

The Catholic University of America
Washington 17, D. C.

DEPARTMENT OF ELECTRICAL ENGINEERING

January 4, 1965

Mr. Harlan Anderson
Digital Equipment Corp.
Maynard, Massachusetts

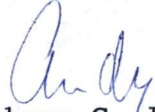
Dear Andy,

I thought you would be interested to know that my paper on "Pulse Pattern Generator for Transient NMR Experiments" will be in the February issue of The Review of Scientific Instruments. The device was made up entirely of DEC modules and, although it isn't a magnificent design, it served the purpose very nicely. I don't imagine the reprints will be out for several months, but I'll send you a copy when they are available.

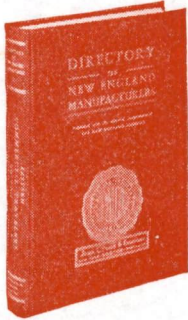
If you recall DEC contributed a portion of the equipment so that we could get started when our funds were very limited. So thanks again very much.

I hope your family is all well and that DEC is flourishing as it certainly deserves to.

Sincerely yours,


Andrew G. Favret

P.S. I have also mentioned some of your computers in a book I have written on "Digital Computer Applications" coming out soon from Reinhold.



THE DIRECTORY
of
NEW ENGLAND MANUFACTURERS

January 4, 1965

Telephone: 523-3745

Published with Editorial Co-operation of THE NEW ENGLAND COUNCIL

Mr. Harlan E. Anderson
Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts 01754

Dear Mr. Anderson:

Your company's data as shown in the current edition of the DIRECTORY OF NEW ENGLAND MANUFACTURERS is enclosed for your approval or for revisions. Please indicate changes to be made (or your approval by an O.K.) for an accurate and complete listing for your company in the 1966 edition. only 1/4/65

In the past, you used BOLD FACE TYPE (as shown) because of the greater attention your company name receives in the Alphabetical, Geographical and Product Sections of the book. We trust you will continue this BOLD FACE TYPE (only \$6.00) for the forthcoming edition and will forward check in this amount when returning okayed or revised data.

The 1966 edition will be our 30th annual edition and will be, as always, an authoritative and informative volume on New England industry used by firms throughout the country as a means of purchasing the many diversified items made in the six state area.

Careful attention will be given to the enclosed listing which we would appreciate receiving at your earliest convenience.

Sincerely yours,

GEORGE D. HALL COMPANY

George D. Hall, President

GDH/s
enc.

P.S. REMEMBER THAT THE RETURN OF YOUR COMPANY'S DATA IS AN ASSURANCE OF ACCURATE AND COMPLETE COVERAGE FOR YOUR ORGANIZATION THRU THE FOUR SECTIONS OF THE BOOK.

N. Anderson

ARNAUD DE VITRY

12, RUE DE LA PAIX
PARIS 2, FRANCE

January 8, 1965

JAN 13 1965

Mr. Jonathan Fadiman
Digital Equipment Corporation
Maynard, Mass.

Dear Jon,

I had the pleasure yesterday of meeting Bernard Haus, as you suggested in your letter dated December 31, 1964. Mr. Haus made a good impression on me and his first appearance is good, although people, on first contact, may be somewhat disturbed by his tendency to stutter slightly. But this may be a result of shyness because after a few minutes it becomes much less noticeable.

I believe that Mr. Haus has many good connections in France and would be able to open many doors in places where an average Frenchman would find entry difficult. His war record would be of particular help in this respect.

Mr. Haus seemed genuinely interested in working for DEC in France, but I was somewhat disturbed by the fact that he had not studied the documentation you left with him and did not seem familiar enough with DEC products and their superiority over competing products in Europe. He was quite frank, however, in stating that he had not taken the time to study the documents.

The main question I would have about Mr. Haus would be his familiarity with scientific problems, the field in which DEC has apparently been able to sell most of its equipment in the United States up to now. Most of Mr. Haus's experience has been in selling computers to insurance companies, finance companies, and banks and he may find the scientific market difficult to crack.

I believe, however, that, overall, he is a desirable candidate for DEC and agree with your suggestion that you should invite him as soon as possible to Maynard to become more familiar with DEC's products, organization and philosophy. He is free to come to Maynard whenever you want to invite him.

I shall check one of the references given, Mr. Benay of the Compagnie Générale d'Organisation, and will let you know his opinion.

If you arrive in Paris in early March, I shall be away, at the ARD annual meeting in Boston on the 3rd and for about 19 days thereafter.

Mr. Jonathan Fadiman
January 8, 1965
Page 2

JAN 13 1965

With my best wishes to you and Mrs. Fadiman for 1965, I remain

Yours sincerely,

A. de Vitry

A. de Vitry

P.S. Mr. Benay tells me that Mr. Haus left GE because he believed that they were not ready to put enough financial effort into the development of the French market. In fact, he missed the boat because shortly after his departure the acquisition of Bull would have given him more than enough men of action. Will that mean that Mr. Haus would want a big staff in order to sell DEC products in France? You will have to judge during his visit to Maynard.

AV.

BANK GUARANTEE

I, the undersigned, (name of the bank)
domiciled and doing business at
having taken note of an order dated September 1, 1964
given by Ir. C.J. Tuijn, Vice-President of the Board of
Governors of the Technological University at Delft,
representing for this purpose the Technological University at
Delft (hereinafter referred to as the university)
to Digital Equipment Corporation, Maynard, Massachusetts
(hereinafter referred to as DEC) which concerns the delivery
of a PDP-7 Computing System at a total price of \$ 111,152.91
considering the fact that the university will pay in advance
\$ 40,015.05 of the purchase price, in return for which
advanced payment a bank guarantee will be given by DEC to the
university terminated with the delivery of the ordered items,
herewith bind myself renouncing all benefits and exceptions
the law grants to guarantors especially those of excussion
and division, and of any reliance on Article 1885 of the
Netherlands Civil Act, as surety for and as solidary co-debtor
with DEC with respect to and in behalf of the university for
an amount of \$ 40,015.05 such as a guarantee for repayment by
DEC of the advance payment of the said amount, made by the
university if ~~the~~ the opinion of the university, whose opinion is
binding in this respect, DEC should not or not properly meet
his obligations. I undertake to pay to the university at his
first demand, all that the university might or will have to
claim, according to any stipulations of the above-mentioned
order, from DEC to an amount of \$ 40,015.05 increased by the
interests, as from the date of payment to the date of repay-
ment, all this without any previous notice of default or legal
intervention being required.

Lin

digital

DIGITAL EQUIPMENT AUSTRALIA PTY. LTD.

Colman House, 89 Berry Street, North Sydney. Cable Address: "DIGITAL," Sydney

*A Subsidiary
of DEC
Massachusetts*

RGS:vw 603

January 12, 1965

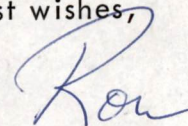
Mr. Harlan E. Anderson,
Digital Equipment Corporation,
MAYNARD.
MASSACHUSETTS. U.S.A.

Dear Andy,

RE: Your memo 29th December

I will try to discover something about the C.S.I.R.O. analog computer for Gerry Kennedy when next in Melbourne. It might not be possible as I don't know either of the men personally. However, I will try on the basis you suggest.

Best wishes,



R. G. Smart,
General Manager.

H. Anderson

January 13, 1965

C
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Mr. N. E. Wiseman
Chief Engineer
Cambridge University Mathematical Laboratory
Com Exchange Street
Cambridge, England

Dear Mr. Wiseman:

Mr. Harlan Anderson has asked me to reply to your letter of January 6, 1965, stating that you would like to visit our company around February 20. We would be most happy to have you come to our laboratory for discussions about the PDP-7 system and the 340 display. I would appreciate it if you would let me know slightly ahead of time exactly when you will be arriving so that I can be sure that the engineers will be here with whom you would like to speak. In addition we will be glad to arrange to meet you at the Boston Airport in case you will be arriving by plane, and we will arrange over-night accommodations for you if you so desire. We are looking forward to having you visit our company.

Sincerely yours,

DIGITAL EQUIPMENT CORPORATION

Jonathan Fadiman
Manager, International Marketing

JF:nlz

cc: Mr. John Leng, DEC UK Ltd.
Mr. Harlan Anderson, DEC Maynard

January 20, 1965

Mr. Robert Lane
Digital Equipment Corporation
Maynard, Massachusetts

Dear Bob:

Present plans call for me to arrive in Boston on January 27 at 9:20 a.m. on Eastern Flight 50. It would be very much appreciated if someone could meet me at the air port. If not I would appreciate information as to the best means of transportation to Maynard from the Boston air port. Also would you make reservations for me at a convenient hotel or motel.

I am looking forward to my visit with you.

Sincerely yours,

James R. Oliver, Dean
Graduate School and
Director, Computing Center

JRO/vc

cc Mr. Harlan Anderson ✓

Harlan Anderson

January 26, 1965

C
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Mr. H. T. Liu
Industrial Engineering Company Ltd.
P. O. Box 976
Taipei, Taiwan

Dear Mr. Liu:

Mr. Jerry Kennedy of Applied Dynamics International has forwarded to us the fact that the Provincial Cheng Kung University, Department of Electrical Engineering is interested in a computer somewhat equivalent to the IBM 1620. The PDP-7 Computer produced by Digital Equipment Corporation has a computing power considerably faster than the IBM 1620 and is a much more sophisticated and up to date machine. In addition, its price is considerably lower than the 1620. Also, of possible interest would be our smallest computer the PDP-8 which is a very fast 12-bit machine with a basic price of only \$18,000. The basic price for the PDP-7 is \$45,000. It is, of course, not possible for us to provide a detailed price quotation to the University because of the fact that we do not know exactly what their needs consist of. I would suggest that the University write a letter to us describing what their computer is to be used for and what type of configuration they are thinking of. Then we can suggest a configuration which would best suit their needs and provide a firm price quotation. I am enclosing with this letter complete literature and price lists on both the PDP-8 and PDP-7 Computers. I hope that this information will be of interest to the University and we are looking forward to hearing from you again as to their requirements.

Sincerely yours,

DIGITAL EQUIPMENT CORPORATION

JF:nlz

Jonathan Fadiman
Manager, International Marketing

Encs.

F-80, F-82, F-85, F-71, F-72, F-75

cc: Mr. Nick Mazzaresse, Computer Sales Manager
Mr. Harlan Anderson, Vice President

Harlan Anderson

January 26, 1965

C
O
P
Y

M. Bernard Haus
55 Rue de Grand Champs
Paris 20, France

Dear Mr. Haus:

We would like to pursue somewhat further the possibility of your joining our company to work for our Paris operation. We feel that the best way for us to become acquainted with you and your ideas and for you to become acquainted with our company is to have you visit our plant in Maynard. This will give you the chance to talk with many of our engineering and sales staff.

Therefore, we would like you to come to the United States as soon as is convenient with you, perhaps sometime either the first or second week in February. I would like for you to plan to spend at least three days with us here in Maynard. I would suggest either February 3, 4 and 5th or February 8, 9 and 10th. If these dates are not possible with you, please let me know what time you would be able to come. We would prefer to have you not come the week of February 15, as Mr. Win Hindle, our staff Personnel Manager will not be here that week. DEC will pay for your travel expenses as well as your living expenses for the three days here at Digital Equipment Corporation. After we have set an exact date for your coming we will arrange to meet you at Logan Airport in Boston. We are looking forward to having you visit our company.

Sincerely yours,

DIGITAL EQUIPMENT CORPORATION

Jonathan Fadiman
Manager, International Marketing

JF:nlz

cc:

Mr. Win Hindle, Assistant to the President
Mr. Harlan Anderson, Vice President



The National
Shawmut Bank
of Boston

January 27, 1965

Mr. Harlan E. Anderson, Vice President
Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Dear Mr. Anderson:

It is a real pleasure to learn from Mr. L. H. Martin that you will be able to join with my associates and our good friends from Bank of America in Boston on February 5.

We expect to have an interesting and constructive discussion and every effort will be extended to be as helpful as possible to you and our other friends doing business overseas. In this connection, may we ask you to kindly give some thought to submitting to me as early as possible a list of questions, the answers of which would be of the utmost value to you.

You may have in mind problems connected with distribution of your products, trade credits and investment situations, as well as the availability of financing both in U. S. dollars and local currencies -- for financing fixed assets and/or working capital requirements. In addition, you may wish to have discussed general economic or business conditions in a particular country or trading area.

On the other hand, some of the points or problems which you might have in mind may be of a nature which would not lend themselves to a general open discussion and would be best treated in a private conference with one of our friends from the Bank of America or with one of our International Banking

- 2 -

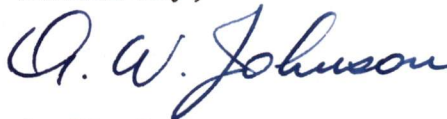
Department officials. If such is the case, perhaps you could let me know as soon as possible so that we can endeavor to schedule such a private meeting immediately after the conference. Would you please be good enough to indicate the general area of interest or the broad nature of the matters you would like to discuss so that the conference can be set up with the specialist or specialists who might be most helpful to you. On arrival at the Algonquin Club you will be informed of the exact time of your conference and the name or names of the officials with whom you are scheduled to meet.

The more we can learn as to what you would like to have discussed, the more we can concentrate on those problems and thus insure that this full day conference will achieve the greatest benefit for all participants. We ask only that you let us have your comments by January 29.

Attached for your information is a preliminary program of the conference.

We look forward to seeing you with pleasure at the Algonquin Club on February 5.

Sincerely,



A. W. Johnson
Vice President

P.S. Attendants at the Algonquin Club will take care of parking the cars of all who choose to drive to the Club. Just say "Shawmut Conference".

INTERNATIONAL BUSINESS CONFERENCE
February 5, 1965
Algonquin Club, 217 Commonwealth Avenue, Boston

Sponsored jointly by:
Bank of America
and
The National Shawmut Bank of Boston

- 9:30-10:00 a.m. Get acquainted coffee period
- 10:00-11:30 a.m. Welcoming address
Lawrence H. Martin, President
National Shawmut Bank of Boston
- Introductory Remarks
Tom B. Coughran,
Executive Vice President and
Chief Executive Officer,
Bank of America, New York
- Presentation of Bank of America
Speakers
- Geographical Area Background
Briefings: The Political, Financial,
Monetary and Investment Climate
- Latin America
Japan, Korea, Okinawa
Southeast Asia
Middle East and Africa
Western Europe
- 11:30-12:15 p.m. More important selected questions
and/or problems of a worldwide nature
- 12:30- 1:30 p.m. Luncheon
- 1:30- 2:45 p.m. General Discussion - Question-and-
Answer period, buttressed by as many
predeveloped questions as possible,
with discussion time to be carefully
balanced between all geographic areas
to allow fullest possible coverage.
- 2:45- 3:15 p.m. Summary of Discussion and Panel

Summation of Conference
- 3:15- 5:00 p.m. Private conferences on a company-
by-company basis.

Andy, I gave original of this to Jono for action. Nancy 1/29/65

INDUSTRIAL ENGINEERING COMPANY, LTD.

TEL 40337, 49738
CABLE ADDRESS:
"INDENCO" TAIPEI

20, LANE 135, CHUNG SHAN N. RD., 1ST SEC.
TAIPEI, TAIWAN

MAIL ADDRESS:
P. O. BOX 976
TAIPEI, TAIWAN

January 26, 1965

Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts 01754
U. S. A.

Attn: Mr. Harlen E. Anderson

Gentlemen:

We were informed from Mr. J. D. Kennedy's letter January 20th that you are preparing a proposal equivalent to IBM 1620 for Provincial Cheng Kung University which we requested. However, we are expecting to receive your proposal which is best suitable to your product and not exactly equivalent to 1620 in order to have a favorable competition in quality or on price or even both. Please also advise us your comments as to the comparison between DEC and IBM computers so that we can discuss intelligently with customer.

One of our customers, the Chinese Petroleum Corporation, is going to buy a business computer for accounting and material inventory use. Kindly favor us a proposal on one complete set of this machine at the lowest cost say, around or below \$30,000.00 for the cited purpose, if available.

Kindly send us some catalogs and brochures for our forwarding to prospective customers. Please send few copies by air mailed (printed matter) and others by sea mail.

Many thanks for your kind attention, we are,

Very truly yours,

INDUSTRIAL ENGINEERING CO., LTD.



H. T. Liu, Manager
Electronics Department

HTL/st

The **RAND** *Corporation*

1700 MAIN ST. • SANTA MONICA • CALIFORNIA 90406

28 January 1965

Mr. Robert Lane
Digital Equipment Corporation
Maynard, Massachusetts

Dear Bob:

For your off-the-record enlightenment, the enclosed list reflects what we think we're doing today. We're still trying our best. Chin up, and hope to meet in mid-February when I show up with a typewriter, mock-up console, and tentative logic specs. Try to get me some good weather.

Regards,

Cleu de

C. L. Baker

CLB:jed

Enclosure: As stated.

*Bob Beckmann
Andy ✓
Gordon:
lets be prepared for
his mid Feb visit by having
A project Engineer all arranged.
Our plans and schedules in
hand.
Bob.*

ITEM	Price Quoted in L-18689	Guaranteed Price	Probable Price
IBM Typewriters	\$ 55,475 ⁽¹⁾	\$ 52,305 ^(1,3)	\$ 52,305 ^(1,8)
Data Products Discfile	87,200 ⁽¹⁾	67,700 ^(1,2)	67,700 ^(1,2)
S-C Printer-Plotter Package	190,046 ⁽¹⁾	190,046 ⁽¹⁾	190,046 ⁽¹⁾
DEC 105 Processor	146,100 ⁽⁴⁾	119,802 ⁽⁶⁾	111,006 ^{(7) ✓}
DEC 102 Fast Memory	30,000 ⁽⁴⁾	24,600 ⁽⁶⁾	22,800 ^{(7) ✓}
DEC 105C Core Memories	236,839 ⁽⁵⁾	206,640 ⁽⁶⁾	191,520 ^{(7) ✓}
DEC 187 Memory Interfaces	(9)	4,428 ⁽⁶⁾	4,104 ^{(7) ✓}
DEC 700 Paper Tape Reader	9,000 ⁽⁴⁾	7,380 ⁽⁶⁾	6,840 ^{(7) ✓}
DEC 761 Paper Tape Punch	5,500 ⁽⁴⁾	4,518 ⁽⁶⁾	4,186 ^{(7) ✓}
DEC 167 I/O Processor	22,000 ⁽⁴⁾	18,040 ⁽⁶⁾	16,720 ^{(7) ✓}
DEC 236 Drum Control	13,000 ⁽⁴⁾	10,560 ⁽⁶⁾	9,830 ^{(7) ✓}
DEC 237 Drum	75,000 ⁽³⁾	75,000 ⁽³⁾	75,000 ^{(3) ✓}
DEC 136 Data Control	10,000 ⁽⁴⁾	8,260 ⁽⁶⁾	7,500 ^{(7) ✓}
DEC 516 Tape Control	18,000 ⁽⁴⁾	14,760 ⁽⁶⁾	11,680 ^{(7) ✓}
DEC 53 Tape Unit	18,000 ⁽³⁾	18,000 ⁽³⁾	18,000 ^{(3) ✓}
DEC 137 Discfile Control	9,200 ⁽³⁾	9,200 ⁽³⁾	9,200 ^{(3) ✓}
DEC 600 Comm. System	36,984 ⁽⁴⁾	30,527 ⁽⁶⁾	28,109 ^{(7) ✓}
DEC 526 JOSS Consoles	144,000 ⁽³⁾	135,000 ^(3,10)	135,000 ^(3,10)
	<u>\$1,106,385</u>	<u>\$996,598</u>	<u>\$963,720</u>

*Priced
for
2-1*

- Notes:
- 1) Not DEC item.
 - 2) Rev Model quoted by Manufacturer.
 - 3) Not discountable.
 - 4) Not discounted.
 - 5) 6% discount.
 - 6) 13% discount.
 - 7) 24% discount.
 - 8) Spaces omitted for instead of ...
 - 9) ...
 - 10) ...

Technische Hogeschool Delft

Mr. Elliott B. Towle,
Digital Equipment Corp.,
146 Main Street
Maynard, Massachusetts.
U.S.A.

Uw kenmerk

Uw brief van

Ons kenmerk

Delft, Julianalaan 134, telefoon 2495

12-1-1965

50.392/FA-AZ

February 1, 1965.

Onderwerp : Bank Guarantee; PDP-7
Computing System.

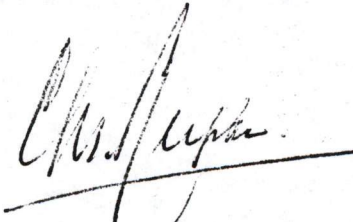
Dear Mr. Towle,

Referring to your above mentioned letter we have pleasure in forwarding you a copy of the Bank Guarantee mentioned in paragraph 3 on page 2 of the Purchase Contract for the PDP-7 Computing System of September 1, 1964.

On receipt of the Bank Guarantee payment of your invoice will be issued as soon as possible.

Very truly yours,

For the Head of the Financing Department


(Chr. Rupke).

H. Anderson

February 1, 1965

Mr. Charles Baker
Rand Corporation
1700 Main Street
Santa Monica, California

Dear Mr. Baker:

In my letter of January 26, 1965, I stated that DEC had executed the PDP-6 purchase contracts. These were mailed prior to my having them signed so all four copies must be returned to DEC after you have executed them for us to sign. We will then return two to you.

I am enclosing a list of our maintenance charges for your system excluding the Data Products Disc File and the Selectric Typewriters. I understand that Data Products warrants the file for 1 year after delivery to Rand. Consequently, a maintenance contract at this time may reflect redundant costs on your part and I would rather delay quoting maintenance coverage on the File until we can make a visit to Rand and Data Products to determine their level of coverage. Further, our first disc file arrives here this month and we should obtain experience maintaining it prior to quoting a maintenance charge to you.

We offer two (2) different contract plans. These two (2) plans cover all costs incurred by us in servicing your machine (labor, parts, and travel), and in addition provide periodic preventative maintenance which is a function of machine hours run.

Mr. Charles Baker
Rend Corporation

February 1, 1965

The two plans differ by the amount of coverage provided.

Plan I provides service eight (8) hours a day, five (5) days a week, excluding Saturdays, Sundays and holidays.

Plan II provides twenty-four (24) hour service, seven (7) days a week.

<u>SYSTEM CONFIGURATION</u>	<u>Plan I</u>	<u>Plan II</u>
1 Type 166 CP	3,400 pr.yr.	5,950 pr.yr.
1 Fast Memory #162	600 "	1,050 "
2 163C Memory (16K)	5,200 "	9,100 "
2 187 Add'l Memory Interface Modules	108 "	189 "
1 760 Tape Reader	240 "	420 "
1 761 Tape Punch	110 "	200 "
1 167 I/O Processor	700 "	1,230 "
1 236 Drum Control	350 "	620 "
1 237 Mag. Drum Unit (1000K)	2,550 "	4,470 "
1 136 Data Control	200 "	350 "
1 516-520 Tape Control	400 "	700 "
1 Type #50 Tape Unit	2,200 "	2,100 "
1 137 Data Products DISCFILE Control	190 "	320 "
1 630 Data Link	1,000 "	1,750 "
30 628 JOSS Consoles	<u>3,400</u> "	<u>5,950</u> "
Total	19,648 "	34,369 "

COPY

Mr. Charles Baker
Rand Corporation

February 1, 1965

The Preventative Maintenance calls are scheduled by DEC, generally, between the hours of 8 a.m. and 5 p.m. They occur every 1000 hours on solid state hardware and every 300 hours on electro-mechanical devices, such as readers, punches and tape units.

If I may be of further assistance, please feel free to contact me.

Best personal regards,

R. L. Lane

RLL/pam

Enclosure: List of Maintenance Charges

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February 9, 1965

Mr. Richard Colgate, President
Applied Logic Corporation
70 Nassau Street
Princeton, New Jersey

Dear Mr. Colgate:

After our discussion this morning, I talked in some length with Jim Guard about details of the PDP-6 computer system your Company is considering. The attached list of equipment is the configuration we agreed was most suitable at this time. The purchase price totals \$406,726 F.O.B. Maynard, Massachusetts, and would be payable 30 days after acceptance of the equipment in your installation.

Enclosed is a copy of our installation manual and maintenance policies. These should help you evaluate the cost of operating the proposed system. Our standard warranty covers all parts and labor during the first six months of operation.

Also, I have included a copy of our terms and conditions and computer acceptance document.

Mr. Lane and I are looking forward to meeting with you on February 16th to discuss in detail any further questions you may have. Please contact me if there are any interim questions.

Sincerely,

R. P. Harris

RPH/pam

CC: R. Lane
H. Anderson ✓

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<u>Type</u>	<u>Description</u>	<u>Price</u>	<u>Maintenance</u>	
			<u>Plan I</u>	<u>Plan II</u>
166	PDP-6 Arithmetic Processor, 626 Console Teletype	146,100	3,400	5,950
163	16,384 2µs core memory	126,000	2,600	4,550
167	I/O Processor	22,000	700	1,230
236	Drum Control	13,000	350	620
237	Drum 1 million words 4.2µs transfer rate	75,000	2,550	4,470
630	Data Communication System - 4 stations	11,726	400	700
33 KSR	Teletype Stations 3 @ 900	2,700		
33 ASR	Teletype Station 1 @ 1,200	1,200		
760	Paper Tape Reader	9,000	240	420
	Totals	406,726	10,240	17,940

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February 9, 1965

Mr. Paul Slattery
Adams Associates
142 The Great Road
Bedford, Mass.

Dear Mr. Slattery:

Digital Equipment Corporation is pleased to quote a price of \$3000.00 for the Data Line Interface for PDP-6, as described in the attached document. This price includes all materials, manufacturing, installation and checkout. Adams Associates must provide, at their own expense:

- >
1. Computer time for installation and checkout
 2. A Bell System Type 201A or 201B dataphone
 3. A Univac 1004
 4. A diagnostic program for testing the interface

Mr. Abel, of your firm tentatively agreed to the above conditions.

Very truly yours,
DIGITAL EQUIPMENT CORPORATION

Alan Kotok
Design Engineer

AK/pk
encl.

cc: J. Abel, Adams Associates
G. Bell, DEC
H. Anderson, DEC ✓

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PDP-6 DATA LINE INTERFACE SPECIFICATION

The Data Line Interface (DLI) is a PDP-6 I/O Device which connects to a type 201 Dataphone. The signaling conventions are compatible with the Univac 1004 system. The DLI operates on a character-by-character basis. It will check parity on incoming characters and generate parity on outgoing characters. No provision is included for automatic placing or answering of calls. Provision is included to generate bad parity for the end of message code. The data register format includes a 6-bit character in bits 30-35, and a parity error bit in bit \emptyset . This means that on input, the sign will be one if the character included wrong parity, while on output, if this bit is a one, wrong parity will be sent. The DLI is arranged to synchronize on the Univac 1004 sync code when in receive mode. The control register is as follows:-

<u>Bits</u>	<u>Function</u>
27	Clear to send, indicates data set ready to send. The transition of this bit to the one state will set the done flag. (This bit read only).
28	Interlock. If a one indicates data set operating (read only).
29	Carrier On. If a one indicates data being received from remote end (read only).
30	Direction, 1= out, \emptyset = in
31	Synchronized, \emptyset = looking for sync codes 1 = already synchronized This bit should be set to zero when switching to input, and will automatically be set to one by the first sync character received.
32	Done Flag. When a 1 will cause an interrupt, signalling an assembled character is ready to be read, or that a new character can be sent out. Service must be given within one bit time of when this flag goes on, i.e., approximately 400 μ sec.
33-35	Priority Interrupt Assignment.

February 9, 1965

Dr. S. J. Lindenbaum
Brookhaven National Laboratories
Associated Universities, Incorporated
Upton, Long Island, New York

Dear Dr. Lindenbaum:

This is to summarize the discussions we have had during the past few days.

As you know, your PDP-6 system was procured under Contract No. AT(30-1)-3214 Mod. 2 between the Atomic Energy Commission and Digital Equipment Corporation. Specifically, your system was covered by AEC Purchase Order No. NY-63-404-12. The system has been delivered and has successfully completed DEC's standard acceptance tests. We feel that the acceptance criteria called for by the contract have been met.

We realize that you wish to make a test run utilizing a program presently being prepared by Roger Jones. We are willing and anxious to provide what further support you require in order to complete the program and make the test run. It is our understanding that you estimate completion of the program by approximately the 19th of February and, once the program is complete, a testing period of approximately one week.

We are quite interested in the results of this test and feel confident that the system will perform satisfactorily. We wish to point out, however, that we do not consider this test a part of the formal acceptance test called for by the contract.

Very truly yours,

DIGITAL EQUIPMENT CORPORATION

Robert J. Beckman
Manager, PDP-6 Systems

RJB:vc

bc: N.Y. Office
H. Anderson ✓
D. Mills

E. Done

Bob Lane



UNIVERSITY OF SOUTHWESTERN LOUISIANA

Joel L. Fletcher, President

LAFAYETTE, LOUISIANA

February 5, 1965

Andy:
Guess who will end up
as home president of our
new group.
HA.
Bob

Mr. Harlan Anderson
Vice-President
Digital Equipment Corporation
Maynard, Massachusetts

Dear Andy:

Again I was happy to have the opportunity to visit Digital Equipment Corporation and to see you. This visit was very fruitful and I feel that I learned a great deal about the PDP-6.

I was especially impressed with the dedication and industry of your personnel. I feel that the attitudes shown will contribute greatly to the future of DEC.

I am looking forward to our affiliation with DEC for the project through this summer. It is my opinion that such an effort will be mutually beneficial.

Please let me know if I can be assistance in any way. Again it was a pleasure to visit with you.

Sincerely yours,

James R. Oliver
Dean, Graduate School and
Director, Computing Center

JRO:mc

GRUNTAL & CO.

MEMBERS: NEW YORK STOCK EXCHANGE • AMERICAN STOCK EXCHANGE

FIFTY BROADWAY
NEW YORK 4, NEW YORK

BRANCH OFFICES

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NEW YORK

TELEPHONE HANOVER 2-5220

CABLE ADDRESSES
GRUNLILIEN, NEWYORK
BONDSTOCKS, NEWYORK

February 11, 1965

Mr. Harlan Anderson, Vice President
Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Dear Harlan:

I spoke to a friend of mine pretty high up in I.B.M. He says the rumor of an educational discount has been around for some time. He thinks it could very likely turn out to be true. I.B.M. was pretty shaken by the M.I.T. and N.Y.U. deals. He was part of the crew trying to get the M.I.T. order, and it really shook I.B.M. when they failed. I.B.M. feels that since "the others" are giving educational discounts, they have every right to. But while he has not heard definitely that they will, my reaction was that it was pretty likely.

Sincerely,

wkg
Walter K. Gutman

WKG:jes

Copy to: Mr. S. Olsen
Mr. N. Mazzaresse
Mr. T. Johnson
Mr. H. Anderson ✓

February 11, 1965

Mr. Jerome A. G. Russell
Director, Research Data Facility
The Institute of Medical Sciences
Presbyterian Medical Center
Clay and Webster Streets
San Francisco, California

Dear Mr. Russell:

Thank you for your letter advising us of your intention to lease a PDP-7 for your Computer Facility. As you requested, we are pleased to provide the following information on the PDP-7 and the PDP-4, which will be provided to assist you in meeting the research demands until your PDP-7 can be delivered.

This interim PDP-4 will have Papertape Input and Output and a Typewriter (TTY-28). Sufficient connectors are being fitted on the PDP-4 Real Time Control to meet most on-line requirements. The Input-Output characteristics of the PDP-4 are compatible as are the software systems.

The Lease Arrangement for the PDP-4 is as follows:

PDP-4 SYSTEM	
Paper Tape Punch (63.3 cps)	
Paper Tape Reader (300 cps)	
Printer/Keyboard	
Real Time Control	
4096 Word Memory	\$ 65,500
Core Memory Module Type 134	
Additional 4096 Word Memory	<u>14,500</u>
TOTAL LEASE PRICE	\$ 80,000
MONTHLY LEASE RATE	
(1/30th of System Price)	\$ 2,667

As you requested, the PDP-7 Computer system to be delivered on your Lease will include the following items:

COPY

February 11, 1965

PDP-7 SYSTEM	
Paper Tape Punch (63.3 cps)	
Paper Tape Reader (300 cps)	
Console Typewriter	
Input-Output Control	
4096 Word Memory	\$ 45,000
Core Memory Module Type 147	
Additional 4096 Word Memory	12,000
Magnetic Tape System Type 580	
Semi-automatic Control and	
Transport (IBM Compatible Format)	20,000
Card Reader and Control	
(100 Cards-per-minute Card Reader)	5,000
TOTAL LIST PRICE	\$ 82,000
MONTHLY LEASE RATE	
(1/30th of System Price)	\$ 2,733

The monthly lease rate as shown above includes maintenance, insurance, and a contribution to equity. The rate of contribution to equity is 75% - the first year and 50% - the second and third years of the lease period. The PDP-7 Lease will begin when the PDP-7 is delivered and accepted. Because the PDP-4 is a machine not of the final configuration, a special lease is made to allow 75% of the lease funds to be applied to the equity of the PDP-7.

The PDP-4 is scheduled for shipment to you on March 22, 1965. The PDP-7 is scheduled for shipment on June 22, 1965.

It is requested that your Purchase Order covering a minimum of 1 Year Lease on the PDP-7 System be issued by the Institute of Medical Sciences before the interim PDP-4 System is shipped from our Maynard, Massachusetts Facility. All prices quoted are F.O.B., Maynard, Massachusetts.

In reply to your telephone inquiry of this week regarding the Calcomp Plotter - this item is on our Price List and we offer four choices of plotters. Since I do not have your exact requirements on this item, I am enclosing a copy of this Price List from which you can choose the plotter most suitable for your application.

We will be pleased to assist you in any way we can with the interface for your Low Speed Card Reader.

Please call me or Ken Weir if you would like additional information or if we can be of further help.

