digital INTEROFFICE MEMORANDUM

DATE: January 4, 1968

SUBJECT: PILLSBURY OCCIDENTAL AC 612 330-4535

TO: Jack Shields
cc: Mike Ford

FROM: Ken Olsen

Last week, Mr. Brecht of Pillsbury Occidental called to tell me the importance of immediate service. They now have a PDP-8 in Baltimore and New York City, and a time-sharing system using General Electric computers. They plan to have two dozen PDP-8's in the future, but it is very important that they have immediate service. Before Christmas vacation, Columbia University was exceedingly unhappy because their machine was down a day or two.

Pillsbury Occidental is financed by Pillsbury (flour) and Occidental Insurance.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: January 4, 1968

SUBJECT: BUDGETING

TO: Operations Committee

FROM: Ken Olsen

I am pleased with the changes we are making in the budgeting system. I do feel, however, that there are simplifications that we can continue to make that will give us better control. Please make notes of your ideas as they come to mind, and then someday I would like to spend time in the "woods" discussing what changes we should incur to make the system even more practical.

Should we have more product lines? Should Bill Long's group be a product line? Can we group things to eliminate some of the detailed work we now do? As we get complete data on all engineering projects, what can we do to make sure the engineers report accurately and have confidence in the results?

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: January 5, 1968

SUBJECT: BIMONTHLY REPORTS TO BOARD OF DIRECTORS

TO: Operations Committee

FROM: Ken Olsen

We started sending bimonthly reports from Operations Committee members to the Board of Directors. Our Board meetings for this next year are not uniformly spread throughout the year - some are a month apart and some three months apart.

I suggest we continue to make these reports bimonthly, and that we mail them out to Directors at that time, independent of the Board meeting. The last was given the first of December, so let's start on schedule the first of February, then the first of April, etc.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: January 5, 1968

SUBJECT: CUSTOMER CONTACT BY SENIOR EXECUTIVES

TO: Operations Committee

FROM: Ken Olsen

Jay Forrester used to argue that senior people in a company should visit customers to find out what is really going on. We all agree with this, but are getting less and less contact.

We used to argue that we had a lot of contact through trade shows, but we're losing this as we have professional trade show booth watchers taking our places there.

I have an idea that we should make it a point to have most of the Operations Committee members go to each of the key trade shows - SJCC, FJCC, and IEEE - and spend most of their time in the booth. This would mean three or four days three times a year, but it sure would be an efficient way to have contact with our customers.

If you think it is a good idea, we could make it a point to see that everyone gets a schedule of these shows. We might also want to include the Product Line Managers.

Ken

ecc

c- Dave Denniston 1/22

digital INTEROFFICE MEMORANDUM

DATE: January 15, 1968

SUBJECT: TECHNICON

TO: Mort Ruderman
Win Hindle

FROM: Ken Olsen

I visited Technicon last Friday and talked with Dr. Nathan Gochman for over an hour about their plans for computer-aided blood testing. He said that after their failure to develop a system this last year for sample testing, they have decided to bypass the sample system and work with a large data processing company to computerize the whole laboratory.

I said we couldn't take on this job, but that we would go ahead and offer, through someone else, a computer to fill the interim gap. I said we would like to stay close to them so that if their project doesn't work out they can come back and work with us on a sample system.

A line printer will be a key part of their system; it could be a sideways 22-column printer or the new one we're developing.

One interesting data processing operation we could add to our system would be to schedule the blood collecting for each day. The computer could lay out the schedule for each blood taker and even type labels for each of the samples at the same time it is printing the schedule.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: January 15, 1968

SUBJECT: TELEGRAM RECEPTION

TO: Bob Lassen
cc: Win Hindle

FROM: Ken Olsen

Nancy Whittiker of Western Union called to complain about reception of telegrams in your Department. She said that your girls have a very casual and independent attitude. They will often insist on knowing the department that the receiver works in, which is very difficult for a girl at Western Union to get after the telegram is received. They will even refuse to accept telegrams, such as an order for a PDP-9, if the man to whom it is addressed is no longer here.

If you think we should make different arrangements for handling telegrams, please let me know.

Ken

ecc

KO Philosophy ☆
te Engineering Managers

c- Dick Hogg
Operations Comm.

digital INTEROFFICE MEMORANDUM

DATE: January 18, 1968

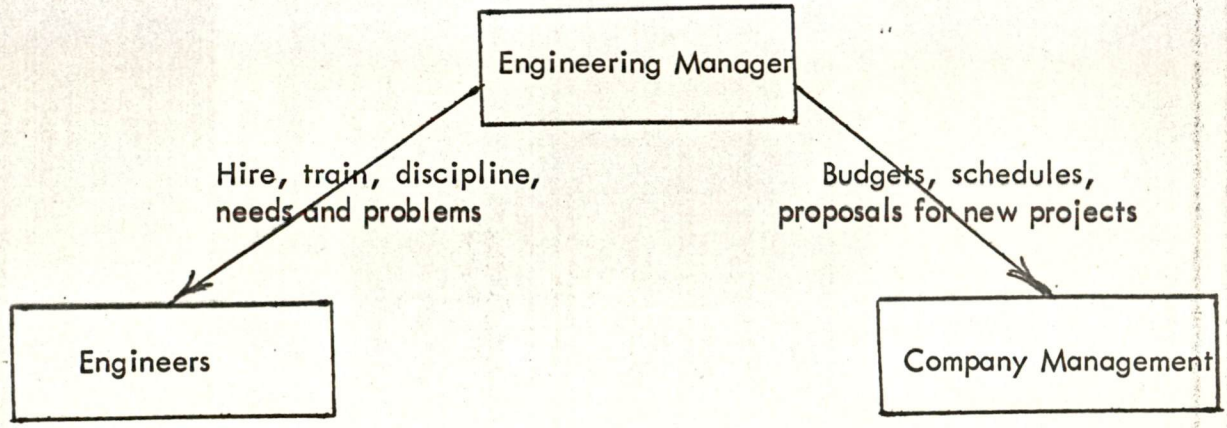
SUBJECT: RESPONSIBILITIES OF AN ENGINEERING MANAGER

TO: Engineering Committee Members FROM: Ken Olsen

I would like to see the Engineering Committee develop a simple statement of the responsibilities of an engineering manager. I would like to do this for two reasons; first, it should be spelled out so that when people take the engineering manager responsibility they will have an idea of what is being assumed, and secondly, thinking this question out is, in itself, educational for those involved. I would suggest you invite several engineers who are not members of the Committee to take part in this discussion.

The joke in business is, "Everyone wants to be a manager, but no one wants to manage." "Manager" is not an honorary title; taking the title means taking a number of responsibilities, and we should be sure we have some common understanding of what they are.

Here are a few thoughts to get you started. To fill in the details of what this means, it might be good to over-simplify the Company as being three boxes - 1) those working on the project, 2) the engineering manager, and 3) the management of the Company. The engineering manager is not the only formal means of communication between engineers and between management.



We have many services in the Company that help in these activities, but it seems to me that the engineering manager is responsible for making sure they are done. No one else can hire, no one else can train, and no one else will discipline. When it comes to problems and needs, the manager is the one to make sure they are taken care of. This includes needs for appreciation, needs for enthusiasm, and inspiration. Morale and confidence are, without a doubt, the responsibility of a manager and should not be left to be taken care of by some mysterious person elsewhere in the organization. The manager is the Company to all those people below him.

As we develop these ideas, I want to be sure that we don't imply that a man's usefulness to society or the Company increases as he takes on more and more manager responsibilities. Some of us get farther and enjoy management more than straight technical work; however, a man who continues to develop technically and is very good, will probably be more valuable, and get paid more, than the same man moving into administrative tasks. I receive hundreds of resumes from administrators with a lot of good experience; to all of them I have someone politely write a negative reply. I would, however, fly half way around the world to hire a 50 year old engineer who has been engineering for 30 years and developing all those 30 years. Those who would like to graduate from engineering into administrative tasks should go through the exercise of writing their resume as if they are 50 years old and out looking for a job; one case where they were developing their technical skills for years, and another case where they were doing administrative work for all those years.

Ken Olsen

ecc

digital INTEROFFICE MEMORANDUM

DATE: January 22, 1968

SUBJECT: FELECIA CORPORATION

TO: Ed Schwartz
cc: Nick Mazzarese
Don Murphy

FROM: Ken Olsen

I received a telephone call at 5:30 p.m. on Friday, January 19, from Mr. John Willis, President and Owner (and only employee) of Felecia Corporation, 26 Pal Street, Plainview, Long Island, New York 11803. He is in the programming business and has been programming PDP computers for the last few months. He has invented a DMA channel device which makes digital communication very efficient. He would like to sell us the rights for this for some rate like 1/2 of 1% royalty.

When he called he asked to talk with Ed Schwartz first, but then asked for me because Ed was not available. He does not want to file for a patent because it would cost several thousand dollars. Instead, he would rather make a deal with us first and then let us bear the expense of filing the patent. He has already talked with Don Murphy about this, and so we might already be somewhat acquainted with the idea.

