December 26, 1961 Mr. Milton T. Austin, Consultant Mauchly Associates, Inc. Fort Washington Pennsylvania RE: 61-F-232P Dear Mr. Austin: Thank you for your letter of Movember 30, 1961 requesting information concerning network technique programs. Digital Equipment Corporation does not have such information evailable at the present time. I am enclosing some descriptive Merature on our products which I hope you will find of interest. If we can be of service to you at any time in the future, please be sure to let us know. Sincerely, Harlan E. Anderson Enclosures: CL

December 22, 1961

American Airlines, Inc. 633 Third Avenue New York 17, New York

Attention: Mr. Wilson Howard

Gentlemen:

RE: Account #8994

Would you please issue a North American Card to Mr. Nick J. Mazzarese of our company.

Enclosed for cancellation are North American Cards for Mr.
Gordon Bell and Mr. Edson de Castro. Mr. Bell now holds an International Card, and Mr. de Castro is no langer with Digital.

Sincerely,

Harlan E. Anderson Vice President

HEA/P

December 22, 1961

American Airlines, Inc. 633 Third Avenue New York 17, New York

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Gentlemen:

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Sincerely,

Harlan E. Anderson Vice President

HEA/p

December 21, 1961

Mr. Ted Novis, Senior Buyer Beckman Instruments, Inc. Systems Division 2400 Harbor Boulevard Fullerton, California

Dear Mr. Novis:

Enclosed is the list of recommended spare modules for each

PDP-1 computer.

Sincerely,

Harlan E. Anderson Vice President

HEA/ecp Enclosures: List, F-702A

RECOMMENDED BASIC SPARE PARTS KIT FOR STANDARD PDP-1 COMPUTER

Qty.	Module	Unit Price
Qty. 2 2 2 1 1 1 1 1 1 2 1 1 1 1 1 1 1 1 1	1103 1104 1105 1110 1111 1150 1201 1204 1209 1213 1304 1310 1311 1410 1540 1607 1669 1684 1685 1701 1703 1972 1973 1978 1978 1978 1982 4105 4106	\$108 89 98 75 75 150 133 173 168 154 430 91 78 105 125 128 105 128 105 128 105 128 105 130 55 133 146 44 49 49 43
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		

Total \$4,966

December 20, 1961

Mr. C. D. Whitaker, Chairman EIA TR27.6.1 c/o The National Cash Register Company Dayton 9, Ohio

Dear Mr. Whitaker:

Thank you for inviting Digital Equipment Corporation to be represented in the formulation of punched card standards. Card utilization forms only a small part of our computer applications. For those applications, we plan to provide equipment compatible with present IBM cards. This will nametly be done by actually using IBM card equipment and manufacturing adapters to go between the card machines and our computer. In other cases, we may use card machines manufactured by other companies, but we will normally require that they be compatible with IBM's cards.

For the above reasons, it is doubtful if Digital Equipment Corporation would make any significant contributions to your subcommittee meetings; however, we certainly do appreciate your invitation to us to take part.

Thank you again for your courtesies.

Sincerely,

Harlan E. Anderson Vice President

HEA/ecp

December 20, 1961

Mr. H. J. Staple
Purchasing Department
Curtiss-Wright Corporation
Electronics Division
35 Market Street
East Paterson, New Jersey

Dear Mr. Staple:

This letter will confirm our telephone conversation held last week regarding the extension of the expiration date of your letter of intent covering PDP-1 computers. The new expiration date is December 22, 1961. All other consistions will remain the same.

Please feel free to contact us should you need additional information

Sincerely,

Harlan E. Anderson Vice President

HEA/ecp

December 8, 1961 AL 6-6811 Dr. J. E. Hind The University of Wisconsin Laboratory of Neurophysiology Department of Physiology 283 Medical Sciences Building Madison 6, Wisconsin Dear Dr. Hind: Some time ago you asked about the input impedance of our Type 1547 Difference AmpHifter. This is best defined by specifying the current requirements of the input. The input which is more positive takes I microamp of current. The input which is more negative gives out 1/10 of a microamp of current from the circuit. I hope this information will prove helpful to you, and if we can be of any further service, please feel free to call upon us. Sincerely, Harlan E. Anderson HEA/ecp

December 7, 1961

Mr. L. W. Gasper, Senior Buyer
Purchasing, Communication Products Department
General Electric Company
Mountain View Road
Lynchburg, Virginia

Dear Mr. Gasper:

I have received your letter of November 29, 1961 in which you request information on the AN UYK-1 Computer. This computer is manufactured by Ramo-Wooldridge Corporation, 8433 Fallbrook Avenue, Canoga Park, California.

Enclosed is a collection of literature describing our complete line of proprietary products, which I hope you will find of interest. If I can do anything further for you, please be sure to let me know.

Sincerely yours,

Harlan E. Anderson Vice President

HEA/p Enclosures: CL December 6, 1961

Headquarters
Air Force Logistics Command
United States Air Force
Wright-Patterson Air Force Base
Ohio

Attention: MCBP

Reference: Request for Planning Information

Gentlemen:

Thank you for your letter of November 3, 1961 inviting Digital Equipment Corporation to consider submission of a proposal on the task entitled "PCAM Replacement Study."

DEC does not choose to submit a proposal on this particular project. We do, however, appreciate your invitation and would like to remain on your mailing list in order that we may receive notification of your future needs.

Sincerely,

Harlan E. Anderson

December 6, 1961 Mr. Gary A. Robinson Box 487 Rollins College Winter Park, Florida Dear Mr. Robinson: Thank you for your recent inquiry requesting information on Digital Equipment Corporation. DEC stock is not publicly available at the present time, and therefore, no annual reports are available to the public. As you may know, we are a majority-owned affiliate of American Research & Development Corporation in Boston, Massachusetts, whose stock is currently being traded on the New York Stock Exchange. DEC manufactures a line of proprietary products which are described in the enclosed literature. Thank you for your interest in DEC. Sincerely yours, Harlan E. Anderson Vice President Enclosures: CL

December 5, 1961

Mr. Ted Navis, Senior Buyer Beckman Instruments, Inc. Systems Division 2400 Harbor Boulevard Fullerton, California

Dear Mr. Novis:

Your recent negotiations with DEC personnel regarding possible ordering of two PDP-1 Computers have been brought to my attention. We are pleased at your interest in our products and sincerely hope that they are suitable for your application.

However, I am concerned that you may have some misunderstandings surrounding the status of the OEC Programmed Data Processor (PDP-1).

First, it is a commercial proprietary product developed and manufactured by Digital Equipment Consoration. As such, it is produced on a regular basis according to DEC specifications and workmanship. The performance specifications are well occumented. The workmanship is our standard and, we believe, of high quality.

Beckmen technical personnel had an opportunity to inspect a PDP-1 on their recent visit to Maynard to draw their own conclusions regarding DEC quality. In addition, there is now a PDP-1 installed in California where further inspections can be arranged through Ted Johnson, if desired.

To build the PDP-1 according to your manufacturing methods, Actron manufacturing methods and to your specifications is incompatible with the commercial nature of the product. Not only would the cost to you be significantly greater, but our present production commitments to other priority-rated programs would prevent our seriously considering the possibility at this time. The study of your Workmanship Manual and specifications

Mr. Ted Novis 2. December 5, 1961 for preparation of a list of exceptions is a task which is costly, time consuming and inappropriate to the commercial circumstances that exist. The Beckman proposed contract specification is much too broad to be acceptable to DEC. The references to IRE, AIEE and the other industry specifications illustrate this point. Inclusion of the Actron specifications in the PDP-1 purchase order implies a system responsibility on DEC for beyond the PDP-1. Instead, we propose to supply only the PDP-1. Responsibility for its suitability in this system is strictly a Beckman responsibility. In view of the above, we propose for your consideration that this purchase be done on the following commercial basis: 1. Specifications for the POP-1 are as described in DEC Bulletin F-11A attached. 2. The following standard cotion can be provided: Multiply and Divide Type 10 per DEC Bulletin F-11A attached. 3. Secial mout-output lines can be provided per Section 3.7 of Beckman Specification No. 855-850825. 4. The outer doors and end panels, but not the operator control concis will be painted with Aerojet Gray Baking Enomel No. 68AP29. The computer typewriter will be painted with a single color, rough texture paint manufactured by Raffi-Swanson Company of Wilmington, Mass, to metch the Aerolet Gray. 5. Over temperature protection will be provided so that power will be automatically turned off if the temperature becomes excessive. A manual override will be made available. 6. DEC standard workmanship will be used throughout the manufacture. The workmanship will be equal to or superior to the PDP-1 Computers inspected by Beckman personnel.

7. The net prices are as follows:

Item	1	ALAC:	SI	20,000	each
Item	2			10,300	PHOREST 174.
Item	3			2,500	each
Item	4		100	500	each
Item	100			230	each

- 8. DEC will provide full warranty for six months following delivery. This includes all parts and labor necessary to remove any deficiency in design or manufacturing of the PDP-1 at DEC expense. Following this normal warranty period, we will repair any DEC System Module or DEC Power Supply at our factory at no cost to Backman until January 1, 1964. Shipping charges both ways to be paid by Backman. No other parts of the PDP-1 are covered by this second phase varianty. The above warranty does not cover consequential damages of any kind.
- 9. A simple status report will be mailed once each month reporting the current production status of the PDP-1.

 Beakman personnel may observe the machines being produced for beckman at the DEC factory in Maynard at any time and as often as you wish to further enhance status information.
- 10. Our terms are lifty per cent payment thirty days after delivery and acceptance, and fifty per cent payment sixty days after delivery and acceptance.
- Prices are f.o.b. Maynard, Massachusetts and do not include local, state, federal or other taxes. Specifically, any federal excise tax is not included in the above orices.
- Shipments can still be made on March 21, 1962 and April 18, 1962 if questions surrounding specifications and workmanship can be resolved in the very near future.

Mr. Ted Novis December 5, 1961 We look forward to doing business with Beckman. However, we think that it is very important that there be no confusion on the above points. We are treating your Purchase Order No. 517734 as tentative pending a resolution of these questions. I would like to stress again that the responsibility for determining the suitability of the PDP-1 for your application is a Beakman role. To manufacture in any nonstandard way other then these mentioned above would be impractical for us and extremely costly to you. On behalf of DEC, I would like to applogize for the inconvenience or delay that this matter may be causing you. The full impact of your request for us to manufacture our standard product to your specifications at a lower than normal price had not been adequately understood by us until very recently, since we have not mer this situation before. I will plan to telephone you in the next few days to discuss the matter with you. Sincerely, Horlan E. Anderson Vice President HEA/ecp Enclosures: F-VIA Point CC: Mr. T. Johnson, DEC Mr. B. Gurley, DEC

December 1, 1961

Hertz Corporation Newark New Jersey

Gentlemen:

This letter certifies that Mr. Leo Gossel is an employee of Digital Equipment Corporation and will be traveling in the New Jersey area on company business.

Mr. Gossel is authorized to charge to Hertz Account No. 1249 917 0001 2.

Sincerely,

Harlan E. Anderson Vice President

HEA/Iw

November 22, 1961

Mr. LeRoy E. Linz Avco Corporation Electronics & Ordnance Division 2630 Glendale-Milford Road Cincinnati 15, Ohio

Dear Mr. Linz:

Ref: Your Letter of November 10, 1961

In response to your letter of November 10, 1961, Digital Equipment Corporation is pleased to submit the following fixed price quotation. The following prices do not include any sales taxes, use taxes or excise taxes which may be applicable. Our terms are net 30 days, and all shipments are f.o.b. Maynard, Massachusetts.

A. Equipment:

Item No.	<u>Item</u>	Price
1.	PDP-1 Computer per DEC literature attached	\$120,000 each
2.	Real Time Channel (Capable of a block transfer of information to or from internal memory at a rate of approxi- mately 160,000 words per second.)	20,000 each
3.	Sequence Break Interrupt (Single channel included in Item 1 above.)	No Charge
4.	Cathode Ray Display Type 30 (Switching not included.)	10,300 each
5.	Card Reader Control Type 41-523 (Above permits PDP-1 to use an IBM Type 523 Summary Punch as a card reader.) IBM Type 523 not included in this quote.	8,000 each

Item No.	<u>Item</u>	Price
6.	Card Punch Control Type 40-523 (Above permits PDP-1 to use an IBM Type	\$ 15,000 each
7.	523 Summary Punch as a card punch.) IBM 523 not included in this quote.	
7.	Soroban Typewriter for on-line use included in Item 1 above.	No Charge
8.	Teletype Corporation Paper Tape Punch operating at 63 characters per second included in Item 1 above.	No Charge
9.	Digitronics Corporation Paper Tape Reader operating at 200 characters per second included in Item Labove.	No Charge
10.	Anelex Line Printer and Control Type 61	72,800
11.	Magnetic Tape Handler Control:	
,	DEC Type 52 (Automatic)	7,500 each
	DEC Type 51 (Programmed)	38,000 each
12.	Magnetic Tope Handler Type 50	18,000 each
13.	Spare Parts	Will advise later

B. Services:

1. Engineering Assistance:

As specified in Avco letter of November 10, 1961 No Charge

2. Handbooks:

As specified in Avco letter of November 10, 1961 No Charge

The FRAP Assembly System will be supplied. In addition, subroutines suitable for read-in, memory dump, tracing, and debugging will also be provided.

No Charge

4. Training:

Instruction in programming and operating the PDP-1 including machine experience will be provided at Digital's factory in Maynard, Massachusetts for a maximum of four people for two weeks at no charge.

On-the-job maintenance training at Digital's factory for two weeks for two persons can be provided at no charge. This program is for electronic engineers or technicians who have had at least one year of practical electronic experience, preferably with data processing type equipment.

C. Environment:

- 1. Temperature: 70±20°F.
- 2. Humidity 20 75%.
- 3. Duty: Continuous.
- 4. Primary Power: 115V. A.C., 60 cycles/sec., single phase.

D. Terms:

- Digital Equipment Corporation warrants that the equipment will be free from design and manufacturing defects for a period of six months following delivery. Any defective equipment will be repaired or replaced by DEC at DEC option and at DEC expense.
- Normal delivery is approximately six months after receipt of order.
 Second machine would be one month later. A firm delivery date will be established when a firm order is placed.
- 3. Schedule progress will be passed on to Avco as construction progresses.

Mr. LeRoy E. Linz November 22, 1961 4. Current requirements for a basic PDP-1 are 20 amps or less. 5. The manufacturers of peripheral equipment are mentioned above. The magnetic tape drive is manufactured by Potter Instrument Corporation. 6. Literature is enclosed for the PDP-1. 7. This proposal is submitted on a fixed price commercial basis. All prices are f.o.b. Maynard, Massachusetts and do not include federal excise tax or state sales or use taxes which will be added to invoices where applicable. Terms are net 30. This quotation will be held firm for sixty days unless extended or accepted prior to that time. Thank you for this opportunity to submit this quotation for your consideration. If you should have any questions concerning it, please feel free to contact me. Sincerely, Harlan E. Anderson Vice President HEA/ecp Enclosures:

November 21, 1961

Mr. Edward Spignese
Itek Laboratories
10 Maguire Road
Lexington 73, Massachusetts

Dear Mr. Spignese:

Enclosed is the literature which I promised to send you when speaking with you on the phone today.

Sincerely,

Harlan E. Anderson

60

Enclosures: Complete Catalog

1204 Bulletin

Mr. Malcolm M. Hubbard Vice President - Technical Itek Laboratories Lexington 73, Massachusetts

Dear Mr. Hubbard:

Enclosed is the list of recommended spare part modules which you

requested.

Sincerely yours,

Benjamin M. Gurley

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Enclosure: 1

Basic Spare Parts List for Standard PDP-1 Computer with Automatic Multiply & Divide

Model	Quantity	Unit Price	Total
1103	2	\$108	\$216
1104	2	89	178
1105	2	98	196
1110	1	75	75
1111	1	75	75
1150	1	150	150
1201	2	133	266
1204	2	173	346
1209	2	168	336
1213	1	154	154
1304	1	130	130
1310	1	91	91
1311	1	78	78
1410	1	105	105
1540	2	141	282
1607	2	130	260
1669	1	58	58
1684	1	125	125
1685	1	128	128
1703	. 1	30	30
1972	2	200	400
1973	1	130	130
1976	2	55	110
1978	1	133	133
1982	1.	146	146
4105	1.	44	44
4106	1	49	49
4110	1	43	43
4111	1	43	43
4112	3	68	68
4113	2	68	136
4126	ì	68	68
4128	1	40	40
4129	1	40	40
4201	1	69	69
4209	1	79	79
4214	1	96	96
4301	1	80	80
4410	1	59	59
4603	2	89	178
4681	1	75	75
		TOTAL	\$5,365

November 17, 1961

Mr. James Moore, Corporate Counsel
Itek Corporation
Spring Street
Lexington, Massachusetts

Dear Mr. Moore:

I enjoyed the opportunity to meet you last Friday and discuss our normal terms and conditions for PDP-1 sales. We at DEC look forward with enthusiasm to your drafting machine plans.

The specific conditions surrounding our quantity discount policy as I outlined it to you are the following:

- 1. If six or more PDP-1 Computers are included in a single purchase order for delivery within eighteen months of the date of order, the prices are subject to a 10% discount. These discounts apply to all standard options as well as the basic machine.
- The purchase order must contain a delivery schedule which
 is mutually acceptable to Itek and DEC (at the moment,
 not more than one computer a month). As your requirements
 grow, we are quite certain that our capacity to produce
 will keep pace.
- 3. Six months before the scheduled delivery date of any PDP-1, you must notify us of the details of the configuration; i.e., which options are desired. Or, you have the privilege of cancelling that particular machine any time prior to six months before the scheduled delivery date at no penalty.

5. If cancellations cause the total number of machines which are delivered under the purchase order to drop below six, the quantity discount of 10% is lost for all machines including those which were previously delivered. This may involve a payment of money to DEC.

I hope the above will be helpful to you. Regarding the proprietary disclosure statement, I am enclosing copies of the types of agreements used by IBM and Telemeter Magnetics as samples. Normally, a written description of what is being disclosed is attached to this agreement. After examining these two typical agreements, I would appreciate your returning them to me.

I have discussed with some of our people the questions you raised pertaining to an assured source of supply. As I indicated, we would be very reluctant to enter into any agreement which would automatically allow litek to manufacture PDP-1 Computers if we failed in some minor way to meet your needs. It would probably be acceptable, however, to have a statement in the purchase order to the effect that we would be willing to negotiate a license if we had a disasterous fire which jeopardized our ability to meet your needs, or if we were unwilling to accept firm orders.

I would like to take this opportunity to thank you for your time and interest in discussing these questions. Since meeting with you, I have given some further thought to the question of patents and have concluded that a dynamic marketing effort which utilizes the head start that now exists is the only sure way to protect your position in the market.

Sincerely,

Harlan E. Anderson Vice President November 16, 1961

Mr. Robert L. Plouffe, Jr. Stelma, Inc. Henry Street Stamford, Connecticut

Dear Mr. Plouffe:

Here is the literature I promised to send to you when speaking with you on the phone today.

If we can do anything else for you, please be sure to let us

Sincerely,

Harlan E. Anderson Vice President

ep Enclosure: Complete Catalog November 15, 1961

Headquarters
Continental Air Command
United States Air Force
Robins Air Force Base
Georgia

Attention: CSS

Gentlemen:

Subject EOP Proposal

Thank you for your letter of November 1 regarding your proposed installation of an Electronic Data Processing System.

Digital Equipment Corporation will not be submitting a proposal for this particular project.

I am enclosing descriptive literature on our complete product line which I hope you will find of interest, and if we can be of service to you at any time in the future, please be sure to let us know.

Sincerely yours,

Harlan E. Anderson Vice President

ep Enclosures: CL November 14, 1961

Mr. Samuel Labate, Executive Vice President Bolt, Beranek and Newman, Inc. 50 Moulton Street Cambridge 38, Massachusetts

Dear Mr. Labate:

This letter will confirm our recent verbal discussion regarding possible extension of our contract with BBM for DECAL programming. As you know, we are hopeful that the Air Force will be able to financially support the continuation of this work in the near future. In the event that no such support is available in the form of a BBM contract within six months, Digital Equipment Corporation will provide up to a maximum of \$10,000.00 in addition to our present contracts with BBM.

We look forward to obtaining the DECAL results so that they can be distributed among the owners of PDP-1 computers. We think that DECAL will provide a major assistance to our customers. Please feel free to contact me if you have any questions pertaining to the above information.

Sincerely,

Harlan E. Anderson Vice President

HEA/ecp

November 14, 1961

Mr. F. L. Nicholls, Purchasing Manager Curtiss-Wright Corporation Electronics Division 35 Market Street East Paterson, New Jersey

Dear Mr. Nicholls:

Thank you very much for your letter of November 1, 1961 indicating your intention to enter into a firm contract for the purchase of two PDP-1 Computers. I have signed this acceptance and have noted on the back the guarantee exceptions that we find necessary. I have previously discussed this with Mr. Stople and have followed the procedure suggested by him.

May we take this opportunity to wish you success in submitting your proposal to your potential customer. If we can be of any further service, please feel free to call upon us.

Sincerely,

Harlan E. Anderson Vice President

HEA/ecp

Enclosure: Curtiss-Wright letter of 11/1/61

October 31, 1961

Mr. John Willis Avco Corporation Electronics and Ordnance Division Glendale-Milford Road Evendale 41, Ohio

Dear Mr. Willis:

Enclosed is the literature than I promised to send to you when talking with you on the phone today.

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

Sincerely,

Harlan E. Anderson

ep Enclosures: F-25, A-400B October 27, 1961

Mr. Lee Gallagher Bell Telephone Laboratories, Inc. Room 3B-018 Whippany, New Jersey

Dear Mr. Gallagher:

This letter will confirm our verbal discussion of today in which I indicated that Digital Equipment Corporation has no objection to Bell Telephone Laboratories' using the DEC symbology on drawings which you people are originating.

If you have any further questions pertaining to this, please feel free to call upon me at your convenience

Sincerely,

Harlan E. Anderson Vice President

HEA/ecp

CC: Dave Denniston

October 27, 1961

Mr. Harold Copperman
1.T.T. Information Systems Division
67 Broad Street
New York 4, New York

Dear Mr. Copperman:

I am enclosing with this letter some of our commercial literature on the PDP-1 Computer which you may find interesting in considering what types of photos you would like to have for your ADX work. I am also enclosing a little map showing how to come to our plant in Maynard. We have made a reservation in your name at the Colonial Inn in the center of Concord for Manday and Fuesday nights, November 6 and 7. I will mention our conversation to Mr. Atwood, so that he will be aware of the plans prior to your arrival. In the event that the special console for your equipment is delayed, we will contact you on Friday, November 3, to reschedule the photography. We will plan to use our camera equipment and personnel unless we hear from you.

I look forward to meeting you at that time.

Sincerely,

Harlan E. Anderson Vice President

HEA/ecp Enclosures: Map, F-11A, F-15B October 26, 1961

Mr. W. K. Bishoff, Business Manager Systems Research Laboratories, Inc. 500 Woods Drive Dayton 32, Ohio

Dear Mr. Bishoff:

I would like to take this opportunity to thank you for your recent order #254-9128 for the PDP-1 computer. I very much enjoyed the recent visit of Mr. Russ to our plant, and we at Digital look forward to this as the beginning of a mutually satisfactory business relationship.

I am enclosing a recommended list of spare modules for your PDP-1 in Exhibit A. These are all standard DEC parts as specified in the enclosed literature.

The typewriter, paper tape punch, and paper tape reader are the other major components for which you may want to consider having spares. In critical applications where down time could jeopardize some data collection process, such as missile data, we at DEC recommend that you have the following spares, also:

PDP-1 Computer Typewriter	\$2,800/each
PDP-1 Paper Tape Punch	\$1,050/each
PDP-1 Paper Tape Reader	\$3,300/each.

The above spares can be delivered with the computer if they are ordered four(4) months prior to delivery. The modules need not be ordered until one(1) month before delivery.

-2-October 26, 1961 Mr. W. K. Bishoff I have requested our Gordon Bell to contact the appropriate technical personnel at SRL to arrange a visit in Dayton to go over technical questions relating to this application of the PDP-1. Thank you for this opportunity to serve you and let us know if we can be of any further help. Sincerely, Harlan E. Anderson Vice President HEA/bk Enclosure - Exhibit A

EXHIBIT A

Spare Module Recommendation

Standard Computer, High Speed Channel, Input Sample Packing Modification:

Quantity	Module	Price
Quantity 2 2 2 1 1 1 1 2 2 2 1 1 1 1 2 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 1 2 1 1 1 2 1 1 1 1 2 1 1 1 1 2 1 1 1 1 1 2 1 1 1 1 2 1 1 1 1 1 2 1	1103 1104 1105 1110 1111 1150 1201 1204 1209 1213 1304 1310 1311 1410 1540 1607 1669 1684 1685 1703 1972 1973 1976	\$108 89 98 75 75 150 133 173 168 168 164 130 91 78 105 141 130 58 125 128 30 200 130 55
	1978 1982	133 146
1 2 1	4105 4106 4110	44 49 43
1 1 2 2	4111 4112 4113	43 68 68
	4126 4128 4129	68 40 40
2 1	4201	69

EXHIBIT A - Page 2

Quantity	Module	Price
1 1 1 2 2 1	4209 4214 4301 4410 4603 4680 4681	\$ 79 96 80 59 89 60 75
CRT Display:		4
	1562 1564 1567 1705 4213 4677 4688	140 180 480 185 96 75 65
Light Pen:	\bigcirc	
1	1559	145
Magnetic Tape Transport Type	501	
	1542 1549 4514	122 189 65
Magnetic Tape Control Unit	Pype 51:	
	1539 4127 4215	112 68 90

October 25, 1961

The Commissioner of Patents Washington 25 D. C.

