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Folder Record

Title: Ken Olsen Collection

Author: Olsen, Kenneth H.

Arrangement: Series I: Letters to/Letters from

Imprint: 1959

Subjects:

Description: One folder

Notes: All letters date from 1959, except one, dated December 17, 1958.

Summary: Among the general correspondence dealing with the day-to-day issues of managing the production of Laboratory Modules at the Maynard Mill are the letters below which provide specific information regarding current activities and future directions:

Apr 10 to Lamir Washington, MIT ILO: snapshot of company and its history up to 1959

May 26 and May 27 to Robert Cesari, Blair Spencer & Buckles (DEC's patent attorneys): discussing items to be submitted in patent applications

Aug 12 to W.R. Thomas, Elliott Bros.: response to inquiry regarding European manufacturing license (additional letters in folder to Thomas discussing overseas manufacturing)

Aug 17 to Donald H. Glaser, Central Institute for the Deaf: prototype for PDP-1

Oct 21 (copy of letter from Jonathan Fadiman) to Gerald Smith, Daystrom Instruments: proposal and price quote for Memory Tester

Nov 10 to Norman Taylor, ITEK Corp.: invitation to visit Eastern Joint Computer Conference and see PDP-1

Nov 12 to Dr. Sidney Weinstein, Albert Einstein College of Medicine: configuration and price quote on PDP-1

Nov 25 to Ted Johnson, DEC California: plug-in panel for building blocks, 4000 series, and availability of PDP-3. Also touches on possible difficulties in getting Johnson's questions answered

Dec 9 to Prof. Jay Forrester, MIT: acceptance of consulting offer—1 day/month (\$5,000/year)

Dec 9 to Prof. Jay Forrester, MIT: confirmation of \$7,500 grant to the MIT Industrial Dynamics Group for 1 research assistant to "study the dynamics of growth in a small research based company."

Dec 15 to E.T.C. Farley, RCA: snapshot of company, list of Board of Directors and key personnel

Dec 24 to A.I. Pressman, Pressman Associates: description of product lines and plans to offer computers

December 28, 1959

Mr. Rogers W. Johnson
4318 North 12th Street
Phoenix, Arizona

Dear Mr. Johnson:

Thank you for your letter of December 22 requesting information about Digital Equipment Corporation.

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

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

Thank you for your interest.

Sincerely yours,

Kenneth H. Olsen

KHO/jv
Enclosures

December 24, 1959

Mr. A. I. Pressman, President
Pressman Associates
7803 Parnsworth Street
Philadelphia 15, Pennsylvania

Dear Mr. Pressman:

I am enclosing schematics of our Flip-Flop and Inverter Packages which look very imposing but I hope they can be of use to you. If you would like to simplify them to make them more readily understood, feel free to use them as you will.

We have two lines of equipment: The Test Equipment line is used for patching logic together quickly and enables you to modify it easily. It is used for production testing and laboratory simulation and developmental work. The System Building Blocks are for permanent or semi-permanent application. The Test Equipment uses three supply voltages +10 as a bias and marginal checking, -15 as a main power source and -3 as a clamp voltage for all the inverters. The System Building Blocks are used in large systems where distributing a low voltage like -3 is difficult, and so we use only two voltages +10 and -15 and develop a clamp voltage internal to each plug-in by means of forward biased silicon rectifier chain. This internally generated -3 is then used as a clamp voltage only within the plug-in unit. I am enclosing schematics of the Test Equipment and the System Building Block units so that you can see the difference and be able to use the one you are interested in.

We complement our flip-flops by a simple transformer-diode gating scheme. These flip-flops, like most, will actually complement by simply hitting both one and zero inputs simultaneously, but for reliable operation we insist on straightforward operation where only one side is pulsed. We do this by biasing the two secondaries of the transformer

from appropriate outputs so that only the desired secondary will pass a pulse to an input of the flip-flop. The fourth winding on the transformer is the carry pulse out which is used for counting. In the System Building Block 1201 there are two of these transformers so we can get two carries. This is particularly useful for up-down counters and adders, as you can see in the schematics and the System Building Block literature. This is about the simplest adder and up-down counter that I have seen and are quite often used with our equipment. In fact, people have used our 5 megacycle equipment for extremely low frequency applications because it has been the most economical way to make adders or up-down counters.

There are several components that are not logically needed which you could leave out for simplification. In the 201, there are in series with the output transistors two paralleled 10 ohm resistors which bias the transformer windings a little bit, and in the 1201 there is a 1N1217 in parallel with the 2200 mmfd. capacitor which does the same. These are logically not necessary and in fact only needed for rather extreme cases in parameter and in component deterioration.

We do not use emitter-followers (any more) because any accidental short circuit such as commonly happens with scope probes and meters will destroy the transistor. We use only inverters and diodes for logic and it is very hard to damage the units by accident external to the plug-in units. One advantage of the clamped inverters is that they can tolerate variation in the power supply and quite a bit of hum and so we have very simple-minded power supplies which consist only of resonant regulator transformers followed by silicon rectifiers and very large capacitors.

We now have the same circuitry in a 500 KC line. There seems to be little economy in going less than 500 KC. This new line is called the 3000 Series in Test Equipment and 4000 Series in System Building Blocks. The literature is not yet printed for the 4000 Series.

We have about a hundred types of units which we now sell, and a good number of these we keep in pretty large inventory

Mr. A. I. Pressman

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December 24, 1959

and fill most orders off the shelf. We have a lot of special units such as digital analog converters, sense amplifiers, memory drivers, digital indicator drivers, etc. If there is any way we can help you in these, we would be very glad to do so. Our variable delay and our variable frequency clock are very useful devices and if you would like to include schematics of those, we will send them along to you. The delays which put out a DC level during the delay and a pulse at the end of the delay are very useful in making pattern generators such as to be used in the memory tester.

If we can help you in any specific way, be sure to ask us.

Sincerely yours,

Kenneth H. Olsen

KHO/jv
Enclosures

COPY

December 24, 1959

Mr. Charles Cordiman
Scientific Engineering Institute
238 Main Street
Cambridge, Massachusetts

Dear Chuck:

We haven't seen you for some time and I wanted to be sure that you know what we are doing so that we can help you if the occasion arises. We now have a 500 KC counterpart of our test equipment and System Building Blocks which are about half the price of the 5 megacycle line. Circuitry is about the same we developed for the high speed line but uses a less expensive transistor. We also have a very large number of special units now that do digital analog conversion, drive digital indicators, sense amplifiers, voltage comparison circuits, etc.

We are making systems now and we have the crew trained so that we can turn them out very quickly and we feel they do a good job. We have a small, high speed computer which we hope to sell as a standard item for people with somewhat special applications.

I am enclosing an assortment of our literature and if we at any time can be of any help, be sure and let us know.

Sincerely yours,

Kenneth H. Olsen

KHO/jv
Enclosures

December 24, 1959

Mr. Edward B. Rawson
Scientific Engineering Institute
238 Main Street
Cambridge, Massachusetts

Dear Mr. Rawson:

I was pleased to meet you at the Computer Conference and to hear about your interest in digital equipment. I am enclosing an assortment of our literature to give you an idea of the things we do. We can turn out systems that use our Building Blocks very quickly and we feel with very good quality.

If we can help you in any way, be sure to let us know. If you are ever out this way, we would like to show you things we are doing.

Sincerely yours,

Kenneth H. Olsen

KHO/jv
Enclosures

December 24, 1959

Mr. Raymond G. Stevens
Woods Hole Oceanographic Institute
Woods Hole, Massachusetts

Dear Mr. Stevens:

We were pleased to have you stop in and discuss our equipment at the Computer Conference. If you are interested in discussing this further, we would welcome the opportunity to come down to Woods Hole and discuss your problems with you; or, if you come up to Boston way at any time, we would like to show you our plant and spend more time demonstrating the computer which we have here now and expect to have for a few more weeks.

Our main product line has been Building Blocks and special systems which use these Building Blocks. If at any time you need special equipment or are interested in special equipment tied to a computer, we would be very pleased to discuss this also.

Sincerely yours,

Kenneth H. Olsen

KHO/jv
Enclosures

December 24, 1959

Professor Haas
University of Rhode Island
Providence, Rhode Island

Dear Professor Haas:

Several of your students visited our booth at the NEREM show and were particularly interested in our digital test equipment. This is designed for laboratory and production testing, but has been used by several industrial companies for educating new employees and is now starting to be used in schools. We have just now come out with a low speed version, the 3000 Series, which is relatively inexpensive that we hope to have used in schools.

We would be pleased to come down and demonstrate the equipment to you and we could leave a set of equipment on loan for some indefinite period of time for the students to experiment and play with.

If you would like to work on this with us, please let us know.

Sincerely yours,

Kenneth E. Olsen

KEO/jv

December 24, 1959

Mr. H. R. Flesch
ITT Laboratories
500 Washington Avenue
Nutley 10, New Jersey

Dear Mr. Flesch:

We were pleased to have you visit us last week and discuss our PDP computer. Please let us know if there is any way in which we can be of any further assistance to you on this.

We were interested in your discussion of the ITT tape machine. If you have any information on this machine, we would be very pleased to receive it. As you pointed out, this might very well be a useful device to tie on the PDP.

Sincerely yours,

Kenneth H. Olsen

KHO/jv

December 24, 1959

F. L. Moseley Company
409 North Fair Oaks Avenue
Pasadena, California

Dear Sirs:

We are considering XY recorders to be connected to our digital computers. Because we can supply low impedance signals with amplitudes of 10 volts or greater, we would like to know if it is possible to obtain a recorder which has less complexity than what is normally listed in catalogs.

If you have recorders which will take digital information directly, we would also like to hear about this.

Sincerely yours,

Kenneth H. Olsen

KHO/jv

December 24, 1959

Mr. E. C. Ashenberg
Department 7221
Eclipse-Pioneer
Division of Bendix Aviation Corporation
Teterboro, New Jersey

Dear Mr. Ashenberg:

We appreciate your inquiry for magnetic core memories. Digital Equipment Corporation does not make the ferrite cores, and we recommend that you contact Radio Corporation of America, 64 A Street, Needham, Massachusetts, General Ceramics Corporation, Crows Mill Road, Keasbey, New Jersey, and Telemeter Electronics, Inc., 2245 Pontius Avenue, Los Angeles 64, California.

These are the most active people in the field, and we have supplied memory testing systems to these people and are confident that they can supply completely tested planes and stacks. In addition, Ferroxcube Corporation, National Cash Register, and General Electric have started making cores but have not been very aggressive in the field.

We make a complete coincident current memory system as part of our Programmed Data Processor. We have not tried to sell this as a catalog item, but we would like to discuss your needs to see if it could be adapted to fit them. The memory in PDP has a 5 microsecond cycle time and is available in modules of 1000 or 4000 words of 18 or 36 digits in length. This memory is quite compact and we think has rather novel and simple circuitry. Several people in our engineering department have taken part in the development of the coincident current memory at Lincoln Laboratory from its inception.

We buy the memory stacks from one of the three main manufacturers and build the electronics here. The delivery of stacks has been 90 to 120 days, which is the limiting factor in a delivery schedule. We could deliver our memory in about three weeks after the time we could get delivery of the stack.

December 24, 1959

If you could tell us the word length and the number of words, we would be pleased to give you an estimate of the size and cost of this unit. We have only considered the temperature compensation within the normal extremes of occupied space, but we would like to know what your requirements are. There would be little gain in making the read-write cycle time less than 5 microseconds, but it might be possible to make it somewhat faster if that would be of use to you.

Our main product has been Building Blocks, which are now widely used by the large manufacturers and research groups in the computer field. I am enclosing some literature on these to let you know what they are. If we can be of any help, be sure to let us know.

Sincerely yours,

Kenneth H. Olsen

KHO/jv
Enclosures

COPY

December 23, 1959

Dr. Archie R. Tunturi
Project Director Navy Acoustic Research
University of Oregon Medical School
Department of Anatomy
Portland 1, Oregon

Dear Dr. Tunturi:

Thank you for your interest in Digital Equipment Corporation's PDP. I am enclosing some brief literature on this machine which will give you a general idea as to what it is. We are now preparing detailed specifications and, if you would like a copy, we would be glad to send one to you.

We are now connecting an analog input into the PDP-1 to demonstrate its use in digital averaging electroencephalographic responses to filter out random noise. With 1000 words of memory, which seems enough for this work, the PDP-1 will cost approximately \$89,000. With 4000 words of memory, it would cost about \$108,000.

The PDP-3 is identical with the PDP-1 except that the digit length is expanded and high speed multiply and divide are included. These computers are built with our standard line of Building Blocks and, as a result, can be added onto and modified readily with these Building Blocks.

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

Sincerely yours,

Kenneth H. Olsen

KHO/jv

Enclosures - PDP-1 brochure (2)
DATAMATION reprint (2)
Order Code (2)

December 21, 1959

Uptime Corporation
620 Gould Lane
Hermosa Beach, California

Dear Sirs:

We have some literature on your Speedreader 2000 which we picked up some time ago. We expect to purchase a card reader within the next few months to be tied in to our Programmed Data Processor, and we would like to receive any new information you may have on your card readers. We are particularly interested in simplicity and reliability and do not need the very high speed which you claim for the Speedreader 2000. It would also be most convenient for us if we could read the card column by column, but we understand this is not usually done.

If you sell card punchers or can make any recommendations for a card punch, we would like to receive this also.

Sincerely yours,

Kenneth H. Olsen

KHO/jv

December 18, 1959

Mr. Neal W. Welch
Vice President
Sprague Electric Company
North Adams, Massachusetts

Dear Mr. Welch:

We have eliminated the need for the Sprague 2M393 from about half of our product line and are now faced with the question as to how much further we should carry this program. The deliveries have not kept up to what we were led to expect and we would like to hear from you what we can expect in delivery during the next year.

We appreciate the co-operation you have given us, and we know that you realize that this is one of our most urgent problems.

Sincerely yours,

Kenneth H. Olsen
President

KHO/jv

December 18, 1959

Mr. C. H. Warshaw
General Sales Manager
Lansdale Tube Company
A Division of Philco Corporation
Lansdale, Pennsylvania

Dear Mr. Warshaw:

We have eliminated the need for Philco 2N393 transistors in about half of our product line. Before we set about to completely eliminate our need for this Philco transistor, I would like to ask you again when we can receive consistent deliveries on this unit. In May and in September of this year, I asked this question and each time received very optimistic answers; but they have been far from being realistic. And so I am asking again the same question and hoping that we will receive a realistic answer.

Sincerely yours,

Kenneth H. Olsen
President

KHO/jv

The attached letter was sent to the following:

Airflyte Electronics Co.
535-9 Avenue A
Bayonne, New Jersey

Applied Science Corp. of Princeton
P. O. Box 44
Princeton, New Jersey

Benson-Lehner Corporation
11930 W. Olympic Boulevard
Los Angeles 64, California

Cedar Engineering Division of
Control Data Corporation
5806 West 36th Street
Minneapolis 16, Minnesota

Consolidated Controls Corp.
6 Durant Avenue
Bethel, Connecticut

Eclipse-Pioneer Division
Bendix Aviation Corporation
Teterboro, New Jersey

Electro Tec Corporation
South Hackensack
New Jersey

Genesys Corporation
Sub of Chance Vought Aircraft
10131 National Boulevard
Los Angeles 34, California

Harvey-Wells Electronics, Inc.
North Street
Southbridge, Massachusetts

Instrument Development Laboratories, Inc.
67 Mechanic Street
Attleboro, Massachusetts

Kearfott Co., Inc.
Engineering & Sales Division
1378 Main Avenue
Clifton, New Jersey

Librascope, Inc.
808 Western Avenue
Glendale, California

Radiation, Inc.
Melbourne
Florida

Litton Industries, Inc.
336 N. Foothill Road
Beverly Hills, California

Sperry Gyroscope Company
Division of Sperry Rand Corp.
Great Neck, New York

Techniques, Inc.
40 Jay Street
Englewood, New Jersey

Telechrome Manufacturing Corp.
28 Ranick Drive
Amityville, New York

Wang Laboratories, Inc.
37 Hurley Street
Cambridge 41, Massachusetts

December 17, 1959

Applied Science Corp. of Princeton
P. O. Box 44
Princeton, New Jersey

Gentlemen:

We are interested in shaft encoders and found your name listed in ELECTRONICS BUYERS' GUIDE. Please send us catalog information on your shaft encoders.

