 90 day period. The appropriate discount from our discount schedule would be the maximum discount for the total amount of the order.

You may make changes in quantity or type of any of the units in the order prior to the time that they are shipped. So long as these changes are all for catalog items as listed in any of our literature, there is no termination fee. If these changes reduce the total size of the order such that a lower quantity discount applies, the prices of all items already shipped or to be shipped will carry the new discount.

I hope that this clarification of our quantity discount schedule and termination policy will be helpful to you in considering the use of our equipment at N.A.S.A. Thank you for this opportunity to be of service to you.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp  
Enclosure: Quantity Discount Policy



November 23, 1960

Mr. Joseph H. Redding, Staff Consultant  
H. B. Maynard and Company, Incorporated  
The Maynard Building  
718 Wallace Avenue  
Pittsburgh 21, Pennsylvania

Reference: Mr. Farr's letter of November 17, 1960

Dear Mr. Redding:

I am enclosing with this letter technical information pertaining to the new Programmed Data Processors manufactured by Digital Equipment Corporation as requested by Mr. Farr in his letter of November 17. The PDP-1 and PDP-3 are high performance computers with arithmetic speeds between the IBM 709 and the IBM 7090. The total price for the PDP-1 is \$110,000 and the total price for the PDP-3 is \$220,000. These prices include a set of computer utility programs for assembling and compiling as well as input-output routines. However, these prices do not include extensive training courses or programming of customer problems, etc. For these latter items, we would recommend the utilization of one of the many well-qualified companies such as Charles Adams Associates in Bedford, Massachusetts. This permits a customer to purchase as little or as much of these extra items as he feels he needs. Adams Associates recently ran a training course in which they utilized a PDP-1 computer. I believe they mentioned to me that a representative from H. B. Maynard and Company attended this training course.

I hope that the enclosed literature will be of help to you in considering the PDP computer. I will have



Mr. Joseph H. Redding

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November 23, 1960

your name added to our mailing list for future literature as it becomes available, and should you have any questions, please feel free to call upon me.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp

Enclosures: F-10, F-15, PDP-3 Manual

COPY



November 22, 1960

Mr. P. D. Hansen  
Philbrick Research  
127 Clarendon Street  
Boston, Massachusetts

Dear Mr. Hansen:

It was a pleasure to have an opportunity to talk to you during the recent NEREM Show about DEC building block equipment. I am enclosing with this letter an application note describing A to D and D to A conversion possibilities with our building block equipment.'

Let us know if we can be of any further help to you.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosure: 1



November 22, 1960

U. S. Navy Purchasing Office  
929 South Broadway  
Box 5090 Metropolitan Station  
Los Angeles 55, California

Gentlemen:

Thank you for your Request for Quotation No.  
RFP-123-10918 dated 11/10/60.

Digital Equipment Corporation does not manufacture  
the particular units that you are interested in.

Enclosed please find descriptive literature on our  
Digital Test Equipment and System Building Blocks that  
may be of interest to you in the future. If we can be  
of any further assistance to you at any time, please do  
not hesitate to contact us.

Sincerely yours,

Harlan E. Anderson

HEA:ecp  
Enclosure: Catalog



November 21, 1960

Mr. J. E. Thompson, Senior Engineer  
Advanced Development  
Electronics Division  
Mail Stop No. 822  
Westinghouse Electric Corporation  
Friendship International Airport  
Box 1897  
Baltimore 3, Maryland

Dear Mr. Thompson:

Thank you for your letter of November 16, 1960, in which you inquired about our new PDP-1 and PDP-3 computers. I am enclosing technical literature which describes both of these machines. The machines will work satisfactorily under normal room temperature conditions including an upper limit of 100 degrees Fahrenheit. Its speed is 100,000 additions per second, and it utilizes a 5 microsecond magnetic core memory. It is constructed to commercial standards, and has not been tested for military environmental conditions. Due to its speed and flexibility of the input-output structure, it is ideally suited for on-line applications. The basic price of the PDP-1 is \$110,000 including 4096 words of memory. The corresponding price for the PDP-3 is \$220,000 including 4096 words of memory.

I hope this information will be helpful to you in your consideration of the Programmed Data Processors.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-10, F-15, PDP-3 Manual



November 21, 1960

Headquarters  
Eastern Ground Electronics Engineering -  
Installation Agency Region  
United States Air Force  
Brookley Air Force Base  
Alabama

Attention: ZMMX/L. J. Laird/3091

Gentlemen:

Thank you for your letter of November 14, 1960, in which you inquired about technical information for the Programmed Data Processor - 1, and the Programmed Data Processor - 3. I am enclosing with this letter a programming manual and specification for each of these two computers. Although neither of these machines were specifically designed for mobile application, their configuration makes them quite well suited for this use. For example, they do not require special air conditioning, and they operate off single phase 110 volt, 60 cycle power.

I hope the enclosed material will be of help to you and should you wish additional information, please feel free to contact me.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-10, F-15, PDP-3 Manual



November 18, 1960

Mr. Max Joseph Havlick  
c/o Tabulating Company  
J. I. Case Company  
700 State Street  
Racine, Wisconsin

Dear Mr. Havlick:

Thank you for your letter of November 16, 1960, in which you inquired about the number of programming man years required for various types of computer activity. I do not know of a research article which would adequately cover this subject, but I have heard people frequently express the idea that the cost of programming a large computer for a single very large job frequently equals the cost of the computer itself. I realize this is not the information that you are looking for, but thought this might be helpful to you.

I am taking the liberty of enclosing a brochure on our new Programmed Data Processor which you may find of interest. Let us know if we can be of any further help to you.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosure: F-10



November 17, 1960

Mr. Henry S. Thompson, Assistant Cashier  
Middlesex County National Bank  
Maynard, Massachusetts

Dear Mr. Thompson:

Enclosed are the Clerk's Certificate and the cards listing authorized signatures for checks drawn on our account at the Middlesex County National Bank.

If you have any questions, please be sure to let me know.

Sincerely yours,

Harlan E. Anderson  
Vice President

ep

Enclosures: Clerk's Certificate, Signature Cards (3)



November 16, 1960

Convair Division  
General Dynamics Corporation  
Fort Worth, Texas

Attention: Mr. M. L. Lewis, Buyer  
Material Department, 4-2

Reference: Requisition No. 855618-X  
Specification No. SOR 14563

Subject: Price Proposal

Gentlemen:

Digital Equipment Corporation is pleased to submit this quotation for a DEC Programmed Data Processor - 1 to fulfill your requirements, as outlined in the above referenced documents.

This quotation is based on a careful engineering study of your needs. The results of this study are documented in a separate letter entitled "Technical Proposal."

This proposal is submitted on a fixed price basis and does not include applicable local, state, or federal taxes. This quotation is f.o.b. Maynard, Massachusetts. We certify that the equipment we are offering complies with Convair Specification No. SOR 14563 in its entirety and without exception. These prices are firm for a period of sixty days and place Convair in the same position as the Government and all other industrial customers with respect to price and delivery. The attached price list is an integral part of this quotation.

Terms of payment are based on all prices being net and 75 per cent of the order price being due thirty days



November 16, 1960

after delivery. The remaining 25 per cent of the order price will be due thirty days after acceptance of the equipment by Convair by letter to DEC. Acceptance criteria and conditions in Convair's letter of 27 October 1960 are acceptable to DEC.

When accepting this proposal, the resulting Convair purchase order should be awarded as follows:

Digital Equipment Corporation  
Maynard, Massachusetts

Attention: Mr. Harlan E. Anderson

Shipment of the resulting system will be made four months or sooner after receipt of a firm order from Convair.

It is a pleasure to have this opportunity to submit this proposal for your consideration, and we look forward to an opportunity to provide this equipment to you.

Sincerely,

Harlan E. Anderson  
Vice President

HEA/jv  
Enclosure  
Price List



PRICE LISTING OF SYSTEM ITEMS

The following prices refer to the equipment listed in the Technical Proposal to Convair in Specification No. SOR 14563.

Basic Processor System . . . . .	\$110,000.
Item 1 . . . . .	600.
Item 2a . . . . .	5,000.
Item 2b . . . . .	1,300.
Item 3 . . . . .	1,500.
Item 4 . . . . .	1,300.
Item 5 . . . . .	5,700.
Item 6a . . . . .	10,500.
Item 6b . . . . .	12,000.
Item 7a . . . . .	750.
Item 7b . . . . .	750.
Item 7c . . . . .	400.
Item 7d . . . . .	235.
Item 7e . . . . .	45.
Item 7f . . . . .	285.
Item 7g . . . . .	270.



November 16, 1960

Mr. James Bizzell  
Dynatronics, Inc.  
Orlando, Florida

Dear Mr. Bizzell:

Enclosed is the complete catalog which I  
promised to send you on the phone this morning.

If I can do anything else for you, be sure  
to let me know.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosure: Complete Catalog

CC: Al Elston



November 11, 1960

Mr. Robert J. Sandy  
Instruments For Measurements  
3455 Cahuenga Boulevard  
Hollywood 28, California

Dear Bob:

Thank you for your letter and copy of the sales report of 22 September 1960. Ted had sent me a copy some time ago of this, but an additional copy is certainly welcome since we have several people back here interested in this type of information. I'm sorry that we were not able to get together during my recent trip to California. Perhaps I will have an opportunity to give you more advanced notice before another trip. Within the next several weeks, Mr. Stanley Olsen, who is our sales manager, anticipates making a visit to the West Coast and will certainly look you up at that time.

My concern over the question of communications is based on the feeling that ideally all of your personnel should be personally acquainted with all of the key people in Digital Equipment Corporation, including advertising, production, engineering, etc. The distance between our operations is too great to make this completely possible; however, I think we should do as much as we can in this direction. For example, we discussed with Carter Wright and Glen Pederson the desirability of having someone from your organization visit DEC in Maynard in the near future. Their suggestion of combining it with a visit to the Eastern Joint Computer Conference in New York during the middle of December sounds ideal, and we look forward to having someone visit the plant at that time.

By now you have probably received a copy of our Digital Newsletter which is aimed at facilitating



Mr. Robert J. Sandy

- 2 -

November 11, 1960

communications between our respective organizations. We invite your comment and suggestions on this publication and would welcome contributions to it.

From a manufacturer's standpoint, an ideal sales representative appears to be the same as a company sales department for a particular area. To come anywhere near this ideal, we both must constantly attempt to get to know each other's people, products, etc., better every day. It is probably too early to reach any conclusions, but on the other hand, time is marching on. We are optimistic about the California market and look forward to closer working relationships between our respective organizations.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp

Enclosure: 1



November 11, 1960

Mr. Wilbur Whittemore, Vice President  
The National Shawmut Bank of Boston  
40 Water Street  
Boston, Massachusetts

Dear Mr. Whittemore:

Enclosed please find a revised Clerk's Certificate for a vote and resolution which changes the procedure that we would like to use in signing checks in the future. The significance of this change is that checks over \$1,000 can be signed by any two officers. If you have any questions pertaining to this, please feel free to contact me.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp

Enclosure: Clerk's Certificate



November 11, 1960

Mr. Richard J. Hamlin  
Military Division  
Remington Rand Univac  
631 Commonwealth Avenue  
Boston 15, Massachusetts

Dear Mr. Hamlin:

It was a pleasure to meet you at Adams Associates last night and chat about what is new in computers. Enclosed is the literature you requested on our new Programmed Data Processor - 1. I would enjoy looking at any recent technical information on new computers that you people are coming out with.

If you have occasion to be out our way, drop in and I will show you our plant.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp

Enclosures: F-10, F-15



*File*

November 9, 1960

Mr. James B. Ricketts  
7624 North Fairchild Road  
Milwaukee 17, Wisconsin

Dear Jim:

Enclosed are the load regulating and line regulating characteristics of our Power Supplies Type 730 and Type 740 for the building blocks. I would like to remind you that since our circuits are all of the saturating type, the power supply voltages are not of a critical nature.

The production tolerances that we use on DEC standard levels are: (a) -3 volt level can vary between -3.3 and -3.9 volts (we refer to this as the -3 volt level for convenience), (b) the ground level out of an inverter can be as high as -1/10 volt.

I hope that this information will be helpful to you in working out your application of our building block equipment. Should you need anything further, please feel free to call upon us.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosures: A-00205-1  
A-00206-1



November 10, 1960

American Airlines  
470 Atlantic Avenue  
Boston 10, Massachusetts

Attention: Miss Iannone

Gentlemen:

Please issue individual Air Travel Cards (not  
"Q" cards) to the following new employees at DEC:

Gordon Bell  
David B. Denniston  
Donald A. White  
Edward Harwood  
Allen A. Andrews.

If you require any further information, please  
be sure to let us know.

Sincerely yours,

Harlan E. Anderson  
Vice President

HEA/jv



November 8, 1960

Mr. William Eiter  
Engineering Division  
North American Aviation  
Columbus, Ohio

Dear Bill:

Enclosed are some block diagrams showing typical synchronizing circuits for the type application that you are doing. The general rule which covers the problem that we looked at last week is that the collector of a pulse gate inverter can drive either a flip-flop input, a delay input, or a pulse amplifier input. You may want to examine your block diagram further to see if this loading rule was violated anyplace else.

If you have any further problems, please feel free to contact us.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosures 4



November 7, 1960

Mr. Kenneth W. Fisher  
Western Electric Company  
6200 East Broad Street  
Columbus, Ohio

Dear Mr. Fisher:

Enclosed you will find a set of circuit schematics for the units that you have purchased from us. I am having sent under separate cover a replacement transistor for the level amplifier which you mentioned on my visit. As soon as the new technical data is available on the current drivers under development, I will be sure that it is sent to you for your future reference. In the meantime, if any of your people will be attending the Magnetics Conference in New York in two weeks, we will have on display there a considerable amount of our memory testing equipment. If later on your requirements call for either a manual core tester with direct setting threshold voltages or a fully automatic production core tester, we would be more than pleased to cooperate with you in coming up with the optimum solution.

Thank you for your continued interest in DEC products.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: CS749, 721, 51, 61, 402, 3401, 201, 103, 110, 302, 410, 667.

CC: Wally Weeton, Jon Fadiman



November 7, 1960

Dr. George Briggs  
Ohio State University  
Laboratory of Aviation Psychology  
1314 Kinnear Road  
Columbus, Ohio

Dear Dr. Briggs:

I want to thank you and Mr. Haagen for the opportunity to discuss your simulation plans with Mr. Fredkin and myself. If at any time in the future we can be of any help to you in your program, please feel free to call upon me.