Dear Sir:

Please send one copy each of the patents indicated on the

enclosed patent coupons.

Sincerely yours,

Harlan E. Anderson

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Enclosures: & Patent Coupons

October 24, 1961 Hertz Corporation Newark New Jersey Gentlemen: This letter certifies that Mr. John MacKeen is an employee of Digital Equipment Corporation and will be traveling in the New Jersey area on company business. Mr. MacKeen is authorized to charge to Hertz Account No. 1249 917 0001 2. Sincerely, Harlan E. Anderson Vice President HEA/ecp

October 24, 1961

Electronic Systems Division Air Force Systems Command Laurence G. Hanscom Field Bedford, Massachusetts

Attention Miss Mary M. Doherty, Administrative Contracting Officer

Gentlemen:

Subject: Proposed Amendment for Contract No. AF19(604)-8439

In response to your recent request for a cost breakdown for installing a 40% Word Memory in the system being assembled above, Digital Equipment Corporation is pleased to provide the following information:

Type 12 Memory Modele per attached literature \$30,000.00

The above is a standard DEC product, and we hereby warrant that the price charged to the U.S. Air Force is the lowest quoted to anyone.

I trust that the above information will be helpful to you. Please let me know if there is anything further that I can do for you.

Sincerely,

Harian E. Anderson Vice President

HEA/ecp Enclosure: F-11 Mr. Robert Smith
Foxboro Instrument Company
Foxboro, Massachusetts

Dear Mr. Smith:

Ref: P.R. No. 1737

As a result of recent technical discussions between Foxboro personnel and DEC personnel, we are pleased to propose use of the Programmed Data Processor - 4 (PDP-4) for use in the above referenced purchase requisition. This machine is specified in the attached exhibit. It will be manufactured from DEC System Modules which are a well-accepted line of digital circuits unliked in our PDP-1 Computer.

Item 1	Basic PDP-4 including 1024 words of memory and a Teletype Reader (Series 28) operating at a speed of 10 lines/second.	\$30,000.00
Item 2	Digital to Analog Converter having 8 bit accuracy.	1,200.00/each
Item 3	Logical Connection for D/A Converter to PDP-4.	150.00/Converter
Item 4	Logical Connection for Soroban Single Character Keyboard to PDP-4.	150.00
Item 5	Teletype Printer (Series 28) without keyboard including all equipment necessary to operate it with the PDP-4.	3,000.00

A system having 3 D to A units would thus cost \$37,200. The following optional features may also be of interest in connection with your application:

Item 6 \$ 5,250.00 Automatic Teletype Send Receive Set Model 28 including Punch, Reader and Printer and equipment necessary to operate with PDP-4. Item 7 4096 Words of Memory instead of the 6,000.00 increase basic 1024. Must be ordered initially with the machine. Our standard terms are net 30 days, and all shipments are made f.o.b. Maynard, Massachusetts. Delivery of the PDP-4 can be made during the month of May, 1962, if an order is placed before 1 December 196). The prices in this letter will remain in effect for sixty (60) days. DEC warrants that the PDR-4 will function as described in the attached specification and will be free from design and manufacturing defects for a period of six (6) months after delivery. DEC's obligation under this warranty is limited to promptly supplying materials and services to rectify any defects. No consequential damages of any kind are devered by this warranty. We look forward to the opportunity to provide this unit to you and are confident that you will find it very satisfactory for your application. Should you wish further technical information, please feel free to contact me. Sincerely, Harlan E. Anderson Vice President HEA/ecp Enclosure: Technical Description

- 2 -

October 20, 1961

Mr. Robert Smith

October 17, 1961 Mr. Donald Hodges Argonne National Laboratory Lemont, Illinois Dear Mr. Hodges: Enclosed is a preliminary copy of the PDP-1 In Qui Systems Manual, which I promised to send you at the National Electronics Conference in Chicago. I think you will find this will answer many of the questions you had relating to the PDP-1 for use in bubble chamber work. Please let us know if we can so anything else for you. Sincerely, Harlan E. Anderson HEA/ecp Enclosure: Manual

October 6, 1961

Ref: BO-10

Mr. Paul G. Carney
Field Office Manager
U. S. Department of Commerce
Field Services
80 Federal Street, Room 230
Boston, Massachusetts

Dear Mr. Carney:

In connection with my recent trip to The Notherlands, I would like to thank you and the Department of Commerce for the field services that are offered to U. S. businessmen. My trip was primarily exploratory, and I did not require any specific services of our Overseas Government Offices. I did visit the Embassy in The Hague and found the people to be pleasant, cooperative and well informed on local conditions. They were helpful in getting me acquainted with The Netherlands Industrial Institute, which I found particularly beneficial.

I hope the above comments will be helpful to you in your work.

Sincerely,

Harlan E. Anderson Vice President

HEA/ecp

October 6, 1961 Mr. David E. Bell, Director Bureau of the Budget Executive Office of the President Washington 25, D. C. Dear Mr. Bell: I have read with interest your letter of October 2, 1961, requesting the participation of Digital Equipment Corporation in your Computer Orientation Conference. We would be very pleased to cooperate in any way that we possibly can with your plans. We plan to have one of our new Programmed Data Processors (PDP-1) on display at the Eastern Joint Computer Conference and would plan to display this and related equipment for your Conference, if this is compatible with your plans. We have designated the manager of our Washington Office to be our principal representative in coordinating plans for this Conference. I will forward a copy of our correspondence to him. His name is Mr. Robert Beckman, and his address is Digital Equipment Corporation, 724 14th Street, N.W., Washington 5, D. C. His telephone number is NAtional 8-4262. I would like to take this opportunity to thank you for inviting us to participate, and we wish you every success in accomplishing your objectives. Sincerely, Harlan E. Anderson Vice President HEA/ecp cc: Mr. Robert J. Beckman

September 27, 1961 General Electric Company 13430 North Black Canyon Highway Phoenix, Arizona Attention: Mr. C. T. Rice Dear Mr. Rice: Thank you for your recent letter requesting information about Digital Equipment Corporation. DEC stock is not publicly available at the present time and, therefore, no annual reports are available to the public. As you may know, we are a majority-owned affiliate of American Research & Development Corporation in Boston, Massachusetts, whose stock is currently being traded on the New York Stock Exchange. DEC manufactures a line of proprietary products which are described in the enclosed literature, which we hope you will find interesting. Thank you for your interest in DEC. Sincerely,

> Harlan E. Anderson Vice President

bb Enclosures: CL September 25, 1961

Hertz Corporation Newark New Jersey

Gentlemen:

This certifies that Mr. William Newell is an employee of Digital Equipment Corporation and will be traveling on company business. Mr. Newell is authorized to charge to Hertz Account No. 1249 917 0002 0.

Sincerely yours,

Harlan E. Anderson Vice President

ep

File

September 19, 1961

Sylvania Electric Products, Inc.

Sylvania Electric Products, Inc. Systems Engineering & Management Operation 189 B Street Needham Heights 94, Massachusetts

Attention: Mr. W. F. Scannell, Administrator Subcontract Administration

REFERENCE: No. SNC(s) 6

Gentlemen:

We are pleased to submit the following quotation for one(1)
PDP-1 Prototype System for your consideration. Terms, delivery, and
other conditions will remain firm for forty-five(45) days, or through
November 3, 1961.

The following items listed below state Digital Equipment Corporation's ability to fulfill the technical requirements of deliverable items and services for this computer:

ITEM 1 -

- A. One(1) Standard General Purpose Digital \$120,000.00 Computer, to be delivered seven(7) months after contract award, including:
 - 1.) Central Processor (4096 word memory)
 - 2.) Central Console
 - 3.) Punched Tape Reader (400 cps)
 - 4.) Punched Tape Punch (63 cps)
 - 5.) Alphanumeric Typewriter
 - 6.) One Channel Sequence Break
 - 7.) Input/Output Instruction Control Panel

- B. Magnetic Core Memory Module (Type 12), \$ 30,000.00 with 4096, 18-bit words; 5 us Read/ Rewrite Time.
- C. Magnetic Core Memory Field Control 10,000.00 (Type 13), for memory expansion to 16,384, 18-bit words.
- D. Two(2) Magnetic Tape Transport(Type 50).

 Transfer rate 15,000 cps with 200 bits/
 inch and compatable with IBM(Standard IBM
 Tape Format) \$18,000.00/each 36,000.00
- E. Magnetic Tape Control Unit(Type 51). 7,500.00 Character-at-a-time transfers programmed control.
- E(1).Magnetic Tape Control Unit (Type 52). 38,000.00 High-speed Input/Output Channel Block transfers automatic control.
- F. Four hundred (400) hours of off-peak hour program check-out time in Maynard, Massachusetts, between 4% months and 8 months supplied after contract award, concurrent with the delivery of Item 1. No Charge
- G. It is advisable to add Automatic Multiply and
 Divide(Type 10). 10,300.00
- Parts necessary to service equipment, keeping it in state of operational readiness, delivered concurrently with Item 1. 5,500.00
- Maintenance and operational training of engineers will be furnished and completed concurrently with the delivery of Item 1. No Charge
- Special tool and test equipment. Commercially Available
 All diagnostic programs supplied one(1)

month after contract awarded. Membership in a program-sharing association of PDP-1 Users, DECUS.

No Charge

- Outside purchase of a Tektronix Oscilloscope advised.
- Final acceptance test procedures can begin thirty(30) days prior to acceptance.
- Final acceptance test, prototype, to begin within two(2) weeks after delivery to Customer's plant and before its connection to any other equipments.
- ITEM 8 -
- A. Beginning seven(7) months after Systems
 Contract Award for the first computer, one(1)
 Duplex Computer (similar in all respects to
 Items 1, 2 and 3 above) to follow at one(1)
 month intervals for the remaining seven(7)
 computers.
- B. Program check-out time on these or similar equipment at DEC's plant between four(4) to eight(8) months after contract award will be conducted during off-peak hours.

 No Charge
- Concurrent with delivery of Item 8, parts necessary to service equipment, keeping it in a state of operational readiness, for the remaining computers will be supplied at \$5,500.00 each 4 sets \$ 22,000.00
- Maintenance and operational training will be conducted in compliance with conditions stated in Item 3 above. Training will be at intervals of three(3) months, commencing three(3) months after contract award, at Maynard, Massachusetts. No Charge
- Outside purchase of Tektronix Oscilloscope advised.

 All diagnostic programs will be supplied. No Charge

ITEM 12 -

Same as Item 7.

ITEM 13 -

- 1.) One(1) Master Technical Report will be submitted monthly.
- 2.) (See Qualifications and Assumptions).
- A Final Report will be submitted thirty(30) days after final acceptance.

ITEM 14 -

Concurrent with delivery of Items 1 and 8, necessary and pertinent manuals and handbooks describing equipment's operation and maintenance will be supplied(1 set per computer).

No Charge

Drawings to be negotiated later per Sylvania's request.

ITEM 16 -

Master Schedule and Monthly Reports suitable for use in a PERT-type management reporting system will be negotiated.

ITEM 17 -

One(1) Computer System, identical to Items 1, 2, and 3, to be used as duplex portion of prototype can be delivered six(6) months after Systems Contract Award.

ITEM 18 -

A quantity discount of ten per cent(10%) from standard list prices is applicable to any order for six(6) or more PDP-1 Computers, provided the delivery schedule as agreed upon does not extend more than eighteen(18) months beyond the order date. Orders may be cancelled without penalty not later than six(6) months prior to the scheduled delivery date, but any cancellation which reduces the number of PDP-1 Computers on any one(1) order below six(6) shall make the quantity discount inapplicable to subsequent shipments and Sylvania shall repay the unearned discount to Digital Equipment Corporation. This discount does not apply to spare parts.

Technical Report -

- a.) Description of the equipment and its operation is fully discussed in the enclosed literature.
- b.) The physical dimensions are as follows:

 <u>Basic Machine</u>: Length 98.5 inches, Width 24.5
 inches, Height 69.5 inches.

Magnetic Tape Unit: 2 tape units, Length 40 inches, Width 24.5 inches, Height 69.5 inches.

- c.) Suitable environmental operational conditions for the PDP-1 are as follows:
 Ambient room temperature (50°-110° F.) and Relative Humidity (20%-70%).
- d.) Resistance of the equipment to shock and radiation not known.
- e.) The power requirements are as follows:

 Basic Machine: 115 volts, 60 cycles per second
 (plus or minus one cycle), single phase, 1500
 watts.

 Each Magnetic Tape Unit: 500 watts average 1800
 watts peak.
- f.) Air conditioning is not required, when used in compliance with environmental specifications as stated in (c.) above, but it is recommended where magnetic tapes are used.

Cost Data -

See Items 1 through 17 above. This quotation is submitted on a commercial catalog item basis.

Qualifications and Assumptions -

(Reference Item 13(2.)).
All units are standard catalog items; therefore, financial data will not be required.

b.) Line Printer and Control(Type 62)
600 lines per minute
120 columns per line
64 characters per column
Automatic character decoding \$ 72,800.00
(The Central Processor is available for significant computing while the above Line Printer
is in operation.)

ITEM 3 -

Spare Typewriter.
A spare typewriter is recommended.

2,600.00.

Warranty -

Digital Equipment Corporation warrants this equipment to be free from design and manufacturing defects for a period of six(6) months following delivery. DEC's obligation under this warranty is limited to repair or replacement of the defective part or parts of the system at DEC's discretion. No consequential damages of any kind are covered by this warranty. Maintenance of the equipment during this warranty period will be provided by DEC at no charge.

DEC standard terms are Net thirty(30) days, and all prices are f.o.b. Maynard, Massachusetts.

Thank you for this opportunity to bid on the above, and please do not hesitate to call on me if you have any questions.

Sincerely yours,

Stanley C. Olsen Sales Manager

sco/bk

Enclosures

September 19, 1961

Mr. Noel T. Smith Machine Room Supervisor University of Oklahoma Computer Laboratory Norman, Oklahoma

Dear Mr. Smith:

Thank you for your letter of 15 September 1961 expressing interest in the PDP-1 and DECAL literature. I am enclosing with this letter the information you have requested, and hope that you find it interesting.

If you find that the enclosed information is of interest to others at the University, I would be more than pleased to furnish additional copies. Thank you very much for your interest in our equipment.

Sincerely,

Harlan E. Anderson Vice President

HEA/bbb Enclosures: PDP-1 Manual

DECAL Manual

September 18, 1961

Mr. H. W. Strong, Financial Director
1.T.T. Information Systems Division
580 Winters Avenue
Paramus Industrial Park
Paramus, New Jersey

Dear Mr. Strong:

Attached to this letter is a confidential balance sheet for Digital Equipment Corporation. These figures are based on our June 30, 1961 Balance Sheet, which was audited by Lybrand, Ross Bros. & Montgomery. A copy of their Audit Certificate is also attached. I am enclosing a copy of the American Research & Development Corporation Semi-Annual Report for the period ending June 30, 1961.

I hope that you find the enclosed information useful for your analysis of DEC's financial position. I would like to again extend an invitation to you to visit our facility here in Maynard, Massachusetts, at any time in the future.

Sincerely,

Harlan E. Anderson Vice President

HEA/ecp

Enclosures: DEC Balance Sheet
Auditor's Certificate
AR&D Semi-Annual Report

September 18, 1961

SPECIAL DELIVERY

Miss Paula Frank American Airlines, Inc. 633 Third Avenue New York 17, New York

Dear Miss Frank:

Would you please issue a restrictive individual International Air Travel Card to Mr. Gordon Bell of our company. The street address for Digital Equipment Corporation is 146 Main.

Mr. Bell is leaving for Europe on Friday night, and we would greatly appreciate anything you could do to see that we receive this card by Friday.

Sincerely,

Harlan E. Anderson Vice President September 14, 1961

Mrs. Van Horn Sylvania Company 100 Sylvan Road Waltham, Mass.

Dear Mrs. Van Horn:

Enclosed is the literature we spake of this morning.

Sincerely,

Harlan E. Anderson

HEA/bbb

Enclosures: F-11A, F-15B, Decal manual

September 8, 1961

Mr. Gerry Carp General Electric Company Atlantic Building Electronics Park Syracuse, New York

Dear Mr. Carp:

Enclosed is a complete catalog of DEC products. If any of these can play a part in your application, we would be more than glad to discuss them in more detail with you.

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

Sincerely,

Harlan E. Anderson

HEA/ecp

Enclosure: Complete Catalog

August 15, 1961

Mr. Joseph P. Ronan Administrative Deputy State of New York Department of Public Works Albany 1, New York

Dear Mr. Ronan:

Please excuse the delay in answering your letter of July 11 regarding computer specifications. Digital Equipment Corporation does not plan to submit a proposal for the data processing system. We manufacture a very high performance, general purpose computer which is described in the enclosed literature. The technical characteristics that you would be interested in are contained in this literature, and the basic price is \$120,000. I think you will find the enclosed information helpful in evaluating whether the PDP-1 Computer would be adequate for your application. This machine is sold on a straight commercial basis, and we would be pleased to prepare a formal quotation for it, should you find it of interest. This machine will soon be installed at leading engineering schools across the country, including M.I.T., California Institute of Technology and the University of California, and industrial concerns, as well as the U.S. Air Force. The initial PDP-1 machine has been in operation continuously since December 1, 1959.

Thank you for your interest in DEC products, and if you would like to discuss this interesting machine further, we would be more than happy to get together with you.

Sincerely,

Harlan E. Anderson

HEA/ecp

Enclosures: F-11, F-15A

Wr. Robert W. Hughes, General Manager
1.T.T. Data Systems
International Telephone and Telegraph Corporation
67 Broad Street
New York 4, New York

Dear Bob:

I want to confirm our telephone conversation of yesterday regarding the various aspects of the ADX System. First, we will proceed with the detailed design and fakrication of the special I.T.T. console for the PDP-1. The cost of this work, including one console and all associated engineering and draking, will not exceed \$5,000.00. We plan to subjet this work to Colonial Engineering in Cambridge, Mass. The schedule calls for the completed unit to be delivered to us by October 15 for incorporation in Serial #1 machine. As of now, we do not see this cousing any delay in the schedule. As the design work progresses, we will obtain production quotations for this console and will advise you of those so that it can be added on to Serial #2, 3, etc.

The new IBM ball typewriter referred to in your letter of August 11 will very likely become a standard part of the PDP-1 in the future. At the present time, IBM has not announced firm delivery or price information for the necessary solenoids, switches, etc., to connect this to the computer. We have ordered three of these typewriters without the above-mentioned attachments for experiment with the PDP-1. Our present plans call for attempting to obtain an all-IBM unit in order to facilitate servicing of the unit. In the meantime, all PDP-1's will continue to be supplied with the Soroban modified IBM Model B typewriter. We will plan to keep you posted concerning any progress on this new typewriter and the necessary adapters for the PDP-1.

Mr. Robert W. Hughes

We can offer to you the scatter-read, gather-write feature for our Tape Control Type 52 at an increase in price of \$3,000.00. The new list price for this tape unit would then be \$33,000.00. This is available for the prototype and production models and will not cause a delay in the schedule. If you wish this to be added for any of the above units, please indicate your authorization to proceed.

We plan to provide at no extra charge a Taletype 50 character per second punch on the prototype ADX order for a PDP-1. However, this is an optional item for the production units, and if you wish to have it, the increase in price will be \$1,606.00 each. The standard punch that would be supplied with the production units would be the Friden 20 character per second unit. Please jet us know which guiden you wish to use as soon as possible.

The parity check feature requested by John Ackley will cost \$6,500.00 for each PDP-1 with one 4,0% word module of memory included. Each additional 4,0% word module of memory would cost \$1,500.00 to have this feature. We would need to know six months prior to delivery if this feature is desired.

The PDP-1 can be equipped to operate on 220 volt, 50 cycle power as requested in John Ackley's letter of July 26, 1961. We do not have available a price for this feature, but will prepare a quotation in the next several weeks for it and advise you at that time. We will need to know six months prior to delivery if you want this feature on the machine.

An extra typewriter equipped with control and buffer equipment to allow it to operate through the PDP-1 sequence break and in-out system will cost \$6,100.00. Delivery on this item is four months from receipt of order.

In reply to your request of last week concerning cancellation charges on a PDP-1 covered by your production order, we would charge \$5,000.00 for each PDP-1 for which a configuration was authorized, but its production cancelled up to five months prior to delivery.

Mr. Robert W. Hughes August 15, 1961 -3-I hope that the above information will help you in firming up some details related to the ADX program. Should you want to discuss ony of them during my absence, feel free to call Ben Gurley. Thank you very much for your courtesies in helping to make arrangements for me to visit the I.T.T. activities in Europe during my forthcoming trip. Sincerely, Harian E. Anderson HEA/ecp CC: K. Olsen/B. Gurley/G. Bell

August 8, 1961 Miss Ann Selburt Lyon Van & Storage Company Convention and Trade Show Division 3600 S. Grand Avenue Los Angeles 7, California Dear Miss Selbert: Thank you for your July 11th letter describing the disposition of the DEC equipment being stored by you. Please consider this countersigned letter as sufficient authorization to release, for shipment to the WESCON Show in San Francisco, your lot number H-19970 consisting of one case, and your lot number 0-18543C consisting of one case (#180). Please return these cases to storage at the conclusion of the show. Also, please consider this letter sufficient to release, for movement to the ACM Show in Los Angeles on September 5, your lot number 0-18541C, consisting of three cases (\$1235). Please return these cases to storage at the conclusion of the show. Very truly yours, Allen A. Andrews **Exhibits Manager** Harlan E. Anderson Vice President AAA/jm CC/H Anderson CC/ACM File CC/T Johnson

August 8, 1961

Mr. Fritz J. Russ, President Systems Research Laboratories, Inc. 500 Woods Drive Dayton 32, Ohio

Dear Mr. Russ:

I have read with interest your recent letter suggesting that we explore the possibilities of a joint venture. We here at DEC agree with your observation that our respective organizations tend to complement each other very nicely. Your interest in total systems concepts and our interest in hardware manufacturing are indeed compatible. The scope of DEC activity is largely dictated by the capabilities and interest of the members of our professional staff.

The Air Force contract under which you have issued a letter of intent for the PDP-1 is an excellent example of the results which can occur due to the nature of Systems Research Laboratories and Digital Equipment Corporation activities. I would like to take this apportunity to thank you for including the PDP-1 computer in your plans.

Over the past year and one-half, we have observed similar relationships to organizations such as SRL. On at least one of these occasions, we rather thoroughly explored the way in which joint ventures might occur and each time came back to the desirability of totally independent organization with no formal ties. Formal ties of any kind tend to jeopardize to some extent the impartial technical judgment of a systems organization, particularly if they are doing consulting type work.

We are very pleased that you have suggested a discussion of this subject and would be pleased to meet with you during the week of August 29th. That will be my first week back in the office following a European business trip. The following week I plan to attend the Association for Computing Machinery meeting in Los Angeles. Because of my own tight schedule, I would propose that such a meeting be held in Maynard if it takes place during the week of August 29th. On the other hand, I would be pleased to have an opportunity to visit Dayton, but it would have to be at a later date, perhaps the end of September. Perhaps after you have received my letter, we should speak further by telephone to firm up any meeting arrangements.

I would like to thank you again for your letter and look forward to meeting you personally.

Sincerely,

Harlan E. Anderson Vice President

August 8, 1961

Mr. Evald K. Austerlade Business Data Processing Mauchly Associates, Inc. 50 East Butler Avenue Ambler, Pennsylvania

Re: Computer System for Spencer Gifts, Inc.

Dear Mr. Austerlade:

Thank you for your letter of 2 August 1961 addressed to Mr. Olsen. DEC does not plan to submit a proposal for the computer system referenced above since our products are primarily used in scientific computations.

I am enclosing with this letter literature on our PDP-1 computer system which I hope you will find interesting. Should you find applications well suited for this machine, we would be very pleased to discuss it further with you.

Thank you for your interest in DEC products.

Sincerely,

Harlan E. Anderson Vice President

HEA/gh

Enclosure: F-11

August 7, 1961

Mr. E. Baretta, General Manager Netherlands Industrial Institute 551 Fifth Avenue New York 17, New York

Dear Mr. Baretta:

I want to thank you very much for the time that you and Mr. van Kerckhoff spent with me on my recent visit to New York. The information and literature that you so kindly supplied to me will be very helpful in my forthcoming trip to Europe.

Thank you again for your kind consideration.

Sincerely,

Harlan E. Anderson Vice President

HEA/gh

August 7, 1961 Mr. S. A. Mills 16002 Tupper Street Sepulveda, California Dear Mr. Mills: Thank you for your letter of August 1, 1961 requesting information about Digital Equipment Corporation. Since no DEC stock is available on the market, no annual reports to the stockholders are prepared. We do, however, someday plan to make a public stock offering, and we will keep your letter until we are ready to consider it. DEC manufactures a line of proprietary products which are described in the enclosed literature. Thank you for your interest. Sincerely yours, Harlan E. Anderson Vice President HEA/gh **Enclosures**

August 4, 1961 Mr. Noman Statland, Vice President Charles W. Adams Associates, Inc. 142 the Great Road Bedford, Massachusetts Dear Nom: Enclosed please find our charts for the next edition of your survey. The only change that we would like to request at this time is that the mention of ALGOL be included. This will be available in December 1961. Best regards, Harlan E. Anderson HEA/gh Enclosure: Adams Chart

August 3, 1961

General Georges F. Doriot, President
American Research & Development Corporation
The John Hancock Building
Boston 16, Massachusetts

Dear General Doriot:

The next Board of Directors Meeting will be held on September 12, 1961 at three o'clock at the American Research and Development offices.

