

Stan Olsen

Proposed A Frame for Temporary PDP Housing.

This A frame house is to be made as simple and as inexpensively as possible. Because it is to be used in the month of August, the snow loading is expected to be light. The only danger would be from a hurricane and we will take this gamble. The house will be built on top of the ground surface and so the floor will be about 2 feet high.

The floor area will be 16' x 14'. Because the sides are sloping, there will be less than 14 usable feet in that dimension. Both vertical ends will be all glass.

The foundation will be 3 rows of cement blocks and 2 foot centers. The center row will be directly under the ridge pole and the two outside rows will be 5' from the center line. On each row of center blocks, a 16 foot - 4 x 6 will be laid. The floor joists will be lightly toenailed into these 4 x 6 planks.

The A shaped frames which consist of 14 foot - 2 x 6 floor joists and diagonal 18 foot - 2 x 3's with horizontal 2 x 4 members 9 feet from the floor will be prefabricated. These will be prefabricated on the site, because they are awkward to transport. These will then be laid on 16" centers on the 4 x 6 and lightly nailed into place. The roof is 4 x 16 sheets of waterproof 1/4" plywood or masonite. These are laid horizontally across the full width of the building and lapped shingle fashion to shed the water.

If 16 foot sheets of plywood or masonite are not available, we will make the roof out of 5/8" plywood and cover the roof with vertical pieces of roll roofing. We have to be very careful in tarring the roll roofing in order to keep it neat.

A partial floor will be made in the attic which results from the cross members and in this area we will place the air conditioners facing the outside. There will be full glass from the bottom of these cross members to the floor.

The floor will be 3/4" plywood, good on the top side. Because practically no one will be inside the building, there should be no reason to put any covering on the floor. If we are painting, we might give it a coat of DEC enamel. The center blocks are about 8" high, the beams are about 6" high, the floor joists are about 6" high, and so the floor will be about 20" off the ground level. If one end is completely removable it should be rather easy to move the computer into this raised floor from the truck.

The roof will overhand the floor so from the sides one cannot see the foundation or framing. The 2 x 3 rafters will overhang the floor joists by about 12" and the roof sheeting will overhang that by whatever looks good at the time. This building should be completely self-supporting without the

ends in place. Glass windows can be framed with 2 x 3's and the glass held in with molding. In severe rain, some water will leak through the windows if they are caked, but the water will just run down through the walls and won't do any harm.

We should make a sketch of this to see how the proportions look, and to see if we would like to change some of the dimensions. We might want to make it a little shorter or a little higher. Our artists should look at it to make suggestions as to what color the roof should be and what patterns the glass should be put in.

We should use fluorescent lights because they dissipate a lot less heat. The air conditioners should be installed in the attic. All the wiring should be done by Bernie Joyce and if possible, we should have the power brought to the building underground. It would be nice if this building was set aside from the other temporary tents and shacks because it should be a much more attractive building and because of the cost of the equipment inside. We should be sure that it is put in a grassed area and be sure that we do not destroy the grass while making the building. After it is over I would suggest that we leave the building there, but take the fluorescent lights and air conditioning units out. We should probably, however, try to write the air conditioning units off as advertising expense. Someone should immediately look into the heat dissipation and figure out what we need in the way of air conditioning.

Andy suggests that we consider putting a fence around it to keep people back so that it will show off better. He also suggests that we consider putting a few evergreens in. We could drop the ~~bals~~^{balled} evergreens into holes and spread peat moss right on top of the grass and make a reasonably attractive looking garden. We might also buy small amounts of bluestones or white pebbles and make a pathway up to the building.

KHO

$$\begin{array}{r} 16. \\ \hline 35 \overline{) 550} \\ \underline{35} \\ 200 \\ \underline{210} \end{array}$$

$$\begin{array}{r} 18 \\ \hline 160 \\ \underline{120} \\ 37 \end{array}$$

$$\begin{array}{r} 355 \\ \hline 1450 \\ \underline{210} \\ 505 \end{array}$$



equipment corporation

MAYNARD, MASSACHUSETTS

TWinoaks 7-8822 TWX MAYN 816

December 27, 1962

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

Dear Mr. Anderson:

Please consider this notice of a meeting of the Board of Directors of Digital Equipment Corporation, to be held at the offices of American Research and Development Corporation, 200 Berkeley Street, Boston, Massachusetts, on Tuesday, January 8, 1963, at 2:00 p.m.

I shall appreciate your indicating on the enclosed copy whether or not you plan to attend the meeting, returning the copy to me.

Very truly yours,

A handwritten signature in cursive script that reads "Dorothy E. Rowe".

Dorothy E. Rowe
Clerk

DER:ah
Enclosure



Standard Telephones and Cables Limited

REGISTERED OFFICE: CONNAUGHT HOUSE, 63 ALDWYCH, LONDON, W.C.2.

INTEGRATED ELECTRONIC SYSTEMS DIVISION

BURLEIGH HOUSE · 101-145 · GREAT CAMBRIDGE ROAD · ENFIELD · MIDDX

TELEPHONE: ENFIELD 5343

EXTENSION:

TELEX: 21409 (RELAY ENFIELD)

CABLEGRAMS: RELAY, LONDON, W.C.2

YOUR REF:

OUR REF: 87:HAS:PN

20th December, 1962

Digital Equipment Corporation,
Maynard,
Massachusetts,
U.S.A.

Attention: Mr. Harlan E. Anderson

Dear Mr. Anderson,

Thank you for your prompt reply to my letter requesting price for an ADX System. I have delayed my answer hoping that by this time I would have been able to send you an order for the equipment on which you quoted. I want very much to take advantage of your offer to eliminate \$40,055.80 from the ADX cancellation charges made to ITT, and we need the equipment as well. Unfortunately, the matter cannot be resolved until after a top level meeting at ITT in New York, now scheduled for January 7th. I shall attend this meeting, along with my Chief Engineer, Dr. G.G. Smith, and the Technical Director of STC, Mr. D.S. Ridler. We shall be meeting with ITT's Technical Director, Dr. Busignies, as well as other ITT executives. Shortly following this conference we will be able to advise you whether we will be in a position to buy the ADX System from you. I realise that your offer expires January 1st, but I hope that you will extend it until January 15th. I would appreciate your advising me by return post whether you would agree to this, as your decision will in turn necessarily affect my own plans.

I personally feel that S.T.C. is now in an even stronger position to exploit the ADX market in Europe and that the chances of our buying our first system from you are quite good. Because Dr. Smith will already be in the U.S.A. at the time the decision is made, there is a good chance that he will be able to arrange discussion

Digital Equipment Corporation

20th December, 1962

with you at that time regarding any technical details which may be in question.

I shall look forward to hearing from you soon. In the meanwhile, may I wish you and your associates at D.E.C. a very Merry Christmas.

Very truly yours,



H.A. Saye.

ONE WILLIAM STREET
NEW YORK

December 20, 1962

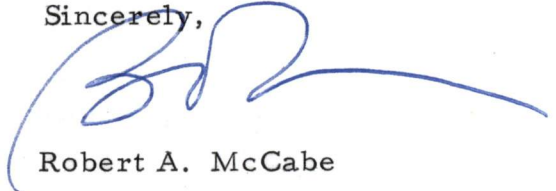
Mr. Harlan Anderson
Digital Equipment Corporation
12 Maynard Mill
Maynard, Massachusetts

Dear Andy:

My best wishes to you and your
associates at Digital for a very Merry Christmas
and a happy and successful New Year.

I will look forward to seeing you
during 1963.

Sincerely,

A handwritten signature in blue ink, appearing to read 'R. McCabe', with a long horizontal flourish extending to the right.

Robert A. McCabe

BLAIR AND BUCKLES

PATENT AND TRADEMARK COUNSEL

1572 MASSACHUSETTS AVENUE

CAMBRIDGE 38, MASS.

KIRKLAND 7-7761

STAMFORD OFFICE
500 SUMMER STREET
STAMFORD, CONNECTICUT
DAVIS 4-6155

LONDON OFFICE
16 KENSINGTON SQUARE
LONDON, W. 8, ENGLAND
WESTERN 0294

JOHN C. BLAIR
ROBERT A. BUCKLES
ROBERT H. WARE
ROBERT A. CESARI
F. EUGENE DAVIS IV
RONALD J. ST. ONGE
STEFAN M. STEIN
KELLY O. CORLEY
W. HUGO LIEPMANN

December 10, 1962

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

Re: Application for LINE PRINTER BUFFER,
Serial No. 199,837, Filed June 4,
1962, Our File 83-005

Dear Ken:

The above-identified application has now been on file in the Patent Office for more than six months, and accordingly foreign applications corresponding to it may now be filed. Under the terms of the International Convention, applications filed in foreign countries within one year of the United States filing date are entitled to the benefit of this date.

Should you desire to file applications on this invention in foreign countries, taking advantage of the provisions of the International Convention, please let us know well in advance of the one year date so that we may make necessary arrangements.

Sincerely,



Robert A. Cesari

D/mmd

Ken:

Have we filed for any other international patents?

Andy

Andy
No.

Ken

TECHNOLOGY SQUARE



Cambridge 39, Massachusetts

November 30, 1962

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

Dear Mr. Anderson:

The first building in Technology Square, the office and research center adjacent to the campus of the Massachusetts Institute of Technology, is scheduled for occupancy in March of 1963. This building is completely leased to three national firms.

However, one of the companies is not going to require all of its space for some time to come. We are, therefore, able to offer you office and laboratory space in units as small as 2,000 square feet up to a full floor of 15,500 square feet on a short term lease.

Up until now, space has been available in Technology Square only on a complete floor basis for a ten-year lease. The smaller units represent a unique opportunity to participate in the newest creative research center in the country. Space in 545 Technology Square is finished with resilient tile flooring, fluorescent lighting, sound-resistant partitions and air-conditioning. Landscaped parking is provided at reasonable rates. This nine-story building overlooks a tree-lined central plaza and affords a commanding view of the Charles River and Boston skyline. We will be happy to show you this space at your convenience.

Should you require almost immediate occupancy in Technology Square for a liaison group or new research operation whose future plans require utmost flexibility, then please let us hear from you.

Sincerely,

Franklin King Jr.

Franklin King, Jr.

FK/ojs

call for specs. 11/26/62
3:05 PM

will be mailed
M-18 ?

SMALL BUSINESS ADMINISTRATION
470 Atlantic Avenue
Boston 10, Massachusetts

Liberty 2-3975

November 23, 1962

NOTICE OF GOVERNMENT REQUIREMENT
FOR QUALIFIED SMALL BUSINESS FIRMS

Gentlemen:

We have received a request to locate manufacturing sources capable of manufacturing Digital Computer - Gun Direction with deliveries of four per month, beginning December 1963 and escalated monthly to twenty units per month with completion by October 1964. The total quantity is 170 units for delivery to Chambersburg, Pennsylvania.

The applicable specifications are Mil-I-45208 and EQM Dwg. A-105525735 revised September 28, 1962.

Will you please advise us by letter or phone prior to noon, November 28 if this requirement appears to be within your capability.

Your letter or call should be directed to Mr. A. R. Doyle at the above address or phone number.

Very truly yours,

Lawrence W. Grady

Lawrence W. Grady
Chief, Procurement and
Contract Services Section

LWGags

Copy of wire received November 21, 1962

A. E. Anderson

From: J. G. Hart
Purchasing Mgr.

In view of our equipment problem, it is our intention to institute and proceed with 100% quality inspection of all Digital Equipment Corporation equipment in our possession. We expect this to be within the scope and intent of your warranty to ISD. Consequently, this will be at your expense. We invite you to whole heartedly participate in this investigation and corrective action.

END

LYBRAND, ROSS BROS. & MONTGOMERY

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

80 FEDERAL STREET
BOSTON 10

November 21, 1962

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

Dear Mr. Mills:

Recently you discussed with Mr. Finnegan of this office three situations involving contribution deductions. These situations were as follows:

Use of Property

It is proposed that a hospital be allowed the rent-free use of a computer for one year. At the end of that year the hospital may decide to rent the computer, purchase it or return it. The question was whether the use of the computer for the year was a charitable deduction and, if so, how it was to be computed. The Commission has ruled that the rental value of property which a taxpayer allows a charitable organization to use rent-free is not deductible as a charitable contribution. The reference for this holding is I.T. 3918, CB 1948-2, 33. The Commissioner's reasoning is that the grant of use is not a payment within the meaning of Code Section 170(A)(1) but is merely the granting of a privilege for which no charge is made.

The Tax Court in the Sullivan Case (16 Tax Court 228, 1951) held that there was a present charitable gift of the use of value of property, if such property was formally granted for a fixed term or if it was conveyed on condition that it revert to the taxpayer on the occurrence of a certain event. The court specifically held that the gift was not to be measured by the rental value of the property. The property involved in this case was real estate which was deeded to the Red Cross for the duration of World War II. In this case, there was an actual deeding of property as distinguished from your situation wherein only the use of the property would be allowed for the period. The court did not give a concrete method for valuing the gift, it merely allowed the taxpayer, an individual, a deduction which brought her up to the 20 per cent limitation allowable in the year under review.

On the basis of I.T. 3918, it is our opinion that the Internal Revenue Service would challenge any contribution deduction measured by the rental value of the computer for the period the hospital is allowed to use it. We discussed with you the possibility of handling this as a bargain sale. If you desire to go into this in more detail, we shall be happy to review it with you.