Sincerely yours,

Kenneth H. Olsen

O/jv

December 16, 1959

Dr. Sidney Weinstein
Albert Einstein College of Medicine
Yeshiva University
East Chester Road - Morris Park Avenue
New York 61, New York

Dear Dr. Weinstein:

We demonstrated the FDP-1 during the Eastern Joint Computer Conference a week ago and it created quite a bit of interest. We also demonstrated the analog digital converter that we propose using for the electroencephalographic work, but it was not tied to the computer. We are now continuing to work on the demonstration of digital averaging and expect to have it working soon.

I would be interested to hear what schedule you are considering for this program. We can do things quite quickly when we have a goal to work for, and the only limitation I can think of in getting the program started is to find a technician or electrical engineer to take the responsibility for the machine when it is delivered.

Sincerely yours,

Kenneth H. Olsen

KHO/jv

December 15, 1959

Mr. E. T. C. Farley
Buyer, Subcontracting
Radio Corporation of America
Moorestown, New Jersey

Dear Mr. Farley:

Thank you for your interest in the products of the Digital Equipment Corporation. The main product line of Digital Equipment Corporation is Building Blocks used both in testing and in building of systems. RCA groups in Needham and Princeton, not only have been good customers for these Building Blocks, but have also been helpful in recommending these units to other people. We also manufacture digital systems, such as the Memory Tester, in the Needham plant of RCA.

We have now started the manufacture of Programmed Data Processors to be used in control, simulation, and experimental applications. The first model of this computer was demonstrated at the Eastern Joint Computer Conference where it created much interest because of its speed and relatively low price. We are now preparing complete specifications on this machine and when they are available, I will send a copy to you.

Digital Equipment Corporation was incorporated in August of 1957. In just a few months we were manufacturing Building Blocks on a profitable basis and have been developing new products continually since then. The company is financed by American Research & Development Corporation, of Boston, and the Board of Directors now consists of:

Dean Vernon Alden - Associate Dean, Harvard Business
School
Earlan Anderson - Vice President, Digital Equipment
Corporation
John Barnard - Attorney

December 15, 1959

Wayne Brobeck - Vice President, Ionics Corporation
William Congleton - Technical Director, American Research
& Development Corporation
Arnaud de Vitry - Socony Oil Company
J. W. Forrester - Professor of Industrial Management, MIT
Harry Hoagland - Vice President, American Research &
Development Corporation
Kenneth Olsen - President, Digital Equipment Corporation.

Most of the key personnel came from Lincoln Laboratory, MIT, where they played key parts in the development of the first coincident current magnetic core memory, the MTC computer, the SAGE system, the TX-0 and the TX-2 computers. Kenneth Olsen, President, received a B.S. and M.S. from MIT. He was at Lincoln Laboratory seven years before the founding of DEC. Harlan Anderson, Vice President, has a B.S. and M.S. in Physics from the University of Illinois and has taken part in many of the computer programs at Lincoln Laboratory. Dick Best, Chief Engineer, graduated from Cornell University and has worked at the MIT Radiation Lab, General Electric, and Lincoln Laboratory where he was in charge of the circuit development for the SAGE system. Benjamin Gurley, Systems Manager, graduated from the University of Minnesota and has worked at Naval Proving Grounds and Lincoln Laboratory.

DEC now has about eighty employees and occupies approximately 30,000 square feet, which includes space for machine shop, sheet metal fabrication, painting, silk screening, and complete etched wired manufacturing facilities.

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

Sincerely yours,

Kenneth H. Olsen

KHO/jv
Enclosures

December 9, 1959

Mr. David Caldwell
Massachusetts Institute of Technology
Room 26-559
Cambridge 39, Massachusetts

Dear Mr. Caldwell:

We appreciate hearing of your interest in our Programmed Data Processor. I am enclosing a few pamphlets on this which give you a general idea about the machine. We are working on more specific literature and I will send that along to you when it is available. I would like to call your attention to the fact that there is a little bit written on it in the latest DATAMATION Magazine.

Be sure to let us know if there is any way we can help you.

Sincerely yours,

Kenneth H. Olsen

KHO/jv
Enclosures

December 9, 1959

Mr. John Loebel
Schlumberger Well Surveying Corporation
Ridgefield Instrumentation Division
Ridgefield, Connecticut

Dear Mr. Loebel:

It was nice to hear from you again today and I hope we were able to help. The company we suggest most heartily is Data Processing, Inc., 572 Washington Street, Wellesley St, Massachusetts, Phone: CEDar 5-5494. Other people in this field, but who might be more interested in long-term system development are:

Charles W. Adams Associates, Inc.
142 The Great Road
Bedford, Massachusetts
Phone: CRestview 4-8050

Systematics, Inc.
John Ackley, President
130 Orient Way
Rutherford, New Jersey
Phone: GENEva 8-9503
New York Phone: UNiversity 5-8247

Computer Usage Co., Inc.
18 East 41st Street
New York, New York.

I am enclosing some pamphlets on our new computer which created quite a bit of interest at the show because of its speed, capability and low price. We are, of course, not in a position to give the services that most large computer companies are able to.

Mr. John Loebel

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December 9, 1959

If we can be of help at any time, please be sure to let us know.

Sincerely yours,

Kenneth H. Olsen

KHO/jv
Enclosures

COPY

December 9, 1959

Professor J. Forrester
School of Industrial Management
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

Dear Professor Forrester:

As a result of our discussions the past several weeks, the Board of Directors of Digital Equipment Corporation has voted to make a grant in aid to MIT to be used in the Industrial Dynamics group for the study of dynamics of growth in a small research based company. We feel privileged to take part in this study and look forward to the results both to the general knowledge of this subject and to our specific company.

It was voted to pay \$7,500 for this project, which we understand will support one research assistant for one year. We will await word from you as to how this should be paid.

Sincerely yours,

Kenneth H. Olsen
President

KHO/jv

December 9, 1959

Professor J. Forrester
School of Industrial Management
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

Dear Jay:

The Board of Directors of Digital Equipment Corporation has voted to accept your offer of consulting for the corporation for one day per month at the rate of \$5,000 per year. We appreciate this opportunity and look forward to the continuing relationship with you. We would like to pay you at the end of each month, if this is convenient for you. Please let me know which month we should consider the consulting has started.

Sincerely yours,

Kenneth H. Olsen

KHO/jv

December 9, 1959

The Cool-Amp Company
Department ED
8603 S.W. 17th Avenue
Portland 19, Oregon

Dear Sirs:

Please send descriptive information and prices
on your silver-plating powder.

Sincerely yours,

Kenneth H. Olsen

KHO/jv

December 9, 1959

Miss Genevieve V. Krawczyk
34 Locnis Drive (A-1)
West Hartford 7, Connecticut

Dear Miss Krawczyk:

Thank you for your letter of December 3 requesting information about Digital Equipment Corporation.

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

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

Thank you for your interest.

Sincerely yours,

Kenneth H. Olsen,
President

KHO/jv

Enclosures: Digital Test Equipment folder
System Building Blocks folder

December 8, 1959

Research Products Corporation
Madison 10
Wisconsin

Dear Sirs:

We have been pleased with the operation of your E-Z Kleen dust filters on the Tektronix oscilloscopes and we would like to consider using them on our own equipment. Please send descriptive information and prices on your 10 inch square RP-1" MV dust filter. If you make the square frame which Tektronix uses to hold the filter in place, we would like to know the prices of that also.

Sincerely yours,

Kenneth H. Olsen

KHO/jv

December 8, 1959

CE 7-0920

Mr. J. F. Cummings
Sales Representative
International Business Machines
492 Union Avenue
Framingham, Massachusetts

Dear Mr. Cummings:

Thank you for visiting us and explaining the IBM card machines that might be useful to our application. Because tying a card machine to our equipment will always be somewhat different from the application to which the machine is made, we would like as much technical information as possible. If they are available, we would like operator's manuals and maintenance manuals on the following pieces of equipment: the 7500 reader, the 7550 punch, the 523 gang summary punch, and the 526 summary punch, the 514 reproducing punch and the 407 line printer. We will be pleased to pay for this literature. If the output manual for the 514, 523, and 526 is still available, we would like to have a copy of that any any other literature which you think would be helpful to us. Thank you.

Sincerely yours,

Kenneth H. Olsen

KHO/jv

2/25/60 HEA called IBM and talked with Mr. Cummings' secretary. She is going to send the requested manuals.

December 8, 1959

Mr. Robert Shapton
67 Root Street
New Hartford, New York

Dear Bob:

Thank you very much for loaning me your volume of literature. It is indeed a worthwhile collection and I appreciate having seen it. We have requested a number of the things from the publishers.

We finished our computer a couple of weeks ago and demonstrated it at the Eastern Joint Computer Conference last week in Boston. It created some stir because of its capability in a reasonably low price range. We have no plans as to how we are going to market this, but we feel that we should be able to sell a few in the next year and we will feel our way as to what we should do from there.

We are co-operating with J. Forrester on a study of the dynamics of growth of a research based company. I will let you know what results develop from this.

Sincerely yours,

Kenneth H. Olsen

KHO/jv

December 8, 1959

Editorial Service
STEEL
Kenton Building
Cleveland 13, Ohio

Gentlemen:

We have just had the opportunity to read reprints from your 1957 and 1958 management series. I am very pleased with these articles and if reprints are still available, I would very much appreciate receiving a set.

Please send information necessary to subscribe to STEEL.

Sincerely yours,

Kenneth H. Olsen

KHO/jv

December 7, 1959

Dr. Datum
Computer Usage Co., Inc.
18 East 41st Street
New York, New York

Dear Dr. Datum:

We are pleased that you stopped at our booth during the Eastern Joint Computer Conference and I enjoyed telling you a little bit about our computer. We will send more literature to you as it becomes available, and someday we might co-operate on a business operation.

If you have a brochure or a note on your operation, we would like very much to have one on file so that we can be able to suggest to people where they can look for your type services.

Sincerely yours,

Kenneth H. Olsen

KHO/jv

December 4, 1959

Mr. George A. Davidson
Instrumentation Laboratory
Massachusetts Institute of Technology
68 Albany Street
Cambridge 39, Massachusetts

Dear George:

I was pleased to run into you at the show and to hear of your interest in the 4000 Series. We are now preparing the literature on it. It will not be out for a little while, but we do have the text written and if you have any immediate applications for it, we would be very glad to talk to you about it and to give you this information in its mimeographed form.

If we can be of any help at any time, please let us know.

Sincerely yours,

Kenneth H. Olsen

KHO/jv

December 4, 1959

Mr. A. I. Pressman, President
Pressman Associates
7803 Farnsworth Street
Philadelphia 15, Pennsylvania

Dear Mr. Pressman:

We were pleased to meet you again at the EJCC and to hear about your new book. We would like to do all we can to co-operate in this because you realize the value in distributing this information. We are now preparing some schematics to send along to you with some descriptive information on our circuits and our general approach to logical design. You should receive these within the next two weeks.

If we can be of help in any other way, please be sure to let us know.

Sincerely yours,

Kenneth H. Olsen

KHO/jv

December 4, 1959

Mr. Joseph Smith
Division Manager
Bryant
Computer Products Division
P. O. Box 620
Springfield, Vermont

Dear Mr. Smith:

We were pleased to see the announcement of your new Disk File at the EJCC this week. We have seen the need for a device like this for some time, and we are sure it will be a contribution to the field.

John Hancock Insurance Company has long-term plans for consolidating all its information storage and computation for the whole country in one office, but the last we heard they were held up by the need for a large memory. Another interesting project which needs a tremendous memory is for the Public Health Department in Los Angeles, which is apparently well run and very thorough in everything except finding previous history on individual cases. They would like a central library of information that would immediately give back all previous history on an individual no matter which Health Center he happened to enter.

We are now building high speed data processing systems and may have a need for a large memory system like this. Our main product line is digital test equipment and we would like to explore the possibility of being of help to you. Our Building Block line can be patched together to generate patterns and test logic and to drive current sources for testing memory devices. We also make test systems like the 1511 and 1512 on which I have included some literature on. We have made these testers for the manufacturers of coincident current memories and are now considering modifying the basic design

Mr. Joseph Smith

-2-

December 4, 1959

to test drums for one of the manufacturers of high density drums.

If you have need for test equipment in this line, we would like very much to come up and demonstrate it to you.

Sincerely yours,

Kenneth H. Olsen

KHO/jv
Enclosures

*Bldg. Block
1511 - w/akola
1512*

COPY

December 4, 1959

Mr. Yngvar Lundh
Norwegian Defence
Research Establishment
Division for Telecommunication
Lillestrom, NORWAY

Dear Mr. Lundh:

I was pleased to have the opportunity to talk with you before you left this country and to hear your enthusiasm for the TX-0 machine. I am sending under separate cover copies of the literature we now have on building blocks and PDP. Soon we will have a PDP programmer's manual and I will send you a copy of that.

sent 12/7

If we can ever be of any help, be sure to let us know and we will be glad to do what ever we can.

Sincerely yours,

Kenneth H. Olsen

KHO/jv

December 3, 1959

Mr. Erwin Tomash, President
Telemeter Magnetics, Inc.
2245 Pontius Avenue
Los Angeles 64, California

Dear Mr. Tomash:

We were pleased that you were able to visit our company several months ago and I am sorry that I was not here to greet you at that time. We have enjoyed doing business with your company in the last few months and we hope that it continues to be profitable for both of us.

Messrs. Banes and Rosenthal of Lehman Brothers have met with American Research and asked about the possibility of Telemeter Magnetics and Digital Equipment Corporation making some formal ties with each other. I would like to give you my thoughts on this subject directly.

We have felt that it was likely that we would eventually have to make ties with some other organization, but right now we are so new and our immediate future so obviously laid out before us that we do not feel we want to consider any tie right now.

Although our answer is negative for now, we would like very much to keep our contact with you. I will probably be in California in the next few months and would like to visit you.

Sincerely yours,

Kenneth H. Olsen

KHO/jv

Baird Atomic in Cambridge is interested in the PDP-3 very much like the one Navy wants. The only problem there is that they too would like to rent it.

The Neren Show was very successful. It was significantly larger this year and well done. There are still alot of distributors and representatives booths there but there were a number of West Coast outfits and in general a well done show. We received a lot of interest and were very pleased with the whole thing. The telemeter magnetics memory tester was the only interesting system at the whole show, and many people tried to flatter us by saying we had the best looking booth in the show.

Sincerely yours,

Kenneth H. Olsen

KHO/nmb

COPY

November 23, 1959

Dr. Frank Verzuh
MIT, Department 637
77 Massachusetts Avenue
Cambridge, Massachusetts

Dear Dr. Verzuh:

I was pleased that you stopped at our booth at the show last week because I wanted to see you for some time. I would like to explore the possibility of using our Digital Test Equipment for educational purposes. It seems ideally suited for this. If you could recommend someone for us to contact to explore its use with, we would appreciate it very much.

Be sure to visit our booth during the Eastern Joint Computer Conference and see our Programmed Data Processor. We are very proud of this machine because it went together so easily and operated so quickly. We started off building a TX-0, but so many people had ideas for improvements that it has become more sophisticated. Because of our building block approach, we can make many variations including almost any digit length, very high speeds, and multiplication.

If you are ever out this way we would like very much to show you our place and let you see the kind of work we are doing.

Sincerely yours,

KHQ/nd

Kenneth H. Olsen

November 19, 1959

Draft Board
Local #18
Framingham, Massachusetts

Gentlemen:

One of our employees, Richard Krachune, has received a draft notice from you. We consider Mr. Krachune a valuable part of our company's contribution to the defense effort and to the development of new advanced technology.