Sincerely,

Harlan E. Anderson

HEA:ecp



November 1, 1960

Rome Air Development Center  
Air Research & Development Command  
United States Air Force  
Griffiss Air Force Base  
New York

Attention: RCLCC/H. J. Power/71191

Gentlemen:

Enclosed please find two copies of the programming manual for the PDP-1 computer and the PDP-3 computer. Prices on the PDP-1 computer begin at \$85,000, and prices on the PDP-3 computer begin at \$220,000. Most of the technical questions that were asked in your letter of 31 October 1960 are covered in the enclosed literature. However, should you have additional questions concerning this machine, please feel free to contact me.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-15, PDP-3 Manual (2)



November 1, 1960

University of Colorado  
Purchasing Division  
New Warehouse Building  
Boulder, Colorado

Attention: Mr. Donald K. Schwartz, Purchasing Agent

Gentlemen:

Thank you for your Request for Quotation No. PDB 2415 dated October 27, 1960, inquiring about an electronic counter to fill the specifications listed in your letter.

Digital Equipment Corporation does not manufacture the particular item you are interested in.

Enclosed please find descriptive literature on our Digital Test Equipment and System Building Blocks that may be of interest to you in the future. If we can be of any further assistance to you at any time, please do not hesitate to contact us.

Sincerely yours,

Harlan E. Anderson

ep  
Enclosures: Complete Catalog



November 1, 1960

U. S. Government Printing Office  
Division of Public Documents  
Washington 25, D. C.

Gentlemen:

Please send me two copies of the following  
publication:

"Renegotiation, What Is It and How Does It Work"  
Catalog No. Rn B 1.2:R29 @ 5¢

Enclosed please find ten cents in cash to  
cover the cost of these pamphlets.

Sincerely,

Harlan E. Anderson

ep

Enclosure: Cash



November 1, 1960

Mr. L. L. Lavanier  
ORG 4361-1, Purchasing Department  
Sandia Corporation  
Albuquerque, New Mexico

Reference: IN 1362-LL

Dear Mr. Lavanier:

Enclosed please find two complete catalogs for off-the-shelf packaged DEC computer components as we discussed on the telephone yesterday. The prices are all shown in the enclosed literature. Our terms are net 30, and all shipments are made f.o.b. Maynard, Massachusetts. Current delivery status is three to four weeks after receipt of order. Our quantity discount schedule as shown in the enclosed literature is based on dollar volume of each order. This allows any mixture of the building block equipment to be eligible for the discounts. I hope that the above information answers the questions raised in your telegram of yesterday.

In connection with supplying this technical information to you, I would like to offer to demonstrate this equipment at Sandia at no cost or obligation to you. If you would like to take advantage of this, please feel free to contact me so that we can make the necessary arrangements. As I mentioned on the telephone, Mr. Edward Dowling of Sandia at ORG 1522 has used some of our equipment and is familiar with the technical characteristics. Since the time the equipment was procured for his use, DEC has come out with very inexpensive low frequency equipment in addition to high speed (10 megacycle) equipment.

Mr. Richard Victor of the University of California in Livermore, California, has used our equipment rather



Mr. L. L. Lavanier

- 2 -

November 1, 1960

extensively for AEC applications and may be able to be of some help to you in evaluating the potential usefulness of it to your work. I will forward a copy of this letter to our West Coast Sales Manager, Mr. Ted Johnson, in Los Angeles, so that you may feel free to contact him or the home office.

Thank you for your interest in DEC, and let us know if we can be of further help to you.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: Complete Catalog (2)

CC: Mr. T. G. Johnson  
Mr. Edward Dowling



October 31, 1960

Dr. George Briggs  
Ohio State University  
Laboratory of Aviation Psychology  
1314 Kinnear Road  
Columbus, Ohio

Dear Mr. Briggs:

This will confirm my plans to visit you at Ohio State University on Thursday, November 3, 1960, to discuss the potential application of the PDP-1 computer to your program. Mr. Ed Fredkin of Bolt, Beranek & Newman will be with me to provide information about their experience and plans for the PDP-1 computer in the area of man-machine relationships and related topics.

After speaking with you Friday on the telephone, it occurred to me that a word of explanation about our company policy with respect to computer rentals is appropriate. Digital Equipment Corporation is a relatively new company, approximately three years old, and is an outgrowth of computer development work carried out at M.I.T. Lincoln Laboratory. Most of our key engineers have had long associations with that lab. As a young, medium-sized company, we do not have unlimited financial resources available to finance an extensive rental program. Therefore, our basic policy is that we only sell computers rather than rent them. The main difference, as you probably know, between rental and leasing is that a rental plan can normally be terminated after one full year of rent with no penalty fee. Leases are normally written for a longer period of time such as four years or longer, and are virtually non-cancellable. A rental plan which permits early termination of the contract imposes a financial risk on us which is a function of



Dr. George Briggs

- 2 -

October 31, 1960

the long-range outlook for the application, the professional stature of the customer, the likelihood of continued contract support for the work involved, etc. We have on occasion made exceptions to this policy of no rentals when the risk did not seem excessive. After reviewing the work that you people plan to do, we have come to the conclusion that we would be willing to enter into a rental contract for the PDP-1 computer which you could terminate after it had been in effect twelve months if you desired.

In view of this, we sincerely appreciate the opportunity to come to Columbus and talk further about the technical aspects of the matter as well as the business details. I hope this has not caused too much inconvenience for you, and I look forward to meeting you on Thursday. We will be arriving Wednesday evening and will plan to contact you about 9 a.m. Thursday.

Sincerely,

Harlan E. Anderson

HEA:ecp



October 26, 1960

Dun & Bradstreet  
6 St. James Avenue  
Boston, Massachusetts

Gentlemen:

Enclosed is an up-to-date credit report on Digital  
Equipment Corporation.

We hope you will find this to be of interest.

Sincerely,

Harlan E. Anderson

ep  
Enclosures: 1



October 26, 1960

National Credit Office  
140 Federal Street  
Boston, Massachusetts

Gentlemen:

Enclosed is an up-to-date credit report on Digital  
Equipment Corporation.

We hope you will find this to be of interest.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosure: 1



October 26, 1960

Mr. Charles E. Walker  
Airborne Instruments Laboratory  
Division of Cutler-Hammer, Inc.  
Deer Park  
Long Island, New York

Dear Mr. Walker:

Thank you for your letter of October 24, 1960, inquiring into the availability of medium priced, general purpose computers. Digital Equipment Corporation manufactures two such computers that would meet your definition. The first of these is the Programmed Data Processor - 1 (PDP-1). Prices on this machine begin at \$85,000, and it has very high speed operation (100,000 additions/second). It is described in the enclosed brochure and manual. This machine also has unusual flexibility for attaching specialized input-output equipment such as cathode ray tube displays, analog-to-digital converters, etc. Magnetic tape is also available for this machine in a compatible IBM format. This is a pure binary machine with an internal word length of 18 bits.

We also offer a PDP-3 computer which is very similar to the PDP-1 except that it has a 36 bit word length. It has a very high speed multiply instruction, which operates in 25 microseconds. Also, it has 511 index registers. Prices on the PDP-3 begin at \$220,000.

We would be pleased to discuss application of this machine to your scientific data processing problem at your convenience. Additional memory can be obtained for either machine. Thank you for your interest in DEC products.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-15, F-10, PDP-3 Manual



October 25, 1960

Mr. Carl E. Heilman  
Mathematics Specialist, NDEA  
Commonwealth of Pennsylvania  
Department of Public Instruction  
Box 911  
Harrisburg, Pennsylvania

Dear Mr. Heilman:

Thank you for your letter of October 14, 1960, in which you inquired about a small, inexpensive computer suitable for use as an educational device in public schools. Although we do not have such a computer available, we agree that there is a need for a device of the type you have mentioned.

Dr. Arnold Koschmann of the University of New Mexico has been working on a program which he hopes will lead to such a computer. Perhaps he would have some current information that might be helpful to you.

In the meantime, I will enclose some of our literature on our commercial computers in case you find it of interest.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp  
Enclosures: F-10, F-15.



October 24, 1960

Mr. Edwin Norbeck  
Department of Physics and Astronomy  
State University of Iowa  
Iowa City, Iowa

Dear Mr. Norbeck:

I have read with interest your letter of October 17, 1960, commenting on your on-line application of PDP-1 with nuclear accelerators. Although I am not familiar with nuclear accelerators, the following observations on the computer logic that you discussed may prove helpful to you.

The three special commands that you outlined certainly could be implemented conveniently. The equivalent operations could also be accomplished using one of our semi-standard options. This is the memory field switching option. For applications where it is desired to have more than 4,096 words of memory, we have what is known as a field switch instruction. This instruction essentially connects a new memory module to the internal computer. After this instruction is given, all future instruction addresses apply to the new memory module. Actually, there are two instructions, the first of these selects the memory module where the operands are located, and the second instruction selects the memory module where the instructions are located. This technique would have the advantage of preserving the general purpose nature of the machine so that the entire amount of memory could be used in the same way for other type problems that may come up later.

I am confident that any of the analog to digital converters that you described in your letter could be connected to the PDP-1 computer with very little difficulty.

There is a paper tape punch manufactured by the Tally Register Corporation in Seattle, Washington, which punches



Mr. Edwin Norbeck

-2-

October 24, 1960

at a rate of 60 lines per second. We have recently received two of these units and are beginning to get operating experience with them.

My opinion regarding the feasibility of this sort of a machine is indeed optimistic because all of the things that you apparently need are either standard features of the Programmed Data Processor, or could be accomplished with very minor change such as the signal matching of the analog to digital converter, etc.

Thank you very much for the opportunity of commenting on this application, and we would be interested in pursuing it further with you should you wish.

Sincerely,

Harlan E. Anderson

HEA/jv

COPY



October 21, 1960

Mr. Frank L. Balzer, Jr.  
12 Notre Dame Road  
West Acton, Massachusetts

Dear Mr. Balzer:

Thank you for your letter of October 19, 1960,  
requesting information about Digital Equipment  
Corporation.

Since no DEC stock is available on the market, no  
annual reports to the stockholders describing the  
corporation's activities are prepared.

DEC is manufacturing a line of proprietary products  
which are described in the literature I am enclos-  
ing.

Thank you again for your interest.

Sincerely yours,

Harlan E. Anderson

HEA:EP

Enclosures: CL



October 21, 1960

Mr. P. P. Krolinsky  
30-D Brookwood Garden Apartment  
Burlington, North Carolina

Dear Mr. Krolinsky:

Thank you for your letter of October 7, 1960,  
requesting information about Digital Equipment  
Corporation.

Since no DEC stock is available on the market,  
no annual reports to the stockholders describing  
the corporation's activities are prepared.

DEC is manufacturing a line of proprietary  
products which are described in the literature I  
am enclosing.

Thank you again for your interest.

Sincerely yours,

Harlan E. Anderson

HEA:ecp  
Enclosures: CL



October 20, 1960

Lieutenant (jg) Robert J. Beckman  
U. S. Naval Guided Missile School  
Fleet Air Defense Training Center  
Virginia Beach  
Dam Neck, Virginia

Dear Bob:

I am sending you under separate cover six copies of our new logic booklet and six complete catalogs.

I have asked Stan Olsen to be sure the reproducible front panel diagrams are sent to you as soon as possible.

We appreciate anything that you can do to help Commander Gibson in San Diego, and let us know if there is anything further we can do to help you.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp



October 19, 1960

Mr. F. L. Uhl  
Convair Division  
General Dynamics Corporation  
Mail Zone Y-34  
Fort Worth, Texas

Dear Mr. Uhl:

It was a pleasure to talk to you on the telephone today and tell you a little bit about our Programmed Data Processor. The price on the PDP-1 with 1,024 words of memory is, as I mentioned on the phone, \$85,000. This does not include magnetic tape which would add an additional \$10,500 for the tape control, and \$12,000 for each tape unit. I will enclose with this letter a copy of our Programming Manual for the PDP-1, and also two internal memoranda, one describing the program operations associated with magnetic tape, and the other describing the assembly program for the PDP.

I think you would find this machine a very powerful one for the application that you described, but more important, I think you would find that you could put other applications on it also as time goes along.

The delivery of this machine runs approximately four months after receipt of order.

I will plan on contacting you several days from now to explore further the suitability of our machine to your application. Thank you for your interest in DEC, and don't hesitate to contact me at any time.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosure: F-10, F-15, M-1090, MTS (3)



October 18, 1960

Mr. James P. O'Brien  
4827 Fletcher Street  
Chicago, Illinois

Dear Mr. O'Brien:

Thank you for your letter requesting a financial report on Digital Equipment Corporation. Since there is no stock of DEC traded publicly, no annual financial reports to the stockholders are prepared. DEC was founded approximately three years ago by former employees of the Lincoln Laboratory at the Massachusetts Institute of Technology. Today we occupy approximately 45,000 square feet of manufacturing area, and employ about 140 persons.

We manufacture a broad line of products for the computer industry. The company does no research and development for the government, but instead concentrates on engineering of proprietary products. The enclosed technical literature will help to give you a more complete picture of our activities. If you have occasion to be in the New England area, we would be more than pleased to have an opportunity to show you our facilities.

Thank you for your interest in DEC.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp

Enclosures: F-10, B-100, C-4000, F-1512, F-2101.



October 18, 1960

Mr. K. Kurosaki, President  
Hitachi New York, Ltd.  
501 Fifth Avenue  
New York 17, New York

Dear Mr. Kurosaki:

Thank you for your letter of October 10, 1960, in which you requested financial information about DEC. Since no DEC stock is traded publicly, no annual reports to the stockholders are prepared. Perhaps the enclosed literature describing the products of DEC would be of interest to you.

Thank you for your interest in Digital Equipment Corporation.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp

Enclosures: F-1512, F-2101, B-100, C-4000, F-10.



October 18, 1960

Mr. A. L. Watson, Senior Buyer  
Dynatronics, Inc.  
Post Office Box 2566  
Orlando, Florida

Dear Mr. Watson:

Enclosed you will find several copies of our technical literature describing the new Programmed Data Processor computer, PDP-1.

I hope that this information, along with the information I provided you over the telephone, will prove helpful to you in preparing your proposal.

Let us know if we can be of any further service to you.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-10, F-15 (3)



October 17, 1960

Mr. Elwyn Evans, Jr., Sales Manager  
Advanced Instrument Corporation  
700 South Fourth Street  
Richmond, California

Dear Mr. Evans:

Thank you for your letter of October 5, 1960,  
inquiring about key strips to fill the specifications  
that you stated in your letter.

Digital Equipment Corporation does not manufacture  
the particular unit whihc you are interested in.

We are enclosing descriptive literature on our  
Digital Test Equipment and System Building Blocks that  
may be of interest to you in the future. If we can be  
of any assistance to you at any time, please be sure to  
let us know.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosures: CL



October 17, 1960

Mr. H. Douglas Letter  
388 Donald Street  
Winnipeg 2, Manitoba  
Canada

Dear Mr. Letter:

Thank you for your recent postcard requesting information about Digital Equipment Corporation

Since no DEC stock is available on the market, no annual reports to the stockholders describing the corporation's activities are prepared.

DEC is manufacturing a line of proprietary products which are described in the literature I am enclosing.

Thank you for your interest.