Will you please follow through on this and give him an answer as soon as we have our ideas clarified. His telephone number is 681-7590.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: January 23, 1968

SUBJECT: Operations Committee Meetings

TO: Operations Committee Members FROM: Ken Olsen

The present schedule for Operations Committee meetings indicates that there is no meeting on the 5th of February, there is one scheduled for the 12th, then half a day on the 13th, and a full day on the 14th. What do you think about driving up to New Hampshire on Sunday night, the 11th, and making it two consecutive full days instead of two full days spread over three days?

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: January 23, 1968

SUBJECT: CORE MEMORY DEVELOPMENT

TO: Pete Kaufmann
Tom Stockebrand

FROM: Ken Olsen

Dr. Jim Childress, formerly of the memory core group at Lincoln Laboratory and then with the memory core group of RCA, is now at NASA in Cambridge, where they are carrying on work in this area. He and others in his group are willing to do consulting for us in the development of core memory when we are interested in pursuing this. His telephone number is 494-2506.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: January 23, 1968

SUBJECT:

TO: Operations Committee Members FROM: Ken Olsen

Please save the evening of the 5th and the day of the 6th of March for ARD's Annual Meeting. Also, please save the afternoon of March 11th for our Board of Directors' meeting, and the evening for our annual dinner for Directors, Officers, and their wives.

If you have ideas as to what we should do for exhibiting at the ARD meeting, please contact Tim McInerney immediately.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: January 29, 1968

SUBJECT:

TO: Mike Ford
cc: Marv Cothran
Don Murphy

FROM: Ken Olsen

On December 6, 1967, I wrote a note to you about my visit with Ted Birnbaum of Automatic Graphics. He is setting up a system for typesetting in which he will use many input stations to generate nine magnetic tapes. These stations will cost about 12K each, and the first installation will require about 20. I suggested he use a PDP-8 to time-share among many stations.

At the time, he didn't take my suggestion seriously because they planned to go into the business of selling these terminals, but on Monday, January 29th, at 4:00 p.m., he called me to say he is now interested in doing this with a computer. Now that he called my bluff, I didn't know what to tell him except that I have blind faith that a computer can do anything; particularly our PDP-8.

Don Murphy to call. 687-4627

I told him that someone would call him back on Tuesday, January 30, to make an appointment to visit him in New York to explain how he can use PDP-8's to tie many keyboards into a 9-keyboard magnetic tape.

I believe that if we can make this system work we can probably take away all the business Mohawk Data is doing with their special devices. This might be a business equal to the data acquisition business, but it would have to be taken as a product which we peddle to those people interested in collecting keyboard data on tape.

Ken

ecc

KO Philosophy
Secretaries

digital INTEROFFICE MEMORANDUM

DATE: January 29, 1968

SUBJECT: NOTES ON TEA PARTY WITH SECRETARIES

TO: Operations Committee
cc: Jim Myers
Al Hanson

FROM: Ken Olsen

I recently had a tea party with several of our secretaries to learn what problems they encounter in their everyday activities. I was very pleased to see that these girls are bright, sharp, and very constructive, and all their frustrations seem to be involved in getting their jobs done efficiently. I know that a number of them have been hurt by specific rules of the Company, but none of these problems were brought up. There were no criticisms of individual bosses, and at times when a specific area of the Company was criticized, the secretary from that department often immediately jumped to the defense of her boss.

I was surprised to find out how frustrating the life of a secretary is in many ways. Apparently, there are many areas that a secretary is involved in that no one feels any direct responsibility for. I would like to put this on the agenda for our February 12th Operations Committee meeting. I would like us to make a list of the various functions and make sure someone is responsible for them, and that some of the procedures are defined in which we standardize on equipment and techniques.

Someone is going to have to do some creative and bold thinking on our office techniques. We used to have a numbering system in which everyone was addressed according to their nearest post. Now we have no system whatsoever, and the secretaries, as well as the mail system, are in complete turmoil because no one knows where anyone's office is located. Apparently, Personnel has no idea where people are located and secretaries are given no information when they seek their help. The sheets that are printed for the Mail Room are kept secret, so secretaries can have no access to them, and the result is that no interoffice mail is ever addressed properly. If we develop an address system (such as the numbered post system like the Navy uses on ships), and if we distribute this information freely and often, our mail problems will drop off tremendously. The girls would also like to have information as to what specific departments people are located in.

The telephone list is just about unreadable, and the latest one was apparently several weeks old before it was distributed. I'm all for economy in our organization, but I don't think we can encourage good workmanship among our secretaries and other employees if we distribute junk like this. Someday we're going to have to print on both sides of the telephone list so that we can get the type big enough to read.

Sometime ago I asked for an analysis of the Xerox machine situation. It seems to me that we keep the Xerox machines scarse and hard to use in an attempt to keep the usage down. The result is that girls are continuously waiting in long lines for the machines. I suspect there is gross inefficiency in this way of operation. The girls that are responsible for the machines in each department feel little obligation to keep them in order because they are used by so many other people, with the result that the downtime is very high (which compounds the problems). I would still like to see the analysis of these machines because I would guess that it would be cheaper to have smaller machines more widely distributed throughout the Company.

The secretaries would like to have a handbook of systems and procedures distributed that is approved by management. Elsa has distributed some of her thoughts, but they don't have the authority because I don't think anyone understands who is responsible. The girls would also like to have a day of initiation for new secretaries. This would be the opportune time to instruct girls in basic rules of Company procedures, correct telephone procedures, familiarize them with names of our people, and include a plant tour to show them what is going on in the Company and where things are located. They feel it would be good to have a sign on each department identifying what is there. We might have a large sign at each of the three stairways in Building 5 with a very large floor number and a list showing what is on that floor.

The office supply situation is so terrible that the girls were even reluctant to mention it. The supply room is only open an hour and a half a day, which means the girls have to go at the specified time whether it is convenient with respect to her boss or not. It is not uncommon to wait from 20 to 45 minutes and then have only two out of ten items in stock. I don't feel this is the way to encourage efficiency and enthusiasm on the part of the girls. This and petty cash are two items which apparently take quite a bit of time, and we should figure out ways of simplifying the techniques so that girls don't have to be inconvenienced.

The secretaries are also very conscious of the weaknesses of our telephone system. Many customers are unhappy because of the delay in having the telephone answered, and then they sometimes get turned over to four or five different people before they find someone with an answer. We have to develop a technique in which we can take care of outside calls in a more straightforward way. This system has to differentiate between people who are trying to sell to us and those that are trying to buy from us.

A secretary from the Training Department is exceedingly discouraged by illegal parkers. Apparently, in spite of the fact that I have threatened to fire people or send them home from our training classes if they insist on parking illegally, no one else in the organization takes it seriously. Consequently, we are again allowing them to park willy-nilly, spend hours paging them, and the same people park illegally over and over again. I would like the responsibility of finding out who is going to take care of this. Until someone steps forward and says that he is responsible for this parking situation, I'm going to take care of the illegal parkers and the Training Department myself.

We talked about the SCM typewriters sometime ago, and it was decided that we would have conferences with the girls to convince them of the wisdom of our decision. As far as I can tell, nothing has ever been done about this. The girls feel that these typewriters do not type letters of the quality that we should allow to be sent outside the office. If they don't know how to use them, or if they are wrong, someone should counsel with them. If they feel they are being forced to send out things which are below their standards, we should, as management, let them know that we are willing to go along with those standards or else do something else about it. Ignoring it is very poor for their morale.

The morale of the men in our Machine Shop was exceedingly poor because their advice was not asked in major decisions in which they were involved. Secretaries feel the same way about typewriters and dictating equipment. They feel that the small Grundig dictating machine was standardized on without being duly considered or the advice of secretaries asked. At this point, I agree with them completely; I would use it only in emergency.

Secretaries say that the walk from Building 5 to the parking lot is seldom plowed and they have to walk along the road, which is exceedingly dangerous. We have a snow blower for this, and I was very disappointed to hear that we do not use it to plow a walk to the parking lot.

The girls are disappointed with the housekeeping in some areas, and would like to have access to a vacuum cleaner so they can clean their bosses offices.

They feel the vending machines are dirty, and they often get the wrong items. Even though they can get the money back by walking over to the Cafeteria, they feel it is not worth the Company's time to do this.

The girls did not criticize their bosses, but I did suggest to them that it is their responsibility to let their bosses know what makes them unhappy. I told them to speak up and to volunteer to do jobs which they feel they can do. Most of them have had much more training on being secretaries than their bosses have had in using secretaries. In fact, most of the bosses have had no training on the use of secretaries, and it is up to them to teach the bosses.

Addendum: (January 31) Here are some more ideas on the latest tea party.

The girls would like to have an evening shift to catch up on the large amount of typing. We might find girls on our Mothers Shift who are very competent to do this. If we eliminate the frustrating, time-consuming things the girls have mentioned, however, they may find they don't have extra typing.

The girls said that if we had more ditto machines around there would be less use for the Xerox machines.

The typewriter is very important to a girl, and they don't want others using them; particularly at night and on weekends. If we have a slot cut in the middle drawer of their desks, they can put the plug of their typewriter in the drawer and lock the desk so no one else can use it.