Sincerely,

Kenneth Larsen
Manager, District Office

KL:es

Enclosure F-72

February 12, 1965

General Georges F. Doriot, President
American Research & Development Corporation
The John Hancock Building
200 Berkeley Street
Boston, Massachusetts 02116

Dear General:

In your annual report you wrote as follows: "We should warn against the tendency to overidentify ARD with any one of our portfolio companies from a value standpoint. Too many people try to guess which of our investments is the one of greatest promise. It is difficult to gauge the future of any one young company even if one is extremely well acquainted with it. ARD should be judged on its entire portfolio."

But the report gives a value of \$12,250,000 to the 35,000 common shares of Digital Equipment owned by ARD. This represents, as you know, about 40% of the value of all its investments other than short term notes and cash at the end of last year. It is a value equal to 33% of all ARD's assets including the above. I think you must admit that it's pretty hard for the average investor not to pay a lot of attention to your holding of Digital in view of the value you gave it.

The value you gave Digital also equals \$7.99 a share of ARD. This is a radical change from two years ago when the value then given to Digital, including its senior securities owned by you, was \$2.85 a share. At the time of my report on ARD in July 1963 the stock was selling approximately where it is now. At that time investments other than Digital apparently had a market value of \$19 a share. Currently, if the value of Digital is deducted from the market price of ARD, the other investments have a value of about \$14 a share. This is a pretty dismal result for two years of hard work by capable, experienced people during the greatest industrial boom in our country.

February 12, 1965

It seems to me that unless there is a public market for Digital's stock, you are going to be considerably embarrassed at some time. In other words, the value which is given this holding by the directors of ARD is now such a substantial part of ARD's total value that it has to have verification of an objective sort. This verification apparently can only be given by the market. As you know, the value given by the directors of ARD to Digital is more than 200% above the book value of the stock.

Looking to the future, if Digital continues to be remarkably prosperous and if the directors of ARD continue to mark up its theoretical value and if no public market is established, they are going to work themselves into an absurd position. Moreover, if at some future time Digital doesn't do so well and the directors are unable to increase its theoretical value annually, it's going to be pretty hard for ARD to make much progress. In other words, you are tied down to one company for something between 30% and 40% of your value, and if you continue along this trend line, it could shortly represent something like 50% of the value of the whole ARD portfolio. It seems to me that the logic of the situation you have created is not only that there should be a public market for Digital, but that it would be wise to distribute part of this holding to ARD stockholders. To go back to your own paragraph--if "ARD should be judged on its entire portfolio," it is doubtful whether 30%, 40%, or 50% of that portfolio should consist of one stock.

Looking back to my report of July 1963, I think I can take some pride for saying then "I believe ARD may have struck it rich again in a 71%-owned subsidiary which makes computers." But pride is the only thing I can take since the stock has been a profitless commitment. While I don't disagree with you that "The task of ARD is to create, build, and develop new enterprises," I feel that it has a subtask, which is to make money for the stockholders. This hasn't been accomplished in the last two years, though it easily could be.

Best regards,

Walter K. Gutman

WKG:jes

Copies to Mr. K.H. Olsen, Mr. H. Anderson ✓

wE

American Securities Corporation

HANOVER 2-3200
CABLE ADDRESS
AMROSEC, NEWYORK

25 BROAD STREET, NEW YORK 4, N. Y.

BOSTON
HARTFORD
PHILADELPHIA

RECEIVED

FEB 15 1965

AM. RES. & DEV. CORP.

February 12, 1965

Mr. William Elfers
American Research & Development Corporation
The John Hancock Building
Boston, Massachusetts 02116

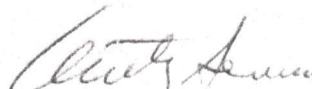
Dear Mr. Elfers:

Last fall you were kind enough to send us some data on the products of the Digital Equipment Corporation. The information was forwarded to the President of Western Union International.

The material was reviewed by various technical people at Western Union International, but a reply was delayed until Mr. Philip R. Easterlin, who joined Western Union International in the interim as Vice President-Plant & Engineering, had had an opportunity to review the material personally. Mr. Easterlin found it interesting and would be pleased to meet with representatives of Digital Equipment Corporation. Mr. Easterlin can be contacted directly at the New York headquarters of Western Union International, 26 Broadway, New York, New York 10004.

If there is anything further that Hal, who wishes to be remembered to you, or anyone of us here can do to be helpful, please do not hesitate to call upon us.

Sincerely,


Anthony A. Sirna

TO HARLAN ANDERSON
FROM JOHN LENG

OK

MSG NO 53

INTERNATIONAL SYSTEMS CONTROLS HAVE TOLD HARWELL THAT THEY ARE
STARTING MANUFACTURE IN UK OF SDS 92 THIS AUGUST.

HARWELL PEOPLE ALL EXCITED AND THINK THAT THEY MIGHT BUY THIS
MACHINE AS IT RELIEVES THEM OF E E E E OF ALL POLITICAL PROBLEMS.

CAN WE TALK IN GENERAL TERMS ABOUT OUR PRODUCTION PLANS HERE IN
REGARD TO STARTING DATE? BY THIS I MEAN ACQUIRING THE BUILDING
SPACE AND HIRING A CHECKOUT TECHNICIAN BY AUGUST. WE NEED
THESE ANYWAY.

RECEIVED
1965 FEB 15 AM 10:56
DIGITAL EQUIPMENT CORP.
SALES DEPARTMENT

END OR GA PLS

TKS END

*

DIGITAL MAYN
DIGITAL READING

AMERICAN RESEARCH AND DEVELOPMENT CORPORATION

THE JOHN HANCOCK BUILDING - BOSTON 16 - MASSACHUSETTS

March 16, 1965

To: Harlan Anderson

From: Dorothy Rowe

Please let us know what we should
do next about this.

Dorothy

DCA

ARNAUD DE VITRY

12, RUE DE LA PAIX
PARIS 2, FRANCE

February 16, 1965

Mr. Kenneth H. Olsen
President
Digital Equipment Corporation
Maynard, Mass.

Dear Ken,

The reports on marketing strategy and problems that you sent to your directors are of great interest to me. May I congratulate you for trying to upgrade the discussions at the Board meetings and for giving more information to your directors so that they will have a better insight into the company's problems?

It is difficult for me, as an overseas director, to send you my recommendations on which field DEC should particularly concentrate on because it depends so much on your resources of people and, to a certain extent, on your financial resources as well. The marketing program should, therefore, be considered as a whole, and I have only detailed information on two specific fields.

My first reaction was that the LINC computer would give you an inside track to the medical market and I would be tempted to favor it strongly, but it may be rather difficult to find the applications engineer who could understand the medical research problems well enough to be an effective salesman in that field.

I shall attend the next Board meeting and will try, during my few days in Boston, to get a better understanding of the whole marketing problem for DEC.

Please present my regards to Andy.

Yours sincerely,

A. de Vitry
A. de Vitry

(Dictated but not read)

Inbo copy to H. Anderson

Rec'd 2/25/65

LYBRAND, ROSS BROS. & MONTGOMERY

COOPERS & LYBRAND
IN AREAS OF THE WORLD
OUTSIDE THE UNITED STATES

2 BROADWAY
NEW YORK 4

February 23, 1965

Mr. Richard F. Mills, Treasurer
Digital Equipment Corporation
Maynard, Massachusetts

Dear Mr. Mills:

We enclose, in accordance with your request, two copies of a draft of a letter which we propose to send to our Frankfurt office. We have attempted to summarize some of the matters discussed at our recent conference in New York, and we would appreciate receiving your corrections, comments and suggestions particularly with regard to the facts involved. We recognize that our description of the present invoicing procedure, contained in the second paragraph of the draft, is probably not entirely accurate and will need to be revised.

If you would return one copy of the enclosed draft with your amplifications and corrections, we shall prepare the letter in final form.

Very truly yours,

Lybrand, Ross Bros. & Montgomery

NEA

DRAFT

H. Anderson

Coopers & Lybrand
Frankfurt, Germany

Digital Equipment Corporation

Dear Sirs:

In recent discussions with the above client we happened to find out that the company carries out its German sales operations in a manner which seems to us to be fraught with dangers because it might expose it to an unnecessary German tax burden.

According to our information, the wholly owned German subsidiary of our client sells certain electronic equipment to German customers. This equipment is manufactured in the U.S. by the U.S. parent company and thereafter shipped by it with a "non-charge invoice" to the customer in Germany utilizing a procedure which the client refers to as "on consignment" with title retained by the U.S. company. The installation, on the premises of the customer, is done under the supervision of the German subsidiary which maintains and services the machines for a number of months. When the usual starting troubles have been smoothed out, the client "accepts" the machine and the German subsidiary "releases" it to him. The equipment is billed directly by the U.S. manufacturer to the client. (?)

We are afraid that this procedure may subject the transaction not only to corporation tax but also to net worth tax (Vermogensteuer) in Germany.

We would appreciate learning from you whether our apprehensions are justified. If your answer is affirmative, we shall need your advice how the situation can best be corrected.

Two possible alternative solutions are:

- (1) The goods could be invoiced by the U.S. parent to the German subsidiary at a distributor resale price under terms which would require payment by the subsidiary only after resale and receipt of payment from the ultimate customer.
- (2) The machine could be invoiced to the customer with a six months payment term, perhaps keeping a chattal mortgage on the machine till payment has been made. Provision could be made to rescind the sale, if the machine proves to be unsatisfactory.

As this problem involves corporation tax, turnover tax, net worth tax, customs duties and compensatory use tax problems, it will, of course, need very careful study.

A second, unrelated problem involves the availability of a "charitable deduction" to the German subsidiary in certain situations. Some of the client's machines are sold to German universities or research institutions which use them in non-profit activities. The sales price in these cases is less than the ordinary sales price. Does the German tax law permit claiming the difference between the two prices as a contribution to charity or education on the German corporation tax return?

Example:

Ordinary list price of equipment	\$100,000
Invoice price to German university	85,000

Can company invoice at \$85,000 and claim additional \$15,000 as charitable deduction?

A field agent of the Internal Revenue Service has approved this method of reporting similar transactions for United States tax purposes.

DRAFT

-3-

Controller

Mr. Richard Mills, the ~~Treasurer~~ of the company, is planning a Spring trip to Germany, at a time when our Mr. Schueller will probably also be available in Europe. It might be advisable to resolve these problems in a meeting in your office at that time.

We would, however, be interested in obtaining your reaction to these questions in the interim.

Very truly yours,

H. Anderson

FEB 23 1965

Telephone 92 0919

Telex 20740

digital

DIGITAL EQUIPMENT AUSTRALIA PTY. LTD.

Colman House, 89 Berry Street, North Sydney.

Cable Address: "DIGITAL," Sydney.

A Subsidiary
of DEC
Massachusetts

15th February, 1965.

Mr. Jon Fadiman,
Digital Equipment Corporation,
MAYNARD. MASS,
U.S.A.

Dear Jon,

We have had discussions with Mr. Paul Hackforth-Jones, who is Managing Director of Dun & Bradstreet in Australia. Mr. Hackforth-Jones is investigating the setting up in Australia of a computer driven on-line enquiry system which will contain records of the credit ratings of individuals. Enquiries into the computer system from intending creditors will enable them to check the record of their customer.

We were brought into this deal largely by the activities of P.E. Consultants, who are the consultants for the Stock Exchange of Melbourne. The amount of storage necessary in this application is such that we will almost certainly need a non-DEC mass storage device such as IBM's Data Cell holding about 400 million characters.

Working with the consultants, we have suggested a tentative configuration to Mr. Hackforth-Jones as enclosed, coming to a total value of approximately \$346,000. Note that a special interface would be necessary to connect up to the IBM Data Cell.

Mr. Hackforth-Jones is visiting the States between now and the end of March for the purpose of investigating on-line computer systems and enquiry systems of the kind he is considering. He has been in touch with Mr. Hugh MacArthur of the National Shawmut Bank, and is likely to visit the Bank to consider having the venture financed from the States.

digitalMr. Jon Fadiman.15th February, 1965.


I have suggested to Mr. Hackforth-Jones that he visit Keydata Corporation in Boston while he is there, and that he might even like to visit our factory (although I am doubtful if he will want to do this).

The purpose in writing is to let you know the project is being considered and to enlist Andy's help if possible in arranging a visit to Keydata, if Mr. Hackforth-Jones does in fact go to Boston. Probably our best way of getting in touch with him is through Mr. Hugh MacArthur, who will be back in Boston shortly. You will find yellow copies of our correspondence with Mr. Hackforth-Jones in your files.

The apparent necessity of using some non-DEC mass storage device is a complicating factor, but I hope it is one which will not put us off trying for this business. If there is anything like firm opposition to this project, please let me know at the earliest opportunity.

Best wishes,

RGS.JD677
Encl.



R. G. SMART,
General Manager.

digital

COMPUTER COST DETAILS

Dun & Bradstreet

Basic PDP-7 (including console typewriter, 300 ch/sec paper tape reader and 63 ch/sec paper tape punch)	\$ 45,000
Extra 4k memory	12,000
Memory extension	8,100
Extra 8k memory	32,700
Priority Interrupt	7,000
32 Teletype lines, Data Communications Unit	38,062
Line Printer, 300 lpm	28,900
Type 580 magnetic tape unit	19,700
Special interface to Data Cell	10,000
IBM Data Cell, 400 million characters	140,000
	<hr/>
TOTAL:	\$341,462
	<hr/> <hr/>

NER



February 15, 1965

Mr. Kenneth H. Olsen, President
Digital Equipment Corporation
Maynard, Massachusetts

Dear Ken:

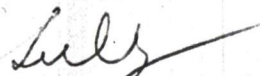
Thank you for your letter of February 3. Both we and our subsidiary, EOS, have been interested in ultra-high precision CRT's, and I was particularly interested in hearing of your experience with the Itek tubes. We had visited them and looked the tube over through the office of Gil King at Itek, who is a former associate from IBM. I am taking a new reading on our requirements.

Some of us are planning to spend March 2 at MIT with the MAC people, taking a look at their console requirements and also getting up to date on their more general thinking. This is something I should like to discuss with you also.

Sid Fernback told me that the LRL PDP-6 was installed. I'm also planning a visit out there soon, and will be interested to see how their "octopus" concept is working out. Fernback is going all-out to get support for the Solomon concept, but admits that it is a special-purpose approach oriented heavily toward LRL's specific requirements.

Let us know when you will be in this area; we should like very much to see you.

Sincerely yours,


Sullivan G. Campbell
Assistant Vice President

SGC:bp



International Data Corporation
 355 Walnut Street
 Newtonville, Massachusetts 02160
 Telephone 617 332-8840

February 17, 1965

Mr. Nicholas Mazzaresse
 Digital Equipment Corporation
 Main Street
 Maynard, Massachusetts

Dear Nick:

It was a pleasure discussing with you and Harlan Anderson to-day our computer market information research program, and exploring various ways in which it might be used for the benefit of Digital Equipment.

As you requested, this letter is prepared as a proposal to supply to Digital Equipment in the form of punched cards, a magnetic tape, or a print-out listing the information our Market Data File contains about the following computers:

<u>Manufacturer</u>	<u>Systems</u>	<u>Approximate Number</u>
Advanced Scientific Instruments	All	13
Autonetics	All	35
Computer Control	All	42
Control Data	All	430
Digital Equipment	All	55
General Precision	All	160
Honeywell	610	3
IBM	7090, 94 7040, 44	350
IBM	1620I, II	750
Raytheon Computer (Packard Bell)	All	35
Scientific Data Systems	All	75
Univac	1218 490 418	50

Mr. Nicholas Mazzaresse

-2-

2/17/65

The information we will supply about these systems is:

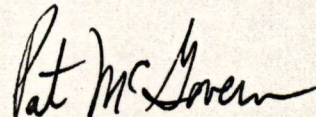
Name of User Organization
Street Address of Computer Installation
City, State
Organization information such as S.I.C. codes, sales
volume and number of employees.
Name of the Data Processing Manager
Model of Computer Installed
Date of Installation
Peripheral Configuration
Application Areas

The enclosed interim report to program sponsors provides a description of the peripheral units which we are including in the entries in the Market Data File.

The fee for supplying this information on the approximately 2000 computers listed on the previous page will be \$3000. This entire fee can be applied as credit against the price of the full Market Data File (available for \$10,000), if you later decide to purchase the full Data File.

We will be able to supply you this information within five days of receiving your authorization in the form you request.

Yours sincerely,



Patrick J. McGovern
President

Handwritten signature

XERO COPY XERO COPY XERO COPY XERO COPY

This is a copy of a letter to H. Anderson from Cliff Bellamy (handwritten).

February 15, 1965

- A. J. P. Sharpe and Associates, Ltd.
1415 Lawrence Avenue West
Suite 5
Toronto PL-2496095

This group was the Ferranti Packard software group. Wrote multiprogramming system for FP600, Fortran compiler, Algol compiler, Data Processing system. First class group of about 8 programmers. Should be worth tapping for ideas on operating systems and multiprogramming as they have now about 2 years experience with operational machines.

- B. E.D.M., Ltd.
Box 368
Rexdale, Ontario

This group is being set up by Don Ritchie and Fred Longstaff who were the main figure in designing the FP6000 hardware. They expect to do consulting work to get going in Toronto but are interested in getting into design and manufacture - feel that their abilities will be well suited to the computers and communication network area.

Both groups are new. A being about 3 months old and B being 3 weeks old.

Cliff Bellamy
Monash University

ncs.

MAR 1 1965

Telephone 92 0919

Telex 20740

digital

DIGITAL EQUIPMENT AUSTRALIA PTY. LTD.

Colman House, 89 Berry Street, North Sydney.

Cable Address: "DIGITAL" Sydney.

A Subsidiary
of DEC
Massachusetts

Arthur Anderson

23rd February, 1965.

Mr. Jon Fadiman,
Digital Equipment Corporation,
MAYNARD. MASS,
U.S.A.

Dear Jon,

Thank you for your many telexed replies to our queries. If its any consolation, I feel very badly about keeping you running around trying to find answers for us! And we sure appreciate the amount of information you get for us. (Please note special construction of that sentence, for American consumption.)

As you will note from my sales call reports to Sydney University and to the University of New South Wales (nos. 6621 and 6622) small disc packs are being demanded again. I'm not sure why this is so - but I think IBM are bringing their guns to bear on us, and this is one way of doing it. (Out in this part of the world the computer market is so closely knit that you can often trace back to where a particular rumour comes from - like IBM's that "we are a very small company, without much support in Australia, and we do not intend to stay in Australia". That was told to Stock Exchange - who naturally have a suspicious turn of mind anyway - and also I think to AIS and AAEC.)

Anyway, to get back to the point, I think I can show the University of New South Wales that you can sort quite effectively on DEctapes, provided that there is no drastic speed requirement, so they probably won't hold lack of discs against us. However, discs would be very useful for Sydney University, as a cheap (small) file storage for a multi-user system where there are more users than can fit in core. If we could offer Sydney University a small disc pack at a reasonable price, we would be in a very strong position.

What is your feeling about us doing some design (such as a disc interface)

digital

Mr. Jon Fadiman.

23rd February, 1965.

here? Obviously selling effort comes first - but there are occasions where our best selling effort is to do some designing. In this case, no amount of talking to Sydney University people would influence their decisions, but the availability of a disc interface would increase our probability of getting the order from .4 to .7.

It is hard to say whether there are many people who would want small discs on PDP's. At the moment Sydney University is the only one who really needs discs, though New South Wales would like them. Both ARL and AIS expressed disappointment that we don't have discs, even though they are both good tape applications. AIS in particular is made for DECTapes.

(You'll be interested in a comment we've had about discs vs DECTapes : to AIS for their data logging operation -

"DECTapes??! Unreliable. You have a lot of metal dust here (which is very true) - you need a disc pack, which is all enclosed (!!!!!). And you never have to wait for minutes at a time to get the discs in the right position."

Fortunately, when Bullmoose gives way to such excesses he is easy to shoot down!)

To get away from that one, I'd be very grateful for any information and prices that you might have on the CS 1800 and the CDC 8082.

We have just had to pay about \$310 duty for the Queensland A/D converter, because the time limit for the literature to be available to customs has elapsed. (We didn't know there was one, and our customs agents neglected to tell us.) However, we can still apply for a by-law entry for future A/D converters, and then ask for a refund for the last one. (It is not certain whether we would get it back or not.) Could you forward this literature soon, please?

Ron says that the money just paid in Perth (£2,394: 7: 0d. or approx. \$5,320) is for duty and sales tax on the PDP-6 spare parts (which we own). As soon as I get more detailed information I'll send it to you. Ron says that sales tax should be recoverable. This would be some \$2,500 - \$3,000.

Sorry about this woffly letter - it sort of got written in a few different sittings. Don't get too cold up there.

Peter

PETER V. WATT.

February 24, 1965

Mr. Charles Baker
Rand Corporation
1700 Main Street
Santa Monica, California

Dear Mr. Baker:

Please be advised that the price for the special Memory Protection & Relocation feature requested for quotation by Ed Brian during his recent visit to DEC is \$2060. This will not effect the delivery date of the equipment but must be requested 30 days prior to completion of System Test here at DEC.

Best personal regards,

R. L. Lane

RLL/pam

CC: R. Beckman
H. Anderson ✓

C
O
P
Y

BANK OF AMERICA

41 BROAD STREET
NEW YORK

VICTOR M. PEDROSO
VICE PRESIDENT

Wholly owned subsidiary of
Bank of America
NATIONAL TRUST AND SAVINGS ASSOCIATION

February 26, 1965

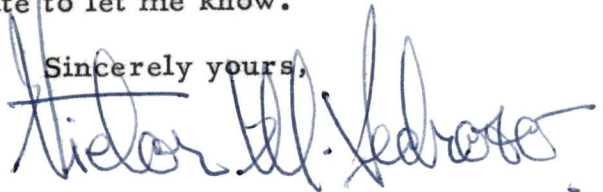
Dear Mr. Anderson:

It was indeed a pleasure to make your acquaintance during my recent visit to your firm accompanied by Mr. James E. Delaney, Vice President of Bank of America NT & SA.

I wish to thank you for the courtesies extended to us and I hope that next time you come to New York you will call me so that I may have the pleasure of inviting you for lunch at the bank.

If at any time you feel that we can be of assistance to you please do not hesitate to let me know.

Sincerely yours,

A handwritten signature in blue ink, appearing to read "Victor M. Pedrosa". The signature is written in a cursive style with a horizontal line striking through the middle of the first name.

Mr. Harland Anderson, Vice President -
Acting Treasurer
DIGITAL EQUIPMENT CORPORATION
Maynard, Massachusetts

Only - Stan passed this along to you. I have passed it to

Jerry Moore
4/28/65

good. Nancy



PEDAGOGISKA INSTITUTIONEN

Ynglingagatan 6-8
Box 23052
STOCKHOLM 23
Tel. 34 08 60 ankn. 273

The Army Section for Programmed Instruction
Box 23052
Stockholm 23
Sweden

Digital Equipment Corporation
146 Main St.
Maynard
Massachusetts

March 1, 1965

USA

In the middle of July 1964 an experimental group was started by the Army of Sweden in cooperation with the Department of Educational Psychology at the University of Stockholm.

The group consists of about twenty army soldiers, drawn from all parts of the country, and they were specially selected by tests. They also had experience in different professions. The group has been trained for about two months, to which prof. Stolurow has contributed.

The objectives of the activity are to find in which way a program should be produced, and in connection with that perform the research necessary.

We know that your institution has performed an embracing work in this area, and we would be much obliged to you, if you could send us information on programs, research reports, and, if possible, some free copies of your programs.

Just now we are producing a number of reports, which we think will be of great interest even outside Sweden.

We also plan to give some of our reports in English, and we hope a mutual exchange of information will be valuable.

Yours sincerely

Magnus Stiernborg

/Magnus Stiernborg/

INQUIRY NO. _____

DATE _____

Andy you are responsible for answering and following up this inquiry. It must be answered within three days and a copy sent to _____

March 1, 1965

Mr. Richard Colgate
~~Applied Logic Corporation~~
70 Nassau Street
Princeton, New Jersey

Colgate R & D

Colgate Research & Dev.

RE: DEC Proposal Number ~~1265~~ (OBTAIN #)
to ~~Applied Logic~~, dated
~~28 February 1964~~. *new date*

Dear Mr. Colgate:

DEC is pleased to advise Applied Logic Corporation that should a catastrophe (as described in section 6.3, page 24) occur, DEC will repurchase the Type 237 Drum System from ~~Applied Logic~~ *COLGATE R&D* provided DEC has maintained the Drum System and it is in good working condition. DEC will pay 30% of the selling price (\$33,000) during the first calendar year after purchase and 20% (\$22,000) during the second year.

If you have any questions regarding the above, please feel free to contact me.

Yours very truly,

R. L. Lane

RLl/pam

C
O
P
Y

H. Anderson

50 MOULTON STREET
CAMBRIDGE, MASS. 02138
TELEPHONE (617) 491-1850

3 March 1965

Mr. Lee A. Fryer
Field Service Administrator
Digital Equipment Corporation
Maynard, Massachusetts

Dear Mr. Fryer:

Thank you for your letter of 17 February enclosing our PDP-1D-45 and the brochure on DEC's Maintenance Services.

Thanks to the high reliability that we have experienced with our configuration of DEC equipment, we feel that we should take "On Call" Service rather than a maintenance contract for the time being. This "On Call" Service is to commence with the expiration of the various warranty periods.

Very truly yours,

BOLT BERANEK AND NEWMAN INC.

John H. Hughes
John H. Hughes

JHH:hl

NRA

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XERO COPY

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XERO COPY

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Washington STATE U.

March 5, 1965

Mr. Robert Lane
Digital Equipment Corporation
Maynard, Massachusetts

Dear Bob,

I have been giving a good deal of thought to our conversation the other day and to the question of what I could say that would be reasonable and useful to a company like DEC desirous of breaking into the large scale computer market with universities. In the first place, let me say that the PDP-6 is the only computer of which I am aware that has sufficient modularity to start with a configuration at less than \$500,000 and expand reasonably to a system costing \$2,000,000 or more. Of course, if one is renting, this is presumably possible within the IBM 360 line and perhaps the RCA Spectra series, by replacing memory and processor components. However, if one starts at about the million dollar level, DEC's advantage is not nearly so clear cut. As far as colleges and universities are concerned, the PDP-6 price advantage has been seriously eroded by IBM's recent change in discount policy. Moreover, it's my understanding that CDC may be reexamining its college and university contribution plan. This could have the effect of making the 6400 more competitive in terms of price.

I have listed below some of my evaluations of the relative hardware advantages and disadvantages of the PDP-6, IBM 360/64 and CDC 6400.

PDP-6

Advantages:

1. clean design, easy to program
2. complete modularity
3. inexpensive but effective I/O capability
4. sophisticated priority interrupt
5. inexpensive processor makes it easy to go to multiprocessor system
6. easy to write pure procedures
7. good character handling capability
8. indirect addressing to any level

Disadvantages:

1. no double precision hardware
2. no parity checking in memory to processor
3. limited choice of I/O components
4. limited relocation hardware

IBM 360/64

Advantages:

1. speed $1\frac{1}{2}$ -2 times PDP-6
2. excellent character handling and decimal arithmetic capability
3. double precision hardware
4. parity checking
5. capability of directly addressing very large amounts of memory
6. sophisticated relocation hardware
7. good priority interrupt scheme
8. wide variety of I/O components
9. very low maintenance costs

Disadvantages:

1. clumsy to program
2. expensive processor and I/O channels
3. short word length
4. no indirect addressing

CDC-6400

Advantages:

1. speed 2-3 times PDP-6
2. 60 bit word
3. double precision hardware
4. 10 peripheral processors allow considerable system flexibility
5. excellent I/O capability (12 channels)
6. exchange jump instruction makes program switching easy

Disadvantages:

1. no priority interrupt
2. no memory protection from PPU's
3. difficult to write pure procedures
4. expensive to add additional memory
5. not truly modular

6. no fixed point multiply and divide
7. limited relocation hardware
8. limited character handling capability

Turning to the more difficult questions of software and systems support, you have asked me to comment on what would be a reasonable effort on the part of DEC. First of all, there is a big weakness in DEC's product line in the area of mass storage. For example, the disk file offered on the 6400 has over twice the capacity of the file you have been talking about with transfer rates close to that of your drum. The gross price on the unit is \$225,000, but CDC is willing to extend their normal educational discount to it. The IBM disk pack units sell for \$26,300 and the control for about \$29,000 gross. Of course, nobody at the moment is offering anything else comparable to the IBM Data Cell Drive. I really think it is unsatisfactory for DEC to simply offer to interface these units. Until such time as DEC can provide its own units, they should be prepared to furnish something here at competitive prices and accept responsibility for maintaining it and integrating it into their systems even if it means accepting a small loss on it.

It is in the area of software and systems support that the big difference of approach between small machines and large machines exists. DEC has recognized this and is attempting to provide a fairly ambitious time-sharing monitor with the PDP-6. However, I think it must be realized that even with talented people doing the work, this is still going to be in the nature of an experimental system and that continual changes and updating are going to be necessary. For example, it is my impression that the original system will contain no accounting routine without which its usefulness is severely limited; also, I believe that the scheduling algorithm is pretty rudimentary. In any event, I think that a group of nine systems programmers is completely inadequate for the tasks that lie ahead if the PDP-6 is really going to be used as a general purpose large scale computer. Potential customers must be convinced that not only will DEC maintain and improve existing systems but will move ahead to implement new and better things. We have emphasized the necessity of a COBOL Compiler; although it is not a matter of similar urgency one would hope that DEC would formulate some firm plans for implementing a general sort-merge system, NPL and perhaps ALGOL and some list-processing language.

As far as applications programming support is concerned, I think you could best concentrate your efforts on the large number of good FORTRAN programs now in existence. For example, if the UCLA Biomed statistical programs could be converted to the PDP-6 you would be in pretty good shape as far as that area of applications is concerned. On a continuing basis you could probably depend on the users group to supply and distribute the application programs, but an initial effort is needed to get DEC into a competitive position.

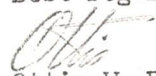
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Turning finally to the question of personnel support of installations, I think there are two aspects to the problem. In the initial phases of a machine installation there is need for large amounts of intensive help in solving conversion problems and adjusting to new programming systems. If the installation comes early in the life span of the system, there will almost surely be bugs discovered that may take considerable effort to eradicate.

Once the initial problems are solved, there is a continuing need for liaison and occasional help as new bugs are discovered, new systems introduced or changes sent out for existing systems. An occasional visit by an expert from the home office doesn't meet this need, however, since it is our experience that the timing of the problems and the visits almost never coincide. In a metropolitan area one person might be able to service several installations, but to be useful it is necessary that help be no more than a few hours away. (A similar statement, with hours replaced by minutes, applies, of course, to machine maintenance.) One possible way to provide outstanding support would be to divide the systems and applications programming effort among the major installations. Thus, for example, a small group of DEC programmers could be stationed at an installation site to provide assistance to the customer when needed, but also to work on some continuing aspect of DEC's programming effort. In some instances this might even be done in collaboration with the customer's staff. The customer would probably be willing to supply office space and arrangements could be worked out to assure adequate machine time. By periodically rotating personnel back to Maynard, DEC could assure itself that the best of current home office thinking was represented in the field.

I would be happy to get together with you and Harlan anytime to discuss these questions further.

Best regards,


Ottis W. Rechard
Director, Computing Center
Washington State University

OWR:pah

*from Otis Richard
Washington State U.*

March 5, 1965

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Digital Equipment Corporation
Maynard, Massachusetts

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Best regards,



Ottis W. Rechar
Director, Computing Center
Washington State University

OWR:pah

H Anderson

MAR 8 1965

Telephone 92 0919

Telex 20740

digital

DIGITAL EQUIPMENT AUSTRALIA PTY. LTD.

Colman House, 89 Berry Street, North Sydney.

Cable Address: "DIGITAL," Sydney.

*Wm Anderson
Harry Moore*

Subsidiary
of DEC
Massachusetts

5th March, 1965.

Mr. Jon Fadiman,
Digital Equipment Corporation,
MAYNARD. MASS,
U.S.A.

Dear Jon,

This is just a brief note to let you know about a few happenings concerning the Australian company.

1. The Commonwealth Government is about to make a grant of research funds to the Universities. This affects us immediately at Sydney University and the University of New South Wales. At Sydney it is likely that John Bennett's computing laboratory will receive about \$80,000 with which to extend their computing facility, and they are very keenly interested in a PDP-8 with a card reader, a precision display, light pen, mass storage, and basic 630 DCS electronics. Enthusiastic reports reaching John Bennett from W.A. have produced a lot of excitement which is helping along our cause. Both IBM and CDC are putting up some opposition, but it seems pretty clear that if we can provide the mass storage, we will get this order. Professor Bennett is of the opinion that if a multi-user system can be set up in the way he proposes using our equipment, that we would almost certainly sell more of these to other KDF-9 users in the U.K. Already I believe the Plasma Research Group at Culhan near Oxford is interested in connecting a PDP-8 into a KDF-9, possibly with similar applications in mind. As you will gather from Peter's recent letter to you, the provision of disc storage, or other mass storage of at least two million decimal digits, is a very "hot" problem with us right at the moment.

There seem to be two ways of tackling this:

- (a) That DEC decide to offer mass storage with the smaller

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Mr. Jon Fadiman.

5th March, 1965.

computers as a standard peripheral.

- (b) That we try to persuade John Bennett to buy the disc storage separately from our computer, and that we assist in interfacing that to the PDP-8, as well as interfacing the PDP-8 to the KDF-9.

I might mention that Dennis Moore is also quite interested in disc storage for the PDP-6.

Please telex us as soon as DEC's plans for mass storage on the small machines begin to solidify. If this is not going to happen very quickly, I think we will proceed as in (b) above. In that event, the University feel that the Potter RAM unit is at present the most attractive one. Does anybody have any idea about its reliability?