Sincerely yours,

Harlan E. Anderson

HEA:ecp  
Enclosures: CL



October 17, 1960

Mr. J. Richard Hurd  
McDonnell & Co.  
250 Park Avenue  
New York 17, New York

Dear Mr. Hurd:

Thank you for your recent letter requesting information about Digital Equipment Corporation.

Since no DEC stock is available on the market, no annual reports to the stockholders describing the corporation's activities are prepared.

DEC is manufacturing a line of proprietary products which are described in the literature I am enclosing.

Thank you for your interest.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosures: CL



October 12, 1960

Mr. Thomas H. Vind  
Development Engineer  
Ordnance Engineering  
Minneapolis-Honeywell Regulator Company  
600 2nd Street, North  
Hopkins, Minnesota

Dear Mr. Vind:

Thank you for your letter of October 5, 1960, inquiring about the new Programmed Data Processor computers. The one which is presently in production is the PDP-1 described in the enclosed literature.

The basic computer speed is 100,000 additions per second. These are parallel additions, 18 bit word length, and these speeds include two references to memory, one for the instruction and one for the operand.

Floating point operation would be done by sub-routines and floating point add requires about 660 microseconds, while floating point multiply requires about 700 microseconds.

At the present time a symbolic address assembly program from paper tape is available. This allows variable length symbol definition and is a two-pass system. This will soon be superseded by a more sophisticated version known as DECAL in which the emphasis is on defining capabilities such that a customer can define a language which is convenient for the type of application he has in mind with very little effort.

Since this is a punched paper tape machine, off-line data preparation can be done efficiently and inexpensively on a Flexowriter type of machine.



Mr. Thomas H. Vind

- 2 -

October 12, 1960

There is no active users' organization at the moment due to the newness of the machine.

The available routines and subroutines in the floating point group will include load, store, add, subtract, multiply, divide, square root, data conversion, sine, cosine, natural logarithm, etc. There are also a group of monitoring subroutines for reading in data, dumping out portions of memory, etc.

I think that you will find the enclosed technical literature to be helpful in answering general questions that you may have about the machine. Should you wish additional information, please feel free to contact me.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-10, F-15.



October 12, 1960

Mr. L. M. Carrese  
Frederick Research Corporation  
2601 University Boulevard, West  
Wheaton, Maryland

Dear Mr. Carrese:

Thank you for your letter of October 6, 1960, inquiring about our new Programmed Data Processor. I think that you will find the PDP-1 computer to have exciting performance characteristics for a small scale computer. It is outstanding in its speed (100,000 operations per second) and unique in its optional input-output equipment, including such items as cathode ray tube displays. If after looking at the enclosed literature you find this machine to be of further interest, please feel free to contact me.

Thank you for your interest in DEC products.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-10, F-15



October 12, 1960

Mr. A. F. R. Brown  
621 G Street, S. E.  
Washington 3, D. C.

Dear Mr. Brown:

Thank you for your letter of October 6, 1960, in which you inquired about our new Programmed Data Processor. I am enclosing with this letter a manual on our PDP-1 machine and a preliminary specification on the PDP-3 machine. I hope that you find the information contained in these booklets interesting and helpful. The base purchase prices are shown in the enclosed folder.

We do not normally sell core memories separately, as individual customers have a wide variety of performance requirements. If you could define the application or electrical characteristics desired, we would be able to give you a better answer to this particular problem.

Thank you for your interest in DEC products.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-10, F-15, PDP-3 Manual.



October 12, 1960

Mr. Edwin Norbeck  
Department of Physics and Astronomy  
State University of Iowa  
Iowa City, Iowa

Dear Mr. Norbeck:

Thank you for your letter of October 5, 1960, inquiring about our new Programmed Data Processor. I will enclose with this letter a copy of the Programming Manual for the PDP. As you can see by the description of the input-output system, considerable flexibility exists in attaching specialized devices such as analog-to-digital converters. These can be standard commercially available converters in which case the only problem in attachment is one of voltage levels and impedance matching which for digital circuits is very simple and straightforward.

Digital Equipment Corporation is also in the building block business, and we are currently running experiments with the PDP using an analog-to-digital converter that we assembled out of our standard building blocks. This converter essentially is a binary up-down counter with a digital-to-analog converter on its output. The analog equivalent to the counter is compared in a difference amplifier with the incoming analog signal and the value of the counter is increased or decreased depending on which signal is larger. Complete flexibility exists as far as what type of devices you would like to attach to the computer.



Mr. Edwin Norbeck

- 2 -

October 12, 1960

The PDP computer is patterned to a large extent after the TK-0 computer at M.I.T. in Cambridge. The TK-0 has been outfitted with a cathode ray tube which is used as a flying spot scanner for reading of film records. This technique uses a photocell pickup and has proven quite useful in reading films from bubble chamber experiments. The PDP is currently being considered by a number of places for this type of experiment.

I will enclose with this letter copies of our building block literature and an internal applications note covering analog-to-digital conversion with our building blocks. Let us know if we can be of further help to you in evaluating the potential usefulness of a PDP in your nuclear physics research program. Thank you for your interest in Digital Equipment Corporation.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-10, F-15, C-1000, C-4000, Application Note.



October 12, 1960

Mr. C. E. Jones  
ITT Laboratories  
Department 02312  
492 River Road  
Nutley, New Jersey

Dear Mr. Jones:

This will confirm a telephone conversation between Mr. Dave Perry and myself regarding certain optional units for use with the PDP-1 computer. An extra 4,096 word module of magnetic core memory costs \$40,000 each. The Sequence Break System not including buffers associated with the in-out devices costs \$12,000. Each magnetic tape unit with its associated reading and writing amplifiers, etc., costs \$12,000. This utilizes the Ampex FR-400 tape in a compatible mode with IBM Type 729I tape units. In addition, a tape control costing \$10,500 is required. This tape control is capable of working with up to 64 tape units.

I will enclose with this letter additional copies of the PDP-1 Programming Manual as well as technical information describing the mode of operation with magnetic tapes.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosures: MTS, F-15 (2)  
CC: Mr. Dave Perry



October 12, 1960

Mr. J. V. Erickson  
Chief of Purchasing  
Avco Research & Advance Development Division  
201 Lowell Street  
Wilmington, Massachusetts

Dear Mr. Erickson:

I am enclosing with this letter some of our standard commercial literature which I referred to in our telephone conversation. If you or members of your Communications Group find the general type of products covered by this literature to be of interest, we would be more than pleased to get together with you to discuss its application.

As I mentioned on the telephone, our engineering and development activities are used only in conjunction with developing new products for our own marketing.

Thank you for your interest in DEC, and let us know if we can be of help to you.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-10, F-1512, A-700, B-100, C-1000, A-710



October 12, 1960

Mr. William F. Haagen  
Research Associate  
The Ohio State University  
Antenna Laboratory  
Department of Electrical Engineering  
2024 Neil Avenue  
Columbus 10, Ohio

Dear Mr. Haagen:

Thank you for your letter of October 4, 1960, in which you inquired about our new Programmed Data Processor machine. This machine is indeed attractive for real time simulation due to its high arithmetic speed and its general flexibility for tying in special devices. I think you will find the enclosed preliminary specification for PDP-3 helpful in getting a more complete picture of it. We will be contacting you in the near future to establish a suitable time to meet with you as requested to discuss the application further.

In the meantime, thank you for your interest in DEC products.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosure: PDP-3 Programming Manual



October 12, 1960

Mr. William J. Lennon  
Massachusetts Institute of Technology  
Civil Engineering Department  
Room 1-133  
77 Massachusetts Avenue  
Cambridge 39, Massachusetts

Dear Mr. Lennon:

Thank you for calling to tell us of the interest you have in the PDP-1 computer. I am enclosing with this letter a copy of the Programming Manual for the machine. Also enclosed is a copy of the symbolic address assembly program (FRAP) for the PDP-1.

I hope these will be helpful to you in your work.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-10, F-15, M-1090.



October 12, 1960

Mr. Edmond T. Wright  
Caldwell Laboratory  
Ohio State University  
2024 Neil Avenue  
Columbus, Ohio

Dear Mr. Wright:

Enclosed is the information describing the FRAP symbolic address program and also our method of operating with magnetic tape. As I mentioned on the telephone, the magnetic tape unit described in our literature and the enclosed memorandum is an IBM compatible unit, and its speed is dictated therefore by the IBM tape units. We would be pleased to consider other type requirements and will plan on talking to you further about these. We will contact you next Monday, October 17, to plan for a meeting with you if it seems appropriate at that time.

Thank you for your interest in DEC products.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: M-1090, MFS



October 11, 1960

Professor Erwin A. Pless  
Massachusetts Institute of Technology  
Department of Physics  
Room 26-437  
77 Massachusetts Avenue  
Cambridge 39, Massachusetts

Dear Professor Pless:

It was a pleasure to have an opportunity to meet you and listen to the interesting discussion last night. Enclosed are three copies of the Programming Manual for PDP-1, along with a list of prices for various optional devices to go with the PDP-1.

I am also enclosing some information describing the Magnetic Tape System, as well as the FRAP Program which is a symbolic address program for the machine.

Ben Gurley will be in contact with you shortly after his return from California. Should you have questions in the meantime, please feel free to contact Gordon Bell at DEC.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-10, F-15, M-1090, M.T.S., PDP Quotation  
List (3)



October 11, 1960

Mr. John K. Wilkinson  
The University of Michigan  
Willow Run Laboratories  
P. O. Box 2008  
Ann Arbor, Michigan

Dear Mr. Wilkinson:

Thank you for your letter of October 6, and we are pleased to hear of your satisfaction with our equipment.

Enclosed are the schematics which you requested, together with the technical bulletins.

If we can be of any further help whatsoever, please be sure to let us know.

Sincerely,

Harlan E. Anderson

ep

Enclosures: A-400, C-1000, C-4000, R.S. 730, 741, 1104,  
1201, 1213, 1410, 1561, 1562, 1607, 1667, 1672, 4105,  
4110, 4111, 4113, 4126, 4128, 4201, 4209, 4213, 4301,  
4401, 4410, 4603, 4667, 4676, 4677.



October 6, 1960

Chief  
General Services Administration  
Federal Supply Service  
National Buying Division  
Office and Photographic Equipment Section 5  
General Services Regional Office Building  
Washington 25, D. C.

Gentlemen:

Would you please send instructions and other pertinent information for negotiating a GSA contract for electronic computing equipment. Thank you.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp



October 5, 1960

Mr. Lyle Gilbertson  
Military Department  
Remington Rand Univac  
Mail Station 166  
Univac Park  
St. Paul 16, Minnesota

Dear Mr. Gilbertson:

Thank you for your telephone call today inquiring about our display scope equipment used with the DEC Programmed Data Processor. As I pointed out on the telephone, we do not have this equipment available with film reading and camera equipment as a separate item, but rather provide the scope as an accessory to our general purpose computer. The best I can do in the way of literature at the moment is to send you standard literature on our computer which does include a brief description of the scope.

I have not been able to contact the appropriate people within our organization to discuss the feasibility of selling the scope equipment separately, but I will do this soon and let you know.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosures: F-10, F-15



October 4, 1960

Mr. Charles W. Benfield  
Systems Development Engineer  
Minneapolis-Honeywell Regulator Company  
Aeronautical Division  
Inertial Guidance Center  
13350 U. S. Highway 19  
St. Petersburg, Florida

Dear Mr. Benfield:

Thank you for your letter of September 29, 1960, requesting technical information pertaining to the DEC Programmed Data Processor. Enclosed please find one copy of the PDP-1 Manual and a preliminary copy of the PDP-3 specifications. Let us know if we can be of further assistance to you.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-10, F-15, PDP-3 Manual



October 4, 1960

Mr. T. D. Puckorius  
Manager, Administrative Services  
Avco Corporation  
Crosley Division  
P. O. Box 116  
Evendale Plant  
Cincinnati 15, Ohio

Dear Mr. Puckorius:

Thank you for your letter of September 30, 1960, requesting technical information pertaining to the DEC Programmed Data Processor. Enclosed please find one copy of the PDP-1 Manual and a preliminary copy of the PDP-3 specifications. Let us know if we can be of further assistance to you.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-10, F-15, PDP-3 Manual



October 4, 1960

Mr. Morse Minkow  
Information Processing Systems, Inc.  
116 Park Avenue  
Rutherford, New Jersey

Dear Mr. Minkow:

Thank you for your letter of September 30, 1960, in which you inquired about the new DEC Programmed Data Processor. Enclosed is technical information concerning this unit, and also the purchase price of the base machines. Leasing plans through companies such as U. S. Leasing Corporation and others are available where a four-year lease would have a monthly lease fee of one-fortieth of the purchase price of the machine.

Please let us know if we can be of further service to you.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-10, F-15



October 4, 1960

Mr. Wilbur Whittemore  
The National Shawmut Bank of Boston  
40 Water Street  
Boston, Massachusetts

Dear Mr. Whittemore:

Enclosed please find a copy of the Clerk's Certificate covering the Digital Equipment Corporation resolution authorizing Mr. Olsen and myself to borrow on behalf of DEC from The National Shawmut Bank. Please let us know if there is anything further that we should do at this time in preparation for possible future use of this line of credit.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp  
Enclosure 1



THIS LETTER SENT TO ALL BOARD MEMBERS.

October 4, 1960

Dean Vernon Alden  
Harvard Graduate School of  
Business Administration  
Soldiers Field Road  
Boston, Massachusetts

Dear Vernon:

Enclosed are some informal notes from the last Board Meeting. A new Financial Statement will be mailed to you in a day or two.

We would like to remind you that after the next Board Meeting on Tuesday, October 11, you and your wife are cordially invited to a dinner at the Algonquin Club in Boston at 6:30 p.m. We hope that you will be able to join us then.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosure 1



September 30, 1960

Motorola, Inc.  
Western Military Electronics Center  
8201 East McDowell Road  
Scottsdale, Arizona

Attention: Mr. John G. Hendel, Purchasing Department

Gentlemen:

Thank you for your Request for Quotation No. Q16178-35 dated 9/21/60 inquiring about an Analog-to-Digital Converter to fill the specifications enclosed with this Request.

Digital Equipment Corporation does not manufacture the particular unit that you are interested in.

Enclosed please find descriptive literature on our Digital Test Equipment and System Building Blocks that may be of interest to you in the future. If we can be of any further assistance to you at any time, please do not hesitate to contact us.

Sincerely yours,

Harlan E. Anderson  
Vice President

HEA:ecp  
Enclosures: CL



September 30, 1960

University of California  
A.E.C. Contracts Division  
Purchasing Department  
P. O. Box 75325  
Sanford Station  
Los Angeles 5, California

Attention: Mr. G. O. McIntire, Buyer

Gentlemen:

Thank you for your Request for Quotation dated 9/23/60  
inquiring about a Mechanical Revolution Counter.

Digital Equipment Corporation does not manufacture the  
particular item that you are interested in.

Enclosed please find descriptive literature on our  
Digital Test Equipment and System Building Blocks that  
may be of interest to you in the future. If we can be  
of any further assistance to you at any time, please do  
not hesitate to contact us.