The girls do feel that it would be good to give instructions on how the telephone should be answered.

The girls are so very sensitive to the SCM typewriter that they are even reluctant to mention it. One of the mature girls is very proud of the fact that she has had one for some time and has not complained about it.

The girls were very reluctant to criticize individuals, but I heard the hint that the girl dispensing petty cash is a frustration. My guess is that she is very young and enjoys having older secretaries wait for her. It is not uncommon to wait a long time for her, but if they are one minute late after her designated hours, she will not do business with them.

Ken Olsen

ecc

digital INTEROFFICE MEMORANDUM

DATE: January 30, 1968

SUBJECT: INTERNATIONAL BIOPHYSICS CONFERENCE

TO: Win Hindle
Mort Ruderman

FROM: ✓Ken Olsen

I received a telephone call from Dr. Kolten of BBN advising me that the International Biophysics Conference plans to be held in Boston during 1969.

Professor Rosenblith, chairman of the organization committee, plans to visit us on Tuesday, February 27, at 2:00 p.m. Will you please save this time to meet with us. I think he is going to ask for financial support for the conference.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: January 30, 1968

SUBJECT: IBM 1130 and 1800

TO: George Rice
Dave Cotton

FROM: Ken Olsen

Your memo on the IBM 1130 was very useful and educational, George. I think it is good for everyone to have this kind of background, and the Operations Committee thought it was very worthwhile.

I would like each of you to write one or two short paragraphs on what you, as individuals, think we, as a Company, should do with respect to this market.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: January 31, 1968

SUBJECT: AUTHORIZED PERSONNEL LIST AND BADGES

TO: Safety-Security Committee
cc: Operations Committee

FROM: Ken Olsen

There is confusion expressed concerning employees who are authorized to enter the plant during off-hours. Some people believe that the employees on the Authorized Personnel List are the only people to come in off-hours without special permission, while others believe this is the list of people who can authorize visitors. Please propose a policy for off-hours entry.

I would also like to have your Committee consider our "visitor" and "temporary" badge situation. It would seem to me that we should consider printing badges like the one attached, where it is filled out by the visitor, the contract worker, the employee with a lost badge, or the employee waiting for a new badge. When they fill them out themselves, it would take little time at the receptionist desk, and we would then have a signed card with all the information we would be interested in. It could also include a list of rules that the visitor should read.

The sample badge attached sticks on the clothing and would be of little value for use on another day. We should write the date on each badge to discourage its use on other days. We could even print the day of the week or have different colors like ski slopes do to make sure tickets aren't used on other days. We could have the visitor write in the information with a wick pen so that the writing would be very large and readable. I like this system because we would then end up with a complete file on all visitors, and the girls at the reception desks wouldn't have to make any marks.

I have asked the girls at each reception desk to make sure there is always a company name on every visitor badge. If it is desirable to keep this secret, they should put "Self" where the company name goes.

. Ken

ecc

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KSC

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ROCKVILLE CENTRE, NEW YORK

CHRISTUS PRIMATUM
WESTMONT

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CONVERSE
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UNIVERSITY

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ANNUAL BANQUET

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EXTENSION SERVICE
IOWA STATE UNIVERSITY
NAME
TITLE

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NORTHEASTERN

A&M COLLEGE

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CHATTANOOGA, TENN.

KU

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YESHIVA UNIVERSITY

VA. STATE COLLEGE ALUMNI REUNION
Present Year
My Name Is
My Class Is
GLAD TO MEET YOU!

McNeese STATE COLLEGE

PRINCIPAL-FRESHMAN CONFERENCE

WAYNE STATE

WELCOME
DE LA SALLE

WELCOME

UNIVERSITY
OF ALABAMA

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THE KANSAS MEDICAL SOCIETY

AUXILIARY
THE KANSAS MEDICAL SOCIETY

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YOUTH WEEK
NAME
CORPS
JAN. 29 - FEB. 5, 1967

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BURLINGTON WORKS

PPG
CHEMICAL DIVISION

DRIVE CAREFULLY
GOING HOME

CITIZENS
CB

THE DEVILBISS COMPANY

WELCOME VISITORS
DATE
GREENSBORO FINISHING CO.
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Baby THIS ONE IT'S NEW

NEW YORK TELEPHONE COMPANY

International TRUCKS COST LESS TO OWN
Guest of the SPRINGFIELD WORKS
COST MORE TO BUILD

WELCOME TO DODGE CITY
I AM
I AM AN HONORARY
DODGE CITY MARSHAL
DODGE CITY CHAMBER OF COMMERCE

SAVE WHERE YOU BANK

GENERAL ELECTRIC

TWA

IBM

UPTOWN LONG BEACH
We Build
GUEST

HELLO
I'M
I HAD A
Honest!

GUIDE
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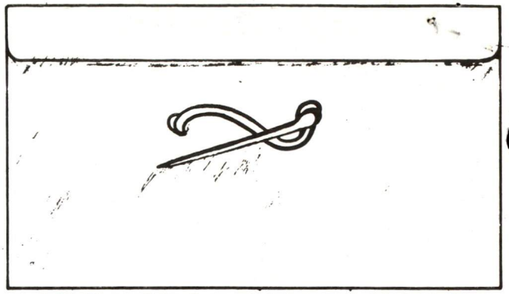
WINDOW CELLULOID BUTTONS					2500	5000
Size	100	250	500	1000	(per M)	(per M)
1335—2½"	31.00	52.00	81.00	119.00	117.00	114.00
1340—3½"	43.50	80.00	123.50	200.50	191.50	187.50
OVAL—1¾ x 2¾						
1345	32.00	46.50	65.50	100.50	98.50	96.50
ROUND BUTTONS						
1350—1"	12.50	17.50	22.50	32.50	31.00	30.00
1360—1½"	13.50	24.50	30.50	47.50	45.00	42.00
1365—2¼"	16.50	33.50	49.50	73.50	70.50	69.00
1370—3"	29.50	57.50	85.50	139.50	134.00	128.50
1375—4"	74.00	135.50	222.50	351.50	346.00	334.00

All buttons up to 2¼" are with straight pins. Other sizes (including ovals), are with Safety Pins, Closed backs.



In this Cleartone Badge Case you just slip in the Identification Card.

Cleartone Badges Pin-On
Size 2¼x3½

Quantity 50	100	250	500	750	1000	2000	5000
Price 15c ea.	10c ea.	8c ea.	7½c ea.	6c ea.	5½c ea.	5c ea.	4½c ea.

Price includes imprinting—any color
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You will find these listed on page 10 of our catalog. We will make these wonderful parking permits up in any color, number them and ship direct prepaid for following low prices: (3-inch size, round or square)

500 Jac-Cals .....$17.50 5,000 Jac-Cals $45.00
1,000 Jac-Cals .....$22.50 10,000 Jac-Cals $80.00

Sticks on inside of windshield. Special designed cut $5.00 extra. 2 Cents Each Extra If Numbered

PICK-OFF LABELS

These are small pressure sensitive labels, white, gold, bright red. These labels are used by students, faculty and others to call attention to coming events. Size 1½" x 1", 50 labels on a sheet, 100 sheets in a box. Total 5,000 labels.

1 to 4 boxes.....$24.30 per box
5 to 9 boxes.....$21.90 per box
Special cut $5.00 extra shipped prepaid

HOME COMING
NAME OF COLLEGE
SEAL OF TRADE-MARK
DATE, TIME
& Place HERE

JACK-BILT
POCKET FIT CLEARTONE BADGE

Size 2¼x3½ inches. Designed so that the tail piece slides into the outside handkerchief pocket.

QUANTITY	100	250	500
PRICE	10c ea.	8c ea.	7½c ea.
750	1000	2000	5000
6c ea.	5½c ea.	5c ea.	4½c ea.

(Imprinted inserts)

Price, plain inserts with border color only.

Quantities under 500—5½c ea., over 500—4½c ea.

BORDER COLORS: RED, GREEN, GOLD and BLUE.

CLEARTONE
Transparent
POCKET-FIT
BADGES

TAIL PIECE
FITS THE
POCKET

SHOW

Lots of Stock Ribbons - 10c Each

We carry the following 1½x6 inch ribbons in stock. 10c each stamped in gold on red or blue ribbon.

☐ MEMBER ☐ MANAGER ☐ CHAIRMAN
☐ COMMITTEE ☐ DELEGATE ☐ GUEST
☐ EXHIBITOR ☐ USHER ☐ HOSTESS ☐ HOST
☐ INFORMATION ☐ OFFICER ☐ PRESIDENT
☐ VICE PRESIDENT ☐ PRESS ☐ ALUMNI
☐ JUDGE ☐ VISITOR ☐ MERRY XMAS
☐ NEW MEMBER ☐ OFFICIAL

E Z Stick-on RIBBONS

Only 2c Each Extra

These ribbons stick on clothing without pins or badge. Simply peel off backing sheet and apply ribbon to garment. E-Z Stick-On ribbons cost only 2c each extra.