2. We have every reason to believe that the University of New South Wales, with the post graduate research grant from the Government about to be divided up between the University departments, will do something about buying the PDP-5. It is not yet known what sort of deal they will want to make, but at least it looks as though we will get some action at last.
3. I will be visiting Melbourne next Tuesday, mainly to see ARL and help finalise their specifications for a PDP-6 type machine. The Stock Exchange should be ready to come to life again about that time, with key people returning from holidays. As these Melbourne prospects develop we will have to have some specific answers for them on the question of setting up operations in Melbourne, so I expect to be communicating with you about this pretty soon now.
4. Things are going very well indeed at Uniwest, and we seem to be making a very good impression over there which is already beginning to benefit us elsewhere in Australia. I would like to record a word of appreciation for the mighty efforts put in by people at Maynard to make this successful installation possible. We look forward to Don Whitcraft's arrival next weekend, and hope to be sending a cheque back to you pretty soon. We have experienced some difficulty with the Customs Department, and the University has had to pay about \$40,000 customs duty on the machine,

digitalMr. Jon Fadiman.5th March, 1965.

and we have had to pay customs and tax on the spare parts and test equipment etc. I am pretty sure the University will have their duty refunded. At present we are helping to sort this out for them with the Customs people, and also trying to get sales tax rebate on our spare parts. I can't see any way of avoiding customs duty on the spare parts while ever they remain our property. However there are one or two other angles yet to be investigated.

5. The order from the University of New South Wales for modules is still in the "paper mill", but it should be coming along pretty soon.
6. The AD-80 from Applied Dynamics is supposed to arrive this week. I haven't yet heard from you regarding the interface to this, nor the additional bus drivers etc. The problem may resolve itself when we open the AD-80 box.
7. AIS is proceeding to schedule, and we have arranged for the ^{post grad.} registration of one of their engineers to start the computer control problem making use of the PDP-5 at the University of New South Wales. This is a good example of the way in which the PDP-5 is helping us.
8. Dr. Preswick of Prince Henry is still trying to get money for staff to run the computer, and it looks now as though he won't make any move until an overseas visit in September for a few months. I have been in touch with Mort Ruderman hoping to get some addresses from him where Preswick could see our equipment in operation and broaden his ideas on the application of computers in neuro-surgery.
9. I really think we are about to win Atomic Energy Commission, although it doesn't do to count your chickens etc. I am sorry to have been dragging out this 4k Fortran business by telex. It is rather hard to explain it long distance, but at this stage 4k Fortran is more a matter of principle than an absolute necessity for getting the order. All very confusing to you no doubt, but the last details which you telexed to us have satisfied them for the time being. The matter will now probably proceed to a successful conclusion in the fairly near future.

Best wishes for now,



R. G. SMART,
General Manager.

RGS.JD713



PUTNAM, COFFIN & BURR

MEMBERS NEW YORK, AMERICAN AND BOSTON STOCK EXCHANGES

INVESTMENT BANKERS

BOSTON • HARTFORD • NEW YORK

141 MILK STREET

BOSTON, MASSACHUSETTS 02109

TELEPHONE 482-4400

March 8, 1965

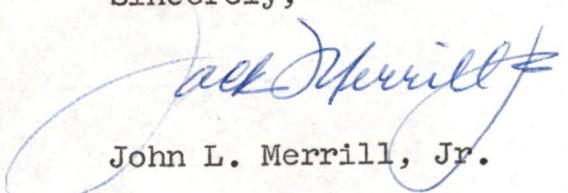
Mr. Harlan E. Anderson,
Vice President & Treasurer
Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Dear Mr. Anderson:

Just a brief line to express my thanks as well as those of my associate, Chris Coe, for the time you gave us this morning. We very much enjoyed meeting you and learning about the background and current status of your company. It must be challenging and exciting for you and Mr. Olsen to be designing and implementing the growth of your own corporate creation!

With best wishes and again my thanks for your courtesy, I remain

Sincerely,


John L. Merrill, Jr.

JLM/lg

March 8, 1965

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Mr. Denzil Doyle
Digital Equipment of Canada Ltd.
P.O. Box 370
Carleton Place
Ontario, Canada

Dear Denny:

I had quite a long conversation with Ralph Hayden, Vice President - Manufacturing of the Foxboro Company a short time ago, and was able to get a great deal of solid information concerning how they view their Canadian operation in terms of computerized control systems. As a little general background, Foxboro Company has grown from \$37,000,000 in 1960 to slightly less than \$100,000,000 a year, which they expect to do in calendar 1964, and as a result of this, they have found their good personnel stretched almost to the breaking point to pick up this tremendous surge of business. They fully intend to go the computerized control system route in Canada as soon as they have the personnel available to properly design, install, and service the equipment. I told him that Digital Equipment was willing, ready, and able to assist in their systems work, but Ralph said that they did not choose to take this route. I suggested that we go on an experimental basis with one to see how it works out but he said they were not willing to risk the money and the possible customer antagonism to approach it this way.

I would expect from this conversation, that within the coming year they will be at a point of jumping off on computerized control systems in Canada and my suggestion would be to cool our heels a while. I will bring the subject up again with him in about two or three months.

They have had quite a bit of reorganization going on in their systems division, since Sonnafeld left to become president of Digitronics. Roy Fine is now the general manager of the systems division. I think as soon as the organizational stress dies down, that they will once again turn to strong development of their overseas markets. I also talked with their overseas engineering manager, in a very preliminary way, to see how he was oriented towards computerized control systems on a co-operation basis with

Mr. Denzil Doyle

-2-

March 8, 1965

Digital and he was quite receptive to the idea. The Foxboro Company is a rather slow-moving company on things like this, but I think in the long run, which is what we're after, we will win out here, as a good strong component supplier of computers for their control systems, and we should bide our time and play the hard sell when the opportunity arises.

If you should have any further information that comes along from time to time on Foxboro, please let me know if there is anything that I can do. I'll do the same for you.

Best regards.

Sincerely yours,

Richard F. Mills
Controller

RFM/jh

cc: H. Anderson
S. Olsen

C
O
P
Y

Business International

757 Third Avenue
New York, N. Y. 10017

PLaza 9-7700
Cable Address
"Busymag New York"

March 8, 1965

Mr. Kenneth H. Olsen
Digital Equipment Corp.
Main St.
Maynard, Mass.

Dear Mr. Olsen:

How to penetrate the Japanese market without delay, and profit from the marketing revolution that is sweeping Japan today, is the subject of two practical reports just released by Business International.

The first report shows how wide-awake companies are cutting through red-tape in Tokyo to get their licensing agreements approved -- and reveals in detail the terms they are getting. Although the Ministry of International Trade and Industry has opened the door wider to patent and know-how licensing approvals, the Japanese are tough bargainers; licensors still have to persuade local authorities that they can truly contribute to the Japanese economy. How an increasing number of US firms are getting approvals -- and fast -- is described in a two-part report in the weekly Business International, with illustrations of 15 recently validated agreements.

The second report shows how to clinch sales in this choice market. "Selling to the Japanese -- Marketing Conditions & Techniques" defines the plush opportunities opening up to US marketers, and shows how to avoid the pitfalls. In 25 concise pages, it examines the effects of Japan's explosive growth on the market, on consumer preferences and on marketing practices; it analyzes the size and nature of the market, the problems of sourcing from abroad, the laws and how they work. More important, it tackles the practical, day-to-day marketing problems unique to Japan and shows how the following 14 resourceful firms are solving them:

American Cyanamid Co.
Automatic Canteen Co.
Corn Products Co.
Electric Storage Battery Co.
General Foods Corp.
Goodyear Tire & Rubber Co.
H. J. Heinz Co.

Max Factor & Co.
Merck & Co.
Minnesota Mining & Mfg. Co.
Olivetti Co.
Remington Rand
Socony Mobil Oil Co.
Vendo Co.

A big question in selling this choice market is whether to distribute via the traditional Japanese trading company or to introduce a US type of sales organization. More and more, direct selling emerges as the preferred method of distributing in Japan, although many have found it expedient

to combine the best of both worlds. In "Selling to the Japanese" you will learn how individual marketers are going about it -- and why.

The enclosed folder outlines the contents which were gathered from the pages of Business International and reprinted in this single, convenient volume. Although the price is \$30, a copy is available to you free when you enter your subscription to the weekly, 8-page Business International.

Upcoming weekly BI issues will report new developments in Japan and in other important world markets that may spell profit or loss to your business. Important features include:

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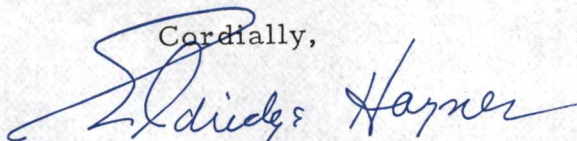
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Cordially,



Eldridge Haynes
Publisher

EH: es

PS: You will also receive free of charge as a subscriber to BI other current reprints including 1) "48 Management Checklists for Foreign Operations" which points up the do's and don'ts of foreign operating, and 2) "Indicators of Market Size for 88 Countries", a statistical spread providing 41 indicators of buying power for each country -- including 5-year growth figures.

Stanley Anderson

March 11, 1965

M. Bernard Haus
55 Rue de Grand Champs
Paris 20, France

Dear M. Haus:

It was a great pleasure to have you visit our company and all of us were very much impressed with your technical knowledge and with your extensive knowledge of the French computer market. We would, therefore, like to offer you a position with Digital Equipment France as Assistant Manager of our French subsidiary. I will be Manager of the French office and you will be working directly for me. Your duties will involve primarily the sales of our computers, modules and special systems. In addition, there will be some field engineering work to be done. You will be sent to Maynard initially for training concerning our products. If at the time you are ready to come to work with us, the French subsidiary has not yet been legally formed, you are hereby offered a position with the parent company, Digital Equipment Corporation. After the training period in Maynard, Massachusetts, you will be further assigned to an appropriate place.

Your initial salary will be 6,500 Francs per month and this salary will be subject to annual review.

We are all very enthusiastic about the market potentiality for our equipment in France and about your ability to help us exploit this market. I will be setting up the office in early April and I would hope that you would be able to join our company as soon as possible. Therefore, I would appreciate your letting us know your decision as soon as possible. Enclosed you will find a formal application blank for employment with DEC. Please fill this out for our Personnel records. Also your employment is contingent upon your passing

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M. Bernard Haus

-2-

March 11, 1965

a general medical exam. Please arrange to take this exam with your own doctor in France and bill us for the cost. Enclosed you will find the medical form for the doctor to fill out. He may fill this out in French.

Please let me know if you have any further questions and we are looking forward to having you join us.

Sincerely yours,

DIGITAL EQUIPMENT CORPORATION

Jonathan Fadiman
Manager, International Marketing

JF:nlz

Encs.

Personnel Application Blank
Medical Examination Blank

cc: Mr. Harlan Anderson, Vice President
Mr. Win Hindle, Assistant to the President
Mr. Arnaud de Vitry

C
O
P
Y

cc. - Jones



equipment corporation (UK) Ltd.

11 CASTLE ST. - READING - BERKS
Telephone Reading 57231 - Telex 84327

GPF/pw

12th March, 1965

Mr. Harlan Anderson,
Vice President,
Digital Equipment Corporation,
146 Main Street,
MAYNARD, Mass.,
U.S.A.

Dear Andy,

This letter is to advise you that Mr. K.E.V. Willis, Manager of Computers and Automation, National Research Development Corporation, London W.1., will be in the Boston Area visiting Project MAC during April and would appreciate an opportunity of hospitality at our Maynard Facility.

The N.R.D.C. is an organization set up by the British Government, to be run on commercial lines, specifically to sponsor the development of inventions considered to be of national importance. In particular, the organization has recently been given the commercial responsibility to help put the British Computer Industry on a sound financial footing.

I believe Mr. Willis is interested generally in our PDP range. However, he has received recommendations from various advisors that it is by the increased use of computers in both the business and scientific spheres that the industry will be able to prosper. Therefore, the use of computers should be more widely taught in schools, now that the provision of a small inexpensive machine, the PDP-8 is possible.

Hence Mr. Willis is particularly interested in the PDP-8.

At the present time there is no firm date for the visit.

Yours sincerely,

A handwritten signature in blue ink that reads "Goff Finch".

G.P. FINCH
COMPUTER SYSTEMS ANALYST
DEC (UK) LIMITED

c.c. Jones



equipment corporation (UK) Ltd.

11 CASTLE ST. - READING - BERKS
Telephone Reading 57231 - Telex 84327

GPF/pw

12th March, 1965

Mr. Harlan Anderson,
Vice President,
Digital Equipment Corporation,
146 Main Street,
MAYNARD, Mass.,
U.S.A.

Dear Andy,

This letter is to advise you that Mr. W.S. Elliott, Atlas Project Manager at the Cambridge University Mathematical Laboratory will be in the Boston Area, visiting Project MAC during April and would very much appreciate an opportunity of meeting with you.

Prior to his departure from Cambridge, Mr. Elliott plans to have accepted the Display Control System PDP-7/340 from Digital on behalf of the University.

Mr. Elliott maintains close contact with the British computer industry in a consultant capacity. As such, he would like to gauge our reaction to the idea of co-operation of any type with particular reference to the PDP-8 Computer.

Mr. Elliott is interested in developing the Man-Machine Communication Research Program at Cambridge to include a large local and remote time sharing system, on the lines of Project MAC. Our PDP-6 Time Sharing Development is directly relevant to this.

Yours sincerely,

A handwritten signature in blue ink that reads "G.P. Finch".

G.P. FINCH
COMPUTER SYSTEMS ANALYST
DEC (UK) LIMITED

P.S. Mr. Elliott has just advised us that his visit may be delayed until June. Perhaps there can be a meeting in Europe.



APPLIED DYNAMICS INTERNATIONAL

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March 15, 1965

Reference. JDK #1356

Mr. Harlan Anderson
Digital Equipment Corporation
Maynard, Massachusetts

Dear Andy:

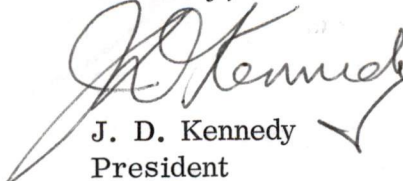
First of all, I'd like to thank you for your hospitality on March 5th when I brought the Frenchmen to visit your company. Messrs. John Faddiman, Jerry Moore, and Rod Benden were most helpful in showing us your company and describing the products. As you know, Saclay is primarily interested in the PDP-7 and I hold great hopes for consumating a contract involving an AD-256 and your computer.

I received your M.I.T. publication "Reports on Research." Thank you very much for sending them.

If you learn anything about the status at Saclay, please let me know.

Again, thank you for your help.

Sincerely,


J. D. Kennedy
President

JDK:cn



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ASSOCIATION FOR COMPUTING MACHINERY

211 EAST 43 STREET, NEW YORK, N.Y. 10017

March 18, 1965

Mrs Survilas
Digital Equipment Corp.
146 Main Street
Maynard, Massachusetts

Dear Mrs. Survilas:

In regard to the Institutional Membership benefits, let me explain that it carries full membership privileges for one individual who receives a year's subscription to each of our publications, the JOURNAL, COMMUNICATIONS OF THE ACM and COMPUTING REVIEWS. In addition the institution receives two subscriptions to each of the three publications. Other benefits are outlined in the enclosed brochure.

The benefits of individual membership are outlined in the green brochure enclosed and as you can see, the individual receives more than \$45.00 worth of publications for his \$18.00 dues.

Also enclosed are the dozen membership applications and brochures you requested. If we can be of any further help, please donot hesitate to call on us.

*given to
M. Lund for
T. Johnson*

Sincerely yours,

Paul A. Harvey
Administrative Assistant

PH/p
encl.

NER file

September 18, 1964

Mr. Harvey
40-6-3055

C
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P
Y

Mr. G. E. Forsythe, President
Association for Computing Machinery
211 East 43 Street
New York 17, New York

Dear Mr. Forsythe:

I have received your letter of September 8, urging that we become an Institutional Member of the Association for Computing Machinery. We are happy to accept your invitation and will enclose our check for \$500.00 to cover the annual dues. I would like to designate as our representative Harlan E. Anderson who is Vice President of Digital Equipment Corporation.

We wish you continued success in your plans for maintaining and extending the important work of the Association for Computing Machinery.

Sincerely,

Kenneth H. Olsen
President

KHO:ncs
Enc: \$500 Check.

H. Anderson

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MAR 22 1965

March 18, 1965

Digital Equipment Corporation
Maynard
Massachusetts

Gentlemen:

This letter is a further clarification of several recent discussions between your representatives and myself as representative of a new company now being formed, called the Berkeley Scientific Laboratories. This company with facilities in Berkeley, California, is being formed for the purposes of design and development of products in the areas of instrumentation for the biological and physical sciences, including data acquisition, processing and display equipment necessary for the efficient and effective use of these instruments. The organizers and owners of this company are not primarily interested in the manufacture or marketing of the products developed by the company. The staff of the company will consist mainly of highly trained and skilled professional scientists and engineers whose interests are primarily in the solution of challenging problems and the design and development of devices to implement these solutions.

My discussions with your representatives were mainly concerned with the aspects of this effort which will involve digital computing equipment and/or peripheral devices. I, and at least three others of the anticipated staff, have had considerable experience in the design, construction, application, and programming of digital computing equipment and devices. We are quite familiar with the differences between laboratory prototypes and well-designed and engineered production models. We have in the past produced the latter with some success and hope to continue in the future. We are aware of the big jump from a well-designed product to its manufacture and successful marketing. Our capabilities do not lie in the latter area. However, we are mindful of the fact that a successful product development program must consider all stages of the process from the beginning. For this reason, we have discussed and considered the desirability of an association with an established, reliable, and reputable manufacturer of digital computing equipment, circuits, and devices, with an established marketing organization.

The company is capable of and fully expects to support and fund its own product development and engineering projects. However, such costs can certainly be minimized if one does not have to expend effort and funds for the design and development of standard circuitry and components. In addition, any logical devices or systems constructed should utilize as much as possible those components which would most likely be used in production models. We are well aware of the fact that as much effort is often expended in the redesign and packaging of a production model as is expended in the original prototype constructed of special purpose circuitry. This is an expense which we wish to avoid if possible; however, as I stated above, we fully expect to expend whatever funds are necessary for the proper engineering and development of the products contemplated.

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Digital Equipment Corporation

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Our initial projects will involve the exploitation of certain techniques for the analyses of biological systems. As now contemplated these instruments will not require general-purpose computing units but will require small logical units for the control and sequencing of the operations which they perform and for making the output data available to standard recording and/or computing devices. Other more sophisticated devices planned for the future may require small special-purpose processing units for their control and data collection. However, all these devices can properly be considered peripheral data acquisition and collection devices which can and in some cases must interface general-purpose computers. It is not presently anticipated that the company will be involved or interested in the design of general-purpose computers on any scale for commercial purposes. As you know, there is already an abundance of such. It is our conviction that the great market lies in the development of peripheral equipment, interfaces, and logical devices which make these computers more accessible and useful to the user.

We are presently considering the possibility of entering into an agreement with a manufacturer whereby he will supply the needed standard components and devices and information on his engineering standards to meet his production requirements. These components and devices will, of course, remain the property of the manufacturer; he will only be required to supply these in a reasonable quantity and for reasonable times. In return we will guarantee to the manufacturer a right of first refusal to purchase or license any devices constructed from these components conditioned upon a mutually agreeable purchase price or license. The only additional requirement on the manufacturer would be that he will have to agree to supply standard components and devices at normal prices should we desire to manufacture and market products which he does not desire to purchase or license.

I will be happy to discuss the above ideas and proposals with any of your representatives should they be of interest to you. And once again I would like to extend my appreciation for your past interest in our anticipated activities.

Sincerely,

W. H. Wattenburg

W. H. Wattenburg

WHW:jd

23rd March, 1965.

JL/HC

Mr. Walton,
Blue Star Caravan,
Beedon,
NEWBURY,
Berks.

Dear Mr. Walton:

We are just beginning to interview engineers for several openings we now have in our field engineering department. You mentioned during your previous visit here that you may be interested in such a position when available.

If you still feel so inclined you may wish to visit us again and discuss the position with Mr. Spittle and myself.

Perhaps you could 'phone and let us know.

Yours sincerely,

J. LENG
Manager
DEC(UK)LTD

c.c. J. Fadiman
J. Hastings
S. Olsen
H. Anderson ✓

22nd March, 1965.

JL/HC

Mr. J. A. S. Weir,
66 Sea View Drive,
Filey Road,
SCARBOROUGH,
Yorkshire.

Dear Mr. Weir:

We are now advertizing for engineers to fill a number of positions in our field engineering department.

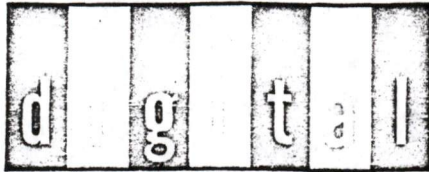
Should you still wish to be considered for employment with our company you could visit us for interview within the next several weeks.

We look forward to hearing from you further.

Yours sincerely,

J. LENG
Manager
DEC(UK)LTD

c.c. J. Fadiman
S. Olsen
H. Anderson ✓
J. Hastings



equipment corporation (UK) ltd.

11 CASTLE ST. - READING - BERKS
Telephone Reading 57231 - Telex 84327

23rd March, 1965.

JL/HC

Mr. Roger Deakin,
Moongates,
Cogdean Elms,
Corfe Mullen,
Wimborne,
DORSET.

Dear Roger:

Thank you for your letter of 4th March, '65, accepting a position with our company. We are all very pleased that you have decided to join us and are looking forward to your move to Reading.

We will naturally honour your holiday arrangements as agreed but must point out that as holiday is earned on a monthly basis then should you terminate employment with us, for any reason before the 10 days are accumulated, then we would have to recover this amount from your salary.

In order to co-ordinate your move to Reading we feel that it might be best to have you visit our U.S.A. plant right after your holiday, for a period of about one month. We can arrange accomodation for you in Reading for the week 14th to 18th June during which time you will be able to do some preliminary preparation for your work at Maynard.

It would be very helpful if you could try and get some digital electronics experience during your last few months at Winfrith. In addition, if you could generally familiarise yourself with the functions of our products (without affecting your examination work) during this period, it would further help.

Please be sure to 'phone or visit us at Reading if you would like to discuss any of these points in more detail.

Yours sincerely,

J. LENG
Manager
DEC(UK)LTD

c.c. J. Fadiman, S. Olsen, H. Anderson, ✓ J. Hastings.

digital

Telephone 92 0919

Telex 20740

DIGITAL EQUIPMENT AUSTRALIA PTY. LTD.

Colman House, 89 Berry Street, North Sydney.

Cable Address: "DIGITAL," Sydney.

A Subsidiary
of DEC
Massachusetts

copied + sent to Jerry Kennedy 3/30/65

23rd March, 1965.

Mr. Harlan E. Anderson,
Vice President,
Digital Equipment Corporation,
MAYNARD. MASS,
U.S.A.

Dear Andy,

Further to your letter of 29th December concerning the CSIRO analog computer purchase from Electronic Associates, I am afraid I have been unable to discover any useful information concerning the reason for their ordering from EAI.

I am enclosing a copy of the news release which appeared a few weeks ago in an Australian paper concerning the order. If Jerry hasn't already seen this it might give him some idea of the factors involved. If I do subsequently discover anything, I will let you know.

Best wishes,



RGS.JD752
Encl.

R. G. SMART,
General Manager.

CSIRO orders new analogue-hybrid

The CSIRO has placed an order for an analogue-hybrid computer that was released less than two months ago at the joint-computer conference at San Francisco.

The computer is the EAI 8800 scientific computing system which has both analogue and digital components.

useful computing frequencies by an order of magnitude. Other features include 32-bit floating-point programming, over 750 instructions, and a two-microsecond memory of size.

All computing components include entirely new basic circuitry and system design.

It was developed by Electronic Associates Inc. of Long Branch, New Jersey, the biggest makers of analogue computers in the world.

New high frequency operation with minimum cross-talk also is achieved by improved mechanical design, patch panel connections and the packaging of components.

This computer incorporates both Silicon and micro-logic circuitry. It is expected this performance capability will extend the application of floating-point operation to many real-time problems at present solved by fixed-point programmes.

Since setting-up its Australian sales and service subsidiary, Electronic Associates Pty Ltd. two years ago, the company has sold 18 analogue computers in Australia and New Zealand.

The automatic operation of the 8800 computer is obtained through the use of a small tored-programme digital computer which serves both as an output unit and a control system for the computer.

Mr Barry Fulford, manager of Electronic Associates Pty Ltd said the 8400 dated back to 1957 when the parent company began a long-range programme to investigate digital and hybrid mathematical techniques and computer approaches in scientific computation and simulation.

CSIRO will use the new computer, which will be delivered in the middle of next year, in its chemical engineering division at Fishermen's Bend, Victoria, under the supervision of Dr H. R. C. Pratt.

Among the improvements in efficiency made by this computer is a significant reduction in the time needed to programme it.

He added: "It is only recently that technological and cost factors have permitted the fabrication of a digital computer that can be used as a practical, low-cost tool for real-time simulation."

It will also be available to other divisions of the organisation.

The CSIRO tender called for equipment capable of future expansion and with the facility for high speed automatic optimisation and automatic parameter searching in the fitting of mathematical models to processes.

Automatic calculation of coefficient and static settings are made possible by the digital input/output computer, designed specifically for use by analogue computer programmers, a 4000 word stored-programme capacity is provided.

"The addition of the 8400 to our range provides a broad selection of analogue equipment for exceptionally high speed simulations, digital equipment for problems requiring moderately high speed with high precision and hybrid systems for advanced applications requiring both high speed and high precision."

Considerable use of the system is expected in many topics of chemical engineering such as process dynamics, process optimisation and reaction design.

The use of both analogue and digital elements in a single system provide for ready expansion to large-scale hybrid system with the addition of the new EAI 8400 digital computer.

The 8400 scientific computing system is claimed to be the fastest floating-point digital computer available.

Among the features are ultra-fast arithmetic speeds. Floating-point operations are as fast as 2.75 microseconds for addition, 5.5 microseconds for multiplication and 8.75 microseconds for division.

At the San Francisco computer conference EAI also released the 8400, a high-speed 32-bit digital computer.

The EAI 8800 scientific computing system uses a new high performance solid state 100V operation amplifier which extends

23rd March, 1965.

JL/HC

Mr. G. S. Shingles,
95 Park Road,
HENDON,
London N.W.4.

Dear Godfrey:

Just a note to let you know how pleased we all are that you have decided to join us.

I'm wondering how your application for a mortgage has gone; I did have an enquiry some time ago from the Building Society and this was answered post haste. As promised we will pay accommodation expenses for yourself prior to your permanent move to Reading. In addition, we will pay your home and family moving expenses to Reading when this occurs.

I'm not quite certain what month we felt it was best, from both yours and our point of view, for you to visit Maynard. However, June looks a good time, or is this too close to your house completion date? Perhaps you could 'phone me on this one.

Drop in and see us again when you're next down.

Yours sincerely,

JOHN LENG

c.c. J. Fadiman
S. Olsen
H. Anderson ✓
J. Hastings

H. Anderson

UNIVERSITY OF CALIFORNIA

VIRUS LABORATORY
BERKELEY 4, CALIFORNIA

24 March 1965

Mr. R.L. Lane
Digital Equipment Corporation
Maynard, Massachusetts

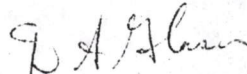
Dear Mr. Lane:

Today I had a phone call from Mr. Lew Hellman of the National Institute of General Medical Sciences Biophysics Program who informed me that our request for funds to support the development and construction and use of a flying spot scanner for biological applications has been approved and will be funded for the five years beginning June 1st 1965. As you know, we specified in that proposal the purchase of a PDP-6 computer and the purpose of my letter today is just to inform you that we are one step further to being able to place a firm purchase order for the machine as specified in our previous correspondence. Mr. Hellman says that he hopes we will get an official statement of award about 4 weeks from now and that actual funds will be available about June 1st.

We have discussed with people in the Campus Computing Center the possibility of having our PDP-6 in communication with the 7040-7094 combination they have to provide rapid input-output access to the large computing capacity of their machines. If those plans develop as I hope they will, we may change in some minor details the peripheral equipment to be ordered with the PDP-6. As soon as any definite decision is reached from those discussions I will inform you. In the meantime it seems quite sure that we will proceed to order the PDP-6 from you as specified and hope that you will increase the confidence level of our position in your assembly line accordingly. Thank you very much.

With best wishes,

Sincerely yours,



Donald A. Glaser
Professor of Physics and
Molecular Biology

Since I dictated this letter I received yours of March 22nd concerning a change in console teleprinter to model 35-KSR. I also had a conversation with Dr. Bill Wattenburg in which he informed me that he had discussed with your people changing some of the detailed specifications of the peripheral equipment. We are pleased at your suggestion to up-date the equipment you plan to furnish without extra cost to us and will proceed with more and more detailed discussions with you as the delivery date approaches.

DEPARTMENT OF WATER RESOURCES

P. O. BOX 388
SACRAMENTO

MAR 25 1965

March 24, 1965

Mr. Kenneth Larsen
Digital Equipment Corporation
2450 Hanover Street
Palo Alto, California

Dear Mr. Larsen:

As mentioned to you in our telephone conversation on March 23, 1965, Mr. Milton Khoobyarian and I plan to visit your plant in Maynard, Massachusetts on Tuesday, April 20, 1965. We are interested in your latest EDP hardware and software developments at these locations.

It would be helpful to us if you could confirm this visit by March 27, 1965. We would appreciate any information that you could give us about local transportation and hotel accommodations in that area.

Your prompt attention to this matter will be appreciated.

Sincerely yours,

A handwritten signature in cursive script that reads "George J. Christy".

George J. Christy, Supervisor
Data Processing Section
Technical Services Office

(916)

Tel. 445-5255

ATTN..... HARLAN ANDERSON (3-24-65)

MR. GEORGE CHRISTY OF THE STATE OF CALIFORNIA, DEPARTMENT OF WATER RESOURCES WILL BE MAKING A TOUR OF COMPUTER COMPANIES TO EVALUATE POSSIBLE VENDORS. HIS SCHEDULE CALLS FOR HIM TO BE IN MAYNARD ON APRIL 20, 1965. I SUGGESTED THAT HE STAY AT THE HOWARD JOHNSON'S MOTEL AND USE THE MAYNARD TAXI (PHIL KELLEY). I ASKED HIM TO SEE YOU FIRST.

WILL YOU PLEASE SEE THAT HE IS PROPERLY ESCORTED AND THAT HE GETS TO SEE AS MUCH OF THE HARDWARE AS HE WISHES AND GETS AN OPPORTUNITY TO TALK TO WHOEVER KNOWS THE MOST ABOUT PDP-6 COBOL?

THANKS VERY MUCH
KEN LARSEN

NOTE TO PHYLLIS - PLEASE MAKE CERTAIN THAT FRANK RECEIVES THE CORRECTION TO HIS MSG. WITH THE MSG. SO THAT ORDER IS ENTERED CORRECTLY. THANKS BETTY

EB END OR GA PLS

DIGITAL MAYN
END O ES

TED!

I will not be here as you!
Can Harry Portner discuss Cobol

Roger can host the people.

Pat: Have Roger see me by this
Tuesday 4-13-65

cc: Mr. S. Olsen
Mr. N. Mazzaresse
Mr. T. Johnson
Mr. H. Anderson ✓

April 22, 1965
9 ³⁰ AM. - Roger
Hendry

26 March 1965

Mr. George J. Christy
Data Processing Section
Technical Services Office
Department of Water Resources
P.O. Box 388
Sacramento, California

Dear Mr. Christy:

This letter will confirm the information we discussed on the telephone regarding your visit to Digital Equipment Corporation in Maynard, Massachusetts. Maynard is located approximately 20 miles from Boston. Arrangements can be made to have a taxi meet you at the Airport if you do not wish to rent a car. I suggest that you plan to stay at the Howard Johnson Motel in Concord. It is comfortable and next door to the Howard Johnson's Restaurant, which makes it quite convenient. The Concord Taxi Service is in this area. You can make arrangements with them to take you to the Plant and on to the Airport after your day at Digital. The Concord Taxi is operated by a Mr. Phil Kelly. His telephone number is Emerson 9-9679 in Concord.

When you arrive at Digital, you should see our Vice President Mr. Harlan Anderson. I have told Mr. Anderson that you are coming, and I would appreciate it if you would ask for him when you get to the Reception Area. He will be happy to discuss your PDP requirements and to direct your tour of our facilities.

Yours very truly,

DIGITAL EQUIPMENT CORPORATION

Kenneth Larsen
Manager, District Office

KL/hlh

COPY

April 1, 1965

Mr. Harlan E. Anderson, Vice President
Digital Equipment Corp.
Maynard, Mass.

Dear Harlan:

It has been two or three years since we last brought you up to date on our activities, so I thought I would write you this brief note and send you our brochure and client list.

During March Jim Cook who had been with Raytheon, joined us. He was in marketing research and corporate planning activities. Prior to Raytheon, he had been with A.D. Little and Pratt & Whitney Aircraft. We are in the process of revising our brochure to shorten it and add Jim's background to the back pages.

I'd like to describe to you some of the programs we have worked on recently and discuss areas in which we might work with you. We are now on a digital display study for Sylvania. In two or three weeks I'll phone you to see if we should meet.

Sincerely,



David N. Reece

DNR:ch

PARTIAL LIST OF COMPANIES FOR WHICH
BILLINGS AND REECE HAS CONDUCTED PROGRAMS

Charles W. Adams Associates
Area Redevelopment Authority, Boston
Avco Corporation (4)
Baird-Atomic, Inc. (3)
Beede Electrical Instrument Co., Inc.
Cabot Corporation (2)
Chandler Evans Corporation (5)
Coppus Engineering Corporation
Dynatech Corporation (2)
Electronic Associates, Inc.
Fenwal Incorporated
The Foxboro Company (4)
Hamilton Standard, Division United Aircraft (5)
High Voltage Engineering Corporation (2)
International Paper Company
Itek Corporation (12)
Walter Kidde & Company, Inc.
Kollmorgen Corporation (5)
Lehn & Fink Products Corporation (2)
Metal Hydrides Incorporated (2)
Metra-Tech (2)
Minnesota Mining & Manufacturing Company
Mutual Boiler & Machinery Insurance Company
Norton Company (2)
Pickard & Burns, Inc.
H. K. Porter, Inc.
Pratt & Whitney Aircraft, Division United Aircraft
Raytheon Company (2)
Sigma Instruments, Inc.
The Singer Company
State Mutual Life Assurance Company (2)
United-Carr Fastener Corporation
Williamson Development Company, Inc.