Sincerely yours,

Harlan E. Anderson  
Vice President

HEA:ecp  
Enclosures: CL



September 30, 1960

Mr. James Mallin  
The Johns Hopkins University  
Applied Physics Laboratory  
8621 Georgia Avenue  
Silver Spring, Maryland

Dear Mr. Mallin:

Enclosed is a copy of our new logic book which I think you might find helpful and useful in the work that you are doing.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosure: A-400



September 30, 1960

Mr. John Thomas  
The Johns Hopkins University  
Applied Physics Laboratory  
8621 Georgia Avenue  
Silver Spring, Maryland

Dear Mr. Thomas:

Enclosed is a copy of our new logic book which I think you might find helpful and useful in the work that you are doing.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosure: A-400



September 30, 1960

Mr. David White  
The Johns Hopkins University  
Applied Physics Laboratory  
8621 Georgia Avenue  
Silver Spring, Maryland

Dear Mr. White:

I enjoyed having an opportunity to meet you and to learn more about the applications that you are making with our equipment. I am enclosing a copy of the new logic book that I mentioned while I was at the Applied Physics Lab, and I hope that you find it interesting and helpful.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosure: A-400



September 30, 1960

Mr. Harry Zink  
The Johns Hopkins University  
Applied Physics Laboratory  
8621 Georgia Avenue  
Silver Spring, Maryland

Dear Mr. Zink:

I want to thank you for taking the time to tell me of the planned applications that you have for DEC Building Blocks in your work. I am enclosing a copy of our new logic book which I hope you will find interesting and helpful in planning this work.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosure: A-400



September 30, 1960

Mr. David Grant  
The Johns Hopkins University  
Applied Physics Laboratory  
8621 Georgia Avenue  
Silver Spring, Maryland

Dear Mr. Grant:

I want to thank you for taking the time to tell me of the planned applications that you have for DEC Building Blocks in your work. I am enclosing a copy of our new logic book which I hope you will find interesting and helpful in planning this work.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosure: A-400



September 30, 1960

Mr. A. M. Chivastyk  
The Johns Hopkins University  
Applied Physics Laboratory  
8621 Georgia Avenue  
Silver Spring, Maryland

Dear Mr. Chivastyk:

I want to thank you for taking the time to tell me of the planned applications that you have for DEC Building Blocks in your work. I am enclosing a copy of our new logic book which I hope you will find interesting and helpful in planning this work.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosures: A-400



September 30, 1960

Mr. Malcolm Greenlee  
The Johns Hopkins University  
Applied Physics Laboratory  
8621 Georgia Avenue  
Silver Spring, Maryland

Dear Mr. Greenlee:

It was a pleasure to speak to you briefly on the telephone while I was at the Applied Physics Lab this week. I am sending under separate cover six complete catalogs for our equipment. I am also enclosing three copies of our new logic book which I think you will find interesting and helpful in your work. Should you wish additional copies of either of these items, please feel free to request them.

I spoke with Mr. Quimper in the Bureau of Ships concerning the Transit ship-borne computer briefing to be held soon, and he indicated that he would be happy to include us in the technical briefing. In general, we are not set up to meet all possible military environmental specifications, but would like to pursue this computer application further. We would be particularly interested if an experimental laboratory unit were to be constructed where environmental conditions were not a major factor. Let us know if we can be of any further help either with the building blocks or information about our computing equipment.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosures: A-400 (3)



September 30, 1960

Mr. Frank Mahan  
The Johns Hopkins University  
Applied Physics Laboratory  
8621 Georgia Avenue  
Silver Spring, Maryland

Dear Mr. Mahan:

Thank you for taking the time to tell me about the work that you have been doing with our equipment at the Applied Physics Lab. Sorry I wasn't able to be more helpful in trouble shooting the particular logic problem that you had while I was there.

We are very interested in this problem of transistor failures in the low speed line of equipment, and someone from our organization undoubtedly will be contacting you in the near future to try and get additional details concerning the conditions under which these failures occurred; for example, type of transistor, etc.

Thanks again for taking the time to see me.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosures: A-400 (2)



September 30, 1960

Mr. Bernard Quinn  
The Johns Hopkins University  
Applied Physics Laboratory  
8621 Georgia Avenue  
Silver Spring, Maryland

Dear Mr. Quinn:

I want to thank you for the courtesies that you extended to me on my recent visit to the Applied Physics Lab. The discussions were very helpful to me, and I hope I was able to be of some assistance to you people. We plan to look further into the problem of transistor failures in the low speed line of logic and will undoubtedly be contacting you or Frank Mahan regarding which type of transistors failed, etc.

I am enclosing several copies of the logic book that I mentioned when I was there. I hope that you find this helpful, and we would be interested in any comments that you might have on it. Thanks again for your helpfulness during my recent trip.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosures: A-400 (3)



September 30, 1960

Mr. Richard King  
The Johns Hopkins University  
Applied Physics Laboratory  
8621 Georgia Avenue  
Silver Spring, Maryland

Dear Mr. King:

I want to thank you for your helpfulness in showing me the type of activity that is going on at the Applied Physics Lab in conjunction with our Building Blocks. The answer to the question that you raised relative to the two inputs to the clear side of our System Building Blocks is as follows:

On the Model 4201, the gated clear and direct clear inputs are identical and interchangeable. This also applies to the set inputs on the 4201. In the 1201 the direct clear and gated clear are different since the gated clear is AC coupled. Therefore, the gated clear must come from the transistor inverter, and the direct clear must come directly from a pulse amplifier or other source of standard pulses.

I am enclosing circuit schematics for the Type 4214 quadruple flip-flop and the Types 4128 and 4126 diode capacitor gate packages. The prices of these units are \$96, \$40 and \$68 respectively. I believe that this was the information which you were interested in. If there are any other people who were at our meeting that were also interested in this new quadruple flip-flop, would you tell them of this also.

Thanks again for the courtesies extended me during my recent visit. I am enclosing a copy of the new logic book that I mentioned while I was there, and I hope you find it interesting and helpful.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: A-400, RS 4128, 4126, 4214.



September 30, 1960

Miss M. Patricia Powers  
University Programmer  
Computation Center  
Department of Electrical Engineering  
The Johns Hopkins University  
Baltimore 18, Maryland

Dear Miss Powers:

It was a pleasure to have an opportunity to tell you about our new Programmed Data Processor - 1 during my recent trip to the Washington-Baltimore area. I am enclosing with this letter two copies of a general brochure describing the PDP and two copies of the programming manual for it. Literature is currently being prepared on some of the other aspects of the PDP that we talked about such as compiling programs, magnetic tape, applications of the cathode ray tube, etc.

We would be very pleased to have an opportunity to show you or other representatives from Johns Hopkins the PDP-1 if you have occasion to be in this area. In any event, the machine will be on display at the Eastern Joint Computer Conference in New York City during the month of December. Thank you for your interest in DEC products, and let us know if we can be of further help to you.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosures: F-10, F-15 (2)



September 28, 1960

Mr. Robert M. Jenney, President  
Jenney Manufacturing Company  
250 Boylston Street  
Boston, Massachusetts

Dear Mr. Jenney:

Several months ago I noticed that you had been elected Membership Chairman of the New England Chapter of the Young Presidents Organization. Although I am not familiar with the detailed requirements for membership in your organization, I believe that Kenneth H. Olsen, President of Digital Equipment Corporation, meets your basic requirements, and I would like to suggest that he be considered for membership. If there is any information that you would like pertinent to his background or company activity, I would be most happy to cooperate in supplying it, should you wish. Thank you.

Sincerely,

Harlan E. Anderson

HEA:ecp



September 27, 1960

Mr. H. W. Paulsen, Buyer  
Process Equipment Purchasing  
General Electric Company  
Richland, Washington

Dear Mr. Paulsen:

Thank you for your Inquiry P-235 regarding  
Count Rate Circuit Modules.

Digital Equipment Corporation does not manu-  
facture the particular units that you are interested in.

Enclosed please find descriptive literature  
on our Digital Test Equipment and System Building Blocks  
that may be of interest to you in the future. If we can  
be of any further assistance to you at any time, please  
do not hesitate to contact us.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: CL



September 26, 1960

Mr. Arthur W. Schmitt  
Head, Department of Publications  
and Non-Resident Instruction  
Federal Aviation Agency  
Aeronautical Center  
P. O. Box 1082  
Oklahoma City, Oklahoma

Dear Mr. Schmitt:

Thank you for your letter of September 23. We would be very pleased to have Messrs. Daugherty and Carson visit our plant on October 12.

Mr. H. E. Anderson will be able to meet with your representatives anytime from 8:30 a.m.

For your convenience we are enclosing a complete catalog of our products. If you desire any further information, please do not hesitate to contact us.

Sincerely yours,

for  
Harlan E. Anderson  
Vice President

JHM:ecp  
Enclosure: Complete Catalog



September 23, 1960

Mr. Carter Pfaelzer  
Raytheon Company  
Systems Laboratory - MSD  
Hartwell Road  
Bedford, Massachusetts

Dear Mr. Pfaelzer:

Thank you for the opportunity to discuss application of the Programmed Data Processor - 1 connected with the Raytheon Pincushion Project. As I see it, there are five applications, all of which would be well suited to the general capabilities of the PDP. These are:

1. Target Precision Prediction - This is the original application that we have been discussing with Dr. Silberman since early summer. PDP is able to perform the required calculations in less than 1/10 of a second compared to the 5 second requirement.

2. Direct Connection of PDP to Pincushion - Due to the fact that PDP can perform the calculations above so rapidly, this opens the possibility of omitting the intermediate paper tape output for the target position predictions, and instead, provide a direct analog electrical connection from PDP to Pincushion so as to eliminate the man who was positioning the Pincushion to agree with the punched paper tape data.

3. Checkout of Pincushion Data Processing - This would be the equipment checkout phase of the program just prior to a missile launching. As I understand this, you would play an analog tape into Pincushion with a known set of repetitive data and the digital output



September 23, 1960

would be analyzed to see if it produced the expected answer. This could be done by connecting the digital output of Pincushion directly into the PDP computer.

4. Magnetic Tape Conversion - This would involve connecting your 16 channel tape recorder which is used on the output of Pincushion to the PDP. The data recorded during a missile launching would then be played into PDP, its format rearranged, and it would then be recorded on an IBM tape unit for later data reduction. Due to the different data rates of your tape recorder and the IBM format, it will be necessary as we discussed to reduce the playback speed of your tape recorder during this mode of operation.

5. Correction of Data from a Satellite - This application we didn't have too much opportunity to discuss completely, but as I understand it, it is somewhat similar in its data rates to the normal Pincushion.

All of these applications are of the types that the PDP computer is intended for. Let us know if you would like to discuss these applications further. Thank you again for your interest in DEC products.

Sincerely,

Harlan E. Anderson

HEA:ecp

CC: Dr. I. Silberman  
Mr. Ed Farnsworth



September 21, 1960

Mr. Bernard Quinn  
Johns Hopkins University  
Applied Physics Laboratories  
8621 Georgia Avenue  
Silver Spring, Maryland

Dear Mr. Quinn:

This will confirm my plan to visit the Applied Physics Lab on Monday, September 26, 1960. I will be arriving on a morning plane and will probably reach the Applied Physics Lab by 11:00 a.m. I look forward to meeting you at that time and to learning more about the work that you are carrying on.

Sincerely,

Harlan E. Anderson

HEA:ecp



September 21, 1960

Mr. Wilbur Whittemore, Vice President  
The National Shawmut Bank of Boston  
40 Water Street  
Boston, Massachusetts

Dear Mr. Whittemore:

With this letter I am sending you a copy of the annual audited statement of Digital Equipment Corporation for the year ending June 30, 1960. I am also enclosing some informal progress notes for the fiscal year 1960 which you might find of interest.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp  
Enclosures 2



September 20, 1960

Mr. John Ackley  
Information Processing Systems, Inc.  
116 Park Avenue  
Rutherford, New Jersey

Dear John:

Thank you for your letter indicating that you may have an application for a PDP-1. I will send to Mr. Whittle a copy of this letter and some descriptive material that I think he will find helpful.

The price on PDP-1 as a complete operating system with 1024 words of memory is \$85,000.00. With 4096 words of memory, it's \$110,000.00. These prices include punched paper tape input and output and a Soroban typewriter for typing in and out. The prices do not include the CRT display.

We have a number of utility type programs available. Some are presently being used, and others are in the process of being developed. I will enclose a list of the floating point instruction symbols that are used for calling up floating point subroutines. This particular set of floating point instructions works with 18-bit exponent and 18-bit magnitude. We have a compiling routine which automatically interprets these floating point instructions into the appropriate jump instructions to the appropriate subroutine.

Delivery time on PDP-1 is four to six months, and reasonable amounts of computer time can be had on our PDP-1 prototype machine for experimenting with the suitability of the computer to the application or for training purposes while waiting for delivery of a machine on order.



Mr. John Ackley

- 2 -

September 20, 1960

Last week we installed a 4000 word memory in the prototype machine to replace the original 1000 word memory so that it is a very capable machine. It has been in use full time for the past three months in Cambridge by our first customer while he was waiting for delivery of his machine which will occur in another few weeks.

Charlie Adams compiled a survey of computers which was published in BUSINESS WEEK magazine last week, and rather clearly showed that the PDP-1 represents an awful lot of computing capability for the dollar spent. Charlie is also planning on putting out this survey in a handy little folder which I'm sure you will find interesting. Let us know if we can give you any more information or help.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-15, F-10, Instruction Card, Floating Point Instructions.

CC: Mr. R. D. Whittle  
ITT Laboratories  
492 River Road  
Nutley, New Jersey



September 20, 1960

Mr. V. J. Baros, Supervisor  
Analog Computer Lab  
Mail Zone 6-156  
Convair Division  
General Dynamics Corporation  
San Diego 12, California

Dear Mr. Baros:

Thank you for your letter of September 16, 1960, in which you inquired about DEC products. I will enclose with this letter a copy of our System Building Block folders for our low and high speed lines which I think you will find to be an interesting and highly capable line of plug-in units. Also, I will enclose information describing our PDF-1 computer which is a very high speed but very economical machine.

You may obtain additional information about our computer by contacting Mr. Ted Johnson, West Coast Sales Manager, Digital Equipment Corporation, 8820 Sepulveda Boulevard, Los Angeles 45, California (ORchard 0-0690).

You may obtain information about our Building Blocks by contacting either Mr. Johnson or our San Diego representative: Mr. Morris Porter, Instruments For Measurements, 3150 El Cajon Boulevard, San Diego, California (JUniper 3-1972).

Thank you for your interest in DEC, and let us know if we can be of further help to you at any time.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-10, A-700, A-710, C-1000, C-4000.

CC: Ted Johnson, IFM, San Diego



September 19, 1960

Mr. Lee Gallagher  
Bell Telephone Laboratories  
Whippany, New Jersey

Dear Mr. Gallagher:

Enclosed is the literature on our Type 2101 Core Tester and our Type 1512 Coincident Current Memory Tester. Mr. Jon Fadiman of DEC will probably contact you early next week to arrange a convenient meeting time with you. At that time he will be able to show you waveforms of the current driver output.