CLOTH BADGES

100 Silver Cloth Badges	10½c each	1,000 Silver Cloth Badges	6c each
250 Silver Cloth Badges	7½c each	2,500 Silver Cloth Badges	5c each
500 Silver Cloth Badges	6½c each	5,000 Silver Cloth Badges	4½c each

JACK-BILT QUALITY E-Z STICK-ON BADGES

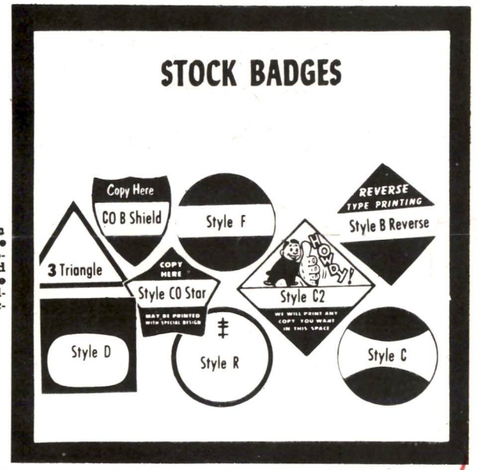
Preferred by BUSINESS, EDUCATIONAL and SOCIAL ORGANIZATIONS

Our nationwide business has been built upon repeat orders and satisfied customers.
Since originating our exclusive way of making the original E-Z Stick-On identification badges several years ago, they have been used by our customers all over America——many of whom have continued to reorder year after year. They have recommended our badges to others until today we are one of the nation's top leaders in the badge business.

3 INCH E-Z STICK-ON BADGES

All Jack-Bilt E-Z Stick-On Badges are carefully made by the original Jack-Bilt process. First they are printed or lithographed. Then the Double Coated Garment Adhesive is put on by our electronic process.

ALL PRICES NET—
NO DISCOUNT
Our E-Z Stick-On Badges are sold direct from factory to you at bottom dollar prices. Free layouts and suggestions are gladly furnished without obligation.



QUANTITY	50	100	250	500	1000	5,000
PRICE (WITHOUT IMPRINTING)	10c ea.	9c ea.	7c ea.	5c ea.	4½c ea.	4c ea.
PRICE (IMPRINTED*)	20c ea.	10½c ea.	7½c ea.	6½c ea.	6c ea.	4½c ea.

*Imprinted in regular type. Reverse printing or special cuts add $5.00 extra.

Visitors Pass

CHICAGO

VISITORS RELEASE AND PASS DATE_____

Having requested permission to enter the premises and visit the plant of Dreis & Krump Mfg. Co., and being fully aware of the risk of injury to a visitor from moving machinery, electricity, chemicals, glass, negligence of employees or of other visitors, and from other causes, the undersigned in consideration of such permission, assumes all risks, releases said company and agrees to hold it harmless from liability for any injury to him or his property while upon its premises.
Read carefully before signing.

NAME_____
COMPANY or BUSINESS_____
ADDRESS_____
HERE TO SEE_____ DEPT._____

CHICAGO
NAME_____
COMPANY_____
DREIS & KRUMP

PLANT VISITOR BADGES AND RELEASE CARD

The E-Z Stick-On adhesive is the badge only. (Like Chicago). The release card is perforated so as to be taken off. Used by many of the largest firms throughout the country. Every plant who welcomes visitors should use this pass.

QUANTITY	1000	1000 to 5000	Over 5000
PRICE	8c ea.	7c ea.	6c ea.

Bumper Signs

We are headquarters for bumper signs, lithographed on the finest adhesive stock. Red fluorescent, 3¾' x 15", net price, postpaid. 100 for 18c each, 250 for 15c each, 500 for 10c each, 750 for 9c each, 1000 for 8c each, 5000 for 5½c each. On white stock, 1000 for 7c each, 5000 for 4½c each. We will be glad to send you a layout on bumper signs or E-Z Stick-On Badges FREE.

LET'S HAVE A BALL AT THE
BAXTER BOWL
BAXTER SPRINGS, KANSAS

2¼x3 Inch E-Z Stick-On Badges

We have almost all National Trademarks, and emblems in stock that we are glad to run on your E-Z Stick-On Badges without extra cost. If you have a small 1 inch emblem that we do not have, send a good proof of the cut and we will make one for only $2.50 extra. Larger cut or reverse printing $5.00 extra net.

For quick shipment, we carry the following 2¼x3 inch badges in stock: "Visitor", "Host", "Hostess", "Welcome", "Alumni", "Guest", "New Member", "Class Reunion", "Ask Me—I Live Here". Furnished in dark blue, red, green, and purple.

PRICE OF 2¼x3 INCH STOCK BADGES
To insure freshness we package all our badges in individual envelopes.
PRICES 2¼x3 INCH E-Z STICK-ON BADGES

Quantity	100	500	1000	5000	10,000 or over
PRICE (Not Imprinted)	4c ea.	4c ea.	4c ea.	4c ea.	3½c ea.
PRICE (Imprinted)	7c ea.	6c ea.	5c ea.	4½c ea.	4c ea.

Jack-Bilt Long John Strip Badges are Made in the Following Popular Sizes and Styles

SEAL OF TRADE-MARK
COPY GOES in this Space
Jack-Bilt Long John Strip Badges

E-Z Stick-On Badges made up in strip form . . . to be torn off as used. Minimum order 100 strips.

PERFORATED LINE

SIZE 1½x3 INCH LONG JOHN BADGES
100 strips (600 Badges).....21c per strip net
250 strips (1500 Badges).....19c per strip net
500 strips (2500 Badges).....17c per strip net
1000 strips (5000 Badges).....16c per strip net

SIZE 2x3 INCH LONG JOHN BADGES
100 strips (500 Badges).....22c per strip net
250 strips (1250 Badges).....20c per strip net
500 strips (2500 Badges).....18c per strip net
1000 strips (5000 Badges).....17c per strip net

SIZE 3x3 INCH LONG JOHN BADGES
100 strips (400 Badges).....26c per strip net
250 strips (1000 Badges).....24c per strip net
500 strips (2000 Badges).....22½c per strip net
1000 strips (4000 Badges).....20c per strip net

BABY JUMBO LONG JOHN BADGE
4 BADGES TO A STRIP
SIZE 3½ x 2½. (Same size as our Baby Jumbo Badge—only in strips).

100 strips (400 Badges).....26c per strip net
250 strips (1000 Badges).....24c per strip net
500 strips (2000 Badges).....22½c per strip net
1000 strips (4000 Badges).....20c per strip net

Org chart
8/17/67

Revised as of 8/17/67

PLANT SUPERVISORS

Authorized Personnel List

Ken Olsen--President

Dick Best

Elsa Carlson

Bob Collings

Stan Olsen---Vice-President

Frank Kalwell
Ray Michel
John Woodman
Al Denault
~~Saul Dinman~~
~~[illegible]evault~~
Russ Doane

George Gerelds
Jim Castano

~~Norm Perryman~~

George Wood

James Cudmore
Arthur Parks
Ed Gianetto
Pete K.

John Jones
Don Vonada
Dave Cotton

Ed DeCastro
Henry Burkhardt

Ted Johnson

Bill Farnham

Brad Towle

Jack Shields
Cliff Pitts
Ken Senior
Don Busiek
Dave Dubay
Don Zereski
Walter McKenzie
Paul Gadaire
Leo Landry

Harry Mann---Vice-President

Michael Dowling
Elliott Hendrickson

Bob Dill
~~Jean Hanson~~ Ted Talbots
Don Summers
Ed Savage
Alma Pontz
Clayton Rix

George O'Neill

Ed Simeone

Jim Myers

Al Hanson
John Culkins
Joe Connaire
Dave Packer Roger Gill
Charles McHale

George Lord
Edward Schwartz
Raymond Howe

Nick Mazzarese---Vice-President

Al Alexanian

~~Allan~~ Allen Kluchman

Mike Ford
Howie Painter
← Marvel Cothran
← Bill Landis

Clark Crocker
Pat Greene
~~Stu~~ Ogden

Bill Long ← Brad Vachon
Dick Parks

Ted Johnson--Continued

Tim McInerney (terminating in March)
Roy Gould

Ron Smart
R. Wilson

Ron Eienhauer
Fred Gould

Roger Handy

Win Hindle---Vice-President

Mort Ruderman
Dick Clayton

Steve Mikulski
Dick Dreslinski
Frank Fortin
Jim Sullivan

Bob Lane
Ward MacKenzie
Andy McGill

Pat Greene
~~Louis Illingsworth~~
~~Jack MacKeen~~
~~Leo Butterworth~~
~~Dick Flaherty~~

Larry Portner
Harvey Shepherd
Angela Cossette
Bonnie Korsman
Marvin Horovitz
Evelyn Dow
Jim Murphy
Leo Gossel
Bill Segal
Dave Plumer

Bob Lassen
Jim Davis
Dave Edwards
Paul Chambers
Graydon Thayer

Pete Kaufmann

Jack Smith
Bud Dill
~~Dave Kicielinski~~
~~Harold Godfrey~~
~~Jack Achilles~~
Rod Schmidt
~~Vito Augello~~
Bob Daigneault - L. Hazlitt