Gift of Modules to Cornell

The company plans to give Cornell University an amount of modules. The exclusive use and disposition of these modules will be in the hands of the donee university. We understand that there is an arrangement whereby Cornell will give first information to Digital, the donor, if there are any results from experiments which the University may or may not carry on with these modules. We discussed with you briefly the possible use of a research and experimental deduction under Section 174 of the Code for the cost of these modules, but agreed that such a contention would be weak since experimentation is not required. Although there is a "small string" attached to the transfer, we do believe it is not such as would void the existence of a contribution inasmuch as there is an intent to make a gift to the University for its exclusive use and inasmuch as disclosure of results to Digital is not a condition of the gift. We feel it is proper to show the amount (fair market value) of these modules as a contribution. As with other gifts of inventory items, adjustments must be made for the costs which are otherwise included in the cost of goods sold.

Educational Discounts

We discussed with you in detail your procedure of allowing to educational institutions a certain discount on the purchase of your inventory items. The question was whether this discount could be considered a charitable contribution. If the transaction is so worded that donative intent can be established a contribution deduction in this amount could be taken. To the extent the company could deduct as a charitable contribution the amount of discount there would be a smaller net income subject to tax than if this same amount were taken as a trade discount. However, we recognized the company's practice of making large charitable contributions each year which exceed the 5 per cent limitation. Therefore, if this amount cannot be taken as a contribution deduction in the year of gift or the two succeeding years, larger net income is subject to tax than would be the case if the amount were taken as a discount. This results from the fact that when a contribution is made a proportional amount of the cost applicable to the contribution would have to be relieved from the cost of goods sold, thereby engendering a larger net profit on the sale proceeds.

Mr. Richard F. Mills

- 3 -

November 21, 1962

It was our feeling also that if it is decided initially that these discounts should be handled as trade discounts, the company should treat all such transactions in like manner. This does not mean that in a subsequent year it might not be argued that the discount for a particular transaction was actually a charitable contribution. However, it would be necessary to show by factual evidence that the contribution transaction was different from the previous discount transactions.

If you have any questions in this regard, please do not hesitate to contact us.

Very truly yours,

Sybrand, Ross Bros. + Montgomery

JPF:ECB



equipment corporation

MAYNARD, MASSACHUSETTS

TWinoaks 7-8822 TWX MAYN 816

November 20, 1962

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

Dear Mr. Anderson:

Please consider this notice of a meeting of the Board of Directors of Digital Equipment Corporation, to be held at the office of the Corporation, 146 Main Street, Maynard, Massachusetts, on Tuesday, December 11, at 2:30 p.m.

I shall appreciate your indicating on the enclosed copy whether or not you plan to attend the meeting, returning the copy to me.

Very truly yours,

A handwritten signature in blue ink that reads "Dorothy E. Rowe" with a small "ah" written below the name.

Dorothy E. Rowe
Clerk

DER:ah
Enclosure

November 15, 1962

Mr. Lincoln Barber, Loan Officer
National Shawmut Bank
60 Water Street
Boston, Massachusetts

Dear Linc:

We find ourselves in the happy position of having received some payments from customers earlier than we had anticipated in our Cash Forecast. Accordingly, we would like to prepay our \$200,000 note due December 11th, 1962.

This concludes the company's short term borrowings with your fine organization and we would like again to thank you for the many considerations shown us.

We understand this letter is acceptable as our instrument authorizing you to transfer the funds from our general account.

Sincerely,

George T. O'Dea
Treasurer

GTO'D:ncs

bcc: H. Anderson
D. Mills

Andy,
For your file
Leib

55 Tremont Street
Boston, Mass.

A:F:Rxs-DPM

November 9, 1962

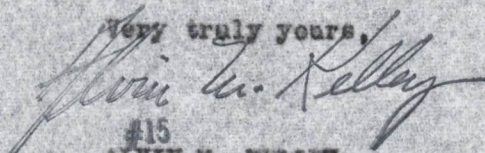
Digital Equipment Corporation
Mr. Richard Melzer
Waynard, Massachusetts

Dear Sir:

This will refer to your telephone call to this office on November 8, 1962, concerning the status of the ruling requested by Mr. Harlan E. Anderson of the corporation with regard to liability for tax on sales of your Model PDP-1, Programmed Data Processor under Section 4191 of the Internal Revenue Code.

A follow-up memorandum has been addressed to the National Office of the Internal Revenue Service requesting advice as to when we may expect a ruling. Upon receipt of information concerning it, you will be promptly advised.

Very truly yours,



#15
ALVIN M. KELLEY
District Director

NOV 8 REC'D

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

LABORATORY FOR NUCLEAR SCIENCE

CAMBRIDGE 39, MASSACHUSETTS

26-419

November 6, 1962

Mr. B. Gurley
Digital Equipment Corp.
146 Main Street
Maynard, Massachusetts


Dear Mr. Gurley:

The PDP-1 computer which we purchased from DEC has now been in operation for about one month at MIT. I have been constantly amazed and delighted by its completely trouble free functioning. This is not the first time that I have purchased complex electronic equipment and I know that even the best has usually growing pains during the first few weeks of operation. The PDP-1 started operating less than 12 hours after being uncrated at MIT. During the first 48 hours we did indeed find 2 or 3 defective transistors. These flaws were repaired by your staff within hours even though it was a weekend. Since then the only minor interruptions have been due to errors on our part in operating the machine.

We have used the computer very intensely in developing a novel system of data evaluation for high energy nuclear physics and I believe that we have logged about 15 operating hours per day. We have not had the opportunity to utilize some of the operational peripheral equipment very extensively. I can, therefore, not speak for its reliability. This applies especially to the magnetic tape unit. On the other hand, the type 30 display oscilloscope is the very heart of our system and I have found it far superior to your advertising claim. I understand that you intend to raise these claims very justifiably. We have found the display stability to be of the order of one part in 4,000. This is, of course, almost an order of magnitude better than your formal claim. I believe that for the specialized type of application for which we have acquired the PDP-1 it is an almost ideal device and on the basis of the first months use I cannot imagine a more reliable instrument. In addition the extremely helpful attitude of your maintenance and repair personnel in the few cases in which we had to ask for their advice or help has immensely aided in the very rapid progress which we have made on our project. A number of visitors who have seen the results of our work have found it almost unbelievable that we have been able to make such progress in so short a time. I believe that the explanation lies very largely in the great flexibility and reliability of the PDP-1.

I am not in the habit of writing testimonial letters but I believe that so outstanding a performance on your part should not go without written comment.

With best regards,


Martin Deutsch

MD:kw

5 November 1962

Dr. Willis H. Ware
The RAND Corporation
1700 Main Street
Santa Monica, California

Dear Willis:

I have a slightly sad story. You may recall that on 6 August 1962, you wrote to me and forwarded a request from Mr. Henry Vendig of the International Patent Operations of IBM asking for the copyright date of the Proceedings of the 1959 Eastern Joint Computer Conference. Every since that time, believe it or not, I have been trying to ascertain this information from the people directly responsible for the publication of the Proceedings. I finally received an answer of sorts; the Proceedings were never copyrighted despite the indication to the contrary on the inside front cover.

It now occurs to me that Mr. Vendig may have already known this when he asked this question. However, I see little choice but to own up and indicate to him that it was never copyrighted (which I have now done).

Since I am not quite sure why we copyright them in the first place, I am not sure if it is worth doing, or possible, at this late date. Any opinion?

Regards,

Frank E. Heart

FEH:pm
Cc: H. Anderson ✓

EAI

ELECTRONIC ASSOCIATES, INC. *Princeton Computation Center*

P. O. BOX 582, PRINCETON, NEW JERSEY — TELEPHONE WALNUT 4-2900

October 26, 1962

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

Dear Harlan:

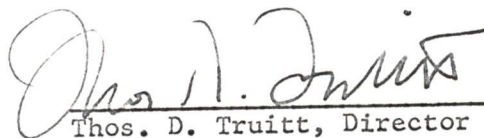
Your PDP-1 Computer was installed last weekend and is operating very satisfactory. I want to thank you for the very fine service you have provided with the computer. In particular Mr. John Koudela is to be commended for his excellent three day training program. His material was very well presented and his kind assistance was much appreciated by all who attended. Your field serviceman, Dave Bjorkgan, also was very cooperative and helpful.

Interest and enthusiasm for the use of your computer is running high among our engineers. I have every confidence that our program for a hybrid demonstration will be a success. I will keep you informed of our progress and will let you know the date for the demonstration as soon as it is established.

Thank you again for your interest and generous cooperation.

Very truly yours,

ELECTRONIC ASSOCIATES, INC.



Thos. D. Truitt, Director
Advanced Study Group
Research & Computation Div.

TDT:alp

7-16

BLAIR AND BUCKLES

PATENT AND TRADEMARK COUNSEL

1572 MASSACHUSETTS AVENUE

CAMBRIDGE 38, MASS.

KIRKLAND 7-7761

JOHN C. BLAIR
ROBERT A. BUCKLES
ROBERT H. WARE
ROBERT A. CESARI
F. EUGENE DAVIS IV
RONALD J. ST. ONGE
STEFAN M. STEIN
KELLY O. CORLEY
W. HUGO LIEPMANN

STAMFORD OFFICE
500 SUMMER STREET
STAMFORD, CONNECTICUT
DAVIS 4-6155

LONDON OFFICE
16 KENSINGTON SQUARE
LONDON, W. 8, ENGLAND
WESTERN 0294

October 26, 1962

Mr. Harlan Anderson
Digital Equipment Corporation
Maynard, Massachusetts

Dear Harlan:

In advance of our formal announcement, I take pleasure in informing you that we are substantially expanding our Boston operation. As of November 1, the Boston firm of Emery Booth Miller & Townsend will merge into Blair and Buckles. This will result in the addition of several highly capable lawyers to our staff and enable us to increase our service to clients of this office. At the same time, it will in no way diminish the personal attention I have been privileged to give your affairs and those of other clients I have been working with.

The merger will necessitate our moving into Boston, and beginning on November 5, 1962, our offices will be at 79 Milk Street, Boston 9, Massachusetts. The telephone number will be HU 2-5161.

Sincerely,



Robert A. Cesari

D/mmd

NATIONAL INSTITUTE FOR RESEARCH IN NUCLEAR SCIENCE,

RUTHERFORD HIGH ENERGY LABORATORY,
HARWELL,
DIDCOT, BERKS.

25th October 1962.

Mr Harlan E. Anderson
Digital Equipment Corp.
Maynard, Massachusetts
U.S.A.

Dear Mr Anderson,

Thank you very much indeed for your letter of the 8th October and the data sheet on your Type 30 display unit. As I explained when we met last, my interest in this sort of unit is to provide for our Orion computer a visual C.R.T. display and an output display that can be photographically recorded. The photographic record is not intended to have any high precision. Bearing this in mind I feel that a unit with a single medium size display is rather inconvenient. Ideally I would prefer two C.R.T.'s; one roughly as described in the type 30 data sheet (perhaps a little larger) to act as a visual monitor; a second one, about 5" diameter and spot size about .01" diameter, with a camera attached. Otherwise the specifications should be as for the Type 30.

Would it be possible to modify your Type 30 Unit to give the sort of system that I have outlined? If so could you give me an estimate of its cost. In any case could you give me a quotation for the price of a standard type 30.

Yours sincerely,

David H. Lord
David H. Lord

Quote sent Nov 8th

Feli

*Chicago Office
39 South La Salle Street*

Lehman Brothers

*One William Street
New York 4*

Struthmore
BAY PATH BOND
50% COTTON FIBER USA

October 17, 1962

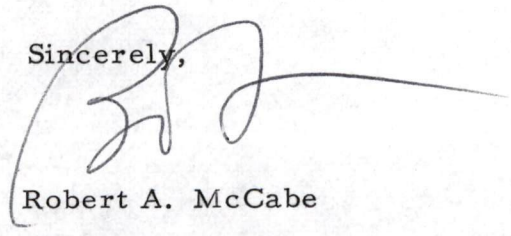
Mr. Harlan Anderson
Digital Equipment Corporation
12 Maynard Mill
Maynard, Massachusetts

Dear Andy:

Dennis, Peter and I enjoyed visiting with you at the show. I hope we will have the chance for a longer and more leisurely visit soon. I am sending along the Control Data prospectus which we discussed.

With warmest regards.

Sincerely,



Robert A. McCabe

RAM:mm

EAI

ELECTRONIC ASSOCIATES, INC. Princeton Computation Center
P. O. BOX 582, PRINCETON, NEW JERSEY — TELEPHONE WALNUT 4-2900

*To Nick [unclear]
Return to H.E.G.
File*

October 18, 1962

Mr. Kenneth Olson, President
Digital Equipment Corporation
Maynard, Massachusetts

Dear Mr. Olson:

I was distressed to hear yesterday of the fears and concern expressed within your company relating to the loan of the PDP-1 to Electronic Associates, Inc., and to our intended use of the computer. I can understand your anxiety as well as your desire to clarify the situation before proceeding with the program.

Although I do not have an accurate picture or understanding of the rumors or accusations levelled at us, I hope I can clarify our intentions in this letter. I believe that it is fair to say that both parties understood (a) that EAI would consider the PDP-1 and the DDP-19 computers for its proposal to Aero-Jet General this month, and that the 3C's computer appeared to be the most likely choice because of price, (b) that EAI intends to install at its Princeton Computation Center in 1963 a computer other than the PDP-1, in part because of the availability of rental agreements, and (c) that EAI, in its effort to expand the hybrid computer market, may offer to this market a small serial digital computer, manufactured by EAI as a part of the HYDAC system, which would be in no way competitive with the PDP-1.