(figures in parentheses indicate number of projects completed)

BILLINGS AND REECE

Specialists in
INDUSTRIAL MARKET RESEARCH

Our partnership was formed in 1960 to perform market investigations and provide product planning assistance to manufacturers of industrial products.

We entered what appeared to be an already crowded field because we felt that two necessary requirements of industrial marketing research were being neglected. We have made these requirements the basic objectives of our operation.

The first of these objectives is to obtain facts as directly and realistically as possible from the men in industry who are most likely to have the needed information. These men are generally potential customers or existing manufacturers. To obtain reliable facts from a customer or manufacturer, technically qualified, mature investigators are required who are skilled at conducting direct interviews with engineering, sales and production personnel. For this reason, all field work is performed by the partners.

The second objective is to reveal to our client the details of all information-getting techniques used and to report all the data as it is obtained. In this way we can personally substantiate the reliability of our findings and give our client an opportunity to follow with us the logic and the details of the program.

It is the function of Billings and Reece to obtain the market and technical information needed for industrial product and industrial marketing decisions; and, based on this information, to recommend a course of action.

Client companies typically seek information in one or more of the following areas:

Market characteristics	Size, location, trends of market; willingness and ability of customers to buy.
Product characteristics	Detailed specifications of product features preferred by customers.
Trade practices	Strengths, weaknesses, plans and pricing of existing manufacturers and their distribution channels.
Sales techniques	Buying practices of customers and the sales tools, procedures and channels of distribution which will effectively reach these customers.
Planning factors	Long term technical and economic trends to determine major market shifts, indicate the development of new markets and the decline of established products, and indicate the products and markets toward which the company should be working.

Market information is required when a company has ...

New product ideas	Before major investments in engineering and development.
Prototype products	Before making tooling and production commitments.
Existing products	When an existing product fails to meet objectives.
Acquisition interests	When the acquisition of a product or company is under consideration.
Need to diversify	Before established products are driven out by new materials, processes or competitors.

Billings and Reece specializes in getting this information by direct interview, the method best calculated to produce the wealth of detail and observation of user attitudes necessary to the evaluation of products and markets. New products and entry into new markets, in particular, usually require answers to questions which often are not available within the company involved. Direct interviews by independent and experienced men, sensitive to respondent attitudes, are the surest known means for recognizing the pitfalls of new ventures.

In addition to direct interviews, we use the following supporting techniques:

Mailed Questionnaires

For quantitative data and answers to a few specific questions from large market samples. Questionnaires are tested by direct interview to eliminate ambiguity and possible bias.

Literature Reviews

For published information on the experience and opinion of others. We have available to us the MIT, Harvard and Boston business and technical libraries -- the most extensive in the world.

Telephone Interviews

For more detailed information than can be obtained with mailed questionnaires; to supplement or further test direct interview findings; to obtain information on a wide geographical basis when time limitations are severe.

Statistical Analyses

For statistical information to provide a sound framework for field studies. This data usually requires refinement and careful analysis to serve the needs of a specific project.

INTERVIEWING TECHNIQUES

We rely on direct interviews with qualified individuals as our primary source of information.

We are specialists in finding the right man within an organization and talking to him in realistic terms about the product or market in question. We are engineers who worked many years in industry before starting our own business. We are skilled at assessing the responses of the person interviewed due to our experience gained from direct industrial sales and from client field investigation.

Interviews are sales or buyer oriented.

When talking with potential customers our conversations are strongly sales oriented to be certain that the information obtained reflects buying interest and not merely curiosity. We also get a true understanding of the problems which will be faced by the salesman who might follow us. We actually sell products when appropriate.

When talking with an engineer about product characteristics we discuss product engineering to determine why he wants what he says he needs. The same technique of asking detailed "why?" questions is used in non-technical interviews to determine reasons for buying practices and to obtain trade information.

COMMUNICATIONS and REPORTING

We work closely with our clients. Close communication assures that results are useful and efficiently obtained.

- Time is not wasted confirming information the client already has unless independent confirmation is desired.
- The investigation is confined to specific areas of client interest.
- The program can be intelligently altered as information is obtained and evaluated, or as client circumstances change.
- The logic and procedures used are thoroughly understood by client personnel.
- The conclusions and recommendations will be realistic and specific, since they are based on information already transmitted to the client.

Frequent verbal and written reporting maintains this close communication. This reporting includes:

- A detailed program outline before starting.
- Interim verbal reports every two weeks.
- Written reports on each interview submitted weekly.
- Telephone reports of unusually significant findings.
- Final verbal presentation with supporting summary charts.
- A formal written report with conclusions, recommendations, and complete back-up data.

DAVID N. REECE received his Bachelor of Science degree in Mechanical Engineering from Case Institute of Technology and his Masters Degree from Harvard Business School. During World War II he served four years in the Navy as an aircraft engineering officer.

From 1947 to 1950 Mr. Reece worked for American Research and Development Corporation investigating manufacturing concerns and technical product investment possibilities. Following this, he worked for three years with Control Engineering Corporation, manufacturer of electro-mechanical devices, where he was first in charge of new product acquisitions, and later responsible for production control and sub-contracting.

In 1954 Mr. Reece joined National Research Corporation to become marketing manager of the high vacuum industrial equipment product line. Active responsibilities included direct selling, market surveys, product development, preparation of promotional literature, sales program planning and execution, including training of salesmen. He has sold to the nuclear, aircraft engine, electronic, metals and missiles industries, and to government facilities.

Mr. Reece has worked with many new products from inception to routine field selling. He is a member of the American Marketing Association and the American Society for Metals and is active in the Harvard Business School Alumni Association.

CURTIS BILLINGS received his Bachelor of Science degree from the School of Engineering at Yale University. He graduated in 1949 after interrupting his education to serve with the Army Corps of Engineers in New Guinea, the Philippines and Japan as a Company Officer.

From 1949 to 1957 Mr. Billings was employed by the Cabot Corporation, manufacturers of carbon black and other chemicals. While with Cabot, Mr. Billings worked as a chemical engineer conducting pilot plant and experimental studies, and as sales engineer for Cabot in the United States and overseas. He spent two years selling in New Zealand, Australia, India and Japan, and increased the firm's share of this market from 6% to 40%. Subsequently, Mr. Billings lived in England as a sales consultant for Cabot and worked for a year as assistant to the manager of the newly formed Minerals and Chemicals Division.

In 1957 Mr. Billings joined the Butcher Polish Company as Research Director. In this position he developed and market tested new products. He worked with advertising agencies, design consultants and packaging engineers. He also conducted consumer test programs, including the organization of a panel of 500 home owners. Other duties included technical supervision of purchasing and quality control. During his three years with the Butcher Company approximately twenty products were developed, six of which became permanent and profitable additions to the company line.

Mr. Billings holds a patent involving the manufacture of channel blacks. He is active in the American Marketing Association.

THOMAS V. ATWATER, Jr. holds degrees of Bachelor of Arts and Master of Arts from the University of Washington in the fields of Marketing and Business Administration. He subsequently received degrees of Master of Arts and Doctor of Philosophy in Economics from Harvard University. From 1952 to 1956, Dr. Atwater served as Instructor and Assistant Professor in charge of the Business Economics Department at Massachusetts Institute of Technology. He taught graduate and undergraduate courses in

the Economics Department at Massachusetts Institute of Technology. He taught graduate and undergraduate courses in Business Economics, Marketing, Accounting and Corporate Finance.

In 1956 Dr. Atwater joined Product Development Corporation as Vice President, Treasurer and Director. In that role, he was directly responsible for twenty successful new product programs for client corporations. He joined Dynatech Corporation in 1960 and was subsequently elected Vice President, Director, and Manager of the Business Research Department. At Dynatech, Dr. Atwater developed and managed a staff of professional business research consultants which conducted more than 200 programs and studies for manufacturing, financial, retail and government clients. These programs included evaluations and investigations in electronic, educational, electro-mechanical, nuclear, chemical, plastics, packaging, graphic arts, aerospace, and leisure markets. In addition to his other business research activities, Dr. Atwater has continued to develop and manage successful product-finding and planning programs for clients. Many American and European corporations, patent attorneys, private inventors and financial institutions regularly retain Dr. Atwater for advice and assistance in this area.

Dr. Atwater is listed in American Men of Science and is a member of the American Economic Association and American Marketing Association (President, Boston Chapter, 1962-1963). He was chairman, 1960-1961, of the Concord Planning Board's Special Projects Study Committee and currently serves on the Town of Concord Finance Committee. Dr. Atwater has published approximately twenty articles and is a contributing editor of Business Scope.

NER

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April 5, 1965

Mr. Harlan Anderson
Digital Equipment Corporation
Maynard, Massachusetts

Dear Harlan:

After talking with you on the phone last Friday, I tried over the weekend to put some of my thoughts onto paper and the enclosed draft of the proposal is the result. I hope that you will understand that at this time such a proposal is unofficial and rather hastily drawn but if D.E.C. agrees that there might be considerable benefits to reap from such an arrangement we certainly should get together for some definitive discussions.

For your information I enclose copies of a couple of documents that I happen to have available that might be of interest to D.E.C. I understand that the paper by Martin Faulkner will be published in the May issue of "Datamation". The proposal from Dick Stark will probably be funded by NSF and may attract additional support from the Office of Naval Research. This illustrates another point that should perhaps be made with regard to the proposed Systems Research Center; namely, that it is quite likely to attract substantial additional support from federal agencies for its research program and D.E.C. would of course benefit from these efforts through its on-the-spot participation. Hoping to hear from you soon, I am

Sincerely yours,



Ottis W. Rechar
Program Director for
Computer Science

Enclosures

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PROPOSAL FOR A SYSTEMS RESEARCH CENTER

A JOINT UNDERTAKING

BY

WASHINGTON STATE UNIVERSITY

AND

DIGITAL EQUIPMENT CORPORATION

I. The Proposal.

It is proposed that Washington State University and Digital Equipment Corporation enter into a memorandum of understanding for the purpose of establishing on the WSU campus a Systems Research Center whose activities would be jointly guided by WSU and DEC and to whose support both the University and the Corporation would contribute. The purpose of the Center would be to carry on a long-term program of advanced research and development in the area of programming systems and languages. This research might include but would not be limited to: (1) further investigations of time sharing with particular regard to the development of systems responsive to the needs of both time sharing and batch processing users, (2) investigation of programming systems for multi-processor operations, (3) investigation of new languages and processors, (4) development of display and programming techniques for use in mathematical research, (5) investigation of methods for translating from one machine-language to another.

The following points are suggested for inclusion in a memorandum of understanding:

(1) WSU and DEC would each name a co-director for the Center. It would be expected that the co-director from DEC would be a senior person and that he would be extended a courtesy appointment to the faculty of the Information Science Program at the University. This should not be interpreted to exclude the possibility that other qualified DEC personnel might also receive such courtesy appointments.

(2) WSU's contribution to the Center would include:

(a) Purchase from DEC of an initial PDP-6 system as specified in the purchase contract now being negotiated.

(b) Beginning July 1, 1967 the expenditure (subject to the availability of funds) of \$100,000 a year for the purchase or rental of additional equipment at least one-half of which

will be obtained from DEC.

(c) Space in a planned \$300,000 addition to the present quarters of the Computing Center. This space will include office and laboratory space. \$185,000 is firmly in hand and an additional \$115,000 is being sought from the National Science Foundation.

(d) Research time of at least three faculty members.

(e) Overhead.

(3) DEC's contribution to the Center would include:

(a) Initial contribution of a second processor for the PDP-6 system, title to pass to WSU.

(b) Beginning July 1, 1967 the contribution each year of equipment valued at \$100,000. Title to this equipment would remain with DEC with provision in the event of termination of the agreement for WSU to purchase the equipment at a depreciated price.

(c) Maintenance of the equipment.

(d) Three systems programmers.

(e) Fifty thousand dollars per year to be used to help pay graduate assistants, undergraduate students, visitors, summer salaries of faculty members in addition to the three mentioned above, secretarial assistance and travel for both DEC and WSU personnel.

This proposal is put forward in the firm belief that a research center such as is herein described could be of tremendous value in advancing the long-term aims and interests of both Washington State University and Digital Equipment Corporation.

II. Benefits to Washington State University.

In the area of digital computers, Washington State University has two primary goals. In the first place it seeks to have available to its research investigators, teachers, students and administration computing capability of advanced design and large capacity. Next to the library the Computing Center is the most widely used facility on the campus. Investigators from all areas of the University use the computer for everything from routine data processing, some of which involves the manipulation of very large files, to the most complex mathematical calculations. Plans are reasonably firm for a number of "on line" applications that will require advanced hardware capability. This semester over 600 students are enrolled in courses in which they are

required to make extensive use of the computer. This number is expected to increase to 1000 students per semester within the next two years. The administration has used a small computer for a number of years and is now moving several major complex systems onto a large scale machine.

From the standpoint of hardware, this University goal can certainly be achieved with the PDP-6. Its design is advanced and imaginative and it is competitively priced. The participation by DEC in a Systems Research Center would assure the University of DEC's continuing commitment to the development and improvement of programming systems. However, it is in the advancement of the second goal that the proposed Center has the most to offer the University. This goal is the development at WSU of an outstanding program of research and education in Information Science. Clearly, the opportunity to align the University with a progressive manufacturer of outstanding hardware would give a tremendous impetus to this program. It would ensure that the latest results of the manufacturer's hardware development efforts were available for systems research. Moreover, the University would have access to the manufacturer's most up-to-date thinking and plans. The fact that DEC is relatively small would probably be an advantage since it would result in increased flexibility and responsiveness to the University's needs.

The existence of such an arrangement would be of considerable assistance in the University's efforts to recruit top quality faculty members. The additional funds for the support of graduate students would provide a significant expansion in the educational program and the stimulation to both students and faculty members of working with the quality of personnel we have observed at DEC should not be underemphasized.

III. Benefits to DEC.

The most obvious benefit to DEC from an arrangement such as has been described would be the opportunity to establish a large system in an environment where it will be required to perform a wide variety of tasks for a very demanding group of users. The existence of such an installation together with the knowledge that DEC was vigorously pursuing a program of research and development in the systems area could be a strong inducement to other universities to install DEC equipment.

Washington State University has a good reputation in the area of Computer Science, particularly in the West, and its Information Science Program would probably rate among the top 10 or 15 such programs in the country. It will very shortly be expanded to include the Ph. D. degree. DEC can gain tremendous advantage by aligning itself with a university with the reputation of WSU. Graduates from the University will be moving into positions of leadership in the Computing field where their intimate knowledge of DEC equipment could pay handsome dividends. Just the publicity that could result from the thousands of science, engineering and business graduates who would talk about their experiences with the PDP-6 would be invaluable.

-4-

Among the prime customers for the PDP-6 are many colleges and universities who are outgrowing IBM 1620s or 7040s. Many of these institutions have relatively little systems expertise and their faculties are cautious about unfamiliar computers. The sales advantage of being able to point to a strong university making effective use of a PDP-6 in a wide variety of applications could be tremendous.

DEC is a small manufacturer of quality hardware. As such it does not have the resources to engage in extensive in-house research particularly in the area of programming systems and languages. The proposed Systems Research Center can help to overcome this lack. With a relatively modest investment, the company can place itself in a position to benefit materially from anything that is accomplished at the University. For example, WSU may well be the first place at which the functions of a large research library are automated by placing the library on-line in a time sharing environment to a large central computer. By being on the spot and participating in these developments DEC could enhance its position considerably in comparison with other manufacturers.

Many of the topics suggested as appropriate for investigation in the Center are of immediate or long-range concern to DEC. Care should be exercised to preserve the research character of the Center, but it is characteristic of research in this field that the time-lag between research and practical implementation is small and one would expect a significant pay-off in a relatively short time.

Brussels, april 3, 1965.

*Have original & Jones for attention - 4/5/65
Follow up 4/19*

The General Manager,
DIGITAL EQUIPMENT CORPORATION, Inc.,
M A Y N A R D.
Massachusetts.
U . S . A

Dear Sir,

Following your advertisement published in the magazine " Computers & Automation ", I am convinced of the fine future of the use of the new PDP - 7 & 8 computers, and the potential possibilities in the Continental Europe for this computers.

At this time of my career, I would like to be integrate in the sales and market research activities for your company in Europe, after a appropriate technical training in the United States, with futur co-operation in view.

Having some experience of administration at the executive level, I have a reasonable spirit of initiative in sales and I am able to outline a commercial policy, the ability to develop Marketing Plan & Sales Program, and I have commercial and technical experience in organization concerning computers. I know perfectly the Belgian and Luxemburg users and the Europe potential possibilities. Moreover, I possess first class references in Industrial, Government and Laboratories in this countries, and I am capable to negotiate in business at all levels.

Please find enclose herewith my application form.
I remain at your entire disposal for any information you may require.
Hoping to be favoured with your reply, I remain,

Yours very truly,

Paul Le Feune
Paul LE FEUNE,
38, rue Léonard de Vinci,
B R U S S E L S, 4.

3 / 4 / 1965.

CURRICULUM VITAE

SURNAME : LE JEUNE
CHRISTIAN NAMES : Paul, Georges, Victor, Ghislain.
DATE of BIRTH : Brussels, April 22, 1929 (36 Y. old)
NATIONALITY : Belgian.
CIVIL STATUS : Married (June 1956) - two children.
STUDIES : Scientifiques Commerciales - Sciences Commerciales
& Business Administration (LV. Univ.)
MILITARY SERVICE : Belgian Army in Germany - Bon. Chasseurs Ardennais
LANGUAGES : Mother tongue : French.
good basic knowledge of Flemish & English.
PRESENT RESIDENCE : Brussels, rue Léonard de Vinci, 38. tel.: 335841.
PREVIOUS OCCUPATIONS : Commercial Engineer, and in charge for the Belgium
& Luxemburg markets.
INTERNATIONAL GENERAL ELECTRIC, Geneva.
Duration : Jan. 1964 to present time (in previous
notice) Data Automation Department (Mr. JACKSON
Latest remuneration : Swiss frs. net monthly 1800
+ %/
Reason for leaving ; the activities of Data
Automation Department of IGE for computers in
Europe have been terminated and taken over by
the Societe BULL-France having staff over the
regulation number.
: Commercial Engineer, in charge for the Belgian &
Luxemburg markets,
COMPTA TECHNIC, Paris (Agent in France & Belgium
of the INTERNATIONAL GENERAL ELECTRIC, in 1962/63
Duration : Jan. 1962 to Dec. 1963.
Latest remuneration : French frs. net monthly 205
+ %/
: Sales Manager, for Belgium and Luxemburg markets
at Brussels,
RANK XEROX Ltd. (Haloïd Group), London.
Duration : June 1959 to Dec. 1961.
Remuneration : per year in Pound Sterling 2143.
Reason for leaving : Belgian Department taken
over by a Belgian Company having commercial staff
: Technical Commercial Representative, for Belgium
& Luxemburg , at Brussels Agency.
POWERS SAMAS (Vickers Group), Paris.
Duration : April 1957 to May 1959.
Remuneration : per year B.frs. 140.000 + %/

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DATE OF POSSIBLE START IN WORK : May 3, 1965.

EXPERIENCE ACQUIRED
=====

POWERS-SAMAS (Vickers Group) - Brussels Agency.

Experience acquired : Modern organization methods : solution rendered possible by use of punch cards system of all accountancy problems.
Survey of Belgian & Luxemburg markets. Active sales experience very near the Head of a large Sales Organization in Paris.

Two rental applications studied and executed through my good offices :

- OLIDA, Brussels.
- UNION DES PAPETERIES (5 Factories), Brussels.

RANK - XEROX LTD (Haloid Group & Rank Organization), Belgian Department, London.

Experience acquired : General organization of the department and Marketing of industrial photocopying equipment (Copyflo & Xeronic Printers). Markets Research in Belgium, Luxemburg, France & Germany. Advertising. Sales Promotion in connection with the Belgian distributors and assist customers and potential customers in Amsterdam, Luxemburg and Paris.

Two sales applications studied and executed through my good offices, for Copyflo Printers :

- BELL TELEPHONE MANUFACTURING COMPANY;
Berkenrodelei, 33, HOBOKEN / Antwerpen.tel.377835.
(Mr. BALLEET, Chief Engineer).
- PATENT OFFICE (Office de la Propriété Industrielle Economic Ministry), 19, rue de la LOI, Brussels.
tel. 120223 (Mr. J. GOELEN, Manager).

Belgian Department Turnover (Distributors include)

- Period 1959/60	: more 6.000.000 B.frs.
(personal result	: 2.200.000 B.frs.)
- Period 1960/61	: more 8.000.000 B.frs.
(personal result	: 4.660.000 B.frs.)

COMPTA TECHNIC & INTERNATIONAL GENERAL ELECTRIC, Paris & Geneva.

Experience acquired : Promotion of the G.E. computers serial 200 & 400 in Belgium & Grand Duchy of Luxemburg. Analyses and studies of industrials problems specially in the metallurgic sectors. Interpretation and compilation of market information for statistics & knowledge of Belgian & Luxemburg potential markets concerning digital problems for computers. Experience of sales administration in the executive level, and experience of negotiation at the director level.

Three rental installations in Belgium :

- SOC. METALL. DE HAINAUT SAMBRE, Couillet
(monthly rental : 650.000 B.frs)
- UNION CHIMIQUE BELGE - FABELTA, Brussels.
(monthly rental : 500.000 B.frs)
- AUTOMATION CENTER, Brussels
(monthly rental : 400.000 B.frs)

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EXPERIENCE IN METHODS & ORGANIZATION FIELD :

- Analysis of different problems for solution and elaboration of an organization structure as a function of results to obtained.
- Research on the possible systems to be adopted for improving the structure of an operating process, and enumeration of different methods which may be adopted.
- Research on the changes in the thinking and methods of work of administrative personnel, and survey by this same means of the influence of electronic applications (computers).
- Studies for the implementation of Management assembly :
 - thoroughgoing approach to the problems as a whole, taking into account the analysis of constants, consequential factors and variable elements ;
 - analysis of costs and distribution of charges, as well as the incidence of new methods planned and of the determination of results by nature of activity. Study of problems performed in finalizing spirit and with the determination to seek the ideal solution.-

=====

REFERENCES IN BUSINESS :

- Monsieur Jacques FALGUIERE,
Directeur Commercial, (COMPTA TECHNIC, 19, Rue Saulnier, PARIS, 9e.
Tel.: PRO-6872)
private : 38, rue de Tourville, SAINT GERMAIN-en-LAYE (Seine & Oise
FRANCE.
- C.S. THOMPSON,
General Manager.
RANK XEROX, Löwenstrasse, 29, ZURICH (SWITZERLAND)
tel.: 051 / 258630
(International Sales Manager at London, in 1959/60/61)
- G.W. BISHOP,
Manager (in the SHELL CY.)
private : Carel van Bylandtlaan, 30 ; Postbus 162,
's- GRAVENHAGE (NEEDEERLAND)
(Manager POWERS SAMAS at Brussels, in 1957/58/59)

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BOSTON, MASSACHUSETTS 02109
TELEPHONE 482-4400

April 7, 1965

File

Mr. Harlan E. Anderson
Vice President - Treasurer
Digital Equipment Corporation
Maynard, Massachusetts

Dear Mr. Anderson:

Enclosed please find a draft copy of my proposed report on A.R.D. I hope and trust that you will feel free to make any comments and suggestions that occur to you.

I should emphasize that this is a very rough draft with many errors in spelling, grammar, etc. that we will clean up prior to publication.

I will look forward to hearing from you at your convenience. With best wishes in the interim, I remain

Sincerely,

John L. Merrill, Jr.
John L. Merrill, Jr.

JLM/t1

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Plane



THE UNIVERSITY OF ARIZONA

TUCSON, ARIZONA 85721

SYSTEMS ENGINEERING DEPARTMENT
NUMERICAL ANALYSIS LABORATORY

April 7, 1965

Mr. Richard F. Musson, Manager
Regional Office
Digital Equipment Corporation
8939 Sepulveda Boulevard
Los Angeles 45, California

Dear Mr. Musson:

Thank you for your Digital Computer Proposal of November 30, 1964 and an additional quotation furnished informally to Dr. Malamud, March 1, 1965.

In order for our committee and other interested parties at the University to evaluate your proposal and compare it with those of other manufacturers we require additional information.

We would appreciate it if answers to the following be sent to us by April 21, 1965, that copies of your answers be provided to each member of the working party, that your answers are as concise as possible, and additional documentation be provided only where it has not already been supplied.

Price Quotation

We would like rental prices including maintenance costs for the following basic configuration with various alternatives as indicated. These prices should include the best educational discount that Digital Equipment Corporation is prepared to offer at this time. However, your quotation will not be considered as a final sealed bid, nor will a final choice of computer be based on it. The information you supply at this time will be used by us to prepare a computer comparison for submission to the full Committee on Computers.

Please make the price quotation item by item and on the various alternatives mentioned under the various items.

April 7, 1965

Model: PDP-6
Memory: 40K and 72K. You might indicate possibilities of intermixing various speed memories.
Console: standard unit
Mass storage: disc or drum. Whatever is needed for the standard operating system.

Input/output equipment:
1 Card reader at least 800 cpm.
1 Card punch at least 250 cpm.
2 Line printers, at least 1000 lpm.
10 magnetic tape, units at least 90 kcs.

We would like the manufacturer to recommend the channel arrangement for the above equipment.

Remote Console System

We would like to know the price for one remote console satisfying the requirements each of the categories listed and the incremental price for adding additional units under each category. Please include the prices of any interfacing equipment and/or buffer units or satellite computers that are necessary. Please indicate where and when we could see an example of the various types of console.

- IBM
1. A keyboard input and a CRT character display operating at distances up to 2 miles from the main computer.
 2. The above with the addition of a typewriter for making a permanent record of the information.
 3. Item 1 with the addition of a slow card reader (~200 cpm) and a slow line printer (~300 cpm).
 4. Item 1 but with the CRT capable of vector display as well as characters.
 5. Item 4 with light pen added.
 6. Item 5 with a recording camera attached to the C.R.T
 7. An A to D and D to A terminal unit. This unit should be able to multiplex several analog voltages, digitize them, and transmit them at rates of about 300 kc to the central computer.

Digital information received from the computer should be converted to analog voltages.

April 7, 1965

Additional questions and clarification not already covered on information you have given us.

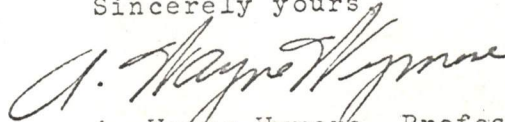
1. What is the delivery time from placement of a firm order for the configurations priced?
2. What is your delivery schedule on software:
 - Fortran
 - ALGOL
 - Assembler
 - Batch processing monitor
 - Time sharing monitor
3. What is your policy on programming for the remote console system? In particular we are interested here in three systems:
 - (a) A system whereby a user can have stored on tape and/or disc at the computer a complete source and/or object deck. He must be able by means of the remote console to call in a particular sub-routine, alter a few cards in it, recompile it, and then re-execute the whole program.
 - (b) A flexible system for plotting graphical output on the vector type CRT without extensive use of machine language.
 - (c) A flexible system for using the A to D and D to A converter without extensive use of machine language.
4. There are many features of your computer system we find attractive. However, we are unable to provide a large systems group initially for software development. Therefore it is of crucial importance to us to know just how much assistance Digital Equipment Corporation would be willing to give the University for the maintenance of the standard software listed under item (2) and for the development and maintenance of the special software listed under item (3).
5. Could you please specify what power requirements, motor generator sets, air conditioning equipment must be provided by the above configurations. Can you give us an estimate for the cost of site preparation (we realize we do this ourselves) based on your experience at other installations?

April 7, 1965 .

6. What are the minimum floor space requirements on the above configurations?
7. In the disc/or drum unit provided how much room is left over for use by programmers?
8. Does your monitor system do dynamic relocation of programs and if so how is this accomplished?
9. Is double precision arithmetic done by software or hardware?
10. How many significant digits are retained in single precision and double precision floating point arithmetic? What is the range of the exponent?

Thank you for your information.

Sincerely yours



A. Wayne Wymore, Professor
of Systems Engineering and
Head of the Department.

AWW:df

cc: Dr. R. Weymann, Department of Astronomy
Dr. E. Malamud, Department of Physics

H. Anderson

April 20, 1965

Mr. William B. Kehl
University of Pittsburgh
800 Cathedral of Learning
Pittsburgh, Pennsylvania 15213

Dear Mr. Kehl:

In relation to our discussion last Thursday, Digital Equipment Corporation is pleased to submit this quotation on a PDP-6 computer system along with the special terms outlined below.

1. Configuration

The following PDP-6 system will be leased to University of Pittsburgh under the conditions specified in section 2 below.

<u>TYPE</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>	<u>PURCHASE PRICE</u>
166	Arithmetic Processor includes: a. processing unit b. control console c. Model 35KSR message printer d. 400 cps paper tape reader	1	151,100
163C	Core Memory 16,384 36-bit words 1.8 microsecond cycle time	1	126,000

COPY

Mr. William B. Kehl
University of Pittsburgh

April 20, 1965

(Continued)

<u>TYPE</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>	<u>PURCHASE PRICE</u>
136	Data Control	1	10,000
551	DECTape Control Unit	1	14,000
555	Dual DECTape Transports (4 drives all together)	2	14,800
516-522	Magnetic Tape Control Unit (interfaces directly up to eight IBM 729 tape drives)	1	24,000
630	Data Communication System (8 lines, not including terminals)		14,202
		Total	<u>354,102</u>

2. Terms

The specified equipment will be leased to the University of Pittsburgh for a period of three years with annual payments of \$118,034., the first being payable upon acceptance of the system. If the three year NIH contract which uses this equipment is terminated, the University may cancel the lease on the system. Upon receipt of three payments (\$354,102), the title to the computer system will be transferred to the University of Pittsburgh Computation Center.

3. Special Interfaces

Digital Equipment Corporation will design and build interfaces between the PDP-6 I/O bus and (1) the IBM 1301 disc file (2) the IBM 1401 computer (3) an interrupt facility to the IBM 7090 computer. This equipment will be delivered with the PDP-6 system with final checkout at Pittsburgh. This equipment must be purchased by University of Pittsburgh at a price not to exceed \$25,000.

COPY

Mr. William B. Kehl
University of Pittsburgh

April 20, 1965

4. Additional Memory

To offer a more flexible initial system, Digital Equipment Corporation offers to loan the University at no cost, an additional 16,384 words of memory with delivery of system for the period of one year.

5. Delivery

Delivery of the complete system can be made six months after receipt of a purchase order. A letter of intent placed on May 1, 1965 will reserve an October 1, 1965 delivery for a period of thirty days.

6. Warranty and Maintenance

The entire PDP-6 computer system is warranted for a period of six months following acceptance by the University of Pittsburgh. This warranty includes all travel, labor, and replacement parts. Both preventative and emergency maintenance will be provided during this period.

For this system a one-shift maintenance plan is suggested. The cost for this service on the proposed system (including special interfaces at \$500 yearly) is \$9,030 yearly or \$753 monthly. Specific descriptions of all DEC maintenance plans available are enclosed for your reference.

7. Software Support

It is a desire of Digital Equipment Corporation that a close relationship is kept between the PDP-6 software group and the University's systems programmers. Upon receipt of purchase order, DEC will supply listings and all other available information on its monitors, compilers, assemblers, and utility programs available for PDP-6.

COPY

Mr. William B. Kehl
University of Pittsburgh

April 20, 1965

Digital Equipment Corporation offers to make its PDP-6 software group available for consultation on matters such as incorporating the special interfaces into the PDP-6 monitor system. In addition, an experienced PDP-6 systems programmer will be specifically assigned to enable communications between the University of Pittsburgh and Digital to be made with the least possible effort. A resident systems programmer is not anticipated at this time.

I hope this information is sufficient for you to make your final proposal to NIH. If there are any further questions, please feel free to contact Ray Lindsay, Harlan Anderson or myself.

Sincerely,

R. P. Harris
PDP-6 Computer Applications

RPH/pam
CC: H. Anderson
R. Lindsay
L. Fryer

C
O
P
Y

Anderson

April 14, 1965

Mr. D. Alon
General Sales Manager
Racom Electronics Co. Ltd.
74, Nordau Boulevard
Tel-Aviv, Israel

Dear Mr. Alon:

Thank you very much for your letter of March 31, 1965, addressed to Mr. Harlan Anderson. We very much appreciate your interest in our equipment and the fact that you have already contacted one customer who has particular interest in one of our computers. We are glad to know, also, of your technical capability particularly in the physics applications field.

For your information, the sales engineer responsible for the sale of our computers for physics applications is Mr. John Jones. He is the person who actually has done the design of the PDP-5 Pulse Height Analyzer. I am sure that he can answer any specific questions that this customer may have and I suggest that this customer get in direct contact with Mr. John Jones.

The PDP-5 computer has now been replaced by the PDP-8 which is a faster machine and program compatible with the PDP-5. This machine is also considerably less expensive than the PDP-5 due to improved construction techniques.

I am enclosing complete literature on the PDP-8 computer as well as a price list, and also on the Pulse Height Analyzer. Our export prices are identical to our USA prices with the exception that the cost of transportation and any foreign taxes must, of course, be added. The price given in the price list^a is the price for which the equipment must be sold to the customer not including freight and taxes. We would then arrange to pay you a commission on this sale.

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Mr. D. Alon

-2-

April 14, 1965

We do not feel that we are at this time yet prepared to contract for an exclusive agent. There are other agents in Israel who have written to us and who have also contacted customers for specific pieces of equipment. Therefore, the only thing we can guarantee to do at this time is to pay you a commission on any sale which you bring in. We can work out the details of this commission when we find out exactly what the equipment consists of and what are the particular details of the sale.

I will be in Paris for a year. I am planning a trip to Israel sometime in the early summer, and I would like to visit with you at that time. In the meantime, we appreciate the work which you are doing and I hope that this arrangement is satisfactory to you.