Thank you for your interest in DEC, and let us know if we can be of further help to you.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-1512, F-2101 (2)



September 16, 1960

Mr. Harold Hatch, Vice President  
John Hancock Mutual Life Insurance Company  
200 Berkeley Street  
Boston, Massachusetts

Dear Mr. Hatch:

Since our meeting with you several weeks ago, we have given considerable thought to the computer application which you described to us. We are convinced that DEC could make a significant contribution in solving your policyholder data processing problem.

However, we have concluded that it would be unwise at the present time to commit so large a portion of our activity to one customer. We want to sincerely thank you and your associates for the time that you have spent discussing your needs with us, and would be happy to discuss the subject further at your convenience should you wish.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp



September 16, 1960

Mr. Alden Seitz  
Seitz Insurance Agency  
State Theatre Building  
107 Columbus Avenue  
Sandusky, Ohio

Dear Mr. Seitz:

Thank you for your recent letter requesting information about Digital Equipment Corporation.

Since no DEC stock is available on the market, no annual reports to the stockholders describing the corporation's activities are prepared.

DEC is manufacturing a line of proprietary products which are described in the literature I am enclosing.

Thank you for your interest.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosures: CL



September 15, 1960

Mr. Leonard D. Clements  
Vice President of Engineering  
Electron Devices Company  
1472 Evergreen Drive  
Clearwater, Florida

Dear Mr. Clements:

Thank you for your letter of August 23, 1960, addressed to Messrs. Olsen and Weeton on the subject of representation in the Southeastern region. We have been reviewing the capabilities of many organizations in the Southeast for the sales representation function and have selected the Roy Attaway Company to cover the area.

Although we were not able to select your organization at this time, we do want to thank you for the interest you have shown and wish you the best of luck in your new undertaking.

Sincerely,

Harlan E. Anderson

HEA:ecp



September 15, 1960

Lieutenant (j.g.) Robert J. Beckman  
U. S. Naval Guided Missile School  
Dam Neck  
Virginia Beach, Virginia

Dear Bob:

I am having sent to you in a separate package a coincident current magnetic core memory plane which RCA is donating to your school so that you will have a sample to show to your students. This is a standard plane of the type that is most popular in the high speed computers and has four wires through each core. This includes the X and Y wire for the selection process, the sense wire for picking up the output signal from the selected core, and the inhibit wire which is used when the information to be rewritten in the core is a zero.

The appropriate person in RCA to whom a short thank you note would be appropriate is Dr. Frank E. Vinal, Radio Corporation of America, Needham Industrial Center, Needham, Massachusetts.

We are making good progress in the manufacture of the latest set of training aids and hope to be able to start shipping shortly.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp



September 14, 1960

Mr. D. L. Mittelman, Comptroller  
Bolt Beranek and Newman, Inc.  
50 Moulton Street  
Cambridge 38, Massachusetts

Dear Dave:

I am enclosing with this letter one fully executed copy of the lease agreement for your files. The Programmed Data Processor - 1 covered by this lease is in the final testing phase, and we look forward to delivering it to you in the near future. At that time, we will go through an acceptance testing procedure with whomever you designate to represent Bolt Beranek & Newman. When these acceptance tests have been completed to the satisfaction of both parties, we would like a letter to that effect and you may start using the machine immediately thereafter and the lease will immediately become effective.

Please let us know if there is anything else that we can do to be of service to you.

Sincerely,

Harlan E. Anderson  
Vice President

HEA/jv  
Enclosure



September 14, 1960

Mr. Henderson Supplee, Jr., President  
Atlantic Refining Company  
260 South Broad Street  
Philadelphia, Pennsylvania

Dear Mr. Supplee:

General Doriot, president of American Research & Development Corporation, recently told me of his conversation with you regarding Digital Equipment Corporation. Our products are all in the field of digital electronics and cover the complete range from digital components to complete digital computer systems. Our digital building block components have found their major application in the research departments where work is being done in the field of process control, instrumentation, and data handling. When an engineer finds that he needs a digital system which is not commercially available, he frequently can assemble it quickly and economically using our building block components for the major part of the system.

Our new Programmed Data Processor is a high speed, economical digital computer which has many of the characteristics required for process control. It is also very useful as a scientific computer. Economically, it is priced like a small desk computer, but it has speed characteristics greater than many of the large computers, such as the IBM 704.

I will enclose with this letter several sets of literature which I think your research people might find interesting. If you or your people would like to have more information or discuss the application of any of our equipment to your work, we would be most pleased to have an opportunity to visit you at your convenience.



Mr. Henderson Supplee, Jr.

-2-

September 14, 1960

Thank you for this opportunity to tell you about the products and activities of DEC.

Sincerely,

Harlan E. Anderson  
Vice President

HEA/jv  
Enclosures

COPY



September 8, 1960

Mr. Wallace Feurzeig  
Chief, Computer Operations Group  
Laboratories for Applied Sciences  
The University of Chicago  
Chicago 37, Illinois

Dear Mr. Feurzeig:

Thank you for your letter of 30 August 1960 requesting additional information on the PDP-3 computer. The answers to your questions are as follows:

1. Yes, the Sequence Break System is available for either PDP-1 or PDP-3, and the cost is \$12,000.
2. The cost per additional 4096 words of core memory for PDP-3 is \$60,000. The unit cost does not change as additional modules of core memory are added.
3. The cost of a 72 column Analex Printer integrated into the PDP-3 system is \$38,700.
4. The cost of a 24-bit real time clock operating at a 10 kilocycle rate is \$5,000.
5. The cost of a 16 inch cathode ray tube display is \$5,000. For those applications where it is desired to attach a camera to a display, we are also offering a 5 inch high resolution oscilloscope which will cost \$8,000.
6. The cost of the magnetic tape unit is \$12,000 for each transport and its associated electronics. The cost of the magnetic tape control is \$10,500, and this unit will be capable of dealing with as many as 64 individual tape units. The tape unit utilized



here would be the Ampex FR400.

7. Yes, the delivery time still is approximately eight months.
8. DEC does not have an educational discount policy which would apply to the PDP computers. The factors that would bear on such a question would be whether the computer would be used mainly for academic instruction of degree seeking students, and whether the purchase of the machine was being financed out of academic funds or military or other governmental programs.
9. DEC has under development at the present time a programming system which is primarily an assembly program but with built-in capabilities for statement definitions which can then be used as part of the assembly language. An early version of this type of assembly program is now operating on the PDP-1 computer, and a more advanced and complete version will be ready within the next two months. Emphasis in this approach is placed on making it easy for the user to define statements and a type language which is convenient for his particular problem. For example, it is hoped that to define the various operations of some existing compiler such as ALGOL in terms of the DEC assembly program would be a very simple task. We do not have any written material on this subject at the moment, but I would be happy to send it to you when it is available.

I am sorry that I was not able to answer your letter immediately when it arrived, but trust that this information will be helpful to you. Within the next week, Mr. Kenneth Olsen of Digital Equipment Corporation anticipates being in the Chicago area, and will contact you by telephone to see if there is any further information or help that we can give you at this time.



Mr. Wallace Feurzeig

- 3 -

September 8, 1960

He would be pleased to arrange to meet with you during his visit should you wish. Thank you for your continued interest in Digital Equipment Corporation products.

Sincerely,

Harlan E. Anderson

HEA:ecp

COPY



September 8, 1960

Mr. J. Lowry  
Industrial Engineer  
Kordite Corporation  
Macedon, New York

Dear Mr. Lowry:

Thank you for your letter of August 30, 1960.  
We are enclosing some descriptive literature on our Pro-  
grammed Data Processor - 1 which we hope you will find  
interesting.

If you have any questions, or if we can be of  
any assistance whatsoever, please be sure to let us know.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosures: F-15, F-10



September 8, 1960

Mr. Floyd Cook  
Air Force Cambridge Research Center  
Electronic Research Directorate (CRRB)  
Laurence G. Hanscom Field  
Bedford, Massachusetts

Dear Mr. Cook:

Enclosed is a copy of the programming manual for the PDP-1 computer that I mentioned to you on the telephone yesterday. Should you wish additional information, please feel free to contact me.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosure: F-15



August 25, 1960

International Business Machines Corporation  
Federal Systems Division  
Neighborhood Road  
Kingston, New York

Attention: Mr. P. H. Malloy, Engineering Purchasing

Gentlemen:

This is to confirm our verbal quote to you of May 13, 1960. DEC is pleased to quote price and delivery on the following units:

<u>Item</u>	<u>Quantity</u>	<u>DEC Model</u>	<u>Unit Price</u>	<u>Total Price</u>
1	2	4106 Inverters	\$49.00	\$ 98.00
2	2	4301 Delay	80.00	<u>160.00</u>
		TOTAL		\$258.00

Our standard terms are net payment 30 days from date of invoice. All shipments are made f.o.b. Maynard, Massachusetts. Shipment of Item 2 was made 7/25/60 reference our packing slip #2095. Shipment of Item 1 was made 8/9/60 reference our packing slip #2193.

If we can be of further assistance to you at any time, please do not hesitate to contact us.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp



August 25, 1960

Lieutenant (jg) Robert J. Beckman  
U. S. Naval Guided Missile School  
Dam Neck  
Virginia Beach, Virginia

Dear Bob:

Enclosed are the oversized layouts for the new front panels. We are going full speed ahead on these, but I thought you would like to have a look at them.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: 3203, 3302, 3114, 3112, 3102 layouts



August 24, 1960

Mr. Hal J. Miller  
J. Y. Schoonmaker Co., Inc.  
107 Winnetka Road  
San Antonio, Texas

Dear Hal:

Enclosed are the circuit schematics, Type 4105, Type 4110, and Type 4201 that I promised I would send to you for loan to Mr. Bashore at Lackland.

Keep us posted if there is anything further we can do to be of help to Mr. Bashore.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: Schematics (2)



August 19, 1960

Sylvania Electric Products  
100 First Avenue  
Waltham 54, Massachusetts

Attention: Mr. Richard Ryan

Gentlemen:

Thank you for your request for quotation. Digital Equipment Corporation is pleased to quote prices and delivery on the following units.

<u>Qty.</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
37	Model 1201 Flip-Flop	\$133.00	\$4,921.00
4	Model 1410 Pulse Generator	105.00	420.00
2	Model 1607 Pulse Amplifier	130.00	260.00
6	Model 4201 Flip-Flop	69.00	414.00
1	Model 4111 Diode	43.00	43.00
8	Model 4105 Inverter	44.00	352.00
3	Model 4667 Level Amplifier	70.00	210.00
1	Model 4603 Pulse Amplifier	89.00	89.00
3	Model 1111 Diode	75.00	225.00
1	Model 1667 Level Amplifier	145.00	145.00
2	Model 4209 Dual Flip-Flop	79.00	158.00
4	Model 4301 Delay	80.00	320.00
2	Model 1304 Delay	130.00	260.00
1	Model 1209 Dual Flip-Flop	168.00	168.00
1	Model 740 Power Supply	290.00	290.00
1	Model 710 Power Supply	125.00	125.00
4	Model 1901 Mounting Panel	150.00	600.00
1	Model 1954 Unit Extenders	20.00	20.00
			<hr/>
			\$9,020.00
		Less 3% Discount	270.60
		<b>Total</b>	<hr/> <b>\$8,749.40</b>



August 19, 1960

Our standard terms are net payment thirty days from date of invoice. All shipments are made F.O.B. Maynard, Massachusetts. Shipment will be made four weeks from receipt of a firm order.

If we can be of further assistance to you at any time, please do not hesitate to contact us.

Sincerely,

Harlan E. Anderson  
Vice President

HEA/jv

COPY



August 19, 1960

Dr. Herbert Zimmer  
Georgetown University Hospital  
Washington, D. C.

Dear Dr. Zimmer:

Recently John Heffernan of Wild & Associates, Inc., mentioned that you are interested in computers for use in the medical field. I do not know of any details relating to your application, but would like to call to your attention our new Programmed Data Processor which has recently been demonstrated on an electroencephalographic wave form analysis problem.

This computer is similar to one now in use at MIT for a similar type of research. The basic approach that has been used is one of real time digital averaging of electrical responses to repeated stimuli such as audible clicks, flashes of light, etc. If this type of computer application is of interest to you, we would be pleased to explore our computer's suitability to your work further.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosure: F-10

CC: Mr. John Heffernan, Wild & Associates, Inc.



August 19, 1960

Dr. Milton I. Schwalbe  
Room 915  
Veterans Administration  
Washington 25, D. C.

Dear Dr. Schwalbe:

Recently John Heffernan of Wild & Associates, Inc., mentioned that you are interested in computers for use in the medical field. I do not know of any details relating to your application, but would like to call to your attention our new Programmed Data Processor which has recently been demonstrated on an electroencephalographic wave form analysis problem.

This computer is similar to one now in use at MIT for a similar type of research. The basic approach that has been used is one of real time digital averaging of electrical responses to repeated stimuli such as audible clicks, flashes of light, etc. If this type of computer application is of interest to you, we would be pleased to explore our computer's suitability to your work further.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-10

CC: Mr. John Heffernan, Wild & Associates, Inc.



August 19, 1960

Mr. Robert Spinrad  
Brookhaven National Laboratory  
Upton, New York

Dear Mr. Spinrad:

In response to your telephone conversations with Mr. Ben Gurley, Digital Equipment Corporation is pleased to quote price and delivery information for computer output display equipment. This would be similar to the CRT display used on our Programmed Data Processor unit. One possibility would utilize a 16 inch cathode ray tube for visual purposes only. The second possibility would utilize a 5 inch cathode ray tube with high resolution capability suitable for use with camera and other optical devices including film reading systems. A third possibility involving a combination of both of these units could also be provided.

CONFIGURATION 1

This configuration would have a 16 inch cathode ray tube display with a complete cycle time of 60 microseconds. A 20 bit buffer register for holding the X and Y coordinate of the spot being displayed would be included. Mechanically this would be mounted in a standard 19 inch relay rack cabinet with a small shelf directly beneath the oscilloscope panel. This unit would be complete in all respects including its own power, timing circuits, etc.

An optional light pen could be attached to this unit for manual designation of selected points on the oscilloscope face. This consists of an optical system and a photo cell which will produce an impulse when the light pen is placed over an intensified spot on the oscilloscope face. The actual use of this impulse would depend on the details of your plan for utilizing a display of this type.



August 19, 1960

The price for this unit as described above without light pen would be \$8,500.00 net, f.o.b. Maynard, Massachusetts. The light pen would add \$1,500 to the price. Delivery could be made within ninety days of receipt of a firm order. The price includes all assembly and check-out work, but does not include connecting it to your computer.