Sincerely yours,

Harlan E. Anderson Vice President

HEA/gh

August 3, 1961 Mr. Arnaud de Vitry 1133 Park Avenue New York 28, New York Dear Arnaud: The next Board of Directors Meeting will be held on September 12, 1961 at three o'clock at the American Research and Development offices. Sincerely yours, Harlan E. Anderson Vice President HEA/gh

August 3, 1961

Mr. William H. Congleton
American Research & Development Corporation
The John Hancock Building
Boston 16, Massachusetts

Dear Bill:

The next Board of Directors Meeting will be held on September 12, 1961 at three o'clock at the American Research and Development offices.

Sincerely yours,

Harlan E. Anderson Vice President

HEA/h

August 3, 1961 Mr. Wayne P. Brobeck 5028 Westpath Terrace Washington 16, D. C. Dear Wayne: The next Board of Directors Meeting will be held on September 12, 1961 at three o'clock at the American Research and Development offices. Sincerely yours, Harlan E. Anderson Vice President HEA/gh

August 3, 1961

Mr. John Barnard, Jr. Gaston, Snow, Motley & Holt 82 Devonshire Street Boston 9, Massachusetts

Dear Jack:

The next Board of Directors Meeting will be on September 12, 1961 at three o'clock at the American Research and Development offices.

Sincerely yours,

Harlan E. Anderson Vice President

HEA/gh

Dean Vernon Alden
Harvard University
Graduate School for Business Administration
Soldiers Field Road
Boston 63, Massachusetts

Dear Vernon:

The next Board of Directors Meeting will be held on September 12, 1961 at three o'clock at the American Research and Development offices.

Sincerely yours,

Harlan E. Anderson Vice President

Mr. Jay Forrester
11 Holden Wood Road
Concord, Massachusetts

Dear Jay:

The next Board of Directors Meeting will be held on September 12, 1961 at three o'clock at the American Research and Development offices.

Sincerely yours,

Harlan E. Anderson Vice President

Mr. Henry W. Hoagland
American Research and Development Corporation
The John Hancock Building
Boston 16, Massachusetts

Dear Harry:

The next Board of Directors Meeting will be held on September 12, 1961 at three o'clock at the American Research and Development offices.

Sincerely yours,

Harlan E. Anderson Vice President

Miss Dorothy Rowe
American Research & Development Corporation
The John Hancock Building
Boston 16, Massachusetts

Dear Dorothy:

The next Board of Directors Meeting will be held on September 12, 1961 at three o'clock at the American Research and Development offices.

Sincerely yours,

Harlan E. Anderson Vice President

August 2, 1961

Stop Payment Department Middlesex County National Bank Maynard, Massachusetts

Gentlemen:

Please stop payment on our check #5244 for \$50.00. This check was made payable to Benjamin Gurley and was dated September 28, 1960.

The above check was lost.

Very truly yours,

Harlan E. Anderson Vice President

lpo

August 2, 1961

Mr. Frank Cooper Haskins Laboratory 305 E. 43rd Street New York 17, New York

Dear Mr. Cooper:

Thank you very much for your telephone call inquiring about our PDP-1 and Building Blocks which might be used for your speech work. I am enclosing with this letter a copy of our F-15 manual for the PDP-1 and also some application notes. In about one week we will have a preliminary draft of a document that deals with the input-output consideration of the PDP-1.

The plan that we discussed on the telephone of starting with a core memory and moving in the direction of a PDP-1 seems very logical. We would be more than pleased to have an opportunity to review any logical design that you are considering for this special purpose data processor. I will enclose a copy of our logic handbook in ease you do not already have one of these.

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

Sincerely,

Harlan E. Anderson

HEA/gh

Enclosures: F-15
PDP-1 Application Notes
Logic Handbook

48 A. Tile

August 1, 1961

1+81

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

Dear Mr. Middleman:

Enclosed please find the lease for the Programmed Data Processor to be delivered to you November 1, 1961. If you should have any questions during your review of the lease, please do not hesitate to call me. If the lease is acceptable, please sign and return both copies to DEC for a signature.

All of 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, which payments are to be reduced by multiplying by the percentage figure shown in the attached table.

We are happy to offer you this lease and trust that you find it acceptable.

Sincerely,

Harlan E. Anderson Vice President

HEA/bk

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

DIGITAL EQUIPMENT CORPORATION Maynard, Massachusetts

TABLE I

Expired Rental Time	% of Total Rental Payment Applicable Toward Purchase	Expired Rental Time	% of Total Rental Payment Applicable Toward Purchase
1	73.50%	1	78.54%
2	73.71	2	78.75
3	73.92	3 ,	78.96
4	74.13	4	79.17
	74.34	5	79.38
6	74.55	6 Bar	79.59
5 6 7	74.76	~1	79.80
.8	74.97	8	80.01
9	75.18	9	80.22
10	75.39	10	80.43
ii	75.60) 11	80.64
1 year	75.81	// 3 years	80.85
经现代在规则是是产生的证明的	76.02		81.06
•	76.23	2 3	81.27
	76.44		81.48
2 3 4 5	76.65	\	81.69
		5	81.90
	76.86		82.11
6	77.07	6 7	82.32
7	77.28		82.53
- 8	77.49	8	
9	77.70		82.74
10	77.91	10	82.95
11	78.12	11	83.16
2 years	78.33	4 years	83.33

July 27, 1961

Mr. Harry Keit Ramo-Wooldridge Division 8433 Fallbrook Avenue Canoga Park, California

Dear Mr. Keit:

Here is the information I promised you on the phone.

If I can be of any further assistance to you, please do not besitate to call on me.

Sincerely,

Harlan E. Anderson Vice President

HEA/bk

Enclosures: F-15A, F-11, M-1090, Application Notes cc: Mr. Ted Johnson

DEC - Los Angeles, California

July 26, 1961

Mr. R. W. Bonn, Contracts Administrator Airborne Instruments Laboratory A Division of Cutler-Hammer, Inc. Deer Park, Long Island, New York

Reference: 8592-48 - Request for Quotation

Subject: Quotation for Programmed Data Processor - 1 (POP-1)

Dear Mr. Bonns

The Digital Equipment Corporation (DEC) of Maynard, Massachusetts, is pleased to submit the following price quotation to the Airborne Instruments Laboratory for the Programmed Data Processor - 1 (PDP-1) and associated equipment. The prices quoted herein shall remain in effect for thirty (30) days from the date of this quotation.

A PDP-1 System is defined as consisting of one standard PDP-1 with one or more pieces of associated equipment. Such a system can be delivered and installed by April 15, 1962 if ordered before August 7, 1961. Such a system would be delivered eight and one-half (8½) months from receipt of order it ordered after August 7, 1961. The delivery date for Item F below would be July 1, 1962. The prices quoted are f.o.b., Digital Equipment Corporation, Maynard, Massachusetts, and do not include Federal Excise Tax or any applicable state or local taxes. Tems are not thirty (30) days. This quotation is submitted on a fixed price commercial basis only.

A. Standard PDP-1 Computer, including:

\$120,000.00

- 1. Central Processor (4,096 Word Core Memory)
- 2. Paper Tape Reader (400 lines per second)
- 3. Paper Tape Punch (63 lines per second)

4. Alphanumeric Typewriter

5. Single Channel Sequence Break System

 Input-Output Control Panel (for additional input-output control)

B. Additional Memory:

1. Memory Switch Type 14 \$ 10,000.00 2. Six (6) - 4,095 Word Memory Modules, Type 12 180,000.00

C. Card Equipment:

1. Card Punch Control, Type 40-S23.

Control for an IBM 523 Summery Punch
for card punching.

Card Reader Control, Type 41-523.
 Control for using an ISM 523 Summary Punch for card reading.

D. Line Printers:

1. Une Printer - Anelex
75,200.00
(600 line per minute print rate, 64 character
printing, 120 columns, automatic character
decoding buffer)

Line Printer - Holly Carburetor 27,000.00
 (120 columns, 150 lines per minute print rate, 64 character printing, programmed control decoding)

E. Control Interconnections for Reading AIL Magnetic Tape 4,000.00

This interconnection shall consist of level converters which allow the voltage levels described in ALL Request for Quotation to be read into the PDP-1 input-output register under program control.

Two in-out transfer commands will be implemented which may be used to start and stop the above tape reproducer.

F. Tape Control Type 54 (for connection with IBM Model 729-II or IBM Model 729-IV Tape Units)

\$ 55,000.00

The Tape Control will control either IBM Type 729-11 or 729-17 Tape Units in the high density mode (556 bits/inch). Both types may not be operated from the same control. This control automatically transfers information between the computer memory and the tape in blocks of characters. It allows computation to continue while this transfer is in process. Parity error detection is effected while reading and writing. Up to eight (8) tape units may be connected to one tape control, and a PDP-1 can have up to three (3) tape controls. Only one tape unit may operate at a time on and tape control.

The delivery date for Type 84 Tape Control would be July 1, 1962.

G. One Week Program Training Course at AIL

500.00

All the above material is for purchase and is guaranteed to be free from design and manufacturing defects for a period of six (6) months following its installation. Any component failing during this period will be repaired, or at DEC option, replaced.

Thank you for the opportunity of submitting this quotation and for your interest in our products. Should you wish additional information, please feel free to call upon us.

Sincerely,

Harlan E. Anderson Vice President Mr. A. M. Kelly 20D-205 Massachusetts Institute of Technology 77 Massachusetts Avenue Cambridge 39, Massachusetts

Dear Mr. Kelly:

Enclosed is the literature I promised to send you when talking with you on the telephone.

If you have any questions or if I can do anything else for you, just give me a call.

Sincerely,

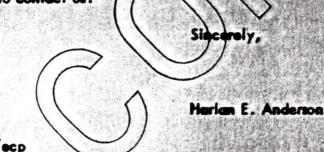
Harlan E. Anderson

Enclosures: F-11, F-15A, M-1090, M-1107

Mr. H. E. Van Dyck
Documentation Department
Society Anonyme Internationale de Telegraphie sans Fil
25, Boulevard du Regent
Brussels, Belgium

Dear Mr. Van Dyck:

Thank you for your recent request for bulletins describing DEC Logic Circuits as advertised in the "Proceedings of the 1.R.E." I hope that you find the enclosed information helpful in becoming acquainted with our products. Should you wish further information, please feel free to contact us.



HEA/ecp Enclosures: E-150, A-400A

P. S. We have enclosed a preliminary version of our publication E-150, and will send you the complete publication just as soon as it is available.

Mr. David H. Lard
National Institute for Research in Nuclear Science
Building R. 19, Bubble Chamber Group
Rutherford High Energy Laboratory
Harwell, Didcot Berkshire
England

Dear Mr. Lord:

Thank you for your letter of 13 Joly addressed to our Mr. Towle regarding DEC Logic Modules. I am taking this opportunity to answer the letter, since I plan to be visiting in England in the near future and would appreciate very much an opportunity to meet you and discuss technical information about our products and how they might be applied to your activities. The enswers to the specific questions you ask are as follows:

(i) We have two patch cord systems. The first of these uses miniature behave in patch cords (DEC Type 911), which can be stacked one inside of the other for multiple connections. This type patch cord would be used with any of our Laboratory Modules (100 Series, 3000 Series), or our Type 1906 Mounting Chassis. The Type 1906 Mounting Chassis will accommodate our System Modules.

The second patch cord system (Type 912) utilizes taper-pin connectors. These are relatively new and are usable with our Type 1909 and 1910 Mounting Chassis for System Modules. With this type, each connector terminal has two receptacles for taper pins. Thus, a wiring routing of a common connection must be planned with no branch points, but be one continuous path; that is, one receptacle.

(ii) The prices quoted in DEC literature are still true with very minor exceptions. I will enclose a short form catalog with this letter which does have current prices. These prices, of course, are f.o.b. our plant in Maynard, Massachusetts, and do not include any customs duties or tariffs.

July 21, 1961

Mr. David H. Lord

(iii) DEC modules listed in our literature are almost universally available for shipment within one week after receipt of order. Special units or any modifications that might be required would, of course, delay delivery somewhat, depending on the extent.

-2-

(iv) The approximate air freight rate from our plant in Maynard, Massachusetts, to London is 42 cents per pound of weight. There would be no additional cost for packing for air freight shipment. Many shipments are made by air freight within the United States.

I am enclosing with this letter some more detailed technical information on the Type 4215, 4213, etc.

Regarding my plans to visit England, I would like very much to come to see you on Wednesday, August 16, in the afternoon, if this is at all convenient. I will be arriving in London in the morning, and would telephone you to verify an appointment in the afternoon at your convenience. I am looking forward to an opportunity to meet you and to be of further service in the application of DEC products.

Sincerely,

Harian E. Anderson Vice President

HEA/bk Enclosures: Product Bulletins C-4213/14/16, C-4126/28, C-4125/27/29, C-4112/13, and A-4008

HEA July 19, 1961 Mr. W. K. Bishoff, Business Manager Systems Research Laboratories, Inc. 500 Woods Drive Dayton 32, Ohio Dear Mr. Bishoff: Thank you for your letter of July 17, 1961, indicating your intent to purchase a PDP-1 computer with the optional units as described in our quotation of July 10. The general terms outlined in your letter are satisfactory to Digital Equipment Corporation. We wish to express our appreciation to you, and we look forward to a mutually beneficial business relationship. Please feel free to call upon me should you need any further information about the PDP-1. Sincerely, Harlan E. Anderson Vice President HEA/ecp

July 19, 1961 Mr. Bryant Canon 1.T.T. Europe, Inc. 5 Boulevard de L'Empereur Brussels, Belgium Dear Mr. Canon: Enclosed with this letter you will find technical information concerning programming for the PDP-1 computer, as requested by Mr. Hughes. My present plans to visit Europe include being in Brussels on Monday, August 21. If convenient to you, I would appreciate an opportunity to talk with you on that day. I will plan to telephone you on Friday of the previous week to verify if Monday is an acceptable day. I will be leaving from the United States on 15 August. I am looking forward to an opportunity to meet you and become further acquainted with I.T.T. operations. Sincerely, Harlan E. Anderson Vice President HEA/ecp Enclosures: M-1090, M-1091, M-1106, M-1107 (6)

Mr. Robert W. Hughes c/o Bryant Canon 1.T.T. Europe, Inc. 5 Boulevard de L'Empereur Brussels, Belgium

Dear Bob:

Sorry we're so late in getting this information to you. Hope it is still useful. This list does not include power supplies, mounting panels, or any accessories.

Hope you're having a good trip.

Sincerely,

Harlan E. Anderson

HEA/ecp Enclosures: 1

July 12, 1961 Reservations Clerk Statler-Hilton Hotel Los Angeles, California Dear Sir: Will you please reserve one twin bedroom for Mr. Harlan E. Anderson of Digital Equipment Corporation, Maynard, Massachusetts. Mr. Anderson will arrive late on September 4, or early on September 5. He will depart on September 9, following the conclusion of the A.C.M. Conference. A \$10.00 check is enclosed and will serve as a deposit to hold the room for Mr. Anderson's arrival. Very truly yours, Allen A. Andrews Exhibits Manager AAA/jm Enclosure CC/HEA

H. Andrewood

July 12, 1961

VIA AIR MAIL

Mr. Robert Schram
Sales Manager
Potter Instrument Company, Inc.
Sunnyside Boulevard
Plainview, Long Island, New York

Dear Mr. Schram:

As you know, we are in the final stages of standardizing on our magnetic tape equipments for use with our PDP-1 computer. Since it is imperative that we have an assured source of supply for tape transports from a reputable manufacturer such as yourselves, we included your Model 906-2 in our initial evaluation.

The following schedule of machine deliveries shows our estimated requirements over a period of eighteen (18) months. Exhibit 1 attached is a detailed description of the 706 options which we desire.

Magnetic Tape Transport Requirements

(July 31, 1961 to Dec. 31, 1962)

Month	Quantity
July, 1961	0
August	0
September	3
October	3 3 0
November	0
December	11
January, 1962	2
February	3
March	3 3
April	0
May	5
June	5 3

July 12, 1961 -2-Mr. Robert Schram Quantity Month 2 July August 6 September 3 October 3 November 3 December 51 On the basis of the above schedule, we would appreciate a bid from you for the entire fifty-one(51) units being delivered in accordance with the schedule. As part of your bid, please include a brief description of provisions for product warranties, field service, and order cancellation. We would like to have your bid by July 19th and if you should require further technical information, please sontact Jack Brown. Very truly yours, Henry Crouse **Purchasing Department** HC/bk Attach. cc: Mr. W. Weeton Mr. J. Brown

EXHIBIT I

Model 906 Mark II Transistorized Digital Magnetic Tape Handler.

Includes the following:

- a) Model 3323 Transistorized Drive Electronics
- b) Low Tape Sensing Levers
- Interconnecting Cable between the Model 906 II Transport and the Model 3323 Drive Electronics
- d) Extension Frames Model 3323-801 and 3323-802
- e) IBM compatible Dual Photoelectric End-of-Tape Sensor and Photoelectric End-of-Tape Amplifier, Model 3323-701
- f) IBM compatible Write-Lockout Switch
- g) IBM compatible Hubs

Specifications:

a) Tape Width:

b) Record/Playback Speed:

c) Rewind:

211

75 inches per second

Constant, 300 inches/sec.

Model 71238-7 Head Assembly (IBM 729 IV compatible), for 7 channels on ½" tape. Includes the Model 3313-2 Precision Guide Trough Head Mounting Hardware.

Write Head:

Track Wighth

Track Spacing: Windings:

D. C. Resistance:

Inductance:

.048"

110 turns total, center tapped

6 ohms per 110 turns

Approximately 1.5 millihenries per 110 turns

Read Head:

Track Width:

Track Spacing:

Windings:

D. C. Resistance:

Inductance:

.030"

.070"

140 tums, single ended, 2 leads

Approximately 10 ohms

Approximately 1.9 millihenries

MAYNARD, MASSACHUSETTS
TWINOAKS 7-8821

July 6, 1961

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

Attention: ESKRC/Miss Doherty/2689

Reference (1): Purchase Request No. 151392

Dear Miss Doherty:

The Digital Equipment Corporation is pleased to submit its first quarterly progress report concerning the design and specification of the equipment described by Reference (1).

The report, titled "Specifications of The Universal Controller for Psychological Experiments" is attached.

Should any questions arise concerning this report, please do not hesitate to contact us.

Sincerely,

Harlan E. Anderson Vice President

JK/bd

Enclosure: Quarterly Progress Report

"Specifications of The Universal Controller

For Psychological Experiments"

SPECIFICATIONS OF THE UNIVERSAL CONTROLLER FOR PSYCHOLOGICAL EXPERIMENTS

Introduction

In accordance with:

- 1) U. S. Air Force Command and Control Development Division Purchase Request Number 151392 and
- 2) Digital Equipment Corporation "Technical Proposal for The Development of A Universal Controller for Psychological Experiments" submitted to the U. S. Air Force on February 27, 1961

the "Controller" has now been fully designed by DEC. The purpose of this document is to present the firm specifications of the Controller and its related equipment which together comprise the Universal Controller System.

Universal Controller System

The system configuration is shown in block diagram form in Figure One. The specifications and functions of each component follows.

A. Controller

- 1. Programming and numerical system
 - a) Binary internal number system
 - b) Fixed word length of 18 bits, including sign
 - c) One instruction per word
 - d) Fixed point arithmetic
 - e) Single address
 - f) Multiple step indirect addressing
 - g) Number of instructions
 - 1) 28 basic, including one input-output
 - 2) 55 total, excluding input-output
 - 3) 10 input-output
 - 4) 65 total, including all input-output

2. Arithmetic unit

- a) Addition time: 10 us, including access
- b) Subtraction time: 10 us, including access
- c) Multiplication time: by subroutine, 325 us average
- d) Division time: by subroutine, 440 us average
- 3. Instruction execution times (except arithmetic)
 - a) All instructions require either 5 or 10 microseconds

for completion.

- b) Each step of indirect addressing requires an additional 5 us.
- c) Input-output instructions require 5 us in asynchronous operations, whereas in synchronous operations, the time depends upon the inputoutput device being used.

d) The "execute instruction" requires 5 us plus the time of the instruction executed.

- e) Combined skip instructions and combined operate instructions require 5 us.
- 4. Internal operation of the Controller is parallel, synchronous, and sequential. Input-output is basically synchronous and sequential. Asynchronous and/or concurrent operation of input-output devices can be approached by proper programming techniques.

5. Storage unit

- a) Random access, coincident-current, magnetic core (non-volatile)
- b) Number of words: 1094

c) Number of binary digits per word: 18

- d) Equivalent number of decimal digits per word: 5 +
- e) Equivalent number of alphanumeric characters per word: 3
- f) Number of instructions per word: 1
- g) Storage access time: 5 us

6. Special features

- a) One Channel Sequence Break System
- b) Input-Output Instruction Control Panel

B. Control Console (Figure Two)

1. Indicator lights

- a) Run light: "on" while the computer is executing instructions.
- b) Cycle light: "on" after the completion of one or more instruction cycles with one or more to follow.
- c) Defer light: "on" prior to the execution of any deferred cycle.
- d) HS cycle light (High Speed): "on" while the computer is executing a high speed channel, Input-Output

transfer instruction.

e) Brk Ctr 1 (Break Counter): "on" while the computer is executing cycle 1 (deposit accumulator) and cycle 3 (deposit input-output register) of a sequence break.

f) Brk Ctr 2 (Break Counter): "on" while the computer is executing cycle 2 (store program counter) and

cycle 3 of a sequence break.

g) Over Flo: "on" if overflow has occurred (can only be turned off or cleared by executing the Skip on Zero Overflow instruction).

h) Read In: "on" while the computer is reading (or trying to read) punched tape in the Read-In-Mode.

i) Seq. Break: "on" while the computer is using the Sequence Break System.

j) I-O Com'ds: "on" while the computer is executing any Input-Output transfer instruction.

k) I-O Halt: "on" while the computer is executing a deferred Input-Output transfer instruction.

1) I-O Sync and Halt Store are used for maintenance

purposes.

m) Program Flags: "on" after the computer has executed the Set Selected Program Flag instruction or an input-output device has indicated its readiness to be serviced (can only be turned off or cleared by executing the Clear Selected Program Flag instruction).

n) High speed Channel lights: indicate which high speed

channels are currently in use.

2. Register lights

a) Program Counter: displays 12 bits which represent the address of the next instruction to be executed.

b) Instruction Register: displays 5 bits which represent the basic operation code of the instruction being executed.

c) Memory Address Register: displays 12 bits which represent the address of the instruction being executed (after cycle 1) or the address of the operand (after succeeding cycles).

d) Memory Buffer Register: displays 18 bits which represent the instruction being executed . . . operation code and address part (after cycle 1) or the 18-bit operand (after succeeding cycles).

e) Accumulator: displays 18 bits which represent the results of arithmetic and logical operations.

f) Input-Output Register: displays 18 bits which represent information just transferred in or out of the computer or the results of certain arithmetic and logical operations.

3. Toggle Switches

a) Field A, Field B, and Address Toggles. These are used to manually select a core memory field and a location within that field whose contents are to be examined, changed, or interpreted as the first instruction of a sequence. (Up represents bit 1, down is bit 0).

the contents of a memory location (specified by the Field and Address Toggles) or to automatically load the accumulator with 18 bits of information using LAT, Load Accumulator with Test Word, instruction.

(Up represents bit 1, down is bit 0).

c) Power Toggle. Turns all power to the Controller on or off.

d) Single Cycle Toggle. Allows for single cycle or automatic operation.

e) Single Instruction Toggle. Allows for single instruction or automatic operation. (If the single cycle and single instruction toggles are both on, the mode of operation will be single cycle).

f) Sense Switches. Allow for external control of branching within a program using the SZS, Skip on Zero Sense Switch, instruction. (Switch is zero when it is down).

4. Operating Push Buttons

- a) Start: The computer will start. The first instruction comes from the memory location indicated in the Test Address Switches.
- b) Stop: The computer will come to a halt at the completion of the current memory cycle.
- c) Continue: The computer will resume operation starting at the state indicated by the lights.
- d) Examine: The contents of the memory register indicated in the Test Address will be displayed in the Accumulator and the Memory Buffer lights.
- e) Deposit: The word selected by the Test Word Switches will be put in the memory location indicated by the Test Address Switches.

f) Read-In: The photoelectric paper tape reader will start operating in the Read-In mode.

C. Input-Output

1. Punched Tape

- a) Number of lines per inch: 10
- b) Number of channels per line: 5, 6, 7, or 8 (8 is standard)
- c) Read speed (lines per second): 400
- d) Punch speed (lines per second): 63/
- e) Reader is photoelectric and starts and stops on a line.
- f) Character listing is alphanumeric plus special characters.
- g) Simultaneous compute-read or compute-punch operations can be approached through proper programming.
- h) Tape format (standard) is alphanumeric, binary or read-in mode.