Dick Richardson
Arthur Crockedile
George Silva

Tom Stockebrand
John Viscogliosi

Henry Crouse
Ed Hogan
Dick King
Paul McGaunn

Cy Kendrick
Leo Reardon
Gloria Porrazo
Galen Davis

Peter Kaufmann
Bill Hanson
Joe St. Amour
Dave Knoll

Loren Prentice

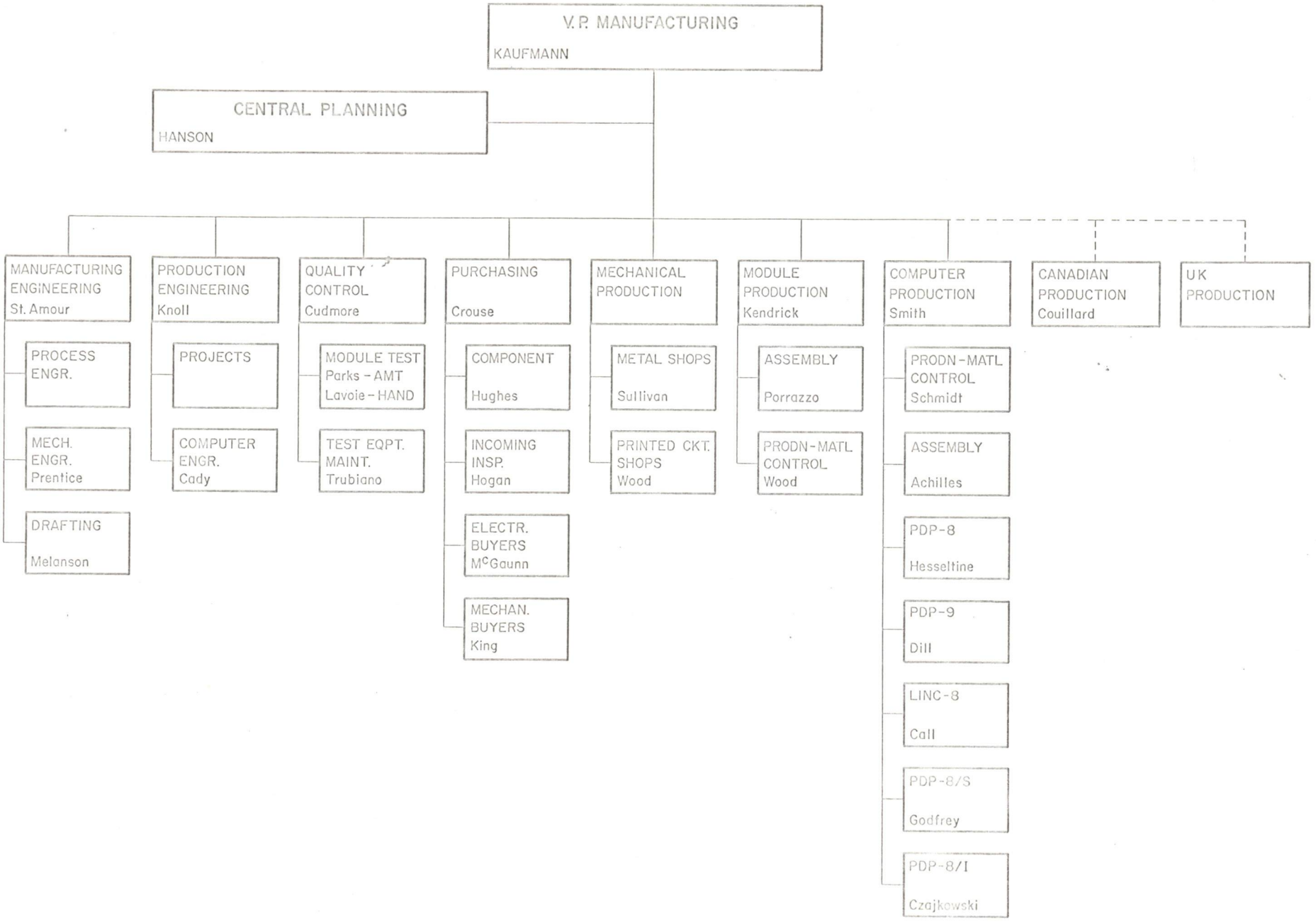
Roger Melanson

Ed Harwood
John Trubiano
Don White

Win Hindle---Continued

Bob Savell
Bob Clements
Jonel Sutton
Derrick Chin
Bob Wyman
Phil Backholm
Frank Nardo
Dave Gross
Allan Kotok
Lee Butterworth

MANUFACTURING ORGANIZATION



People	83	23	73	46	47	419	427	150	25

GRAND TOTAL PEOPLE (incl 3 Admin) = 1293

digital INTEROFFICE MEMORANDUM

DATE: January 31, 1968

SUBJECT: MECHANICAL DESIGN OF THE TU79

TO: Pete Kaufmann
cc: Win Hindle, Bob Savell, Joe Sutton, Phil Backholm, Joe St. Amour, Loren Prentice, Dan Sullivan, Dick Best, Tom Stockebrand, Ken FitzGerald

FROM: Ken Olsen

I would like to suggest that you have a mechanical design review of the TU79. I'm afraid that it is going to be expensive to manufacture, and I think we should decide now whether we want to redesign it so it is manufacturable.

The cabinet is just filled with an infinite number of odd-shaped brackets to hold this and that, and each one has to be drafted (I hope we haven't done any drafting on this project yet), subcontracted, inventoried, and assembled. There are no subassemblies, but everything is assembled right in the cabinet. The wiring is a hodgepodge, and doesn't lend itself to premade harnesses One does not have the feeling of clean-cut, straightforward design that we promised when we started the project (and like what other manufacturers are now learning to do).

If we decide to continue the project, let's review every part to see if it is necessary, and let's do everything we can to simplify and cut the price of parts that are necessary.

Let's weld all brackets and angles right to the frame before it is painted.

We should consider making an assembly for the air pressure system that would contain the pump, filter, regulator, valve, guage, and manifold. The filter, regulator, and guage could be bought as a unit. I would guess the manifold could be a piece of 1-inch iron pipe capped on each end with fittings screwed into its side.

It would be easier to manufacture if the vacuum system was another assembly that could be slipped into place with a plastic hose fastened to the vacuum columns and the motor. We should try to avoid welding special pipe flanges for the vacuum hose by buying standard plumbing parts.

Let's list the power requirements and the characteristics needed for the power control, and consider the cost of making a new power supply to do all of this in one unit. Now we have three, four or five separate power supplies and a power control panel with bracket on bracket on bracket on bracket. We might make very lightweight power supplies for those that do not need good regulation and filtering. If we could build it

on a simple panel like the PDP-8/I power supply, it could fit on one side of the cabinet. We might then put the logic on the other side of the cabinet and avoid the multitude of hardware to slide out the logic and the very elaborate cabling.

Other parts should be looked at to see if they can be made assemblies, such as the right lock-out switch. This now consists of many parts that are assembled on the panel.

Ken Olsen

ecc

digital INTEROFFICE MEMORANDUM

DATE: January 31, 1968

SUBJECT:

TO: Stan Olsen FROM: Ken Olsen

753-2471

Dr. Shirley Johnson of the Denver Research Institute called me, thinking I was you, and offered me a seat on the Board of Directors of a small, $1 million transformer power supply company in Boulder, Colorado. The big advantage of this is that you would have a chance to go to Denver to ski periodically.
It wasn't clear who he meant to invite, but he did invite me; I turned him down. Next week the president of the company will be calling again to invite you. If you want to turn it down, it would be good to have your excuses thought out ahead of time.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 1, 1968

SUBJECT: PDP-10

TO: Win Hindle
Bob Lane
Bob Savell

FROM: Ken Olsen

I would like to have a brainstorm session on how we can get the PDP-10 story across to the outside world. Let's try to schedule a discussion for the Operations Committee meeting on February 12th.

As preparation for that meeting, will you list the main features of the PDP-10, and also list the misconceptions which you think might be prevalent. I'm afraid that some people think the PDP-10 is an incompetent computer because the price is low, some people believe it is obsolete because the programming is done, and it is behind the times because it is not all integrated.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 1, 1968

SUBJECT: DESIGN REVIEW OF THE TU79, PC01, AND LARGE DISC

TO: Dick Best
Operations Committee Members

FROM: Ken Olsen

Most people are very pleased with the design review committees, but there are things which these committees do not cover. The Operations Committee would feel better if some of the projects had a detailed analysis made by someone like yourself.

Will you outline for the Operations Committee a review of the TU79, the PC01, and the large disc.

Generating the outline will be much of the job, and when we review the outline with the Operations Committee we can then discuss to what detail we would like each of the parts reviewed.

If you can have the outlines ready by February 16, we can review them after the Schedule Review meeting.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 5, 1968

SUBJECT: LOGIC LAB

TO: Al Devault
cc: Stan Olsen

FROM: Ken Olsen

I don't remember seeing a proposal, schedule, or budget for the new logic lab. Will you please present one to the Operations Committee at your convenience. We should also have a design review of this project, and I would like you to propose a committee to do this.