Digital Equipment Corporation engineers and builds advanced, very high speed computing and data processing apparatus and has made significant contributions to the defense and space programs. About 80% of our business is in these programs.

Mr. Krachune is valuable to us because of his skill inventiveness and reliability. Because our company is young and small (75 people), and because of the developmental nature of our work, it is most critical that we have people who can do work without close supervision. Mr. Krachune has taken responsibility for experimental sheet metal work, plastic preparation, and automatic soldering.

If anything can be done to make it possible for us to keep Mr. Krachune as part of our staff we would appreciate it.

Sincerely yours,

KHO/nd

Kenneth H. Olsen
President

KHO file

November 19, 1959

Mr. Robert O. Smith
2 Sedgwick Road
Cambridge, Massachusetts

Dear Mr. Smith:

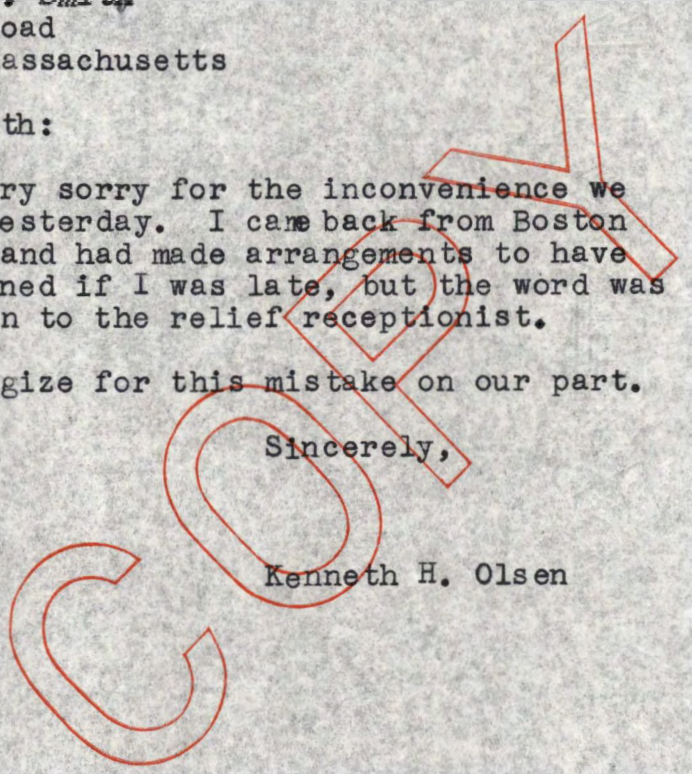
I am very sorry for the inconvenience we caused you yesterday. I came back from Boston to meet you and had made arrangements to have you entertained if I was late, but the word was not passed on to the relief receptionist.

I apologize for this mistake on our part.

Sincerely,

Kenneth H. Olsen

KHO/apr



A-1179

November 18, 1959

Mr. William A. Rote
Polaroid Corporation
Cambridge 39, Massachusetts

Dear Mr. Rote:

Thank you for your inquiry on electronic replacement for the "Memory Wheel". This is a very interesting application and our equipment could easily do this job. We are convinced that our equipment would have the reliability you desire because it is very conservatively designed and completely transistorized. This equipment, however, is designed to do more complex operations and at higher speeds, so it may not be economical for you to use. We do give good service and our equipment is readily available, so the greater price might be worth while to you. I would also recommend that you discuss this problem with Di-An Controls Inc., 40 Leon Street, Roxbury, Massachusetts. This organization makes core shift registers and the people there have had quite a bit of experience.

We could make a 30 digit transistorized shift register of our standard low speed (500 Kilocycles) transistor building blocks. These circuits are very straight-forward operation with transistor-gating and are not dependent on wave shapes or other critical factors. Complete with power supplies and mounted in a small cabinet, this shift register would cost two to three thousand dollars. If you would like to talk further, we would be glad to come down and discuss the details with you.

Sincerely yours,

Kenneth H. Olsen

KHO/nd

11/17/59
November 17, 1959

Mr. Albert Trobowitz
Bank of America
Data Processing Center
500 Howard Street
San Francisco, California

Dear Mr. Trobowitz:

Thank you for your interest in Digital Equipment Corporation's products. DEC makes a line of fast and reliable building blocks and digital systems which use these building blocks.

Because we maintain a large inventory of building blocks, we can give very fast delivery on special digital systems. Our engineering staff has a well rounded digital background, and several of our people played key parts in the design of the MIT Whirl-Wind, MTC, SAGE, TX0 and TX2 Computers. We are now building a computer which we plan to sell as a building block for special systems. This computer will compare favorably and capably with the giants, but we feel that it will have better reliability. It is a binary machine with a 5 microsecond memory cycle time. The memory is available in modules of 4096 words each. Word lengths will be available in 18, 24, 30 and 36 digits.

The first model of this computer is now operating and we will demonstrate it at the Eastern Joint Computer Conference in December. The literature is not complete as yet, but I will send you a copy of it when it is.

We have a West Coast Office in Los Angeles, and if you have any further questions please contact Mr. Theodore Johnson, 690 North Sepulveda Boulevard, El Segundo, California.

Sincerely yours,

KHO/nd

Kenneth H. Olsen

cc: Mr. Ted Johnson, West Coast Sales Manager

Enclosures

November 17, 1959

Mr. Julius T. Tou
Associate Professor of
Electrical Engineering
Purdue University
School of Electrical Engineering
Lafayette, Indiana

Dear Mr. Tou:

On 22 September 1959 you requested information on our logical building blocks for use in your School of Electrical Engineering Digital Control Laboratory. This week at the Northeast Radio Engineering Meeting we are announcing our new low speed, low priced, digital Test Equipment. This line uses the same type circuits and the same reliable components that are used in our high speed units and will be just as convenient to use, but because they do not use the very expensive high speed transistors the cost is approximately half that of the high speed line.

I am enclosing a brochure on this new low speed line which we call our 3000 Series. If you would like a demonstration, or if you would like to borrow a set up to try, we would like very much to work with you,

Sincerely yours,

Kenneth H. Olsen

KHO/nd

Enclosure
3000 Series Brochure

November 17, 1959

Mr. John P. Hervey
Rockefeller Institute
Box 745
Woodshole, Massachusetts

Dear Mr. Hervey:

Thank you for your interest in Digital Equipment Corporation's digital building blocks. We maintain a large inventory of many types of digital units and for problems we can give very fast service. We also have a well qualified engineering staff which we like to use in helping customers and potential customers in the use of our equipment. I am enclosing brochures on our standard line of building blocks which describes their applications. In addition to these we have a number of special units, such as memories and special converters and amplifiers to drive in-out equipment. We also have the facilities to design and build special systems which uses this type of equipment.

If you are ever in this area, we would like to show you our plant and the work which we are doing, and discuss your problems. If not, we would like to come down and visit you and give you a demonstration of our equipment.

You asked particularly about "nor" circuits. We have at times considered the use of "nor" circuits because of their apparent economy and simplicity, but in each case, when considered from the overall point of view, they were not the most practical approach and so we have, in general, rejected them. We would like to talk to you about your exact needs and compare the use of "nor" circuits with our standard line with you. Several people in the industry have stopped using "nor" circuits after their first experience in building a system with them because much of the apparent gain is lost when all functions of a system are included.

Cont. 2

Please let us know if we can be of help to you in any way.

Sincerely yours,

KHO/nd

Kenneth H. Olsen

Enclosures

Digital Test Equipment Folder
System Building Blocks Folder

COPY

KH0 file

November 17, 1959

Dr. Sidney Weinstein
Albert Einstein College of Medicine
Yeshiva University
East Chester Road-Morris Park Avenue
New York 51, New York

Dear Dr. Weinstein:

We had a rather long conference last week with the salesmen from Ampex, and I now have a better idea as to what you need in equipment when you want to record on tape.

The salesman who covered our area is now moving down into the New York area and while he was visiting us, I took the liberty of telling him of your problem and gave him your address so that he can contact you directly.

Ampex makes three units that would do the job and have included literature on each of them. The FR1100 is least expensive, the FR1000 is next, and the FR600 is a very expensive unit. I suggest that you consider only the FR1100, because I believe that it has more than the necessary precision for your application. The system that we talked about would have seven recording channels, one for stimulus and six for responses and two play back channels, one for stimulus and one for response to be analyzed. Ampex likes to price these as a complete system, but the cost of the individual parts is approximately as follows: The mechanical tape handler - \$3,000, the read-record head assembly - \$1,200, 7 FM recording amplifiers - \$2,500, 2 FM reproducing amplifiers - \$1,400, 3 power supplies - \$1,200. I stressed the point that you would have to move this unit from location to location and it should be reasonably portable, and they suggested that it would be possible to put the mechanical handler in one package and the electronics in another. This would probably add somewhat to the cost, but it would make it possible to carry the units from one hospital to another in a station wagon rather than a truck that would be needed to carry the units as shown in the literature in large racks. The mechanical handler is 24" high and 19" wide and perhaps 19" deep. The electronics would fit in the same space with room to spare for addition later.

Cont. 2

FM carrier recording is necessary in order to record the low frequencies involved in this work. This is somewhat more expensive and would direct recording which is the type used on home tape recorders.

MIT has a seven speed machine (which cost \$750 more than the regular 4 speed machine), but I think they bought this to carry on analytical experiments before they had digital data processors and so I suggest that you buy a simple 4 speed machine. I don't think you will need the accessories listed on page 10 or 11. The total system will cost approximately \$10,000. If you wanted a second machine to stay with the data processor so that you wouldn't have to take the tape recorder home each time you wanted to analyze data, it would probably be better to have it mounted in a standard Ampex rack.

I expect to be in Connecticut for Thanksgiving Day, and if you feel that further discussion would be worth while at this time, I could stop in to see you on Friday, November 27. Be sure to let us know if you have any more questions.

Sincerely yours,

Kenneth H. Olsen

KHO/apr

Enclosure:
Ampex literature

November 17, 1959

Mr. Robert J. Horn Jr.
Kenway, Jenny, Witter, and Hildrith
24 School Street
Boston 8, Massachusetts

Dear R. J. ,

When you asked about the use of Magnetic Core Switches in industry today, I was not able to give you very many definite examples because most of them are not at all conspicuous. The one big application is in the IBM Magnetic Core Memories used in the 704-709 series computers. This switch is a anti-coincident current switch and if you have noticed on an IBM machine it is the square array of orange colored discs on each side of the memory. Actual switches are made by Sprague and it is possible that they are selling them to other people.

The history of the anti-coincident current switch from our point of view is as follows. This type switch is a variation of the original Magnetic Matrix Switch and in fact in the case of a ~~star~~ position switch they are identical and you could call it one or the other.

I wrote an M note in about 1953 or 1954 titled a Linear Selection Memory and an Anti-Coincident Current Switch in which this switch was described. It's rather a strange name and I would assume that IBM got the idea for the switch and the name from this memo. Because at that time they had very free access to all our memoranda. I always assume that they went to this switch because RCA had a patent on the Coincident Current Switch which is very much like the Coincident Current Memory except that each switch position is biased TCY's by a common winding to allow large selection tolerances.

When you consider licensing this switch, I would recommend that any licensing arrangement in the coincident current memory not be considered as a basis because the cost of a switch position is many times that of a wired coincident current memory. Now you can buy coincident current memories wired ready to install for less than 10 cents a bit but in general I believe switches would cost several dollars per core. If we can be of any further help to you be sure to let us know.

Sincerely yours,

Kenneth H. Olsen

KHO file

November 13, 1959

U. S. Navy Purchasing Office
929 South Broadway
Los Angeles 15, California

Re: 1FB-123-106-60

Dear Sirs:

Enclosed herein are two completed copies of the Invitation to Bid, No. 1FB-123-106-60. Also enclosed is some additional information pertinent to this bid which may be useful in evaluating the capability of DEC to undertake this contract.

If there are any questions or if you would like any further information, please do not hesitate to contact us. Thank you for this opportunity to submit a proposal, and we await your favorable reply.

Sincerely yours,

Kenneth H. Olsen
President

KHO/apr

Enclosures:
2 Copies, Invitation to Bid No. 1FB-123-106-60

cc: Ted Johnson
West Coast Sales Manager

The following information concerns the proposal for the engineering and assembly of a Buffer Control Unit as outlined in the Invitation to Bid, No. 1FB-123-106-60.

Standard DEC Building Blocks will be used throughout the machine. Enclosed are pictures of such a plug-in unit, a picture of the manner in which such units are mounted in our Mounting Panel, and a picture of a complete system, a Dynamic Memory Tester, which we have recently constructed. All necessary power supplies, mounting panels, and output plugs will be included. The machine will come complete in an enclosed cabinet. It will operate from standard 105 - 125 v., single phase, 60 cycle, a-c power.

DEC will provide all necessary buffers to convert from standard DEC levels to the required input-output levels and from input levels to DEC levels. The flip-flops contain built-in output amplifiers, ZERO input, ONE input, and complement input. The output signals have built-in delays so they can be sensed reliably at the same time that the input is being pulsed.

November 13, 1959

Mr. Wayne T. Brobeck
1426 G Street N. W.
Washington 5, D. C.

Dear Wayne:

Thank you very much for your letter. We'll try to take advantage of your suggestions and I definitely will let you know when Andy and I are in Washington to make an appointment to see the NASA Washington man on Computers.

I don't think there are any particularly significant issues coming up in the next Board Meeting and so I would not want to inconvenience you by a trip to Boston. However, if you are in a need of a break from the Washington shuffle, we would like very much to have you and DEC would consider it a privilege to pay for your trip.

I am enclosing a copy of our expense account forms, so if you can make the trip you can just mail this into us and we take care of it right away.

Sincerely yours,

Kenneth H. Olsen

KHO/nd

Enclosure
Expense Account Form

November 12, 1959

Dr. Sydney Weinstein
Albert Einstein College of Medicine
Yeshiva University
East Chester Road - Morris Park Avenue
New York 61, New York

Dear Dr. Weinstein:

We completed assembling PDP-1 last week and are now running very simple programs in the machine. In just a few weeks, we plan to have a response averaging program written and running in the machine. We should be able to demonstrate it to you and to anyone who is interested. The machine does not have the typewriter connected to it yet and the console is not quite complete but the fact that the computer runs programs the same week in which it was completed makes us feel very proud and that means that it will be ready for demonstration very soon.

I've itemized the equipment which I think you will need to get started in using PDP-1 in simple response averaging where the subject is connected directly to the computer. I've enclosed a few brochures on some of the equipment which I suggest you include. You would do well in checking with Wes Clark to see what his ideas are.

For your immediate work, I think that 1024 words of memory would be sufficient and we could give immediate delivery. But for later work, you will need at least 4000 words of memory and we would offer to take back the 1024 memory and replace it with a 4000 word and subtract the full cost of the 1024 word memory.

I told you that I didn't think you'd need a mathematician to write programs for your computer, but after looking at some of the work which is going on in Rosenblith's laboratory, I am not so sure. I must admit I don't follow the mathematics myself and if you wanted sophisticated mathematics of that type you would, have to have someone who could understand it.

I'm not ready yet to make a proposal as to what you should have for tape recorders. I've enclosed a brochure for an Ampex Recorder which is the general type used at Rosenblith's

Cont. 2

laboratory. These are quite expensive and complicated and not very portable. I think that for now you should not consider recording on tape but only connecting directly to the patient. I suggest that you contact the local Ampex representative and see what he says.

We're very much interested in your problem and are now working on the program for response averaging. I will continue to work on the problem of tape recording to see if a more portable and less expensive system is possible and I will let you know as we make progress.