Sincerely yours,

DIGITAL EQUIPMENT CORPORATION

Jonathan Fadiman
Manager, International Marketing

JF:nlz

Encs.

2 copies F-82, F-81, G-52830

1 copy F-85

cc: Mr. Harlan Anderson
Mr. John Jones

C
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Information Copy.



INTERNATIONAL COMPUTERS AND TABULATORS LIMITED
UNITED STATES BRANCH
839 STEWART AVENUE, GARDEN CITY, NEW YORK 11533
TELEPHONE: 516 CH 8-5656 · CABLES: TABULATORIAL GARDENCITYNY · TELEX: 01-25515

April 21, 1965

Digital Equipment Corporation
Maynard Mills
Maynard, Massachusetts

Gentlemen:

We shall be grateful if you would supply us with a manual concerning the use of FORTRAN on the PDP-6.

We shall be glad to pay the necessary charges for this manual.

Very truly yours,

Antoine Ahmarani
Manager - Overseas Liaison

AA:mm

INQUIRY NO. 7473

DATE 4/22/65

J. J. Lora you are responsible for answering and following up this inquiry. It must be answered within three days and a copy sent to Andy

charles w. **adams associates** inc.

575 TECHNOLOGY SQUARE · CAMBRIDGE · MASSACHUSETTS 02139 ♦ (617) 491-6555

April 26, 1965

Mr. Harlan Anderson
Vice President
Digital Equipment Corporation
Maynard, Massachusetts

OK

Dear Mr. Anderson:

We are revising the Adams Associates brochures, both general and government, and would like to include your company in the list of clients who have used our programming or consulting services. You have my assurance that if any reference is made in the body of either brochure to the nature of the work done for you (as examples of our background and experience) the name of your company will not be used. Thus there should be no way of relating the work described with those for whom it was done.

Unless we hear to the contrary by May 7, 1965, we shall assume that you have no objection to being included in our list of clients (a copy of which is enclosed for your information). Meanwhile, having had the pleasure of working with you in the past, we look forward to doing so again in the future if you have need for our services.

Sincerely

ALDER M. JENKINS
Director of Client Relations

AMJ/egm

P. O. 7409 dated 8/3/60
P. O. 41380 dated 12/2/64

adams associates

CLIENTS

Advanced Scientific Instruments
Arthur D. Little, Inc.
Auerbach, Pollak & Richardson, Inc.
Baldwin-Lima-Hamilton Corporation
Baltimore and Ohio Railroad Company
Beckman Instruments, Inc.
Brookings Institution
Chapin & Chapin, Inc.
Colonial Management Associates, Inc.
Colonial Provision Company
Computer Control Company, Inc.
Control Data Corporation
Conveyor Specialty Company, Inc.
Daystrom, Inc.
Denver & Rio Grande Western Railroad Company
Dewey & Almy Chemical Division
Digital Equipment Corporation
Electro-Mechanical Research, Inc.
Epsco, Inc.
Ferranti Electric, Inc.
Foxboro Company
General Tire and Rubber Company
Geophysics Corporation of America
Harvard University
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Malden Planning Board
McDonnell Aircraft Corporation
M & S Steel Sales Company
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Nekoosa-Edwards Paper Company
Oregon Regional Primate Research Center
Parke Mathematical Laboratories, Inc.
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Pittsburgh Plate Glass Company
Planning Research Corporation
Printing Industry of America, Inc.

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2

Raytheon Company
Research Calculations
Shell Oil Company
Sheraton Corporation of America
State of California
State of New York
Stelma, Inc.
Thompson Ramo Wooldridge, Inc.
Tropel, Inc.
United States Air Force
 (Cambridge Research Laboratories)
United States Army
 (Natick Laboratories)
United States Department of Commerce
 (Coast and Geodetic Survey)
United States District Court, Boston, Mass.
United States Navy
 (Boston Naval Shipyard)
Westinghouse Electric Corporation
Young and Rubicam Advertising Agency

Harlan Anderson

26 April 1965

Professor A. Wayne Wymore
University of Arizona
Systems Engineering Department
Tucson, Arizona

Dear Professor Wymore:

I am sorry for the delay in answering your letter of April 7th.

The attached information titled "Standard PDP-6 System" shows firm prices, but the remote configurations and prices are suggested and will be discussed in detail at the time of my visit to the University, on May 4th.

As you requested, additional copies of this information are included for members of the working party.

Thank you for your continued interest in Digital Equipment. I shall be looking forward to our discussion in May.

Sincerely,

Richard F. Musson
Manager, Regional Office

RFM:jww

cc: Dr. R. Weymann, Department of Astronomy
Dr. E. Malamud, Department of Physics

COPY

STANDARD PDP-6 SYSTEM

		<u>QTY.</u>	<u>UNIT PRICE</u>	<u>TOTAL</u>
166	Arithmetic Processor with Model 35-KSR, Paper Tape Reader and Floating Point Hardware	1	\$151,000	\$151,000
162	Fast Memory, 16 words, 36-bit 4 microsecond	1	30,000	30,000
163-C	Core Memory, 8192 words, 36-bit, 1.8 microsecond	1	80,000	80,000
163-C	Core Memory, 16,384 words, 36-bit, 1.8 microsecond	4	126,000	473,760*
237	Magnetic Drum Unit	1	75,000	75,000
236	Magnetic Drum Control	1	35,000	35,000
461	Card Reader (800 cpm)	1	27,200	27,200
460	Card Punch (300 cpm)	1	42,000	42,000
464	Line Printer (1000 lpm)	2	47,500	95,000
570	Magnetic Tape Transport, 90KC	10	30,400	304,000
516-521	Magnetic Tape Control	2	18,000	36,000
136	Data Control	2	10,000	20,000
555	Dual DECTape	1	7,400	7,400
551	DECTape Control	1	14,000	14,000
630	Data Communication System (8 lines)	1	14,202	14,202
33-KSR	Teletype Console (remote)	1	900	<u>900</u>

TOTAL SYSTEM PRICE

\$1,405,462

EDUCATIONAL CONTRIBUTION

281,092

TOTAL PRICE

\$1,124,370

Lease for 3 years unlimited use: \$42,163.86 per month

163-C Core Memory, 40,960 words: \$316,880

*6% discount on multiple memories

COPY

SUGGESTED REMOTE CONFIGURATION

- | | |
|---|--|
| 1. Type 348 CRT Display System which includes Type 340 Display and a PDP-8 | \$50,000 |
| 2. This would be included in the Type 348, see Item #1. | No Cost |
| 3. Card Reader, slow speed (100 cpm)
Line Printer, slow speed (300 lpm) | \$ 4,500
\$28,900 |
| 4. This would be included in the Type 348, see Item #1. | No Cost |
| 5. Light Pen | \$ 1,600 |
| 6. We do not manufacture | |
| 7. A/D Converter Type 142, 200 KC rate
D/A Converter, 200 KC rate
Multiplex Control
Switches (4)
Interface to I/O | \$16,500
\$ 8,000
\$ 3,600
\$ 330
\$ 3,000 |

COPY

Additional Questions

1. Delivery for standard configurations, six months, but if remote equipment is included delivery would be 8 months.
2. FORTRAN II - Presently operating
FORTRAN IV - Delivery December 1965
ALGOL - No plans at this time
Assembler - MACRO-6 - Presently operating
Batch Processing - Delivery December 1965
Time-Sharing MONITOR - Presently operating
(Any or all of the software operating would be demonstrated on request)
3. A. Operating today
B. Operating today
C. Do not have system or present plant to write one
4. The company will be maintaining all major software and, additionally, would provide one to two men for a period of one year to be used by University to assist in the manner of programming required.
5. See Installation Manual attached
6. See Installation Manual attached
7. The average systems that would be stored in disc or drum would be 20,000 words; the drum capacity is 1,048,576 36-bit words; the disc capacity is 34 million characters.
8. Not sure of your definition of dynamic relocation, but by my own definition, we do not have it. Will go into this in detail on my visit.
9. Software at the present time
10. In floating point notation:
 Single Precision: 9-bit exponent, 27-bit mantissa
 on 8 decimal digits
 Double Precision: 18-bit exponent, 54-bit mantissa
 on 16 decimal digits

C
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Y

BROOKHAVEN NATIONAL LABORATORY
ASSOCIATED UNIVERSITIES, INC.

UPTON, L.I., N. Y. 11973

TEL. AREA CODE 516 YAPHANK 4-6262

REFER:

April 26, 1965

Dr. Harlan E. Anderson
Digital Equipment Corporation
Maynard, Massachusetts

Dear Sir:

Last fall and again this spring we have sent two of our people to a Maintenance Training course on the PDP-6 Computer provided by your company. On both occasions the recipients have returned to Brookhaven somewhat disillusioned.

I would like to offer the following constructive criticism of the course so that you may be aware of its deficiencies. It is felt very strongly that changes should be made not only to make the course more useful but to enhance your companies image to its customers.

First, the course provided is not a maintenance course at all, but a course on reading logic prints principally of the processor. Secondly, very little time was actually spent on a PDP-6 Computer with oscilloscope and so on. We would suggest the following curriculum would more adequately cover the information needed by prospective maintenance personnel, especially people unfamiliar with your products.

1. General description of the PDP-6 Computer by a competent systems or field service engineer covering the following points:
 - (a) Basic circuit building blocks with levels, pulse widths, etc.,
 - (b) Listing of all registers, their uses and interconnections,
 - (c) Discussion of the various classes of instructions and their uses (preferably given by a programmer),
 - (d) Familiarisation with fixed and floating point numbering scheme as used in PDP-6 Computer,
 - (e) Description of input/output equipment, methods of control, and the relevant instructions,
 - (f) An explanation of the priority interrupt system,
 - (g) A description of the memory system.
2. Along with an improved level of instruction a better documentation of the system is also required.
 - (a) A glossary of terms, gates, busses and a cross referenced index

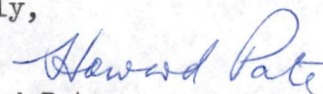
to all logical diagrams.

- (b) An expanded set of flow diagrams are needed showing paths of particular sequences. These would be much easier to follow than trying to search through general diagrams where pulses and conditions are fed in many directions which are difficult to find.
 - (c) A detailed explanation is needed of timing, the reasons for various delays and unusual logical arrangements.
3. Information which is not available at all in the present course but is vitally needed is as follows:
- (a) Description of diagnostic routines with explanation of error printouts and recommended maintenance procedure to locate trouble from such information.
 - (b) Logical arrangements of Magnetic tape, Dectape and the high speed printer controls.
 - (c) Recommended regular maintenance procedures for all peripheral equipment.
4. Sufficient time should be made available on a PDP-6 Computer for the identification of the various pieces of hardware and the more important pulse sequences, the finding of simulated faults and some basic training in computer operation. Sessions on the assembly and check out floors would also be of great help. As much of the course should be given at the computer as possible.

A more efficient use of the time spent at your plant would result from the suggestions made here, but it may not be realised that some manufacturers provide courses as long as 12 weeks. It is obvious that the best computers in the world will not give satisfactory service without the best maintenance in the world and your course should be designed to provide just this.

If I can be of further help please let me know.

Yours truly,



Howard Pate
Associate Engineer

HP/ct

Help in preparing this letter is acknowledged from:

A. Yonda
P. Weiss
A. Friedman
C. Zein, Jr.

Copy to: S. J. Lindenbaum



STANFORD UNIVERSITY
PURCHASING DEPARTMENT

April 26, 1965

300 Pasteur Drive
PALO ALTO, CALIFORNIA

Digital Equipment Co.,
2450 Hanover Street
Palo Alto, California

Gentlemen:

Attached are two copies of a Request for Proposal for a computer system.

Technical questions should be addressed to Prof. John McCarthy, Computer Sciences Department, Stanford University. Business questions should be addressed to Mr. David E. Reeves, Manager, Special Projects, Purchasing Department, or to Mr. O. R. Blanton, Purchasing Agent, Government Contracts, Stanford University.

All written proposals, or letters declining to submit a proposal, must be received in my office not later than 12:00 noon, Monday, May 24, 1965.

Sincerely,

A handwritten signature in cursive that reads "David E. Reeves".

David E. Reeves *CR*
Manager, Special Projects

DER/kf
Att: 2

APR 27 1965

APR 27 1965

REQUEST FOR PROPOSALS FOR A COMPUTER SYSTEM TO BE USED BY
THE ARTIFICIAL INTELLIGENCE PROJECT
(COMPUTER SCIENCE DEPARTMENT)
AND
INSTRUMENTATION LABORATORY
(GENETICS DEPARTMENT)
OF STANFORD UNIVERSITY

Abstract: Computer manufacturers interested in supplying a computer system meeting the requirements outlined below are invited to submit proposals. Before submitting a proposal please arrange an informal conference with us. The computer system will be used for research in artificial intelligence and computer control of external devices.

To arrange a conference call Prof. John McCarthy, Computer Science Dept., Stanford University, Stanford, California 94305. We would like to hold these conferences during the week of May 10.

The computer for which we are requesting proposals will be used for research in artificial intelligence, list processing, a computer controlled "eye" and "hand" and computer controlled experiments especially in biology and chemistry aimed at an automated biological laboratory. Sufficient support for this work to buy a computer has been committed by ARPA and additional support is hoped for from NASA.

The following considerations will govern the selection of the computer:

1. A large core memory is required for the programs eventually contemplated. No computer with less than 18 bits of addressing will be considered and the cost of core memory will be important. Addresses larger than 18 bits is desirable. Separate proposals for memory will be considered.
2. The computer must be capable of high speed interaction with external devices.
 - a. Input-output operations that transmit words between the accumulators or general registers of the machine and external devices are desirable. An interrupt system that will permit rapid turn-around is required.
 - b. Convenience of connection of devices is important. The availability of compatible digital and A/D circuitry for making interfaces is important.
3. A multi-console time sharing system is required for debugging and interaction with experiments. This must involve:
 - a. Memory protection and relocation.
 - b. Fast secondary storage for swapping.
 - c. Bulk storage for user files.
 - d. Consoles. Teletypes, typewriters and keyboard-display consoles will be considered.

e. The time-sharing system must provide interaction with laboratory apparatus as well as with consoles .

f. It is very desirable that the time-sharing system be provided by the manufacturer, and that the utility programs such as compilers and assemblers be designed to work in it .

4. Expandability of the system to include two processors is important . We shall want to be able to maintain a time-sharing system with one processor while carrying out a high speed real time interaction with the other . Two processor systems must have uniform addressability of all memory by both processors .

5. Conventional input-output will be required to a limited extent .

a. 300 lines per minute with the ability to print a large character set is desirable .

b. A tape unit for dumping the disk for safekeeping is desirable .

6. Willingness to add instructions to speed up list processing, picture processing, and certain other kinds of programs is important .

7. Delivery as soon as possible after December 1, 1965 is desired .

8. We can spend between \$500,000 and \$800,000 with money already committed . Additional support may be required to meet our eventual needs for large memory, two processors, and a display system .

9. Compatibility with the new Stanford Computations Center system is desired .

10. The resulting contract with the successful company will be a sub-contract under a U.S. Government prime contract .

11. Proposals should include provisions for renting the equipment as well as buying the equipment .

12. Technical questions should be referred to Prof. John McCarthy, Computer Science Dept., Stanford University. Business questions should be referred either to Mr. David E. Reeves, Manager, Special Projects, Stanford University, or Mr. O. R. Blanton, Purchasing Agent, Government Contracts, Stanford University .

13. All proposals must be received at the office of Mr. David E. Reeves, Manager, Special Projects, Purchasing Department, Stanford University, Campus Drive, Bldg. M-2, Stanford, California, not later than noon Monday, May 24, 1965 .

JUNES, 1965
480.

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TELARE AB

only

INSTRUMENTS AND COMPONENTS FOR RESEARCH AND INDUSTRY

INDUSTRIGATAN 4 · STOCKHOLM K · TEL. 248830 · TELEX 10178 · TELEGR.: TELARES

Digital Equipment Corporation
246 Main Street
MAYNARD
Mass. USA

Subject: Medicine and hospitalization
applications with PDP computers.

Attention: Mr. Gerry Moore

YOURS

OURS
TA/GA

STOCKHOLM
April 26, 1965

Dear Gerry,

As you know, there will be great efforts in Sweden this year given to using EDP for medicine and hospitalization applications. Two international medical conferences will be arranged, one in Stockholm and another one in Jönköping during June and July. Also to further stimulate work in this field the government is giving economical support to promising projects.

We, Telare, and our mother firm, Arenco Electronics, are planning to increase our activities in this field and we will also apply for governmental support for developing medical systems, which include PDP-8 or LINK computers.

We would much appreciate to get your support for this purpose for example by getting from you various descriptions of medical, biological and hospitalization applications using PDP- or other computers in US or elsewhere. Our next opportunity to submit an application for a governmental grant will be May 15, 1965, and we are very grateful, if you can send us some material within 1-2 weeks. Actually it should be in our hands before May 11.

We have already quoted one PDP-8 system to Dr. Rune Ordell, who is in charge of the exhibition and medical congress in Jönköping during June 28 - July 4, 1965. He is really interested in using our computer for centralizing data processing of data from medical and chemical analyses and blood tests arrived by data communication from 3-4 hospitals in the southern region of Sweden called Småland. For the moment, however, Dr. Ordell is only interested to rent a PDP-8 with option to buy after 3 months but we are planning to participate in this exhibition and therefore we think our chances are good to eventually get a firm order from Dr. Ordell.

Also during this medical conference there will be given an introduction course in EDP applications for medical laboratories and we think it would be of great value, if you could arrange that a DEC representative specialized on medical PDP applications could participate at the above conferences and preferably present a paper on some PDP application. *Could you possibly let us have a LINC-computer for demonstration?*

We do hope that your reaction to the above-mentioned suggestion will be positive so that you will give us as much help as possible.

Looking forward to your early answer.

Sincerely yours,

c. c. K. Olsen,
H. Anderson ✓
S. Olsen
N. Mazzaresse
Gerry Moore.

27th April, 1965.

JL/HC

Mr. Hugh Osborne,
Manager - Memory Systems,
Messrs. I. C. T. Ltd.,
I. C. T. House,
Putney,
LONDON S. W. 15.

Dear Hugh:

We were very pleased that you were able to come to Reading to discuss our DECTape in more detail. I hope the additional delay of about a week will not be too much of a problem for you. Mr. Olsen is keenly concerned that we arrive at a proposed system which is technically able to meet your requirements and in addition a sound economic proposition for you.

I am sure Mr. Olsen will have the details off to you shortly after his return to Maynard. In the meantime if there is any further way in which I can be of assistance to you in Reading please be sure to 'phone me. ;

Looking forward to being of further service.

Yours sincerely,

JOHN LENG
Manager, DEC(UK) Ltd.



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BOSTON • HARTFORD • NEW YORK

141 MILK STREET
BOSTON, MASSACHUSETTS 02109
TELEPHONE 482-4400

April 27, 1965

Mr. Harlan E. Anderson,
Vice President
Digital Equipment Corp.
Maynard,
Massachusetts

Handwritten notes:
#36
P. 20
Committee
+
B. Packman

Dear Mr. Anderson:

I finally finished the report on
ARD and have enclosed two copies for you.

As you know, a good portion of the
section on DEC had to be written "flying
blind", or nearly so, and I only hope that
I have done as reasonable and as responsible
a job as can presently be done by someone
in my position.

If you would like additional copies,
I would be pleased to send them to you.
Looking forward to visiting with you again
sometime and in the interim with best wishes,
I remain

Sincerely,

Handwritten signature of John L. Merrill, Jr.

John L. Merrill, Jr.

JLM/lg

Enclosure

AMERICAN RESEARCH AND DEVELOPMENT CORPORATION

THE JOHN HANCOCK BUILDING · BOSTON 16 · MASSACHUSETTS

AREA CODE 617 426-7060

HSA

April 27, 1965

Dr. Ottis W. Rechar
National Science Foundation
Room 305
1800 G Street
Washington, D.C.

Dear Ottis:

It was a great delight for me to become acquainted with you in Washington last week and to benefit from your constructive comments as to how Washington State University and Digital Equipment Corporation possibly might cooperate for their mutual benefit on a long-term program of advanced research and development in programming systems and languages. The proposal which you and our friends at DEC have been discussing interests me greatly and I assure you that the matter is receiving thoughtful attention. As you appreciate, it is a matter of utmost importance to DEC and hence everyone concerned wants to thoughtfully consider all aspects of the proposed joint venture in the hope that the best possible course of action can be settled upon. As part of this process, I am hopeful that we can attract you to Boston some day in the near future so that others in the DEC and AND organizations can have an opportunity to think aloud with you about this matter.

In the meantime, all of us associated with DEC appreciate immensely your friendly interest in our young enterprise and welcome your continued counsel for our mutual benefit.

Cordially yours,

William H. Congleton
Vice President

whc/mj
bcc: Harlan Anderson ✓

MAY 3 1965

I. PHYSIKALISCHES INSTITUT DER TECHNISCHEN HOCHSCHULE AACHEN
ABTEILUNG KERNPHYSIK

Mr. Jonathan Fadiman
Digital Equipment Corporation
Maynard, Mass.

51 AACHEN, den 28th April 1965
Charlottenstr. 14
Telefon 37288/89 (GFKF)
App. 43 und 48

Dear Mr. Fadiman,

Thank you very much for your letter of April 9th, 1965. You asked me to apply more pressure to our Government to relase the funds for our PDP 6 system. Though I fully understand your anxiety I should make you shure that I do what I can to speed up things as far as possible since I myself am most interested in getting the funds soon.

The greatest delay has so far ocured by the fact that the parliament only in March has finally decided upon the budget of this year. The result of that decision was a 7% reduction of the whole budget with the consequence that the Bundesministerium für Wissenschaftliche Forschung yet has difficulties in dividing its funds among the different proposers. The reply to all my queries is the affirmation that within a very short while I should get our funds. You can imagine how disappointed I am about all these delays.

In any case you will be informed by telegramm as soon as our funds have been granted.

Yours sincerely,

M. Deutschmann

(Prof. M. Deutschmann)

*Only for your information
Berry*

sent copy to Dick Tector

CLEARY, GOTTLIEB, STEEN & HAMILTON

41, AVENUE DE FRIEDLAND

PARIS VIII^e

BALZAC 94-94

CABLE ADDRESS
CLEARGOLAW

April 28, 1965

RICHARD H. MOORE
JOSEPH MORGAN
RESIDENT PARTNERS

JEAN L. BLONDEEL
EDOUARD JACQUEMAIRE
EUROPEAN COUNSEL

ROGER J. BENRUBI
WALTER W. OBERREIT
JAN M. Z. KACZMAREK
DONALD L. HOLLEY
CLAUDE C. KELLY, JR
HUBERT de GRANDCOURT
YVES GRAPPOTTE
BERNARD JOSIEN
BERNARD SIMEON
ANDRE MOQUET

BRUSSELS OFFICE
30 Bd DU REGENT
RICHARD B. WEBSTER
RESIDENT PARTNER

ELIHU ROOT, JR
GRENVILLE CLARK
COUNSEL

GEORGE E. CLEARY
LEO GOTTLIEB
MELVIN C. STEEN
FOWLER HAMILTON
LYMAN M. TONDEL, JR
JOHN F. WARD
JAMES G. JOHNSON, JR
ROBERT W. WALES
JOHN J. B. SHEA
JEROME E. HYMAN
WILLIAM L. LYNCH
EDMUND H. KERR
MARK W. FRAWLEY, JR
GEORGE E. DeSIPIO
JAMES W. LAMBERTON
ANDRE W. G. NEWBURG
JAMES C. BLAIR
WALTER S. ROTHSCHILD
52 WALL STREET
NEW YORK CITY

ROBERT C. BARNARD
JOHN K. MALLORY, JR
SOUTHERN BUILDING
WASHINGTON D.C

Mr. Richard F. Mills,
Controller
Digital Equipment Corporation
Maynard, Massachusetts

Dear Mr. Mills:

I am enclosing a memorandum summarizing our recent discussions with Jon Fadiman concerning the possibility of setting up immediately a selling operation for Digital equipment in France.

If you are in agreement with the suggested organization of a société à responsabilité limitée controlled by French persons as a basis for operation, the by-laws of the French company will be prepared in accordance with the model enclosed with Dick Moore's letter of October 27, 1964. The only article of the by-laws which would require original drafting is Article 2, concerning the purposes of the company. After discussion with Jon Fadiman, we would suggest for this Article 2 the following text:

"The company shall have the following purpose:

The purchase, sale, importation, exportation, repair, maintenance, renting and dealing with in general, whether as distributor or sales agent or in any other capacity whatsoever, of computers and specialized electronic test equipment, components and parts thereof, as well as of accessories and other auxiliary attachments therefor.

Mr. Richard F. Mills

- 2 -

April 28, 1965

The direct or indirect participation in all commercial, industrial, financial, real property or personal property transactions relating to the above purpose and capable of facilitating its achievement. The company can participate in any company or enterprise, now existing or hereafter created, of which the purpose may be similar, analogous or related to its own, open all branch offices and, generally, carry out all transactions relating directly or indirectly to its purpose."

If you have any comment regarding this text, please let us know.

Sincerely yours,

Bernard Josien

cc: Messrs. Harlan Anderson
Jon Fadiman
Arnaud de Vitry

April 23, 1965

ORGANIZATION OF A SELLING OPERATION
FOR DIGITAL EQUIPMENT IN FRANCE

Digital Equipment Corporation has requested authorization from the French exchange control authorities to organize a subsidiary in France. In view of the present restrictive attitude of the French Ministry of Finance regarding foreign investments, substantial delay might be involved in obtaining the required authorization. This memorandum discusses the various alternative methods by which a selling operation for Digital equipment could be set up immediately in France, before the organization of DEC subsidiary has been authorized.

There appears to be two alternative methods by which this result could be achieved:

1. Organization of a company by French residents. This company could be formed as a société à responsabilité limitée, with Arnaud de Vitry holding the largest part of the stock (for instance, 95%) and another French resident holding the remainder. The capital of the company could be a minimum of 10,000 francs, and should be entirely paid in by the shareholders at the time of the formation of the company. (These shareholders could, if necessary, receive loans from DEC, as explained in (a) below, to put them in funds). Arnaud de Vitry could act as manager (gérant) of the

company, and Jon Fadiman could work for the company in an executive or consultant capacity. No authorization would be required from the French authorities for the formation of this company. Its operations would involve the following considerations:

- (a) Financing. Loans by DEC to the French company will receive automatic exchange control approval provided: (i) the interest rate does not exceed 4% per annum, (ii) the period for which each loan is made does not exceed two years, and (iii) the total unpaid amount of loans obtained by the French company without specific exchange control approval does not at any time exceed F 1,000,000. Payment of interest not in excess of 4% per annum, and repayment of the loans, by the French company to DEC, would similarly receive automatic exchange control approval.
- (b) Legal considerations. The French company could purchase Digital equipment from DEC and resale it to customers, and/or act as commission agent for the sale of such equipment, under an agreement with DEC. Such agreement could be for a reasonably short term (as, for instance, one year). It would have to be submitted to the Bank of France for approval. Agreements of this kind are usually approved without difficulty by the Bank of France.

The French company could use the name "Digital" in its corporate title under a royalty-free license from DEC. If this were done, it would seem appropriate for DEC to register "Digital" in France as a trademark.

(c) Transfer of operations to DEC. Profits distributed by the French company would of course be paid to its French shareholders, who would be subject to personal income tax with respect to all such distributions, and such dividends paid to the French shareholders could not be transferred abroad without specific exchange control approval. It appears likely, however, that the French company will be in a deficit position for some time, during which hopefully DEC will be authorized to organize its French subsidiary. In that event, DEC could carry forward the losses then accumulated by the French operation by purchasing all the shares of the French company, rather than creating a new subsidiary company. Such transfer of all the shares of the French company, however, might involve exchange control and tax problems. If it were deemed impractical at the time therefore to proceed in this fashion, DEC could (i) leave the French company continue operations long enough to set off its accumulated losses against profits, and liquidate it when it has balanced off its situation, and (ii) organize DEC's subsidiary as a new company which will gradually take over the activities of the French company. (This latter course of action would not wholly solve the tax problem; but the remaining risk would appear remote.)

2. Opening of a branch of DEC in France. It would be possible to open a branch of DEC in France without specific exchange control approval, at least to the extent that this did not necessitate a fixed investment in France. It would seem preferable, however, to follow the alternative procedure suggested above, rather than to open a branch of DEC in France, for the following reasons:

- (a) The transfer to the United States of profits made in France by the branch would be subject to exchange control approval, and there is no guaranty that such approval would ever be granted.
- (b) The French authorities might, under present circumstances, feel that this course of action was a circumvention, and this could adversely affect the application presently pending for authorization to organize a French subsidiary of DEC.

HORNBLOWER & WEEKS-HEMPHILL, NOYES

SINCE 1888

535 Boylston Street
Boston, Mass. 02116
262-4400

April 28, 1965

Mr. Harlan E. Anderson, Vice President
c/o Digital Equipment Corp.
146 Main Street
Maynard, Massachusetts

Dear Sir:

Thank you for your letter enclosing a report of Digital
Equipment Corp.

If at any time in the future you know of any stock of
your company that may be for sale, will you kindly get in touch
with me.

Thanking you for your interest, I am

Very truly yours,


John A. Foster

JAF:kn

JL/JGB.

29th. April, 1965.

Mr. J. H. Thomlinson,
Durrant, Cooper & Hambling,
70-71, Gracechurch Street,
London. E.C.3.,

Dear Mr. Thomlinson,

We wish to explore the possibility of changing our present Company name from Digital Equipment Corporation (UK) Limited, to either Digital Equipment Ltd., Digital Equipment Company Ltd., or Digital Equipment Company (UK) Ltd.,

Could you please proceed with the search, and let me know whether these names or near equivalent can be registered. We would like an estimate of the cost involved.

As you may know we are now entering a phase of development leading to the possibility of manufacture of computers in this country, and within the next few months computers delivered to our UK customers will be checked out and assembled as systems in Reading. We are therefore anxious to explore the change of name as soon as possible.

Yours sincerely,

J. LENG.
Manager.
DEC (UK) LIMITED.

c.c. H. Anderson. ✓
K. Olsen.
J. Fadiman.

JL/JGB.

29th. April, 1965.

Mr. J. H. Thomlinson.
Durrant, Cooper & Hambling,
70-71, Gracechurch Street,
London. E.C.3.,

Dear Mr. Thomlinson,

Would you please be good enough to issue a letter for our files on behalf of the Digital Equipment Corporation (UK) Ltd., to the effect that the following persons are authorized to sign H.M. Customs and Excise declaration forms.

Mr. J. Leng.
Mr. G. P. Finch,
Mr. A. Pyke.

Many thanks,

Yours sincerely,

J. LENG.
Manager.
DEC (UK) LIMITED.

c.c. H. Anderson. ✓
K. Olsen.
J. Fadiman.



UNIVERSITY OF SOUTHWESTERN LOUISIANA

Joel L. Fletcher, President

LAFAYETTE, LOUISIANA

May 3, 1965

DR. JAMES R. OLIVER, DIRECTOR
COMPUTING CENTER

R. LANE
ANDY

Mr. Robert Lane
Computer Applications Department
Digital Equipment Corporation
Maynard, Massachusetts

Dear Bob:

I was, naturally, somewhat disappointed to receive the telephone call today concerning the PDP-6. I am somewhat concerned about what it will do to our program, but I am even more concerned about the implications for DEC. As you may know, we have already received a considerable amount of publicity, both formal and informal, relative to having the PDP-6 here during the summer. I am very much afraid that some impressions will be created relative to DEC's inability to produce the machine. For example, I had mentioned this machine to Dr. James Sweeney of the Tulane University computer complex and he had expressed an interest in the 6. However, his one question was whether or not DEC would be able to produce, maintain, and provide software for such a machine. So you see my concern that this will heighten a suspicion which is already there.

In our brochures, which have been circulated all over the country, implication that the PDP-6 will be on site is definitely there. If you remember, I delayed printing of the brochure until such time that I could get verification from you that the machine would be available. This again, it seems, would give a black eye to DEC.

Finally, we have definite indication that IBM is extremely concerned about installation of the PDP-6 during the summer. I might say that at times near panic has prevailed among some of the IBM people. To me, this decision will assist tremendously their propaganda program that other manufacturers cannot furnish the machines which they promise and that only IBM can do so.

I know that situations are often uncontrollable. I cannot stress strongly enough how important I feel it would be to get the 6 installed, even if just during the time of the Conference itself (August 16-September 6). I know you will do everything within your power to keep the commitment. This letter is merely to re-emphasize whatever thoughts you might have in making

Mr. Robert Lane

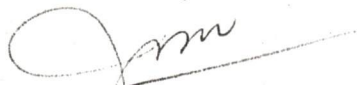
-2-

May 3, 1965

additional efforts. Presence of the PDP-8 would slightly ease the catastrophe but would only reduce it to the disaster level.

I still have hopes that something will work out.

Sincerely yours,



James R. Oliver
Dean, Graduate School and
Director, Computing Center

JRO:mc

c. c. K. Olsen, H. Anderson, J. H. Thomlinson

3rd May, 1965.

JL/JSM/HC

M.r. Gibson,
Messrs. Martin & Pole Ltd.,
Estate Agents,
Market Place,
READING,
Berkshire.

Dear Mr. Gibson:

Further to our discussion on Friday, 30th April, I confirm that we intend to take a lease on No. 11 Richfield Avenue at the Richfield Industrial Estate, Reading, subject to satisfactory terms given by the owner on the length of the lease and subject to the consent of the Reading Industrial Committee and the Board of Trade for the use of this building for office space, warehouse space, computer checkout space and later assembly and production.

We are prepared to consider a long term lease for this building provided we can come to a mutually satisfactory option of 7 years.

I have written to our solicitors, Messrs. Durrant, Cooper & Hambling, London, of our plans so that they may work with you in drawing up a satisfactory lease.

During my absence for two weeks in Spain I have requested Mr. Milton, my assistant, to act on my behalf in regard to any discussions on this building.

Yours sincerely,

J. LENG
Manager
DEC(UK)LTD.

3rd May, 1965.