At one time we thought we might have absorbed the price difference between the DDP-19 and PDP-1 because of our familiarity with the latter and several of its advantages; however, it is now certain that we shall propose the DDP-19 in our bid to Aero-Jet General. Let me say positively that EAI will not propose a machine of its own design or manufacture. We are not now, and will not for some time, be able to take such action. Hence I feel we will not jeopardize in any way the benefits to DEC of participating in the planned program for a hybrid demonstration this winter.

Our plans for employing the PDP-1 with a HYDAC and analog system include the following: first and foremost, Mr. H. Witsenhausen, senior mathematician, with messrs. J. Paul Lendauer and Peter Halbert, applications engineers, will plan, formulate, program, and perform a hybrid computer

[Handwritten signature]

Kenneth Olson

-2- October 18, 1962

simulation of a realistic aero-space trajectory problem. If time permits, the same thing will be attempted for an appropriate partial differential equation program. Written material, lectures and a demonstration will be prepared for the giving of an all-day seminar in January. More than one seminar may be given if appropriate. Attendance probably will be by invitation, to your customers as well as ours. We feel confident of being able to attract at least 40 to 50 people from our own contacts.

A secondary objective, which I hope we can fulfill, is to study more closely the interface problems between the HYDAC-analog computer combination and the PDP-1, in order to equip ourselves better to bid on future hybrid systems. Although standard techniques for linkage have been employed for several years, I feel that the flexibility of the HYDAC digital console permits implementation of new and far better methods of control and communication. These things I wish to study at first hand. This work will necessarily, if indirectly, benefit your company as well as mine.

To the extent that personnel are available it is my hope to familiarize our applications engineers with the programming of the PDP-1. With the initial help of Mr. John Koudela, we will continue a small training effort while the computer is at Princeton.

It is my sincere wish to continue a friendly and close working relationship with you and your people. I regret not having taken steps to avoid the present misunderstanding. I hope the above information will be reassuring and that we may continue with the hybrid seminar program as originally planned.

For any further clarification or answers to any questions, please feel free to call on me, or Mr. Fred Martinson, President (acting), at our Long Branch plant.

Very truly yours,
ELECTRONIC ASSOCIATES, INC.

Thos. D. Truitt, Director
Advanced Study Group
Research & Computation Division

IDT:alp
Enclosure

cc: Mr. F. Martinson

andy

October 12, 1962

Mr. Richard W. Nielson
141 East 44th Street
New York 17, New York

Re: DECUS Annual Meeting
October 10, 11, 1962

Dear Mr. Nielson:

Thank you for your encouraging remarks in our telephone conversation on Monday, September 9th. The DECUS - (Digital Equipment Computer Users Society) Second Annual Meeting described in the October DECUSCOPE was exceptionally well attended. Delegates came from West Coast organizations and Texas, as well as the East Coast. Proceedings of the meeting will be compiled in the near future.

The Air Force Cambridge Research Laboratories at Hanscom Field, Bedford, Massachusetts was host to the DECUS delegates. Charlton M. Walter, CRRB, AFCRL, DECUS first President, presided over the meeting. He welcomed the new officers and turned the meeting over to newly elected president Mr. Edward Fredkin of Information International, Inc., Maynard, Massachusetts on October 11th, when a lively panel discussion brought keen user participation on the merits of various programming systems. The two-day meeting dealt with polymorphic systems, experimental color and flicker-free displays and man-machine graphic communications. Of special interest to users was the novel use of Digital's PDP as a peripheral computer for Lawrence Radiation Laboratory's Stretch, Lark and 7090 computers. There was a free interchange of information among members which resulted in a stimulating atmosphere of challenge and accomplishment.

I am happy that our symposium came very close to measuring up to the remarks made about the Symposium on Symbolic Languages reported by DATAMATION'S editorial adviser, Dan McCracken in May. The DECUS attendees were there to "give papers, participate intelligently in discussions and learn". The AFCRL provided a comfortable, well-equipped conference room from which no one wandered, and the program as outlined was thoroughly discussed.

COPY

Mr. Richard Nielson

- 2 -

October 12, 1962

The meeting convened at 5:30 P.M. on October 11 after the panel discussion with interested groups still willing to pursue various problems.

I am grateful for Mr. McCracken's article on the International Computation Center's Symposium and for whatever newsworthiness you feel DECUS deserves at this time. Please list DECUS among your data processing organizations to watch.

Sincerely,

DIGITAL EQUIPMENT CORPORATION

ELSA NEWMAN, Editor
DECUSCOPE

EN/gh

C
O
P
Y

charles w. **adams associates** inc.

142 THE GREAT ROAD • BEDFORD • MASSACHUSETTS • CRestview 4-8050

October 9, 1962

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

Dear Harlan

It gives me much pleasure to enclose two versions of the September issue of our Computer Characteristics Quarterly: the familiar pocket-sized booklet and the new 8½" x 11" folder (which replaces the detached sheets we previously issued). With these I send my own sincere thanks and that of Adams Associates for your generous cooperation and support. It is only through such contributions as yours that we are able to publish the Quarterly.

As you will read in the "Notes from the Publisher," we are planning to expand the Quarterly, starting with the December 1962 issue, to include process-control, unclassified military, and foreign computer systems. This is quite a major undertaking, as you can appreciate, and I will have to count even more on you for information on computers in the first two categories produced by your company.

Would you kindly furnish me, as soon as possible, with systems manuals or other literature on your process-control and military computers so that I can obtain from them the data we need for the Quarterly. It would also help to have the names of others in your company whom I should contact in regard to these computers if they do not fall within your sphere of responsibility.

Because of the holidays, we plan to mail the December issue to our subscribers on or about January 10, 1963; hence the closing date for changes in or additions to the Quarterly will be November 28. While this applies principally to the information on commercially-available computers, I would, as I said, like to have material on process-control and military systems as soon as you can assemble it.

adams associates

2.

I would welcome your comments, whether good or bad, on any aspect of the Quarterly as well as any suggestions you might care to make for its improvement in future. These comments, of course, may apply to format, content, additional information, etc. I would also appreciate your reaction to our plans for expanding the Quarterly.

Meanwhile, thanks again for your assistance in both the past and the future. I shall look forward to hearing from you.

Sincerely

Allen

Allen F. Rousseau, Editor
Computer Characteristics Quarterly

AFR/hcs
enclosures

Computer Operations, Inc.

File

600 OLD COUNTRY ROAD
GARDEN CITY, NEW YORK
PIONEER 1-5180

October 9, 1962

Mr. Harland E. Anderson
Digital Equipment Company
Maynard, Mass.

Dear Mr. Anderson:

In our conversation last week, I mentioned Computer Operations, Inc.'s interest in being considered for software programming requirements and you asked that I write you further in this connection.

I don't think I mentioned this in our conversation, but I would like to note that COI will either take responsibility for developing a program package and delivering it in a ready-to-run status, or will supply people to work on your premises as a part of your project team, where this mode of operation is preferable.

Computer Operations has accomplished assignments in:

Logical Design
Mathematical Analysis
Computer Programming
Data Reduction
Computer Systems Analysis, Design and Evaluation

We have a hard core of highly skilled people with experience on a variety of machines. Our staff includes:

Dr. Leon Nemerever, President. PhD, Institute of Mathematical Sciences, N.Y.U. With degrees in both mathematics and engineering, Dr. Nemerever's background includes logical design, data processing systems design, mathematical analysis, design of large data-handling systems, programming. He has ten years' computing experience, on Univac I, SEAC, Elecom, MH 800, 650, 7090, Telefile, E101.

J. Roy Morris, BS, Physics, Adelphi, pending. His 5 years of programming experience include simulation of an inertial guidance computer, an assembly and flight program for an airborne computer, diagnostics for a special-purpose computer, utility programs. He has worked on IBM 650, 704, 7090, MH 800, Telefile and a number of special-purpose computers (Atlas, AN/USD-5 Drone). Currently project director on a large information-handling program.

Dale G. Ries, BS, Business Administration, Regis College. Experienced on IBM 650, 1401, 705, 7070. Assignments include inventory control, accounts receivable, file maintenance, procurement scheduling and control. Now directing large statistical reporting project.

Richard F. Gallagher, BS, Physics, Hofstra, pending. Five years experience on IBM 704, 1401, 1410 includes calculation and preparation of brokerage customer statements, a variety of data processing programs (in Autocoder and IOCS), executive routine for real-time information handling, engineering data reduction.

Jerome Davis, AB, Syracuse. Graduate Work, Univ. of Southern California. The bulk of his three years' experience is in on-line real-time processing of logistics data (Project 465-L, on IBM 7090, Telefile, and special-purpose computers).

Myra C. Weisgold, BA, Mathematics, Univ. of Penn. Her experience includes program design for real-time message transmission. Presently assigned to a real-time business information processing project. She has three years' experience on IBM 7090, RCA 601 and Telefile.

Rachael Mishory, BS, Mathematics, MS, Numerical Analysis, Israel Institute of Technology. Mrs. Mishory has three years' experience as a numerical analyst and programmer on WEIZAC, IBM 7090, Philco S-2000, Telefile.

We have worked for:

IBM
Socony
Teleregister
Sperry
Airborne Instruments Laboratories
Lockheed Electronics

McGraw-Hill
Management Surveys Inc.
Mergenthaler Linotype
Audit Bur. of Circulations
Burnell and Company
Liquidometer Corp.

Our experience includes:

Development of the complete program package for an on-line, real-time business information-handling system.

Design and production of statistical report-preparation program systems.

Preparation of manuals setting forth standardized documentation techniques for use by a computer manufacturer's sales and sales support personnel.

Logical design and programming of a special-purpose computer.

Logical design of digital control systems for automated machinery.

Our rates are:

Senior Analyst	\$25.00/hr
Analyst	15.00/hr
Senior Programmer	12.50/hr
Programmer	10.00/hr

We are willing to work on any basis appropriate to the job which serves the client's convenience. This includes specifically the willingness to submit fixed-price quotations on defined tasks. On occasion, we have taken on major and incompletely-defined projects in two phases: the first phase on a time-and-materials basis, to arrive at a concise problem definition and set system specifications, followed by a second phase on a fixed-price basis for the now-unambiguous job.

Dr. Nemerever places particular emphasis on, and his people are highly skilled in, documentation. It is my personal observation that documentation can often be the crux of customer satisfaction -- and program usefulness -- in contract programming. We recognize that the tool is of little value unless we can communicate to the prospective user -- in a straightforward manner -- what it is, what it does, and how he can use it.

If at any time your staff becomes overloaded and you again decide to contract for some of your software, I would appreciate an opportunity to submit our proposal for your consideration.

Sincerely,

A. F. Phinney

Arthur F. Phinney

WC

HARRIS, UPHAM & CO

RESIDENT PARTNERS
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LEO F. DALEY

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September
28th
1962

RECEIVED
OCT 1 1962

Mr. William Congleton
American Research & Development Corp.
200 Berkeley St.
Boston, Mass.

Dear Mr. Congleton:

At Bill Elfers' suggestion, I am enclosing some material on the computer company located in Minneapolis, Minnesota which, in checking around, appears to have some very good prospects.

This company was formed in March of 1961 by a group of Minneapolis business people associated with Francis Alterman formerly manager of the Digital Computer Laboratory of General Mills. The founders purchased 112,000 shares of stock at \$1.00. Subsequently an additional 875,000 shares were sold to the public at \$1.15. The range since the August 1961 offering has been 1 - 8 1/4 with the current price around 2 - 1/4.

The company's first computer was sold last November to NASA with delivery being accomplished in March 1962 in record time. Subsequently they have sold computers to the Argonne National Laboratory, Chance Vaught, Dow Chemical and just recently to U. S. Army Ordnance for use in the evaluation of test data in the Aberdeen Proving Ground.

The company presently is interested in \$1 million of additional financing and because of market conditions feels quite rightly, I think, that this is no time for a new stock offering. Accordingly, I am submitting the enclosed material to you for your consideration.

Very truly yours,

J. M. Hurley
J. M. Hurley

JMH:EMB
Enclosure

C O P Y

FOR IMMEDIATE RELEASE

NEWS FROM ADVANCED SCIENTIFIC INSTRUMENTS, INC.
5249 Hanson Court
Crystal, Minn.
Contact: Chuck Ewert, KE 3-2501

ASI 210 FACT SHEET

1. The ASI 210 is a high speed, desk-type, solid-state, electronic digital computer which is ideally suited to applications in science and engineering as well as applications in business data analysis, process control such as oil refinery operations and real time systems control such as missile and satellite guidance.
2. The ASI 210 is part of a family of three computers which have the ability, through built-in buffering and through unique programming features, to communicate with one another. It can solve a series of problems at high speeds while at the same time it is rapidly transferring the solutions to previous problems to other computers or peripheral devices.
3. It executes an addition in six microseconds (six millionths of a second) and it performs a multiplication operation in 50 microseconds. Other arithmetic and logical operations are correspondingly fast.
4. The ASI 210 computer weighs 975 pounds; its overall height is 43 inches; its width is 83.5 inches and its depth is 36.5 inches. It requires 1,750 watts of power from a wall socket providing 110 volts.
5. Because of great design efficiency and the high reliability of its electronic components, the ASI 210 computer does not require expensive air conditioning. It is designed to operate in surrounding atmospheric conditions with relative humidity as high as 99 per cent and temperature extremes of plus 32 Fahrenheit to 125 degrees F.