Sincerely yours,

Kenneth H. Olsen

KHO/nd

Enclosures

Complement List
Technibilt Sheet
Ampex Brochure
Houston Instrument Sheets

COPY

**Complement List for
Dr. Sydney Weinstein
Albert Einstein School of Medicine**

1. One 18 digit PDP-1 with 1000 words of memory, including on-line flexowriter, \$81,000.
2. One 6 digit Analog-to Digital Converter installed in PDP-1, \$1,800.
3. One 17" Digital Display Oscilloscope installed in PDP-1, \$2300.00
4. Digital-to Analog Converters for driving XY Recorders installed in PDP-1, \$400.00.
5. Extra Flexowriter for off-line preparation of paper tape and for use as spare printer on PDP-1, wired for installation in PDP-1, \$3500.00.
6. One Tektronix type 543 Oscilloscope, \$1,275. One Tektronix type C-A Plug-in Unit Switch Handle pre-amp Recorder, \$250.00.
7. Three Tektronix type P510A attenuated probes at \$8.50 each.
8. One Tektronix BE510 Bezel for mounting camera, \$4.50.
9. One Tektronix H510 Viewing Hood, \$4.50. Tektronix Corporation Portland 7, Oregon. New York City Office is: Tektronix Inc. 840 Willis Avenue, Albertson Long Island N. Y. Pioneer 7-4830.
10. One Dumont Polaroid Scope Camera Model 353, price \$295.00. Allen B. Dumont Laboratories, Inc. 750 Bloomfield Avenue Clifton, New Jersey. 201 SW-11000.
11. One Technibilt Oscilloscope Cart Model OC-1B price \$38.80. F.O.B. Glendale California. Technibilt Corporation 905 Airway Glendale 1, California.
12. One Houston Instrument Corporation Model HR-93-1 XY Recorder, \$670.00. Houston Instrument Corporation, 1717 Clay Avenue, Houston 3, Texas. (Several make units like this but this one seems to be the simplest in design and lowest in price and although we have had no experience with it, this is the unit we would buy for our own use.)
13. One 4096 word memory installed in PDP-1 at later date less trade in of 1024 memory delivered with PDP-1, \$39,400 less \$20,500, net \$18,900.

November 10, 1959

Mr. Norman H. Taylor
Vice-President
IT&K Corporation
Waltham, Massachusetts

Dear Norman,

Thank you very much for your letter and check. It was very nice of you to remember us.

If you are at the Eastern Joint Computer Conference in Boston during December, be sure to stop in and see our Computer. We are very proud of this machine, partly because with our easy to use building blocks it has only taken one engineer, Ben Gurley, since August to build it. It was finished last Monday and last Thursday it was operating programs. The Console and Flexowriter are not hooked up yet so it is only a very limited operation as yet but we plan to have full demonstration of it in December. It is compact and inexpensive but quite a bit faster than the giants.

Be sure to let us know if there is any way in which we can help out in any of your projects.

Sincerely yours,

Kenneth H. Olsen

KHO/nmb

November 12, 1959

Mr. Fred Jacob
1986 Commonwealth Avenue
Brighton 35, Massachusetts

Dear Mr. Jacob,

Thank you very much for your interest in Digital Equipment Corporation. You have a very impressive résumé and I'm sure you could make a significant contribution to any company. At the present time our legal problems are not of such a nature that would justify our engaging a full time lawyer.

Thank you again for considering us.

Sincerely yours,

Kenneth H. Olsen

KHO/nmb

November 12, 1959

Mr. Ross T. Dexter
American Automatic Typewriter Company
2323 North Pulaski Road
Chicago 39, Illinois

Dear Mr. Dexter:

Thank you for your letter describing the products of American Automatic Typewriter Company. The device we are interested in is the receiver for the electrically operated "Cable Typist." We want a typewriter that we can drive with our own signals. Here are some of the details we would like to know about this unit.

1. Price and delivery.
2. Can we use our own IBM Courier Model typewriter?
3. What is involved in preparing other typewriters so they can be used?
4. Are other impedance coils available?
5. What is the impedance of the actuating coils and what voltage and current do you normally recommend?
6. What length of current pulse is necessary to actuate the key and what timing between characters can be tolerated?
7. Are both ends of the coils available for connection or is one terminal of all coils common?
8. Is it necessary to mount this mechanism in your cabinet or can we buy just the mechanism and mount it in our own console?

We've had experience with 4 other electrically operated typewriters but we are particularly enthusiastic about the

Cont. 2

possibility of using your device because of its simple open construction and because it makes it practical to maintain spare typewriters without the complex mechanism.

Sincerely yours,

KHO/nd

Kenneth M. Olsen

COPY

November 12, 1959

Mr. Robert O. Smith
2 Sedwick Road
Cambridge, Massachusetts

Dear Mr. Smith:

Thank you very much for considering Digital Equipment Corporation. You have an impressive resumé and I'm sure you would make a good contribution to almost any company. At the present time we are not considering expansion in the administrative area and so I feel that for now we will have to give you a negative answer. If you happen to be in this area we would like to have you visit our company on the possibility that it might prove worth while at some future date. Either Harlan Anderson, our vice-president, or I are in most of the time and we would be very glad to show you our plant.

Sincerely yours,

Kenneth H. Olsen

KHO/nab

November 12, 1959

Precision Instrument Company
1011 Commercial Street
San Carlos, California

Dear Sirs:

Please send descriptive information of your instrumentation type magnetic tape recorders. We are particularly interested in units that are portable enough to be transported in an automobile.

We would like to know prices and delivery information. The system that we are immediately interested in would record 7 channels on a half inch tape with FM modulation with 2 playback channels so that any 2 of the 7 channels can be played back at one time.

Sincerely yours,

Kenneth H. Olsen

KHO/nmb

November 12, 1959

Minneapolis-Honeywell
Department 7, Boston Division
40 Live Street
Brighton 35, Massachusetts

Dear Sirs:

Please send catalog information on the new Honeywell
AccuData A II completely transistorized DEC Amplifier.

Sincerely yours,

Kenneth H. Olsen

KHO/nab

November 12, 1959

Non-Linear Systems Inc.
Del Mar, California

Dear Sirs:

Please send catalog information on your NLS 50
Go-No-Go Voltage Comparator.

Sincerely yours,

Richard L. Best

RLB/nmb

COPY

November 12, 1959

Airpax Electronics Inc.
Cambridge Division
Cambridge, Maryland

Dear Sirs:

Please send catalog information on your Plug-
in Choppers.

Sincerely yours,

Kenneth H. Olsen

KHO/nmb

COPY

November 10, 1959

Mr. Norman H. Taylor
Vice-President
IT&EK Corporation
Waltham, Massachusetts

Dear Norman,

Thank you very much for your letter and check. It was very nice of you to remember us.

If you are at the Eastern Joint Computer Conference in Boston during December, be sure to stop in and see our Computer. We are very proud of this machine, partly because with our easy to use building blocks it has only taken one engineer, Ben Gurley, since August to build it. It was finished last Monday and last Thursday it was operating programs. The Console and Flexowriter are not hooked up yet so it is only a very limited operation as yet but we plan to have full demonstration of it in December. It is compact and inexpensive but quite a bit faster than the giants.

Be sure to let us know if there is any way in which we can help out in any of your projects.

Sincerely yours,

Kenneth H. Olsen

KHO/nab

November 10, 1959

Mr. Norman H. Taylor
Vice-President
ITEK Corporation
Waltham, Massachusetts

Dear Norman,

Thank you very much for your letter and check. It was very nice of you to remember us.

If you are at the Eastern Joint Computer Conference in Boston during December, be sure to stop in and see our Computer. We are very proud of this machine, partly because with our easy to use building blocks it has only taken one engineer, Ben Gurley, since August to build it. It was finished last Monday and last Thursday it was operating programs. The Console and Flexowriter are not hooked up yet so it is only a very limited operation as yet but we plan to have full demonstration of it in December. It is compact and inexpensive but quite a bit faster than the giants.

Be sure to let us know if there is any way in which we can help out in any of your projects.

Sincerely yours,

Kenneth H. Olsen

KHO/nmb

November 10, 1959

Art Metal Construction Company
Jamestown, New York

Dear Sirs:

Please send prices and descriptive information
on your library shelves for books and periodicals.

Sincerely yours,

Kenneth H. Olsen

KHO/nmb

COPY

November 10, 1959

Burroughs Manufacturing Company
3000 North Burdick Street
Kalamazoo, Michigan

Dear Sirs:

Please send prices and descriptive information
on your library shelves for books and periodicals.

Sincerely yours,

Kenneth H. Olsen

KHO/mnb

COPY

November 10, 1959

Deluxe Metal Furniture Company
Division of Royal Metal Mfg. Co.
Warren, Pennsylvania

Dear Sirs:

Please send prices and descriptive information
on your library shelves for books and periodicals.

Sincerely yours,

Kenneth H. Olsen

KHO/nab

COPY

November 10, 1959

Remington Rand
315 4th Avenue
New York 10, N. Y.

Dear Sirs:

Please send prices and descriptive information
on your library shelves for books and periodicals.

Sincerely yours,

Kenneth H. Olsen

KHO/nmb

COPY

November 10, 1959

Globe-Wernicke
Cincinnati 12, Ohio

Dear Sirs:

Please send prices and descriptive information
on your library shelves for books and periodicals.

Sincerely yours,

Kenneth H. Olsen

KHO/nmb

COPY

November 10, 1959

Estey Corporation
350 Broadway
New York 13, N. Y.

Dear Sirs:

Please send prices and descriptive information
on your library shelves for books and periodicals.

Sincerely yours,

Kenneth H. Olsen

KHO/nmb

COPY

K. Olsen file

November 6, 1959

Technibilt Corporation
905 Airway
Glendale 1, California

Dear Sirs,

Please send 3 copies of your brochure on the
Technibilt Model OC-1-B Oscilloscope Carrier.
Thank you.

Sincerely yours,

Kenneth H. Olsen

KHO/nmb

COPY

November 6, 1959

Houston Instrument Corporation
1717 Clay Avenue
Houston 3, Texas

Dear Sirs,

Please send 3 copies of your brochure on your
Model HR-92 XY Recorder. Thank you.

Sincerely yours,

Kenneth H. Olsen

KHO/mab

COPY

K. Olsen file

November 2, 1959

Mr. RAY E. Cooper
Research Engineer
Department of Electrical Engineering
South West Research Institute
8500 Culebra Road
San Antonio 6, Texas

Dear Mr. Cooper:

We appreciate the opportunity to discuss your needs for a storage system. We do however need more information before we can discuss it in detail. We will have to know approximately what the timing requirements are and also the format of the information. Do you want 50,000 bits that can be selected independently or can it be arranged in words so that a smaller selection system can be used?

We would also like to know the nature of the application. Will this be a laboratory experiment that can be tuned up for each experiment or should it be able to go for long periods of time without errors or maintenance? We would also like to know the temperature requirements and whether there will be vibration encountered during operation.

If you can answer these questions we would be very glad to give you our recommendations as to the storage system you should use. Because of the wide variations in requirements we do not stock memory systems but we do stock logical elements and I am enclosing some brochures on them.

Sincerely yours,

Kenneth H. Olsen

KHO/nmb

File

October 28, 1959

American Automatic Typewriter Company
2323 North Palaski Road
Chicago 39, Illinois

Attention: Sales Department

Dear Sirs:

Digital Equipment Corporation builds data processing equipment which often uses a typewriter as output device. We have been impressed with the simplicity and straight forward design of mechanism with which you drive a typewriter. If you sell this mechanism, electrically operated, as a separate unit we would like to hear specifications and prices of this unit.

If you have a unit that produces electrical signals from a typewriter we would also like to hear about it.

Sincerely yours,

KHO/nd

Kenneth H. Olsen

October 27, 1959

Mr. Robert Shapton
67 Route St.
New Hartford, New York

Dear Bob,

I haven't forgotten your booklet of clippings, but, I haven't quite finished them yet. I would like to before I send them back. I hope you've not been waiting for them.

This favor, I would like to ask of you if it's not against the rules of General Electric. Mitre Corporation used a lot of our test equipment in the development of a project called ALRI, (Airborne Long Range Input). This project has been put out to bid, and one of those bidding has light military. With you, we can be of real service to whoever gets the contract, and we would like to offer our services early in the game. If you could suggest who we should contact, we would appreciate it. Please do not, if this is against the spirit or the letter of any company rules.

I hope we have the chance of reopening our early discussions in the near future.

Sincerely yours,

Kenneth H. Olsen

October 27, 1959

Dr. Sidney Weinstein
Albert Einstein College of Medicine
Yeshiva University
Eastchester Road - Morris Park Ave.
New York 51, New York

Dear Dr. Weinstein:

I appreciate the time you spent in telling me about the problems and potentialities of digital techniques in electroencephalographic measurements. Your enthusiasm was indeed refreshing and contagious.

I made an appointment with Wes Clark for Friday, noon, and I plan to visit Rosenblif's group on Thursday to get their opinions as to what you would need in staff and equipment to carry out your project. Early next week, I will prepare this list and send it right on to you.

Sincerely yours,

Kenneth H. Olsen

October 27, 1959

Farrington Manufacturing Company
Needham Heights 94, Massachusetts

Dear Sirs,

Please send descriptive information on the
Farrington Optical Scanners. Thank you.

Sincerely yours,

Kenneth H. Olsen

KHO/rmb

COPY

October 27, 1959

Pennsylvania Scale Company
Barreille, Pennsylvania

Dear Sirs:

Please send descriptive information on your
counting scales.

Sincerely yours,

Kenneth H. Olsen

KHO/nmb

L. Olsen Copy

October 21, 1959

Mr. Gerald Smith
Daystrom Instruments, Inc.
Archbald, Pennsylvania

Dear Mr. Smith

We are pleased to present for your consideration this proposal for the engineering and construction of a Memory Tester, Type 1513, as recently discussed between you and Mr. Olsen.

Standard DEC System Building Blocks will be used throughout the machine. Enclosed with this letter are two copies of a brief description of the proposed machine. It is understood that all information given in this description and in the two accompanying drawings is to be considered as proprietary information to be used by Daystrom only for the purpose of evaluating DEC's capability of performing this contract.

Shipment of the finished unit, completely tested, will be made from DEC plant in Maynard, Mass. to Daystrom Instruments, Inc. within 45 days from receipt of a firm order.

Invoices will be rendered on date of shipment and prices are f.o.b. Maynard, Mass. with net payment due in 30 days.

This proposal will terminate on November 15, 1959 if not accepted or extended by that time.

The following quotation is respectfully submitted:

DEC Catalog Items:	\$12,903.
Engineering:	4,000.
Assembly	4,800.
Drafting	1,600.
Cabinet	<u>150.</u>
Total Cost	\$23,453.

DEC will provide up to one week of training for two Daystrom personnel at the plant in Maynard, Mass.

Cont. 2

In producing this Memory Tester for Daystrom Instruments, Inc. DEC is able to draw upon its past experience of producing three complete transistorized memory tester systems; MT-1510, MT-1511, and MT-1512. DEC is well qualified to undertake fulfilling of this contract by virtue of its past performance on these similar jobs.

We will be glad to discuss with you the plans for the construction of this proposed Memory Tester at any time. If there are any further questions, please do not hesitate to get in touch with me.

It is a pleasure to have the opportunity to submit this quotation for your consideration and we await your favorable reply.

Sincerely yours,

Jonathan Padiman
Project Engineer

JP/apr

Enclosures:
2 copies MT-1513 Specification
2 Copies SB-00656
2 Copies SB-00657

cc: Ken Olsen

INTRODUCTION

This Memory Tester has a number of features not found in the International Electric Corporation work statement on the main memory tester.

1. It includes completely variable timing which allows a check on the tolerance of all timing within the main memory — a very important factor in determining the reliability of a memory system.
2. It includes an extended timing cycle mode which will test the cycle 3 of the main memory. This is a very important test if the magnetic core switch is to be used in driving the main memory because of the danger of losing 3 flux in the core switch during the extended cycle. Having a switch at each digit which allows writing the pattern or its complement into the memory makes possible one of the severest tests on the memory in which the same information is written into all digits except one.
3. By stopping the memory for a short period of time when an error occurs, it is possible to use a mechanical counter for counting errors. This makes a significant saving in cost, but little variation in the authenticity of the test.