JL/JSM/HC

J. H. Thomlinson Esq.,
Messrs. Durrant, Cooper & Hambling,
Solicitors,
70 - 71 Gracechurch Street,
LONDON E. C. 3.

Dear Mr. Thomlinson:

I have enclosed a copy of a letter of intent sent to Messrs. Martin & Pole Limited of an industrial building in Reading. We would like you to act on our behalf to obtain a satisfactory lease arrangement which gives us a long term option on leasing the building but with a short term, i. e. 7 years, option on dropping the lease.

The reason we wish to acquire this building is to carry on assembly checkout initially and later produce some of our computers. In addition we wish to provide additional sales and storage space. Naturally we have to be certain that the Board of Trade will allow us to operate in Reading bearing in mind our intent to manufacture in this country.

A further point which I did not mention in my letter of intent is that we would like to acquire some sort of option on the land adjacent to this building which gives us the first opportunity to use it for additional manufacturing space. Perhaps you could discuss this point with the owners of the land.

During my absence for two weeks Mr. Milton will be acting on my behalf and perhaps you could direct any enquiries to him.

Yours sincerely,

J. LENG
Manager
DEC(UK)LTD.

ENCL:



BBO Lane

INTERNATIONAL COMPUTERS AND TABULATORS LIMITED

UNITED STATES BRANCH

839 STEWART AVENUE, GARDEN CITY, NEW YORK 11533

TELEPHONE: 516 CH 8-5656 · CABLES: TABULORIAL GARDENCITYNY · TELEX: 01-25515

Pat: Please send a nice note and a Fortran manual.

April 21, 1965

Digital Equipment Corporation
Maynard Mills
Maynard, Massachusetts

Gentlemen:

We shall be grateful if you would supply us with a manual concerning the use of FORTRAN on the PDP-6.

We shall be glad to pay the necessary charges for this manual.

Very truly yours,

Antoine Ahmarani
Manager - Overseas Liaison

AA:mm

INQUIRY NO. 1473

DATE 4/22/65

To BBO Lane

From → John Vera

you are responsible for answering and following up this inquiry. It must be answered within three days and a copy sent to Andy.

Could you send direct from Maynard.

They are not a potential customer for "6"; just after information

TWX to Jon Fadiman
From Ken Olsen

April 30, 1965

I am sorry that I missed the chance to visit with you in Paris last week. I had an exhausting but very worthwhile trip. Here is a proposal I made to Andy that I would like to hear your reaction to.

I suggest that we give a two-year contract to Telare to sell in Sweden and increase his fee to 5%. In addition, we'll give him a 6 percentage for taking care of maintenance, but this will not be part of the two-year contract and can be cancelled anytime we feel they are not doing good maintenance. We will also give them Norway, Denmark, and Finland but without a contract so that we can take over if we feel they are not doing a good job.

John Leng would like to do the service in Scandinavia so that we would be ready to open an office there when it is worthwhile. I feel we have to show confidence and be generous to Telare if they are going to do a good job and I have suggested to John Leng that he use that time and energy in starting an office for Switzerland and Northern Italy. I am suggesting that Reading be the communication center for Europe and, therefore, effectively the supervising point. We once before said that John was the supervisor of Europe but none of the communications went through him and he was therefore in no way a supervisor. I think we should consider the French office being run by Bernard Haus and the Europe position as just an observer and helper so that immediately he would realize he is working for John Leng. Putting all communications through Reading will be limiting in some ways but I think advantages would overwhelm the limitations. I further suggest that the French office pay France and Belgium and probably Spain and that Reading immediately take over Italy and Switzerland as the first step in the plan to set up an office there. I would suggest that our office be located near ^{BRN} because I am very disappointed we haven't made sales there. I would also suggest that the Dutch business be taken care of from Reading because I think the Dutch are closer to the English than they are to the Germans and I think the Reading office will be more competent than a German office for sometime.

As you can see, I am proposing that we cut down in some of the responsibilities of Guenter because, although no one will say he is doing a poor job, no one will say they have confidence in him.

We are sending approval to John Leng to sign a lease for a new 15,000 foot building.
Let me know what your reactions are to this proposal.

May 3, 1965

Mr. Antoine Ahmarani,
Manager - Overseas Liaison
International Computers and Tabulators Ltd.
United States Branch
839 Stewart Avenue
Garden City, New York 11533

Dear Mr. Ahmarani:

With reference to your letter dated April 21, 1965, I
am enclosing our Programmed Data Processor-6 FORTRAN II Manual.
This manual is free of charge.

If I may be of further assistance, please feel free to
contact me.

Yours very truly,

R. L. Lane

RLL/pam
Enclosure: FORTRAN II Manual

C

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P

Y

May 3, 1965

Dr James R Oliver
Dean, Graduate School and
Director, Computing Center
University of Southwestern Louisiana
Lafayette, Louisiana

Dear Dr Oliver:

Many thanks for your letter of April 24th regarding the possibility of hiring one of your students for the summer. After careful deliberation we have decided not to make an offer to Harry Hebert. We decided not to have as broad a summer program as we had originally anticipated. Mr Hebert's background would certainly qualify him for a position with us and we hope, upon his graduation we may hear from him.

Sincerely yours

James P Hastings

JPH:ASJ

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May 4, 1965

Mr. Jonathan Fadiman
34 Avenue du roule
Neully-Sur-Seine, France

Dear Jon:

I am sorry that my note disturbed you so. I didn't think that my proposal was much different from the present situation.

It was my understanding that a year ago we had put John Leng in charge of Scandinavia and Germany and that we notified both Guenter and John Leng of this situation. If this relationship has been changed, I should have been notified but, above all, John Leng should have been told.

I was surprised when I visited John to find out that, even though he was told he was in charge of the German office, communications were still between Maynard and Munich and John didn't even receive copies of the correspondence.

I would like you and Andy to work out a chart showing just where everyone reports and how this will change after you come back from France.

I want this foreign operation to be managed. I am tired of the situation where, when I express concern about our German office, I am told I have no right to criticize unless I can prove that there is something wrong. Yet no one will stand up and say that he is managing that office and that he is sure it is well run.

Sincerely,

Kenneth H. Olsen
President

KHO:ecc

C
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Y

Colgate Research & Development Co., 70 Nassau Street, Princeton, N. J.

May 6, 1965

Morgan Guaranty Trust Company of New York
23 Wall Street
New York, N. Y. 10015

Attention Mr. Wesley L. Baker, Vice President
Corporate Trust Department

Dear Sirs:

There are delivered to you herewith the following securities:

1000 shares Louisiana Land & Exploration Company Capital Stock
113 shares International Business Machines Corporation Capital Stock
100 shares Xerox Corporation Capital Stock

You are hereby directed to hold these securities subject to the following instructions:

1. If not later than Nov. 30, 1965 the undersigned notifies you that the equipment referred to in DEC purchase agreement of April 1965 for Drum Control, Unit and Memory interface has been delivered to Colgate Research & Development Co., Princeton, New Jersey, and has been accepted and installed as provided in said purchase agreement, you are to either

(a) debit our account in your Banking Department in the sum of \$112,700 or

(b) if we so instruct you, you are to sell the aforesaid securities in order to provide said sum of \$112,700,

and in either event you are to remit said sum of \$112,700 to Digital Equipment Corporation, Maynard, Massachusetts.

If you are to proceed under (b) above and the proceeds of sale of said securities are less than \$112,700, you are to charge our account in your Banking Department for the difference.

2. If by the aforesaid date the notification referred to in paragraph 1 above has not been received by you or such notification is received and you carry out the instructions contained in paragraph 1 (a) above, you are to deliver the aforesaid securities to your Investment Department to be held in the Richard M. Colgate Investment Account.

It is understood and agreed that should any dispute arise with respect to the ownership or right of possession of the deposited securities,

May 6, 1965

you are authorized and directed to retain them in your possession without liability to anyone until such dispute shall have been settled either by mutual agreement by the parties concerned or by a final order, decree or judgment of a court of competent jurisdiction and time for appeal has expired and no appeal has been perfected, but you shall be under no duty whatsoever to institute or defend any such proceedings. It is further understood that this letter of instructions shall be construed in accordance with the laws of the State of New York.

Very truly yours,

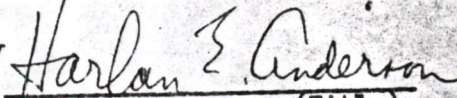
COLGATE RESEARCH & DEVELOPMENT CO.

By


General Partner

Approved: DIGITAL EQUIPMENT CORPORATION

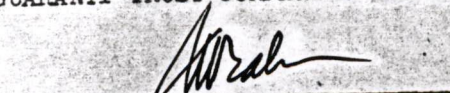
By


Harlan E. Anderson
(Title)
Vice President

We hereby acknowledge receipt of the above securities and agree to hold them in accordance with the aforesaid instructions.

MORGAN GUARANTY TRUST COMPANY OF NEW YORK

By


Vice President

XERO COPY

XERO COPY

XERO COPY

C. DUNE
cc: J. NANCE
R. LANE
HSA



UNIVERSITY OF SOUTHWESTERN LOUISIANA

Joel L. Fletcher, President

LAFAYETTE, LOUISIANA

May 6, 1965

5/11

*andy
please see my
notes on second
page.*

*H. Anderson
J. Hastings*

Mr. Robert Lane
Computer Applications Department
Digital Equipment Corporation
Maynard, Massachusetts

Dear Bob:

As I indicated on my earlier letter to Dave Cotton and in my telephone call to you, there is considerable doubt that I will attend the DECUS meeting and the IFIPS meeting. As much as I would like to go and as much as I agree with you in the importance of attending, I have real doubts that the administration would approve such a visit at their expense. I have gone ahead and submitted a travel request anyhow, but my hopes are not too high.

The reasons for such a decision are two: First, as helpful as your new proposed participation will be to the Computer Conference and as interesting as the participation might be, there is still little to point to as direct university benefit. This is particularly true with the PDP-8 being installed only one week in advance of the Conference. The administration feels that its only purpose in being here is to support the Conference and that they are not excited about paying to have a machine available which the university itself will have little use of. With the PDP-6 being here, I had, of course, an excellent talking point. In that case, our own students would have the opportunity of using the PDP-6 and of participating in a considerable amount of new instruction. Then with the university considering the possibility of installing a time-sharing system here, it would afford the opportunity of having an intimate look with operation and maintenance of such a system on our own premises. The second reason has to do with a hard-nosed method of doing business. I had led the university administrators (perhaps erroneously) to assume that arrangements were definite as to delivery of the PDP-6. In fact, certain wheels had been set in motion that must be done in a university in order to accommodate such a change as the arrival of the PDP-6 would create. With the changed proposal, the university has somewhat of a feeling that DEC has broken a contract. In particular, they are not especially concerned

Mr. Robert Lane

-2-

May 6, 1965

about losing the use of the PDP-6 because that was to be a gift, anyhow. The question in mind now is whether there will be another change later on. And, in fact, there is some concern about whether there might not be at a later time a decision not to participate at all. In that case, of course, the university would be paying for an essentially useless trip.

I am not saying that those are my thoughts. But, as I'm sure you know, the university administration must account for all of the funds that it spends and, in particular, must demonstrate how the expenditure of such funds benefits Southwestern. Since we are a state school, this means that the legislature has to be convinced that we are not spending funds foolishly. And while I am sure that I would benefit greatly from such a visit, the administration is not so sure and they are even less sure that they can convince their governing body of this. I might say that the latter situation was not at all improved by the fact that a telephone call from Jim Hastings stated that he wanted to hire one of my two graduate students who applied for summer employment and when I wrote stating who should receive first choice, he wrote back saying that he could not hire that person. I am afraid that maneuver cost DEC some of the prestige it had, particularly since it followed so closely on the heels of the other action. Since IBM has hired three of our graduate students, I feel that both of these decisions has served to decimate DEC's position and enhance that of IBM. I feel sure they will not hesitate to use it at every opportunity. This is particularly unfortunate because several of us had taken on an almost missionary push in DEC's behalf.

I merely wanted to send this letter to re-emphasize the point that I will probably not be able to attend the DECUS meeting. I had looked forward to it very much, and I am sure that I would have profited greatly from it.

Sincerely yours,

Jim

James R. Oliver
Dean, Graduate School and
Director, Computing Center

JRO:mc

not so interested

I spent with made no commitment,

verbal or implied, and

Dear Oliver to advise.

admittedly my timing was poor

XERO COPY XERO COPY XERO COPY XERO COPY

B

June 16, 1964

Mr. Guenter Huewe
Digital Equipment GmbH
Theresienstr. 29
8 Munchen 22
West Germany

Dear Guenter

It has been decided back here at home that we should try to make the maximum use possible of the time which John Leng will spend in England and that he should devote a considerable amount of his time to the computer business in Continental Europe as well as in the U. K. Temporarily, John Leng will be in charge of Telere, and of the computer selling effort for the Munich Office on the Continent. The reason behind this is that John has quite a bit of experience in computer sales and usage and also in the physics applications which are so important on the Continent. John should be able to give you help in the organization of which customers to see, and in the presentation of quotations to interested customers. Nevertheless, you are primarily responsible for what happens in Germany and the rest of Continental Europe, and John is responsible for the U. K. The foreign offices then report to me at home.

It appears from your letters that we have a large number of quotations out, particularly on the PDP-7. Do you have any follow up on these; in other words, are there any for which you can put a reasonably high percentage chance of obtaining the order? Things look very favorable at Delft and we must just make sure that we do not let this order slip through our fingers. Having a machine there will be very advantageous to us throughout Europe.

Too bad about Dr. Dummermuth and Zurich Children's Hospital. I really know nothing about the Adcom equipment. Perhaps Barbara Stephenson does. I will try to get more information to you on the PDP-8 as soon as possible, and it seems to me that Dr. Dummermuth would also be interested in the PDP-5.

Mr. Guenter Huewe

-2-

June 16, 1964

I will try to obtain for you the copy of the "Electronic and Computer Assisted Studies" and I will also get hold of the drawings for the Ramsey Core Handler for Siemens. We will wire up two new push button boxes for the program selection for the 1516 at Siemens. I think probably they should both be replaced. We will have this done in about one week.

I get the impression from your sales call reports and letters that you are doing a great deal more sales activity within the last few months than previously. This is a very good thing and unless I am completely mistaken about the potentialities of the European market we ought to soon be showing some good results in the European Profit and Loss Statements.

Best wishes,

Jonathan Fadiman
Manager, International Marketing

JF:nlz

cc: Stan Olsen, DEC Sales Manager
John Leng, Manager U. K. Office

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BROOKHAVEN NATIONAL LABORATORY
ASSOCIATED UNIVERSITIES, INC.

UPTON, L. I., N. Y.

REFER:

TEL. YAPHANK 4-6262

May 5, 1965

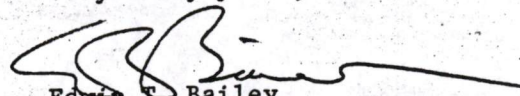
Digital Equipment Corp.
Maynard, Mass.

Gentlemen:

Will you please forward your invoices covering the PDP-6 computer on PO 046613 and for the core memory on PO 055583.

After talking with Dr. Lindenbaum it appears that it will not be long before these invoices could be processed for payment.

Very truly yours,



Edwin F. Bailey
Administrative Assistant

Physics Dept., Bldg. 510

cc: S. Lindenbaum
J. Tully

ETB/i

Copies To:
HARLAN ANDERSON
Bob Beckman
Bob LANE
Dick Mills

XERO
COPYXERO
COPYXERO
COPY

MAY 6 1965

XERO
COPY

I. PHYSIKALISCHES INSTITUT DER TECHNISCHEN HOCHSCHULE AACHEN
ABTEILUNG KERNPHYSIK

D i g i t a l
Equipment Corporation
for the attention of
Mr. F a d i m a n
M a y n a r d, Mass.
U S A

51 AACHEN, den
Charlottenstr. 14
Telefon 37258/59 (GFKF)
App. 43 und 48

4. Mai 1965

Harlan Andersen

Dear Mr. Fadiman,

this letter is to confirm my telegram that I am very happy to let you know that the funds for our PDP 6 system have now been granted to us. Thus in accordance with paragraph 3 of the addendum our purchase contract can now become legal.

I am further glad to know that, as you wrote in your letter of April 9 th, Digital Equipment makes every effort to deliver our PDP 6 system soon, possibly in the middle of June.

Regarding the items to be delivered your office of Munich wrote us recently that the console teleprinter model 33-KSR will be replaced by a model 35-KSR wick proved to be more reliable than the former one. Under these circumstances I would suggest only two teleprinters type KSR 33 to be delivered^{out} of five items as specified under number 11 page 2 of our contract. In this way we can decide later on of wick type, KSR 33 or KSR 35, we should order the missing three teleprinters.

Another point not yet fixed in a written form but only orally agreed upon with Mr. Titcomb is the memory overlapping of our 32 k word memory. I hope that Mr. Titcomb has already arranged for this facility. Mr. Titcomb further suggested to us to order certain spare parts, a list of wick would be prepared by him. May I ask you to remind him of that list. When preparing the list one should also bear in mind that certain less frequently needed parts could be shared by Aachen and by Bonn. I should suggest the spare parts be delivered together with the PDP 6 system. After the period of warranty they could be paid and taken over by us and by Bonn respectively.

MAY 8 1965

Mr. Fadiman

-2-

4. Mai 1965

Mr. Weber who has been accepted to the programming course at Maynard will arrive there by the end of this week. Mr. Aderholz who was also accepted will unfortunately not be able to come.

Sincerely yours,

M. Deutschmann

(Prof.M. Deutschmann)

Harlan Anderson

7 May 1965

DEC Quote #C-02-02-64

NASA Flight Research Center
P. O. Box 273
Edwards, California

Reference: DSD/P&DPB

Attention: Miss Mary V. Little

Digital Equipment Corporation is pleased to submit the following letter proposal, containing the hardware configuration and general description of the software to the NASA Flight Research Center for a Programmed Data Processor-6 (PDP-6) computer system to be installed at Edwards, California.

We thank you for the opportunity to present this proposal, and will be glad to hear from you if we may be of further help in your computer evaluation.

Sincerely,

DIGITAL EQUIPMENT CORPORATION

Richard F. Musson
Manager, Regional Office

RFM:jww

Enclosures

*Standard PDP-6
"Boiler Plate" attached
to original letter*

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BUSINESS SECTION

Digital Equipment Corporation feels that the equipment recommended in this proposal and described in the sections to follow offers an excellent opportunity for NASA Flight Research Center to satisfy the present computing requirements, while offering a time-sharing system capability for the immediate future for a very economical investment.

Benefits for NASA:

1. The PDP-6 system offers NASA a proven third generation computer with nine installations presently in use.
2. The PDP-6 system offers NASA the only Time-Sharing Program Package now in operation.
3. The PDP-6 system offers NASA an open end hardware design.
4. The PDP-6 system offers NASA an open end software design.

Software

1. MACRO-6 Symbolic Assembler - Presently in use
2. FORTRAN IV - Delivery with computer
3. COBOL - Negotiable
4. I/O Utility - Peripheral interchange program, presently in use
5. General Library - Presently in use
6. Additional software presently in use:
 - a. FORTRAN II
 - b. Multi-programming MONITOR System
 - c. DECTape Editor
 - d. Linking Loader
 - e. Storage Map
 - f. Dynamic Debugging DDT-6
 - g. FORTRAN Operating System and Library

On-Site Support

DEC will assign an experienced systems programmer to the Flight Research Center. He will be responsible for on-site programming assistance for a period of four months.

Delivery

Delivery of the system is normally six months from date of contract award.

Duration of Proposal

The terms of this proposal shall remain in effect for a period of sixty days.

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2 1/2 COTTON FIBER USA

RECOMMENDED PDP-6 SYSTEM

		UNIT		
		QTY.	PRICE	TOTAL
166	Arithmetic Processor with Model 35-KSR, Paper Tape Reader and Floating Point Hardware	1	\$151,000	\$151,000
161	Core Memory (1.8 usec.) 16,384 - 36-bit words	2	126,000	252,000
516/521	Magnetic Tape Control (controls 8 tape units)	1	18,000	18,000
570	Magnetic Tape Unit 200, 556 & 800 bpi, 15 to 90 KC transfer rates	2	30,400	60,800
187	Memory Interface	4	2,700	8,100
167/236	Drum Processor Control	1	35,000	35,000
237	Magnetic Drum Unit 1,048,576 - 36-bit words, 4.2 usec. per word transfer rate	1	75,000	75,000
136	Data Control	1	10,000	10,000
555	Dual DEctape System	1	7,400	7,400
551	DEctape Control	1	14,000	14,000
461	Card Reader & Control, 800 cpm	1	27,200	27,200
460	Card Punch & Control, 300 cpm	1	42,000	42,000
646	Line Printer, 1000 lpm, 132 columns, 64 characters per column	1	50,500	<u>50,500</u>

TOTAL SYSTEM PRICE \$733,000

Monthly Rental for Above System \$ 21,990

All rentals are based on a 3 year unlimited use contract.

COPY

Conover-Mast Publications, Inc.

205 East 42nd Street / New York, N.Y. 10017 / (212) MU 9-3250

May 7, 1965

Mr. Harlan E. Anderson
Vice President
Digital Equipment Corporation
Maynard, Massachusetts 01754

Dear Mr. Anderson:

On June 1st, some of the senior members of the staff of INTERNATIONAL SCIENCE AND TECHNOLOGY will conduct a conference in Boston on Communicating with Technical Men. I would like you to be my guest at this conference.

Let me say something about why we are holding this conference. Our company began publishing its interdisciplinary magazine for the technical community more than four years ago. Since then, its staff has had a chance to learn a great deal about effective ways to interest and to influence this important -- and difficult -- audience. My thought is that management men in sales, marketing, and advertising will find it worthwhile to hear something of what our people have learned. At the conference, therefore, members of the editorial and business staffs of the magazine will describe the communications techniques which have proved most useful in their work. Many of the techniques I believe, can be applicable to communications problems in marketing.

I am enclosing a formal invitation with the detailed facts about the conference. Since we have to limit the attendance, I would appreciate early word on whether you can join us; there's a reply card attached.

Incidentally, we will hold similar conferences in other major cities. In case it is more convenient for you to attend in another city, there's a list of other conference dates on the back of the invitation. When you return your card, simply let us know if you'd prefer another city.

Sincerely,

B. P. Mast, Jr.

B. P. Mast, Jr.
Chairman of the Board

*Exhibit
conference
file*

Concord Control Inc

1282 Soldiers Field Road, Boston, Massachusetts 02135



254-5106
Area Code 617

H.S.G.

7 May 1965

Exhibit
Digital Equipment Corporation
Maynard, Massachusetts

Union Skin
Attention: Mr. Gerald T. Moore

Gentlemen:

Concord Control Inc is presently negotiating three contracts with the U. S. Government for systems in which we plan to include Digital Equipment Corporation computers and peripheral devices as components. We are submitting below a list of the major Digital Equipment Corporation units we intend to purchase in order to assist you in your planning and in order to obtain for ourselves positions on your delivery schedule which meet the requirements of these projects.

1. CCI Proposal P694

This system will include:

One (1) model PDP-8 computer with 4096 words of core memory and with the standard Teletype model 33 ASR unit.

This system may also include the following. Since system specifications are now not complete, modifications or substitutions may become necessary.

One (1) automatic magnetic tape control type 57A.
One (1) magnetic tape transport type 50.

Delivery requirements - all units, 30 November 1965.

7 May 1965

2. CCI Proposal P648

This system will include:

- One (1) model PDP-8 computer with 4096 words of core memory and with the standard Teletype model 33 ASR unit.
- One (1) DEC Tape automatic control unit type 552.
- Two (2) DEC Tape dual transports type 555.
- Three (3) High speed tape punches with controls, type 75A

This system may also include the following. Since system specifications are now not complete, modifications or substitutions may become necessary.

- One (1) automatic magnetic tape transport type 57A.
- One (1) magnetic tape transport type 50.
- Three (3) special Soroban/IBM typewriters with control.

Delivery requirements - all units 31 January 1966.

3. CCI Proposal P691

This system will include:

- One (1) model PDP-8 computer with 4096 words of core memory and with the standard Teletype model 33 ASR unit.
- One (1) DEC Tape automatic control unit type 552.
- Four (4) DEC Tape dual transports type 555.
- One (1) high speed tape punch with control, type 75A.

This system may also include the following. Since system specifications are now not complete, modifications or substitution may become necessary.

- Six (6) special Soroban/IBM typewriters with control.

Delivery requirements - all units 31 December 1965.

This information and intention to buy is submitted with the understanding that Concord Control Inc assumes no obligation to buy any equipment from the Digital Equipment Corporation.

Digital Equipment Corporation

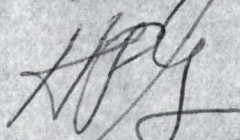
-3-

7 May 1965

In your acknowledgment, please confirm the delivery requirements listed above as well as our understanding that these delivery dates will be held firm for at least ninety (90) days from today.

All of us at CCI are very enthusiastic about these new systems we are about to develop and about this first combination of CCI's precision cartographic and control equipment and DEC's advanced computer hardware into systems which will unquestionably continue to set the pace for the industry.

Very truly yours,



Herbert P. Grossimon,
Vice President

HPG/gmd

cc: Mr. Harlan E. Anderson

May 10, 1965

C
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Mr. James Burley
Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Dear Mr. Burley:

This is to inform you of our intention to procure a standard PDP-8 Computer for delivery in September 1965.

This PDP-8 will be used in conjunction with the Keydata PDP-6 installation in Cambridge. We have verbal indication from the customer that they intend to add this equipment to the system. We expect a formal purchase order within thirty days.

We will appreciate your treating this letter as a formal Letter of Intent and reserving a machine in your production schedule for us.

Very truly yours,

DIGITAL EQUIPMENT CORPORATION

Robert J. Beckman
Manager, PDP-6 Systems

RJB:vc

cc: Harlan E. Anderson ✓

Information Copy for: Andy

AVIATION RESEARCH BUREAU

850 THIRD AVENUE, NEW YORK, N. Y. 10022

May 12, 1965

Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Attention: Director of Marketing

Dear Sir:

We are presently in the process of evaluating a number of digital computer vendors for a client. We have been engaged to collect all pertinent documents, and to assist in the evaluation of the systems under consideration.

So that we may be in a better position to advise him on a purchase decision, please forward the material indicated on the attached sheet no later than May 19.

As soon as we have had an opportunity to review these documents, we will contact your local representative for additional information.

Thank you in advance for your prompt attention to this request.

Very truly yours,

AVIATION RESEARCH BUREAU

M. G. Kinney

M. G. Kinney

MGK:lap
Enc.

INQUIRY NO. 7390

DATE 5/14/65

Bob Lane you are responsible for answering and following up this inquiry. It must be answered within three days and a copy sent to Andy

AVIATION RESEARCH BUREAU
850 Third Avenue
New York, New York 10022

Company: Digital Equipment Corporation

General Office Location: Maynard, Massachusetts

Computer Model Under Consideration: PDP-6

1. Please provide the following documents on the above indicated computer system:

- Purchase Price Schedule
- Rental/Lease Price Schedule
- Maintenance Charge Schedule
- Purchase Agreement
- Lease Agreement
- Service Agreement
- Schedule of Training Courses
(Programmer, Operator & Maintenance)
- Site Preparation Manual
- Programmer Manual

2. Please indicate your present policy on:

- Pre Installation Program Test Time
- Limitations on Quantities of Operator and Programmer Manuals
- Educational Discount

3. Please forward this material to:

M. G. Kinney
Aviation Research Bureau
850 Third Avenue
New York, New York 10022

May 13, 1965

C
Mr. Howard Pate
Associate Engineer
Brookhaven National Laboratory
Associated Universities Inc.
Upton, Long Island, New York 11973

Dear Mr. Pate:

O
Thank you for your letter of April 26, 1965, regarding our PDP-6 Maintenance Course. Your constructive criticism is certainly appreciated.

P
Our course length has been tailored to meet the requirements of the majority of our PDP-6 customers. In the main they have not desired to invest more than four weeks of the time of their personnel at a Maintenance course and rely heavily on the Maintenance service offered by DEC.

Y
We realize that a four week course on a system as complex as the PDP-6 cannot completely qualify a maintenance technician. When training our own technicians, we follow the course with two to three months of on the job training by having the men work with the production checkout technicians.

The course level is based on the assumption that the students attending have an extensive computer background. Because of this, the PDP-6 course is not in the true sense a maintenance course but is a maintenance oriented introduction to the PDP-6.

Attached is a copy of the course outline for our PDP-6 Maintenance Course. As you can see, it is quite similar to the suggested list which you submitted. The other items listed are

Mr. Howard Pate

-2-

May 13, 1965

under study by various groups within DEC and will receive action in the near future.

If I may be of further assistance to you, please do not hesitate to contact me.

Very truly yours,

DIGITAL EQUIPMENT CORPORATION

Harlan E. Anderson
Vice President

HEA:vc

cc: R. J. Beckman
R. J. Pate

C

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PDP-6 MAINTENANCE COURSE

WEEK I

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9:00 10:00	Introduction to the PDP-6 I-1	Computer Cycles I-2	Instruction: FWT I-4	Instruction: Boole, AS, XCT, UO I-6	Instruction: ACBM I-8
10:00 11:00					
11:00 12:00					
1:00 2:00			Instruction: HWT I-5	Instruction: Mem AC, ACCP I-7	Instruction: Push Down I-9
2:00 3:00		IR and Decoding I-3			
3:00 4:00					
4:00 5:00			Machine Time	Machine Time	Machine Time

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9:00 10:00	Instruction: Jumps II-1	Instruction: BLT II-3	Byte (Character Ops) II-5	Instruction: Fixed MUL, DIV II-6	Program Counter and Control II-7
10:00 11:00	↓	↓			↓
11:00 12:00	↓	↓			↓
1:00 2:00	Instruction: Miscellaneous II-2	Instruction: Shifts II-4			Examination and Review II-8
2:00 3:00	↓	↓			↓
3:00 4:00	↓	↓	↓	↓	↓
4:00 5:00	Machine Time	Machine Time	Machine Time	Machine Time	Machine Time

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9:00 10:00	Keys III-1	Memory Buffer and Control III-4	Arithmetic Register and Control III-6	Floating Point OPS III-8	Marginal Checking III-9
10:00 11:00	↓	↓	↓	↓	↓
11:00 12:00	Key Dp, Ex, etc. III-2	↓	↓	↓	↓
1:00 2:00	↓	MQ Register and Control III-5	↓	↓	Maintenance Routines III-10
2:00 3:00	Memory Address and Control III-3	↓	Shift Counter and Control III-7	↓	↓
3:00 4:00	↓	↓	↓	↓	↓
4:00 5:00	Machine Time	Machine Time	Machine Time	Machine Time	Machine Time

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9:00 10:00	Instruction: IOT IV-1	Priority Interrupt (Cont.) I	Memory (Cont.)	Punch Control Logic 761 IV-5	Review IV-8
10:00 11:00	↓	↓	↓	↓	↓
11:00 12:00	↓	↓	↓	Reader Control Logic 760 IV-6	↓
1:00 2:00	Priority Interrupt IV-2	Memory IV-3	Executive Mode IV-4	↓	Examination and Review IV-9
2:00 3:00	↓	↓	↓	Teletype Control Logic 626 IV-7	↓
3:00 4:00	↓	↓	↓	↓	↓
4:00 5:00	Machine Time	Machine Time	Machine Time	Machine Time	↓

ARNAUD DE VITRY

12, RUE DE LA PAIX
PARIS 2, FRANCE

May 13, 1965

Mr. Harlan E. Anderson
Digital Equipment Corporation
Maynard, Mass.

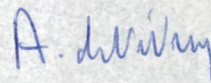
Dear Andy,

You will find enclosed a photocopy of a letter John Gutzon wrote to General Doriot about the potential interest of Mr. Charles Raymond in DEC products.

May I remind you that Mr. Gutzon is the man who sent me comments on DEC's attitude during DEC's negotiations, or lack of, with Thompson-Ramo.

Hoping to see you in July, I remain

Yours sincerely,



A. de Vitry

Enclosure

THE BUNKER-RAMO CORPORATION

May 7, 1965

605
THIRD
AVENUE
NEW YORK
NEW YORK 10016
PHONE
212 MU 2-8488

General Georges Doriot, President
American Research and Development Corporation
200 Berkeley Street
Boston, Massachusetts 02116

Dear General Doriot:

I have come across an interesting situation, and hope you might have time in the near future to meet the individual involved. This concerns a Mr. Charles Raymond, President of Automation and Product Development Corp. Mr. Raymond, who was a classmate of mine at Rensselaer Polytechnic, has been in the packaging machinery and materials handling business for the past 15 years. He has recently formed his own company and is doing exceptionally well, especially through a new development he and his colleagues have come up with. This is a unique system for warehouse order picking based on a central computer, which also prepares accounting type statements in real-time.

Mr. Raymond's company recently was awarded a large contract based on this system in competition with IBM. They are now planning to market the system and may soon be in the position to look for a computer supplier who is not in systems competition with them (e.g., IBM, Honeywell, etc.)

I mentioned DEC to Mr. Raymond, and assured him some type of arrangement could be worked out with a company like DEC, that would preclude any possibilities of his jeopardizing loss of his know-how. He is extremely interested in pursuing this further, and I would be grateful if you could introduce him to responsible individuals in DEC. In fact, I think it might be of great interest for you to meet Mr. Raymond as well. His company is very small at this point, but I think has great potential and prospects for success.

As you may know, our computer activities (Bunker-Ramo) have been bought out by General Electric. I am currently discussing international opportunities with them, and several other companies. If all goes well, I hope to be back in Europe or England by the end of the year.

Best wishes,

John Gutzon

JG/dmk

cc Mr. C. T. Raymond
Mr. A. De Vitry ✓

cc ✓ Dick Rest
Harlan Anderson

40 Fuller Lane
Hyde Park, New York

May 14, 1965

Mr. Alan Glou
PERSPECTIVE
Ten Kearney Road
Needham Heights 94, Massachusetts

Dear Alan:

In your recent letter of May 7, 1965, you indicated that you had been contacted several times by both Digital Equipment and Computer Control Company concerning my decision to remain with IBM. You indicate further that you had told them that I was investigating a move to the Boston area for a better job opportunity. Such a quest was not the basis for my investigation and I would like to correct this impression on your part.