ADVANCED SCIENTIFIC INSTRUMENTS

BABY OF THE INDUSTRY

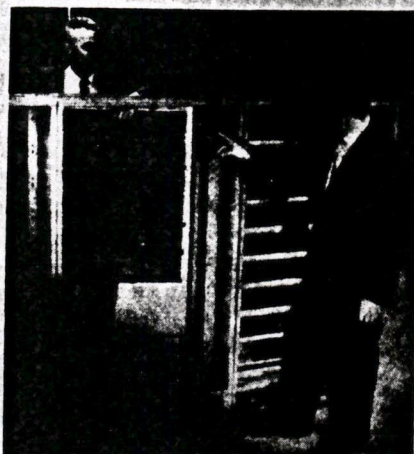
The "baby" of the computer industry in the Upper Midwest is Advanced Scientific Instruments, Inc., a company incorporated on March 23 of this year and organized just a few days prior to that date. It is the brainchild of Francis J. Alterman, its president, and Ralph E. Mueller, executive vice president; and it has been nursed on funds from both public and private sources.

Now, after roughly seven months of operation, the company is less than one month away from completion of its first computer, a record that is probably unequaled in the industry. It has approximately 40 employees, 28 of them engineers and programmers.

The pace has been rapid from the very start. Alterman and Mueller met while both were employed by the Mechanical Division of General Mills, Inc., Alterman as manager of the Digital Computer Laboratory and Mueller as a marketing and sales executive. They quickly became friends; and "sometime around late February or early March," they decided to go into business together.

Their original plan was to enter the instrumentation field, building such devices as digital-to-analog converters; but, as Mueller explains, "Now days to make it in this business you have to have a good product line. We decided the best line we could have would be computers."

The computer field was not a new one to Alterman. He had



Thomas Steele (left), manager of engineering development, and Francis J. Alterman, ASI president, check over part of the involved circuitry in the firm's first computer, now under construction.



Jules Ebin, Alterman and Morris B. Ebin (left to right) examine connectors in a partially-completed ASI computer. The connectors are made by National Connector Corp., Minneapolis.

been, among other things, technical assistant to the president of Electronic Computer Corp., project manager for the Elecom 100 digital computer, chief engineer at the Institute of Mathematical Sciences at New York University and head of the Research Section of W. L. Maxon Corp., where he supervised electronic development work in the field of electronic counter - measures instruments, radar and digital and analog computers.

Mueller had several years of experience in administration, marketing and manufacturing in scientific and aircraft industries, including five years as assistant director of the Aircraft and Ordnance Division of National Presto Industries, Inc., Eau Claire, Wis. His experience includes contract negotiation with the Department of Defense and other defense organizations.

With this background, then, the pair decided to strike out on their own. And like all would-be entrepreneurs, they were immediately faced with the problem of raising the capital to carry out their plans.

"It wasn't too difficult," Mueller says. "We found quite a few people who were willing to back us, so it was just a matter of picking the best group."

On March 20, 1961, Alterman and Mueller entered into a pre-incorporation agreement with Jules Ebin, Morris B. Ebin, Samuel A. Feldman, Samuel H. Maslan, A. M. Fiterman and Mandell Morgan. The agreement provided

for the organization of the company and the purchase of 112,000 shares of an authorized 5 million shares by members of the group at a price of \$1 per share.

The eight participants entered into a voting trust agreement whereby all shares of the company acquired or to be acquired by any of them are held by Jules and Morris Ebin and Feldman as voting trustees. The term of the voting trust is five years, with provision for termination at any time up to five years by a vote of the majority of the holders of voting trust certificates, with each holder entitled to the same number of votes as shares held in trust for him.

Also pursuant to the pre-incorporation agreement, each of the eight men was granted a 5-year option to purchase from the company a number of shares equal to the number he originally purchased at prices ranging from \$1.15 per share during the first year to \$1.75 per share during the fifth year. The number of shares under option is as follows: Jules Ebin, 27,500; Morris B. Ebin, 30,000; Feldman, 27,500; Mueller, 7,000; Alterman, 5,000; Maslan, 5,000; Fiterman, 5,000; Morgan, 5,000. (On July 31, the two Ebins, Feldman and Maslan exercised part of their options to a total of 20,000 shares.) There are, in addition, 30,000 shares on option to employees of the company at \$1 per share.

The major factors in the group backing Alterman and Mueller are, then, obviously Feldman and the brothers Ebin. (Jules Ebin was named chairman of the board and Morris Ebin is vice chairman and treasurer.) All three are well known in Upper Midwest business circles. The two Ebins are partners in G. M. Investment Co. and J & M Investment Co., and top officers in North States Enterprises, Inc., Towne Theatre Corp. and several other firms. Feldman is president of Britton Motor Service, Inc., Crane Service Corp. and Intercity Transport Corp., all Twin City firms.

With some cash to back them up, Alterman and Mueller now went "hunting for real estate." In April they found what they were looking for in the form of an almost-new, 7,000 square foot building at 5249 Hanson Court in the Minneapolis suburb of Crystal. The building was leased for one year at a rate of \$455 per month, and on April 14, the company moved in.

ADVANCED SCIENTIFIC INSTRUMENTS

Capitalization

Common Stock (10c par value)	Authorized 5,000,000	Outstanding 1,007,000
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Price Range of Common Stock (Issued in September at \$1.15)

Sept. 12	1 3/4
15	1 3/4
22	1 3/4
29	1 3/4
Oct. 6	2
13	2 1/2
19	3

Up to this time, the officers had been largely involved in the details of organization and financing, and little had been done toward the development of products. Now they began work in earnest. Alterman took charge of the basic design problems, taking, as he says, "the existing state of the art (of digital computers) and trying to give the most for the money."

This means, he explains, that, rather than spend much money and time on research into "exotic" equipment and techniques—such as microminiaturization—he tried to utilize the best of the already proven techniques in computer design.

"But," adds Mueller, "being a new company, we can take giant steps; we don't have to worry about obsoleting our own machines."

The first major fruits of Alterman's design work, the first "giant step," was a digital machine which they labeled the Advance II, a large, fast computer (add time 6 microseconds, multiply time 90 microseconds, with access time) which had the rare feature of not requiring air conditioning. (Most computers, and particularly the larger ones, require large and expensive air conditioning systems to control environment. The Advance II was designed to operate in temperatures of 32 degrees to 125 degrees Fahrenheit and in up to 99 per cent humidity with no outside environmental checks.)

The Advance II contains only solid state circuits, using diode logic and non-saturable inverters and direct coupling. Pluggable printed circuit card construction is used throughout the machine; and two-level, in-line layout provides access to all circuits.

It is a relatively small machine in two units, with the cabinet

measuring 5 by 10 by 2 feet and weighing 1,800 pounds and the console measuring 3 feet, 5 inches by 8 feet, 6 inches by 2 feet, 8 inches and weighing 400 pounds. It has a low power consumption and can be operated from a conventional 110/220 volt, single phase 60 cycle power source; and it can be equipped to operate from a variety of other power sources.

Upon completion of the Advance II design, Alterman immediately began work on a second computer, utilizing the basic design of the first, making it smaller in terms of both size and ability, but maintaining the principal advantages of the Advance II in speed, power consumption and the lack of necessity for environmental control. This medium-scale computer was named the ASI-420.

From there, Alterman went on to design the ASI-210, a small-scale computer which, again, utilizes the basic design of the Advance II and ASI-420. Together, Alterman says, the three machines constitute a "true family of computers." That is, their basic design is the same, and many of their parts are interchangeable. And they can be used together, trading information, without additional "buffering" equipment.

The major design work on all three computers was completed in a matter of approximately four or five months. After the conceptual work was completed, of course, Alterman hired several engineers and technicians to aid him. Nevertheless, the speed with which the designs were completed seems remarkable to an outsider, especially since the company designed all of the equipment related to the computers, from printed circuit cards and connectors to memory systems.

The machines were naturally designed with a specific market in

mind. Looking over the computer field and the potential buyers, Alterman and Mueller settled on the scientific and engineering areas as having the greatest number of potential customers with the least competition. (The only major competitors in this field, according to Alterman, are Bendix and, to a lesser extent, Control Data. Both of these, of course, are strong competition for a very young firm such as Advanced Scientific, and Remington Rand recently announced the intention of expanding its work in the field of scientific computers. But, on the other hand, these firms don't present the problem that IBM would in the field of general business computers.)

Potential customers for their machines, company officers think, include "the missile, aircraft, chemical, petroleum and steel industries, the government and anybody else that does research or has scientific problems."

Prices of the ASI computers are competitive with others of comparative size and ability. The Advance II is priced between \$640,000 and \$840,000, depending upon the size and capability of the memory system and other equipment. (This compares with approximately \$990,000 for a Control Data 1604.) The ASI-420 is priced at \$324,000 and the 210 at \$94,000. The Advance II will lease at \$16,000 to \$20,000 per month, the 420 at \$8,100 per month and the 210 at \$2,350 per month.

In addition to price and other features already mentioned, the Advanced Scientific Instruments founders believe they have another selling point for their computers in that, right from the start, they will be sold with complete programming packages, designed to solve the kind of problems that engineers and scientists encounter.

"What we do," Alterman says, "is to supplement the machine with a program package which allows an engineer to put the problem into the machine in his own language. The machine interprets the problem into its language, solves the problem and returns the answer in the engineer's language."

"This," he adds, "makes the machine useful to the engineer or scientist without the necessity of his learning a whole new language."

Such programming packages

are not unique; for without them, few businesses could fully utilize a computer. The "language" of a computer is extremely complicated; without a programming package—which consists of a set of instructions for the operator plus information stored in the memory of the computer which enables it to read and interpret what the operator puts into it—it would often take longer for the operator to prepare a problem than it would for the machine to solve that same problem. And it takes many weeks of study on the part of a novice to learn to deal with a computer lacking a programming package, as compared to three or four days when the computer is fully programmed.

In spite of this, Alterman says, many new computers are not fully programmed when they are first placed on the market. In fact, he says, even some major companies in the industry are known to have had a two year lag between the time a computer was developed and the completion of a programming package for the computer.

In this respect, then, Advanced Scientific Instruments is at least unusual, if not unique. It is in this position, Alterman says, because the programming packages for its three computers were designed concurrently with the computers, and, in fact, influenced the design of the computers.

He explains his concern with programming by saying: "You can have the best machine in the world, and the best bargain; but you can't sell it to an engineer if he can't tell it the problem he wants solved."

Production of peripheral equipment is, however, some time off. Right now, the company is naturally concentrating its major efforts toward completion of the computers themselves.

On Sept. 12, the company announced that it was in production with the first models of the 420 and 210. The 420 will be complete and undergoing "shake-down" testing by the end of November—well ahead of schedule, according to Alterman. The 210 is now scheduled for completion in December. "And when we have completed the 420, we are well on the way to completing an Advance II," he says. This is true because of the fact that the major differences between the 420 and the Advance II lie just in the memory system and the large-

scale computer's greater capability to utilize peripheral equipment.

"We don't have a date set for the completion of an Advance II," Alterman says, "but we can build one, starting from scratch, in 12 to 13 months."

The company is, in fact, quoting a delivery date of 12 to 13 months on the Advance II, 7 to 8 months on the 420 and 5 to 6 months on the 210. That such deliveries can be made is at least partly attributable to the fact that the company purchases or leases, rather than makes, much of the peripheral equipment, such as tape decks and printers, which are now used with the basic computers.

"We will absolutely build our own peripheral equipment eventually, but right now we are trying to get the most for our money, and such equipment is available elsewhere," Alterman says.

Perhaps another reason for the relative speed in delivery (at least for a new company and new computers) can be seen in that almost all of the components used in the ASI computers are purchased from firms located within its own geographical area. As Alterman says, "If there are any problems, an engineer just hops in his car and runs over to the supplier. Their engineers and ours can work out the bugs together."

(Among ASI current suppliers are National Connector Corp., Transistor Electronics, Fabri-Tek, Dayton Rogers, Atlas Manufacturing, Superior Plating, Twin City Etching, Griswold Signal and Gray Co.)

ASI did not, of course, reach its present position solely on the capital supplied by the original backers. In late August, the company offered 875,000 common shares to the public at \$1.15 per share; the offering, which was underwritten by Naftalin & Co., Inc., Minneapolis, was sold out. The company now has approximately 2,000 shareholders and 1,007,000 shares outstanding, with about 15 per cent of the outstanding shares held by officers and directors. The company has according to Alterman and Mueller, enough money to operate on for roughly two years, disregarding any income from sale of computers.

And in regard to sales, Mueller says: "We are optimistic, and we have many people who are very interested in our products." But

that is as far as company officials will go, at present, in commenting upon the current state of their order book.

They are, however, working to build their sales organization. Just last month the company announced the establishment of East and West Coast sales offices and the appointment of managers for each. George A. Schenck, Jr., formerly regional sales representative for the General Mills Electronics Division in Washington, was named to head the Eastern Regional Sales Office at 1027 N. Manchester St., Arlington, Va. Thomas R. Hudson, who was previously in charge of government sales for the Control Systems Division of Daystrom, Inc., now heads the ASI Western Region, located at 7931 Prospect Place, La Jolla, Calif.

Plans now call for the establishment of another sales office in the Southwest, and eventual expansion into all areas of the country. In addition, the company is contemplating the use of technical

representatives (commission salesmen) in "certain cases," officers say. Mueller and Alterman will probably continue for some time to do their own sales work in the Upper Midwest.

As soon as ASI computers are sold and moved into the various sales areas, Mueller says, the regional offices will be supplemented by maintenance and programming personnel.

What else does the future hold for Advanced Scientific Instruments?

The big push in the next year will naturally be toward building and marketing the firm's present "family" of computers. In addition to the sales program outlined, the company has plans to expand its manufacturing facilities, and will very likely move into a new building "somewhere in the Minneapolis area" by the first of the year, according to Mueller. He adds that the company will probably need at least 20,000 square feet of space by that time, since employment by the first of the year

will probably total about 75 persons.