2. Alphanumeric Typewriter

- a) Output speed (characters per second): 10
- b) Character listing is alphanumeric plus special characters.
- c) Simultaneous compute-type-in or compute-type-out operations can be approached through proper programming.
- 3. Cathode Ray Tube Display and Light Pen. The CRT displays information at the rate of 20,000 points per second. The Light pen allows for the "input" of information. For each In-Out Transfer instruction, one point is displayed. The first 10 bits of the In-Out Register represent the Y coordinate of the point and the first 10 bits of the Accumulator represent the X coordinate of the point.

D. Special Equipment

 Analog to Digital Converter (7-bit). Allows for continuous conversion of analog voltages to 7 binary digit numbers using an up-down binary counter. Maximum time of conversion is 730 microseconds per voltage. Stimulus Synchronizer. Synchronizes operation of the Controller with the stimulus generating device.

Future Expansion of The System

The following equipment will be available from DEC to expand the capabilities of the Controller as may be required in the future:

- A. Automatic Multiply and Divide. Replaces Multiply-Step and Divide-Step instructions increasing multiply speed from 325 to 25 microseconds and divide speed from 440 to 40 microseconds.
- B. Magnetic Core Storage. Modules of 4,096, 13-bit words may be added as required to a maximum of 32,768 words.
- C. Magnetic Tape Facilities. A maximum of 24 tape transports, each with a transfer rate of 15,000 characters per second may be added.

Input-Output Instructions For The Controller

- 1. RPA (IOT 01), Read Punched Tape, Alphanumeric.
- 2. RPB (IOT 02), Read Funched Tape, Binary.
- 3. PPA (IOT 05), Punch Punched Tape, Alphanumeric.
- 4. PPB (IOT 06), Punch Punched Tape, Binary.
- 5. TYO (IOT 03), Type Out.
- 6. TYI (IOT 04), Type In.
- 7. DPY (IOT 07), Display One Point on CRT.
- 8. CNV (IOT 41), Convert a Voltage (A to D Converter).
- 9. RCB (IOT 31), Read Converter Buffer (A to D Converter).
 0. RRB (IOT 30), Read Reader Buffer (for Sequence Break
- 10. RRB (IOT 30), Read Reader Buffer (for Sequence Break operations using purched tape reader).

Silk Screening/Painting

Precision Screening 10 Howard Street Somerville, Massachusetts SO 6-7100

Table Tops (Formica)

Norman Hallowell 63 Harris Street No. Acton, Massachusetts CO 3-4576

Printed Circuit Boards

Electro Circuits 176 Walker Street Lowell, Massachusetts GL 2-8981

Plating

Waltham Metal Finishing 838 Moody Street Waltham, Massachusetts TW 3-3777

H. L. Reed & Sons 116 Irving Street Framingham, Massachusetts TR 3-7248

Machine Shops

American Dynamics 146 Main Street Maynard, Massachusetts TW 7-7293

Premaco 330 Main Street W. Concord, Massachusetts EM 9-5181

Castings

Boston Pattern Works
595 Pleasant Street
Norwood, Massachusetts 762-3640

Dies (continued)

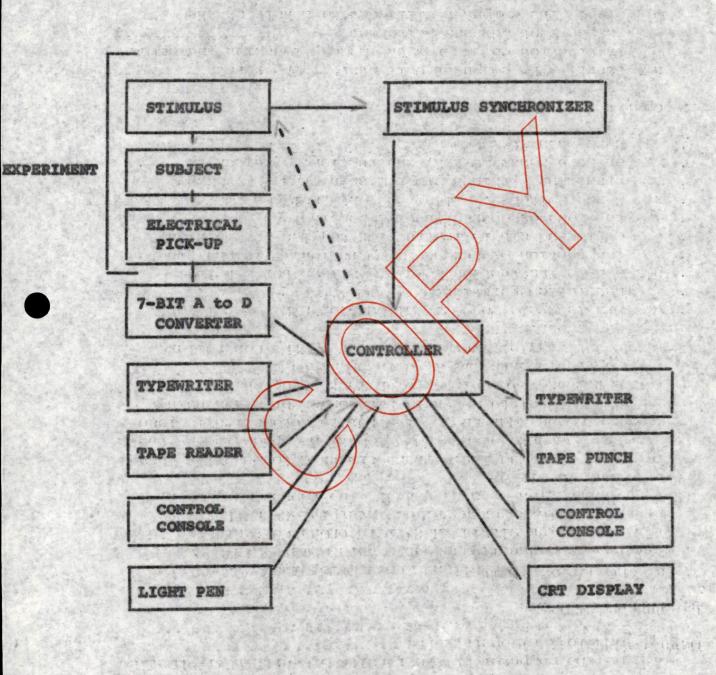
Figure One

The System for Conducting Psychological Experiments using The Universal Controller

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The state of the s

July 5, 1961 Mr. Donald B. Guy 16850 Weddington Street Encino, California Dear Mr. Guy: Thank you for your recent letter requesting information about Digital Equipment Corporation. DEC stock is not publicly available at the present time and, therefore, no annual reports are available to the public. As you may know, we are a majority-owned affiliate of American Research & Development Corporation in Boston, Massachusetts, whose stock is currently being traded on the New York Stock Exchange. DEC manufactures a line of proprietary products which are described in the enclosed literature, which we hope you will find interesting. Thank you for your interest in DEC. Sincerely, Harian E. Anderson Vice President Enclosures: CL

July 5, 1961

Mr. James Alphier 4733 St. Clair Avenue North Hollywood, California

Dear Mr. Alphier:

Thank you for your recent letter requesting information about Digital Equipment Corporation. I am enclosing literature on our products and general activities that I think you may find interesting and helpful.

Thank you for your interest in DEC.

Sincerely,

Harlan E. Anderson Vice President

HEA/ep Enclosure: CL

June 28, 1961

Mr. Norman Raver
International Telephone & Telegraph Corporation
67 Broad Street
New York 4, New York

Dear Mr. Raver:

Enclosed please find the following literature on the PDP-1 computer:

PDP-1 Program Proparation and Testing, DEC Permanent Memoranda Nos. M-1090, M-1101, M-1103, M-1104, M-1105, M-1107, M-1108, M-1109 and M-11112.

Sincerely,

Harlan E. Anderson

ep

Enclosures: 10

June 28, 1961

Mr. Edward Fredkin
Bolt, Beranek and Newman, Inc.
50 Moulton Street
Cambridge 38, Massachusetts

Dear Ed:

This letter supersedes and corrects the error contained in my letter of June 27 in which I confirmed verbal price and delivery information supplied to you for a magnetic drum system to be attached to the PDP-1 computer. The price would be \$61,800.00, and the delivery would be eight months after receipt of order. We would make every effort to deliver the system in six months; however, we view this schedule as being unreasonably tight in view of the fact that we would not have the drum available to us until three months after it is ordered.

This quotation will remain in effect for 30 days, and the price is f.o.b. Maynard, Massachusetts. Our standard terms are net 30 days.

The drum would be as specified in Appendix A attached to this letter.

Please feel free to call upon us should you wish additional information pertaining to this quotation.

Sincerely,

Harlan E. Anderson Vice President

HEA/ecp

Enclosure: Appendix A, Technical Specification for Magnetic Drum System

June 27, 1961

Mr. Edward Fredkin Bolt, Beranek and Newman, Inc. 50 Moulton Street Cambridge 38, Massachusetts

Dear Ed:

This letter will confirm the verbal price and delivery information which I supplied to you recently for a magnetic drum system to be attached to the PDP-1 computer. The price would be 16,800, and the delivery would be eight months after receipt of order. We would make every effort to deliver the system in six months; however, we view this schedule as being unreasonably tight in view of the fact that we would not have the drum available to us until three months after it is ordered.

This quotation will remain in effect for 30 days, and the price is f.o.b.

Maynard, Massachusetts. Our standard terms are net 30 days. The drum would
be as specified in Appendix A attached to this letter.

Please feel free to call upon us should you wish additional information pertaining to this quotation.

Sincerely,

Harlan E. Anderson Vice President

HEA/iv Enclosure - Appendix A, Technical Specification for Magnetic Drum System

TECHNICAL SPECIFICATION FOR PDP-1 MAGNETIC DRUM SYSTEM

(June 26, 1961)

General

The PDP-1 Drum System provides a large backing storage for the magnetic core memory. The drum is ten inches in diameter, ten inches long, and rotates at 1800 rpm. It has 418 tracks, each with 4,096 bits, giving a storage capacity of greater than 1.6 x 10⁶ bits. Eighteen adjacent tracks form one drum field, 22 fields are stored on the drum. A nineteenth track is used for an odd parity check bit. This parity bit is formed when information is written on the drum, and is checked when information is read from the drum. The drum has a word transfer time of about 8.2 microseconds.

The words on the drum are stored in fixed positions. The positions are counted so that the 4,096 bit positions around the drum uniquely correspond to the 4,096 bit positions in the core memory. The chief advantage of the PDP+1 drum system, other than the large storage capabilities, is that simultaneous interchange of core and drum data can take place. Any drum field may transmit to core and any other drum field may receive from core. Transfers are effected in blocks of 64 words. One to 64 blocks (64 to 4,096 words) may be interchanged in one transfer.

Programming for the Drum

Several iot orders handle the necessary program selections. As has been previously stated, simultaneous reading and writing, or reading, or writing, may be effected. A program can specify the function, select the fields of the transfers, the starting block location of the drum transfer, and the number of blocks to be transferred.

The following orders are used for drum transfers:

iot 71 DRT - Drum transfer - The contents of 10 and AC are used as code words:

10 0-5	Core memory field selection
10 6-11	Field read from drum (0 = no transfer)
10 12-17	Field written on drum (0 = no transfer)
AC 0-5	Number of blocks to be transferred
AC 6-11	Initial block number of transfer in core memory
AC 12-17	Initial block number of transfer on the drum

The transfer begins when the command is given and all programming, high speed channel, and sequence break action is stopped during the transfer. The computer returns to location 200 if no parity errors occurred in the transfer. A parity error causes

the instruction in 201 to be executed. The length of time for any length of block transfer is not greater than 65/64 drum revolution time or approximately 33.8 ms.

lot 72 - DRA places the current 12 bit drum position address in the 10 register.

iot 73 - DBA transmits a signal (to the sequence break system) when the drum heads enter the block number specified by AC bits 6-11.



June 27, 1961

Mr. David MacKenzie The Geotechnical Corporation 3401 Shiloh Road Garland, Texas

Dear Dave:

I am sending with this letter a package of various in-out routines for the PDP-1 computer. I am also sending along a chart which shows the basic steps in program preparation and testing with references to the appropriate technical documents.

The size of program that can be assembled using FRAP would be limited by the size of the symbol table available in FRAP. This table has approximately 3,000 decimal registers allocated. Each register can accommodate three alphanumeric characters. Therefore, the total number of characters that are definable is 9,000 decimals. Our experience has shown that one practically never runs out of room in the symbol table. If it ever happened that you did, the program could be broken into two parts, and each part assembled separately. It is much more likely that you will not have room in the memory to operate your program, than that you would run out of room in the symbol table for FRAP.

I am also including with this letter a preliminary copy of information about the magnetic tape system. This will be augmented with more detailed information in the near future. Also enclosed you will find a preliminary copy of the DECAL programming system which you may find interesting. For your initial work, I feel sure that FRAP would be the ideal vehicle. However, later on you may want to use DECAL which is more nearly an algebraic compiler than FRAP is.

The folders for conveniently storing fan-fold paper tape are manufactured by the Shaw-Walker Corporation. I hope that I have remembered to answer all of the various questions that you raised in our telephone discussion last week.

-2-Mr. David MacKenzie June 27, 1961 If you have additional ones, don't hesitate to contact us, and we'll try to keep you up to date. Sincerely, Harlan E. Anderson HEA/jv Enclosures

June 27, 1961

Mr. A. Verdonck
Technicien en electronique
Institut Royal Meteorologique
3, Avenue Circulaire, 3
Brussels, Belgium

Dear Mr. Verdonck:

Thank you for your letter of June 15. We are enclosing a copy of our Logic Handbook as you requested, and we are sending under separate cover a complete catalog. If you would like any additional information, or if we can be of any further help to you, please be sure to let us know.

Sincerely,

Harlan E. Anderson

ep

Enclosure: A-400A

June 22, 1961

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

Reference: Pers-14-GEM:hh 21 June 1961

Gentlemen:

Enclosed please find three (3) executed copies of Contract No. NOp-1200(FBM). As discussed with Mr. Deakin by telephone on Thursday, 22 June 1961, Item 3 of the section called "Contractor Represents" has been corrected since we no longer have a sales representative company in the Washington area. Our sales contract with Wild & Associates, Inc., was terminated several months previously.

Please feel free to call upon us should you need any further information pertaining to this matter.

Sincerely,

Harlan E. Anderson

HEA/ecp

Enclosures: Contract No. NOp-1200(FBM) three copies

June 22, 1961

Mrs. G. Smith
Astromechanics Institute
Aeronca Manufacturing Company
Post Office Box 536
Baltimore 3, Maryland

Dear Mrs. Smith:

Enclosed please find literature describing the PDP-1 computer and the principal options available for this equipment. The application notes and programming notes describe some of the software available for the PDP-1.

The prices of the principal options are as follows:

Basic PDP-1 with High Speed Paper Tape Reader,	\$120,000.00
Punch and Typewriter Additional Madules of 4096 Words of Memory	30,000.00 each
Additional Modules of 4070 Works of Manual	10,000.00
Memory Switch for Extra Modules	7,500.00
Program Tape Control	40,000.00
Automatic Tape Control	18,000.00
Tape Units	15,300.00
Sequence Break System	10,300.00
Visual Oscilloscope Display	1,300.00
Light Pen	1,300.00

I hope that you find the above information interesting and helpful in considering the PDP-1 computer. If you should need any additional information, please feel free to call upon us at any time.

Sincerely,

Harlan E. Anderson

HEA/ecp Enclosures: F-15A, F-11, Application & Programming Notes

June 20, 1961

Trade Development Division
Bureau of Foreign Commerce
U. S. Department of Commerce
Washington 25, D. C.

Attention: Mr. Meima

Gentlemen:

Would you please send me all available information on the Electronic Computer Exhibition to be held in London on October 4 through 12 of this year.

Sincerely yours,

Harlan E. Anderson

ep

June 19, 1961

Mr. Arthur H. Hall, III 1327 Bolton Street Baltimore 17, Maryland

Dear Mr. Hall:

Thank you for your letter of June 16 indicating that you are considering returning to New England to live. We would very much like to have an opportunity to hear about the experience that you have acquired during the past two years. DEC has grown significantly during this period of time, and we would welcome a chance to discuss present opportunities.

There is a possibility that I will not be here during the time that you expect to be in Boston, but I would suggest that you contact Mr. Robert Lassen in our Personnel Department on Monday, July 3. I will inform him of your letter to me, and I hope that you find it possible to visit us at that time.

Sincerely,

Harlan E. Anderson Vice President

HEA/ecp

Enclosure: Complete Catalog

P. S. I thought you might find the enclosed literature of interest.

June 19, 1961

Mr. R. E. Canada, Buyer The Geotechnical Corporation Post Office Box 28277 Dallas 28, Texas

Reference: Purchase Onder No. 93435-2

Dear Mr. Canada:

Thank you very much for the above referenced purchase order which we received in the mail this morning. In reviewing this, I noted that one item had been omitted which, I believe, you intended to include. This is the Magnetis Tape Control at \$7,500, which is listed as Part 2 of Item E in our letter of January 17, 1961. The total amount of the purchase order apparently includes this item, although it has been left out of the itemized list. Please let us know if our assumptions about this are correct.

Sincerely,

Harlan E. Anderson

HEA/ecp

June 19, 1961 Mr. Harold V. McIntosh RIAS 7212 Bellong Avenue Baltimore 12, Maryland Dear Mr. McIntosh: It was a pleasure to have an opportunity to talk to you on the telephone today, and I would like to confirm our appointment next Monday, June 26, at 6 p.m. at the Sheraton Park Hotel in Washington. I will be registered at the hotel and will be sure to be in my room at that time so that we can conveniently make contact. If these arrangements prove inconvenient for you, please feel free to suggest an afternate arrangement. Thank you for your interest in the PDP-1 computer. Sincerely, Harlan E. Anderson HEA/ecp

Mr. B. G. Brooks
AF Technical Applications Center
DCS/Operations
Headquarters United States Air Force
Washington 25, D. C.

Dear Mr. Brooks:

Mr. D. G. MacKenzie of the Geotechnical Corporation has requested that we send you some of our promotional and programming literature for our Programmed Data Processor - 1. I am enclosing three copies each of the literature we have available at the moment, and will send additional literature within the next week.

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

Sincerely,

Harlan E. Anderson Vice President

ep Enclosures: F-15A, F-11, M-1090, Application and Programming Notes. Mr. William Fletcher
Bolt, Beranek and Newman, Incorporated
50 Moulton Street
Cambridge 38, Massachusetts

Dear Bill:

We are pleased to submit the following austation for two POP-1 systems for your consideration. The terms, delivery and other conditions will remain firm for thirty (30) days. The prices will remain firm through 12 June 1961.

Both systems will be identical in performance, configuration, machanical appearance, etc. The following items will be contained in each system:

Itom	Quantity	Description	Price
1.		Programmed Data Processor - 1 with 40% words of memory as described in DEC publication F-15A	\$110,000.00
2.		Sequence Break Type 20	15,300.00
3.	1	Visual CRT Display Type 30	10,300.00
4.	1	Light Pen Type 32	1,300.00
5.	1	Tape Control Unit Type 51	7,500.00
6.	1	Tope Unit Type 50	15,000.00
7.	•	Substitution of a 63.3 character per second Teletype Corporation punch for the standard PDP-1 punch.	1,800.00

<u>Item</u>	Quantity	Description	Price
8.		In-Out Buffer System as an present machine installed at BBN.	2,320.00
9.	1	Relay Buffer System as on present machine installed at BBN.	1,950.00
10.	1	Typewriter-Punch System for off line/ on line use with PDP-1. Same as on present machine installed at BBN except a Teletype Corporation 63.3 character per second punch will be used.	10,000.00
11.	t	12-bit unsynchronized clock-counter as on present machine installed at BBN.	1,500.00
12.	· ·	Alsceliansous Special Features including (a) analog voltage terminal (b) 20 millisecond clock (c) suise generator to Sequence Break Channel #3	, 1,000.00
13.		Convertions for Epsco Analog to Digital Converter as on present machine Installed or BBN.	700.00
		TOTAL	\$178,670.00

The above price does not include local, state, or federal taxes which will be added to the invoices where applicable.

Delivery

The first system will be delivered on ar before November 1, 1961. The second system will be delivered on or before February 1, 1962.

Cancellations

The second system part of this order may be concelled any time up until 1 October 1961 with no financial penalty to Bolt, Beranek and Newman, Inc.

Werranty:

Digital Equipment Corporation warrants this equipment to be free from design and manufacturing defeats for a period of six (6) months following delivery. DEC's obligation under this warranty is limited to repair or replacement of the defeative part or parts of the system at DEC's discretion. No consequential damages of any kind are covered by this warranty. Maintenance of the equipment desing this warranty period will be provided by DEC at no charge.

Configuration:

The general physical appearance of the system will be based on our new design shown in the enclosed sketch. We will anticipate working closely with you in discussing any detail changes which may prize from time to time.

Terms

DEC standard forms are Net 30 days, and all prices are f.o.b. Maynard, Mass.

We trust that you will find this proposal acceptable. As explained last week, to obtain the prices quated above, it will be necessary to place your order on or before 15 June 1961.

Sincerely,

Harlan E. Anderson Vice President

HEA/eap Enclosure: Sketch

CC: Mr. Paul Dittman, 8BN Dr. Jordan Baruch, 8BN Mr. Bill Galloway, BBN, Los Angeles Mr. Ted Johnson, DEC, Los Angeles

June 13, 1961

Dr. Frank Ervin Box 449 (Psychiatry Research) Massachusetts General Hospital Boston, Massachusetts

Dear Dr. Ervin:

It was a pleasure to have you visit our plant today to see the PDP-1 and discuss its application to your work.

I hope that you find the enclosed material interesting and helpful.

Sincerely,

Harlan E. Anderson Vice President

HEA/ecp Enclosures: 4 each of following

A-400	C-4202
F-15A	C-4126/28
F-11	C-4125/27/29
B-100	C-4112/13
B-3000	D-1909/10
C-1000A	D-900
C-4000A	M-1096
A-710	M-1086
E-450A	M-1106
C-4215	M-1101
C-4213/14/16	M-1102

Application Notes
In/Out Commands
PDP-1 Sequence Break
and high speed channel
Card Reader Program

- (1) Card Reader Program
- (1) Introductory Programming

MASTER LETTER FILE

June 8, 1961

Mr. Ernest E. Miller, Jr.
Contracting Officer
U. S. Army Signal Supply Agency
Fort Monmouth Procurement Office
Fort Monmouth, New Jersey

Dear Mr. Miller:

I am enclosing an acknowledged copy of Contract No. DA 36-039 SC-87329, Order No. 40098-PM-91-62(3873), PR&C No. CSO-3875-61, as you requested.

The people with administrative and technical responsibility for this contract are as follows:

Administrative:

Stanley C. Olsen, Sales Manager Digital Equipment Corporation 146 Main Street Maynard, Massachusetts Tal. TWinoaks 7-8821

Technical:

Richard L. Best, Chief Engineer Digital Equipment Corporation 146 Main Street Maynard, Massachusetts Tei. TWinoaks 7-8821.

A sufficient number of posters presenting the provisions of the nondiscrimination clause is displayed in prominent locations in our plant.

Sinerely yours,

HEA/jv Enclosure Harlan E. Anderson Vice President

MASTER LETTER FILE

June 8, 1961

Mr. William J. Lennon
Massachusetts General Hospital
Department of Psychiatry Research
Boston, Massachusetts

Dear Mr. Lennon:

I hope that you find the enclosed information interesting, and I look forward to meeting with you and your associates next Tuesday at 10 a.m. at our plant.

Thank you for your interest in DEC.

Sincerely,

Harlan E. Anderson

HEA/ecp

Enclosures: 4 each F-11, F-15A, ARC Application Note

MASTER LETTER FILE

June 8, 1961

Mr. John Stewart Systems Research Laboratories, Inc. Dayton, Ohio

Dear Mr. Stewart:

I was pleased to learn from hir. Langbout that you plan to visit Digital Equipment Corporation next week. I am enclosing with this letter a small map showing you how to reach our plant in Maynard, which is approximately one hour from the Boston airport.

I am also enclosing with this letter a collection of literature about the PDP-1 computer that I think you will find interesting. I would particularly like to call your attention to the Application Note describing average response computing. We will be happy to have an opportunity to expand on the information enclosed when you visit us next week.

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

Sincerely,

Harian E. Anderson

HEA/IV

Enclosures: F-15 (2) F-11 (2)

Application Notes (2)

Map (1)

June 7, 1961

Passport Office 148 Tremont Street Boston 11, Massachusetts

Gentlemen:

Enclosed is a certified copy of my certificate of birth.

I was in to your office the last of May and completed the application for passport, but did not have a certified birth certificate with me.

Would you please send the completed passport to my business address above.

Sincerely yours,

Harlan E. Anderson

ep

Enclosure: Birth Certificate

June 6, 1961 Mr. Robert F. McMurray, Senior Engineer The Geotechnical Corporation 3401 Shiloh Road Garland, Texas Dear Bob: This will confirm the verbal information that I provided to you yesterday concerning the special color and rack mounting for the proposed PDP-1. We will mount the computer in the Premier cabinets as specified on the enclosed sheet. These wilk be painted whatever color you select. The console apparatus including paper tape reader, paper tape punch, operating controls, etc., will be rack mounted inside of one of the cabinets. A convenient plug for attaching the typewriter externally will also be available. The total additional charge for doing these special things will be \$800.00. We look forward to this opportunity to provide you a PDP-1. We are confident that you will find it an exciting machine with unusual capability and flexibility. Please let us know if we can be of further help. Sincerely, Harlan E. Anderson Vice President HEA/ecp Enclosure: Rack Specification

DIGITAL EQUIPMENT CORPORATION

Rack Specification for Special PDP-1

Supplier:

Premier Metal Products Company

337 Manida Street

New York 59, New York

Type:

Premier Model PRX61-24 as modified below.

Modifications:

- 1. Bottom of racks will be reversed when assembled so as to conceal casters. (No charge).
- 2. Color as specified by Geotechnical Corporation.
- 3. Premier Standard Hardware to be included.

Quantities Required for Special PDP-1:

- 6 PRX61-24 Racks including 12 reinforced doors.
- 2 SP61 Side Panels.

Suggested Ordering Procedure:

DEC requests to have the cabinets painted at the Premier factory. In the interest of insuring that the color matches exactly that being used for Geotechnical Corporation portions of the systems, it is suggested that the cabinet orders be coordinated in either of the following ways:

- a) Geotechnical Corporation order the total number of cabinets required, specifying that 6 be shipped and billed to DEC, or
- b) DEC and Geotechnical Corporation place separate orders at the same time, but cross-reference the orders.

June 2, 1961

American Airlines 470 Atlantic Avenue Boston 10, Massachusetts

Attention: Miss lannone

Gentlemen:

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

Robert J. Beckman Robert E. Savell John Koudela, Jr.

Thank you for your co-operation.