MEMORY TESTER MODEL 1513 SPECIFICATION

Memory Tester Model 1513 is designed specifically to exercise and test a 16,000 word memory being built for International Electric Corporation. But it is designed so that it will be useful for testing many other systems. A Block Diagram of the proposed machine is given in Figure 1.

The Tester consists of 4 parts:

1. Timing generator.
2. Location counter
3. Toggle pattern generator.
4. Check circuits.

TIMING GENERATOR

The timing generator, Figure 2, generates the pulses and time levels necessary to operate the memory and the other portions of the tester. The main memory needs only three timing signals for its operations which are 1 microsecond pulses that are labeled Time-Level 0, Time-Level 3, and Time-Level 4. In addition a variable strobe pulse is available which can be connected to the main memory to vary the strobe time.

The timing generator is made by cascading highly stable single-shot multi-vibrators, DEC Delay Type 1304. During the interval of the delay these units supply a negative DEC level on the terminal and at the end of the delay they supply a standard DEC negative or positive pulse as shown in Figure 2. The cascade loop of these delays which generate the timing pattern can be seen. When the start button is pushed, a pulse is generated in the PG-2 which introduces a pulse into the loop and puts the Run-Stop flip-flop in the run position. After the TL-0 start delay the TL-0 duration unit generates the level which is called Time-Level 0, this initiates the memory cycle and transfers the location counter to the main bus and the main bus to the main memory address register. At the end of the TL-0 duration, one is added to the location counter, the strobe start delay is started, and the Time-Level 3 delay is started.

Three modes of operation are possible in the main memory and it is desirable for the tester to check each of them.

- 1: The store cycle is used to load the memory from the pattern generator, and after a complete pass through the memory the tester stops.
- 2: The check mode goes through the memory reading and checking the information against the pattern generator and writing back the same information that was read out from the memory. This continues until the tester is stopped.

- 3: The Extend Mode starts off like a check cycle. The memory is read out and its contents checked against the pattern generator. Then, after Time-Level 3, there is a long delay and the cycle is started over again as a store operation and information is written back from the pattern generator.

These three modes are simply variations of Time-Level 3. A separate time-level 3 generator is used for the store cycle and the check cycle. The mode selector switch steers the output of the Time-Level 3 start pulse to the appropriate Time-Level 3 generator. The extended mode is simply a Time-Level 3 store cycle, followed after a long delay by a time-level 3 check cycle. When the mode switch is in the Extend Cycle position, the store cycle time-level 3 is started but its output pulse is switched to an extend duration delay which, in turn, triggers off the check time-level 3. The output of time-level 3 initiates the time-level 4. The pulse coming from the time-level 4 duration unit is gated by the Run-Stop flip-flop. As long as the Run-Stop flip-flop is in the Run position, the pulse goes back to start the cycle over again, and the pulse will continue through the loop until the Run-Stop flip-flop is put in the stop position. When the mode switch is in the store position the overflow pulse from the location counter will put the Run-Stop flip-flop in the Stop position so that the tester will cycle through the memory only once during the store mode. The tester can be stopped at any time by pushing the stop button which puts the Run-Stop flip-flop in Stop position. It can be started any time by pushing the start button. If it is desired to start over at address 00, a clear location counter button is pushed before the start button is pushed. There is also an automatic start-over pulse which can put the Run-Stop flip-flop in the Run position. This will be described under the check circuit.

LOCATION COUNTER

The location counter is simply 14 high-speed flip-flops arranged to count first through I and then through X. The outputs of these flip-flops are connected to the bus through bus drivers and on time-level 0 the contents of this register are on the bus and can be read into the main memory address register.

There are 14 switches which can be used to select the size of the memory being tested. Any size up to 128 x 128 can be selected. Another register of toggle switches will force the location counter to a specific number so that one word can be selected and looked at continuously.

The overflow from the location counter is used to stop the memory tester when in the store mode so that only one pass through the memory cycle is made each time the start button is actuated.

Cont. 3

There is also a 5 position switch which can be used while testing a 16,000 register memory that will allow the testing of one quadrant at a time. The first four positions select the quadrant. The fifth position is the normal condition under which the whole memory is tested.

PATTERN GENERATOR

The pattern generator generates the following patterns: All 1's and the complex checkerboard. The pattern generator is followed by a register of 33 toggle switches, one for each digit in the main memory buffer. If a toggle switch is in the up position that digit will receive the information in the pattern generator. If the toggle switch is in the down position that digit shall receive the complement of the contents of the pattern generator. If the toggle switch is in the center position, that digit will not be tested.

CHECK CIRCUITS

The Check Circuit compares the output from the bus on time-level 3 during the check mode with the contents of the toggle switch register on the pattern generator. All thirty-three of these comparison circuits are "ored" together so that if there is an error in any one of the digits, the alarm flip-flop will be put in the One position, by the check pulse which occurs at the end of time-level 2. The tester can be stopped when an error occurs. When it is in the automatic start-over condition, the timing generator will stop long enough to actuate a mechanical counter. Then, an automatic start-over pulse will be introduced into the timing loop and the tester will continue until there is another error.

October 15, 1959

John Fadimen

Kenneth Olsen

In paragraph 3.5.4.1 on the Main Memory Tester Specification I don't think ITT necessarily wants to know which digit made the error and they would be happy with simply the fact that there is an error.

We should ask ITT if they would be happy with a mechanical counter that will operate on our normal automatic Start-Over Mode, so that the machine would start over after the mechanical counter had enough time to be actuated. I know Daystrom would be happy with this.

In paragraph 3 5 2 1 entitled "Display." Do they mean display with indicators or display with oscilloscope?

In the letter to ITT where we suggest they consider the Daystrom Proposal which we will send a copy of, we should mention that we recommend having the extended cycle available if they are considering using magnetic core switches in driving the memories.

The people at Daystrom thought they should get a pulse on Time-Level Four, which says, initiate Parry but ITT didn't ask for it, so we will leave it off on both proposals and be sure and ask Daystrom if they really want it.

On the Daystrom Proposal, each of the delays will have a "Helipot" control except Delay No. 7 which should be just very long and an Allen-Bradley pot. is good enough for it.

It seems to me that we can use the low speed version of the 1201 in these testers. The number they should have will probably be 4001.

I think we should assign a model number to each Memory Tester we propose, even though we never build them. In this way we can keep better track of our notes on the units.

I propose that we use ordinary toggle switches from now on for our Memory Testers because their delivery is alot faster and perhaps they are more reliable.

Daystrom wants to look at 4,000 words at a time, out of the 16,000 word memory. I propose to this we make a separate switch panel which will switch the most significant digits to either ground or minus $3\frac{1}{2}$ and keep the main switch panel simple.

COPY

Handwritten file number

October 12, 1959

Mr. W. Robert Shapton
67 Route 8 Street
New Hartford, New York

Dear Bob:

We enjoyed your visit here and we hope that it was a pleasant trip for you. I'm enthusiastic about continuing the discussion of working with you but Andy and I have decided that it would be unwise for a little while to consider any further expansion. We have made rather heavy commitments in the development of new products which will not pay off for a while. This is a time when we will need control most of all, but we feel that it would be wise to delay any further consideration until our need for more staff becomes more obvious.

I hope this discussion hasn't inconvenienced you too much. I look forward to meeting you again in the not too distant future.

Sincerely yours,

KHO/nd

Kenneth H. Olsen

Enclosure
Check

October 12, 1959

Mr. S. C. Yuter
485 Lexington Avenue
New York 17, New York

Dear Mr. Yuter:

Thank you for your offer of licensing agreements in your letter of October 5, 1959. We studied the list and concluded that it does not include any products which we expect to manufacture and so we will not accept your offer.

Sincerely yours,

Kenneth H. Olsen
President

KHO/1

September 22, 1959

Professor E. W. Martin, Jr.
Associate Professor of
Business Administration
Indiana University
Box B
Bloomington, Indiana

Dear Wain:

I am enclosing a couple of digital plug-in units. These will make good demonstration units, but please do not try to use them electrically.

If we can ever be of any further help, please let us know.

Sincerely yours,

KHO/nd

Kenneth H. Olsen
President

Enclosures
2 Digital Computer Plug-In Units

September 22, 1959

Mr. Bruce W. Barrett
35 Elmwood Road
Wellesley 81, Massachusetts

Dear Bruce:

We appreciate the interest you have shown in DEC. Right now our relationship with MITRE Corporation and Lincoln Laboratory are very marginal because of the large number of people who have joined us from these two groups.

We feel quite justified in taking the people because in general they show the initiative and were about to leave anyway, but this makes little difference in their attitude about us. Because good relationships with these two companies are of utmost importance to us, I feel that we will have to give you a negative answer for the present time.

We plan to be in business for a long time, and maybe the situation will change in the near future. Thank you again for your interest.

Sincerely yours,

Kenneth H. Olsen
President

KHO/nd

K. Olsen file

September 22, 1959

Mr. L. A. Scott
Case Institute of Technology
10900 Euclid Avenue
Cleveland 6, Ohio

Dear Mr. Scott:

I am enclosing a number of eyelets that I hope will be of use to you. I am also enclosing a tool which can be used in setting these eyelets. This is done by laying the head of the eyelet on a flat metal surface and hammering the tool into the other end of the eyelet. I am also enclosing a reject front panel that shows how we set the eyelets with a piece of number 20 wire underneath.

I am also enclosing a few larger size eyelets which we use to take standard banana jacks. These may be less expensive for you because you can use liberally available banana pins. There is also a reject panel which shows how they are installed. A solder lug is put inside the head and a Chanford setting tool is used to force the eyelet into a countersunk hole. If you would like any more of these larger eyelets, we would be glad to send them to you.

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

Sincerely yours,

Kenneth H. Olsen
President

KHO/n6

Enclosures

September 22, 1959

Mr. John Kiesler
Radio Corporation of America
David Sarnoff Research Center
Princeton, New Jersey

Dear Mr. Kiesler:

We are pleased to hear of your continued interest in our PDP-1. Here is a list of the documents at Lincoln Laboratory that describes the PDP-1, that we have a record of here.

- 6M-4561 TX-0 Circuitry
- 6M-4571 Transistor Logic in TX-0
- 6M-4789 A Functional Description of the TX-0 Computer
- 6M-4968 The Lincoln TX-2 Computer
- 6D-2631 A discussion of the Circuitry used in the Lincoln TX-2 Computer

I recommend that you ask Mr. Wesley Clark for a more complete list.

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

Sincerely yours,

KHO/nd

Kenneth H. Olsen

September 22, 1958

Mr. W. R. Thomas
General Manager
Elliott Brothers (London) LTD.
Elstree Way, Borehamwood
Hertfordshire, England

Dear Mr. Thomas;

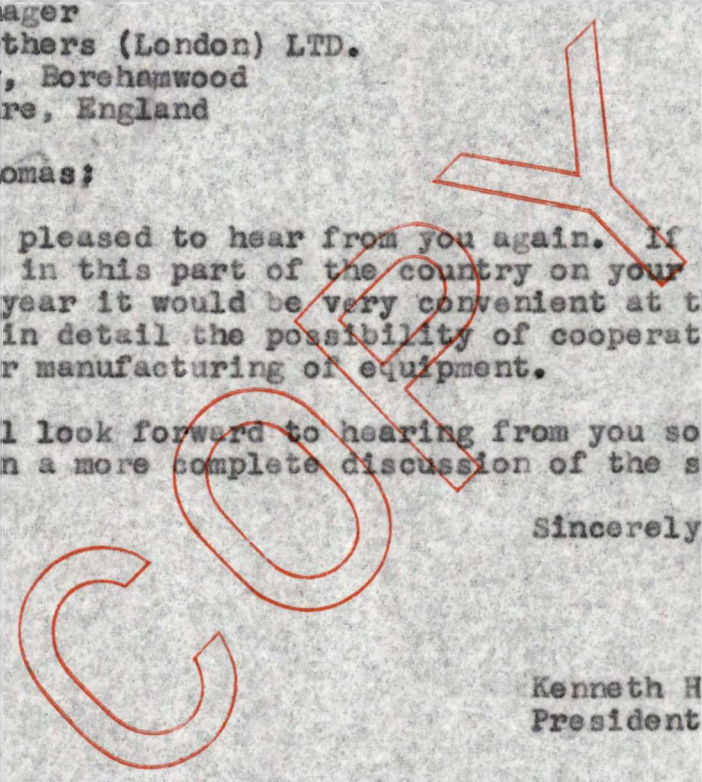
We are pleased to hear from you again. If you are going to be in this part of the country on your trip later this year it would be very convenient at that time to discuss in detail the possibility of cooperating in the sales or manufacturing of equipment.

We will look forward to hearing from you so that we can carry on a more complete discussion of the subject.

Sincerely yours,

Kenneth H. Olson
President

KHO/elg



September 16, 1959

Mr. D. E. Thompkins
Radio Corporation of America
David Sarnoff Laboratory
Princeton, New Jersey

Dear Mr. Thompkins:

We are pleased to hear of your interest in our equipment and we hope that we can be of service to you. I am enclosing literature on our Digital Test Equipment and System Building Blocks. We have been building these for two years now and have quite a few thousand in the field with good success.

We are now building systems with these units and expect that special purpose digital computer will be a big part of our business soon. The model that we are building now, which we call our PDP-1 (Programmed Data Processor), is patterned very much like the TX-0 at M.I.T., but has somewhat more sophistication and uses more modern circuitry and components.

We plan to exhibit this machine at the Eastern Joint Computer Conference in December and after that have it available to demonstrate to people who are interested in special purpose machines of this type.

These machines will be very fast and very easily modified or expanded because they are made up with our standard line of building blocks. I am enclosing a very temporary piece of literature on this machine.

We would like to come down and discuss your problem with you when it is convenient.

Sincerely,

Kenneth H. Olsen
President

KHO/nd

Enclosures
Digital Test Equipment Folder
System Building Blocks Folder
PDP-1 Brochure

K. Olsen file

September 10, 1959

Spellman High Voltage Company
3029 Webster Avenue
New York 67, New York

Dear Sirs:

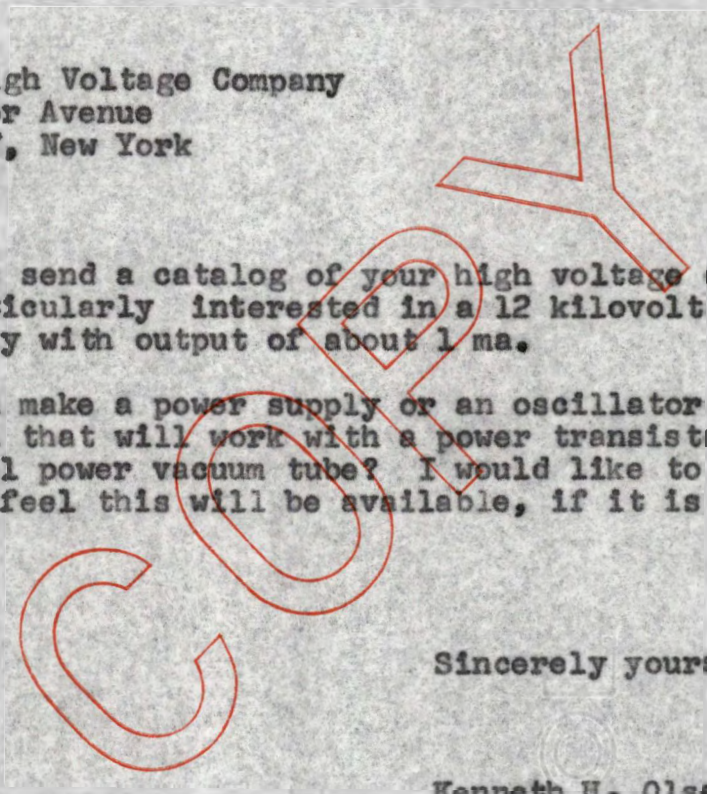
Please send a catalog of your high voltage components. We are particularly interested in a 12 kilovolt regulated power supply with output of about 1 ma.