Space will also be needed for the computer center which the company plans to open by July, 1962. The center will be used both for sales purposes and for rental to companies or other agencies with occasional problems to solve.

In the long run, company officers also see ASI manufacturing the peripheral equipment for its own computers, and such equipment as digital-to-analog converters as well.

And, says Alterman: "We are already thinking about our second generation of computers, although we are not planning right now to spend money on exotic equipment."

Advanced Scientific Instruments has unquestionably made an impressive start in the world of computers; and its plans for the future are far-reaching. But like any young company in its industry, it has much to contend with in the way of competition and customer resistance. ●



Advanced Scientific Instruments, Inc.

STATEMENT OF FINANCIAL POSITION

February 28, 1962

ASSETS

CURRENT ASSETS

Cash		\$ 500,191
Marketable securities, at the lower of cost or market (Note 1)		
Raw materials	\$103,350	
Work in process	28,418	131,768
Other current assets		11,244
Total current assets		709,003

EQUIPMENT AND LEASEHOLD IMPROVEMENTS, AT COST

Less accumulated depreciation and amortization	54,482	45,966
--	--------	--------

ACCUMULATED COSTS OF RESEARCH AND DEVELOPMENT (Note 2)

		241,788
--	--	---------

OTHER ASSETS

Total assets		\$1,020,950
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LIABILITIES AND STOCKHOLDERS' EQUITY

CURRENT LIABILITIES

Notes payable, bank		\$ 50,000
Accounts payable		9,949
Accounts payable, trade		70,388
Accrued liabilities		19,872
Total current liabilities		150,206

STOCKHOLDERS' EQUITY

Common stock, \$.10 par value; authorized 5,000,000 shares, issued and outstanding 1,007,000 shares (Note 3)	\$100,700	
Capital paid in excess of par value of common stock	873,050	
Retained earnings (deficit)	(103,006)	
Total stockholders' equity		870,744
Total liabilities and stockholders' equity		\$1,020,950

See accompanying notes to financial statements

STATEMENT OF OPERATIONS

For the period from March 23, 1961
(Date of incorporation)
to February 28, 1962

Sales		\$ 75,074
Selling expense		37,239
General and administrative expense		(112,567)
Operating (loss)		(103,006)
Non-operating income		
Interest	\$2,811	
Miscellaneous, net	560	9,361
Net (loss)		(\$103,006)

Statement of Capital paid in excess of par value of common stock for the period from March 23, 1961 (date of incorporation) to February 28, 1962

Balance, March 23, 1961		
Add excess of proceeds over par value of common stock issued		206,300
Less legal and administrative expense incident to registration and issue of common stock		(33,250)
Balance, February 28, 1962		\$873,050

Statement of Retained Earnings (deficit) for the period from March 23, 1961 (date of incorporation) to February 28, 1962

Balance, March 23, 1961		
Net (loss), March 23, 1961 through February 28, 1962		(103,006)
Balance, February 28, 1962		(\$103,006)

NOTES TO FINANCIAL STATEMENTS

February 28, 1962

(A) Inventories:

Inventories are priced at the lower of cost or market. The basis for determining cost is first-in, first-out for raw materials and average for work in process.

(B) Deferred costs of research and development:

Deferred costs relating to research and development of the Company's electronic computers will be amortized over a period of 36 months from the initial date of various model hardware.

(C) Common stock options:

Under various Stock Option Agreements, options to purchase 112,000 common shares were granted to the holders of the Preferred Stock Agreement at exercise prices ranging from \$1.00 to \$1.75 per share, and stock options to purchase 50,000 common shares and 30,000 common shares at an option price of \$1.00 per share were granted to two officers and certain key employees, respectively. During the period from March 23, 1961 to February 28, 1962, options were exercised for 20,000 shares at \$1.00 per share; options to purchase 177,000 common shares are outstanding at February 28, 1962.

AUDITORS' REPORT

To the Board of Directors
Advanced Scientific Instruments, Inc.

We have examined the statement of financial position of Advanced Scientific Instruments, Inc. as at February 28, 1962 and the statements of operations, capital and increase of net value of common stock and retained earnings for the period from March 23, 1961 to February 28, 1962 of incorporation in February 23, 1962. Our examination was made in accordance with generally accepted auditing standards and procedures and in accordance with the requirements of the Securities and Exchange Commission.

In our opinion, the accompanying financial statements fairly present the financial position of the Company as at February 28, 1962 and the results of its operations for the period from March 23, 1961 to February 28, 1962 in conformity with generally accepted accounting principles consistently applied.

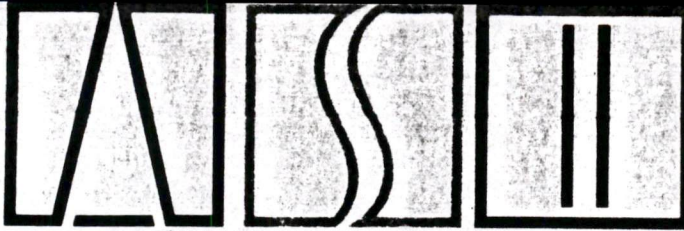
WILSON, SPENCER & COMPANY
CERTIFIED PUBLIC ACCOUNTANTS

Minneapolis, Minnesota
May 23, 1962

MINNEAPOLIS, MINNESOTA

FINANCIAL STATEMENTS

FEBRUARY 28, 1962



Advanced Scientific Instruments, Inc.

5249 HANSON COURT MINNEAPOLIS 22 MINNESOTA KELLOGG 3-2501

June 1, 1962

Dear ASI Stockholder:

It is indeed with a great deal of pleasure that we submit to you the first annual report of your company. The progress of ASI in its first year of operations can be described properly as outstanding. Incorporated in March, 1961, actual operations did not begin until April 15th when we took occupancy of office and manufacturing space in Crystal, Minnesota, a suburb of Minneapolis. On that date and continuing for several months thereafter, our staff of engineers and technical personnel was expanded to a level sufficient to research and develop our products . . . a family of solid state, electronic computers, embodying the most advanced designs, and virtually the extreme in "the state of the art". Our continuing growth necessitated expansion and we now occupy 12,000 square feet of space. Additional area contiguous to our present facilities is available when necessary.

Our "family" of general purpose digital computers fall into three categories:

The ASI 210

The ASI 420

The Advance II

with base prices ranging from \$94,000.00 for the smallest (the ASI 210) to \$860,000.00 for the largest (the Advance II). High speed printers, punch card equipment and magnetic tape devices are available optional equipment, at additional costs, for all ASI computers. These peripheral devices materially enhance the usefulness and flexibility of our products.

DIRECTORS AND OFFICERS

James E. Johnson, Chairman of the Board and Director; Morris B. Ebin, Vice Chairman of the Board, Treasurer and Director; Francis J. Alterman, President and Director; John E. M. Jones, Executive Vice President and Director; Samuel A. Feldman, Director; and Guy W. LaLone, Director.

In developing these products, we believe that we have utilized techniques so advanced that the result has enabled the purchaser to achieve far more computations per dollar than previously possible. Our computers have the advantage of being powered from ordinary electrical outlets and are so constructed that the need of special air conditioning has been eliminated . . . another major advance. ASI computers feature solid-state design, compact size and can be integrated in a manner permitting the smallest model to "talk" to the largest without the use of peripheral equipment.

SE. 63
20,000
12600

Our staff has grown to 63 employees. Of this number, 24 are engineers and technical personnel, and eight are programmers. Our "software", the programming essential in the operation of all computers, is prepared by our own staff of highly skilled people, supplemented by outside organizations specializing in this service.

The basic programming package for our family of computers is the Fortran Compiler, the most widely used scientific computer language system. This system enables the user to employ a combination of English and mathematical languages to express and solve problems.

Your management has elected to direct its selling activities towards these markets: (1) Scientific and Engineering Activities, (2) Data Reduction, (3) Real Time Applications, and (4) Process Control. Though our computers can compete effectively in the data processing field, we have chosen to delay our entry into this segment of the industry because of the extremely competitive conditions existing at this time.

The excellent availability of component parts and peripheral equipment in our geographical area has been invaluable to your company. To obtain maximum use of our invested capital without sacrificing any reliability, we have chosen to purchase these parts rather than produce them ourselves, thus relieving us of the necessity of accruing expensive production facilities. Eventually we plan to manufacture many of our components.

The extensive work in the design, research and development of ASI computers has proved most fruitful, but naturally it has involved a considerable expenditure. Consistent with sound accounting practices, these costs are being amortized.

During our first fiscal period ending February 28, 1962, we designed and developed the ASI 210 and the ASI 420. This developmental and research experience assures the successful manufacture of the Advance II as well. We were able to contract in November, 1961, for delivery of an ASI 210 to the National Aeronautics and Space Administration (NASA). This was an unheard of accomplishment in the computer industry. This computer was delivered to NASA in April of this year at the Goddard Space Flight Center, Greenbelt, Maryland, and will be utilized in orbital flight calculations. The delivery to NASA set a record for the computer industry in the time

lapse from "drawing board to delivery", and this was recognized by Washington governmental officials in a public ceremony as an outstanding achievement.

In February of this year, another ASI 210 was sold to the Argonne National Laboratory, an Atomic Energy Commission installation in Argonne, Illinois. Thus, in our first fiscal period we were able to sell our products to two very sophisticated and prestige accounts, a great tribute to the advanced state and quality of our computers.

Our backlog of orders as of February 28, 1962, totalled \$244,154.40. Our sales since the year-end total \$125,680.00 and as of this date our backlog totals \$235,718.80, resulting from the contracting for delivery of an additional ASI 210 to the Ling-Temco-Vought Corporation, Dallas, Texas.

During our first fiscal period, we established sales offices in these strategic areas: Washington, D.C.; Los Angeles, California, and Dallas, Texas. We also have sales representation in Dayton, Ohio, to cover the dense industrial area centering there. We plan to expand our sales and service program into additional regions in the near future.

ASI has made remarkable progress in its first year of operation. But this being its pilot year, an operating loss could not but be expected. This loss of \$103,005.80, we believe has been held at a minimum, and is in itself an outstanding achievement.

Your company enjoys an excellent financial reputation, and we believe that the additional financing necessary during the next several years will be obtained from banking institutions.

The electronic computer industry is one of the major, growing industries in the United States, as well as in many foreign countries. Computers are, and will be, playing an increasingly more important role in government, defense, business and all phases of industry. Forecasts have been made, and continuously repeated by informed sources, that the total annual volume of the computer industry could conceivably reach \$10,000,000,000.00 by 1970.

Your management sincerely believes that ASI can profitably participate in this growth and can develop into an important factor in the computer industry.

Respectfully submitted,

Francis J. Alterman
Francis J. Alterman,
President

FJA:bb
Enc

**STUDENT
RESEARCH**

D-45 Chase Hall
Boston 63, Massachusetts
September 28, 1962

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

Dear Sir:

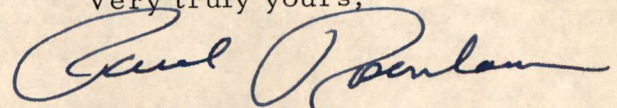
I am writing this letter to ask for your help in finding some information in connection with some research we are conducting here at the School. The subject of our research is - The Impact of Integrated Circuits on the Semiconductor and Computer Industries.

Since Digital Equipment Corporation is a leader in computer manufacturing we assumed that you are in touch with developments in the computer industry and we would greatly appreciate receiving any information you could send us regarding the subject of this report. For example, we would be interested in your opinion of the problems posed by the introduction of integrated circuits. We would also be interested in your personal appraisal of how significant these problems are, and any solutions you may have considered.

In return for this information we would be most happy to send you a copy of the final report for both Digital Equipment Corporation's and your personal use.

We'd like to thank you in advance for your help and hope to be hearing from you in the near future.

Very truly yours,



Paul Rosenbaum

File

LEE HIGGINSON CORPORATION

50 FEDERAL STREET, BOSTON 7, MASS.

BOSTON
NEW YORK
CHICAGO

September 21, 1962

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

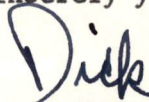
Dear Andy:

It was a pleasure to see you again on Wednesday. Each visit has been highly educational for me.

I appreciate the opportunity to have met George O'Dea. Mr. Rogerson is pleased to know that your Company's financial matters are in such capable hands. Mr. Cotting is out this week, but I am certain that he will share Mr. Rogerson's sentiments.

In light of our discussion of the ADX system, I thought that you might be interested in seeing the enclosed Research Report.

Sincerely yours,



Richard J. Lulor

RJL:sc
Enclosure



Systems Research

LABORATORIES, INC.

FRITZ J. RUSS
DIRECTOR

500 WOODS DRIVE
DAYTON 32, OHIO
CHAPEL 4-4051

September 19, 1962

Dear Mr. Anderson:

Recent discussions with DEC indicate that work on DECAL has stopped short of including many desirable characteristics of the complete general-purpose compiler that we had understood would be provided, for example, multi-dimension subscripting.

Mr. Roy Griffis, project engineer on our PDP-1 system, and Mr. David Brand, our chief programmer, recently attended a conference in Rochester, New York, on data processing in bio-medicine. One of the papers on this conference described a FORTRAN-to-PDP-1 language converter utilizing the IBM 7090. Subsequent contacts with the author, Mr. William Lennon of the Massey-Dickinson Co., Waltham, Mass., by Mr. Brand indicate that Mr. Lennon is having difficulty maintaining interest on the project within his company and that outside funding would be necessary for final polishing, particularly input-output.