Sincerely yours,

Harlan E. Anderson Vice President

IV

June 1, 1961 Mr. Chris Lample, Assistant Director Bureau of Facilities and Material 3000 Connecticut Avenue, N. W. Washington 8, D. C. Dear Mr. Lample: Would you please send me a copy of the seminar program for the E.M.E.A. Symposium and Exhibit to be held at the Mayflower Hotel in Washington, July 24 through 26, 1981. Sincerely, Harlan E. Anderson Vice President ep

June 1, 1961 Mr. D. L. Harris Project Engineering The Bendix Corporation Bendix Mishawaka Division Mishawaka, Indiana Dear Mr. Harris: Thank you for your letter expressing interest in Digital Equipment Corporation. DEC stock is not publicly available at the present time, and therefore, no annual reports are available to the public. As you may know, we are a majority-owned affiliate of American Research & Development Corporation in Boston, Massachusetts, whose stock is currently being traded on the New York Stock Exchange. I am enclosing a collection of our promotional literature which will give you an idea of our line of proprietary products. We appreciate your interest in our company. Sincerely yours, Harlan E. Anderson Vice President HEA/ecp Enclosures

June 1, 1961 Mr. John Goss Post Office Box 1108 Lexington, Kentucky Dear Mr. Goss: Thank you for your letter requesting financial information on Digital Equipment Corporation. DEC stock is not publicly available at the present time, and therefore, no annual reports are available to the public. As you may know, we are a majority-owned affiliate of American Research & Development Corporation in Boston, Massachusetts, whose stock is currently being traded on the New York Stock Exchange. I am enclosing a callection of our promotional literature which will give you an idea of our line of proprietary products. We appreciate your interest in DEC. Sincerely yours, Harlan E. Anderson Vice President HEA/ecp Enclosures

May 31, 1961

U. S. Army Signal Supply Agency Fort Monmouth Procurement Office Building 2525, Charles Wood Area Fort Monmouth, New Jersey

Attention Mr. Gibson

Gentlemen:

Subject: Request for Proposal No. CSO-3875-61 File No. 40098-PM-91-61

Enclosed please find three signed copies of your Form 233A as you requested this morning. I trust that this oversight has not inconvenienced you too much.

Very truly yours,

Harlan E. Anderson Vice President

HEA/ecp Enclosures: 3 May 31, 1961

University of California Lawrence Radiation Laboratory Post Office Box 808 Livermore, California

Attention Mr. S. F. Buchanan

Reference - Proposal Digital Computer System No. 8030407

Gentlemen:

This is to confirm the verbal information supplied to you today by telephone concerning the above proposal to Lawrence Radiation Laboratory. The prices and terms of this proposal will remain firm until 14 June 1961.

Please feel free to call upon us if we can be of further help to

Sincerely,

Harian E. Anderson Vice President

HEA/ecp

you.

CC: Mr. Ted G. Johnson

Mr. Norman Statland Charles W. Adams Associates, Inc. 142 The Great Road Bedford, Massachusetts

Dear Noman:

Enclosed are the revisions for the PDP-1 which I gave to you

on the phone today.

Sincerely,

Harlan E. Anderson

HEA/ecp Enclosure: 1 May 26, 1961

Department of Public Health Springfield Illinois

Gentlemen:

Would you please send to me at the above address a copy of my certificate of birth.

Name:

Harlan Eugene Anderson

Date of Birth:

October 15, 1929

Place of Birth:

Freeport, Illinois

I am enclosing \$2.00 to cover the fee required for this certificate.

Sincerely yours,

Harlan E. Anderson

ep

Enclosure: Cash

May 25, 1961

Western Electric Company 555 Union Boulevard Allentown, Pennsylvania

Attention: Mr. Dryburgh

Gentlemen:

Thank you for your Purchase Order No. AL 74124. This is to confirm price and delivery information quoted to you by our Mr. Myers on May 24.

Item	Qty.	Description	Unit Price	Total Price
1	2	Model 52, Neg. Current Driver	\$760.	\$1,520.00
2	2	Model 62, Pos. Current Driver	760.	1,520.00
3	1	Model 766, Power Supply	510.	510.00
4	2	Model 730 Power Supply	280.	560.00
5	1	Model 71, Current Calibrator	500.	500.00
6	1	Model 1913, Mounting Panel	45.	45.00
7	1	19" blank mounting panel	N/C	N/C
		TOTAL		\$4,655.00

Our terms are not thirty days. F.O.B. point is Maynard, Massachusetts. This order will be delivered by June 15, 1961.

Should you desire further information, please feel free to call on us.

Sincerely yours,

Harlan E. Anderson Vice President

HEA/IV

May 23, 1961

Mr. John N. Ackley, Technical Director Intelex Systems, Incorporated 67 Broad Street New York 4, New York

Dear John:

I was pleased to have the opportunity to acquaint some of the staff of I.T.T. with our facilities last Wednesday. We are quite pleased with the progress that we are making on this job and look forward to the future with considerable enthusiasm.

I have looked into the tape control feature which you mentioned in your letter of May 18 and would like to pass on my findings. The feature of "gather write" has never been part of our design for the Type 52 Tape Control for PDP-1. The standard design, of course, provides for writing out non-contiguous areas of care memory as sequential records. This would require approximately the same amount of internal computing time as if the "gather write" feature were in the machine. The area of difference, of course, is how much magnetic tape would be consumed in the gaps between records.

The status of the prototype tape control is as follows. The design was completed some time ago, and the production wiring is scheduled to be completed within a week, at which time checkout will begin. In view of the importance of the delivery schedule to 1.T.T., it would seem undesirable to make design changes or add features to equipment which is already produced. A change of this type would also, of course, remove this from the category of a standard item.

In view of this, I would suggest that we do not take any action on the matter with regard to the prototype, but consider it further, if you wish, at a later date.

Sincerely,

Harlan E. Anderson Vice President

May 23, 1961 Hertz Corporation 95 Mount Auburn Street Cambridge, Massachusetts Gentlemen: This letter certifies that Mr. Robert Hughes is an employee of Digital Equipment Corporation and will be traveling on company business. Mr. Hughes is authorized to charge to Nertz account No. 1249-917-0014-5. Mr. Richard Kangas will pick up the station wagon reserved for Mr. Hughes. Sincerely yours, Harlan E. Anderson Vice President HEA/jv

May 22, 1961

Mr. John J. White, Jr., CCKC
Air Force Command and Control Development Division
Laurence G. Hanscom Field
Bedford, Massachusetts

Reference: Purchase Request No. 148202

Dear Mr. White:

I am pleased to confirm the information supplied via telephone to you regarding the Flexible Analog to Digital Conversion facility. This piece of research and development is adequately defined to be covered by a fixed price contract in our opinion. The item also is susceptible to a clear-cut completion which will be evidenced by a piece of working hardware.

Please let us know if we can do anything further to assist you.

Sincerely,

Harlan E. Anderson Vice President

HEA/ecp

May 19, 1961

Mr. Chris De Salvo Westinghouse Electric Corporation Building 11L East Pittsburg, Pennsylvania

Dear Mr. De Salvo:

Here is the literature on the ROP-1 computer which I promised you on the telephone today.

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

Sincerely,

Harlan E. Anderson **Vice President**

Enclosures: F-15A, F-11, Applications & Programming Packet

May 19, 1961 Mr. George W. Sherwin Automated Equipment and Engineering, Inc. 9401 Northgate Drive Allison Park, Pennsylvania Dear Mr. Sherwing Thank you for your letter of May 15 regarding the possibility of representing Digital Equipment Corporation in the Western Pennsylvania area. Due to the technical nature of our product and the amount of application engineering involved, DEC maintains a policy of direct sales to the user for both our Laboratory Modules and System Modules. We will be happy to keep your letter on file should a reexamination of this policy lead to a change. I am enclosing literature on our products and would like to take this opportunity to thank you for your interest in DEC. Sincerely yours, Harlan E. Anderson Vice President HEA/jv Enclosures

May 18, 1961 Chief of Naval Personnel Department of the Navy **Bureau of Naval Personnel** Washington 25, D. C. Reference: Pers-C1414-tpw, Ser: C14/713 Gentlemen: Enclosed please find three copies of your Request No. C14/3 dated May 11, 1961. To comply with your request that this quotation be submitted in triplicate, we have photocopied the additional copies needed. If we can be of any further assistance, please feel free to contact us at any time. Sincerely yours, Harian E. Anderson Vice President HEA/IV **Enclosures**

May 18, 1961

Mr. J. McGuire
Maxson Electronics Corp.
460 West 34th Street
New York 1, N. Y.

Dear Mr. McGuire:

Thank you for your Request for Quotation No. JM93816-906, dated May 6, 1961. Digital Equipment Corporation does not manufacture Flip-Flops to meet the specifications outlined in your request.

Enclosed please find descriptive literature on our Laboratory Modules and System Modules that may be of interest to you in the future. If we can be of any further assistance to you, please do not hesitate to contact us.

Sincerely yours,

Harlan E. Anderson Vice President

HEA/iv Enclosures

May 5, 1961 Air Force Command and Control Development Division Laurence G. Hanscom Field Bedford, Massachusetts Attention: Mr. John J. White, Jr., CCKC Reference: Purchase Request No. 148202 Gentlemen: This letter is in reply to your telephone request of Friday, May 5, 1961, regarding a detailed breakdown of our quotation of April 13, 1961, for the purchase request referenced above. Attached is our Computation of Price, \$59,742.00, indicating method of computation and correction of an error in the original quotation. Digital Equipment Corporation warrants that the burden rates and G&A rates used in computing this quotation are equal to or lower than DEC actual rates based on current financial statements. This quotation is on a fixed price basis only and will expire on June 13, 1961, unless accepted or extended before that time. Please let us know if there is anything further that we can do on this matter. Sincerely, Harlan E. Anderson Vice President HEA/ecp Enclosure

AFCCDD Purchase Request No. 148202

Computation of Price

Total Direct Labor	\$ 9,585.00
Total Burden	12,818.00
Direct Materials	3,100.00
Special Testing	504.00
Special Equipment	19,550.00
Total Direct Cost and Burden	45,557.00
G&A Expense (on Direct Cost less \$19,550. Special Equipment = \$26,007.)	8,755.00
Total Estimated Cost	54,312.00
Pee (5,430.00
Total Estimated Cost and Fixed Fee	\$59,742.00

May 4, 1961 Purchasing & Contracting Division Fort Eustis Virginia Gentlemen: Thank you for your invitation to bid No. TC-44-019-61-101 dated 1 May 1961. Digital Equipment Corporation does not manufacture Digital Data Acquisition Systems to meet the specifications outlined in your request. Enclosed please find descriptive literature on our Laboratory Modules and System Modules 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/jv Enclosures

Mr. Fred Gruenberger Computer Sciences Department The Rand Corporation 1700 Main Street Santa Monica, California

Reference L-3302

Dear Mr. Gruenberger:

Some time ago you wrote to Digital Equipment
Corporation outlining a project that you have under way
dealing with a textbook on competing for use in secondary
schools. I am sorry that we have not responded before
this to your letter however, we would like to indicate
an interest in the subject. I will be attending the
Western Joint Computer Conference in Los Angeles next
week and would be pleased to have an opportunity to
discuss the subject with you further if it is convenient with you. As we are a small to medium-sized company,
I am not sure to what extent we will be able to make
contributions to the program, but we are interested and
sympathetic to the need. I can be contacted either
through our office in Westchester, or at the Ambassador
Hotel where I will be staying, or at our exhibit booth.

We will be conducting a computer demonstration at our booth, which may be related to this project of yours. This will involve a transcontinental data phone hook-up between a typewriter console and our PDP-1 computer. If this general concept works out as we contemplate, it may make significant changes in the economic aspect of having in the facilities of Bolt, Beranek and Hewman in Cambridge Massachusetts, and is being used, among other things, as an experimental teaching machine. This may or may not be of interest for the project that you are working on. Mr. Edward Fredkin of Bolt, Beranek and Hewman will also be attending the Western Joint Computer Conference in case you would like to talk with him about their work.

I look forward to an opportunity to meet with you this next week to see if there is any way in which we could be of assistance.

Sincerely,

Harlan E. Anderson Vice President

HEA/ecp

May 3, 1961

Mr. Edward Fredkin Bolt, Beranek and Newman, Inc. 50 Moulton Street Cambridge 38, Massachusetts

Dear Ed:

Enclosed is a photocopy of an announcement dealing with automated instruction, which I am sure you are aware of. However, I thought I would send it along in case you had not seen it.

Sincerely,

Harlan E. Anderson

HEA/ecp Enclosure: Photocopy

May 3, 1961

Mr. R. W. Hughes
Director of Data Systems Marketing
International Telephone and Telegraph Corporation
67 Broad Street
New York 4, New York

Dear Bob:

Enclosed please find fifteen copies of our booklet F-15A. I am also enclosing two copies of an internal memorandum describing FRAP, the assembly program for PDP-1, which I believe, John Ackley was interested in receiving.

Sincerely,

Harlan E. Anderson

HEA/ecp

Enclosures: F-15A (15)

M-1090 (2)

May 3, 1961 Mr. William Siler Department of Physics Memorial Center for Cancer and Allied Diseases 444 East 68th Street New York 21, New York Dear Mr. Siler: Thank you for your letter of April 28, 1961, inquiring about the floating point speeds and precision of our subroutines for the PDP-1 computer. The approximate speed for load and store instructions is 128 microseconds. Add, subtract, multiply and divide all require less than 750 microseconds. The word breakdown here includes 18 bits for the mantissa, and 18 bits for the characteristic. We do not have any further written information available on the DECAL programming system at the present time. However, we do have a memoranda describing the FRAP assembly routine. I am enclosing a copy of that with this letter. Please feel free to contact us for further information on these matters. Next week, DEC products will be on exhibit at the Western Joint Computer Conference in Los Angeles. If you are attending this meeting, we would be happy to continue any of these discussions at that time, or get together at your convenience in the future. Sincerely, Harlan E. Anderson HEA/iv Enclosure (M-1090)

May 2, 1961

Miss Ignnone American Airlines 470 Atlantic Avenue Boston 10, Massachusetts

Dear Miss lannone:

Please issue an International Q air travel card to Kenneth H. Olsen. The street address for Digital Equipment Corporation is 146 Main Street, Maynard, Massachusetts.

Mr. Olsen is leaving for Europe on Saturday, and we would appreciate anything you can do to see that we receive this card before the end of the week.

Many thanks for your co-operation.

Sincerely yours,

Harlan E. Anderson Vice President

May 2, 1961

Mr. Donald L. Gillespie
Donald L. Gillespie & Associates
14 Main Street
Concord, Massachusetts

Dear Mr. Gillespie:

Thank you for your letter of April 21 mentioning the services that you offer in the field of architectural and engineering work. I would welcome an opportunity to learn more about these services. However, Digital Equipment Corporation does not have any plans for building of a new plant in the near future. We have done only very preliminary thinking on this subject and are not at all convinced that it is a wise thing for a young company to be doing.

As you may know, we are located in the plant formerly occupied by the American Woolen Company in Maynard, and in general, this provides adequate and economical space for our operation. Were it not for parking problems, we would not be considering the subject at all. Thank you for your interest in Digital Equipment Corporation.

Sincerely,

Harlan E. Anderson Vice President

HEA/ecp

May 2, 1961

Mr. Robert A. Chadbourne Executive Vice President Associated Industries of Massachusetts Room 2206 John Hancock Building Boston 16, Massachusetts

Dear Mr. Chadbourne:

Thank you for your letter of April 25, 1961, with the April issue of INDUSTRY. We wish to express our appreciation to you for publishing the article about Digital Equipment Corporation's Programmed Data Processor. I am sure that this service plays an important role in making the Massachusetts business community aware of young companies such as Digital.

If you ever have occasion to be in the vicinity of Maynard, I would more than welcome an opportunity to show you our facilities. In any event, thank you very much for carrying this article.

Sincerely,

Harlan E. Anderson

HEA/ecp

April 28, 1961

University of California Lawrence Radiation Laboratory Post Office Box 808 Livermore, California

Attention Mr. Buchanan

Reference Digital Computer System No. 8030407

Gentlemen:

Enclosed please find a list of the various types of building blocks that are utilized in the manufacture of a standard PDP-1 computer, which we plan to furnish as part of our proposed computer system. In addition to our building blocks which are used in making the PDP-1, the major items are the Paper Tape Reader, Paper Tape Punch, Type-writer, and the Magnetic Core Memory.

The selling price of the basic PDP-1 computer, which is manufactured out of the items mentioned above, is \$110,000. I am enclosing a copy of our complete catalog for your information. Please feel free to call upon us for any additional information you might need.

Sincerely,

Harlan E. Anderson Vice President

HEA/ecp Enclosures:

Complete Catalog
List DEC Building Blocks

List of DEC Modules Used in Making a Standard PDP-1 Computer

Туре	Quantity
1103	68
1104	83
1105	50
1110	6
1111	9
1150	5
1151	32
1201	36
1304	<u>∠30</u> \
1310	10
1311	
1410	//) 11
1546	// 18
1607	\ \ / 28
1675	14
1669	5
1703	\\ \ \ 4
1972	37
1973	16
1976	2 8
4105	6
4110	4
4113	3
4128	11
4201	2
4209	2
4214	9
4301	9
4410	4
4603	1 17 7
4680	

April 28, 1961

Mr. Robert W. Hughes
International Telephone and Telegraph Corporation
67 Broad Street
New York 4, New York

Dear Bob:

I am enclosing a copy of the color chips available in the type of paint that we use. I hope all these bright colors don't frighten you too much. This paint is also available in solid colors used in making the speckle pattern. I would imagine that one of the latter would be most appropriate.

Let us know if we can be of any help in arriving at a good decision on the paint.

Sincerely,

Harlan E. Anderson

HRA/ecp Enclosure: Raffi and Swanson Paint Samples

Mr. Andrew G. Favret
Senior Civilian Scientific Advisor
Headquarters, Department of the Army
Office of the Assistant Chief of Staff for Intelligence
Washington 25, D. C.

Dear Andy:

I was pleased to receive your letter noting that you are now with Army Intelligence. Your side interest sounds like a fascinating one.

Recently, we prepared some rather general notes on use of our building blocks for making analog to digital converters, and I am enclosing a copy of this with this letter. Also, I thought you might find our new booklet on logical techniques interesting.

I'm not sure that I have had occasion to tell you that we now have a general purpose computer which may play a role in the type of work you are interested in, so I will take the liberty of enclosing literature on it.

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

Sincerely,

Harlan E. Anderson Vice President

HEA/ecp Enclosures: A to D Application Notes, A-400, F-11, Complete Catalog.

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

Dear Ollie:

I would like to confirm what I told you on the telephone last Thursday concerning two subjects. First, we would be willing to pay a finder's fee for computer customers that you are able to find for us. The amount of this would be determined after the fact based on the relative contribution of your organization and DEC in closing the sale. This would be determined by DEC. For the immediate potential customer at the University of Washington, I am enclosing several packets of application notes on the PDP-1. One of these deals with averaging of neuro responses which, I believe, will be of interest to them.

On the subject of the display scope feasibility. I have talked to a number of our people and have the following to offer. Our 16" oscilloscope used with the computer would not have the required resolution of 1071 lines. It would be limited to a range of 200 to 500, perhaps. Some variation on our 5" precision oscilloscope would be adequate as far as resolution is concerned, but the display size would be such that you would have to look at it with a microscope to truly recognize 1000 independent bars. As I understand the intended application, this method of visual observation is not feasible. Also, use of this type precision scope would increase the price well above \$20,000.

-2-Mr. Oliver Judd April 25, 1961 I have re-read the University of Illinois specification that we bid on and found that very little of it dealt with this aspect of the display, and I'm afraid it would only serve to confuse your potential customer. In summary, I don't believe we have anything to offer for this application which is technically acceptable and economically feasible. The most economical thing that comes at all close would be a large screen oscilloscope such as the kind made by the Industrial Products Division of IT&T in San Fernando, California. These do come in 17" and 21", and sell for a price in the neighborhood of \$2,000 to \$3,000. Their resolution is limited by the same considerations as our computer scope to the neighborhood of 200 to 500 bars for the face of the scope. It looks like we have no sale on this one, but thanks for bringing it to our attention anyway. Sincerely, Harlan E. Anderson HEA/ecp

Mr. William Siler Department of Physics Memorial Center for Cancer and Allied Diseases 444 East 68th Street New York 21, New York

Dear Mr. Siler:

Thank you for your letter of April 20, 1961, inquiring about the PDP-1 computer. I am enclosing with this letter the material that you requested and the following prices:

Basic Computer	\$110,000.00
Sequence Break System	15,300.00
Automatic Multiply and Divide	10,300.00
First Extra Memory Module	40,000.00
Future Memory Modules	30,000.00
16" Oscilloscope	10,300.00
Magnetic Tape Units	15,000.00
Tape Control	7,500.00

We are not offering any other computer at the present time. Customer contacts in the New York City area are covered from our home office in Maynard, Massachusetts, and we would be delighted to have an opportunity to talk with you further about our computer for your applications.

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

Sincerely,

Harlan E. Anderson

BEA/ecp Enclosures: 3 F-11, F15A, ARC App Note

Mr. Thomas D. Clemens, Research Coordinator Educational Media Branch Department of Health, Education, and Welfare Office of Education Washington 25, D. C.

Dear Mr. Clemens:

Thank you for your letter of April 14, 1961, inquiring about use of our PDP-1 computer for instructional purposes. Research work is being performed at the present time by the staff of Bolt, Beranek and Newman, Inc., at 50 Moulton Street in Cambridge, Massachusetts, on the application of the PDP-1 computer to educational work. I am enclosing with this letter a copy of literature which describes the computer, but any information about programs for using it in educational work would only be available at the above organization.

I am forwarding a copy of your request to Mr. Edward Fredkin, and would suggest that you contact him directly should you have further questions about this. Thank you for your interest in DEC products.

Sincerely,

Harlan E. Anderson

HEA/ecp Enclosure: F-11

CC: Mr. Edward Fredkin, Bolt, Beranek and Newman, Inc.

Mr. Malcolm J. Rowe Airborne Instruments Laboratory Division of Cutler-Hammer, Inc. Deer Park Long Island, New York

Dear Malcolm:

I am enclosing with this letter a copy of our complete catalog and also a brief history of DEC that I hope will fulfill the request for more information. Please feel free to call upon us if there is anything specific we can help you with. If you or other AIL personnel have occasion to be in the Boston area, I would be pleased to show you our operation here in Maynard.

It was a pleasure to talk with you on the telephone, and I look forward to the opportunity to be of service to you.

Sincerely,

Harlan E. Anderson Vice President

HEA/ecp Enclosures: Complete Catalog, DEC Folder.

Mr. Robert F. McMurray, Senior Engineer The Geotechnical Corporation P. O. Box 28277 Dallas 28, Texas

Dear Bob:

This letter will confirm the information I provided to you on the telephone recently regarding training of your personnel on the PDP-1 computer here in Maynard, Massachusetts.

We would be pleased to provide informal training and operating experience of up to one week's duration at no cost to Geotechnical Corporation. This training will cover programming, logical techniques of the PDP-1 with emphasis on the ability to tie in special inputoutput equipment, and preliminary maintenance instruction.

This training does not place any obligation on Geotechnical Corporation regarding the possible purchase of a PDP-1 in the future. The week of May 15, as discussed with Mr. McKenzie on the telephone yesterday, will be quite acceptable for this visit.

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

Sincerely,

Harlan E. Anderson Vice President

April 21, 1961 Mr. George D. Sandel George D. Sandel and Associates 150 Tremont Street Boston 11, Massachusetts Dear Mr. Sandel: Your letter of April 18 to Mr. Olsen regarding the resume of Mr. Dennis Ryan has been referred to me. We do not at the present time have any openings well suited to Mr. Ryan's background. As you may know, his present employer is a direct competitor of ours. In view of this and any possibilities of misunderstanding, we do not plan to consider Mr. Ryan any further at this time. Sincerely yours,

HEA/iv

Harlan E. Anderson Vice President

April 21, 1961

Murdock, meg, 49197
Procurement Branch
Building 305
Aberdeen Proving Ground, Maryland

Dear Sirs:

Thank you for your request for quotation dated 14 April 1961 inquiring about an electronic counter. We are sarry to inform you that Digital Equipment Corporation does not manufacture electronic counters to meet the specifications outlined in your request.

Enclosed is descriptive titerature 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/jv Enclosures

April 21, 1961

Supply Officer
U. S. Naval Ordnance Laboratory
White Oak
Silver Spring, Maryland

Dear Sir:

Thank you for your Request No. 5-725 dated 17 April 1961 inquiring about an Ultrasonic Pulse Generator. We are sorry to inform you that Digital Equipment Corporation does not manufacture these particular units.

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 further assistance to you at any time, please do not hesitate to contact us.

Sincerely yours,

Harlan E. Anderson Vice President

HEA/iv Enclosures

April 14, 1961

Mr. J. H. Riddel, Manager Marketing Research & Services Radio Corporation of America Semiconductor and Material Division Somerville, New Jersey

Dear Mr. Riddel:

Thank you for your letter of April 12, 1961, indicating that your research team regarding Magnetic Memory Systems would be in the Doston area during the week of April 24, 1961. We would be very pleased to have them contact us in connection with the proposed date of Wednesday, April 26, at 2 p.m. At this moment, that date looks satisfactory, and we will in all probability be able to respond affirmatively when your people check about a week in advance of the date.

The other interested parties here at Digital Equipment Corporation would include Benjamin Gurley, Richard Best, Jonathan Fadiman and Kenneth Olsen. I have circulated a copy of your letter to them so that they know of your planned visit.