I would like to have the same committee, or another committee, review the notebook to go with modules. I would like to know who has read the book and feels it should be printed. In times past we have made mistakes by distributing copies and assuming that if there were no complaints it was safe to go into production. Before the project is approved for production, I would rather see the signature of individuals who say they think we should go into production.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 5, 1968

SUBJECT: POWER SUPPLY

TO: Phil Backholm FROM: Ken Olsen

We have developed some new techniques in manufacturing the power supply for the PDP-8/I. Will you look at this and compare it with the original power supply to see if you can use some of the ideas. Originally it was made up of aluminum with a large number of brackets, angles and supports; now it is spot-welded out of steel and cadmium-plated. It was our success with this one that encouraged me to suggest we consider making one big power supply for the TU79.

The same idea holds in welding brackets onto the frame. There is an advantage in using a standard frame, but some of the advantage disappears when we have to add brackets later on. Please show the cabinet to our sheet metal foreman and ask him if he thinks it would be easier to weld on steel brackets before painting or make up aluminum ones to be screwed on later.

We should set up standard ways of doing things so that we don't reinvent every time a new problem comes up. I don't think we should eliminate the possibility of reinventing, but I don't think we should make the obligation to reinvent everything as it is now. Will you help me start this by making a list of all the ways we use tab terminals in our products now (there are probably only six or ten ways) and a short comment after each one. You might even mention what it costs. The ways I know of are the Heyco through-panel tab connections, the Jones strips we buy with tabs riveted in place, the fiber strips we rivet tabs onto for the various fans, the large number of various tabs we screw onto components, and the tabs we screw onto etched boards.

After you make this list, will you publish it in the "Engineering Newsletter" so that when anyone wants to use tabs they will at least know what we have done in the past.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 5, 1968

SUBJECT: TU79 DESIGN REVIEW

TO: Pete Kaufmann
cc: Win Hindle

FROM: Ken Olsen

The memo I sent last week on the TU79 apparently upset people so much that it did more harm than good. They say, and I agree, that they did everything in the logical and right way, according to all the instructions they received. I agree that they did everything right every step along the way, but I don't like the result. They feel I am being terribly unfair because they did everything right.

I am developing some sympathy for their situation, however. They work so hard to make anything mechanical that the idea of changing it is just overpowering them. I don't know why it is so difficult for them to make things mechanically. It might be that having it done in our shops and having it subcontracted is just such a terrible chore that they can't conceive of doing it twice. I'm sure we have to learn to design better mechanical things and to make it a lot easier to get the design done. Maybe after something is working electrically, like this one is, we should take it down to the shop, have our engineer work right there, and whip up a final mechanical design. With the shop nearby, and all the cooperation of the shop people, we should be able to whip out a very simple one. Some of the changes that I think would be trivial just overwhelm the present engineers as being way beyond any possible time schedule. Even some things that are available in a local hardware store seem to add years to their schedule if we were to consider them.

Will you encourage them to pick their own mechanical design review committee. I think a design review committee's job is obvious. They should list all the things they don't like, and the people in charge of the project should say which ones they will do, which ones they will wait to do at the next redesign, and which ones they don't think are wise. Joe Sutton is just overwhelmed by the thought of a design review committee made up of a number of people. He feels he would have to argue with each one and might lose some of the arguments he doesn't believe in. I don't think it should be set up that way at all, but we should make a list of all the things people don't like about the device.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 5, 1968

SUBJECT: DIGITAL SIGN

TO: Harry Mann

FROM: Ken Olsen

Will you please see that the G is put back in our DIGITAL sign at the Main Street entrance.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 5, 1968

SUBJECT: STOCKROOM STORAGE OF MEMORIES

TO: Pete Kaufmann FROM: Ken Olsen

Will you have someone review how we store memories in the stockroom. I'm afraid that maybe they should be stored in foam or something that would protect them. I wouldn't worry about this if we had a history of no failures upon installation.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 5, 1968

SUBJECT: MECHANICAL DESIGN OF CATHODE RAY TUBE

TO: Klaus Pichler

FROM: Ken Olsen

As you do the mechanical design of the cathode ray tube, be sure that it is not made any more rugged than what you believe is possible. Television sets are shipped around the world and most of the time work when plugged in. Sometimes when we do the mechanical design of devices we build them as if they are tanks, when lightweight strapping would be just as good.

There are standard bezels available that might work for this tube. I think the company that makes them is Martel. From them you might be able to get a cheap, plastic bezel which would be quite satisfactory. Bell Telephone Laboratories makes a display somewhat like this, and they have some real clever mechanical design. The only think I can remember right now, however, is that, for the original model, they bought the bezel from Martel.

I'm a little afraid of aluminum casting for a bezel because it gives a very heavy, unclever look.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 5, 1968

SUBJECT: MEETING ON NEW CABINET

TO: Loren Prentice

FROM: Ken Olsen

Will you set up a meeting for the near future so we can review the status and ideas on the new cabinet. I would like to have ideas introduced early and often before this project is very far along.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 5, 1968

SUBJECT: NEW POWER SUPPLY FOR PDP-9

TO: Stan Olsen
cc: John Jones
George Gerelds

FROM: Ken Olsen

I wrote a note on the TU79 that I'm afraid was unduly harsh. In it I, among other things, suggested that they consider combining all the power supplies and power control panel into one neat unit like we did on the PDP-8/I. They were rather indignant at this, and said they used the official, approved, and traditional manufacturing techniques used by the Company. It looks to me like they have a hodgepodge of miscellaneous power supplies spread all over the place, and the power control panel with stuff piled on top of stuff.

When I look over the PDP-9, I discovered that they were indeed right -- they are using PDP-9 techniques. They feel so strongly that they have the optimum approach to design that I don't think they are ever going to change, but I would like to suggest that you consider changing the power supplies in the PDP-9.

I suggest you have George Gerelds lay out a steel panel to cover the full front bottom of the PDP-9. On this, lay out PDP-9 power supplies, power control, and any other odds and ends that would fit nicely. There should be no covers on this, and it should be wide open with no more brackets than are necessary.

The flanges on the sides, and any brackets that are necessary, should be spot-welded, and the whole thing cadmium plated.

The cover that goes in the bottom front should also be changed. The aluminum angles screwed to the bottom of the cabinet should be left off, and the new panel could be plain with two or four flanges bent up on the sides. It could be held in place by four exposed screws that screw into nuts and welded in the new power supply.

If we're going to go about proving the PDP-9 a step at a time, this would be a good start because it would be relatively easy and it would do a lot to improve the engineering appearance of the inside of the 9.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 5, 1968

SUBJECT: PDP-8/S ASSEMBLY AREA

TO: Pete Kaufmann

FROM: Ken Olsen

I walked through the PDP-8/S assembly area at 8:30 Saturday morning, February 3rd, and found it to be a depressing sight. All the technicians were sitting in the office and slowly walked out when they saw me inspecting. There were modules, cables, and instruction books on the floor, along with all sorts of litter and dirt.

I suggest that you talk to the foreman in charge of that area and tell him to get the morale high in that group, and to get the place cleaned up and keep it clean; otherwise, tell him to quit or we'll fire him. The fact that this is an older project is no excuse whatsoever. The man in charge is to make that place play right or he is no foreman at all.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 5, 1968

SUBJECT: NEW LOGIC LAB

TO: Stan Olsen

FROM: Ken Olsen

I'm sorry that I haven't had a chance to look at the logic lab in detail. Every time I went there no one was around so I didn't know which was the latest model. There are a few things, though, which bother me that I think look a little immature.

I'm not sure we have made the switches to fit into the front panel in a neat and professional way. Adding masonite or anything else to back up the deep eyelets worries me. I'm afraid this will expand with the humidity and temperature and might break the solder joint. I would much rather see blind eyelets put through one layer of board and soldered on the back side.

Now that we're getting closer to being sure that we can solder integrated circuits on the surface of panels, we can consider again making this unit by etching the diagram on one surface, on the other side have all the wiring, and solder the integrated circuit on that surface.

We could then make the unit on three small boards which can be easily made and soldered. Two boards, which might be identical, contain the integrated circuits and their pin connections, and the third one contains all the handmade parts. The first two boards are flesh with a surface of the unit, and the third one is set back deep enough to hide the switches, then covered with a fourth board to make a flesh appearance.