Since FORTRAN programs are both universal and abundant, it would seem that DECUS and consequently DEC would profit immensely by having this translator in the library.

We have asked Mr. Lennon to send us some preliminary results on his work. However, it would seem to be quite advantageous to DEC to make personal contact with Mr. Lennon to evaluate the merits of such a program and to ascertain benefits which might accrue to DEC through sponsorship of Mr. Lennon.

Page 2
Sep. 19, 1962

We would appreciate being kept informed of any action by DEC on this matter as such a FORTRAN program would make our PDP-1 operation more fruitful.

Very truly yours,



Fritz J. Russ

Mr. Harlan Anderson
Digital Equipment Corporation
Maynard, Massachusetts

FJR:bjs

UNIVERSITY OF CALIFORNIA

DEPARTMENT OF ENGINEERING
LOS ANGELES 24, CALIFORNIA

TEACHING SYSTEMS RESEARCH PROJECT
H. W. CASE A. ROE

September 12, 1962

Digital Equipment Corporation
Main Street
Maynard, Massachusetts

Gentlemen:

Will you please send us some literature describing your equipment.
We are particularly interested in a computer with a cathode tube
display for use in programmed instruction research.

Sincerely yours,


Arnold Roe

R/g

September 5th, 1962

Messrs.
Digital Equipment Corp.
Main Street
Maynard, Mass.

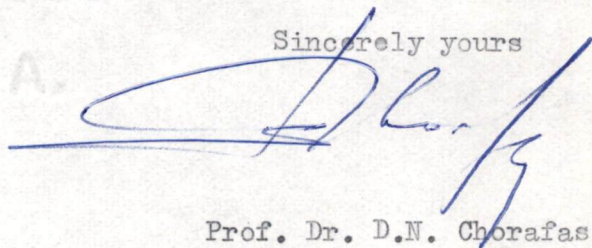
Gentlemen,

A short time ago, information on the operations of your company retained my attention. The objective of this letter is to examine whether certain mutual interests may exist in respect to your current activities within the European Common Market.

Following my association with IBM, IBM World Trade Corporation and Booz, Allen and Hamilton, I established offices in Paris, working with major European companies such as Nestlé, Pechiney, the French Line and Olivetti. References will be submitted at your request.

Looking forward to hear from you, I remain,

Sincerely yours



Prof. Dr. D.N. Chorafas

File

September 5th, 1962

Mr. Roy Fine
Manager of Operations
The Foxboro Company
Digital Systems Division
21 Strathmore Road
Natick, Massachusetts

Dear Mr. Fine:

After considering your request that a compiler be written for the PDP-4 Computer, we have decided to commit ourselves to deliver one before April 30th, 1963.

If you receive an order from the customer in Pittsburgh which you are now talking with, and if you order our computer to be used in that project, we will offer to pay a penalty of \$2,000. a month every month we are late beyond the April 30th, 1963 date if that customer insists on charging you the same penalty. We would limit our obligation to a total of \$10,000.

Sincerely yours,

Kenneth H. Olsen
President

KHO:apm
cc: ✓ Harlan Anderson
Gordon Bell
Ben Gurley
Dit Morse
Stan Olsen
Nick Mazzaresse

C
O
P
Y

File

August 31, 1962

Mr. Jerome R. Cox, Jr.
Research Associate
Central Institute for the Deaf
818 South Kings Highway
St. Louis 10, Missouri

Dear Jerry:

We are pleased to hear of your interest in our PDP-4 computer. We originally planned this machine to be largely for industrial control and of the first two one is going to a cookie factory and one to a glass factory. However the interest for general use is growing fast. We are now putting our own business work on one which has a line printer and a card reader. In October we plan to deliver one to Mass. General Hospital where Dr. Evin will use it for some of his work.

I am enclosing literature on the PDP-4 which give the prices on the equipment and the various options. In addition, we are now offering a Memory Expansion Control Unit Type 16 for \$9,000. This unit will allow memory to expand up to 32,000 words in 4,000 word modules.

In addition, we are offering an extended arithmetic control unit which will do automatic multiply and divide. We are also going to offer copies or modifications of the Lincoln Laboratory Linc Tape Units.

If we can give you any further information please let me know.

Sincerely yours,

Kenneth H. Olsen
President

KHO:set

CC: Mr. R. A. Damkoehler
Assistant Dean of Engineering
Washington University
St. Louis, Missouri

Stanley Olsen
Harlan Anderson ✓
Gordon Bell
George Rice

COPY

COMMUNICATION SYSTEMS C O M P A N Y

- Telecommunications
- Broadcasting
- Electronic Control
- Digital Systems



- Research, Development
- System Studies
- Operational Research
- Automation

CE 5-8700

P.O. Box 973, Ottawa
CANADA

August 30th, 1962

Digital Equipment Corporation
Main Street
Maynard, Mass.
U.S.A.

Attention: The President

Dear Sir:

The purpose of this letter is to offer the services of our Canadian company with the marketing, installation and servicing of your Digital Computers in Canada.

Communication Systems Company is comprised of approximately 15 scientists and engineers with experience of digital computers and communications equipment. Some of our staff have been associated with the computer field both in Canada and the United States for the past twelve years and were largely responsible for the sale and installation of some of the earliest computers to be purchased here in Canada.

Located as we are in Ottawa, Canada's capital, we are thoroughly familiar with the special needs of the Canadian Government. We maintain a liaison with the Canadian Government research and development establishments and are well informed on the technical requirements of the Defense Department and general developments in the engineering and electronic industries in Canada.

Communication Systems Company is very much impressed with your PDP-1 and PDP2 computers, and feel that a good market exists for them in Canada. We are sure that your computers would be very useful in special purpose engineering applications as well as in process control systems.

We would very much appreciate your giving early attention to our proposal to obtain Canadian business for your

company, and would be pleased to meet with you at any time to discuss full details of such an arrangement. In the meanwhile please let us know of your interest in our suggestion.

We look forward to hearing from you.

Yours truly,



pp M.M. Levy,
Director

THE FOXBORO COMPANY

MAIN OFFICE AND PLANT - FOXBORO, MASSACHUSETTS, U.S.A.

FOXBORO
REG. U.S. PAT. OFF.
Instrumentation

HEA

PLEASE ADDRESS YOUR REPLY TO
DIGITAL SYSTEMS DIVISION
21 STRATHMORE ROAD
NATICK, MASSACHUSETTS
OLYMPIC 3-5660

August 17, 1962

Mr. Gordon Bell
Digital Equipment Corporation
Maynard, Massachusetts

Dear Gordon:

There are a number of points which we discussed briefly on Tuesday upon which DEC could improve their competitive position with respect to the PDP-4, or upon which Foxboro would like to obtain more information. The following is a list of these points:

1. Foxboro is particularly anxious to have DEC quote on additional banks of high speed memory for the PDP-4 above and beyond 8K with a brief functional description of the manner in which the additional memory is addressed.
2. Foxboro is also very anxious to have a quote or at least a ballpark cost estimate on a high speed multiply and divide unit for the PDP-4. If it is impractical to generate a firm price and specifications in the short time available, we would at least like to have a commitment by DEC that they would design and build such a unit if and when it was required by Foxboro.
3. We would like to obtain additional reliability data on the PDP-1 if it is in DEC's possession. I have obtained some data by talking to PDP-1 users over the phone, but this is rather unsatisfactory. I would be much more confident of the reliability of the PDP-1 and thus, at least partially, by extrapolation, the reliability of the PDP-4 if I could sit down and examine some failure data in person.
4. We would also like to gather as much data as is practical on the reliability of the PDP-4 itself. I would like to review

August 17, 1962

any logs that have been kept on PDP-4 systems and urge that DEC keep as accurate and complete logs as possible referenced to computer elapsed time. It is Foxboro's opinion that obtaining logged data when the computer is being used for general programming purposes is the only practical method to accumulate a sufficient number of computer hours of operation to derive statistically significant information concerning the mean time between failure rates Foxboro is looking for. We would expect the PDP-4 to exhibit an MTBF of from 500 to 1,000 hours. A test which gives any degree of confidence in this type of number must run of the order of 1500 hours and upward. Foxboro would be happy for DEC to run such a test but recognizes the reasons if they do not undertake it.

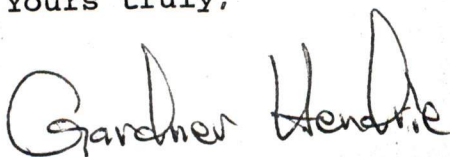
5. Foxboro would like to know at what temperature a typical PDP-4 computer fails. We believe this is an area where the PDP-4 might be significantly better than the competition and urge that such a test be run so that we can include the data in our evaluation.
6. If DEC is willing to run a standard acceptance test on the PDP-4 at a temperature higher than the 104°F required in our initial specification, this would add considerably to the PDP-4's competitive position with respect to reliability. We urge that you consider this possibility.
7. We would like to have a rough estimate of the number of transistors and diodes in a PDP-4B with punch and real-time option included. This information is necessary in order to make any sort of interpolation from PDP-1 reliability data to the PDP-4.
8. Foxboro would like to have a statement on the various types of service which DEC could supply on the PDP-4 and the conditions pertaining to each type. We would also like to have a rough indication of the cost of various types of service, especially on call maintenance as a backup for a Foxboro service man.
9. Foxboro could make their drum offering for the PDP-4 considerably more competitive with respect to CDC by including the drum under the PDP-4 OEM discount schedule instead of the PDP-1 schedule. In our opinion, this may be very well justified from DEC's point of view since all power jobs, the market in which we initially expect the greatest number of sales, will require a drum system and thus most, if not all PDP-4's used in the near future would require drums.

August 17, 1962

10. Foxboro would like to have a statement on the time and conditions of payment for a PDP-4.
11. In industrial applications, Foxboro must very often supply equipment to switch between two sources of AC power to the computer when one of the sources fails. Therefore, we would like to obtain some estimate of the length of time the computer will continue to operate (with 100% certainty) after AC power has failed. We realize that there is not enough time for DEC to make a complicated test of this nature, however, we would like to get your best estimate of the length of time involved. Foxboro will detect the exact point at which AC power drops out no matter where it appears on the 60-cycle wave form and start the switchover procedure at that point. What we are interested in learning from DEC is, in the worst case, how long does Foxboro have to restore AC power and still be assured that the computer will continue to operate in an uninterrupted fashion. If modification of the DEC circuit used to protect the memory on power failure would materially increase the amount of computer time available after AC power failure, we would like to know the practicality and the cost of such a modification. If all DEC can do is give a rough theoretical estimate at the present time, that will be acceptable since at present we have no information whatsoever on this point.

I am sure there are many other points which we would like to know more about but these seem to be the most important at present. If you can cover these, I think you will fill in most of the gaps where CDC had already supplied information or quotes and DEC had not responded. If you have any questions about these requests, let me know and we can go over them.

Yours truly,



G. C. Hendrie
Research Associate

jh

NATIONAL INSTITUTE FOR RESEARCH IN NUCLEAR SCIENCE,
Building R.1., Bubble Chamber Group,
RUTHERFORD HIGH ENERGY LABORATORY,
HARWELL,
DIDCOT, BERKS.

August 15th, 1962.

Mr. Marlan E. Anderson,
Vice President,
Digital Equipment Corp.,
Maynard,
Mass.
U.S.A.

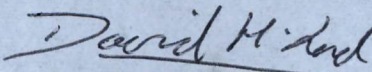
Dear Mr. Anderson,

Thank you very much for your recent letters and the information that you sent on the PDP1, PDP4, etc. I must apologise for not making an earlier reply.

We had delayed the construction of our system using your blocks, because the mechanical and optical parts of the system were not designed. However, now that their design is nearly complete, we have started to construct the electronic system. So I hope that by the beginning of September that it will be partially working.

You are certainly most welcome to call in and see us when you are in Europe next month. The 7th September, would be perfectly convenient from my point of view.

Yours sincerely,


David H. Lord.



INFORMATION SYSTEMS DIVISION

320 PARK AVENUE • NEW YORK 22, NEW YORK

TELEPHONE PLAZA 2-6000

PLEASE REPLY TO:
PARAMUS ENGINEERING CENTER
580 WINTERS AVENUE
PARAMUS, N. J.
CO 2-8500

August 13, 1962

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

Dear Andy:

Thanks again for the effort spent in making our recent trip to your plant a success.

In behalf of both Al di Scipio and myself I am sending you a souvenir from the ITT/Information Systems Division demonstration center.

Very truly yours,

A handwritten signature in cursive script that reads 'R. L. Lane'.

R. L. Lane, Manager
Sub-Contracts Administration

RLl:cms

charles w. **adams associates** inc.

142 THE GREAT ROAD • BEDFORD • MASSACHUSETTS • CRestview 4-8050

Reminder File
Aug 6 1962
[Signature]
[Signature]

July 23, 1962

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

Dear Harlan:

Enclosed you will find a copy of the June, 1962 Computer Characteristics Quarterly. We wish to extend our thanks for the cooperation your organization has given us in the past and look forward to receiving a continuing flow of information from you.

Due to the additional time required for binding the new covers, the deadline for the September issue will be August 20, 1962. Any corrections or modifications you would care to make with respect to your company's equipment should be received prior to that date.

Sincerely,

Allen F. Rousseau

Allen F. Rousseau
Editor, Computer Characteristics
Quarterly

afr/lg
enc.