CONFIGURATION 2

This configuration would consist of a 5 inch high resolution cathode ray tube display and would have high stability decoders and amplifiers associated with it. The buffer register for the X and Y coordinate would have 24 bits of precision. The mechanical aspects of this unit would be similar to the 16 inch scope, except that a camera bezel would be included for convenient attachment of automatic camera equipment. Optical systems for automatic film reading could also be attached. Neither the camera nor the optical system mentioned are included in the price of this proposal.

The price for this unit is \$10,800.00 net, f.o.b. Maynard, Massachusetts. Delivery could be made within ninety days or sooner.

CONFIGURATION 3

This configuration is a combination of 1 and 2 described above and would simultaneously intensify both oscilloscopes. The price for this without light pen would be \$17,700.00 net, f.o.b. Maynard, Massachusetts. The light pen would add \$1,500 to this price. Delivery could be made within ninety days of receipt of a firm order.

The logical portions of all three of the above configurations would be based on use of Digital Equipment Corporation System Building Block equipment. In case the signal levels from your computer are not directly compatible with our voltage levels of ground and -3 volts, a small additional charge would be included for adapters. Minor technical details of the logical mode of



Mr. Robert Spinrad

- 3 -

August 19, 1960

operation would have to be worked out as we progressed on this. None of these are likely to influence the price of the total unit.

I hope that you find the above information satisfactory, and we would be very pleased to have an opportunity to discuss the matter further with you at your convenience. The enclosed sketch shows the approximate appearance of Configuration 3.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp

Enclosures: Sketch, F-15, F-15, C-1000, C-4000.



August 18, 1960

Mr. Bernard Bycer  
Radio Corporation of America  
Building 127-302  
Moorestown, New Jersey

Dear Mr. Bycer:

Enclosed is a descriptive folder and programming manual for our Programmed Data Processor - 1, which Burt Dempster of Wild & Associates has requested we send you.

If you have any questions, or if we can be of any help whatsoever, please be sure to let us know.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-10, F-15



August 18, 1960

Mr. Russ C. McGee  
General Electric Company  
Richland, Washington

Dear Mr. McGee:

Enclosed is the literature on our Programmed  
Data Processor computer which I promised to send you.

If you have any questions, or if I can be of  
any help whatsoever, please let me know.

Sincerely,

Harlan E. Anderson

ep  
Enclosures: F-10, F-15



August 17, 1960

Mr. Bernard D. Kleinman  
811 Bronx River Road  
Bronxville 8, New York

Dear Mr. Kleinman:

Thank you for your letter of August 10, 1960, inquiring about financial data for Digital Equipment Corporation. No DEC stock is publicly available, and therefore we do not prepare any public annual reports at this time. As you may know, we are a majority-owned affiliate of American Research & Development Corporation in Boston.

I am enclosing with this letter some current technical literature describing the company's products. Thank you for your interest in DEC, and if you are ever in the Boston area, we would be pleased to have an opportunity to show you our plant.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp

Enclosures: F-1512, F-10, C-4000



August 15, 1960

Cambridge Research Laboratories  
Astro Surveillance Science Laboratory  
United States Air Force  
L. G. Hanscom Field  
Bedford, Massachusetts

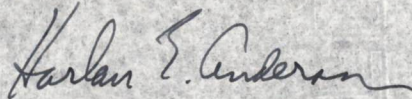
Attention: Mr. John Condon, Procurement, CCKS  
Mr. Wilbur Vance, Astro Surveillance  
Science Laboratory, CRR  
Mr. Chariton Walter, Astro Surveillance  
Science Laboratory, CRR

Gentlemen:

Enclosed is an unsolicited proposal from Digital  
Equipment Corporation to develop a Dynamic Simulator for  
the Air Force. We would appreciate your evaluation of  
this proposal and would be pleased to discuss it with you  
at your convenience.

In connection with submitting this proposal, DEC  
has filed an ARDC Form #91 entitled "Policy Agreement for  
the Evaluation of Articles or Disclosures".

Sincerely,



Harlan E. Anderson  
Vice President

EEA:ecp

Enclosure: Dynamic System Simulator Proposal



August 16, 1960

Dr. William R. Riley  
18 Thorndike Street  
Palmer, Massachusetts

Dear Dr. Riley:

Thank you for your letter of August 12, 1960, inquiring about financial information concerning Digital Equipment Corporation. No DEC stock is publicly available at this time, and is not likely to become available in the real near future. We are a majority owned affiliate of American Research & Development Corporation in Boston. I believe this is the fund to which you were referring in your letter.

DEC has been in business approximately three years and has become one of the leading companies in the field of computer building block equipment. We also manufacture systems which include memory testing devices for computers and complete data processing units. I will enclose some of our commercial sales literature which you may find of interest. Digital Equipment Corporation has approximately 140 employees and occupies 45,000 square feet of manufacturing space in Maynard, Massachusetts.

If you have occasion to be near our plant at any time, we would be pleased to have an opportunity to meet you and show you our activities. In any event, thank you for your interest in Digital Equipment Corporation.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp

Enclosures: C-4000, F-10, F-1512, F-2101



August 16, 1960

Mr. G. T. Sakai, Physicist  
Nuclear Energy Department  
C. Itoh & Company (America), Inc.  
425 Park Avenue  
New York 22, New York

Dear Mr. Sakai:

Thank you very much for your letter of August 10, 1960, in which you inquired about our core memory test equipment. I am enclosing with this letter literature describing our coincident current memory tester, Type 1512, and also our Type 2101 single core tester. The approximate price on these two units are \$36,000 and \$20,000 each. Delivery is 60 - 90 days.

Thank you for your interest in DEC products, and let us know if we can be of further service to you.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-1512, F-2101



August 16, 1960

Mr. R. W. Perry  
Republic Aviation Corporation  
Farmingdale  
Long Island, New York

Dear Mr. Perry:

Enclosed is descriptive literature and a programming manual on our Programmed Data Processor - 1, which Jim Fahnestock of Wild & Associates suggested we send along to you.

If you have any questions, or if we can be of an help whatsoever, please be sure to let us know.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosures: F-10, F-15



August 15, 1960

Mr. Crissafulli  
Sylvania Electric  
139 B Street  
Needham, Massachusetts

Dear Mr. Crissafulli:

Here is the literature on our PDF that I promised you today. Hope you find it interesting and useful.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosure: F-10, F-15



August 15, 1960

Mr. Robert E. Wright  
Epsco, Inc.  
275 Massachusetts Avenue  
Cambridge 39, Massachusetts

Dear Mr. Wright:

Here is the literature on our PDP that I promised you today. Hope you find it interesting and useful.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosure: F-10, F-15, PDP-3 Manual



August 12, 1960

Mr. T. Bowen  
Elementary Particles Laboratory  
Palmer Physical Laboratory  
Princeton University  
Princeton, New Jersey

Dear Mr. Bowen:

Thank you for your letter of August 9, 1960, in which you inquired about transistor shift register modules and associated circuits.

Digital Equipment Corporation manufactures a four-bit module that can be connected either as a shift register or buffer register. This is our Model 4213, which is described in the enclosed Product Bulletin. This is also available for higher frequency operation in our Type 1213 module for which a bulletin is also enclosed. I am enclosing general literature on our full product line in case some of the other units we manufacture might be of interest, too.

Our representative in your area would be:

Wild & Associates, Inc.  
P. O. Box 95  
Southampton, Pennsylvania  
Locust 8-7078

Thank you for your interest in DEC products. Let us know if we can be of further service.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: PB 4213, 1213, A-700, C-1000, 4000, B-100, 3000



August 12, 1960

Mr. E. Farley  
Subcontracting Section  
Radio Corporation of America  
Moorestown, New Jersey

Dear Mr. Farley:

This will confirm our telephone conversation with reference to your telegram of this afternoon regarding the approximate costs of a general purpose computer. Our PDP-1 computer most nearly meets the requirements you are looking for. The answers to your specific points are listed below:

- (1) PDP-1 is a general purpose digital computer.
- (2) Its word length is 18 bits.
- (3) Memory capacity 4,096 words.
- (4) Typewriter and punched paper tape read-in and read-out are standard equipment.
- (5) Double precision operation would be sub-programmed.
- (6) It is entirely solid-state construction and is modularized.
- (7) It definitely has real time capability.
- (8) It has an add time of 10 microseconds for an 18-bit parallel addition including the time required to get the instruction out of the memory.
- (9) Divide is performed by sub-program and takes approximately 400 microseconds.



Mr. E. Farley

- 2 -

August 12, 1960

- (10) This machine operates from 115 volts AC.
- (11) PDP-1 will operate at 120 degrees Fahrenheit without external cooling.

PDP-1 is definitely intended for use with the general class of problems that the latter part of your telegram described.

The price of this machine as described above is \$110,000, and could be delivered within the time scale that you have outlined (90 days). A very important factor regarding PDP-1 is that it is truly available, and a model is now in operation over 16 hours a day in Cambridge, Massachusetts.

I hope that you find the enclosed technical literature interesting, and if you or any of the other people at RCA would like to discuss application of this computer further, we would be more than pleased to demonstrate an operating model.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp  
Enclosures: F-10, F-15 (3)



August 12, 1960

Headquarters Detachment 2  
Air Force Research Division (ARDC)  
United States Air Force  
Laurence G. Hanscom Field  
Bedford, Massachusetts

Attention: L. M. Hollingsworth, Director  
R. M. Barrett

Gentlemen:

Enclosed are two completed copies of ARDC  
Form 91 (Policy Agreement for Evaluation of Unsolicited  
Articles or Disclosures) which we are filing now antici-  
pating the submission of an unsolicited proposal in  
several day's time.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp

Enclosure: 2 copies ARDC Form 91



August 11, 1960

Mr. Frederick S. Greenwald  
Hayden, Stone & Company  
25 Broad Street  
New York 4, New York

Dear Mr. Greenwald:

Thank you for your letter inquiring about financial information concerning Digital Equipment Corporation. As you probably know, DEC is a majority owned affiliate of American Research & Development Corporation, and no stock is publicly available. As a result, no annual reports are prepared which describe the over-all company operation.

DEC is approximately three years old and has been manufacturing a proprietary line of digital building blocks which represent the major part of our activity. These are used by the electronics industry for computer test equipment and are also used in manufacturing special purpose data handling devices. We have also been manufacturing memory testing systems which are well along the way of being the standard of the industry. Our policy has been to concentrate on catalog type of products, and as a result, we do no research and development work for the Government.

At the present time, we have approximately 140 employees, and occupy about 45,000 square feet of space in Maynard, Massachusetts. If you ever have an opportunity to be in the Boston area, we will be more than pleased to show you our facilities. Thank you for your interest in DEC, and I hope that you find the enclosed technical literature interesting.

Sincerely,

Harlan E. Anderson  
Vice President

HEA/jv  
Enclosures



August 11, 1960

Mr. H. R. Johnson, Purchasing Section  
Schlumberger Well Surveying Corporation  
P. O. Box 307  
Ridgefield, Connecticut

Dear Mr. Johnson:

Thank you for your card of August 9, 1960, asking for literature covering our computers (PDP-1 and PDP-3). Enclosed are two different pieces of literature covering these units. Please feel free to contact us if you would like additional information on these units.

Sincerely,

Harlan E. Anderson

HEA/jv  
Enclosures



August 10, 1960

Mr. Walter Bach, President  
Bach Auricon, Inc.  
6950 Romaine Street  
Hollywood 38, California

Dear Mr. Bach:

Thank you for your letter of August 6, 1960, in which you inquired about our new 4000 Series System Building Blocks. Enclosed is our folder C-4000, which is directly applicable. In addition, Digital Equipment Corporation manufactures high frequency building block equipment, as well as digital test equipment units. These are described in the enclosed folders also.

If you would like a local source of information concerning our equipment, I would suggest you contact either our representative, or our office in Los Angeles:

Instruments For Measurements  
3455 Cahuenga Boulevard  
Hollywood 28, California  
Hollywood 9-7294

Digital Equipment Corporation  
8820 Sepulveda Boulevard  
Los Angeles 45, California  
ORchard 0-0690

Thank you for your interest in DEC products, and let us know if we can be of further service to you.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp

Enclosures: C-1000, C-4000, B-100, B-3000, A-700



August 10, 1960

Mr. A. H. Sonnenschein  
Chief Systems Engineer  
Polarad Electronics Corporation  
43-20 34th Street  
Long Island City 1, New York

Dear Mr. Sonnenschein:

Thank you for your letter of August 8, 1960, in which you asked for descriptive literature for electronic counters. We do not make a counter as a finished instrument, but do make building blocks which can be conveniently connected to make binary counters or binary coded decimal counters. I am enclosing literature on these products and would be pleased to answer any questions that you might have on their application. The name of our representative in your area is:

Wild & Associates, Inc.  
1519 Northern Boulevard  
Roslyn  
Long Island, New York  
MAYfair 1-8660

Thank you for your interest in DEC products.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp

Enclosures: C-1000, C-4000, B-100, B-3000, A-700



August 9, 1960

Mr. Ed Fredkin  
Bolt, Beranek & Newman, Inc.  
50 Moulton Street  
Cambridge 38, Massachusetts

Dear Ed:

We are pleased to submit a preliminary quotation for the magnetic core memory units which you have inquired about. As you know, the logical manner in which these memory units are assembled has a direct influence on the costs involved. Therefore, we have prepared quotations for two configurations, although many other variations are also possible.

#### CONFIGURATION 1

This consists of 32 independent memories, each one having 4,096 words. These words are 36 bits long and have an additional bit used for parity. The memories have a 5 microsecond complete cycle time, and the necessary electronics to communicate to and from a typical computer configuration are included. The unit price of each of these memories is \$57,031.04, giving a total of \$1,824,993.28.

Communication gates to and from magnetic drums for each of these memories would cost an additional \$4,000 each, giving a total for this part of \$128,000.

The above prices include patent royalties due the holder of the coincident current magnetic core memory patent. The licensing rate is presently being negotiated in the courts and is not likely to exceed two cents per bit. This item amounts to \$96,993.28.

#### CONFIGURATION 2

This consists of eight independent memories, each one having 16,384 words. Each word has 36 bits plus a parity bit.



Mr. Ed Fredkin

- 2 -

August 9, 1960

The cycle time would be 5 microseconds, and the unit price including communication links to and from a typical computer would be \$152,374.16 each. This would give a total cost of \$1,218,993.28.

Communication lines to and from magnetic drums from these memories would cost \$4,000 each, giving a total for this item of \$32,000.

The royalty for the coincident current memory would be the same as Configuration 1.

The degree of certainty with which we can quote the above prices is very high. To increase the operating speed so as to get a 3 microsecond memory cycle would not increase the above prices more than 50 per cent, and probably somewhat less, but the uncertainty level is considerably greater on this fast unit at the present time.

Let us know if you would like any additional information concerning the memories.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp



August 9, 1960

Mr. Al Elston  
Roy Attaway Company  
711 Magnolia Street  
Orlando, Florida

Dear Mr. Elston:

Thank you for your telephone call today in which you told me of the activities of the Roy Attaway Company. Enclosed is the literature describing the DEC product line. The building blocks and their accessories are the products that we sell through manufacturers representatives. This includes our Digital Test Equipment modules, but does not include systems such as our Programmed Data Processor or our Memory Test Systems.