Do you make a power supply or an oscillator transformer coil that will work with a power transistor instead of the usual power vacuum tube? I would like to hear from you if you feel this will be available, if it is not as yet.

Sincerely yours,

Kenneth H. Olsen

KHO/nd



September 10, 1959

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

Dear Bill:

Here are the copies of the insurance proposal and letters from Elliott Brothers. I sent copies to the other directors, but this is the only copy I am sending to the American Research group, so I would appreciate it if you would show these copies to Dorothy Rowe and Harry Hoagland.

Sincerely yours,

Kenneth H. Olsen
President

KHO/md

Enclosures
Insurance Proposal
Request from Elliott Brothers

September 10, 1959

Mr. Wayne P. Brobeck
Room 803, The Albee Building
1426 G Street, N. W.
Washington 5, D. C.

Dear Wayne:

The two important subjects to be discussed at our Board Meeting on Tuesday, September 15, 1959, are the company insurance plan and a request from Elliott Brothers to manufacture and sell our equipment in Europe. To make the discussion a little more efficient, I am sending copies of the insurance proposal and the request from Elliott Brothers to each of the board members ahead of time.

We look forward to seeing you next Tuesday.

Sincerely yours,

Kenneth H. Olsen
President

KHO/nd

Enclosures
Insurance Proposal
Request from Elliott Brothers

September 10, 1959

Mr. Jay W. Forrester
11 Holden Wood Road
Concord, Massachusetts

Dear Jay:

The two important subjects to be discussed at our Board Meeting on Tuesday, September 15, 1959, are the company insurance plan and a request from Elliott Brothers to manufacture and sell our equipment in Europe. To make the discussion a little more efficient, I am sending copies of the insurance proposal and the request from Elliott Brothers to each of the board members ahead of time.

We look forward to seeing you next Tuesday.

Sincerely yours,

Kenneth H. Olsen
President

KHO/nd

Enclosures
Insurance Proposal
Request from Elliott Brothers

K. Olsen file

September 10, 1959

Mr. Arnaud de Vitry
110 East End Avenue
New York 28, New York

Dear Arnaud:

The two important subjects to be discussed at our Board Meeting on Tuesday, September 15, 1959, are the company insurance plan and a request from Elliott Brothers to manufacture and sell our equipment in Europe. To make the discussion a little more efficient, I am sending copies of the insurance proposal and the request from Elliott Brothers to each of the board members ahead of time.

We look forward to seeing you next Tuesday.

Sincerely yours,

Kenneth H. Olsen
President

KHO/nd

Enclosures
Insurance Proposal
Request from Elliott Brothers

K. O. Olsen file

September 10, 1959

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

Dear Vernon:

The two important subjects to be discussed at our Board Meeting on Tuesday, September 15, 1959, are the company insurance plan and a request from Elliott Brothers to manufacture and sell our equipment in Europe. To make the discussion a little more efficient, I am sending copies of the insurance proposal and the request from Elliott Brothers to each of the board members ahead of time.

We look forward to seeing you next Tuesday.

Sincerely yours,

Kenneth H. Olsen
President

KHO/nd

Enclosures
Insurance Proposal
Request from Elliott Brothers

*Asst. Mgr.
K. O. Olsen*

September 10, 1959

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

Dear Jack:

The two important subjects to be discussed at our Board Meeting on Tuesday, September 15, 1959, are the company insurance plan and a request from Elliott Brothers to manufacture and sell our equipment in Europe. To make the discussion a little more efficient, I am sending copies of the insurance proposal and the request from Elliott Brothers to each of the board members ahead of time.

We look forward to seeing you next Tuesday.

Sincerely yours,

Kenneth H. Olsen
President

KHO/nd

Enclosures
Insurance Proposal
Request from Elliott Brothers

*Customer Bill
K. Olsen file*

September 9, 1959

Mr. W. Robert Shapton
67 Route Street
New Hartford, New York

Dear Bob:

We are pleased to hear of your continued interest in Digital and look forward to seeing you and your wife. The weekend of September 26-27 would be convenient for us. We can make the arrangement a little informal so that if something comes up that makes it inconvenient for you to come that weekend, we can change the date readily.

If you will send an estimate of your expenses, we will send an advance for that amount to you and we can make the adjustments later. If you like, we will make a reservation at a local motel.

I thought we would get together on Saturday. We can talk business for a while and show your wife and boys the factory. We can then go to dinner and leave you free all day Sunday to look over the area and see the sights with the family.

Sincerely yours,

KHO/nd

Kenneth H. Olsen

K. Olsen

SEP 2 1959

September 1, 1959

Mr. Carl J. Thomsen
Texas Instruments, Incorporated
Dallas, Texas

Dear Carl:

In checking over my notes from our rather inspiring course last week, I cannot find a record of the name of the man you suggested I contact at TI who might have need for our equipment. I think you said his name was Chester Nimitz, Jr. If you could drop me a note with his correct name and address I would appreciate it.

I enjoyed hearing your short talk about TI and thought it was about the most worth while.

Sincerely yours,

Kenneth H. Olsen

KHO/nd

K. Olsen

6411 6 4112

September 1, 1959

Mr. Neil W. Chamberlain, Director
Program on Economical Development and
Administration
The Ford Foundation
4737 Madison Avenue
New York 22, New York

Dear Mr. Chamberlain:

I have just completed the two weeks summer course on Industrial Dynamics at M.I.T. under Professor Jay Forrester. I understand you have been supporting this work and might be interested in reactions to it.

The two weeks were truly challenging and although Professor Forrester claims that this is just a start of a new science, many of the students were so enthusiastic they wanted to put it to use immediately. I think most of us agree that this work will result in a worth while contribution to industry.

Sincerely yours,

KHO/ms

Kenneth H. Olsen

K. H. Olsen

SEP 2 1959

September 1, 1959

Mr. Irving Burg
Maynard Industries
Maynard, Massachusetts

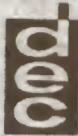
Dear Mr. Burg:

Now that vacations are over, the parking situation within the Maynard Industry parking lot is somewhat less than marginal. In considering our plans for expansion, we are not sure what we should do because it seems that further expansion within this area is limited by parking. If Maynard Industries has plans for improving the parking situation or if there is something we can do, we would like to hear about this from you.

Sincerely yours,

Kenneth H. Olsen
President

KHO/pd



digital equipment corporation

engineering and manufacturing

MAYNARD, MASSACHUSETTS
TWINOAKS 7-8821

August 21, 1959

Southwell Company
Box 1136
San Antonio, Texas

Dear Sirs:

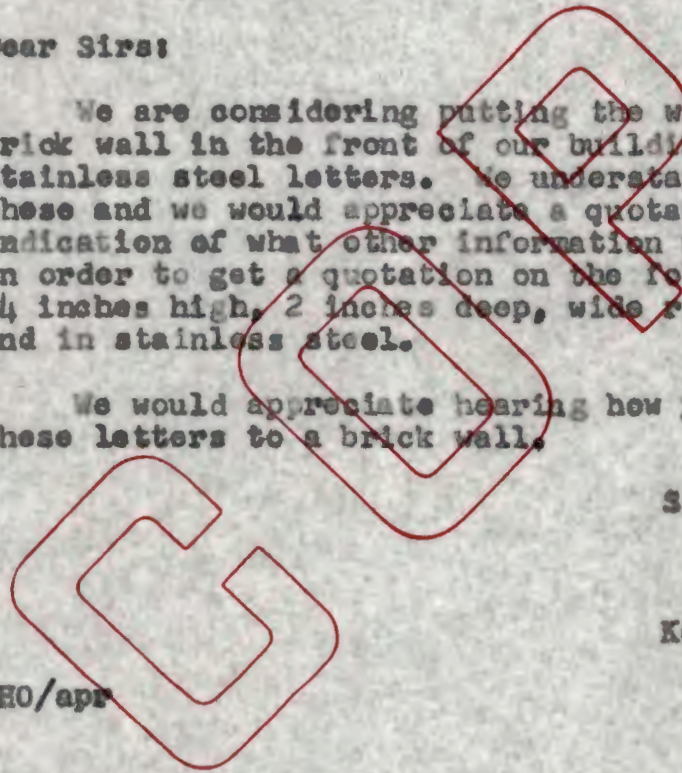
We are considering putting the word DIGITAL on a brick wall in the front of our building in aluminum or stainless steel letters. We understand that you make these and we would appreciate a quotation from you or indication of what other information we must first give in order to get a quotation on the following specifications: 24 inches high, 2 inches deep, wide ribbon style in aluminum and in stainless steel.

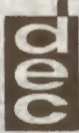
We would appreciate hearing how you recommend fastening these letters to a brick wall.

Sincerely yours,

Kenneth H. Olsen

KHO/apr





digital equipment corporation

engineering and manufacturing

K. H. O. file

MAYNARD, MASSACHUSETTS
TWINOAKS 7-8821

August 21, 1959

Moore Business Forms
285 Columbus Avenue
Boston, Massachusetts

Dear Sirs:

We are starting the manufacture of electronic digital computing systems. The systems usually terminate in a electric typewriter or a line printer. If you have a catalog or descriptive information of forms which you normally sell for these operations, these would be very helpful to us.

If you have descriptive information of the sprocket feed mechanisms which you sell we would appreciate receiving a copy of these also.

Sincerely yours,

Kenneth H. Olsen

KHO/apr



digital equipment corporation

engineering and manufacturing

MAYNARD, MASSACHUSETTS
TWINOAKS 7-8821

August 21, 1959

Spanjer Brothers, Inc.
Parsippany, New Jersey

Dear Sirs:

We are considering putting the word DIGITAL on a brick wall in the front of our building in aluminum or stainless steel letters. We understand that you make these, and we would appreciate a quotation from you or indication of what other information we must first give in order to get a quotation on the following specifications: 2 1/4 inches high, 2" deep, wide ribbon style in aluminum and in stainless steel.

We would appreciate hearing how you recommend fastening these letters to a brick wall.

Sincerely yours,

Kenneth H. Olsen

KHO/apr



digital equipment corporation

engineering and manufacturing

MAYNARD, MASSACHUSETTS
TWINOAKS 7-8821

August 21, 1959

Metalcraft, Inc.
3036 West Chicago Avenue
Chicago 22, Illinois

Dear Sirs:

We are considering putting the word DIGITAL on a brick wall in the front of our building in aluminum or stainless steel letters. We understand that you make these and we would appreciate a quotation from you or indication of what other information we must first give in order to get a quotation on the following specifications: 24 inches high, 2 inches deep, wide ribbon style in aluminum and in stainless steel.

We would appreciate hearing how you recommend fastening these letters to a brick wall.

Sincerely yours,

Kenneth H. Olsen

KHO/apr



digital equipment corporation

engineering and manufacturing

MAYNARD, MASSACHUSETTS
TWINOAKS 7-8821

August 21, 1959

H. W. Knight and Son, Inc.
8 Lane Street
Seneca Falls, New York

Dear Sirs:

We are considering putting the word DIGITAL on a brick wall in the front of our building in aluminum or stainless steel letters. We understand that you make these and we would appreciate a quotation from you or indication of what other information we must first give in order to get a quotation on the following specifications: 24 inches high, 2 inches deep, wide ribbon style in aluminum and in stainless steel.

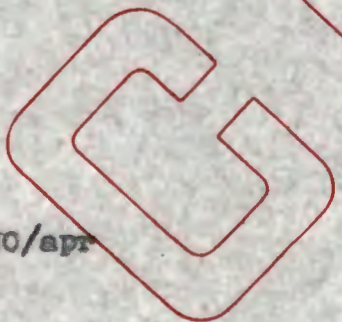
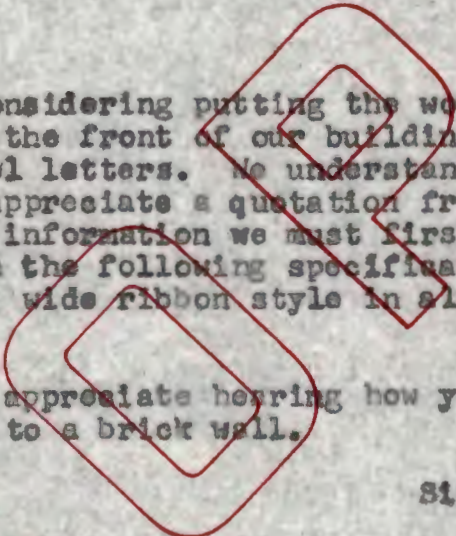
We would appreciate hearing how you recommend fastening these letters to a brick wall.

Sincerely yours,

Kenneth H. Olsen

KHO/apr

K.H.O. file



K.H.O. file



digital equipment corporation

engineering and manufacturing

MAYNARD, MASSACHUSETTS
TWINOAKS 7-8821

August 21, 1959

Colonial-Hites Company
West Columbia, South Carolina

Dear Sirs:

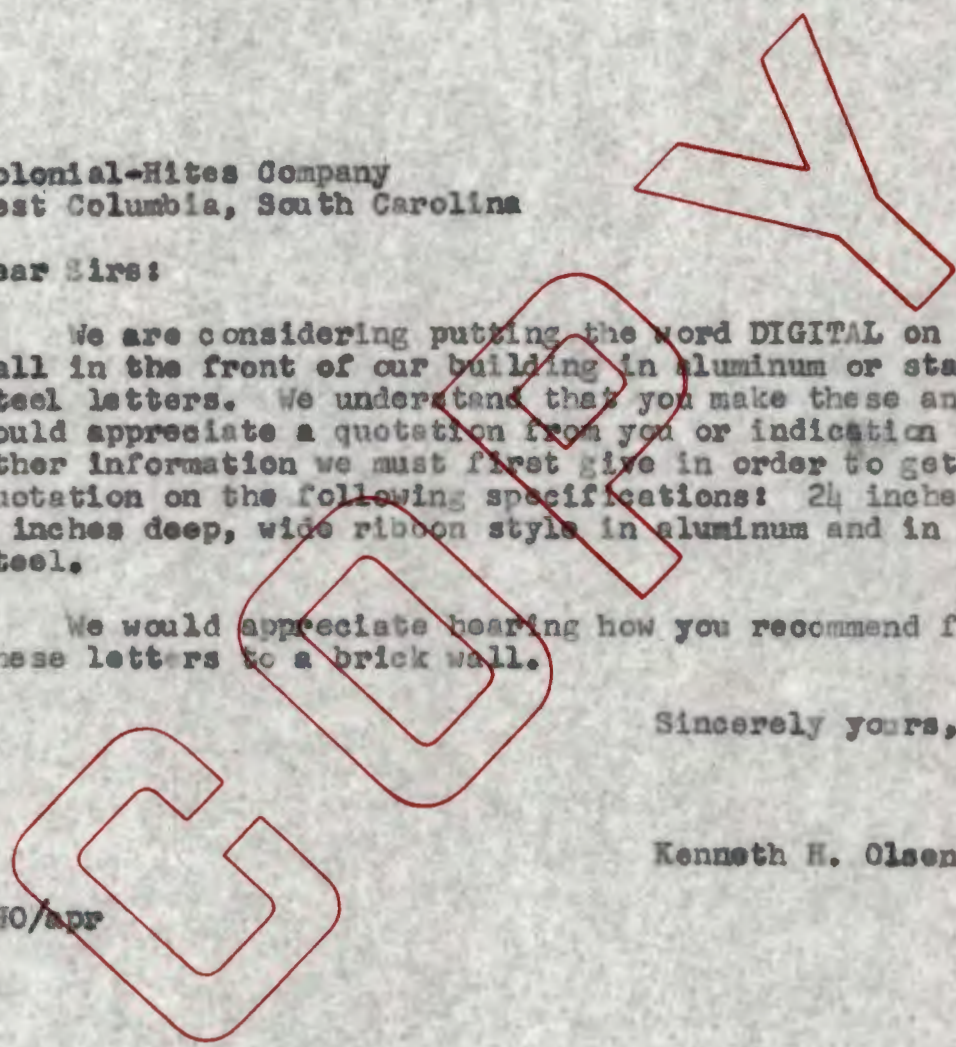
We are considering putting the word DIGITAL on a brick wall in the front of our building in aluminum or stainless steel letters. We understand that you make these and we would appreciate a quotation from you or indication of what other information we must first give in order to get a quotation on the following specifications: 24 inches high, 2 inches deep, wide ribbon style in aluminum and in stainless steel.