If we had a push-on knob on the potentiometer, it might look a little more professional than the military type knob we now have.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 5, 1968

SUBJECT:

TO: Henry Crouse

FROM: Ken Olsen

Could you get me some literature on very small air compressors made by Neptune. I think the trade name they use is Dina Pump.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 5, 1968

SUBJECT: PROTECTION FROM 50-CYCLE GENERATORS

TO: Al Hanson

FROM: Ken Olsen

The open pulleys and belts on the 50-cycle generators are dangerous for people walking by. Covering them up is never satisfactory, and is rather expensive. I suggest that you make a fence of a single 2" x 4" about three feet high and nail it to the posts so there is a line that defines where people should walk.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 5, 1968

SUBJECT: MY MEMO TO YOU DATED JANUARY 31

TO: Stan Olsen

FROM: Ken Olsen

I don't think you should accept directorship of a company so far away. I think it would take just too much time away from work if you went out there to board meetings.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 7, 1968

SUBJECT: AUTOMATIC WIRE-CUTTER AND STRIPPER FOR WIRE-WRAP MACHINE

TO: Tom Stockebrand FROM: Ken Olsen

Here is a variation of the wire-stripping machine that you may want to consider for future models. Instead of precutting and stripping all possible lengths, we could make a computer-controlled wire-stripper that would feed the wire to the operator before she needs it.

We used to use a Mark II wire-cutter and stripper from Technical Devices Company, 11242 Playa Court, Culver City, California 90230. This is a small unit about six inches wide, one foot long, and five inches high. Wire is pulled through the unit by hand to the desired length, and the pneumatic cylinder is fired. Jaws grip the wire, cut it, and strip both ends.

This stripper seems quite reliable because the cutters are assembled at the factory. They cut a particular wire type with a particular length of strip.

If we had a stepping motor control that would feed wire from a spool into this stripper, I think this would deliver to the operator exactly the wire she desires.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 7, 1968

SUBJECT:

TO: John Trebendis

FROM: Ken Olsen

Will you make a guess for me of the price of a 12-inch long, 1 1/2-inch galvanized steel pipe nipple like is stocked at Maynard Supply. I would like a standard cap on each end. In one cap I would like a hole drilled in the center and tapped with a 1/8-inch pipe tap. On one side of the nipple, approximately equally spaced, I would like five holes drilled and tapped with 1/8-inch pipe tap, and one hole opposite the hole which is the middle one of those five.

In total there are seven tapped holes, all with 1/8-inch pipe taps one in one cap, five in one side of the nipple, and one on the other side.

The people designing the TU79 used rather elaborately shaped weldment, which is a simple plenum for their air compressor. They said they looked into doing this with standard pipe, but found that it was more expensive than making an extrusion, which they made in strange shape so that they can drain water out the bottom. It seems to me that this arrangement, if mounted vertically in the rack with 2-inch tail pipe clamps, would make a very inexpensive plenum. A drain spicket could be screwed in the bottom, the compressed air would come in beside one hole, and there would be five ports out the other.

If it is very easy to do, you might make one, charge it to my account, and deliver it to Phil Backholm with an estimate of the cost.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 7, 1968

SUBJECT: ADDENDUM TO PDP-9 MEMO DATED FEBRUARY 5TH

TO: Stan Olsen
cc: John Jones

FROM: Ken Olsen

Our present practice is to make a standard cabinet and then drill holes into it so that any bracket anybody ever wanted to put on it would have a locating nut and screw right in the cabinet. This we do because of our lip service to the word "standardization."

I have serious doubts as to the efficiency of this. I would like to have this compared with building PDP-9 cabinets for PDP-9 only, and welding on all the brackets and odd pieces that are later screwed on. These cabinets are then only good for PDP-9, but we save the price of nuts, layout, and the drilling that we do for putting on the brackets. We save the inventory of all the odd, special pieces, and we save fitting on the pieces afterward. When they are going to make 50 of these cabinets in the Shop, they will make only 50 of the odd pieces, weld them in place, and the whole thing gets painted at one time.

Do we have a new door for the PDP-9? That was one of the things that bothered me, and we had one developed. I just want to make sure it didn't die in the process.

Loren Prentice would also like to have us develop a new back door to hold the logic because this one is rather flimsy. The only part which really stands out to me is the openings for the filters; they are about an inch larger than the filter and it makes it very sloppy.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 7, 1968

SUBJECT:

TO: Pete Kaufmann

FROM: Ken Olsen

While at work Saturday morning, I wandered through the module area and saw what they have accomplished. I worry just a little bit on the wisdom of upsetting it. I understand all Harry's arguments, but when you have a good thing going, you should think real carefully before you upset it.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 7, 1968

SUBJECT: MESSAGE FOR ANALYSTS

TO: Harry Mann

FROM: Ken Olsen

I would like to talk with analysts when they come to the plant to let them know that we have our engineering and programming done, and that we are in tremendously better shape than most other computer companies. If I'm not around when they come, will you make sure that this message gets across to them.

Enclosed is a copy of a report that Bob Collings received.

Ken

ecc

KO Re setting up
Europe HQ

digital INTEROFFICE MEMORANDUM

DATE: February 12, 1968

SUBJECT: Some Thoughts on My Trip to Europe

TO: John Leng FROM: Ken Olsen

I enjoyed being at the Managers Meeting and visiting with the people from Europe last week. I am proud of the organization you have set up, and I think you should be proud also.

I was pleased to get to know Jean-Claude better. I think he will be able to do any job that we ask him to in the future. I think he understands the way we do things, maybe even better than we do.

Jean-Claude said he would like to do manufacturing in France, and I suggested that if he would like to run a manufacturing organization himself, we would be very happy to consider his proposal. I hinted, however, that he ought to decide whether he would like to aim toward having more general responsibility in the overall European organization or concentrate on the French organization, which he would have to do if he started manufacturing there. I would like to suggest that you start discussing your hopes for Jean-Claude with him.

I am fascinated about manufacturing in France, but it is my guess that we would like to encourage Jean-Claude to take more general responsibility. If you agree with this, you might want to have him take your place in various meetings once in a while, such as the Regional Managers meeting here in the States; sometime if you just can't make the trip, it might be convenient to ask him to take your place.

I like the idea of moving the European headquarters to a different city because it would then force you to define and isolate the U.K. operation. You owe responsibility to Tom, but we might be able to accomplish this in an easier way, and a lot sooner, by just isolating, on paper, the European organization. You might even move the European organization across the street and keep the U.K. organization where it is. I would sure like to find out now if Tom can run the U.K. If he can, let him do it and eliminate the burden from you, and if he can't, let's find out and get someone in there who can.

I would like to suggest that you take down the bulletin board in your lobby, and find some better way to store the telephone directories and loose papers from the Teletype machine. I think these little things would make the lobby much more attractive.

I suggest that you do not allow people to talk about "Maynard." People should always talk about an individual or a department; Maynard or the Company does nothing, good or bad. We are always reluctant to criticize an individual, however, so we complain

about the Company or Maynard. The result is that people in the field, both in the States and abroad, because they are always criticizing Maynard, develop the feeling that there are 2,000 people here making an effort to ignore them. Actually, there are a number of individuals here, and they have the same weaknesses and make the same mistakes as those in the field. It's just that with 2,000 of them we have much more opportunity to make mistakes. We have made tremendous improvements in getting rid of goofs, but I would like to make a concentrated effort this year of cutting them way down. I think we should be equally hard on those people in the field who forget to answer letters to customers, Arnaud de Vitry, and the plant, as we are of those in the plant who foul up orders. Some of the most atrocious goof-ups we have are the sum of small delays or mistakes by many individuals in a chain. Each one who contributed very little doesn't feel very guilty. We have to concentrate on making sure that we just don't have these goof-ups.

One thing we might do is to have a Teletype and letter log in each office. If the secretary logs each letter and Teletype message that comes in, there would then automatically be a record of what answers are owed and which ones are getting overdue. Each individual excuses his own little goof-ups because he is so busy, and he particularly excuses them as he sees that the next bigger organization, such as your European headquarters or Maynard headquarters, makes them in even larger quantity. We have to develop a system so that each individual, all through the system, makes no goof-ups.

I'll particularly work on the field service ordering system here in Maynard because this is exceedingly important.

That was a charming hotel where we had our meeting. Someday I would like to casually visit the English countryside just to relax. Let me know when the weather is good and I will plan to take a short vacation there.

Ken Olsen

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 13, 1968

SUBJECT: FIELD SERVICE FIGURE OF MERIT

TO: Jack Shields
Ted Johnson

FROM: Ken Olsen

When I was in Europe they were quoting some figure of merit on the field service. This is interesting, but I think we can develop a somewhat better one. I suggest that figure of merit be measured only on emergency calls or those which want instant service, and that they count all the hours in the day, not just how many working hours are taken to make the call. Then we probably want three measures of this; the average and the two extremes.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 13, 1968

SUBJECT: SENDING PACKAGES TO EUROPE

TO: Frank Kalwell
cc: Stan Olsen

FROM: Ken Olsen

Americans have very little feeling for the importance of national borders. We go from state to state or Canada and Mexico so easily, and when we visit Europe we cross countries with so little red tape that we forget how seriously they take their borders.

We should be particularly careful when we send packages to Europe. Twice now, we have sent modules to France with the wrong number of modules specified on the label. The first time, they assumed it was just a mistake, but the second time it happened they were sure we were trying to cheat them. Now, every package goes through no end of red tape just because once we had two more modules in the package than what we said. We should be sure this never happens again.