I will tell Jack Brown when he returns of your call today, and of my suggestion that you contact him at our Los Angeles office before or during the Wescon show. Our address and phone number are:

Mr. Ted G. Johnson, West Coast Sales Manager  
Digital Equipment Corporation  
8820 Sepulveda Boulevard  
Los Angeles 45, California  
ORchard 0-0690

Thank you for your interest in DEC and the possibility of the Roy Attaway Company representing us in the Southeast area.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: A-700, C-1000, C-4000, B-100, B-3000

CC: Mr. Roy Attaway  
Roy Attaway Company  
2315 Bob Wallace Avenue, S.W.  
Huntsville, Alabama



August 8, 1960

American Management Association, Inc.  
1515 Broadway  
Times Square, New York

Gentlemen:

Recently a number of people at Digital Equipment Corporation joined the American Management Association, and are beginning to receive the many fine publications which you put out. Many of them appear to have information of lasting value, and I am looking for a suitable notebook or binding in which to keep these reports. If you have any such notebooks or bindings available, would you please send me information on their price and how to order them. Thank you.

Sincerely,

Harlan E. Anderson  
Vice President

HRA:ecp



August 8, 1960

Mr. G. D. Meimaris, Purchasing Agent  
Radio Corporation of America  
Semiconductor and Materials Division  
Somerville, New Jersey

Dear Mr. Meimaris:

Thank you for your letter of August 5, 1960, in which you asked about our new transistorized quadruple flip-flop package, Type 4213. Enclosed is a product bulletin on this unit, and also literature on other units of our building blocks. The unit price on this package is \$96 each. Our quantity discount policy provides for a percentage discount based on total dollar amount of an order independent of the quantity of any one type of unit. For orders totaling over \$5,000, a 3% discount is granted; and for orders totaling over \$10,000, a 5% discount is granted. These price breaks most nearly correspond to the quantities that you ask about in your letter.

Thank you for your interest in DEC products, and if we can be of further service to you, please feel free to contact us or our representative in your area, Wild & Associates, Inc., who have offices as indicated below:

Wild & Associates, Inc.  
P. O. Box 95  
Southampton, Pennsylvania  
Locust 8-7078

Wild & Associates, Inc.  
1519 Northern Boulevard  
Roslyn, Long Island  
New York  
MAyfair 1-8660

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosures: A-700, C-1000, C-4000, B-100, B-3000, 4213 Product Bul.  
CC: Wild & Associates, Inc.  
New York



August 8, 1960

Mr. J. H. Richards  
Electronic Component Division  
The Mullard Radio Valve Co., Ltd.  
New Road, Mitcham Junction  
Surrey, England

Dear Mr. Richards:

Thank you for your letter of August 3, 1960, inquiring about our memory testing equipment. I am enclosing literature describing our 1512 Memory Tester, which is for use with coincident current core memories. The price of this unit is approximately \$35,000 in the United States. I am also enclosing our folder F-2101, which describes our Automatic Core Tester. This unit when used with an automatic core handling device such as that manufactured by Ramsey Manufacturing in St. Paul, Minnesota, is normally used for production testing of ferrite cores. It features direct setting and automatic calibration of threshold voltage levels. The price of this unit without the core handling device is approximately \$20,000. Both of these units are extensively used by American manufacturers of magnetic cores and core memory stacks. The three leading American manufacturers of memories now have sizeable installations of Digital Equipment Corporation products of the type above plus our building block test equipment and some new testing systems which I will mention briefly below.

We have manufactured two memory testers designed to test word address memories as opposed to the conventional coincident current memory. No technical literature is available on this unit as yet, but when ready, we would be pleased to forward it to your attention. We have also manufactured a memory exerciser which is



Mr. J. H. Richards

- 2 -

August 8, 1960

designed to test a complete memory including its associated electronics.

Delivery on these very popular memory testers runs between sixty and ninety days from receipt of an order. Please feel free to contact us further if you find the enclosed literature or information of interest.

Thank you for your interest in DEC products.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: A-700, F-2101, F-1512

COPY



August 8, 1960

Mr. N. Tatich, Assistant Purchasing Agent  
Link Division  
General Precision, Inc.  
Binghamton, New York

Dear Mr. Tatich:

Thank you for your letter of August 4, 1960,  
inquiring about analog-to-digital converters.

Digital Equipment Corporation does not manufacture  
the particular unit that you are interested in.

Enclosed please find descriptive literature on our  
Digital Test Equipment and System Building Blocks that  
may be of interest to you in the future. If we can be  
of any further assistance to you at any time, please  
do not hesitate to contact us.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosure: CL



August 8, 1960

Director  
National Security Agency  
Fort George G. Meade, Maryland

Attention: REMP-21, Miss Jessie E. Hamrick

Gentlemen:

Enclosed please find one copy of circuit schematic #667  
which you requested.

If we can be of any further help, please be sure to  
contact us.

Sincerely,

Henry R. DeMichele  
Sales Department

HRD:ecp  
Enclosure 1



August 4, 1960

Mr. Dale Showalter  
Rush S. Drake Associates, Inc.  
P. O. Box 2126  
Idaho Falls, Idaho

Dear Mr. Showalter:

Oliver Judd told me today of the need for a computing facility at General Electric Company in Idaho Falls. I have sent information on our computers to Frank Partin at Tally Register and also to Ollie. Enclosed are programming manuals for both our PDP-1 machine and the PDP-3, and a company confidential price list on accessory devices. It appears to me that the PDP-3 machine is most likely what would be required for this particular application. We will await further information from you people as to the advisability of a meeting on the subject.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp  
Enclosures: PDP-3 Manual, F-15, F-10, PDP Price List.



August 4, 1960

Mr. Frank Partin, Sales Manager  
Tally Register Corporation  
1310 Mercer Street  
Seattle 9, Washington

Dear Mr. Partin:

Oliver Judd of Rush Drake Associates suggested that I send you a copy of our computer literature and manuals to help you evaluate whether it could play a role in the General Electric Program at Idaho Falls that you people are interested in. I am enclosing some literature that I think would be helpful in this regard, and will wait to hear either from you or Rush Drake Associates with regard to any further information or assistance that we might be able to supply.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp

Enclosures: PDP-3 Manual - F-15, F-10



August 4, 1960

Mr. Oliver Judd  
Rush S. Drake Associates, Inc.  
1817 Norman Street  
Seattle 44, Washington

Dear Ollie:

Enclosed are the circuit schematics for the units that the University of Washington is interested in. I am also enclosing a copy of our PDP-3 manual along with a confidential list of prices for the PDP computers.

From what you have told me of the General Electric application in Idaho Falls, it sounds like a PDP-3 would be appropriate, and I am quite certain we can arrange for either Ted Johnson or perhaps someone from back here to attend a meeting in Idaho Falls on the subject if you deem this advisable. I will send a copy of the PDP-3 manual to Frank Partin, and to Dale also.

I'm looking forward to seeing you again at the end of next week here in Maynard. I'm enclosing a map showing how to get to our plant from the main access roads around Boston.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp

Enclosures: Circuit schematics: 4105, 4110, 4111, 4201, 4209, 4410, 4603, 4106, 1304, 1406, 1607, 1410, 1110, 1111, 1201, 1209, 1561, 4676, 1669, 1675, 4215 (2 each); PDP-1 Manual; PDP-3 Manual; PDP price list; F-10 (2); map.

CC: Ted Johnson  
8820 Sepulveda Boulevard  
Los Angeles 45, California



August 3, 1960

Mr. G. E. Mackey  
Counsel for Bureau of Naval Personnel  
Room 1710 Arlington Annex  
Department of the Navy  
Washington 25, D. C.

Reference: Pers-14-GEM:cn  
2 August 1960

Dear Mr. Mackey:

We are pleased to accept this contract from the  
Department of the Navy.

Enclosed please find the necessary copies of Contract  
NCP-1098(FBW) for Digital Training Aids.

Sincerely yours,

Harlan E. Anderson  
Vice President

HEA/jv  
Enclosures



August 2, 1960

Dr. Joseph D. Grandine, 2nd  
Kennett Computer Consultants, Inc.  
808 Memorial Drive  
Cambridge 39, Massachusetts

Dear Dr. Grandine:

Thank you for your letter of July 27, 1960,  
and for your interest in our PDP computers. Enclosed  
with this letter is the literature which you requested.  
We have today mailed literature to Mr. Eisman and Mr.  
Garfield as you requested.

We look forward to hearing from you when you  
return from the West Coast.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-15, F-10 (4)



August 2, 1960

Mr. Eugene Garfield  
Institute for Scientific Information  
1122 Spring Garden Street  
Philadelphia 23, Pennsylvania

Dear Mr. Garfield:

Enclosed is literature on our PDP computers which Dr. Joseph Grandine of Kennett Computer Consultants, Inc., requested we send you.

If you have any questions, or if we can be of any assistance whatsoever, please be sure to let us know.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-10, F-15 (2)



August 2, 1960

Mr. Sylvan Eisman  
Frankford Arsenal  
Philadelphia 37, Pennsylvania

Dear Mr. Eisman:

Enclosed is literature describing our PDP computers which Mr. Joseph Grandine of Kennett Computer Consultants, Inc., requested we send you.

If you have any questions, or if we can be of any assistance whatsoever, please be sure to let us know.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-10, F-15 (2)



August 2, 1960

Mr. E. W. Henning  
Industrial Computers & Systems  
General Electric Company  
13430 North Black Canyon Highway  
Phoenix, Arizona

Dear Mr. Henning:

Thank you for your letter of July 19, 1960, inquiring about our 10 megacycle building block equipment. Technical literature describing these new units is in the final phase of preparation and should be available shortly, at which time I will have it mailed to your attention. The general logical characteristics of these units are the same as those in our 5 megacycle line of equipment described in the bulletin C-1000 you mentioned in your letter. The enclosed folder A-700 has a table which shows which models are available in the 10 megacycle line. This is known as our 6000 series of units.

Thank you for your interest in DEC products, and if we can be of further help to you, please feel free to contact us.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosure: A-700



August 2, 1960

Jordan & Filhos Limitada  
Rua Vigario Jose Inacio, 368  
Conjunto 1502  
Caixa Postal 2038  
Porto Alegre  
Rio G. Do Sul  
BRASIL

Gentlemen:

Thank you for your letter of July 11, 1960, in which you asked for a quotation on the equipment described in your enclosure. We do not make equipment which does exactly what you have in mind, but do manufacture a line of building block equipment which is described in the literature which I am enclosing with this letter. The prices shown are all U. S. prices, f.o.b. Maynard, Massachusetts.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosures: C-1000, C-4000.



July 26, 1960

Mr. Gerald Smith  
R & D Engineer  
Military Electronics Division  
Daystrom, Inc.  
Archbald, Pennsylvania

Dear Jerry:

Thank you for your letter of July 13 commenting on our 1000 Series brochure. The Type 1561 digital to analog converter that you ask about is a passive resistor ladder with 1000 ohm interstage resistors and 2000 ohm resistors for the individual digit inputs. The 2000 ohms consist of an 1800 ohm fixed resistor and a variable 500 ohm resistor for trimming and adjusting the digits. This unit has two 6 bit decoders which can be used independently or joined by back panel wiring to make one 12 bit decoder.

The resistor tolerance in the ladder network is one per cent. Since this is a passive network, the output swing of the unit will be equal to the logic level swing at the input to the converter. For example, if our normal flip-flop units with swings from ground to -3 volts were used, the converter would have a swing of ground to -3 volts also. For a decoder application of 6 bits or less, the converter inputs can probably be connected directly to our flip-flop units.

For converters having more than 6 bits it would probably be desirable to standardize the incoming logic levels by running them through a unit such as our bridge amplifier, Type 4677. This unit will take our logic levels as inputs and convert them to whatever reference voltage is desired between 0 and -10 volts. These new outputs will have the same characteristics (ripple, etc.) as the reference supply that is used with this bridge amplifier.



Mr. Gerald Smith

-2-

July 26, 1960

We make a reference supply unit, Type 1562, which puts out -10 volts. However, any stable power supply can be used as a reference providing its output voltage is between 0 and -10.

Since I was on vacation when your letter came in, I am sorry I didn't get a chance to answer it right away but hope this information will be helpful to you now. I attempted to telephone you today but learned that you were away for this week, so this will probably be waiting for you when you return.

Sincerely,

Harlan B. Anderson

HEA/jv

COPY



July 15, 1960

Mr. Thomas S. Griffin  
5525 Clemens  
St. Louis 12, Missouri

Dear Mr. Griffin:

Thank you for your recent letter requesting information about Digital Equipment Corporation.

Since no DEC stock is available on the market, no annual reports to the stockholders describing the corporation activities are prepared.

DEC is manufacturing a line of proprietary products which are described in the literature I am enclosing.

Thank you for your interest.

Sincerely yours,

Harlan E. Anderson

HEA:ecp  
Enclosures



July 15, 1960

Mr. William Heroy, President  
G. O. Technical Corporation  
341 Shiloh Road  
Garland, Texas

Dear Mr. Heroy:

Recently Mr. Harry Hoagland of American Research & Development Corporation told me of their new affiliation with you people, and as a fellow affiliate, I would like to welcome you. If you ever have occasion to be in the Boston area, I would be very pleased to have an opportunity to meet you and show you the activities that we carry on in the field of digital electronic equipment.

I am enclosing with this letter copies of some of our current literature and would welcome an opportunity to become better acquainted with your organization and products.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp

Enclosures: F-10, C-4000, C-1000, A-700



July 14, 1960

Mr. Isadore Silberman, Head  
Applied Mathematics Section  
Raytheon Company  
Missile Systems Division  
Bedford, Massachusetts

Dear Mr. Silberman:

I hope that you have been having a pleasant vacation during the past two weeks. I am writing to you since I will be on vacation for one week beginning July 18. If the revisions to your memoranda on the missile computing problem are completed before I return and you wish to discuss them with someone at DEC, I would suggest that you contact either Ben Gurley or Ken Olsen. I will plan on contacting you early the week of July 25 otherwise.

Sincerely,

Harlan E. Anderson

HEA:ecp



July 14, 1960

Mr. Lawrence Hart  
Controls and Instruments (Overseas) Co.  
15 East 40th Street  
New York 16, New York

Dear Mr. Hart:

Thank you for your letter of July 11, 1960,  
in which you requested information about our equipment.

I am enclosing literature on our building  
block equipment and also our Programmed Data Processor  
which I think you will find of interest. Our prices to  
you which are f.o.b. Maynard, Massachusetts, are shown  
in the enclosed literature. We are not familiar with  
the problems encountered in a steam generating plant,  
and, therefore, are unable to comment on the suitability  
of our computer to your particular application. Our  
machine is a very high speed computer and may have more  
speed than is required for this particular application.  
In any event, there is a non-trivial piece of work that  
would need to be done in tying our computer into a data-  
logging system. This would involve some electronic  
design probably to get the electrical signals in a suit-  
able form and would also involve computer programming.