Thank you for suggesting this meeting, and we look forward to meeting you at that time.

Sincerely,

Harlan E. Anderson Vice President

April 14, 1961 Mr. R. John Griefen, Vice President Cabot, Cabot & Forbes Co. 60 State Street Boston 9, Massachusetts Dear Mr. Griefen: Your letter of March 30, 1961 to Mr. Olsen regarding Technology Square has been referred to me. Although we have no specific or immediate needs, we would be more than pleased to learn additional details about this new building program. Of particular interest would be the lease terms that you plan, minimum amount of space that could be rented, etc. If you would care to telephone me, I would be more than happy to meet with you at a mutually compatible time Sincerely, Harlan E. Anderson HEA/ecp

April 13, 1961

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

Attention Mr. John J. White, Jr., CCKC

Reference Purchase Request No. 148202

Gentlemen:

This letter will confirm our telephone conversation of Tuesday, April 11, 1961, regarding a revised exhibit and quotation for the purchase request referenced above. We at DEC agree that the exhibit may be revised to omit the instrumentation tape recorder being furnished by Digital Equipment Corporation. Instead, a suitable instrumentation tape recorder owned by the Air Force would be loaned to Digital Equipment Corporation for the purpose of testing the other portions of our system. In all other ways, the performance and technical specifications of the proposed analog to digital conversion unit would be identical with the original exhibit dated 30 January 1961. The length of time for which the instrumentation tape recorder would be needed for this testing would be approximately one month prior to delivery of the equipment. The exact date can be worked out as the project proceeds.

The new price for this system with the exhibit revision mentioned above would be \$59,742.00. This is a fixed price quotation the same as the original quotation was. We will hold this quotation in effect for sixty (60)

Air Force Command and Control Development Division April 13, 1961 Page 2

days from today's date.

Please let us know if there is anything further that we can do on this matter.

Sincerely,

Harlan S. Anderson Vice President

HEA/ecp

April 11, 1961

Dr. Clyde B. Cope
Director, Medical & Dental Applications, DM&S
Data Processing Staff
Veterans Administration
Department of Medicine & Surgery
Washington 25, D. C.

Dear Dr. Cope:

Reference: 10F

Thank you for your letter of April 6 suggesting a visit date of April 24, 1961. This date will be fine, and we look forward to seeing you at that time. We would be pleased to arrange local transportation to meet your plane or train if you would tell us the details of your arrival. I have asked Mr. John Koudela of our staff to be available at that time to assist in demonstrations and applications.

Since visiting you in March, I have consulted with some of our people on the question of the largest size of matrix that could be accommodated on the PDP-1. We do not have the computer program that actually does this, but a rather carefully prepared estimate shows that a matrix 40 x 40 could probably be inverted in less than one hour of computer time without partitioning of the matrix.

I am enclosing with this letter a copy of some application notes that you may find interesting in your work. Thank you for your continued interest in DEC's products.

Sincerely,

Harlan E. Anderson

HEA/ecp

Enclosures: Applications Notes

CC: John Koudela

April 11, 1961

Mr. Roscoe Irving
Lybrand, Ross Bros. & Montgomery
80 Federal Street
Boston 10, Massachusetts

Dear Roscoe:

Thank you very much for sending me a copy of the new book "Electronic Data Processing and Auditing." The table of contents looks very interesting, and I look forward to having occasion to use some material contained in it. I am also sure that many of the people in our accounting department will find it helpful. Thank you again for your thoughtfulness in sending us this book.

Sincerely

Harlan E. Anderson

HEA/ecp

April 10, 1961

Mr. Richard G. Derrigan 222 Tulip Avenue Floral Park Long Island, New York

Dear Mr. Derrigan:

Thank you for your letter expressing interest in Digital Equipment Corporation. We have added your name to our mailing list as you requested.

DEC stock is not publicly available at the present time, and, therefore, he annual reports to the stockholders are available. As you may know, we are a majority-owned affiliate of American Research & Development Corporation in Boston, Massachusetts, whose stock is currently being traded on the New York Stock Exchange.

I am enclosing a collection of our promotional literature which will give you an idea of our line of proprietary products. We employ over 160 persons in our 50,000 square foot plant here in Maynard, and if you should have occasion to be in the Boston area, we would be more than pleased to show you our facilities.

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

Sincerely.

Harlan E. Anderson Vice President April 6, 1961

University of Illinois Purchasing Division 200 Administration Building Urbana, Illinois

Attention Mr. D. F. Gillogly

Gentlemen:

Reference - Sealed Bid Request 4-1528

Regarding your letter of March 14, 1961, we are pleased to learn that paper work is now in progress for placing an order with Digital Equipment Corporation for the Digitally Addressed Cathode Ray Tube System.

This bid was submitted on the basis of using available techniques and components at Digital Equipment Corporation. Therefore, no development work which might result in a patentable invention is anticipated. However, we hereby indicate our willingness to accept the terms and conditions including Type "A" Patent Rights which you forwarded to me. In addition, we hereby extend the bid which was submitted for this work to be firm through May 31, 1961. We further certify that the prices quoted to the University of Illinois are equal to or better than those offered to any other customer for equal materials and/or services.

We look forward to this opportunity of doing business with the University of Illinois, and we want to assure you of our interest in this project.

Sincerely.

Harlan E. Anderson Vice President

April 6, 1961

University of California Lawrence Radiation Laboratory Post Office Box 808 Livermore, California

Attention Mr. W. D. Johnson

Gentlemen:

Reference Proposal - Digital Computer System No. 8030407

In reply to the technical question raised by Mr. Buchannan concerning the tape control units to be provided with the proposed digital computer, each of these tape controls can accommodate up to a maximum of 16 magnetic tape units.

Please let us know if we can be of any further help in providing additional technical information.

Sincerely,

Harlan E. Anderson Vice President

HEA/p

CC: T. G. Johnson J. B. Brown

April 3, 1961

University of California Lawrence Radiation Laboratory Post Office Box 808 Livermore, California

Attention: Mr. W. D. Johnson

Gentlemen: RE: Proposal Digital Computer System

In response to a recent telephone conversation with Mr. Buchannan, Digital Equipment Corporation is pleased to extend its bid expiration date on the above proposal for sixty (60) days. The new expiration date now is 17 May 1961 unless accepted or extended again. The prices, delivery time, and other conditions of proposal will remain firm throughout this extension.

Digital Equipment Corporation warrants that the component prices used in submitting this quotation are current and represent equal terms and conditions with the most favored DEC customer. The following itemized list represents the components that will be utilized in performing the proposed work:

Standard Programmed Data Processor - 1 \$110,000

Tape Control Unit Type 52 (compatible IBM) 35,000

Special Tape Control (similar to Type 52 except 40,000 compatible with Univac Tape)

Two Tape Units Type 50 (compatible IRM)	\$ 30,000	(total)
Two Special Magnetic Tape Units (similar to Type 50 except compatible Univac)	35,000	(total)
Visual CRT Display Type 30	10,300	
Special Precision Display (similar to Type 31 which costs \$16,000)	16,700	
Card Punch Control (similar to Type 41-523)	15,000	
Card Reader Control (similar to Type 41-523)	15,000	
72-Column Line Printer	38,700	
Multiply/Divide Type 10	10,300	
Substitution of High Speed Paper Tape Punch	1,800	

The only special charges included in the above itemization are those associated with the Remington Rand compatible tapa (\$10,009 additional) and grid generation on the scope (\$700 additional).

I hope that the above information will be helpful to you in evaluating our proposal for providing this digital computer. Please let us know if we can be of further help to you.

Sincerely,

Harlan E. Anderson Vice President

HEA/p Enclosures: F-11 (3)

CC: Mr. T. G. Johnson, DEC West Coast Sales Manager



30 March 1961

Mr. Harlan E. Anderson
Digital Equipment Corporation
Maynard
Massachusetts

Dear Harlan:

It has been a long time since I saw you. When I left the Computation Center at M.I.T., I went to work for International Electric Corporation, an ITT Associate, in Paramus, New Jersey, where I was involved in utility programming for the 465-L system. Recently, several of my associates there and I left to form a company of our own to do analysis and programming and offer consulting services. Another member of our company whom you may know from WHIRL-WIND days is Arnold Siegel.

I am enclosing a copy of our brochure which describes COMPUTRONICS. (If you know of anyone who would be interested in hearing about us, we would, of course, be delighted if you would let us know about them or vice versa.)

Incidentally, when I was still at I.E.C. and we were doing some proposal writing, I had occasion to study the specifications of your PDP I which impressed both Monroe Weinstein and me as being a very cleanly-designed small computer.

If you are ever in the New York area, stop in and see our offices which are only one mile from the George Washington Bridge, or give me a call at my apartment in Tenafly, New Jersey.

Best regards to you and Olga.

Yours truly,

Sheldon F Beel, Sheldon F. Best Vice-President

SFB:nah Encl. (1)B Dean Vernon Alden
Harvard University
Graduate School of Business Administration
Soldiers Field Road
Boston 63, Massachusetts

Dear Vern:

I am sorry that I neglected to give you your Director's fee before you had to leave the Board Meeting on Monday. I am enclosing it with this letter.

Sincerely,

Harlan E. Anderson

HEA/p Enclosure March 28, 1961

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

Attention: Mr. John J. White, Jr., CCRC

Gentlemen: RE: Purchase Request No. 148202

Digital Equipment Corporation is pleased to submit for your consideration a quotation on the purchase request referenced above. This quotation is submitted on a fixed price basis only and totals \$94,582. Even though this is a fixed price quotation, we have submitted the cost breakdown information that was requested in an effort to help you evaluate our quotation. This procedure is similar to that which we have used with other procurements from AFCCDD.

Thank you for this opportunity to submit this quotation, and please let us know if we can be of further help to you.

Sincerely,

Harlan E. Anderson Vice President

HEA/P

March 28, 1961 Mr. Robert J. Sandy, President Instruments For Measurements 3455 Cahuenga Boulevard Hollywood 28, California Dear Bob: It was a pleasure to have an opportunity to talk to you during the IRE Show in New York last week. I want to confirm in writing my offer to extend for one additional month the commission arrangement on the Aerojet account where you are hopeful of obtaining an order in the near future. This will expire on 9 May 1961. Please let us know if there is anything further we can do in helping you wind up this particular account. Sincerely, Harlan E. Anderson Vice President HEA/P CC: Mr. T. G. Johnson

March 24, 1961

University of California Purchasing Department La Jolla, California

Gentlemen:

Thank you for your Request for Quotation No. LJ-49137 dated March 9, 1961, inquiring about a medium speed data logging system, to fill the specifications stated in your letter.

After reviewing your specifications, we feel it is not possible for us to bid on your system at this time since we do not manufacture the necessary analog to digital converter in high speed tape punch which make up a large portion of your system.

Should you, at a later date, have a requirement for a system which contains a larger portion of Digital Logic Blocks, we would be happy to make a bid on such a system.

Sincerely.

Harlan E. Anderson Vice President

HEA: mc

March 24, 1961 Alpha Corporation 820 Arapaho Road Richardson, Texas ATTENTION: Mr. John Blair Gentlemen: Thank you for allowing Digital Equipment Corporation the opportunity to bid on your control buffer. Our price for the control buffer as described in the enclosed technical proposal is \$19,500. Delivery would be made within 3 months of receipt of order. The price of the control buffer will also include copies of an instruction manual and drawings which will be prepared in accordance with commercial standards. This price will also include the services of a DEC field engineer, who will aid in the installation of the control buffer at the Alpha Corporation plant. All components to be used in this system are made in the United States. This offer will be good for a period of 60 days. Our terms are F. O. B. Maynard, Net 30 days.

If there are any questions regarding this proposal, please do not hesitate to contact me.

Sincerely,

Harlan E. Anderson Vice President

HEA:mc Enclosures

CONTROL BUFFER FOR ALPHA CORPORATION

General Description

The control buffer is a transfer and memory system which will receive information from a data transmitter-receiver system and will feed information into a Bendix CB-11 Control Buffer. The control buffer will operate under control by both the transmitter-receiver and the Bendix CB-11.

The control buffer will have a minimum memory capacity of six data samples. Each data sample will consist of two 8-bit characters which include a total of 15 bits of information.

The input to the control buffer will be 15 bits of serial information per data sample. The control buffer will convert this sample into two 8-bit characters, will compute a parity bit for each character, and will add a flag bit for each character. The buffer output will be in parallel on 10 lines at a rate of approximately one character every 6 microseconds.

Input

The input to the control buffer should be on two lines, one line supplying the serial information and a second line supplying timing control. The information line should produce digitalized information with a minimum difference of 1 volt between a logical ONE and a logical ZERO. Each signal must be present for at least .2 microseconds. The control line should provide timing pulses to the control buffer when the data is available. The control pulses should have a minimum amplitude of 1 volt and a duration, at 1 volt, of at least 70 nanoseconds. An additional .2 microsecond should be allowed between receipt of data samples.

Output

The control buffer output will consist of parallel words of 10 bits each. Each word consists of an 8-bit character, an even parity bit and a flag bit. The output

will occur in bursts of approximately 8 to 12 characters each. The control buffer will signal the Bendix CB-11 when it is ready to transmit data and the timing will then be controlled by the Bendix computer. The parallel words will be transferred at a rate of approximately 6 microseconds per word. The control buffer output will be compatible with the inputs to the Bendix CB-11.

Circuitry

The control buffer will be constructed of Digital Equipment Corporation's 4000 Series and 1000 Series of packaged system modules. These are completely transistorized modules which are packaged on plug-in cards.

Mechanical and Accessory Equipment

The system will require approximately five DEC Type 1901 Mounting Panels which will be mounted in a standard 19 inch relay rack. The height of the system will be approximately 3 feet.

The system will also include the necessary power supplies which may be run from 60 cycle AC power.

March 23, 1961

Mr. Edward Ellis Bendix Systems Division Ann Arbor, Michigan

Dear Mr. Ellis:

It was a pleasure to talk to you during the I.R.E. Show in New York about the PDD-1 computer. It sounds like your radar application for it is an ideal one, and we would be pleased to help in any way we can to evaluate its potential usefulness. I am enclosing with this letter some literature and application notes which you may not have seen for the PDD-1.

I would like to extend an invitation to you and other members of Bendix to visit our plant in Maynard, Massachusetts, to see the PDP-1 in operation. Please feel free to call upon us if you would like to see such a demonstration.

Thank you for your interest in DEC.

Sincerely,

Harlan E. Anderson

HEA/P Enclosures: F-11, F-15A, Applications & Programming Folder. March 17, 1961

Douglas Aircraft Company, Inc. DM-20 Tal Project Office (A2-260) Missiles & Space Division 3000 Ocean Park Boulevard Santa Monica, California

Contlemen:

Digital Equipment Corporation is pleased to propose the use of a PDP-1 computer to Douglas Aircraft Company.

Technical investigations of the suitability of the PDS-1 to your application have been made jointly by Mr. Robert Murray of Douglas and members of the DEC staff. This letter outlines briefly how the PDP-1 computer (Digital Equipment Corporation) can process the DM-20 DDL quick look sarial data in either of two formats.

Data processing is defined as: input parity checking and data congruity checking, data word synchronization, IRM 729 Model XV (low density) tape preparation, mathematical calculation partially involving integration of every 59th data point over a period of 13 x 10° data points, and printing of 22,000 lines of data during fixed time intervals.

The above will be done by using two computer passes and will produce quick look data within a period of less than eleven hours. The first pass involves producing an unsynchronized, rough gapped tape directly from a simple serial to parallel converter acting as input. The second pass consists of processing this rough gapped

The required equipment and respective purchase prices are as follows:

1 1	PDP-1	Computer	(4096	words	Of	memory)		\$110,000.00
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1 Magnetic Tape Control Unit Type 51 7,500.00

2 Magnetic Tape Units Type 50 30.000.00

1 Serial to Parallel Converger (special) 2,500.00

TOTAL \$151,800.00 Net

The above prices are f.o.b. Maynard, Massachusetts

5 Flexowriters (from Friden Corp. directly) 17,500.00 (approx.)

In addition to the above named hardware, the following programs will be included at delivery time:

- DECAL, an integrated programming system incorporating all of the essential features of advanced assemblers, compilers and loaders.
 DECAL performs the task of systems monitor in addition to assembling and/or compiling the object program.
- 2. All library programs in use at time of hardware delivery. This currently includes such subroutines as required for single and double precision floating point arithmetic, input-output handling and the generation of basic functions.
- * 110 c/s punch to be available at additional cost.

Douglas Aircraft Company - 3 -March 17, 1961 Douglas Aircraft will also be invited to apply for membership in the PDP Users Group, thus benefiting from the mutual interests of all PDP-1 users. The above prices can be considered as a firm systems quotation to be effective for a period not to exceed 60 days from the date of this quotation. Arrangements to lease the required equipment can be made with Digital Equipment Corporation. In addition, maintenance can be arranged should you wish. Thank you for this opportunity to submit this quotation to you, and let us know is we can be of further assistance. incorely. Barlag E. Anderson Vice President HEA/p Enclosure: F-11 CC: Mr. Robert Murray, Conm. Syst. (A2-260) Mr. T. W. Korpela, Instrumentation (A2-260) Mr. F. Cole, Computing (A2-260) Mr. J. Ferrel, Data Eng. (A2-260) Mr. T. G. Johnson, DEC West Coast Sales Manager

March 17, 1961

Dr. Clyde B. Cope
Director, Medical and Dental Applications
Data Processing Staff
Veterans Administration
Department of Medicine & Surgery
Washington 25, D. C.

Dear Dr. Cope:

Reference: 10F

I wish to confirm my plan to visit you on Wednesday. March 22, at 2 p.m. I am enclosing with this letter a folder giving some of the technical characteristics of the Programmed Data Processor.

Sincerely,

Harlan E. Anderson

ep Enclosures: F-11, F-15A

March 17, 1961

Mr. Thomas W. L. Cameron Hopper, Soliday & Co. 1420 Walnut Street Philadelphia 2, Pennsylvania

Dear Mr. Cameron:

Thank you for your letter of March 14, 1961, expressing interest in Digital Equipment Corporation. I don't believe I had the pleasure of meeting you at the American Research & Development Annual Meeting a few weeks ago. I will enclose with this letter rather complete product information which describes our activity probably better than any other single document.

Digital Equipment Corporation is now about three and one-half years old and has 160 employees. Most of the key technical people were originally at the Lincoln Laboratory of the Massachusetts Institute of Technology in Lexington before joining DEC. We will be having a technical exhibit of our products at the IRE Show in New York next week, and I am enclosing a complimentary ticket should you have occasion to attend.

If you happen to be in the Boston area at any time and would like to visit our plant, I would be more than glad to arrange for a tour of our facilities and to discuss our activities further. As you know, DEC is not a publicly owned company, and therefore no annual reports are issued. Thank you for your interest in DEC, and let us know if we can be of further help to you.

Sincerely,

Harlan E. Anderson Vice President

HEA/įv Enclosures – I.R.E. Ticket Complete catalog

March 15, 1961 Mr. Wayne P. Brobeck Vitro Corporation of America Suite 245 777 14th Street, N. W. Washington 5, D. C. Dear Wayne: My present plans call for me to be in Washington on Wednesday, March 22, and if you are available, I will call you in the morning to see if we can have lunch together. I hope that I will not have to cancel my trip this time. Sincerely, Harlan E. Anderson HEA/p

March 15, 1961

Mr. Kurt Hansen
John Hancock Mutual Life Insurance Company
Electronic Data Processing B-7
200 Berkeley Street
Boston 17, Massachusetts

Dear Mr. Hansen:

Thank you very much for taking the time recently to view a demonstration of the Programmed Data Processor computer. I am enclosing with this letter a copy of various programming memoranda for this machine. Let us know if we can be of any further help in investigating potential applications of it in your work.

Sincerely,

Harlan E. Anderson Vice President

HEA/p Enclosures: F-15A, Applications & Programming Folder March 15, 1961

Mr. Horace Schermerhorin, Jr.
John Hancock Mutual Life Insurance Company
Electronic Data Processing B-7
200 Berkeley Street
Boston 17, Massachusetts

Dear Mr. Schermerhorin:

Thank you very much for taking the time recently to view a demonstration of the Programmed Data Processor computer. I am enclosing with this letter a copy of various programming memoranda for this machine. Let us know if we can be of any further help in investigating potential applications of it in your work.

Sincerely,

Harlan E. Anderson Vice President

HEA/p Enclosures: F-15A, Applications & Programming Folder March 15, 1961

Frederick H. Edwards
Associate Professor of Electrical Engineering
University of Massachusetts
Amherst, Massachusetts

Dear Professor Edwards:

Thank you for your letter of March 1, 1961, inquiring if there was a possibility of summer employment. We do have a limited number of these openings from time to time, and would like very much to have an opportunity to discuss our work and employment possibilities in our engineering activity that would be of interest to you.

I would like to extend an invitation to you to visit our plant here in Maynard, Mass., at our expense, if you would like to discuss this further. Please let me know if you would like to come so that we may arrange a date which is convenient for you.

I am enclosing with this letter some promotional literature describing our products which I hope you may find of interest. Perhaps these will help give you a better picture of our activities.

Thank you for your interest in DEC, and I look forward to meeting you.

Sincerely,

Harlan E. Anderson Vice President

HEA/p Enclosure: Complete Catalog

MAYNARD, MASSACHUSETTS
TWINOAKS 7-8821

March 14, 1961

Mr. William W. Farr, Jr. 420 Memorial Drive Cambridge, Massachusetts

Dear Mr. Farr:

I was very pleased to interview you last week and to hear of your interest in Digital Equipment Corporation. We are very interested in hiring productive and creative engineers in order to maintain our position of leadership in advanced digital technology to the digital field. We would like very much to have the opportunity to have you visit our plant to show you just what we are doing and show you what facilities we have. I am enclosing a map which will help you find the plant, if you have the opportunity to visit us.

If you need transportation to Maynard, a bus leaves Harvard Square at the corner of Massachusetts Avenue and Gardner Street every hour at 25 minutes past the hour beginning at 8:25 a.m.

We would like to have you talk to some of our senior engineers; and if you call Mrs. Charnock in our Personnel Department, she will arrange a convenient date for your visit. The best number to call is our Waltham phone, which is Twinbrook 9-0510. The week of March 20 to 24 will be inconvenient from our standpoint because of the I.R.E. Show in New York City which most of our engineers will be attending.

Enclosed is a copy of our own application form which we would like you to fill out because it has a little more information and is in a form which we find easier to use. Please bring this completed form with you at the time of your visit.

If you have any questions, do not hesitate to call me at the above number.

Sincerely yours,

HEA/nd Enclosures

Harlan E. Anderson

March 14, 1961 Mr. Jon K. Clemens 19 Brighton Avenue Allston, Massachusetts Dear Mr. Clemens: I was very pleased to interview you last week and to hear of your interest in Digital Equipment Corporation. We are very interested in hiring productive and creative engineers in order to maintain our position of leadership in advanced digital technology to the digital field. We would like very much to have the opportunity to have you visit our plant to show you just what we are doing and show you what facilities we have. I am enclosing a map which will help you find the plant, if you have the opportunity to visit us. If you need transportation to Maynard, a bus leaves Harvard Square at the corner of Massachusetts Avenue and Gardner Street every hour at 25 minutes past the hour beginning at 8:25 a.m. We would like to have you talk to some of our senior engineers; and if you call Mrs. Charnock in our Personnel Department, she will arrange a convenient date for your visit. The best number to call is our Waltham phone, which is TWinbrook 9-0510. The week of March 20 to 24 will be inconvenient from our standpoint because of the I.R.E. Show in New York City which most of our engineers will be attending. Enclosed is a copy of our own application form which we would like you to fill out because it has a little more information and is in a form which we find easier to use. Please bring this completed form with you at the time of your visit. If you have any questions, do not hesitate to call me at the above number. Sincerely yours, Harlan E. Anderson HEA/nd Enclosures

March 14, 1961

Mr. Robert R. Everett, Vice President Mitre Corporation Bedford, Massachusetts

Dear Bob:

It was a pleasure for Ken and I to have dinner with you last evening and discuss the many things that have happened in the past few years. You mentioned that you would probably not be in town Friday. However, if you are, we would be very pleased to have you attend the dedication of our first Programmed Data Processor at Bolt, Beranek and Newman. This will include a buffet dinner in their new building at 50 Moulton Street in Cambridge beginning at 6:30 p.m. If your plans change so that you are in town please feel welcome to come.

In any event, let me extend an invitation to visit us here in the plant at Maynard in the near future. Most of us will be in New York next week at the I.R.E. Show, and I will plan to telephone you the following week to see if we can find a suitable time.

Thank you for the invitation to see your new home in Weston, and we may take you up on it before too long.

Sincerely,

Harlan E. Anderson

March 9, 1961 American Airlines 470 Atlantic Avenue Boston 10, Massachusetts Attention: Miss lannone Gentlemen: Please Issue Individual Air Travel Cards (not "Q" cards) to the following new employees at DEC: Richard L. Whipple Edson D. de Castro Allan N. Blumenthal Rossell C. Donne. If you require any further information, please be sure to let us know. Sincerely yours, Harlan E. Anderson Vice President HEA/jv

Miss Dorothy E. Rowe, Treasurer
American Research & Development Corporation
The John Hancock Building
Boston 16, Massachusetts

Dear Dorothy:

Enclosed are six complimentary tickets for the IRE Show in New York. I hope that you will find it possible to attend, and perhaps we will see you there.