BOSTON COLLEGE
COLLEGE OF BUSINESS ADMINISTRATION
CHESTNUT HILL
MASSACHUSETTS

BUREAU OF BUSINESS RESEARCH

August 6, 1962

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

Dear Mr. Anderson:

We are very happy to be able to say that the first phase of the Boston College study of success characteristics of entrepreneurs in the Greater Boston Area has now been completed. We are in the process of writing up our conclusions and our recommendations for the Bureau of Business Research, for whom we conducted the "pilot" phase of the study.

We are at a loss to thank you adequately for your interest, your help, and your generous allotment of time in contributing so significantly to the rich data that we obtained. We believe that the more comprehensive study being planned by the Research Bureau will yield results which should be of interest and help to the academic and business communities. It is thanks in no small measure to your generous cooperation that we are confident about the outcome of the larger study.

Please accept our thanks for your part in the pilot study. At a later date, both as a token of our gratitude to you and in the hope that it will be helpful to yourself, we shall send an off-print of an article that we shall write on this summer's work.

Very respectfully yours,

George D. Fitzpatrick, S.J.

George D. Fitzpatrick, SJ
J. David Morrissy, S.J.

J. D. Morrissy, SJ

jb

File

50 MOULTON STREET
CAMBRIDGE 38, MASSACHUSETTS
TELEPHONE UNIVERSITY 4-5870

11 July 1962

Mr. Robert Beckman
Digital Equipment Corporation
Main Street
Maynard, Massachusetts

Dear Bob:

I am writing once again about the poor performance of our PDP-1 and specifically about the "Sound Learning" experiment for which we have the machine scheduled 6 days a week, 11 am to 1 pm, 5 July through 3 August. As of today, there have been six scheduled sessions. Of those six, it has been possible to run satisfactorily for only three, due to a variety of punch, typewriter, and reader troubles, as reported in our daily reports. (As of this moment, 1 pm, neither typewriter, neither punch, nor the reader is working.)

I think you will realize that this situation is serious for us, and that we must consider ways of improving this matter. The presumption is high, judging from the performance of the machine in the past few months, that the quality of the maintenance has badly deteriorated. It is my impression that we were doing considerably better when John Shields was doing our maintenance. Would it be possible to get him or someone of his caliber to spend several scheduled hours every day on our machine until such time as we have run trouble-free for, say, four days in a row (which has not occurred, I believe, for many months now)?

If there are other procedures that might be instituted to cure the problem, we would gladly discuss them with you.

Sincerely,

BOLT BERANEK AND NEWMAN INC.

Thomas Marill

cc: H. Anderson ✓
B. Gurley
W. Pickett
J. Stratton
S. Boilen
J. Swets
L. Sprague

11 July 1962

Computer Maintenance Status

The following report describes the status of the Cambridge PDP-1 for the twenty-four hour period ending 1530 hours, Wednesday, 11 July 1962.

Tuesday, 10 July 1962

1530-2400: no change

Wednesday, 11 July 1962

0900: DEC on machine. D. Sordillo to work on indicator lights for reader buffer.

1300: E. Harwood and T. Johnson of DEC arrived to work on drum.

1530: DEC still on machine. Final Status: (a) drum installed but not working; (b) neither punch working; (c) neither typewriter working; (d) reader not working; (e) indicator lights on the reader buffer are working.

SB:jm

6 July 1962

Mr. Robert Beckman
Digital Equipment Corporation
Main Street
Maynard, Massachusetts

Dear Bob:

You will remember that I wrote to you on 29 June about the following situation: We are running an experiment which uses the PDP-1 from 5 July to 3 August, 6 days a week, 11am to 1pm; subjects for that experiment are scheduled a month in advance; the experiment requires that both typewriters and both punches be working satisfactorily on-line.

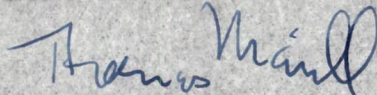
As of today, 12:30pm, neither of our punches and only one typewriter is working satisfactorily.

If this situation is not remedied before our run of Monday, 9 July, our plans would suffer a serious setback, and our use of the PDP-1 for this and similar work would have to be re-evaluated.

In addition, I might mention again that the performance record of the PDP-1 in the last few months has been miserable. As of 18 June, we have been issuing a daily Computer Maintenance Status report, of which you receive a copy daily. Copies of these documents are available, and we will be glad to send additional ones to DEC, if it will help.

Sincerely,

BOLT BERANEK AND NEWMAN INC.



Thomas Marill

TM:jm

cc: H. Anderson ✓
B. Gurley
W. Pickett
J. Stratton
S. Boilen
J. Swets
L. Sprague



Applied Dynamics, Inc.

2275 PLATT ROAD, ANN ARBOR, MICHIGAN

AREA CODE 313 PHONE 662-4493

July 5, 1962

Mr. Harland Anderson
Digital Equipment Corporation
Main Street
Maynard, Massachusetts

Dear Harland:

We have recently been in contact with a potential customer from Mexico City who, I suspect, might be a potential customer for you also. Their address is:

Patronato De talleres,
Laboratorios y Equipos Del
Instituto Politecnico Nacional
Unidad Profesional I.P.N.
Zacatenco, D. F., Mexico

This organization plans to spend some \$250,000.00 for a computer laboratory consisting of both analog and digital computers. The fellow that we have talked to is Professor Mario G. Lagunez. He is more concerned with analog than digital, however he could direct you to the right man.

On a rather different subject, Jerry Kennedy suggested that you could give me some of the disadvantages of getting on the General Services Administration approved source list. As I am presently faced with a choice of doing this, I would appreciate any information you could give me on this.

Regards,

G. F. Graber
Marketing Manager

GFG:mb

UNIVERSITY OF CALIFORNIA

Send to Ben Gurley
Gordon Bell
John Kondala
and 5-18-62
Ken

LAWRENCE RADIATION LABORATORY
P. O. BOX 808
LIVERMORE, CALIFORNIA

May 9, 1962

Mrs. Elsa Newman
Digital Equipment Corporation
Maynard, Massachusetts

Dear Mrs. Newman:

Thank you for the copies of "Decuscope". Ten copies are adequate for LRL; I would appreciate your sending two of our May copies to our personnel at DEC, one each to: LRL engineers, and LRL programmers.

As you are no doubt aware, the LRL machine is quite different from other PDP-1's in configuration and even in the hardware for some of the standard functions. It is my understanding, however, that subsequent machines will resemble ours more closely than their ancestors do. Our purpose in acquiring the PDP-1-its primary use will be as an input - output transcriber for larger computers-also differs considerably from that of many of your other customers. For these reasons, our programs are probably of minimal use, although they may be of some interest, to other Decus members. All of our programming personnel will be occupied full-time during May with our acceptance test and the production codes which we wish to have going when our machine is operational in Livermore. If the present machine schedule is met, I can send you descriptions of our various production routines in June, and if there is further interest in any of them, symbolic and binary listings of those in July. LRL will in general not be able to supply paper tapes of its programs, as both our symbolic and absolute codes will be kept on cards (or magnetic tape). We will supply a copy of the cards for a specific program if you so request.

It has been my experience that the mechanized media which is exchanged by computer users is not nearly so important as the ideas, coding tricks, and basic pieces of routines which are communicated by the write-ups and listings, and, in fact, that the machine media is seldom used (except to make a listing). We certainly do not object to its distribution, but LRL will be glad to forego paper tapes except for specific (and infrequent) requests. The paper tapes which we have received from you contain errors, and we have been unable to assemble the several which we attempted. Perhaps DEC's effort might have been better spent on standardizing or at least straightening out and documenting the numerous paper tape codes and assembly programs.



Please note.

This points out the need for

"certifying" tapes which I would like to see done & reported in Decuscope. I suggest that as routines are devised Decuscope assign the certification to another interested member.

May 9, 1962

We do need double precision floating point arithmetic routines, and if DECUS has these available, we would appreciate your sending us listings, preferably symbolic. In about a week we will be sending you the copy of our PDP I-0 manual which you requested.

Very truly yours,

Dorothy T. Monk

Dorothy T. Monk

NEA Feb

BLAIR AND BUCKLES
PATENT AND TRADEMARK COUNSEL
1572 MASSACHUSETTS AVENUE
CAMBRIDGE 38, MASS.
KIRKLAND 7-7761
CABLE ADDRESS "PATENTS, CAMBRIDGE"

JOHN C. BLAIR
ROBERT A. BUCKLES
ROBERT H. WARE
ROBERT A. CESARI
F. EUGENE DAVIS IV
RONALD J. ST. ONGE

COPY

May 9, 1962

Digital Electronics Corporation
161 Sullivan Lane
Westbury, New York

Re: Our File 83T-02

Gentlemen:

Our client, Digital Equipment Corporation, has just recently learned of the existence of your company and of its use of "DEC" in connection with goods sold by you. "DEC" is a registered trademark used by Digital Equipment Corporation long prior to the organization of your company and your use of this trademark is clearly in contravention of their rights.

Moreover, the name of your company is so similar to "Digital Equipment Corporation" that it is likely to cause confusion among purchasers of equipments of various types, and, in fact, such confusion has already taken place.

Accordingly, we demand that you cease the use of "DEC" and "Digital Electronics Corporation" and any other trademarks and names which may be similar to those of Digital Equipment Corporation. Should you persist in infringing on

Digital Electronics Corporation

COPY

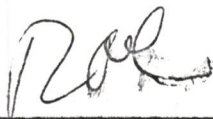
Page 2

BLAIR AND BUCKLES
CAMBRIDGE, MASS.
May 9, 1962

the rights of our client, we shall feel free to take whatever action we deem necessary, including the initiation of suitable legal proceedings for an injunction, as well as for the recovery of damages and attorneys' fees and an accounting for your profits.

Very truly yours,

BLAIR AND BUCKLES

By 
Robert A. Cesari

D/mund

bc: Mr. Stanley C. Olsen

DIGITAL EQUIPMENT CORP.
SALES DEPARTMENT

1962 MAY 10 AM 10:30

RECEIVED

File

April 12th, 1962

Mr. E. Choate
University of Illinois
Urbana, Illinois

Dear Mr. Choate:

Work on the 2301 Scanner is expected to be completed and the machine shipped on or about May 1st.

We have not, as yet, received any information concerning the level converters necessary to connect this machine to Illiac and would appreciate this information within the week, if possible. We may then be able to test the level converters and the machine as a complete package.

Sincerely yours,

Donald A. White

DAW:apm

cc: Mr. Bruce McCormick
University of Illinois

Ken Olsen
Harlan Anderson



digital equipment corporation

engineering and manufacturing

MAYNARD, MASSACHUSETTS
TWINOAKS 7-8821

April 10, 1962

Mr. S. F. Buchanan
Purchasing Agent
Lawrence Radiation Laboratory
P. O. Box 808
Livermore, California

Dear Mr. Buchanan:

Enclosed is a copy of the LRL Computer System Construction Schedule that has been up-dated to show progress made as of Friday, April 6. You will note that on Page 1, Computer Final Assembly and Wiring is ahead of schedule while Computer System Checkout is behind schedule. The sequence of computer checkout and central processor option installation is arbitrary. The sequence was reversed from the original plan due to the earliest availability of installation personnel.

The status of the various items of peripheral equipment is shown on Page 2. The sixteen inch Visual Display Type 30C off line checkout is proceeding normally with only the routine sorts of wiring mistakes encountered so far.

The Remington Rand Tape Control 52 has had its off line checkout completed and will therefore be checked out on line in the place of the IBM Tape Control 52. The IBM Tape Control 52 is behind schedule due to routine wiring errors uncovered during the off line checkout period.

The off line checkout of Card Punch 40-523 has been progressing at a rate slower than expected. Numerous errors have been found and corrected, and I believe off line checkout should be completed during this week.

The Uptime Card Reader, designated on the schedule as Card Reader 42, arrived from Uptime Corporation on April 5. An Uptime checkout technician also arrived the same date and has been working on the reader. As of Saturday, April 7, he had uncovered a number of errors but none that seemed drastic. He expects to have the reader operating normally early this week.

April 10, 1962

The Analex High Speed Printer Type 62 has had all of its control circuitry checked out and was printing some characters on April 7. All the remaining hammer driver modules for this unit will be available this week which should allow off line checkout to be completed before the end of this week.

The Precision Display Type 31A off line checkout has been proceeding normally since we have obtained modules for it. The camera system for the display is scheduled for delivery in approximately 2 to 4 weeks. This will not affect the checkout schedule for the rest of the display system.

With the possible exceptions of the card reader and camera equipment for the precision display, we still feel confident that your system will be delivered on schedule.