Thank you for your interest in DEC products.

Sincerely,

Harlan E. Anderson

HEA:ecp

Enclosures: F-10, C-4000, A-700.



July 14, 1960

Mr. Harold Hatch, Vice President  
John Hancock Mutual Life Insurance Company  
200 Berkeley Street  
Boston, Massachusetts

Dear Mr. Hatch:

I want to thank you and Mr. Wallace for the time and information that you gave us on Monday of this week. We are carefully evaluating this information to see if our present computer or the general techniques that we have available can be helpful to you in your over-all program. We will plan on contacting you in several weeks to discuss these possibilities further. I am enclosing two copies of the programming manual for our Programmed Data Processor - 1 which you and your people may find of interest.

Thank you again.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp  
Enclosure: F-15 (2)



July 14, 1960

Director  
National Security Agency  
Ft. Meade, Maryland

Attention: Mr. W. W. Calloway - RADE-2

Dear Mr. Calloway:

We were surprised to hear from Ben Gurley after a recent visit to N.S.A. that you have a large system constructed of Digital Equipment Corporation building blocks which is not working satisfactorily. We have been very proud of the fact that our building blocks can be assembled quickly and easily and give long maintenance-free operation. Some systems are used 24 hours a day without maintenance for long periods of time. This is the type of operation we feel can and should be obtained from DEC building blocks, and we would like the opportunity to try to fix the system which you have.

Because the system is classified, we don't know the name of it or what it is used for, but we understand it was built with our building blocks by Sanders Associates of Nashua, New Hampshire, and was delivered within the last year. We would very much appreciate the opportunity to find in detail what the troubles are, and to be able to make suggestions as to how they can be eliminated. We have facility clearance to secret and have engineering personnel with secret clearance. If this system carries a higher classification, we would be pleased to apply for the appropriate clearance.

Please let us know in what way we can be of help to you in this matter.

Sincerely yours,

Harlan E. Anderson  
Vice President

HEA:ecp



July 14, 1960

Mr. O. B. Gunby  
Leader, Design Documentation  
West Coast Missile & Surface Radar Division  
Radio Corporation of America  
8500 Balboa Boulevard  
Van Nuys, California

Dear Mr. Gunby:

Thank you for your interest in the products of Digital Equipment Corporation. Enclosed are two sets of our general catalogue brochures for your catalogue file. If more detailed information is needed on any specific unit, we will be very pleased to supply it to you.

Sincerely yours,

Harlan E. Anderson

HEA:ecp

Enclosures: F-10, B-3000, C-4000, C-1000, A-700

CC: Mr. T. G. Johnson  
Digital Equipment Corporation  
69 0 Sepulveda Boulevard  
El Segundo, California

Instruments For Measurements  
3455 Cahuenga Boulevard  
Hollywood, California



July 13, 1960

Mr. L. L. Lavanier, 4361-1 Purchasing Department  
Sandia Corporation  
P. O. Box 5800  
Albuquerque, New Mexico

Dear Mr. Lavanier:

RE: 52-2779 LLL

This will confirm our telephone conversation of Friday, July 8, regarding DEC System Building blocks and a comparison with Engineered Electronics Equipment. The first item on the above referenced requisition is the T-101-B model. Our nearest equivalent to this is DEC Type 4209 Dual Flip-Flop. Our unit differs in the following principal ways: (a) cost per flip-flop of \$39.50 each in quantities of one plug-in unit; (b) two extra gates for reading into this flip-flop are included in the package; (c) each flip-flop has an output amplifier on the zero and the one output; (d) the mechanical construction consists of a printed circuit card with a frame and individual plug which is mated to the connector (see photo and dimensions in enclosed literature); (e) static output levels are ground and -3 volts; (f) circuit has excellent fan-out ratio (output can drive 14 units of base load); (g) unit will operate at frequencies up to 500 KC.

Item 2 on the subject requisition is for Engineered Electronics Model T-103. The nearest equivalent DEC unit is the Quadruple Flip-Flop Type 4213. This unit differs principally in the following ways: (a) four flip-flops are contained in a single package; (b) the package also contains a pulse amplifier; (c) sufficient gating is included in the package so that it can be used as a 4-bit shift register or a 4-bit buffer register including read-in gates; (d) mechanical and output voltage swings are as indicated for DEC Type 4209 flip-flop above; (e) price per flip-flop is \$24.00 in quantities of one plug-in unit.

Item 3 calls for an Engineered Electronics Model T-105. The nearest equivalent DEC unit to this is Delay Type 4301 which differs in the following ways: (a) two output terminals (conventional level output and a pulse output for use in asynchronous timing);



Mr. L. L. Lavanier

- 2 -

July 13, 1960

(b) provision for gating of the input terminal; (c) convenient provision for internal or panel mounted coarse and fine controls for delay setting; (d) mechanical and voltage characteristics as above.

Item 4 calls for an Engineered Electronics squaring amplifier Model T-106. The nearest equivalent to this unit would depend on the application desired and would be one of the following: (a) DEC 4410 Pulse Generator, (b) DEC 4105 Inverter, or (c) DEC 1501 Level Standardizer. Technical details for each of these are included in the enclosed literature.

Current delivery is running six to eight weeks from receipt of a firm order. I would like to call your attention to the generous discount schedule that is described in our literature. These discounts are available for any mixture of the different models of our building blocks and are dependent only on dollar volume. Our terms are net 30 and all shipments are made f.o.b. Maynard, Massachusetts. All the prices described in the enclosed literature are certified to be the lowest available to anyone and place the Government and its prime contractors in the most favorable position. By this letter we quote that the prices shown will remain firm for thirty days from today's date, and we would be pleased to discuss application of our equipment to your work further at your convenience.

Thank you for this opportunity to quote on building block equipment, and we trust that you will find it acceptable.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp

Enclosures: 2 each C-4000, C-1000, B-3000, F-10, A-700  
Sandia Corporation Request for Quotation

CC: Ted Johnson



July 13, 1960

Mr. Stephen Loy  
System Development Corporation  
2500 Colorado Avenue  
Santa Monica, California

Dear Mr. Loy:

Thank you for the opportunity to submit an estimate of the equipment required to implement the typical system as specified in your drawing and notes. The specific equipment count is shown in the table attached to this letter. The general approach that has been utilized is shown in the attached block diagram. The most important unit in this particular configuration is DEC Quadruple Flip-Flop Type 4214 which is very similar to our Type 4213 described in the enclosed literature. The most important difference is that this unit is conveniently laid out for mixing of many pulse gates such as those required in your application. There are no pulse gates included in the 4214 unit itself, but it is normally used with the Type 4128 Capacitor Diode Gate Package. This unit has eight capacitor diode gates in two groups of four and a pulse amplifier associated with each group. The logical characteristics of this unit are shown on the attached block diagram.

The following comments are intended to augment the enclosed block diagram. In Section II, the first and last flip-flops of the counter are each half of a Type 4209 Dual Flip-Flop Package. The middle four flip-flops are Type 4201 which has a dynamic carry pulse (p-pulse) built into the package.

In Section III, the 3 x 3 sectional matrix method suggested in your notes can be implemented directly with our Type 4150 and Type 4151 units. These units use diodes for the decoding, but each output line has an inverter amplifier in it. The only difference between the units is the polarity of the selected line. The two-legged AND gates are merely a single inverter whose base is driven from one of the output lines of the 4150 and whose emitter is driven from one of the output lines of the 4151. These inverters are then used to gate the input-to-pulse amplifiers



Mr. Stephen Loy

- 2 -

July 13, 1960

which are being pulsed by the master clock. These time-gated clock pulses are then used to make the various transfers between registers in the rest of the equipment. All transfer gates are two-legged AND gates (Type 4128) with a pulse on one leg and a level from the appropriate flip-flop on the other leg.

The Input Registers, Transpose Register and Output Registers are all straightforward and consist of Type 4214 Quadruple Flip-Flops and the appropriate diode capacitor gates.

We attempted to comply with the basic ground rules that were contained in your notes. We are not sure, however, whether the following suggestion would be a violation of the ground rules that you laid down or not. It is possible to eliminate half of the diode capacitor gates used in making transfers if one thing of the transfer as a two-step process where the register to which the information is transferred is first cleared and then the new information read into the ONE side of the flip-flops. This economical feature can be used by our equipment since its upper frequency (500 KC) is in excess of your required frequency (100 KC). Our equipment count did not use this feature, although it could provide a significant saving in cost. The two steps would be separated in time by use of one of our pulse delay units, Type 4301.

It is a pleasure to have this opportunity to submit this estimate of the module count required for your typical system. We would be pleased to have an opportunity to get together with you and discuss it further at your convenience.

Sincerely,

Harlan E. Anderson  
Vice President

HEA:ecp

Enclosures: Block Diagram  
Equipment Count Table  
Product Bulletin Type 4213  
C-4000

CC: Ted Johnson  
Instruments For Measurements (2)



July 12, 1960

Mr. David Middleman, Controller  
Bolt, Beranek & Newman, Inc.  
50 Moulton Street  
Cambridge 38, Massachusetts

Dear Mr. Middleman:

Enclosed is the revised version of the lease for the Programmed Data Processor as we discussed it on the telephone recently. If after reviewing it you find it to be acceptable, please sign and return both copies to DEC for signature.

The equipment covered by this lease may be purchased in its entirety by Bolt, Beranek & Newman at any time upon payment of a sum equal to (1) the agreed valuation, less (2) a credit equal to rental payments made, reduced by multiplying said payments by the percentage figure shown in the attached table. If Bolt, Beranek & Newman exercises its termination option of the lease, then all purchase option credits would be immediately cancelled.

We view this lease as the beginning of a long and mutually beneficial relationship with BBN.

Sincerely,

Harlan E. Anderson  
Vice President

Enclosures: PDP Lease (2 copies)  
Purchase Option Table (2 copies)



July 12, 1960

Mr. Barron Kemp  
300 West Rio Grande Avenue  
Apartment #1  
El Paso, Texas

Dear Mr. Kemp:

Thank you for your interest in Digital Equipment Corporation computers. I am enclosing a set of literature which describes the products of DEC including the Programmed Data Processor computer. If you would like more detailed information on any of the products or glossy photographs, we would be happy to send them to you.

Sincerely yours,

Harlan E. Anderson

HEA:ecp  
Enclosures: CL



July 12, 1960

Miss Sally Ann Dolly  
Technical Librarian  
Auerbach Electronics Corporation  
1634 Arch Street  
Philadelphia 3, Pennsylvania

Dear Miss Dolly:

Thank you for your interest in Digital Equipment Corporation's PDP-1 computer. Enclosed are two copies of the PDP programming manual and a brochure describing the machine. I have also enclosed two copies of several other pieces of catalogue information on our other products. If you ever have need of more detailed information, please feel free to call on us.

Sincerely yours,

Harlan E. Anderson

HEA:ecp



July 11, 1960

Mr. J. Bodow, Electrical Engineer  
American Time Products, Inc.  
61-20 Woodside Avenue  
Woodside 77, New York

Dear Mr. Bodow:

Thank you for your letter of July 1, 1960, requesting literature on our System Building Blocks. I am enclosing with this letter copies of our folders describing our Series 1000 and Series 4000 System Building Blocks which operate at speeds up to 5 megacycles and 500 kilocycles respectively.

Should you wish additional information concerning these units, please feel free to contact us directly or our representative in your area;

Wild & Associates, Inc.  
1519 Northern Boulevard  
Roslyn  
Long Island, New York  
Telephone: MAYfair 1-8660

Thank you for your interest in DEC products.

Sincerely,

Harlan E. Anderson

BEA:ecp  
Enclosures: C-1000, C-4000

*C.C. Wild & Associates*



July 11, 1960

Mr. Warren G. Gough  
Sylvania Electronic Systems  
Mountain View Operations  
P. O. Box 188  
Mountain View, California

Dear Mr. Gough:

Thank you for your letter of June 30, 1960, requesting information about our building blocks. I am enclosing with this letter a copy of our folder describing the Series 1000 and Series 4000 units. The Series 1000 units will operate at frequencies up to 5 megacycles and include the delay Type 1304 which is essentially a multivibrator circuit. These units use germanium transistors and are intended for operation in normal environments ranging from approximately zero degrees Fahrenheit to 120 degrees Fahrenheit. Should you wish additional information concerning these units, I would suggest that you contact either the factory directly or our representative in your area:

Instruments for Measurements, Inc.  
241 South Murphy Avenue  
Sunnyvale, California  
Telephone: REgent 6-8680

Thank you for your interest in DEC products and let us know if we can be of further help.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosures: C-1000, C-4000, A-700

CC: Instruments For Measurements, Inc.



July 8, 1960

Mr. Robert A. Wolf  
79 Trowbridge Street  
Cambridge 38, Massachusetts

Dear Mr. Wolf:

Thank you for sending me a copy of your paper on the Hercules Machine Tool Company, Inc., which you wrote for your financial management course at the Harvard Business School. I found it very interesting and informative.

With regard to the possibility of employment at DEC, I do not feel that we have an opening well suited to your training and experience at the present time. As you can imagine, the openings in a relatively new company are much more limited than in a very large organization.

I am returning your paper as you requested with this letter and want to thank you very much for the interest that you have shown in DEC. If our situation should change, I will be sure to contact you.

Sincerely,

Harlan E. Anderson

Enc: (Paper)



July 8, 1960

Mr. C. Daniel Geisler  
Massachusetts Institute of Technology  
Graduate House  
Memorial Drive  
Cambridge, Massachusetts

Dear Dan:

Enclosed is the copy of our ARC program  
that I mentioned to you on Wednesday down at Bolt,  
Beranek & Newman.

Sincerely,

Harlan E. Anderson

HEA:ecp  
Enclosure: M-1086



July 7, 1960

Mr. Bruce Arden  
Computing Center  
University of Michigan  
Ann Arbor, Michigan

Dear Mr. Arden:

It was a pleasure to have an opportunity to tell you about our new Programmed Data Processor and to hear of the programming work that you people are doing at the University of Michigan.

I would like very much to have a copy of the MAD Manual that you showed me while I was in Ann Arbor.

Sincerely,

Harlan E. Anderson

HEA:ecp



July 1, 1960

Mr. Oliver J. Judd  
Rush S. Drake Associates  
1817 Norman Street  
Seattle 44, Washington

Dear Mr. Judd:

Enclosed are the facilities brochures which you requested in your memo of June 3. These were printed up quite some time ago, but are the only thing we have at the moment. We are sorry about the delay in sending these to you, but we don't seem to have any record of receiving your original memo.

Mr. Anderson asked me to tell you that he would get in touch with you regarding the reliability studies on our building blocks first thing this coming week.

Sincerely,

Eleanor Parker  
Secretary

ep  
Enclosures: Brochures