Sincerely,

Harlan E. Anderson

HEA/p

Enclosures: IRE Tickets (6)

March 8, 1961

Mr. A. F. Dabssandro 7503 Detroit Avenue Cleveland 2, Ohio

Dear Mr. Dabssandro:

Thank you for your recent postcard inquiring about DEC stock. Our stock is not publicly available at the present time, and we do not expect it to become so in the immediate future. As you may know, we are a majority-owned affiliate of American Research & Development Corporation in Boston, whose stock, incidentally, is going to be traded on the New York Stock Exchange within the next few days.

I am enclosing a collection of our promotional literature describing our complete product line. I hope you will find this of interest.

We thank you for your continued interest in Digital Equipment Corporation, and if I can be of further service to you, please be sure to let me know.

Sincerely,

Harlan E. Anderson

ep Enclosures: CL

March 8, 1961

H. Mark McNeal Company 1011 Liberty Life Building Charlotte 2, North Carolina

Gentlemen:

Thank you for your recent postcard requesting information on Digital Equipment Corporation. DEC stock is not available publicly at the present time, and we do not expect it to become so in the immediate future. Therefore, no annual reports to stockholders are prepared. As you may know, we are a majority-owned affiliate of American Research & Development Corporation in Boston, whose stock, incidentally, is going to be traded on the New York Stock Exchange within the next few days.

I am enclosing a collection of our promotional literature, which will give you an idea of our line of proprietary products. We thank you for your interest in Digital Equipment Corporation, and if you have any questions, or if I could be of further service to you, please be sure to let me know.

Sincerely,

Harlan E. Anderson

ep Enclosures: CL

March 8, 1961 Mr. M. E. Salveson 16 Parish Road New Canaan, Connecticut Dear Mr. Salveson: Thank you for your recent request for financial information on Digital Equipment Corporation. DEC stock is not publicly available at present, and we do not expect it to become so in the immediate future. Therefore, no annual reports to the stockholders are available. As you may know, we are a majority-owned affiliate of American Research & Development Corporation in Boston, whose stock, incidentally, will be traded on the New York Stock Exchange in the next few days. I am enclosing a collection of our promotional literature describing our complete product line, which I hope you will find of interest. If you have any questions, or if I can be of further help to you, please be sure to let me know.

Thank you for you interest in DEC.

Sincerely,

Harlan E. Anderson

ep Enclosures: CL

March 8, 1961

Professor Martin Greenberger Lecture Series Chairman M.I.T. School of Industrial Management 50 Memorial Drive Cambridge 39, Massachusetts

Dear Professor Greenberger:

Thank you for your recent invitation to attend the March 13th lecture on "Management and the Computer of the Future". Ken Olsen and I both plan to attend the lecture as well as cocktails and dinner at the Faculty Club.

We look forward to meeting you at that time.

Sincerely,

Harlan E. Anderson

HEA/p

Enclosure: Reservation Card

March 7, 1961

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

Attention: Mr. Thomas M. Walsh, CCKC

Gentlemen: RE: Purchase Request No. 151392

The following information supplements our letter of February 24, 1961, and our Technical Proposal of February 27, 1961, on the referenced Purchase Request.

The equipment that is proposed for this procurement by Digital Equipment Corporation will be serviced by Digital Equipment Corporation for a period of one year following installation at no charge to the Air Force. 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.

Digital Equipment Corporation will provide training for maintenance personnel and programmers at the DEC 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 equipment prior to shipment. Up to two persons for a period of four weeks can be accommodated. The programmer training is of a familiarization nature and will cover up to three persons for a period of two weeks. Both of these training programs are based on the assumption that 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 unit.

I hope that you find the above information helpful in evaluating our proposal for this piece of work. Please feel free to let us know if there is any further information you would like.

Sincerely,

Harlan E. Anderson Vice President

March 7, 1961

Mr. Norman Shapiro National Institute of Health Bethesda, Maryland

Dear Mr. Shapiro:

Ben Gurley has told me of the interest in the PDP-1 at the National Institute of Health. I had hoped to make a trip to Washington this week to discuss the application with you and other interested parties further. However, my present plans prohibit this possibility. I am enclosing with this letter some application and programming information concerning PDP-1 which you may not have at the present time.

Concerning a future date to get together and discuss applications further, there are two possibilities. First, most of our engineering people will be attending the IRE Show during the week of March 20, and we could conveniently meet with you at that time. In New York City if you plan to attend. We will have an exhibit at the New York Coliseum where you could contact us. The other possibility is to select a date in the future to have a meeting in Washington. Please let us know which of these would be more convenient and helpful to you.

Sincerely,

Harlan E. Anderson

HEA:ecp Enclosure: Applications and Programming Folder Mr. Wayne P. Brobeck 5113 Scarsdale Road Washington 16, D. C.

Dear Wayne:

My plans have changed since I talked with you yesterday, and I will not be coming to Washington this week after all. I hope to get to Washington during the week of March 20, and if I do, I will contact you at that time.

I was very pleased that we had an interesting and helpful meeting yesterday, and want to thank you very much for coming, in view of the closeness to the AR&D meeting last week.

Sincerely,

Harlan E. Anderson

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

I am pleased to hear that you plan to carry out the experimental connecting of your Nuclear Data Pulse Height Analyzer to the PDP-1. We normally use -3 volts as the ONE signal, and you will not need a diode to cut out the +3 volt part of your signal. The current that you will need to supply is approximately 1 ma, so there will not be any need for current amplification.

The control signals that are available can be either pulses or levels. If you prefer pulses, they will be 0.4 microsecond wide and -2.5 volts in amplitude. If they are levels, they will go between 0 and -3 volts. The computer can definitely send back a signal to indicate that it has received the information from your equipment. The simplest way to do this on an experimental basis would be to program it by use of an iot instruction with a particular address associated with this function. There are many spare addresses available for this type operation.

Let us know when you are ready to proceed further, and we are most anxious to cooperate in any way that we can. Thank you for your continued interest in DEC products.

Sincerely,

Harlan E. Anderson

HEA:ep Enclosure A-400A

March 2, 1961

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

Attention: Mr. Thomas M. Walsh, CCKC

Gentlemen:

Enclosed is the Technical Proposal for Purchase Request No. 151392.

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

Sincerely,

Harlan E. Anderson Vice President

HEA:ecp

Enclosures: Technical Proposal (2)

February 28, 1961 Mr. Robert J. Sandy, President Instruments for Measurements 3455 Cahuenga Boulevard Hollywood 28, California Dear Bob: Thank you for your letter of 15 February 1961 expressing your views on our recent decision regarding sales representation in your area. While we respect these views, the decision is a firm one. The decision is really based on our conclusions concerning use of sales representatives in major market areas in general, rather than any specific conclusions with regards to Instruments for Measurements. As evidence of this, we do not plan to engage a new representative in your area in the foreseeable future. It is unfortunate that you now feel the contract you entered into with us did not allow for a long enough evaluation period. Because of your feelings on the matter, we have decided to extend the terminating date on two specific accounts until 9 April 1961 even though this is outside of the contractual arrangement. The accounts involved are Food & Machinery Corporation, San Jose; and Aerojet, Sacramento. North American Aviation in Los Angeles is not included in this extension since it has been a customer of ours long before Instruments for Measurements became our representative. We are providing this extension because we value you as a business associate and wish above all else to terminate our contract on a friendly note. We enjoyed working with Instruments for Measurements and regret that we find it necessary to terminate this contract. Sincerely, Harlan E. Anderson Vice President HEA/iv cc: T. G. Johnson

February 24, 1961

Dr. John R. Wolff 757 Locust Street Winnetka, Illinois

Dear Dr. Wolff:

Thank you for your postcard requesting information on Digital Equipment Corporation. DEC stock is not publicly available at present, and we do not expect it to become available in the immediate future.

As you may know, we are a majority-owned affiliate of American Research & Development Corporation in Boston, Massachusetts. We have been in business for three and one-half years, and we manufacture a broad line of products for the computer industry. I am enclosing literature describing our complete product line, which I hope will be of interest to you. If you ever have occasion to be in the New England area, we would be very happy to show you our facility.

Thank you for your interest in DEC.

Sincerely,

Harlan E. Anderson Vice President

ep Enclosures: CK

Mr. Mirek J. Stevenson Samson Associates, Inc. Briarcliff Manor, New York

Dear Mr. Stevenson:

Thank you for your postcard requesting information on Digital Equipment Corporation. As there is no DEC stock traded publicly, no annual reports to stockholders are prepared.

We are enclosing literature describing our complete product line, which we hope will be of interest to you. If we can be of any further service to you, be sure to let us know. We thank you for your interest in DEC.

Sincerely,

Harlan E. Anderson Vice President

Mrs. George Stewart Apartment 7B 550 Center Street Nutley, New Jersey

Dear Mrs. Stewart:

Thank you for your letter of February 12 requesting information about Digital Equipment Corporation. DEC stock is not publicly available at present, and, therefore, no annual financial reports to stockholders are prepared.

As you may know, DEC is a majority-owned affiliate of American Research & Development Corporation in Boston, Massachusetts. We have been in business approximately three and one-half years, and have become one of the leaders in the field of computer building block equipment. DEC also manufactures systems which include memory testing devices for computers and complete data processing units. I am enclosing literature describing our complete product line, which I hope you will find of interest. We employ over 150 people in our 50,000 square foot plant here in Maynard, and if you have occasion to be in the Boston area, we would be happy to show you our plant.

Thank you for your interest in DEC.

Sincerely,

Harlan E. Anderson Vice President

Mr. Benjamin Krock 1454 Beacon Street Brookline, Massachusetts

Dear Mr. Krock:

Thank you for your letter of February 13 requesting information on Digital Equipment Corporation. DEC stock is not publicly available at present, and therefore, no annual financial reports to stockholders are prepared.

As you may know, DEC is a majority-owned affiliate of American Research & Development Corporation in Boston, Massachusetts. We have been in business approximately three and one-half years, and have become one of the leaders in the field of computer building block equipment. DEC also manufactures systems which include memory testing devices for computers and complete data processing units. I am enclosing literature describing our complete product line, which I hope you will find of interest. We employ over 150 people in our 50,000 square foot plant here in Maynard, and if you ever happen to be in this vicinity, we would be very happy to show you our plant.

Thank you for your interest in DEC.

Sincerely,

Harlan E. Anderson Vice President

Mr. Clair M. Donovan 2360 Kent Boulevard, N. E. Grand Rapids 3, Michigan

Dear Mr. Donovan:

Thank you for your letter requesting information about Digital Equipment Corporation. As no DEC stock is publicly available, we do not publish an annual report describing the over-all company operation.

As you may know, DEC has been in business approximately three and one-half years 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. I am enclosing literature describing our complete product line, which I hope will be of interest to you.

At the present time, we employ over 150 people in our 50,000 square foot plant here in Maynard, and if you ever have occasion to be in the New England area, we would be very pleased to show you our plant.

Sincerely,

Harlan E. Anderson Vice President

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

Attention: Mr. Thomas M. Walsh, CCKC

Reference: Purchase Request No. 151392

Gentlemen:

In connection with submitting the attached quotation in response to the referenced Air Force request, I am enclosing for your confidential use financial information for Digital Equipment Corporation as of December 31, 1960.

It is understood that this information is to be used by you for the sole purpose of evaluating the financial capability of Digital Equipment Corporation to undertake the proposed items of work.

I would like to point out that this proposed item of work along with PR No. 90562 represent a somewhat different type of work for our company. Therefore, the appropriateness of the financial statements to the proposed work is seriously questioned. The financial statements cover sales of proprietary products in essentially commercial markets.

Should you wish to discuss the above information further, please feel free to call upon me at your convenience.

Sincerely,

Harlan E. Anderson Vice President

Enclosures: Quotation Form DD747
Financial Statements

Mr. Malcolm E. Rowe Airborne Instruments Laboratory Deer Park Long Island, New York

Dear Mr. Rowe:

We are enclosing a letter received from Astra, Inc., in Raleigh, N. C., which was meant, we believe, for Airborne Instruments Laboratory.

Sincerely,

Harlan E. Anderson

ep Enclosure 1

February 22, 1961 Mr. Edwin Norbeck State University of Iowa Department of Physics & Astronomy lowa City, Iowa Dear Mr. Norbeck: I was pleased to have an opportunity to discuss your application for a PDP-1 with you on the telephone recently. We would be very pleased to provide PDP-1 time on our machine, at no charge, at our plant here in Mayourd, Massachusetts, for your use in evaluating its suitability for your application. Connecting in the pulse height analyzer, as you described it, would be no problem at all and I am sure that you would find PDP-1 convenient and easy to use. I am enclosing with this letter a number of internal preliminary programming documents that you might find helpful and interesting. I amalso enclosing three examples of short programs which have been prepared in the FRAP symbolic language. The first two of these utilize the oscilloscope display and the third one demonstrates the use of the typewriter. I am also enclosing a copy of the light pen tracking program that I mentioned to you on the telephone. Should you have any questions concerning this material, don't hesitate to contact myself or Gordon Bell, of Digital Equipment Corporation, who is more familiar than I with the details of these programs. Let me know how your investigation and plans proceed and when you would like to visit Maynard, Massachusetts. Thank you for your continued interest in PDP-1. Sincerely yours, Harlan E. Anderson HEA/IV Enclosures

ARA

February 20, 1961

Mr. Robert W. Hughes International Telephone & Telegraph Corporation 67 Broad Street New York 4, New York

Dear Mr. Hughes:

In accordance with your request during our meeting last week, we have reviewed the design of the prototype ADX system which we are now building and have added on those parts necessary to make it into one-half of a duplex ADX system. These added parts consist of relay switching in each transmitter and receiver, relay switching between the tape control and the PDP-1 computer and relay switching between each magnetic tape unit and the tape control. After producing and testing of the prototype relay switching, we are hopeful that the production prices will be somewhat less than the costs we are now quoting.

Accordingly, the new price for these items originally quoted in our letter to you of January 17, 1961, are:

14 Teletype Transmitters including duplex switching	\$18,200.
14 Teletype Receivers Including duplex switching	25,900.
1 Tape Control with High Speed Channel	35,000.
1 Duplex Switch for above	5,000. additional
2 Tape Transports (\$15,000 each)	30,000.
2 Duplex Switching Sets for Tape Transports (\$2,500 each)	5,000. additional

These changes bring the total price of the prototype that we are now engineering and producing for ITT to \$270,700 net. The detail design work is progressing

Mr. Robert W. Hughes —2— February 20, 1961

satisfactorily, and we look forward to meeting with you in the near future to work out further details on the over-all program, including acceptance test plans, etc. We continue to be confident of the delivery date of July 31, 1961. We are now nearly halfway through the tentative two month period, and a firm go ahead at the earliest date consistent with your technical evaluation will, of course, be most helpful in assuring mutual success.

Let us know if there is anything further that we can do to be of help to you.

Sincerely,

Vice President

HEA/IV

cc: Dr. Louis T. Rader

February 17, 1961

Mr. Robert Cesari Blair & Buckles 1572 Massachusetts Avenue Cambridge 38, Massachusetts

Dear Bob:

Here is the Air Force contract material I promised to send you today.

Sincerely,

Harlan E. Anderson

ep

February 17, 1961

Dr. B. G. Rosner Veterans Administration Hospital Yale University New Haven, Connecticut

Dear Dr. Rosner:

Here is the catalog that I promised to send to you when talking with you on the phone today.

Sincerely,

Harlan E. Anderson

Enclosure:

Complete Catalog

February 17, 1961

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

Dear Mr. Norbeck:

I was very pleased to receive your letter of February 12, 1961, indicating that the PDP-1 computer is receiving favorable consideration for on-line application with a nuclear accelerator.

In answer to your question about rental rates, the PDP-1 computer is not available on a rental plan at the present time. There is some possibility of a rental plan being available in the future, but it is quite indefinite at the moment. However, many of the benefits of a rental plan are available through commercial leasing companies throughout the United States. Some of these would be U. S. Leasing Corporation, Booth Leasing, etc. I am sure that members of the business office of the State University of Iowa would be familiar with the type of company that I am referring to. The way they operate would be to purchase the equipment that you select from Digital Equipment Corporation and, in turn, lease it to the State University of Iowa for your use. The monthly lease rate on a four-year lease plan is typically 1/40 of the purchase price. Let us know if we can be of any help in getting you in touch with a suitable company of this type.

With the above in mind, I will give you the current purchase prices of the items you expressed interest in.

They are:	PDP-1 with 4096 words of memory -	\$110,000
	Cathode Ray Tube Display -	10,300
	Magnetic Tape Unit -	15,000
	Magnetic Tape Control, Type A	7,500
	Magnetic Tape Control, Type B	35,000
	Light Pen -	1,300

The basic PDF-1 includes an on-line typewriter, photoelectric tape reader, and paper tape punch. Most customers prefer to use a Flexowriter as an off-line paper tape preparation device for programming purposes or off-line printing. This can be obtained directly from the Friden Corporation. We would be pleased to suggest a suitable Friden model number and other desirable characteristics for this unit.

The characteristics of the 16" cathode ray tube display option for the computer are carefully matched to the computer itself. I would doubt if there would be any significant savings in attempting to apply analog voltages directly to a cathode ray tube yourself. The cathode ray tube is mounted in a very convenient console as shown in the enclosed photograph. The light pen which you asked about is an accessory for the cathode ray tube display and is basically a photo cell mounted in a pen-like device. If the light pen is pointed at an intensified spot on the oscilloscope, a signal is sent back to the computer while the XY coordinates of that spot are still in the arithmetic unit. This signal is then used to condition a jump instruction, thus allowing for convenient operator intervention and control

of the complete computer. This facility is completely general purpose in nature and its function is determined by the computer program which is written. For example, a graph can be essentially drawn on the face of the oscilloscope by an operator. The points of a graph drawn in this way are available for internal processing by the computer. This means that the equation of the graph could be determined or any other uses could be made of a graph so drawn. The drawing is essentially done by the computer tracking the present position of the light pen.

I am not familiar with the details of pulse height analyzers; however, the logic voltage levels required to feed into the PDP-1 are zero and -3 volts. These signals would then be used as conditioning levels on pulse gates going into the in-out register. The computer can sample these conditioning levels under program control by means of an iot instruction.

When magnetic tape is used with PDP-1, there would be adequate time to read in one 18-bit number between the 15KC tape writing operations, regardless of which tape control is utilized. Tape Control A deals with the magnetic tape one line at a time, and all timing and control signals are generated by program control. Tape Control B provides for automatic block transfer of computer words from the magnetic tape to the magnetic core memory or the other way around. The only program steps required are those to specify the length of the block to be transferred and the starting address of the block. All other controls and transfers are performed automatically by the tape control unit. It will interrupt the memory sequences whenever it has an 18-bit computer word ready to be transferred. This latter tape control provides for extensive computing while data is being transferred to or from the magnetic tape unit

Mr. Edwin Norbeck -4-February 17, 1961 while the Tape Control A provides only very limited ability to perform simultaneous computing while transferring data. I hope that you find the above information helpful in your continued consideration of the PDP-1. May I suggest that it might be very helpful to you to see a PDP-1 in operation here at our plant in Maynard, Mass. We would be more than pleased to have you visit us for a demonstration and further explanation on the computer. Let me know if you would like to take advantage of this opportunity. I am enclosing with this letter a packet of new application literature including some of the assembly and compiler routine descriptions that you may find interesting. Please let me know if we can be of further service to you. Sincerely, Harlan E. Anderson HEA:p Enclosures: Applications and Programming Folder Photograph PDP-1 and Scope

February 16, 1961

Mr. Charles Walker Airborne Instruments Laboratory Deer Park Long Island, New York

Dear Mr. Walker:

Enclosed please find material describing the High Speed Tape Control that I mentioned to you on the telephone yesterday. I hope that this information will be helpful to you in evaluating the usefulness of the PDP-1 in your activity.

Sincerely,

Harlan E. Anderson

HEA: ecp

Enclosure: HSTC Memo

February 16, 1961

Mr. R. F. McMurray, Senior Engineer The Geotechnical Corporation 3401 Shiloh Road Garland, Texas

Dear Mr. McMurray:

This letter will confirm our recent telephone conversation regarding the availability of a lease plan for our PDP-1 computer. The offer of this lease plan will be held firm for a period of thirty days from the date of this letter. These terms are available for the standard PDP-1 and its standard options as enumerated below.

The monthly rental payments for the items shown in our letter to you of January 17, 1961, are as follows:

- 4.a. The basic PDP-1 \$3,660 per month.
- 4.e. Magnetic Tape Unit (compatible IBM) \$500 per month.

Tape Control Model A - \$250 per month.

The following items were not quoted in our letter of January 17, 1961, but may be of interest to you. They are:

- Cathode Ray Tube Display Purchase Price \$10,300, or \$340 per month.
- Light Pen for above Purchase Price \$1,300, or \$45 per month.

Mr. R. F. McMurray - 2 -February 16, 1961 None of the above prices include maintenance of the equipment. This lease will be continuously in effect from date of signing. It can be cancelled by either party giving ninety-day notice in writing to the other party. In any event, it shall run for a period not less than twelve months. Sixty-five per cent of each monthly rental payment may be applied toward the original purchase price of the items being rented. If the full twelve months' rental charges are prepaid at the time of delivery of the computer, seventy per cent of the rental payments can be applied toward the purchase price of the computer. In any event, not more than ninety per cent of the original purchase price of the computer can be accumulated through rental equities The above are the outstanding features that would be in such a lease. If these features are basically acceptable to you, we will proceed with drawing the formal lease for signature by the appropriate parties. I hope that this information coupled with our original offer of January 17, 1961, will prove helpful to you in evaluating the PDP-1 for use in your program. If we can be of further help to you, please feel free to contact me. Sincerely, Harlan E. Anderson Vice President HEA: ecp Enclosure: Applications and Programming Packet

February 13, 1961

Sidney Z. Fish, D.D.S. 52 Cobane Terrace West Orange, New Jersey

Dear Dr. Fish:

Thank you for your letter of February 9 requesting information on Digital Equipment Corporation. DEC stock is not publicly available at present, and therefore, no annual financial reports to stockholders are prepared.

As you may know, DEC is a majority owned affiliate of American Research & Development Corporation in Boston, Massachusetts. We have been in business approximately three and one-half years, and have become one of the leaders in the field of computer building block equipment. DEC also manufactures systems which include memory testing devices for computers and complete data processing units. I am enclosing literature describing our complete product line which I hope you will find of interest. We employ over 150 people in our 50,000 square foot plant here in Maynard, and if you have occasion to be in the Boston area, we would be happy to show you our facility.

Thank you for your interest in Digital Equipment Corporation.

Sincerely yours,

Harlan E. Anderson Vice President

February 13, 1961

Mr. A. O. Villamil 4685 S. W. 13th Terrace Miami 44, Florida

Dear Mr. Villamil:

Thank you for your letter of February 7 requesting information on Digital Equipment corporation. DEC stock is not publicly available at present, and we do not expect it to become available in the near future.

As you may know, DEC is a majority owned affiliate of American Research & Development Corporation in Boston, Massachusetts. We have been in business approximately three and one-half years, and have become one of the leaders in the field of computer building block equipment. DEC also manufactures systems which include memory testing devices for computers and complete data processing units. I am enclosing literature describing our complete product line which I hope you will find of interest. We employ over 150 people in our 50,000 square foot plant here in Maynard, and if you ever have occasion to be in the New England area, we would be more than pleased to show you our facility.

Sincerely yours,

Harlan E. Anderson Vice President

February 10, 1961

Mr. Robert McGrath International Electric Corporation Route 17 Paramus, New Jersey

Dear Mr. McGrath:

Enclosed please find some additional technical information pertaining to our new Programmed Data Processor - 1. I hope that you find this information helpful in evaluating the PDP-1 for use in your circuit checking application. I think you will find the oscilloscope a unique facility that would be of considerable aid in your project.

Please feel free to call upon us if we can be of any further help to you.

Sincerely,

Harlan E. Anderson

HEA/P

Enclosures: F-15, P&A Folder

February 10, 1961

Dr. Thomas Truitt Electronic Associates, Inc. Box 582 Princeton, New Jersey

Dear Tom:

Enclosed is the information that I mentioned to you on the telephone on Wednesday. I hope that it will prove useful to you in your study of combined analog digital techniques. Let us know if you have any specific questions that we could help you with.

If you have occasion to be in the Boston area again, I would be very pleased to have an opportunity to talk with you further on the subject.

Sincerely,

Harlan E. Anderson Vice President

HEA/p Enclosures: F-15, P&A Folder February 8, 1961

Mr. Robert H. Penney Wolf Research & Development Corporation 462 Boylston Street Boston, Massachusetts

Dear Mr. Penney:

Here is the literature on the PDP-1 which I promised to send you when talking with you today.

Sincerely,

ep

Harlan E. Anderson

Enclosures: PDP-1 Applications and Programming Folder

CC: AFCRC File

Dr. Louis T. Rader
Vice President
International Telephone & Telegraph Corporation
67 Broad Street
New York 4, New York

Dear Dr. Rader:

This is to acknowledge receipt of your letter to Kenneth H. Olsen, dated January 25, authorizing DEC to proceed with the production of a prototype ADX system. DEC has commenced work on this project and plans to deliver by July 31, 1961, a satisfactorily operating prototype ADX system.