In my discussions with these two fine companies, I stressed that my basic motivation in investigating job opportunities in the Boston area was geographical. Since both my wife and I are natives of Springfield, Massachusetts and since we had the opportunity of spending 15 months in the Boston area in 1960-1961, we have, for sometime, contemplated the idea of returning to that area. This spring, following the successful conclusion of a major three year project at IBM involving automating operations at the New York Stock Exchange, I decided to take a serious look at making such a move. I cannot say that I was interested in a better opportunity as such opportunities abound in the IBM Corporation. The problem here, as in many companies, is not to find a good job but to make an intelligent selection among the many fine opportunities available.

As I have mentioned previously, my impressions were excellent concerning Digital Equipment and Computer Control Company. I admire the engineering tone of both these companies as well as their ambitious expansion plans and obviously capable management. After considering the pros and cons of such a move, I have decided that the Boston area, at this time, does not attract me to the point where I would make this major change affecting both myself, my wife, and my eight children. The fact that within two years I will have spent 15 years

(2)

with IBM and consequently, will have obtained vested rights to significant retirement benefits is another important factor in my decision. I believe that had I found an overwhelmingly attractive opportunity, vested rights and personal and family dislocation notwithstanding, I might well have decided to relocate to Boston.

I fully expect to enjoy the next two years with IBM and to enjoy, along with my family, a pleasant Hudson Valley area of New York. At the end of that time, depending on circumstances at that point, I may well review my present decision not to relocate to Boston. I am taking the liberty of sending copies of this letter to both Digital Equipment and Computer Control Company lest there be any lingering misunderstandings concerning my decisions.

Yours truly,

Tom Digan

Tom Digan

TD:ir



UNIVERSITY OF SOUTHWESTERN LOUISIANA

Joel L. Fletcher, President

LAFAYETTE, LOUISIANA

May 6, 1965

H. Anderson
J. Hastings

Mr. Robert Lane
Computer Applications Department
Digital Equipment Corporation
Maynard, Massachusetts

Dear Bob:

As I indicated on my earlier letter to Dave Cotton and in my telephone call to you, there is considerable doubt that I will attend the DECUS meeting and the IFIPS meeting. As much as I would like to go and as much as I agree with you in the importance of attending, I have real doubts that the administration would approve such a visit at their expense. I have gone ahead and submitted a travel request anyhow, but my hopes are not too high.

The reasons for such a decision are two: First, as helpful as your new proposed participation will be to the Computer Conference and as interesting as the participation might be, there is still little to point to as direct university benefit. This is particularly true with the PDP-8 being installed only one week in advance of the Conference. The administration feels that its only purpose in being here is to support the Conference and that they are not excited about paying to have a machine available which the university itself will have little use of. With the PDP-6 being here, I had, of course, an excellent talking point. In that case, our own students would have the opportunity of using the PDP-6 and of participating in a considerable amount of new instruction. Then with the university considering the possibility of installing a time-sharing system here, it would afford the opportunity of having an intimate look with operation and maintenance of such a system on our own premises. The second reason has to do with a hard-nosed method of doing business. I had led the university administrators (perhaps erroneously) to assume that arrangements were definite as to delivery of the PDP-6. In fact, certain wheels had been set in motion that must be done in a university in order to accommodate such a change as the arrival of the PDP-6 would create. With the changed proposal, the university has somewhat of a feeling that DEC has broken a contract. In particular, they are not especially concerned

Mr. Robert Lane

-2-

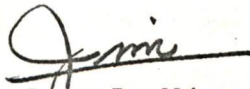
May 6, 1965

about losing the use of the PDP-6 because that was to be a gift, anyhow. The question in mind now is whether there will be another change later on. And, in fact, there is some concern about whether there might not be at a later time a decision not to participate at all. In that case, of course, the university would be paying for an essentially useless trip.

I am not saying that those are my thoughts. But, as I'm sure you know, the university administration must account for all of the funds that it spends and, in particular, must demonstrate how the expenditure of such funds benefits Southwestern. Since we are a state school, this means that the legislature has to be convinced that we are not spending funds foolishly. And while I am sure that I would benefit greatly from such a visit, the administration is not so sure and they are even less sure that they can convince their governing body of this. I might say that the latter situation was not at all improved by the fact that a telephone call from Jim Hastings stated that he wanted to hire one of my two graduate students who applied for summer employment and when I wrote stating who should receive first choice, he wrote back saying that he could not hire that person. I am afraid that maneuver cost DEC some of the prestige it had, particularly since it followed so closely on the heels of the other action. Since IBM has hired three of our graduate students, I feel that both of these decisions has served to decimate DEC's position and enhance that of IBM. I feel sure they will not hesitate to use it at every opportunity. This is particularly unfortunate because several of us had taken on an almost missionary push in DEC's behalf.

I merely wanted to send this letter to re-emphasize the point that I will probably not be able to attend the DECUS meeting. I had looked forward to it very much, and I am sure that I would have profited greatly from it.

Sincerely yours,



James R. Oliver
Dean, Graduate School and
Director, Computing Center

JRO:mc

R. LANE

May 14, 1965

James R. Oliver, Dean
University of Southwestern Louisiana
Computing Center
Lafayette, Louisiana

Dear Dean Oliver:

On behalf of Digital Equipment Corporation, I should like to detail our change of plans with reference to participation in the University of Southwestern Louisiana Conference on Digital Computers. As proposed to you by DEC, we planned to install a Time-Shared PDP-6 computer system at the University during the duration of the conference.

Removing the Sales PDP-6 from Maynard at this time would seriously jeopardize software development which is so very important to our customers and to the success of PDP-6.

To meet both the commitments, we would like to share, rather "time-share" PDP-6. We will install two (2) remote user stations at the University connected via telephone lines to the PDP-6 in Maynard. At these stations you can generate, compile and execute programs as two users of the system. Simultaneously in Maynard and at various customer sites other systems personnel will continue program development. We feel this is even a more dynamic demonstration of time sharing, and I hope the participants of your conference will understand the necessity for these changes. This decision, although not necessarily in the best interests of DEC, is in the best interests of our customers.

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James R. Oliver, Dean
University of Southwestern Louisiana

May 14, 1965

We further wish to install a PDP-8 computer at the University during the conference. This will illustrate how advanced the state of manufacturing of digital products has become. As you know PDP-8 is a desk-top binary computer with a 12 bit word operating at a 1.6 μ sec cycle rate. It sells for \$18,000 and is constructed of integrated circuit modules which allows for its speed and compactness. FORTRAN is available and can be used with PDP-8.

We feel that both PDP-6 and PDP-8 will be of interest to the participants of the conference and we will be very happy to provide personnel to assist you during seminar sessions or during exercises on the computers.

During your forthcoming visit I hope to finalize all details, but I wanted to confirm our plans such that you might advise the participants of the program of the changes.

With best personal regards,

R. L. Lane

RLL/pam

C
O
P
Y

c.c. K. Olsen, H. Anderson. ✓

24th May, 1965.

JL/HC

Mr. John Watt,
Casa Blanca,
12 Tytherington Park Road,
Macclesfield,
CHESHIRE.

Dear Mr. Watt:

We enjoyed very much having the opportunity to discuss your proposal with you recently.

We have subsequently discussed this in some detail to decide whether we are able to proceed with such a proposal at this time. However, in the light of our present marketing activities we have decided that it would not be practical for us to participate in such an arrangement as you suggest at the present time. Rather we will continue to make our computers available to other manufacturers who may wish to subsequently market them as a business data processors.

We must, therefore, respectfully decline your offer to participate in the sale of the PDP-8 for business work.

Thank you, however, for your kind interest in our products.

Yours sincerely,

J. LENG
Manager
DEC(UK)LTD.

*Information Copy
for: Andy*

Block Engineering, Inc.

19 BLACKSTONE STREET
CAMBRIDGE, MASS. 02139

May 17, 1965

Gentlemen:

We are interested in obtaining literature about those computers which would serve the needs of a small engineering company.

For our particular purposes, we would like a computer with the following features.

- (1) HIGH SPEED
- (2) 32 BIT WORD
(or double precision capability)
- (3) 16K MEMORY
- (4) MAGNETIC TAPE UNIT
- (5) LINE PRINTER
- (6) CARD READER
- (7) CARD PUNCH
- (8) PAPER TAPE READER (556 BITS/INCH)
- (9) RENT FOR ABOUT \$2000/MONTH

We would also like the system to be compatible with a Calcomp Plotter (Model 560R), which we already own.

We would appreciate any literature that you think would be helpful to us. Your prompt reply to this request will be sincerely appreciated. Thanking you for your attention and cooperation, we remain

Very truly yours,

BLOCK ENGINEERING, INC.

Eileen S. Lieber

Eileen S. Lieber
Math. Analyst/Programmer

INQUIRY NO. 7613
 DATE 5/19/65
George Rice you are responsible
 for answering and following up this inquiry.
 It must be received within three days and a
 copy sent to Andy

Art Mail

TELEGRAMS: HELIOGRAPH LONDON-E C 3
TELEPHONES: MANSION HOUSE 3655 (8 LINES)

DURRANT COOPER & HAMBLING,
SOLICITORS.

SIR GUY HAMBLING, BART.
E. S. GILLET, B. A.
J. T. RACE, B. A.
J. H. THOMLINSON, M. A.
A. D. PARSONS, B. A.

OUR REF. JHT/IC/D. 2001
YOUR REF. RFM/tr

H. Anderson

70-71, GRACECHURCH STREET,

LONDON, E. C. 3.

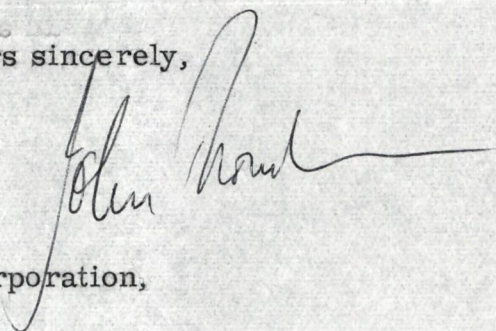
18th May, 1965

Dear Dick,

Digital Equipment Corporation
(U. K) Ltd.

I thought you might be interested in the enclosed copy of a short article on the city page of to-day's Times, dealing with the products of your company.

Yours sincerely,



R. F. Mills Esq.,
Digital Equipment Corporation,
Maynard,
Massachusetts,
U. S. A.

Encls: 1

COMPUTER MIDGETS FINDING OUTLETS IN U.K.

The way that G.E.C. has found out of a nasty fix is likely to emerge in the next week. Three years ago they and Bunker Ramo went fifty-fifty on the formation of a company, International Systems Control. It was one of the earliest companies specializing in computer control of industrial processes in Britain. The Bunker Ramo machines were manufactured by G.E.C. at Coventry and a team of specialists was built up in the art of organizing and programming the machines to perform control functions. They have landed eight or nine large orders—the latest was worth £250,000 from Shell.

It has been recently announced that Bunker Ramo are linking up with General Electric in the United States. This puts I.S.C. into a spot—they are left without any machines or hardware, as the jargon goes. However, the problem has been solved and they will shortly announce a new range of machines that they have at their disposal—the new range is reported to be even more comprehensive. Reports are circulating that this new range will come from Scientific Data Systems of Santa Monica, California.

Military Systems

This company is about five years old. It started out on military systems and spread successfully into the scientific computer market. The two major features of their machines are that they are very cheap and technically advanced.

There has been a certain amount of hand wringing recently over the dominance of American computer giants in the British market. It looks as if there may be more for the next year over the infiltration of American midgets. It looks as if S.D.S. is going to arrive actively on the scene through a link with G.E.C.

A similar company called Digital Equipment set up in Reading less than a year ago. They have been actively marketing now for about six months. Both these companies have achieved considerable success in the United States through the flexibility implied by the modest scale of their operations.

Without the limitation of massive production lines they have been able to take advantage of technological developments more quickly than the giants and have launched cheap and advanced machines on the market almost overnight. The smallest computer in the Digital Equipments range, the PDP 8, costs only £6,500 and is probably the cheapest machine on the United States or United Kingdom markets today. It has been marketed here since the turn of the year and 22 orders have so far been received. The PDP 7 (basic price £16,000) is the next one up the range and has attracted 10 firm orders so far. One is already installed at Cambridge University and another is to be delivered to Oxford any moment now.

The Digital Equipment computers are particularly suitable for the educational market. The company seems to have arrived in Britain at a very favourable moment—Mr. Cousins announced in his four-point plan for the computer industry that £2m. a year would be spent on computers for universities, colleges of advanced technology and research councils over the next five years. It seems highly probable that Digital Equipment will get a good slice of these orders.

Meanwhile, in a massive extension of their computing facilities Harwell has ordered 11 S.D.S. machines and nine PDP '8s. These small machines are to be spread around the establishment to make computer time widely available. Further they are all to be linked to a new, very large central computer, to which major problems will be passed by the small machines.

UNITED STATES
ATOMIC ENERGY COMMISSION
NEW YORK OPERATIONS OFFICE
376 HUDSON STREET
NEW YORK 14, NEW YORK

TELEPHONE No. 1
YUKON 9-1000

REFER TO:

APR:ACH

May 19, 1965

Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts 01754

Attention: Mr. Lane

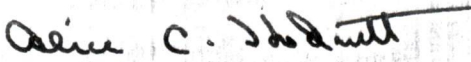
Gentlemen:

Your invoice covering the PDP-6 for Brookhaven National Laboratory (our Delivery Order NY-63-404-12) is being processed, and you should receive payment by May 25th. Payment for the Core Module will be made promptly upon receipt of invoice.

BNL has asked us to call the following items to your attention, confirming your understanding with them:

1. Within two to three months the necessary modifications will be made (at no additional cost) to various hardware Modules, etc., discussed by Lindenbaum and Pate of BNL with Savell, Beckman, Clements and others of DEC, to provide BNL with standard replaceable units with sufficient margin for easy maintenance, and eliminate the timing problems.
2. The six-month warranty period on the PDP-6 commenced as of May 5, 1965.
3. The remaining elements of the promised software are to be delivered and de-bugged free of charge within the next few months.
4. The terms and conditions of BNL order No. 046613 dated November 5, 1964 to the AEC, which was attached to our Delivery Order to you, apply to the PDP-6 system except where inconsistent with Contract AT(30-1)-3214.

Sincerely yours,



Alice C. Hodnett, Chief
Procurement Branch

Peter Grimes International, Inc.

Travel Service

Concord Office
FIFTEEN MAIN STREET
Telephone: 369-3300
CABLE ADDRESS: GRIMESTRAV
TWX: CONCORD 1289U

EXPERIENCE



RELIABILITY

Lexington Office
1851 MASSACHUSETTS AVE.
Telephone: 861-0290
FOREIGN TRAVEL SPECIALISTS
RESERVATIONS AND TICKETS ANYWHERE

Concord May 19, 1965

Mr. Harlan Anderson, Treasurer
Digital Equipment Corporation
Maynard, Massachusetts

Dear Mr. Anderson:

At the moment, it appears that foreign travel is on the quiet side and so I am just wondering if we might help you with some of your domestic trips. You will recall that we talked about this on the phone sometime ago.

We can be a tremendous help to your girls doing domestic ticketing for it should not only relieve time for other duties but save money for you besides.

At the moment we have an individual billing system whereby we invoice you for each separate transaction. As the volume increases we would bill you bimonthly as we do with some of our other commercial accounts.

If you like I shall be glad to come over and discuss it with you further.

Sincerely yours,

Peter H. Grimes

nhf

H. Anderson

May 19, 1965

Mr. Richard M. Colgate, President
Applied Logic Corporation
70 Nassau Street
Princeton, New Jersey

Dear Dick,

Attached please find executed copies of your letter of instruction to Morgan Guaranty Trust Company of New York.

With reference to the Adams Drum Subsystem which is scheduled for delivery to Adams in June, we find ourselves well satisfied with the performance of the drum during its final weeks of checkout. However, this by no means is a statement that future and unanticipated problems will not occur. We shall, therefore, continue our program of product improvement right up until delivery of your intended system.

I hope this meets with your satisfaction.

With best personal regards,

R. L. Lane for Harlan Anderson

RLL/pam
Attachments: 2

C
O
P
Y

H. ANDERSON

APPLIED LOGIC CORPORATION

Logic, Mathematics, Programming
Time Monitoring Equipment

70 NASSAU STREET
PRINCETON, N. J.
(609) WALNUT 1-2440

May 10, 1965

Mr. Harlan Anderson
Digital Equipment Corporation
Maynard, Massachusetts

Dear Mr. Anderson:

Enclosed is May 6th 1965 letter of instruction to Morgan Guaranty Trust Company of New York which, when executed by all concerned, will provide security for Drum purchase.

If you are willing to proceed in this manner, please have original and one copy signed and returned to me. Then the Bank will be asked to send you an executed copy.

Because of the Bank fee charged to Colgate Research & Development Co. for this arrangement I would appreciate your advice that the Adams Association Drum is working.

Very sincerely yours



Richard M. Colgate
President

RMC:S
Enclosures

Harlan Anderson

May 19, 1965

Professor Norman Scott
The University of Michigan
Electrical Engineering Department
Ann Arbor, Michigan

Dear Professor Scott:

As you requested, we are loaning to you on a consignment basis three (3) 410 pulse generators, five (5) 201 flip flops, ten (10) 110 diode gates, and twelve (12) 103 inverters. The paper work for these items is attached to this letter.

In addition to the consignment from our main plant in Maynard, Massachusetts, we are including the other items requested by you from the Ann Arbor Office. These items are three (3) boxes 911-4 patch cords, two (2) boxes 911-8 patch cords, two (2) boxes 911-16 patch cords, three (3) boxes 911-2 patch cords; one (1) 722 power supply; three (3) 901 mounting panels; three (3) type 750 power cables.

We are also including six copies of our Laboratory and Educational Module handbook including price lists. If these handbooks are of any assistance to your efforts, please contact us for further supply.

I will plan to contact you at the conclusion of your class in June regarding the purchase of some of the consignment items of the possibility of the new Digital Laboratory System.

Again, Please feel free to contact me at any time.

Very truly yours,

Robert D. Oakley
Regional Manager

RDO:jms
Enclosures

AID INC.

PERSONNEL SERVICES AND SYSTEMS

557 MAIN STREET
WEST CONCORD, MASS. 01781
617 369-4282

May 21, 1965

Mr. Harlan E. Anderson
Vice President
Digital Equipment Corporation
Main Street
Maynard, Massachusetts

Dear Andy:

I appreciated the chance to talk with you this week particularly in view of the heavy schedule you have. It was helpful to have the opportunity to air the matter we discussed to have a better understanding of Digital's summer program which Bob explained in considerable detail.

I am looking forward to having lunch with you at Nashawtuc as we are very proud of our new club house. I will call you after you have returned from your New York trip.

Sincerely,

Bill

W. C. Hall
President

WCH:pm

ROBERT LASKOW

1445 NORTH STATE, CHICAGO 10, ILLINOIS

*Copy given to Nick
follow-up 5/7*

4/21/65

Harlan Anderson
Nick Mazzaresse

Digital Equipment Corp.
Maynard, Mass.

Gentlemen:

To confirm and summarize our discussions to date, I indicated to you that I have developed a system of production control and production scheduling for industrial plants, based on the use of a small paper tape-input/output computer such as your PDP-8. I asked your company for some capital to develop this system commercially.

As to any capital needed, you referred me to ARD. As for the use of a computer for debugging and demonstrations, you indicated I could have the use of **your** Chicago demonstrator unit when it arrives. For both of these benefits, I thank you.

However, there is still a need for "seed money" to complete R & D, programming, and initial promotion of the production control system. While ARD may lend us the money, on the basis of their action to date, such money is at least six months away. I would like you to consider lending me a small amount of this "seed money" at this time--say, \$5000--for R & D, programming, and initial promotion, until I can secure larger sums for the actual financing of the computers, from sources such as ARD.

ROBERT LASKOW

1445 NORTH STATE, CHICAGO 10, ILLINOIS

-2-

The benefits to DEC from the commercial exploitation of my production control system would be very great, since it would involve a significant sales volume of PDP-8 units which you are already producing, to an entirely new and extremely large market. I am sure that if someone in your own company proposed spending a few months on such a project, that could involve the sale of many additional PDP-8's, you would not hesitate long. Consider this proposal in the same light

I appreciate the consideration you have given to my proposals. We have a real mutual interest, the sale of PDP-8's. This is a sound basis for a joint project.

Sincerely,

Bob Laskow

June 3, 1965

C
O
P
Y

Mr. Robert Laskow
Robert Laskow & Company, Inc.
1445 North State Parkway
Chicago 4, Illinois

Dear Mr. Laskow:

Your proposal to Digital Equipment Corporation to aid you in entering the Production Control System market has been reviewed by us and there is considerable interest in this type of application. However, we find that it is not feasible to make a loan of capital funds within a time scale which is consistent with your plans.

Our offer to loan you a computer during the period in which you are preparing your programs and our offer to provide application support, of course, still stands.

As far as any need you may have for capital funds, the best avenue of approach is probably to continue negotiations with AR&D.

I hope that this decision does not critically affect your plans, and we look forward to doing business with you in the future.

Sincerely yours,

Nick J. Mazzaresse
Computer Sales Manager

NJM/bl

COLGATE RESEARCH & DEVELOPMENT CO.

70 NASSAU STREET
PRINCETON, N. J. 08540

Tel. 609 921-8770

May 19, 1965

Mr. Harlan Anderson
Digital Equipment Corporation
Maynard, Massachusetts

Dear Mr. Anderson:

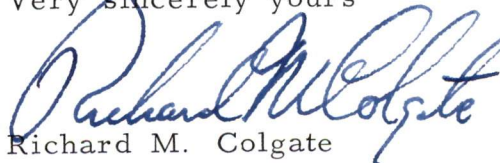
Enclosed are three purchase agreements for Digital Equipment Corporation equipment. If satisfactory, please sign and return two copies of each.

Colgate Research & Development Co. proposes to make payment for the CRT Display by certified check.

If you advise that the financial arrangements proposed for Drum purchase are satisfactory I will see that the plan is carried out promptly.

We wish to express our appreciation of the patience and assistance that you, Bob Lane, and others at DEC have offered during the past weeks of negotiations and trust that this will result in an effective scientific computation facility in Princeton.

Very sincerely yours



Richard M. Colgate
General Partner

RMC:S
Enclosures

cc: Mr. R. L. Lane



COUNCIL

G. E. FORSYTHE, PRESIDENT
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R. W. RECTOR
D. M. YOUNG, JR.

ASSOCIATION FOR COMPUTING MACHINERY 211 EAST 43 STREET, NEW YORK, N.Y. 10017

June 3, 1965

J. D. MADDEN, EXECUTIVE DIRECTOR

Mr. H. E. Anderson
Digital Equipment Corporation
Maynard, Massachusetts

Dear Mr. ^{Harlan} Anderson:

I am writing to you as a Corporate Institutional Member of ACM to solicit your support for a project in connection with our National Meeting to be held at the Cleveland-Sheraton Hotel in Cleveland, Ohio, on August 24-26 this year. For the first time, we will have a session devoted to papers from undergraduate students. We are conducting a competition for papers largely among our more than 1800 Student Members. We will select the five or six best papers and schedule these for presentation at the Meeting.

We want to make the choice of papers independent of the student author's ability to pay for his travel to the Meeting. Since we have Student Members located in almost every State, it is quite likely that we will need travel support for some of the winners. We are writing to you to ask if your Company would be willing to pay the travel costs for one of these student participants.

We believe that you will agree that this is a project worthy of your support and hope you will feel able to help.

Sincerely,

J. D. Madden
J. D. Madden
Executive Director

JDM:ph:jpb

H. Anderson

June 4, 1965

Mr. Richard M. Colgate
Colgate Research & Development Co.
70 Nassau Street
Princeton, New Jersey 08540

Dear Dick,

Enclosed are two copies of the purchase agreements signed by Digital Equipment Corporation. It appears we only received one copy each of the contracts. Consequently, we had to Xerox additional copies. As you can see, Mr. Harlan E. Anderson signed these prior to Xeroxing.

Again I wish to express my appreciation for your confidence in DEC and I hope our joint enterprise proves to be very profitable.

Best personal regards,

R. L. Lane

RLL/pam

Enclosures: (2) each of Three Contracts

NEA copy sent to PDP-6 sales file

C
O
P
Y

Information Copy

PHILCO CORPORATION

A SUBSIDIARY OF *Ford Motor Company*

COMMUNICATIONS & ELECTRONICS DIVISION

3900 Welsh Road, Willow Grove, Pa. • Phone Oldfield 9-7700

June 7, 1965

In reply refer to:
65: RLW -727- vs

Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts - 01754

Gentlemen:

Please send me all available literature, price lists and applications of your Programmed Data Processors 6, 7 and 8.

I would appreciate receiving this information as soon as possible.

Thank you.

Yours truly,

PHILCO CORPORATION

R. L. Welken

R. L. Welken, Manager
Storage Systems Department

RLW/vs

INQUIRY NO. 1176

DATE 6/10/65

R. L. Welken you are responsible for answering and following up this inquiry. It must be answered within three days and a copy sent to Andy & Alice

Information Copy H.E. Anderson



June 7, 1965

Digital Equipment Corporation
Maynard, Massachusetts 01754

Gentlemen:

Please send me information concerning the technical specifications for your DPD line of computers. I am particularly interested in the DPD-6 computer.

Thank you.

Sincerely yours,

George B. Griswold *lw*

George B. Griswold
Associate Professor of
Mining Engineering

GBG:lw

INQUIRY NO. 7739
DATE 6/14/65

Bob Lane you are responsible
for answering and *6/14/65* to this inquiry.
It must be answered within three days and a
copy sent to 7739

cc: John Leng
Jon Fadiman
Harlan Anderson

June 9, 1965

Mr. Sven Jansson
Telare AB
Industrigatan Y
Stockholm K, Sweden

Dear Mr. Jansson:

Mr. Harlan Anderson has asked me to answer your letter of May 14 to him. You will be interested to know that we are now in the process of working out a new agreement for Telare and should have a copy ready for your examination in a very few days. I won't go into the details of the proposed arrangement at this time, except to say that it provides for an increase in your commission on computer sales.

Your new commission is proposed at 5% on all computer system components except those components that are purchased by DEC for resale (i.e. line printers, teletype machines, card readers, and punches, IBM compatible magnetic tape units, and magnetic drums). These latter items will bear a 1 1/2% sales commission. I think that you will readily see that this arrangement will provide you with a larger commission on typical configurations (such as those you have already sold).

I am putting the new computer sales commission in effect immediately notwithstanding the fact that the new contract is not yet completed. These new commission rates do not, of course, apply to the orders you have already obtained, i.e. PDP-7 for Royal Institute of Technology, PDP-5 and two PDP-8's to AGA.

I look forward to a long and mutually rewarding relationship between our companies.

Sincerely

Gerald T. Moore
International Marketing

GTM/dla

C
O
P
Y

HEA file

11 June 1965

Mr. Harlan E. Anderson
Vice President
Digital Equipment Corporation
Maynard, Massachusetts

Dear Harlan:

Enclosed is the executed agreement for the loan of the PDP-1C-40. It is my understanding that a Type 131 High Speed Data Control will accompany the PDP-1C-20 upon installation or shortly thereafter.

After my conversation with you, I checked with our people and found that they planned to install a modification in our machine for some display experimentation work we are doing. The Type 131 High Speed Data Control would satisfy our requirements; and although it costs approximately twice as much, would be the better thing to do considering the temporary swap.

Our intention is to purchase the Type 131 High Speed Data Control upon delivery of our machine using the rental income to make up (hopefully) the cost difference from our originally planned modification.

Sincerely yours,

Lawrence F. Buckland
Lawrence F. Buckland
President

enc.
LFB:mn

J. Shivers
R. L. ...
HEA



equipment corporation

MAYNARD, MASSACHUSETTS

TWinoaks 7-8822 TWX MAYN 816

June 8, 1965

Mr. Lawrence Buckland
Inforonics, Inc.
Main Street
Maynard, Massachusetts

Dear Larry:

I am writing this letter to clarify the loan of your PDP-1C-40 Computer to DEC.

We will take Inforonic's PDP-1C-40 on July 1, 1965 to be used on a loan basis. We will return the PDP-1C-40 machine on or before December 1st, 1965.

PDP-1C-40 will be replaced by DEC's PDP-1C-20 during the loan period and will be installed on your premises. The PDP-1C-20 Computer is a standard PDP-1 with 8K of Memory, High Speed Channel Type 19, and Multiple Channel Sequence Break Type 120.

For the time period of July 1st to December 1st, 1965, Inforonics will have use and scheduling control of the PDP-1C-20. Service on this system will be provided at no cost to Inforonics. When DEC requires time, it will be during non prime time hours, and Inforonics will be credited with \$30 per hour rental time. This credit may be used by Inforonics toward purchase of new DEC products or PDP-1C-40. This credit must be exercised during the loan period or twelve months thereafter. Inforonics will give DEC access to its premises for purposes of DEC's use of PDP-1C-20.

Mr. Lawrence Buckland
Inforonics, Inc.

Page 2

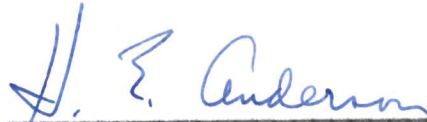
While DEC has Inforonic's PDP-1C-40, we will assume complete responsibility for its proper operation and up-keep; and will relieve Inforonics of all risks of loss or damage until return of the PDP-1C-40.

Previous to return to Inforonics, DEC will give the PDP-1C-40 a complete overhaul as deemed necessary and a one month warranty will be provided with the system.

If this is acceptable to you, please sign and return the enclosed duplicate copy of this letter.

Sincerely,

DIGITAL EQUIPMENT CORPORATION



H. E. Anderson, Vice President

Agreed to:

INFORONICS, INC.



Lawrence F. Buckland
Lawrence Buckland, President

MORGAN GUARANTY TRUST COMPANY
OF NEW YORK

23 WALL STREET, NEW YORK, N. Y. 10015

New York June 14, 1965

Mr. Harlan E. Anderson
Vice President
Digital Equipment Corporation
Main Street
Maynard, Massachusetts

Dear Andy:

Enclosed are a set of documents which Morgan
Guaranty proposes to use in connection with the Charles Adams'
financing.

A set of these documents has also been sent to
Dick Testa.

Very truly yours,

Peter

Robert C. Milton, Jr.
Assistant Treasurer

Enclosure

Nippon Electric NEW YORK INC

PAN AMERICAN BUILDING
200 PARK AVENUE NEW YORK 17 NY
TELEPHONE MO 1-3420
CABLE NIPPELECO NEW YORK
DOMESTIC TELETYPE 212-867-6314

NYA 1740
June 14, 1965.

Digital Equipment Corp.
146 Maine Street
Maynard, Mass.

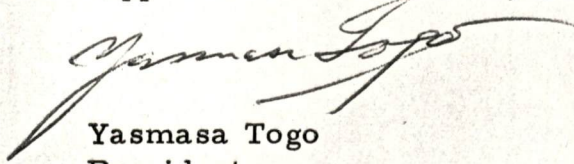
Dear Sirs,

It would be greatly appreciated if you would
forward to us the following data:

PDP-6 Time Sharing Software

Thanking you in advance for your kind attention
to this request,

Very truly yours,
Nippon Electric New York, Inc.


Yasmasa Togo
President

OK
F.61B

INQUIRY NO. 9969

DATE 6/18/65

Bob Lane you are responsible
for answering and following up this inquiry.
It must be answered within three days and a
copy sent to Andy

NEC



equipment corporation

MAYNARD, MASSACHUSETTS
TWinoaks 7-8822 TWX MAYN 816

Date _____

We thought you'd like to know.

Today, our PDP-6, the first large computer to be delivered with time-sharing software, is on-line at (just to name a few):

MIT (Project MAC)
Brookhaven National Laboratory
The RAND Corporation
Adams Associates
The University of California
Bonn University
The Aachen Physics Institute

The PDP-6's pace-setting software is described in the enclosed brochure. After reading it, you'll see why discerning time-sharing enthusiasts at the recent INTERDATA 65 show in New York acclaimed PDP-6 for doing now what others have only talked about.

Digital is presently planning a day-long symposium on time-sharing to be held in your region. If you're interested in actually operating our PDP-6 time sharing system, please indicate your desire to attend on the enclosed card. Also check the appropriate boxes on the card to receive additional literature about the PDP-6.

MOTOROLA INC.



Military Electronics Division / Western Center

June 17, 1965

Digital Equipment Corporation
Maynard, Massachusetts 01754

Gentlemen:

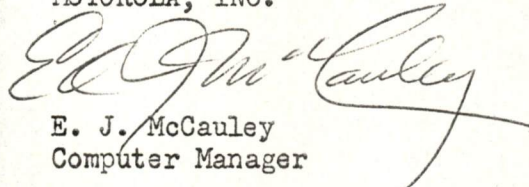
Recent ads (in DATAMATION particularly) and an article in BUSINESS WEEK have made us aware of the PDP-6. We are very interested in obtaining detailed information - programming manuals, descriptions of available softwares, ball-park prices, etc. - on this equipment.

If your sales people plan to visit Phoenix in the near future, I would enjoy meeting them to discuss our future needs. However, as we have recently leased an SDS-930 computer, we do not consider ourselves a "hot prospect". A special trip, therefore, is probably unwarranted.

We are, however, very interested in developing a time-sharing capability and would like to know the details of the PDP-6 which appears to be expressly designed for this type of environment.

Very truly yours,

MOTOROLA, INC.


E. J. McCauley
Computer Manager

EJM:mls

INQUIRY NO. 7808

DATE 6/22/65

Dick Musson you are responsible for answering and following up this inquiry. It must be answered within three days and a copy sent to Andy.

RESEARCH INSTITUTE FOR MATHEMATICAL MACHINES
LORETÁNSKÉ NÁM. 3, PRAGUE 1
CZECHOSLOVAKIA

Messrs.

Digital Equipment Corp.