We would appreciate hearing how you recommend fastening these letters to a brick wall.

Sincerely yours,

Kenneth H. Olsen

KHO/adr



K. H. O. file



digital equipment corporation

engineering and manufacturing

MAYNARD, MASSACHUSETTS
TWINOAKS 7-8821

August 21, 1959

Standard Register Company
Room 905, Sheraton Building
440 Atlantic Avenue
Boston 10, Massachusetts

Dear Sirs:

We are starting the manufacture of electronic digital computing systems. The systems usually terminate in a electric typewriter or a line printer. If you have a catalog or descriptive information of forms which you normally sell for these operations, these would be very helpful to us.

If you have descriptive information of the sprocket feed mechanisms which you sell, we would appreciate receiving a copy of these also.

Sincerely yours,

Kenneth H. Olsen

KHO/apr

T. H. O. file

August 17, 1959

Mr. Donald H. Glazer
Research Assistant
Central Institute for the Deaf
800-18 South Kings Highway
St. Louis 10, Missouri

Dear Mr. Glazer:

We are very much interested in your letter inquiring about circuits for your real time statistical computer and would like to be helpful to you if we can.

We do not have any drum read-write circuits because we feel that drums will soon be obsolete due to their high maintenance cost. The coincident current memory is more straight forward in operation and will soon be lower in cost. Several of our engineers have had considerable experience in the design of drum circuitry while working on the SAGE Computer at Lincoln Laboratory, and we might be able to put the circuits you want in our standard packages if this would make application of our standard logic more convenient for you.

We are now finishing the prototype of a computer which we hope to sell for applications like your own. Our experience in designing this machine might be of help to you or you may possibly find it convenient to use ~~an~~ one of these machines. We call this machine our PDP-1 (Programmed Data Processor). It is a 20 bit machine with a 5 microsecond building block type memory that can be expanded from 1,000 to 32,000 words. It is a single address machine and so takes two cycles to perform most instructions thus it will do 100,000 instructions per second of the add type. Multiplication and division are programmed and so the arithmetic element is very simple. In fact, the arithmetic element consists of only a memory buffer register and an accumulator. In addition, there is a memory address register of 15 bits and a program counter of 15 bits, and an 8 bit buffer for the typewriter.

The terminal equipment for the PDP-1 is simply a Flex-writer typewriter with a paper tape feeder and a paper tape punch. It will also have a facility to be used with a magnetic

Cont. 2

tape unit. This machine is patterned very much after the TX-O Computer which was designed at Lincoln Laboratory and has been used at MIT for several years now. This machine has had a big impact on MIT because of its popularity with the students and researchers. It needs negligible maintenance and is inexpensive enough so that people can use it freely. The group under Professor Rosenblith doing electroencephalographic work have found the TX-O very useful in their real time analysis of electroencephalographic recordings. If your work is at all akin to the electroencephalographic work done at MIT, you might do well asking Professor Rosenblith for the name of a person in his group with whom to carry on correspondence.

We would like to hear more about the machines you are planning and the uses to which you plan to use it. If we can be of any help at all, please feel free to call on us.

Sincerely,

Kenneth E. Olsen
President

KHO/apr

COPY

August 13, 1959

Mr. W. R. Thomas
Assistant General Manager
Elliott Brothers (London) Ltd.
Elstree Way
Borehamwood, Hertfordshire
England

Dear Mr. Thomas:

We are pleased to hear of your interest in our products and the nice things you had to say about them. We felt quite flattered at your suggestion of the possibility of licensing the manufacture of our equipment. We have discussed this question at length and because of the attractiveness of the suggestion, the decision is very difficult, but we have decided that for now we could not make an arrangement like this. A license would largely be the selling of engineering time and technical know-how. We are perpetually short of engineering time.

We have not worked out a plan for selling our equipment in Europe, but we would appreciate any suggestions you might have as to how we might cooperate in this. Thank you for your inquiry.

Sincerely,

Kenneth H. Olsen
President

KHO/nd

Mr. Kenneth H. Olsen
27 Hilltop Drive
Bedford, Massachusetts

Kitter, Peabody and Company, Inc.
17 Wall Street
New York 5, New York

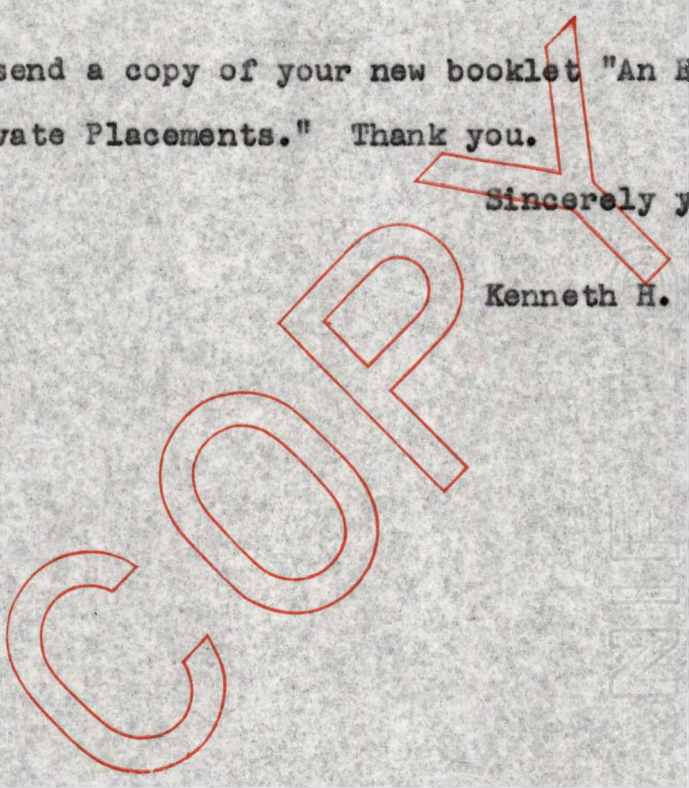
Dear Sirs,

Please send a copy of your new booklet "An Executive's
Guide to Private Placements." Thank you.

Sincerely yours,

Kenneth H. Olsen

KHO:rmb



August 12, 1959

Mr. W. R. Thomas
Assistant General Manager
Elliott Brothers (London) Ltd.
Elstree Way
Borehamwood, Hertfordshire
England

Dear Mr. Thomas:

We are pleased to hear of your interest in our products and the nice things you had to say about them. We felt quite flattered at your suggestion of the possibility of licensing the manufacture of our equipment. We have discussed this question at length and because of the attractiveness of the suggestions, the decision is very difficult, but we have decided that for now we could not make an arrangement like this. A license would largely be the selling of engineering time and technical know-how. We are perpetually short of engineering time and from a business point of view, we will get, I believe, more dollars in return using our engineering time in developing new products.

We have not worked out a plan for selling our equipment in Europe, but we would appreciate any suggestions you might have as to how we cooperate in this. Thank you for your inquiry.

Sincerely,

Kenneth H. Olsen
President

WRO/nd

May 27, 1959

Mr. Robert A. Cesari
Blair Spencer & Buckles
18 Brattle Street
Cambridge 38, Massachusetts

Dear Bob:

Here is a discussion of some memory circuits which we would like to consider patenting.

The conventional approach to driving coincident current magnetic core memories is to drive with current sources, (high impedance). This is the most obvious way, but our proposal is to drive units with a voltage source (low impedance) using the inductance of the memory (L) and the series resistance (R) to control the rise time, applying to the formula where $I = I_0 e^{-\frac{t}{L/R}}$ and where the current I_0 is equal to $\frac{E}{R}$ (the voltage source divided by the series resistor R). When L is fixed by the memory and the rise time is optimized by other factors in the system, the other two variables E and R are fixed because there are only two equations.

The advantage of this approach is significant. The normal approach uses four current sources - an X read, a Y read, an X write, and a Y write, but the voltage source system uses only two sources - a read source and a write source, each driving both X and Y. When currents are used, read is in one direction and write is in the other, and it is normally rather difficult to make current sources in both directions. With a voltage source approach both current sources can be identical.

There are two general approaches to this. The first is shown in Figure I of the enclosed drawing. This drawing shows the circuit that is found on each of the coordinate lines. For a 64 x 64 memory there would be 64 of these in the X and 64 of these in the Y. To read a core, one of these is selected from the X and one from the Y. During read the A

R. Cesari

May 27, 1959

transistor is saturated so that it is practically a short circuit. The current will rise to the inductance of the memory line and finally reach a current equal to I_0 amperes. At the end of the read pulse the A is open circuited and when write is to start, the B transistor is turned on or "short circuited" and puts the current pulse in the opposite direction. This system has the advantage that both the read and write transistors pass current in the same direction. The limitations, which are not serious with the present transistors, are that the rise time or the turn on time of the transistors has to be short compared to the rise time expected in the memory, and each transistor has to be able to carry twice I_0 .

Figure 2 shows a system which uses a single transistor in each quadrant line that is symmetrical and that will pass current in both directions, or in other words when it is turned on it acts like an ideal short circuit in passing current in both directions. The voltage sources V_a and V_b are normally short circuits to ground. Their outputs are common to all the other coordinate lines in both X and Y. i.e., for a 64×64 memory their outputs would be connected to 64 X lines and 64 Y lines, but only to the transistors to be short circuited so they supply the current for only two lines at any one time. During the read operation V_a is turned on to voltage E and it is turned back to ground level when read is over, and then the write is turned on to voltage E which in general will be the same voltage. The second circuit uses less transistors, each transistor uses less current, and there are half as many wires coming from the stack of memory planes because one terminal of all coordinate lines is common.

If we pursue this patent, then the inventors names should be Richard L. Best and Kenneth H. Olsen.

Sincerely yours,

Kenneth H. Olsen

KHO/jef

Enclosure

May 26, 1959

Mr. Robert A. Cesari
Blair Spencer & Buckles
16 Brattle Street
Cambridge 38, Massachusetts

Dear Bob:

Here is a list of advantages and features of the plug-
gable electronic unit that we would like to consider patent-
ing. It consists of a rigid board of insulating material
with an etched copper circuit on one side (although we should
not qualify it to having the circuit only on one side), a
metal frame, a plug, and a group of flexible wires connecting
the plug to the etched board.

The problems with ordinary plug-in units are:

1. The boards are allowed to flex, which breaks or weakens the etched wiring or the soldered connections on the circuit.
2. Ordinary means for connecting the plug to the etched board use rigid connectors with the result that during plugging and removing, great strains are put on the soldered connection.
3. Normal plug-in units without the metal frame expose all the components so that during handling they are readily damaged or dislodged.

The plastic sheet which forms the base for the circuit is flexible in a direction at right angles to the plane of the sheet, but is very rigid to motion within the plane. So, the handle is made strong and rigid in the direction at right angles to the plane, but it is cut away for lightness, material saving, and circuit space in the areas that would contribute to strength in the plane of the plug-in unit, because the etched board itself contributes this.

R. Cesari

May 26, 1959

The plug is connected to the etched board by means of flexible wires which form an attractive arch that contributes to the neatness of the plug-in unit. These wires are installed very quickly and easily during the assembly process by means of a jig which holds the socket above the etched board and facing backward so that the wires are simply dropped into place and soldered to the socket. Then the whole assembly is dipped in order to solder them to the etched board. After the soldering is done, the plug is simply bent into place and the operation is complete.

The sides which extend above the board contribute significantly toward protecting the components while the plug-in units are being handled, and also guide the units into the mounting panels.

Sincerely yours,

Kenneth H. Olsen

KHO/jef

Enclosures
SA-00373
Photograph

COPY

May 4, 1959

Mr. Wayne A. McRae
Director of Research
Ionics, Inc.
152 Sixth Street
Cambridge 42, Massachusetts

Dear Mr. McRae:

We were interested to hear of your development of spherical colloidal metal oxide particles. Although we are not involved in making the components that use metal oxides, we do use some of the end products, i.e. magnetic tapes and ferrite cores.

I would suggest that you contact the makers themselves of these components. We know the ferrite makers rather well. R.C.A. Needham Laboratories have probably the most technically capable organization, although they are not the largest manufacturer as yet. Dr. Frank Vinal is in charge of the laboratory there and is a most capable chemist.

General Ceramics in Keasbey, New Jersey is probably the largest producer of computer type ferrites. I am not sure who would be the best man to contact there, but the man we usually work through and know quite well is Mr. James W. Schallere, and he could tell you who would be most directly involved.

Telemeter Magnetics, Inc., in Los Angeles, California is the third manufacturer of computer ferrites, and the man to contact there is Mr. Milton Rosenberg. You can say that I suggested that you contact any of these people.



152 SIXTH STREET
CAMBRIDGE 42, MASSACHUSETTS
UNIVERSITY 4-3500

April 22, 1959

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

Dear Mr. Olesen:

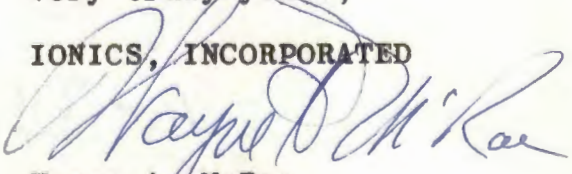
Mr. Wayne P. Brobeck, Vice President of Ionics, has suggested that we write to you concerning a recent product of Ionics' research.

We have developed a method for making spherical colloidal metal oxide particles having a narrow distribution of particle sizes. We think we can make spherical magnetite particles having an average particle size selected at will from the range of 2 to 100 millimicrons with a standard deviation of about 10% from the average size. It has occurred to us that such particles might be very useful in magnetic tape or in computer memories, perhaps making it possible to put much more information in the same area. Low-loss ferrite cores might conceivably be another area of application.

We would be interested to know if you believe there is any application for such a material in the electronic industry.

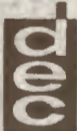
Very truly yours,

IONICS, INCORPORATED



Wayne A. McRae
Director of Research

WAM/klf



digital equipment corporation

engineering and manufacturing

MAYNARD, MASSACHUSETTS
TWINOAKS 7-8821

April 10, 1959

Mr. Lanir Washington
Industrial Liaison Office
Room 3-235
Massachusetts Institute of Technology
77 Massachusetts Avenue
Cambridge 39, Massachusetts

Dear Mr. Washington:

We were pleased to hear of your interest in our company. We have always had the idea that eventually we probably would need to make connections with some large company, but we have not given it serious thought as yet as we have not completed our initial growth stage, and we are not lacking in capital. But, we are always interested in talking with anyone interested in our company.

Digital Equipment Corporation is financed solely by American Research and Development Corporation of Boston. They supplied the equity capital which gives them control of the corporation and have also supplied several loans. They do, however, take only small part in the day to day operation of the company.

The goal from the beginning of the company has been to manufacture and sell proprietary items which are the result of advanced technology. In general, the company is not interested in contract type engineering or job shop manufacturing. Some special engineering work is undertaken, however, as a service to our customers. A large part of the company budget has been and is expected to continue to be spent in proving the present products and developing new advanced products.

The present catalog line consists of digital building blocks which are portions of a digital computer or digital control system which the customer can combine to do special computing or testing. Although these products are developments of Digital Equipment Corporation, they are directly

Mr. Washington

April 10, 1959

- 2 -

based on the work done at Lincoln Laboratory on the TX-0 and TX-2 computers. The next developments in the building block line will be a magnetic core memory, a paper tape system, and a magnetic tape system. When these building blocks are available, Digital Equipment Corporation can quickly and neatly tie together almost any high performance digital computing or control system that is desired.