We have agreed that, if this order is terminated by February 28, 1961, the cancellation charge will not be greater than \$5,000; and if it shall be terminated before March 31, 1961, the termination charge shall not be greater than \$10,000. DEC shall charge only for those engineering and other charges which are non-recoverable. DEC shall, upon termination, deliver to ITT all materials, logic, circuits, data, and writing developed during the design of the ADX system.

The prototype ADX system which we are now building contains the following items:

PDP-1 (with isolated memory power supply)	\$110,000.
Tape Control with high speed channel	35,000.
Two Tape Transports (\$15,000. each)	30,000.
Jump Field Switch	10,000.
32-channel Sequence Break System (an adaptation	
of DEC 16-channel Sequence Break System)	25,000.
Spare Parts	6,600.
14 Teletype Transmitters	14,000.
14 Teletype Receivers	21,700.
TOTAL	\$252,300.

Dr. Louis T. Rader February 7, 1961 -2-These prices do not include any taxes that may be applicable. When twelve single PDP units are ordered at one time for delivery in one year, there will be a 10 per cent discount on catalog items involved. The prototype ADX, of course, does not come under this discount. We look forward to working out further details on this arrangement with you, at your convenience. Sincerely yours, Harlan E. Anderson Vice President HEA/jv

February 6, 1961

REGISTERED MAIL

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

Dear Bob:

As you know, we at Digital Equipment Corporation, against the advice of a majority of our directors, decided last March to utilize sales representatives in our marketing program for our Building Block equipment. Our objective in doing this was to achieve a significant increase in sales volume. We planned an evaluation of the situation at the end of a six-month period. Needless to say, the results were discouraging. Extending this period an additional three months not only verified the original finding, but showed a negative trend.

Therefore, it is with sincere disappointment that I notify you that we wish to terminate our sales representation agreement with you, effective 9 March 1961. The details of this termination will be as provided in the original agreement. We have tried very hard to prove that sales representatives were the way to sell our Building Blocks, but now we are forced to admit that the nature of our product is such that it is best sold by factory people.

We have enjoyed working with you and regret that the arrangement has not produced the desired result.

Sincerely,

Harlan E. Anderson Vice President

February 6, 1961

REGISTERED MAIL

Mr. John J. Wild Wild & Associates, Inc. 1519 Northern Boulevard Roslyn, L. I., New York

Dear John:

As you know, we at Digital Equipment Corporation, against the advice of a majority of our directors, decided last March to utilize sales representatives in our marketing program for our building block equipment. Our objective in doing this was to achieve a significant increase in sales volume. We planned an evaluation of the situation at the end of a six-month period. Needless to say, the results were discouraging. Extending this period an additional three months not only verified the original finding, but showed a negative trend.

Therefore, it is with sincere disappointment that I notify you that we wish to terminate our sales representation agreement with you, effective 9 March 1961. The details of this termination will be as provided in the original agreement. We have tried very hard to prove that sales representatives were the way to sell our Building Blocks, but now we are forced to admit that the nature of our product is such that it is best sold by factory people.

We have enjoyed working with you and regret that the arrangement has not produced the desired result.

Sincerely,

Harlan E. Anderson Vice President

HEA/jv

February 6, 1961

REGISTERED MAIL

Mr. Eugene L. Burroughs Eltron Engineering Sales, Inc. 246 Walnut Street Newtonville 60, Massachusetts

Dear Gene:

As you know, we at Digital Equipment Corporation, against the advice of a majority of our directors, decided last March to utilize sales representatives in our marketing program for our building block equipment. Our objective in doing this was to achieve a significant increase in sales volume. We planned an evaluation of the situation at the end of a six-month period. Needless to say, the results were discouraging. Extending this period an additional three months not only verified the original finding, but showed a negative trend.

Therefore, it is with sincere disappointment that I notify you that we wish to terminate our sales representation agreement with you, effective 9 March 1961. The details of this termination will be as provided in the original agreement. We have tried very hard to prove that sales representatives were the way to sell our Building Blocks, but now we are forced to admit that the nature of our product is such that it is best sold by factory people.

We have enjoyed working with you and regret that the agreement has not produced the desired result.

Sincerely,

Harlan E. Anderson Vice President

HEA: ecp

January 27, 1961

Mr. Lloyd Z. Maudlin
Head, Simulation Branch
Underwater Ordnance Department
U. S. Naval Ordnance Test Station
Pasadena Annex
3202 East Foothill Boulevard
Pasadena, California

Dear Lloyd:

Here is the technical literature on the PDP-1 which I promised to send to you when talking to you on the phone today.

Sincerely,

Harlan E. Anderson

Enclosures:

F-15, High Speed Tape Control Channel Inst., SBS Instructions, Floating Point, Mag. Tape Inst., Applications Folder (2)

January 24, 1961

Mr. Gardner Sloane 1 Story Street Cambridge, Massachusetts

Dear Mr. Sloane:

Here is the logic book and the literature for our products which I promised to send you when talking to you on the phone today.

If you have any questions, or if I can do anything else for you, be sure to let me know.

Sincerely,

Harlan E. Anderson

ep Enclosures: A-400, C-1000, C-4000.

January 23, 1961

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 negotiation a GSA contract for electronic computing equipment. Thank you.

Sincerely,

James H. Myers Sales Department

ep

January 19, 1961

Wright Air Development Division Air Research and Development Command United States Air Force Wright-Patterson Air Force Base Ohio

Reference: Request for Proposal PR NR. 98180

Attention: WWKCRC

Gentlemen:

Digital Equipment Corporation is pleased to propose the use of its standard commercial computer known as the Programmed Data Processor - 1 (PDP-1) for an on-line digital data processing system for neurophysiological experiments. The PDP-1 is a general purpose computer which is ideally suited for real time work. It is the only known commercial general purpose computer that has been demonstrated conducting real time averaging of evoked neural responses.

The demonstration referred to above was performed in August, 1960, in Cambridge, Massachusetts. The results of this experiment form the substance of the application notes in Appendix III and IV. The purpose of this experiment was merely to demonstrate the use of Digital Equipment Corporation's standard PDP-1 computer in averaging of evoked neural responses. No claim is made that this experiment carried out any original research in the field of neurology. The experiment was under the direction of Dr. C. Daniel Geisler, consultant to DEC, then a graduate student in Biophysics at M.I.T., and now performing similar research at the University of Chicago.

The "quiet room facilities" at Bolt, Beranek and Newman, Inc., of Cambridge, Massachusetts, were used as a test chamber for the subject.

During the interval of time allocated for preparation of this proposal, Digital Equipment Corporation has been contacted concerning possible use of PDP-1 by several of the other invitees since they knew of our computer capability in this area.

We would like to suggest that those services, studies, etc., (particularly Phases I, ITI and IV) beyond the basic supplying of hardware be procured from one of these other sources. In particular, we recommend Bolt, Beranek and Newman, Inc., 50 Moulton Street, Cambridge, Massachusetts, for these items. They now have in their laboratory a PDP-1 computer. They also have a team of experienced persons both in the programming of RDP-1 and in the field of acoustics and medical research. They are ideally equipped to provide the necessary consulting services to the Air Force. It is suggested that Dr. J. C. R. Licklider of the BBN staff be contacted for further information concerning this possibility.

It is hereby proposed that in lieu of all phases of Exhibit A, a PDP-1 commercially available computer manufactured by Digital Equipment Corporation be procured. A configuration of this unit which fulfills the Air Force needs is described in Appendix I. The basic PDP-1 is described in Appendix II. The application of PDP-1 to bio-electrical signal analysis is described in Appendix III. The detailed computer program for averaging of evoked neural responses is described in Appendix IV. The prices, delivery, options and warranty for PDP-1 are described in Appendix V.

It is proposed that existing technical literature, programming instructions and manuals for PDP-1 along with neural experiment descriptions, particularly those performed at Massachusetts Institute of Technology on the TX-0 computer,* adequately fulfill the Air Force need for reports. The senior engineering personnel who designed and built the TX-0 computer are now on the staff of Digital Equipment Corporation. (See Appendix VIII)

Seminars covering programming and maintenance of the PDP-1 computer will be presented to Air Force personnel at no additional expense. It is proposed that no written progress reports are required due to the availability of a commercial computer suitable for the application.

This proposal is submitted on a fixed price basis only, and the work involved will be completed in six months or less from receipt of a firm go-ahead date.

It is recommended that procurement of this standard commercial computer will be in the best interest of the Air Force since cost and computer performance are well defined, thus eliminating many of the technical risks normally associated with development of a tool of this type.

If you wish to carry out further negotiation on this proposal, please contact myself at Digital Equipment Corporation, Maynard, Massachusetts. (Telephone Twinoaks 7-8821.) We are pleased to submit this proposal for your consideration and we trust that you will find it acceptable.

Sincerely yours,

Harlan E. Anderson Vice President

* See MLI.T. Technical Report No. 351 (July 7, 1959)
Research Laboratory of Electronics "Processing Neuroelectric Data".

Wright Air Development Division -4- January 19, 1961

Enclosures:

Appendix I PDP-1 Configuration PDP-1 Manual

Appendix II Average Response Computation for Appendix III

Bioelectrical Signals

Average Response Computer Program (ARC)
Price, Delivery and Warranty
Correlation Function Determination Appendix IV

Appendix V

Appendix VI

Utility Programs for PDP-1 (FRAP and DECAL) Appendix VII

Personnel and Facilities of DEC Appendix VIII

Contingent Fee Statement Appendix IX

APPENDIX V

Price, Delivery and Warranty

Price:

Suggested Configuration

Basic PDP-1 with 4096 words of memory	\$110,000.00
1 Magnetic Tape Unit (Compatible IBM)	15,000.00
1 Magnetic Tape Control (No automatic block transfers of data)	7,500.00
1 CRT Display	10,300.00
1 Light Pen	1,300.00
1 Analog to Digital Converter (7 bits continuous availability)	4,200.00
1 Stimulus Synchronizer	800.00
Shipping Charges	400.00
TOTAL	\$149,500.00 Net

Delivery:

Within 6 months of receipt of a firm order.

Warranty:

DEC warrants that the above equipment will be free from design and manufacturing defects for a period of one year after delivery.

APPENDIX IX

Contingency Fee Statement

Digital Equipment Corporation represents that it has not employed or retained any person (other than a full-time, bona fide employee working solely for DEC) to solicit or secure this contract and that it has not paid or agreed to pay any company or person (other than a full-time, bona fide employee working solely for DEC) any fee, commission, percentage or brokerage fee, contingent upon or resulting from the award of this contract; and agrees to furnish information relating thereto as requested by the Contracting Officer.

Price Warranty

Digital Equipment Corporation warrants that the price and delivery information quoted in this proposal are current and place the government in the most favored position both with respect to price and delivery.

Mr. Norman Fine Rescon Electronics Corporation 151 Bear Hill Road Waltham, Massachusetts

Dear Mr. Fine:

Here is the literature I promised to send you when talking to you this afternoon.

If I can be of any further assistance, be sure to let me know.

Sincerely,

Harlan E. Anderson

ep

Enclosures: A-710, C-4000A, B-3000 C-1170

Mr. A. S. Westneat Ortholog Division Gulton Industries 4054 Quaker Bridge Road Trenton 90, New Jersey

Dear Mr. Westneat:

Enclosed are the bulletins and application notes which you requested in your telegram of this morning.

If you would like additional literature, or if there is anything else we can do for you, just let us know.

Sincerely,

Harlan E. Anderson

ep Enclosures: F-10, Application Notes (3) Mr. R. F. McMurray, Senior Engineer The Geotechnical Corporation 3401 Shiloh Road Garland, Texas

Dear Mr. McMurray:

I am looking forward to meeting you and Dr. Herrin next week to discuss application of the PDP-1 to your work.

Now that your requirements have been expanded to definitely include the statistical analysis program in addition to the preliminary analysis program, I feel that the PDP-1 computer is the ideal machine for you. Adapting the Univac 1103 program from S.M.U. to the PDP-1 should be quite straightforward since they are both high speed parallel machines using random access core memory. This should keep the cost of program preparation to a minimum. I have prepared some comments on your letter of 30 December 1960 which I hope you will find helpful.

2.a. - Provision of pulses to a step motor for globe positioning can be provided by assigning two of the spare addresses of our iot command. The logic for this is already in PDP-1. Selection of rotating speed, direction, etc., can be put into the PDP-1 by the operator through the existing facilities. Either the sense switches which are examined by the skip instruction (szs), or the test word switches which are read by the load accumulator from test word (lat) instruction, can be used for this function. Other methods of input can be provided if desired. Speed adjustments with experience can be minor program changes.

2.c. - The pneumatic actuators' valves could get

January 17, 1961

their information from Type 4213 quadruple flip-flop building blocks. Twenty-four packages would be required. The output voltages from these would be zero and -3 volts. The minimum resistor that can be driven to ground is 750 ohms and the maximum capacity if 1000 micro-microfarads. The approximate cost of these units, wired into PDP-1 with the necessary logic, read in gates, pulse amplifiers and power would be \$3,000.00. These buffer registers would be loaded by assigning an iot instruction address to each one.

- 2.d. The accepting of coded time signals into the computer can be done directly be read in gates to the inout register. The gates would be conditioned from signals from the Time Decoder and Distributor. The most significant four bits could be read in as one group and the last 18 bits as another group. The first four would normally not be used in computation, but would merely be used for checking for end of the day discontinuities. One iot address would be assigned to each group. The approximate cost of these gates is \$300.00.
- 3. Our standard PDP-1 with 4096 words of core memory meets your needs for memory capacity.
 - 4. Price and Delivery -
- a. The basic PDP-1 including:

\$110,000.00

- (1) 4096 words of Magnetic Core Memory
- (2) Paper Tape Punch
- (3) Photoelectric Tape Reader
- (4) In-Out Typewriter
- b. No extra internal memory required.

No Charge

- c. External Logic Circuits for:
 - (1) Earth coordinate switch and display. No Charge Existing general purpose switches

Sul

Engineering.

No Charge

of PDP-1 can be assigned to perform these functions if desired.

(2) Mode Selector. (Same as 1 above)	No Charge
(3) Reference Channel Selector. (Same as 1 above)	No Charge
(4) Time Decoder & Distributor, etc.	300.00
(5) Delay Actuator Buffer Registers. (6 registers of 15 bits each)	3,000.00
Punched Paper Tape Reader (high speed). This item is included in our standard PDP-1 covered in Item a above.	No Charge
Magnetic Tape Unit (Compatible IBM).	15,000.00
Tape Control Model A	7.500.00
b Total (Items a through e)	\$135,800.00 Net
Punched Card Reader Control (optional). (To be used with, but does not include IBM Type 523 Summary Reader-Punch.)	
Miscellaneous Hardware.	No Charge

Considerable application engineering assistance is a normal part of DEC service in supplying a PDP-1, and unless very extensive and detailed engineering was required, there would be no charge for this item.

i. Assembly and Test.

No Charge

That testing necessary to demonstrate that PDP-1, the Time Decoder Distributor read in facilities and Delay Actuator Buffers perform properly is a normal part of providing equipment. No extra charges would be involved unless testing were required.

j.&k. Programming for PREL and HYPO.

Not Quoted

Since this is an optional item, we have elected not to quote on it. It has been our experience that the user of a computer is normally the most qualified person to write the computer program for his application. As I mentioned on the telephone, since you wish to essentially reproduce an existing program developed at S.M.U., the most efficient procedure would be to have Dr. Herrin or some of his associates do this work if they are available. Many opportunities for improvement of the efficiency and functional aspects of a program are likely to be bypassed if the preparation of the program is done by some one not intimately familiar with the details of the desired application.

The PDP-1 is an exceedingly straightforward machine to program due to its random access memory. We would at no charge provide both programming and maintenance seminars for you and other persons interested in this. Should you wish, we can recommend some well-qualified programming consultants who have used the PDP-1 to assist you in preparation of your programs. Please feel free to contact

Mr. R. F. McMurray January 17, 1961 any of these groups: Mr. John Ackley Information Processing Systems, Inc. 116 Park Avenue Rutherford, New Jersey Mr. John T. Gilmore Charles W. Adams Associates, Inc. 142 The Great Road Bedford, Massachusetts Mr. Richard Bennett Data Processing, Inc. 572 Washington Street Wellesley 81, Massachusetts The complete system as described above can be delivered six months after receipt of an order. We greatly appreciate the opportunity to propose the use of a PDP-1 computer for your application, and I think that you will find it an exciting and flexible machine that will fit nicely into your system. Sincerely, Harlan E. Anderson Vice President HEA: ecp Enclosure: Map to DEC plant

Mr. C. T. Huck Western Electric Company Department 513 6200 East Broad Columbus 13, Ohio

Dear Mr. Huck:

Thank you for your phone call this afternoon. I am enclosing a complete catalog describing our full product line. Be sure to see Technical Bulletin C-1000 which in included in the catalog as this will give you the information you requested.

If you have any further questions, or if I can be of any help to you at all, be sure to let me know.

Sincerely,

Harlan E. Anderson

HEA: ecp

Enclosures: Complete catalog

January 13, 1961

Mr. A. S. Westneat Gulton Industries 4054 Quaker Bridge Road Trenton 90, New Jersey

Dear Mr. Westneat:

Enclosed is the literature on our Programmed
Data Processor - 1 which I promised to send you when talking
with you on the phone today.

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

Sincerely yours,

Harlan E. Anderson

ep

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

Dr. Eugene Herrin Southern Methodist University Dallas, Texas

Dear Dr. Herrin:

Mr. McMurray of The Geotechnical Corporation has suggested that you may be interested in the enclosed literature describing the programmed Data Processor - 1 (PDP-1) that we manufacture.

He also indicated that you and he are planning on visiting our plant in Maynard, Mass., on January 24, 1961. At that time we can discuss application of PDP-1 to the work at Geotechnical Corporation in further detail.

I look forward to meeting you then.

Sincerely,

Harlan E. Anderson

HEA: ecp

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

Mr. B. G. Brooks
AF Technical Applications Center
DCS/Operations
Headquarters United States Air Force
Washington 25, D. C.

Dear Mr. Brooks:

Mr. R. P. McMurray of The Geotechnical Corporation is presently considering possible use of a Digital Equipment Corporation Programmed Data Processor - 1 in a Seismic Analysis System. He has suggested that you may be interested in performance specifications and applications for the PDP-1.

Mr. McMurray plans to visit our plant in Maynard, Massachusetts, on Jamuary 24, 1961, to see a PDP-1 in operation and discuss its application to this system. I would like to extend to you an invitation to attend this demonstration and discussion also. If this date is not convenient for you, I would be pleased to arrange for a similar demonstration and discussion at your convenience.

I will plan to telephone you during the week of January 16, 1961, to discuss this further.

Sincerely,

Harlan E. Anderson

MEA:ecp Enclosures: F-15, Applications Polder

CC: Mr. R. P. McMurray

Mr. Ben S. Melton AF Technical Applications Center DCS/Operations Headquarters United States Air Force Washington 25, D. C.

Dear Mr. Melton:

Mr. R. F. McMurray of The Geotechnical Corporation is presently considering possible use of a Digital Equipment Corporation Programmed Data Processor - 1 in a Seismic Analysis System. He has suggested that you may be interested in performance specifications and applications for the PDP-1.

Mr. McMurray plans to visit our plant in Maynard, Massachusetts, on January 24, 1961, to see a PDP-1 in operation and discuss its application to this system. I would like to extend to you an invitation to attend this demonstration and discussion also. If this date is not convenient for you, I would be pleased to arrange for a similar demonstration and discussion at your convenience.

I will plan to telephone you during the week of January 16, 1961, to discuss this further.

Sincerely,

Harlan E. Anderson

HEA: OCD

Enclosures: P-15, Applications Folder

CC: Mr. R. F. McMurray

Mr. Herbert Stevens
M & C Nuclear, Inc.
P. O. Box 898
Attleboro, Massachusetts

Dear Mr. Stevens:

Enclosed is the application material and programming information for the Programmed Data Processor that we discussed during the recent Eastern Joint Computer Conference in New York City.

I hope that you find this information of interest, and if we can be of any further service to you, please feel free to call upon us.

Sincerely,

Harlan E. Anderson

HEA:ecp Enclosures: Applications, F-15, F-10. Mr. Joseph Sukkar City Service Research & Development Company 930 East Third Street Tulsa, Oklahoma

Dear Mr. Sukkar:

Enclosed is the literature on the PDP-1 which I promised to send to you over the phone today.

If you have any questions, or if I can be of any further help, be sure to let me know.

Sincerely,

Harlan E. Anderson

HEA:ecp Enclosures: F-15, F-10, Applications Packet Dr. John Hunt Vice President and Technical Director Link Division General Precision, Incorporated Binghamton, New York

Dear Dr. Hunt:

Thank you for your telephone call this morning inquiring about the DEC Programmed Data Processors. I hope that you will find the PDP-1 and PDP-3 information of interest. Should you wish additional information, please feel free to contact ma.

Sincerely,

Harlan E. Anderson

HEA:ecp Enclosures: F-15, PDP-3 Manual, Application Notes Mr. Edward Fredkin Bolt, Berenek & Mewman, Inc. 50 Moulton Street Cambridge 38, Massachusetts

Dear Ed:

This letter is intended to record the results of our discussion on 22 December 1960 regarding the plans for acceptance of the PDP-1 by Bolt, Beranek & Newman, Inc. The items listed below fall into two categories. The first group includes those items which DEC will adjust, repair or complete prior to the formal acceptance. The second group includes those items which DEC will complete within sixty days following acceptance. Upon completion of the items in the first group, we will anticipate a formal letter of acceptance from the appropriate representative of BDH who I understand is yourself.

SROUP I - Prior to Acceptance

- Alter the logic associated with Typewriter #1 so that when it is operated in an off line mode it does not cause a sequence break or set Program Flag #2.
- Alter typewriter logic so that typing begins in black ink.
- Adjust punches so that the tape does not bind, so that tape feed is not erratic, so that feed hole is not missing occasionally, and so that the punch does not start free running when first turned on.
- 4. Adjust and alter in-out devices so that they do not cause disrupting transients when they are turned on

- 2 -Mr. Edward Fredkin January 3, 1961 or off. 5. Perform a 24-hour acceptance test with BBN persons. This test is intended to verify that no flip-flop state changes when it is not intended to. The result of this test will probably be observed by a combination of program tests and visual observation. This test will also involve punching a paper tape approximately 10 memories worth of random numbers which are then read back into the computer and checked against the same random number generator. 6. Alter read-in mode logic so that the machine does not "hang up" when it is in the sequence break mode. GROUP II - Within 60 Days After Acceptance Investigate and provide lightning protection if desirable. BBN will provide normal line fusing. Investigate and provide memory content protection when power is gurned off if reasonable. 3. Adjust CRY so that it settles in 50 microseconds. 4. Adjust memory cycle time and circuits for 5 microsecond operation with minimum interruption of BBN operation. 5. Investigate and adjust facilities for handling fan fold paper tape for better operation. 6. Investigate flicker of indicator lights. 7. Provide DECAL computer program, floating point package, and available maintenance programs. 8. Investigate feasibility of providing an automatic

Mr. Edward Fredkin -3-January 3, 1961 computer halt when the AC power is being lost. 9. Investigate the desirability of the lot wait feature being ignored when the machine is in the sequence break mode. On my next visit to BBN I will bring along the DEC copy of the lease so that the Light Pen way be initialed in as an extra item. We look forward to having the machine accepted soon and would be pleased to cooperate with any publicity plans or desires that BBN may wish to pursue in connection with the "dedication" of the new computing facility. Sincerely, Maylan E. Anderson Vice President HEA: ecp CC: Mr. William Fletcher, BBH Mr. David Mittelman, BBM Mr. Ben Gurley, DEC Mr. Ed Harwood, DEC



DATE December 11, 1961

SUBJECT Subcontractors

TO Kenneth Olsen
Harlan Anderson
Stanley Olsen
Maynard Sandler
Jack Smith

FROM Henry Crouse

The following is a list of all our present sources for direct subcontracts:

Wiring (Front Panels and Cables)

Engineering Model Labs, Inc. Union Street Ashland, Massachusetts TR 2-1083

MacLeod and Hanopol, Inc.
10 Roland Street
Charlestown, Massachusetts MO 6-2171

Jas. Pastoriza Associates 285 Columbus Avenue Boston, Massachusetts CO 6-1918

Elasco, Inc.
5 Prescott Street
Roxbury, Massachusetts HI 2-1600

Mutron Corp.
125 Perkins Avenue
Brockton, Massachusetts CA 7-5494

Industrial Wire and Cable Tremont Street Everett, Massachusetts DU 7-5959

Sheet Metal Fabrication

Nash Manufacturing Co. Union Avenue Sudbury, Massachusetts HI 3-2631

Donnelly Mfg. Co. 580 Winter Street Waltham, Massachusetts TW 3-5700

Colonial Engineering Co., Inc. 100 Smith Place Cambridge, Massachusetts UN 4-8600

Prelco Corp. 145 Perry Street Lowell, Massachusetts GL 3-2390

Metallic Arts of New England, Inc. 150 Broadway Cambridge, Massachusetts KI 7-5790

E. C. Hilliard Corp.
55 Elmwood Street
Newton, Massachusetts LA 7-2345

Leo S. Cavalier, Inc.
Wetherbee Rd.
Concord, Massachusetts EM 9-9730

Commonwealth Metal Crafts
North Avenue at Armory Street
Wakefield, Massachusetts 245-5790

Omnicraft, Inc.
55 Howland Street
Marlboro, Massachusetts HU 5-3730