M a y n a r d, Mass.01754

USA

Your ref.:

Our ref.:

3491/26/894

PRAGUE

June 8th, 1965

Gentlemen:

Re: PDP-6, PDP-7, PDP-8 Computers

Studying the April/1965 issue of "Communications of the ACM" we find an information regarding your new PDP-6, PDP-7, PDP-8 Computers and are deeply interested in obtaining more particulars on this subject.

You may rest assured that we shall inform all our branch accordingly and thus promote your products.

Thanking you and looking forward to the courtesy of your reply, we remain, Gentlemen

INQUIRY NO. 7813

DATE 6/22/65

Jono you are responsible for answering and following up this inquiry. It must be answered within three days and a copy sent to Nick & Andy.

Yours faithfully

RESEARCH INSTITUTE FOR
MATHEMATICAL MACHINES


Ing. V. Gregor
Managing Director

Beckman INSTRUMENTS, INC.

SYSTEMS DIVISION • 2400 HARBOR BOULEVARD, FULLERTON, CALIFORNIA : TROJAN 1-4848 • FUL CAL 5210

June 14, 1965

Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Gentlemen:

I would like to request detailed information on time-sharing software for the PDP computers. Specifically, I am interested in equipment configurations and the hardware-software and software-software interface designs so that I can evaluate the feasibility of incorporating special data acquisition and processing programs into your time-sharing system.

We at Beckman have used PDP computers in our systems in the past and occasionally bid them in various proposals. Recently, we have been bidding on systems requiring a time-shared use of the control computer and the requested data would aid us greatly in determining the economics of proposing the PDP computer.

Sincerely yours,

L A Beghtol

L. A. Beghtol
Group Leader
Applications Programming

LAB:it

INQUIRY NO. 7818

DATE 6/22/65

Dick Messon you are responsible
for answering and following up this inquiry.
It must be answered within three days and a
copy sent to Andy

June 15, 1965

Mr. George B. Griswold,
Associate Professor of
Mining Engineering
New Mexico Institute of Mining and Technology
Socorro, New Mexico

Dear Professor Griswold:

The enclosed manual (F-61) contains the technical specifications for the PDP-6. From time to time, additional information and/or new technical specifications are generated. One such new specification, that is not included in the PDP-6 Manual (F-65), is the multiple computer interchange (165). The specifications for this is also enclosed.

For your information I would like you to know that Bob Lane, our PDP-6 home office Sales Manager, and I will be in Socorro on Thursday and Friday, June 24th and 25th. We would be happy to meet with you on either day and discuss any details that you might have in mind.

Sincerely,

C. Norman Canning
Applications Engineer

CNC/pam

Blind Copies: H. Anderson ✓
R. Lane
Skip Hickman - Denver

C
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P
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IMPERIAL COLLEGE OF SCIENCE AND TECHNOLOGY

(UNIVERSITY OF LONDON)

DEPARTMENT OF ELECTRICAL ENGINEERING

Professor of Computing Science:
S. GILL, M.A., Ph.D.

CITY AND GUILDS COLLEGE
EXHIBITION ROAD
LONDON - - S.W.7
Telephone: KENSINGTON 5111

Mr. Harlan Anderson,
Digital Equipment Corporation,
Maynard,
Massachusetts,
U.S.A.

17th June, 1965.

Dear Mr. Anderson,

It was a great pleasure to enjoy your hospitality on June 2
and to see how D.E.C. has expanded since my last visit in 1962.

I am keeping your people busy with quotations, etc. because
I have high hopes of getting support for the purchase of a PDP installa-
tion. I hope I am right.

Yours sincerely,



S. Gill

SG/klh

c.c. Mr. John Lang,
Digital Equipment Corporation,
11 Castle Street,
Reading, Berks.

H. ANDERSON

June 17, 1965

Mr. H. E. Symonds
University of California, Berkeley
Purchasing Department
318 Sproul Hall
Berkeley, California 94720

Dear Mr. Symonds:

Digital Equipment Corporation is in receipt of your letter dated 27 May 1965 to Mr. Norman Canning.

In response to your request, DEC is pleased to extend the expiration date of our proposal #465 to July 15, 1965.

Delivery of the system is proposed for August 30, 1965 with exception of the line printer which is a non-standard item and is scheduled for September 27, 1965 delivery.

DEC agrees to accept the University Terms and Conditions provided:

- (1) The University of California furnish DEC with the Tax Exemption Certificate Number such that the California Sales Tax will not apply to this procurement.
- (2) The warranty is 6 months per our proposal (Section 3.2, page 11).
- (3) Transportation charges for the system will be paid by the University of California. Normal method of shipment is by deferred air freight.

COPY

Mr. H. E. Symonds
University of California, Berkeley

June 17, 1965

The above information is submitted as supplementary to
DEC proposal number 465 dated 29 January 1965.

A revised configuration has been contemplated by Dr. Glaser.
A copy of a letter submitted to Dr. Glaser by Ken Larsen
of our Palo Alto office is attached for your information
and review.

Sincerely yours,

R. L. Lane

RLL/pam
Enclosure: Copy of Letter

C
O
P
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COPY TO: Mr. H. Anderson ✓
Mr. S. Olsen
Mr. T. Johnson

June 22, 1965

Mr. W. J. Wheat
Vice President of Marketing
United Data Processing, Inc.
1001 S. W. Tenth Avenue
Portland, Oregon 97205

Dear Mr. Wheat:

Thank you for your recent letter requesting information on the computer systems supplied to Keydata. Your letter has been forwarded to this Office for reply.

I am enclosing some general information on the PDP-6 System itself and on the Time Sharing Soft Software that we supply with the PDP-6. Enclosed also is an Application Note that describes the use of the PDP-4 in the original Keydata System. The PDP-4 (a much smaller machine) was used to prove feasibility leading to the purchase of the current PDP-6.

The PDP-6 Central Processor has computing power approximately comparable to that of the IBM 7094. A configuration similar to that at Adams including the Central Processor, 65,000 36-bit words of Core Memory, a million word High Speed Drum, Data Communication System with 32 lines for half duplex operation (8-level code), 2 - 1000 lines-per-minute Line Printers, 1-800 cards-per-minute Card Reader, a 5.76 million 36-bit word Disc File System, Magnetic Tape Control with 4 IBM compatible Tape Transports, and 2 - Dual DECTape Transports for program storage would cost \$920,000.

It is difficult to estimate the cost of developing the Keydata System since they are developing a proprietary system. From the outside looking at their activity, it would appear that this is going to be in the neighborhood of 10 man-years of software development. I believe that Keydata is interested in selling the software package that they develop to companies not located on the East Coast.

If you would like additional or more detailed information on any of Digital Equipment Corporation's hardware or software, please call me here at the Palo Alto Office. I would be happy to arrange for a mutually convenient meeting to discuss an exact hardware configuration.

Sincerely,

COPY

Kenneth Larsen
Manager, Regional Office

KL:es
Enclosures

Copy to: Mr. S. Olsen
Mr. H. Anderson ✓
Mr. T. Johnson
Mr. C. Collier

June 25, 1965

State of California
Department of Water Resources
P.O. Box 388
Sacramento, California 95002

Reference: Contractor's Statement of Experience
and Financial Condition

Gentlemen:

Digital Equipment Corporation is pleased to provide the information enclosed as requested.

We are manufacturers of the Programmed Data Processor (PDP) Computers, and are experienced in all phases of computer application for Data Acquisition and Control.

Digital Equipment Corporation was formed in 1957, and we have delivered more than 200 machines, most of which are general-purpose digital computers for scientific and technical applications and for process control in industry and systems organizations.

We manufacture also a complete line of digital logic modules (both Standard System Modules and our new line of FLIP CHIP modules) as well as special Input-Output equipment including displays, DEctape (Digital's magnetic tape system), and Special Systems for research and production applications of computers.

Although we are not Contractors proposing to bid on State Exploration Drilling or General Construction as such; we hope that the enclosed will provide the information you require and we are pleased to provide it for you.

If additional information or clarification is required on Digital Equipment Corporation's Experience and Financial Condition or if we can be of further help at this time, please call me or our representative in the Sacramento - Mr. Carroll Collier at 5617 Rosedale Way, Sacramento. Mr. Collier's telephone number is 916 443-2943.

Yours very truly,

COPY
DIGITAL EQUIPMENT CORPORATION
Kenneth Larsen
Manager, Regional Office

KL:es
Enclosures

June 21, 1965

Mr. Yasmasa Togo, President
Nippon Electric New York Inc.
Pan American Building
200 Park Avenue
New York 17, New York

Dear Mr. Togo:

With reference to your letter dated June 14, 1965, inquiry number NYA 1740, I am enclosing our PDP-6 Time Sharing Software brochure.

If I may be of further assistance, please feel free to contact me.

Sincerely yours,

R. L. Lane

RLL/pam
Enclosure: F-61B

CC: H. Anderson ✓

C
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ANDY

June 23, 1965

Mr. Heinz Weber
Physikalisches Institut Der Technischen
Hochschule Aachen
Abteilung Kernphysik
Aachen, den
Charlottenstr. 14
West Germany

Dear Mr. Weber:

Please find enclosed more information concerning the PDP-6 I/O Bus. I am sending this to you so that you will be able to interface directly at this point.

It has come to my attention that you are using non-DEC modules. Under these conditions we would prefer that you not plan on modifying the 630DCS. The reasons for this are rather obvious. We cannot be responsible for the operation of your modules with our system and we also will not be held responsible for the 630DCS performance if it is modified.

You are free to interface to the machine as you see fit as it is yours, but I believe that everyone will benefit if you interface to the I/O Bus.

Notice that when interfacing to the I/O Bus you may decode as many instructions as needed. The 630DCS interface does not offer this flexibility. Since you are using another module make we cannot foresee what problems you may run into.

COPY

Mr. Heinz Weber
Physikalisches Institut Der Technischen
Hochschule Aachen

June 23, 1965

On another subject, I have received the roll of paper tape and we may be able to use an Omnitronics paper tape spooler with this type of paper. There is no chance that the Digitronics reader will read this nearly transparent paper, however.

I hope that your trip home was pleasant and that you have a nice summer. Please write to me soon and tell me what the interface is going to be.

Remember not to load the I/O Bus with a DC load!

Sincerely yours,

Allan Titcomb

AT/pm

Enclosures: 2 Sets of I/O Bus Drawings
2 Copies of I/O Bus Memo

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Mr. Anderson - Inquiry No. 7704, 6/8/65

W. L. C.

digital

JUN 29 1965

Telephone 92 0919
Telex 20740

DIGITAL EQUIPMENT AUSTRALIA PTY. LTD.

Colman House, 89 Berry Street, North Sydney.

Cable Address: "DIGITAL," Sydney.

A Subsidiary
of DEC
Massachusetts

24th June, 1965.

Mr. J. Ostwald,
School of Mines of W.A.,
32 Lyall Street,
KALGOORLIE. W.A.

Dear Mr. Ostwald,

Thank you for your enquiry for technical literature on our computers, which has been forwarded to us from our parent company in Maynard Massachusetts. I am sending under separate cover general descriptions and programming material for each of the three computers you mentioned.

Should you require any further information you could perhaps contact our engineer in Perth, Mr. Robin P. Frith, whose address is C/- Computing Centre, University of Western Australia, Nedlands. Mr. Frith is looking after the University's PDP-6 time sharing installation. You might perhaps be interested to see this system in operation.

Yours sincerely,

PVW.JD901

PETER V. WATT,
Applications Engineer.

bcc: ✓ H. E. Anderson
W. Segal

June 30, 1965

C
O
P
Y

Mr. James T. Martin
IBM United Kingdom Limited
London West, Yeoman House
Brentford, Middlesex, England

Dear Mr. Martin:

I am enclosing five printouts showing how various users in Maynard had informative interchanges with our PDP-6 time-sharing system.

Number 1 starts off with the user calling for a return to MONITOR control, asking that 1024 words of core memory be assigned to him, and directing the system to bring the EDITOR program into core from its stored location on DECTape transport 0. The system responded that the job was set up. The user then asked that his program be brought in for editing. He instructed the system that he wanted to examine the contents of line 1240 in the DOTSEX program. The EDITOR printed STATZ OUT, 740000. The user made the insertion, and the user then printed the line to check its contents.

Number 2 illustrates the procedure of calling up the LOADER program, loading an object program, calling in the on-line debugging program DDT, and examining and changing the contents of three memory locations in the FOLA program. At the end, the user asks that FOLA be saved on DECTape transport 5, and the system confirms his request after executing it.

The example in Number 3 illustrates a more extensive use of DDT to add patches to program SUMXB7, which was stored on DECTape transport 5. After examining a number of registers and altering some of their contents, the user has the system save the object program, now SUMXC7, on transport 5.

June 30, 1965

Example Number four shows more communication between user and PDP-6. The user begins by requesting a reversion of control to the MONITOR, asks that two DECTape transports be assigned exclusively to him, and then asks that the various blocks of information stored on DECTape 1 be listed on his teletype printer. The MONITOR informs him that it cannot obey this command, and he realizes that he has to bring in an input/output program, PIP2, from DECTape 0, the system tape. Then, he repeats the request for a listing of the information blocks, and it is typed out, with a statement about the number of empty blocks on the tape. His next request, to store information on DECTape 1, failed because he apparently forgot to put his tape control switch in the writing position. Again, he made an error in asking that 18,482 words of core be assigned to him, because he should have returned to the MONITOR program before asking that. After correcting that error, and a spelling error which followed, he again asked for 18,482 words of memory and was told that only 14,336 were available. He finally settled for that amount, called in his input/output program again, and got his listing started.

In example Number 5, the user calls in the PDP-6 FORTRAN II COMPILER, F2, and puts three object programs through the compiler for storage on DECTape transport 6. When he finishes, the COMPILER tells him that his programs contained two assembly errors. He would then refer to his line printer (LPT) listing of the compilation, call in the EDITOR, and correct his errors.

I hope you will find these helpful, but we'll be glad to send you others if you want more specific examples. Please let me know if I can help you further.

Sincerely,

Joseph D. Nangle
Technical Publications

JDN:ljm
Enclosures

C
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START
STATZ OUT

1.

STATZ OUT, 748000

STATZ OUT, 748000

STATZ OUT, 748000

STATZ OUT, 748000

STATZ OUT, 748000

STATZ OUT, 748000

STATZ OUT, 748000

TC LET DIAG LOADER .
JOB SETUP

START

2.

LPT:←DTA0:DDTSYN,UDDT,JOB DAT DT↑C↑C

CORE 15

START

LPT:←DTA0:DDTSYN,UDDT,JOB DAT DTA3:FFEX32,FOLA PTR: (M)
STORAGE MAP

EXECUTION

LOADER FINISHED

DDT

FOLA 3625/ SETOM 1,0(12) SETOM 1(12)

FOLA 3744/ LDB 16,22540 LDB 22540

FOLA 4020/ JRST 16055 SQ-1

↑C
SAVE DTA5:FOLA
JOB SAVED

FORSE.=42253 FORSE. 1114/ 43461(6) SSS ./ 43461(6)

43370/ 43412(13)

43371/ 43412(16)

43372/ 43402

43373/ 43402

FORSE. 1000/ CANLE DEVTB.

FORSEXXX

FORSE. 1341/ JRST @16

FORSE. 1405<BUFHDR;

BUFHDR, 100<PF;

PF/ (27243)426700

PF+1/ (27336)72300

FORSE. 1127/ JRST 42743 JRST PF

PF/ (27243)426700 PUSHJ 3, FORSE. 1223

PF+1/ (27336)72300

FORSE. 1342<TNAME;

PF 1// (27336)72300 SETZM TNAME-1(17)

PF+2/ (27243)412300 SETZM TNAMEEXXX SETZM TNAME(17)

PF+3/ (27336)143000 JRST 42743

PF/ PUSHJ 3, 43476

PF+1/ (27355)136114 SETZM TNAME-1(17)

PF+2/ SETZM TNAME(17)

PF+3/ JRST 42743

PF/ PUSHJ 3, 43476

PF+1/ SETZM 43614(17)

PF+2/ SETZM TNAME(17)

PF+3/ JRST 42743

12
CORE 2

ASSIGN DTA1
DEVICE DTA1 ASSIGNED

ASSIGN DTA2
DEVICE DTA2 ASSIGNED

TTY:←DTA1/L
TTY? MONITOR COMMAND ERROR

TTY:←DTA1:/L
TTY? MONITOR COMMAND ERROR

GET DTAC:PIP2
JOB SETUP

START\\TART

TTY:←DTA1:/L
M602.DMP 5/3/65
M6016.DMP 5/3/65
M6011.DMP 5/3/65
M6012.DMP 5/3/65
M6013.DMP 5/3/65
M6014.DMP 7/31/64
M6015.DMP 5/8/65
M602.DMP 6/12/64
M6031.DMP 3/1/65
M603.DMP 1/28/65

486. FREE BLOCKS LEFT

DTA1:M6032/R←M603
OUTPUT DEVICE DTA1: DEVICE ERROR
CORE 18
PIP COMMAND ERROR
↑C
COER
COX COER? MONITORX
COMMAND ERROR

↑C CORE 18
14 FREE 1K BLOCKS LEFT, NONE ASSIGNED

CORE 14

GET DTAC \:PIP2
JOB SETUP

START

DTA1:M6032/R←M603

↑C CORE/18

NOPE 22

SET DTAG:F2
JOB SETUP

START

DTAG:RFAULT,LPT:←DTA5:RFAULT

EXIT

GET DTAG:F2

JOB SETUP

START

DTAG:SLOPE,LPT:←DTA5:SLOPE

EXIT

GET DTAG:F2
JOB SETUP

START

DTAG:IHTEST,LPT:←DTA5:IHTEST
2 ASSEMBLY ERROR(S)

IBM

IBM United Kingdom Limited

London West
Yeoman House
Brentford, Middlesex

Telephone Chiswick 8464

23rd June 1965

Digital Equipment Corporation
146 Main Street
Maynard Massachusetts
U S A

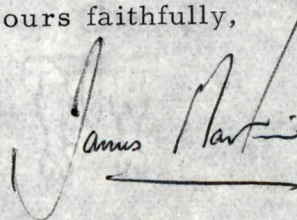
Subject : REAL-TIME PROCESSING

Dear Sirs,

I am very interested in Digital Equipment Corporation's work in real-time systems, and on-line programming, some of which I saw demonstrated at the IFIP Congress.

I am just completing a second book on real-time for Prentice-Hall Inc, and I would like to include some examples of man-machine type-outs. I would be very grateful if you could send me some short but illustrative examples of output from programs operating in a "conversational" manner.

Yours faithfully,



James T Martin
Senior Systems Analyst
London West

INQUIRY NO. 9846

DATE 6/28/65

Joe Naylor is responsible for answering and following up this inquiry. It must be answered within three days and a copy sent to Andy.

bec H E Anderson
W. Segal

JTM/:sm

~~ff~~ 5.9

June 28, 1965

Yale University
Purchasing Department
New Haven, Connecticut

Attention: Purchasing Director

Dear Sir:

Digital Equipment Corporation is in receipt of your Purchase Order L-56411, dated June 9, 1965. Delivery and installation of the referenced item has been completed.

DEC's contract with the Atomic Energy Commission warrants the equipment as follows:

Warranty

a. The Contractor warrants that all materials and services furnished under this contract shall be free of defects in materials and workmanship.

b. The Contractor agrees to apply its standard OEM warranty to this contract, which provides for the Contractor's liability under a twelve month warranty in two six-month segments, to wit:

First six months: Contractor agrees to replace or repair free of charge materials furnished under this contract which under proper and normal use prove defective within six months after delivery of such items.

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Yale University
New Haven, Conn.

June 28, 1965

Second six months: Contractor agrees to repair or replace modules and power supplies which prove defective under proper and normal use during the period from six months to twelve months after delivery of such items, provided, that such items are delivered to the Contractor's Plant, Maynard, Massachusetts and the Commission pays all transportation costs.

c. This warranty does not include preventive or corrective maintenance, which when requested, will be charged to the Commission at the Contractor's prevailing rates.

d. No other warranties expressed or implied are made by the Contractor, and the liability of the Contractor under this agreement is limited to that expressly stated in this warranty article.

We suggest that this warranty be in effect for this contract.

Further, since the installation of the referenced item has already been completed and no liabilities were incurred, DEC requests that the procedure for proof of liability insurance be waived.

Thank you for your considerations of DEC and I hope we can be of further assistance.

Best personal regards,

R. L. Lane

RLL/pam

CC: P. Behn
H. Anderson ✓
R. Beckman
T. Whalen

C
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DEC. INQUIRY NO.
7878

June 28, 1965

Mr. L. A. Beghtol, Group Leader
Applications Programming
Beckman Instruments, Inc.
Systems Division
2400 Harbor Boulevard
Fullerton, California

Dear Mr. Beghtol:

We have received your request for detailed information on time-sharing software for PDP Computers.

I would like to have an opportunity to discuss your interests personally and shall contact you in the very near future in order to set-up an appointment in order to present you with the detailed information pertinent to your specific areas of endeavor.

Thank you for your interest in DEC. I am looking forward to meeting you.

Very truly yours,

DIGITAL EQUIPMENT CORPORATION

Richard F. Musson
Manager, Regional Office

/s

C
O
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Y

DEC. INQUIRY NO.

7818

June 28, 1965

Mr. L. A. Beghtol, Group Leader
Applications Programming
Beckman Instruments, Inc.
Systems Division
2400 Harbor Boulevard
Fullerton, California

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Richard F. Musson
Manager, Regional Office

/s

C
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7818

June 28, 1965

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forward to meeting you.

Very truly yours,

DIGITAL EQUIPMENT CORPORATION

Richard F. Musson
Manager, Regional Office

/s

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DEC. INQUIRY NO.
7808

June 28, 1965

Mr. E. J. McCauley, Computer Manager
Motorola, Incorporated
Military Electronics Division
Western Center
8201 East McDowell Road
Scottsdale, Arizona 85252

Dear Mr. McCauley:

We have received your letter of June 17, 1965 concerning Digital Equipment's Model PDP-6 Computer. We have enclosed descriptive literature on this computer for your perusal.

We do have an office in the Los Angeles area and we would be most happy to meet with you during our next trip to Arizona in order to provide more detailed information.

Again, thank you for your interest in DEC and we shall contact you in the near future in order to set-up an appointment.

Very truly yours,

DIGITAL EQUIPMENT CORPORATION

Richard F. Musson
Manager, Regional Office

RFM/d

Enclosures:

PDP-6 Bltn. & Handbook

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DEC. INQUIRY NO.
7808

June 28, 1965

Mr. E. J. McCauley, Computer Manager
Motorola, Incorporated
Military Electronics Division
Western Center
8201 East McDowell Road
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Very truly yours,

DIGITAL EQUIPMENT CORPORATION

Richard F. Musson
Manager, Regional Office

RFM/d

Enclosures:

PDP-6 Bltn. & Handbook

C
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Y

DEC. INQUIRY NO.
7808

June 28, 1965

Mr. E. J. McCauley, Computer Manager
Motorola, Incorporated
Military Electronics Division
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8201 East McDowell Road
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Very truly yours,

DIGITAL EQUIPMENT CORPORATION

Richard F. Musson
Manager, Regional Office

RFM/d

Enclosures:

PDP-6 Bltn. & Handbook

C
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Y

H. E. ANDERSON

Bob Lane

Please check this
with Dick Testa.

Andy

Bob - o.k. with me
Dick Testa

DIGITAL EQUIPMENT CORPORATION

COLGATE RESEARCH & DEVELOPMENT CO.

70 NASSAU STREET
PRINCETON, N. J. 08540

Tel. 609 921-8770

June 17, 1965

Mr. Harlan E. Anderson
Digital Equipment Corporation
Maynard, Massachusetts

Dear Mr. Anderson:

So that we may be prepared to take advantage of the maximum investment tax credit at the appropriate time, we would appreciate receiving a statement to the effect that the PDP-6 Equipment has a useful life of eight years or more. Should this statement not apply to the CRT Display, then a proper separate statement covering this item would be in order.

Thank you for your cooperation.

Very sincerely yours,



Richard M. Colgate
General Partner

RMC:b

June 29, 1965

Mr. Richard M. Colgate
Colgate Research & Development Co.
70 Nassau Street
Princeton, New Jersey 08540

Dear Mr. Colgate:

Digital Equipment Corporation wishes to advise the Colgate Research & Development Corporation that the expected and predicted life of PDP-6 and related electronic equipment is in excess of 8 years provided that proper servicing of the equipment is performed and that the equipment is operated in an environment where the relative humidity does not exceed 85% for long periods of time and the average temperature ranges between 20°F and 105°.

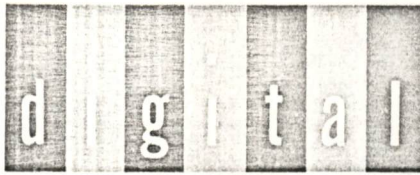
Further, we expect that routine maintenance will be performed on the electro-mechanical items and minor worn parts replaced.

I hope the above information meets with your approval.

Best personal regards,

R. L. Lane

RLL/pam



equipment corporation

MAYNARD, MASSACHUSETTS
TWinoaks 7-8822 TWX MAYN 816

June 30, 1965

Professor John McCarthy
Polya Hall
Stanford University
Stanford, California

Dear John,

Enclosed are our responses to the question which we discussed at our meeting on June 21, 1965. Should you have any further questions, please feel free to call me.

Very truly yours,

DIGITAL EQUIPMENT CORPORATION

A handwritten signature in cursive script that reads "Alan Kotok".

Alan Kotok ✓
Engineer

AK/mro

Enclosure

CC: R. Lane - DEC Maynard
K. Larsen - DEC San Francisco
G. Bell - DEC Maynard

1) CAR-CDR Chain

In PDP-6 the CAR and CDR functions are each implementable in a single instruction:

```
CAR = HLRZ AC, (AC)
CDR = HRRZ AC, (AC)
```

In addition to the above one can take the CAR or CDR of one accumulator into another accumulator with a similar instruction. This latter feature turns out to be most useful, such as in the function ASSOC:

```
(LAMBDA (X L) (COND
  ((NULL L) NIL)
  ((EQ (CAAR L) X) (CAR L))
  (T (ASSOC X (CDR L)))))
```

```
ASSOC:      MOVE C, A           ; MOVE FIRST ARG TO BETTER PLACE

ASSOCI      JUMPE B, FALSE      ; TEST FOR (NULL L), RETURN NIL
            HLRZ A, (B)         ; A ← (CAR L)
            HLRZ TT, (A)       ; TT ← (CAR A) = (CAAR L)
            CAMN TT, C         ; TEST FOR EQ
            POPJ P,            ; YES, RETURN (CAR L IN A)
            HRRZ B, (B)       ; NO, TAKE (CDR B) TO B
            JRST ASSOCI        ; GO AROUND LOOP
```

The implementation of a CAR-CDR chain instruction would seem to be of little help since:

- 1) Few long CAR-CDR chains exist at all.
- 2) Those which do can best be done to different AC's.
- 3) The instruction would be un-interruptable and could conceivably hang up the CPU for 30-40 μ sec. if memories were not available.
- 4) A one instruction CAR-CDR exists now.

2) CONS

The CONS function is accomplished using programming with the following sequence:

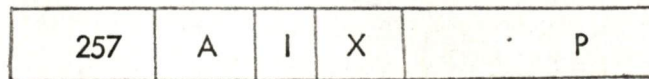
```
CONS:      AOSN  CNSCNT        ; INCREMENT AND CHECK CONS COUNT
            JRST OVFL          ; COUNT ZERO
            TRNN F, -1         ; TEST FREE STORAGE POINTER
            PUSHJ P, GC        ; IT'S NIL, GARBAGE COLLECT
            HRL B, A           ; COMBINE CAR AND CDR
            MOVE A, F          ; GET VALUE IN A
            MOVE F, (F)        ; GET NEW POINTER IN F
            MOVEM B, (A)       ; PUT WORD AWAY
            POPJ P,           ; RETURN
```

Time, including PUSHJ to call it $\cong 34 \mu\text{sec}$.

A CONS instruction is explained below. It will perform the CONS function as a single instruction, including the counting of the CONS Counter. It will take approximately $5.85 \mu\text{sec}$. Cost of this option is \$4500.

CONS INSTRUCTION:

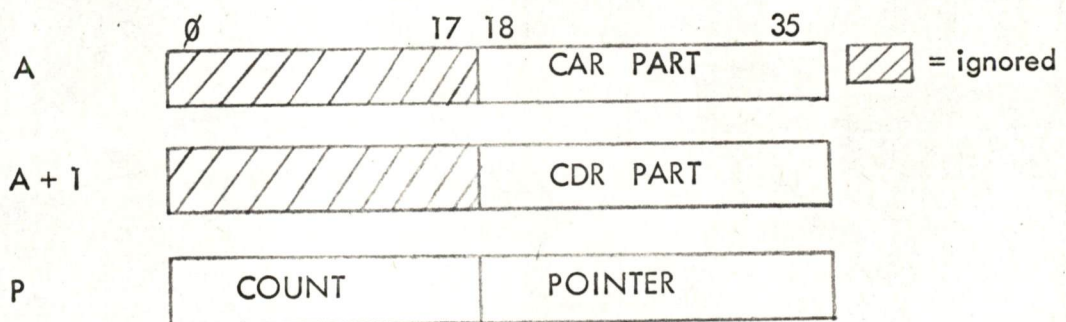
1. General Form:



Where accumulator A contains, in the right half, the datum destined for the CAR or left part;

And accumulator A + I contains, in the right half, the datum destined for the CDR or right part;

And the effective address, P (which should be an accumulator), contains in the right half, the pointer to a free storage list, and in the left half, a count.



Note: Although this instruction computes its effective address in the usual way, the updated pointer will be returned to the accumulator whose address is the low order 4 bits of the effective address. Hence, for intended operation, even though the instruction may be meaningfully indirect addressed, the effective address should be $\leq 17_8$.

2. Effect:

The CAR and CDR parts are combined into one word, CAR to the left and CDR to the right. This word is exchanged with the word pointed to by the pointer in P. This old pointer in P is the "value" and is placed in accumulator A's right half, with the left half cleared. The counter is incremented by 1. The word consisting of the incremented count (in the left half), and the right half of the word pointed to by the old pointer is stored in accumulator P. Accumulator A + I is undisturbed.

3. Exception Conditions:

- A) If the right half of accumulator P is zero, the instruction will be suppressed and a program interrupt will be requested. The program counter will not have been incremented. The "CONS TRAP FLAG" (Bit ? of the ? register) will cause the interrupt.
- B) If the count reaches zero by virtue of a CONS instruction, the "CONS TRAP FLAG" will be set, and an interrupt will occur before the next instruction. The CONS will have been executed and the program counter advanced.

3) HASH Coder

It seems that the desired effect of a hash coder is to take data which are in some way "close", and give out table addresses which are widely separated. The meaning of "close" is highly dependent of the meaning of the data.

For example symbols in an assembler symbol table are "close" if they differ in a single letter. Since such a table may be stored in 7 bit ASCII, 6 bit ASCII, or say, radix 50 compressed code, the optimum hashing algorithm would be different.

Hence, it seems impossible to develop a general purpose hash coding instruction.

4) Marker for Garbage Collector

The basic problem here is to reference a bit which is associated with a particular word in free storage. A good program for this is:

```

                                ; LOCATION IN A
                                ; GET SHIFTED BYTE PTR
MOVE   B, T
ASHC   A, -5                    ; SHIFT INTO B LOW 5 BITS
LDB    C, B                      ; GET BIT, USE B AS PTR
```

Constant in T (Loaded once for each garbage collection):

$$\langle \text{BITAB} - \text{FREE}/40 (\text{0100} + \text{A}) \rangle * 40$$

The time for this sequence is about 16.2 μsec . We propose no special instruction for this purpose since A) It is not a large part of the garbage collector time and B) it is not clear that time could be markedly reduced by hardware modifications.

5. Stack Juggling

As a standard feature, the PDP-6 includes 2 instructions for stack juggling:

```
PUSH P, E      And      POP P, E
```

PUSH takes the word at the effective address and stores it on the stack, which is pointed to by accumulator P. P is first incremented by one in each half and then the right half is used to tell where to put the data word. If the left half of P goes to zero, an interrupt is requested.

POP does the in inverse. It picks up the word pointed to in accumulator P and puts it at the effective address E. Then one is subtracted from both halves of P.

Thus any number of self-end-testing stacks may be incremented.

6) Subroutine Entry

The PDP-6 includes, as a standard feature, two instructions designed to facilitate recursive subroutines:

PUSHJ P,E and POPJ P,

PUSHJ is similar to PUSH, but places the program counter on the stack and jumps to the effective address E.

POPJ removes the last item on the stack and places it in the program counter, and suitably backs up the stack pointer.

These two instructions are commonly used with PUSH and POP to implement recursive subroutines.

Andy



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June 30, 1965

Mr. Robert L. Lane
Digital Equipment Corporation
Maynard, Massachusetts

Dear Bob:

This letter is just to put in writing my last request for modification to, or information on, the scope.

If the light pen is seen one would, of course, like to be able to determine its position on the scope screen. We have looked at the PDP-6 handbook and the manuals that were shipped with the scope and we do not see how to determine this information.

In the specifications for scope software given in the Multi-programming System Manual reference is made to a display register LPDS with the following specifications:

LPDS - LIGHT PEN DATA STATUS WORD	
BIT 0	IF 1, LIGHT PEN WAS SEEN
BITS 8-17	X POSITION OF PEN.
BITS 24-35	Y POSITION OF PEN

While I realize that these software specifications are only preliminary, I have been assuming that it was at least possible to implement them with the hardware.

I feel that the capability of determining the light pen position is essential and if this is not now possible I feel that DEC should make the required modifications to the scope without charge to us. Please excuse me for not bringing

up this point sooner. Unfortunately, we had no detailed specifications on the scope until it was actually delivered. I would like to hear from you on this before we sign the acceptance for the scope.

Thank you for your call this morning. Mr. Colgate will speak with Mr. Anderson this afternoon and, I trust, that they will make an agreement that keeps everybody happy.

Very truly yours

William B. Easton

William B. Easton

WBE:S
cc: RMC