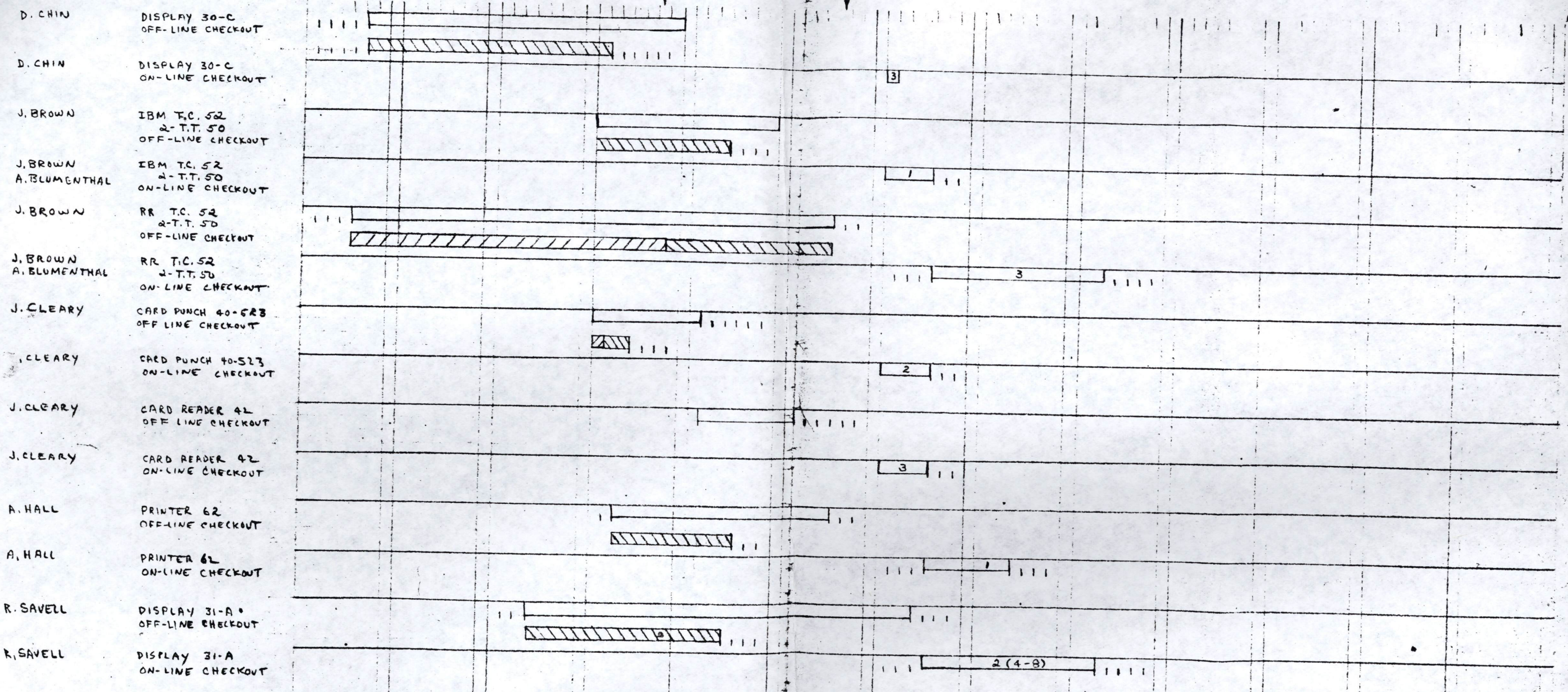
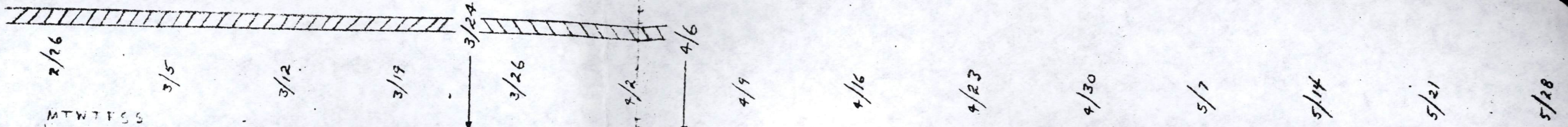
Yours truly,

Robert E. Savell
Computer Design Engineer

RES/bl

CC: LRL/R. P. Abbott, Dr. S. Farnbach, W. G. Johnson, E. A. LaFranchi,
Mrs. D. T. Monk, G. E. Strahl
DEC/Harlan Anderson, Peter Bonner, Jack Brown, Renald Cajolet, Ben Gurley,
John Koudela, Robert Savell

POSTED DATE



NOTE: SHIFT 1 8-4
 SHIFT 2 4-12
 SHIFT 3 12-8

SYSTEM CONSTRUCTION SCHEDULE Pg. 2
 PDP-1C-12 (LRL)
 R. SAVELL
 X-239
 3/24/62

POSTED DATE

MTWTFSS

2/26

3/5

3/12

3/19

3/26

4/2

4/9

4/16

4/23

4/30

5/7

5/14

5/21

5/28

J. SMITH COMPUTER TO FAW.

E. HARWOOD FAW. (INSTALLATION OF CENTRAL PROCESSOR AND PERIPHERAL OPTIONS)

J. MYERS MODULES DELIVERED (C.P., MEMORY, R.P.T.)

R. HUGHES MEMORY SYSTEM CHECKOUT COMPLETE

W. COLBURN RDR, PUN, TW SYSTEM CHECKOUT COMPLETE

W. NEWELL

A. BLUMENTHAL COMPUTER SYSTEM CHECKOUT

A. BLUMENTHAL ACCEPTANCE TESTS

R. SAVELL

E. HARWOOD CLEANUP, TOUCHUP OF PHYSICAL SYSTEM

K. FITZGERALD MECH. FINISH, CRATE

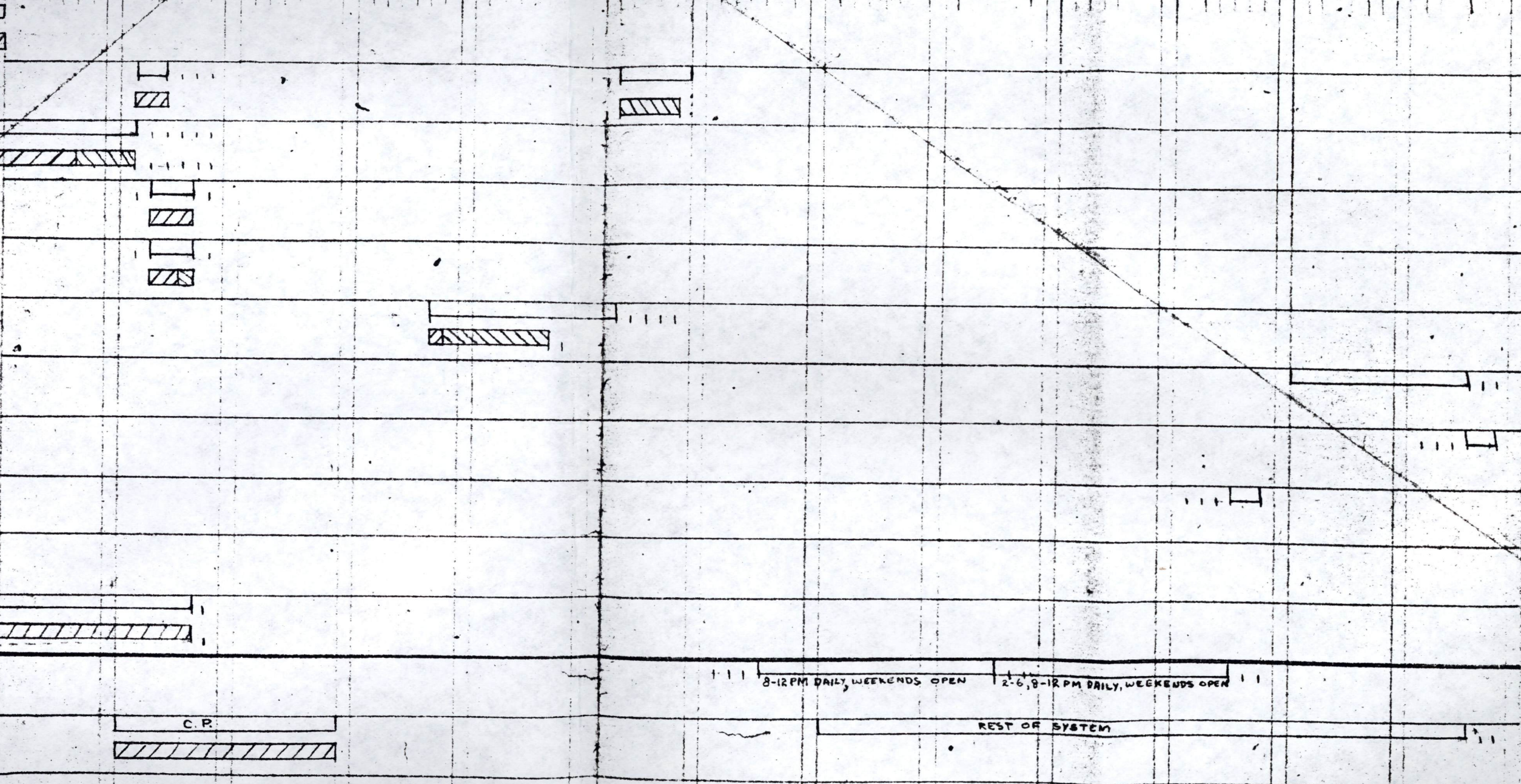
J. MYERS SHIP

J. BROWN ALL SPECIAL MODS, WIRE INFO, lot's TO E. HARWOOD

R. SAVELL

ALL PERSONS USING ON-LINE TIME PLEASE NOTE. LRL PROGRAMMER'S TIME ON-LINE TO COMPLETE WRITING OF ACCEPTANCE TEST PROG.

R. BECKMAN TECH. PEOPLE HERE FOR TRAINING.



Notes: LRL REQUIRES 6 SETS OF ALL WIRING DIAGRAMS, BLOCK SCHEMATICS, MAINTENANCE AND INTERFERENCE

SYSTEM CONSTRUCTION SCHEDULE PDP-1C-12 (LRL) R. SAVELL X-239 3/24/62

UNIVERSITY OF CALIFORNIA

LAWRENCE RADIATION LABORATORY
P. O. BOX 808
LIVERMORE, CALIFORNIA

April 10, 1962

Digital Equipment Corporation
Maynard
Massachusetts

Attention: Mr. R. E. Savell

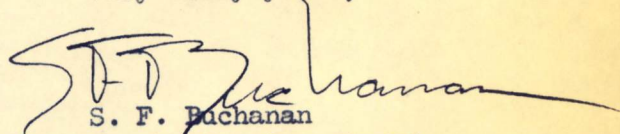
Subject: Our Purchase Order 8030407

Gentlemen:

Thank you for your letter of March 29 and the accompanying schedule. We are very concerned that you are behind on several items--off-line checkout of the CRT's, printer, card punch, IBM tape control, and printer, also production of some of the modules. If you are behind on any items in your April 10 report, we request that you include some comments as to what you are doing to catch up, whether delivery of the computer system will be delayed by those items, etc.

We understand that the Speedreader was delivered to you last week, which presumably was soon enough to fit into your schedule for on-line checkout. We understand that the card punch has been on hand for some time. As Mr. Lafranchi advised you last week, the camera-eyeball system will be considerably delayed and may not be delivered to you until early May. We hope that it will still be possible to incorporate it into the computer but cannot risk having the rest of the computer system delayed for it. We shall contact you before having the camera-eyeball shipped from Vought and decide what to do at that time.

Very truly yours,


S. F. Buchanan
Purchasing Department

SFB/sh

cc: Messrs. H. E. Anderson, P. J. Bonner, J. Brown,
R. Cajolet, B. Gurley, J. Kondela/DEC

Dr. S. Fernbach, Messrs. R. P. Abbott, W. D. Johnson,
E. A. Lafranchi, Mrs. D. T. Monk, Mr. G. E. Strahl/LRL

April 5th, 1962

Dr. Vladimir Zworykin
RCA Research Laboratory
Princeton, New Jersey

Dear Dr. Zworykin:

We felt very privileged to have you stop by our booth at the IRE show last week. This project is indeed a fascinating one and also rather refreshing because it has no military implications.

In reviewing what you told us about your system, we find that there are a number of points that we are not clear on and so we look forward to receiving your specifications when you are ready to release them.

We did have another idea on how to approach this problem which you might be interested in. If a high speed general purpose computer were used to scan the picture and produce a punch paper tape, then each loom would need very little equipment other than a paper tape reader. This system would have several potential advantages. We already have a high speed computer with a precise flying spot scanner and so it would be possible to demonstrate the idea very quickly. The investment in a factory might be significantly less with one computer, but relatively inexpensive equipment on each loom.

A computer could do a number of other useful things also, for example it could automatically scale the size in each dimension.

I would think that it would be desirable to have horizontal or vertical lines in the pattern all in one row of tufts. This may not work out in an optical system because of the slight inaccuracies inherent in an optical system. However, the computer could be programmed to correct this so that all lines that almost fall in one row would be made to exactly fall in one row.

With a color cathode ray tube output the computer could also be used to help design rug patterns and to present them in color before the paper tape is punched out.

If this approach of using a computer is of interest to you, we would like to explore it further with you. Otherwise, we will look forward to receiving your specifications on your system.

Sincerely yours,

Kenneth H. Olsen
President

KHO:apm

cc: Stan Olsen
Harlan Anderson
Ben Gurley

COPY

NORDBLOM
COMPANY

REALTORS

50 CONGRESS STREET · BOSTON 9 · MASSACHUSETTS · HUBBARD 2-7000

February 6, 1962

Mr. Harlin Anderson
Digital Equipment Corporation
Maynard, Massachusetts

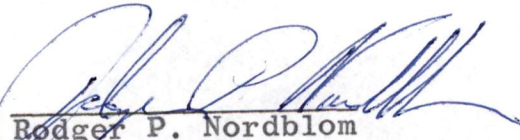
Dear Mr. Anderson:

It has been almost a year since I last discussed with you your space situation, and I am curious to know whether or not you have located a parcel of industrial land since we last talked or are you still in the market.

As we discussed earlier, we would be most pleased to present you with a package lease plan proposal for a new building in our Littleton Industrial Park at Routes 495 and Route 2. Our plans have been moving forward, and we are still looking for a lead-off company for the Park.

I would appreciate hearing from you.

Sincerely yours,



Rodger P. Nordblom
Vice President

RPN:sbr