The company has been in operation for a year and a half now. The first six months were spent in developing the building block line and since then the company has been in production and has been "in the black" each month for the last year. For the last several months we have shown a profit. For the fiscal year ending June 30th, we will have shipped about \$600,000 worth of building blocks and are currently doing business at a rate exceeding \$1,000,000 annually.

The facilities are located in the old American Woolen mills in Maynard, Massachusetts and have just now been expanded to about 30,000 square feet, which should give us comfortable operating space for some time. We have about 55 people, of which about 20 are Engineering, Sales, and Administrative, and the rest are Manufacturing. We have chosen our people very carefully and are proud of their loyalty and hard work. We have not lost a girl from the production area for any cause since we started.

Our customers are quite well diversified. They include the big people in digital business such as M.I.T., IBM and Remington Rand, but also a number of other large and small companies. We have about 17 customers who have bought over \$5,000 worth of equipment and about 15 who have bought less. The unit cost of our equipment often seems higher than what is available at other places, but because of its versatility, speed and ease with which it can be used, we are usually better than competitive when the customer allows us to propose how to do a job with our equipment.

Thank you again for your interest, and if there is any way in which I can be helpful, please let me know.

Sincerely yours,

Kenneth H. Olsen
President

KHO/jef

February 4, 1959

Miss Josephine Leno
Code 430A
Office of Naval Research
Washington 25, D. C.

Dear Miss Leno:

Thank you for the invitation to attend the Symposium on Microwave Techniques for Computing Systems to be held March 12, 1959. We would like very much to send a few people, and we would also like to receive a copy of the program when it is available.

Sincerely yours,

Kenneth H. Olsen
President

KHO/jef

February 16, 1959

Miss Josephine Leno
Code 430A
Office of Naval Research
Washington 25, D. C.

Dear Miss Leno:

Thank you for sending the program on the Symposium on Microwave Techniques for Computing Systems to be held March 12, 1959. One person from Digital Equipment Corporation, Mr. Kenneth H. Olsen, plans to attend this session.

Sincerely,

Digital Equipment Corp.

J. Elizabeth Fitz
Secretary

JEF



DEPARTMENT OF THE NAVY

OFFICE OF NAVAL RESEARCH

WASHINGTON 25, D. C.

IN REPLY REFER TO

5 February 1959

MICROWAVE TECHNIQUES FOR COMPUTERS

- DATE: 12 March 1959 (Thursday) 8:30 A.M.
- PLACE: Dept. of Interior Auditorium, Between 18th & 19th on C Street, N.W. Washington, D.C.
- SPONSOR: Office of Naval Research, Information Systems Branch
- SCHEDULE:
- 0830 - Registration
 - 0900 - Official Welcome - Marshall Yovits - Head, Information Systems Branch, Office of Naval Research - Symposium Chairman
 - Introduction of Speakers - R. L. Wigington, Dept. of Defense
 - 0910 - History, Introduction - R.E. Meagher - Digital Computer Laboratory, University of Illinois
 - 0925 - "Nanosecond Logic by Amplitude Modulation at X-Band" W.C.G. Ortel, Bell Telephone Laboratories, Murray Hill, N.J.
 - 1000 - Break
 - 1025 - "A Logic Design for a Microwave Computer" Stanley Frankel, General Electric Computer Laboratory, Palo Alto, Calif.
 - 1100 - "Parametric Phase Locked Oscillator - Characteristics and Applications to Digital Systems" L.S. Onyshkevych, W.F. Kosonocky, and A.W. Lo, RCA Laboratories, Princeton, N.J.
 - 1145 - Lunch
 - 1315 - "Semiconductor Parametric Diodes for Microwave Computers" J. Hilibrand, C.W. Mueller, C.F. Stocker, and R.D. Gold, RCA Laboratories, Princeton, N.J.
 - 1350 - "Microwave Carrier Techniques for High Speed Digital Computing" W.R. Beam, D.J. Blattner, and F. Sterzer, RCA Laboratories, Princeton, N.J.
 - 1425 - Break
 - 1445 - "Microwave Logic Circuits Using Diodes" W. Sauter and P.J. Isaacs, Sperry Gyroscope Co., Great Neck, N.Y.
 - 1520 - "Properties of Propagating Structures with Variable Parameter Elements" Norman Kroll, Dept. of Physics, Columbia University and International Business Machines Corporation, presented by Sol Krongelb, IBM Research Center, Yorktown Heights, N.Y.

Those planning to attend should notify Miss Josephine Leno, Code 430A, Office of Naval Research, Washington 25, D.C., Telephone - LIberty 5-6700 (Tie Line 11) Extension 66213, if they have not already done so.



DEPARTMENT OF THE NAVY

OFFICE OF NAVAL RESEARCH

WASHINGTON 25, D. C.

IN REPLY REFER TO

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W. Sauter and P.J. Isaacs, Sperry Gyroscope Co., Great Neck, N.Y.
- 1520 - "Properties of Propagating Structures with Variable Parameter Elements"
Norman Kroll, Dept. of Physics, Columbia University and International Business Machines Corporation, presented by Sol Krongelb, IBM Research Center, Yorktown Heights, N.Y.

Those planning to attend should notify Miss Josephine Leno, Code 430A, Office of Naval Research, Washington 25, D.C., Telephone - LIberty 5-6700 (Tie Line 11) Extension 66213, if they have not already done so.



DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH
WASHINGTON 25, D. C.

Ken
IN REPLY REFER TO

8 January 1959

SYMPOSIUM ON MICROWAVE TECHNIQUES FOR COMPUTING SYSTEMS

A Symposium on Microwave Techniques for Computing Systems will be held at 8:30 a.m. on 12 March 1959 at the Department of Interior Auditorium, between 18th and 19th on C Street, N.W., Washington, D. C. The Symposium is sponsored by the Information Systems Branch of the Office of Naval Research.

Representative technical papers establishing the present state of the microwave art as applied to computers will be presented by Bell Telephone Laboratories, General Electric Company, International Business Machines Corporation, Radio Corporation of America, and Sperry-Rand Corporation. Attendance is open to all interested technical personnel.

Individuals desiring to attend or wishing to obtain a copy of the program when available should contact:

Miss Josephine Leno
Code 430A
Office of Naval Research
Washington 25, D. C.
LIberty 5-6700 (Tie Line 11)
Extension 66213



ENGINEERS' BOOK SERVICE

359-361 North Central Avenue, Valley Stream, New York, Valley Stream 5-5527

An Outstanding Service to Schools, Libraries and Institutions • Books of all Publishers, Technical, Medical, Text and Trade.

March 6, 1959

Digital Equipment Corp
Maynard, Mass.

ATT: Kenneth H. Olsen, Chief Engineer

Gentlemen:

We are in receipt of your inquiry of February 25th regarding the discount rate on your requirements.

Enclosed you will find our schedule for books of all publishers.

We maintain a complete stock of all technical books and can give you a very prompt service.

Our new 1959 catalog will be available within the next two weeks, at which time we will rush a copy to you.

Thank you and may we have the pleasure of serving you.

Sincerely yours,

ENGINEERS' BOOK SERVICE

Norman Perle
Sales Manager

NP/sm
enc

March 2, 1959

Mr. Edward Harwood
M.I.T. Lincoln Laboratory
Box 73
Lexington 73, Massachusetts

Dear Ed;

I am sorry I missed your call on Thursday. I did want to see you before this trip to California. Lets plan to get together early in the week of March 9th.

Sincerely,

Kenneth H. Olsen

KHO/jef

February 25, 1959

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

Dear Bill;

This is a very interesting letter but I don't think I have any comments at all. The application is closer to what Concord Control Company is doing than ours, and they might make more valid comments if you are interested enough to ask them.

Sincerely yours,

Kenneth H. Olsen

KHO/jef

Enclosure

February 6, 1959

AMP Incorporated
Harrisburg
Pennsylvania

Dear Sirs:

Please send the prices and a sample of the following lugs:

No. 324552
No. 324562
No. 324582

We have started to use your lug No. 324067 in a commercial product we are manufacturing where we splice three No. 18 wires together. We would like to know if this is the lug you would recommend for this application that is going into a high grade commercial piece of equipment.

We would also like to know the price on the following hand tools:

No. 46054
No. 49556
No. 49557
No. 49239
No. 49250

Thank you.

Sincerely yours,

Kenneth H. Olsen
Engineer

KHO/jef

February 6, 1959

Fastex
Division of Illinois Tool Works
195 Algonquin Road
Des Plaines, Illinois

Dear Sirs:

Please send a sample and the price of your Fastex
Plastic Rivets No. 201-280651-01 to the above address.

Sincerely yours,

Kenneth H. Olsen
Engineer

KHO/jef

February 5, 1959

Hickok Electrical Instrument Company
10514 Dupont Avenue
Cleveland 8, Ohio

Dear Sirs:

Please send a copy of your catalog to the above
address.

Thank you.

Sincerely yours,

Kenneth H. Olsen
Engineer

KHO/jef

February 5, 1959

Technibilt Corporation
Glendale 1
California

Dear Sirs:

Please send a copy of your 1959 catalog of scope carriers and electronic instrument carriers to the above address.

Sincerely yours,

Kenneth H. Olsen
Engineer

KHO/jef

February 5, 1959

Davies Molding Company
1428 N. Wells Street
Chicago 10, Illinois

Dear Sirs:

Enclosed is a knob that we use in a high quality commercial product that we are manufacturing. We would like to find a knob which looks just like this but with a brass insert. If you manufacture such a knob, please send a price schedule and delivery information to the above address.

Sincerely yours,

Kenneth H. Olsen

KHO/jef

January 30, 1959

Mr. Vito J. Augello
10 Carlens Terrace
Woburn, Massachusetts

Dear Vito;

When we heard that Whirlwind was going to close down in a few months, we asked some of the fellows at Lincoln if they would recommend some good people at Whirlwind. They seemed to think that you were the best, and we are always interested in good people. If you are interested, we would like very much to talk with you some time about joining our organization. We are small, we work hard, but I think our people are happy, and we are tops in the field technically, we believe.

If you are interested, give me a call, collect, and we can talk further.

Sincerely yours,

Kenneth H. Olsen
President

KHO/jef

January 28, 1959

Mr. Stewart Coffin
27 Overlook Road
Arlington 74, Massachusetts

Dear Stu;

We are pleased to hear of your interest in our company. It is very satisfying to see indications of the faith our friends have shown in our organization.

There are no immediate plans for selling stock because the financial people behind us in Boston will be able to take care of the needs for a while. When we are ready, we will let you know. We have need for some production people and we are looking for some young, inexperienced engineers, but our immediate plans do not call for any senior engineering personnel. We do thank you for asking.

Sincerely yours,

Kenneth H. Olsen

KHO/jef

File

1240 file

27 Overlook Rd.
Arlington 74, Mass.
January 17, 1959

Kenneth Olsen
Digital Equipment Corp.
Maynard, Mass.

Dear Ken:

I am interested to learn if you have any job opportunities at present, and also if your company plans to sell stock.

Very truly yours,

Stewart Coffin

Stewart Coffin

February 25, 1959

Engineers' Book Service
361 N. Central Avenue
Valley Stream
Long Island, New York

Dear Sirs:

We purchase several Prentice-Hall, Inc. technical books from time to time. Would you please let us know what your discount rate would be to us for these books.

Sincerely yours,

Kenneth H. Olsen
Chief Engineer

KHO/jef

January 26, 1959

Mr. William Papian
M.I.T. Lincoln Laboratory
P.O. Box 73
Lexington 73, Massachusetts

Dear Bill;

I just came across a magazine article that reminded me of some of the problems you face in 63 and I thought you might be interested to look it over. It is found on page 30 of the September 8, 1958 "Product Engineering". It is titled "Research Management - A Problem in Personality".

It was nice to have lunch with you again and we should do this again soon.

Sincerely yours,

Kenneth H. Olsen

KHO/jef

January 22, 1959

The Editor
Electronic Industries
Chestnut and 56th Streets
Philadelphia 39, Pennsylvania

Dear Sir:

Please send a re-print of the article titled "Equation
Speed Common Emitter Design" by J. S. MacDougall from the
January 1959 "Electronic Industries". Thank you.

Sincerely yours,

Kenneth H. Olsen
Chief Engineer

KHO/jef

January 22, 1959

Verson Allsteel Press Company
9300 South Kenwood Avenue
Chicago 19, Illinois

Dear Sirs:

Please send a copy of the Verson Die Manual which illustrates 175 dies and discusses their uses, pointing out advantages and limitations of each type.

Sincerely yours,

Kenneth H. Olsen

KHO/jef

January 16, 1959

Reasick Company
3069 Fairfield Avenue
Bridgeport, Connecticut

Dear Sirs:

Please send a catalog of your industrial casters
to the above address.

Sincerely yours,

Kenneth H. Olsen
Chief Engineer

KHO/jef

January 15, 1959

Kennedy Industries
1581 E. Charles Street
Banning, California

Attention: Catalog Department

Gentlemen:

Please send to the above address a copy of your complete catalog. We would also appreciate the name of your representative in the New England area if you have one.

Thank you,

K. H. Olsen
Chief Engineer

KHO/jef

January 9, 1959

Electronic Equipment Engineering
Post Office Box 93
Village Station
New York 14, New York

Attention: Reader Service Department

Dear Sirs:

It would be greatly appreciated if you could send to the above address one copy of two articles published in "Electronic Equipment Engineering". As we are late in requesting this service, we would be glad to pay any special service charge that you may assign to such cases.

The articles requested are as follows:

"Designing Transistor Circuits - Combinational Circuits, Part I and Part II."

By: Richard B. Hurley, Univ. of Calif.
Appearing in Sept., October, 1958 issues

"Pulse Testing of Magnetic Cores"

By: J. Robert Freeman, General Ceramics Corp.
Appearing in October, 1958 issue

Thank you,

Kenneth H. Olsen
Chief Engineer

KHO/jef

January 12, 1959

Allied Radio
100 N. Western Avenue
Chicago 80, Illinois

Attn: Sales Department

Gentlemen:

It would be appreciated if you would send to the above address your price and delivery information on the two General Electric transistors below.

Your Cat. No.

7 E 983

7 E 984

G.E. No.

4JD1B3

4JD1B4

Thank you,

Kenneth H. Olsen
Chief Engineer

KHO/jef

January 9, 1959

Mr. William P. Santelmann
30 Fairlawn Lane
Lexington, Massachusetts

Dear Bill;

I am enclosing a sample capacitor which I have asked for to be used in this timer problem. In my early calculations this seemed to be the correct voltage rating and capacity for the long time scale on the timer. Ray Perron Company, the local representative for this capacitor company, is very helpful and if you want any other samples or further information they will be glad to get them for you.

Sincerely yours,

Kenneth H. Olsen

KHO/jef

Enclosure

cc: Mr. Brophy

January 9, 1959

British Industries Corporation
Scientific Instruments Division
Port Washington, New York

Dear Sirs:

Please send descriptive information on your Avo
Meter Number 8, to the above address.

Sincerely yours,

Kenneth H. Olsen
Engineer

KHO/jef

January 9, 1959

International Business Machines Corporation
Journal of Research and Development
590 Madison Avenue
New York 22, New York

Dear Sirs:

I would like to start a subscription to your IBM "Journal of Research and Development". It would be appreciated if you would send us any order forms or information necessary to start this subscription. If this letter is all that is necessary, please enter the subscription for the above address and invoice this company.

Thank you,

Kenneth H. Olsen
Engineer

KHO/jef

27 Hilltop Drive
Bedford, Massachusetts
December 17, 1958

Lafayette Radio
165-08 Liberty Avenue
Jamaica 33, New York

Dear Sirs:

On November 3, 1958 I mailed an order to you for a PK168 phono cartridge and a few other items totaling \$9.50 with postage. I have not received the order nor have I received any correspondence about it, but I did just receive the cancelled check from my bank. The stamp on the back indicates that it cleared the Marine Midland Trust Company of New York on November 6, 1958.

Please notify me of the status of this order.

Sincerely yours,

Kenneth H. Olsen

KHO/jef