Also, we should always be sure not to list anything as semiconductors. They are all electronic circuits. Semiconductors take six weeks to get inside France.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 13, 1968

SUBJECT: K-SERIES MODULE ADVERTISEMENT

TO: Stan Olsen
Al Devault

FROM: Ken Olsen

You should really get some articles on K-series modules in a number of magazines, particularly in Europe. This is the best publicity you can get, and it's free.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 13, 1968

SUBJECT: SALES IN FRANCE

TO: Stan Olsen
Al Devault
Nick Mazzarese
Mike Ford

FROM: Ken Olsen

As we enlarge our sales in France, we are getting more and more dependent on technicians and engineers who know no English. If we can get some of our module catalogs and basic PDP-8 literature translated in French, it would help sales.

Ken

ccc

digital INTEROFFICE MEMORANDUM

DATE: February 13, 1968

SUBJECT: FOB POLICY IN EUROPE

TO: Harry Mann

FROM: Ken Olsen

While visiting the European managers last week, I developed the feeling that maybe we should become a little more flexible on our policy of FOB in Europe. It would seem to me that, for a price, we could go to more liberal delivery terms. It would seem that we might also want to consider having longer payment terms, also. Any of these ways in which we back down, I would assume we would raise our price to cover the extra cost.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 13, 1968

SUBJECT: PDP-8/I's TO FRANCE

TO: Nick Mazzarese
Mike Ford

FROM: Ken Olsen

Jean-Claude would like to get some PDP-8/I's early to OEM's in France because our future will be very much effected by how soon we can get them there. By this he means May and June.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 13, 1968

SUBJECT:

TO: Ted Johnson
cc: Stan Olsen

FROM: Ken Olsen

I think many of our people in Europe have no idea what manufacturing is like in this country. I suggest that each time we have DEC European visitors, we try to get them to go through the General Motors automobile plant in Framingham so they will have an idea of how we Americans work.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 13, 1968

SUBJECT: MANAGEMENT BY GOAL SETTING

TO: Ted Johnson FROM: Ken Olsen

I think some people in the academic world have the "management by goal setting" worked out rather well. It seems to me there are some books on this too. Sometime maybe we ought to send John Leng to a course on this just to introduce the ideas in Europe.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 13, 1968

SUBJECT: FIELD SERVICE PARTS FOR EUROPEAN OFFICES

TO: Jack Shields
cc: Ted Johnson

FROM: Ken Olsen

One problem that bothers people in Europe is slow delivery on field service parts. They are also very conscious of those items which are ordered and never delivered. I reprimanded them for allowing this to happen, but I think we should develop a system which is foolproof.

First of all, I think we should sort out the emergency needs from those which are in no hurry. We should acknowledge all orders on receipt; those that are in no hurry can be acknowledged by mail, but those that are Teletyped, we ought to reply by Teletype and quote delivery date.

A second Teletype should be sent when actual shipment is made. This probably should be sent as soon as the package is on the airplane and we know exactly what the way-bill number is.

This would mean two Teletype messages for each emergency order; one acknowledging the order and giving a promise delivery, and another one giving the waybill number. This way, I think we will give them the help they need.

You might also consider leaving some standard components over there, such as cable and cable ends. One sad story they told was about some cables needed in France that were finally sent over after many months, but had the wrong ends on them. They had to solder the old connectors on the new cables in order to make them work. If they had a stock of cable and some ends, they could always make do.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 13, 1968

SUBJECT: PDP-8/I and PDP-9 as English-Made Computers

TO: Henry Crouse
cc: Pete Kaufmann
Jack Smith

FROM: Ken Olsen

We would like to raise the U.K. content of our PDP-8/I and PDP-9 so that they get to be approved as English-made computers. Will you find out what integrated circuits are available in England (as U.K.-made). I would like to consider buying them there, shipping them here, putting them in modules, testing them, and then shipping them back. I think this would give them enough content that they would be considered U.K. We can do the same with memories.

If we can just get the promise from manufacturers that after so many months they would deliver, this would get us on the U.K. list. If manufacturers don't produce, we can still use American items.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 13, 1968

SUBJECT: SPECULATION ORDERS IN GERMANY

TO: Mike Ford
Nick Mazzarese

FROM: Ken Olsen

Gerry Moore would like to have ten PDP-8/I's, two PDP-8/S's, one PDP-9, and a LINC-I sitting in Germany on speculation so that people can buy them with their year-end money. I'm not suggesting that you send these machines over on my say so, but you might discuss it with him. You might use this as a way to get rid of some more PDP-8's and PDP-8/S's.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 13, 1968

SUBJECT: SCHEDULE FOR INTEGRATING OPTIONS FOR PDP-8/I AND GOING TO POSITIVE BUS

TO: Mike Ford
Nick Mazzarese

FROM: Ken Olsen

Will you publish the schedule for integrating the options for the PDP-8/I and going to a positive bus. If you are planning never to do this, it might be good to say that also. If you don't want to publish this for some reason, will you let me know what the answer is.

Ken

ecc

KO re new small computers incl. PDP-X

digital INTEROFFICE MEMORANDUM

DATE: February 13, 1968

SUBJECT: POTENTIAL MARKET OF THE LINC-I

TO: Mort Ruderman
Dick Clayton
Win Hindle

FROM: Ken Olsen

We are now toying with the idea of starting several new computer projects. One of these would be a cheap PDP-8, another a cheap 16-bit computer, another a new PDP-9, and one or two others. We obviously can't do all of them, and we have to pick between those that are most promising. I would like to reconsider the LINC-I and compare it with this whole list of new potential computers.

Will you prepare a report and discussion session on this sometime soon so we can go over your latest thoughts on the potential market of the LINC-I. I got the feeling in Europe that they are more interested in inexpensive, straightforward computers than they are with those with special features, such as the PDP-X or LINC-I.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 13, 1968

SUBJECT: TELETYPE MESSAGES

TO: Stan Olsen
Al Devault
Ted Johnson

FROM: Ken Olsen

Jean-Claude would like to Teletype all orders to Maynard right from his office. Now I think the official system is to send them all to UK and they send them to us from there. Therefore, same day delivery results in actual delivery of three, four or five weeks. I would suggest that you develop a policy on this to make sure everyone is happy.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 13, 1968

SUBJECT: A THOUSAND COMPUTERS FOR SLUMBERGER

TO: Mike Ford
Nick Mazzarese

FROM: Ken Olsen

Slumberger wants a thousand computers to put in their thousand trailers. They are one of our competitors, but they don't have anything the price of the PDP-8/S. They claim they have to operate in temperature ranges 0 - 65° C, and be rugged enough to run in the trucks. This sounds like a good application for a militarized, cheap 8.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 13, 1968

SUBJECT: PERIPHERAL TRAINING CLASSES FOR OEM CUSTOMERS

TO: Operations Committee FROM: Ken Olsen

One of the complaints from Europe is that we do not have training classes on peripherals for our OEM customers. They would like to know why, because it would be very important for our customers to know the peripherals as well as we do. Then we wouldn't have to have field service men through all the backwoods parts of Europe.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 14, 1968

SUBJECT: VIBRATION AND TEMPERATURE SPECIFICATIONS ON THE DISC

TO: Mike Ford
Nick Mazzarese

FROM: Ken Olsen

CERCI, who is one of our best customers in France, is disappointed we don't have any vibration and temperature specifications on our disc. Will you let Jean-Claude know what we can give them in the way of specifications, or when we can give them. A possibility is to loan them a disc so they can work out the test and then give us the results.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 14, 1968

SUBJECT: PDP-8/I AND PDP-9 ON U. K. LIST

TO: John Leng

FROM: Ken Olsen

I would like to see you work very hard to get the PDP-8/I and PDP-9 on the U. K. list. Will you look into integrated circuits and memories for the 8/I and 9. Then we'll see what content we can add by using those in our normal production. We can then ship the panels on to you in Reading (these would be all tested), where you can put them in cabinets, make your own cables, and wire your own console. You might wire CP panels also.

Let's set a date on which we are able to have these considered U. K. computers. I think a good date is the middle of May at the IEA Show.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 14, 1968

SUBJECT: EUROPEAN ENTERPRISES DEVELOPMENT COMPANY

TO: Operations Committee FROM: Ken Olsen

On Thursday, March 7, EED is having their Board of Directors' meeting in Boston. They now plan to visit DEC at 3:00 in the afternoon. It would be worthwhile if a number of the Operations Committee members were available to show them around the plant. We may even want to invite them out to dinner that night because I think these are people who are worth getting to know now that Europe is getting to be so important to us.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 14, 1968

SUBJECT: CERCI PDP-9's

TO: Jim Murphy
John Jones

FROM: Ken Olsen

CERCI (in France) criticized our software on the PDP-9 as not being suitable for process control. They have postponed orders for PDP-9's, and it would be worth showing some interest in this to encourage them because they are very successful in applying our PDP-8's in Europe.

Ken

ecc

Bob Lane answered this.

digital INTEROFFICE MEMORANDUM

DATE: February 14, 1968

SUBJECT: PROGRAMMER FROM CERCI TO PROGRAM PDP-10

TO: Win Hindle FROM: Ken Olsen

I visited CERCI, who is one of our best customers in France, and they requested that we allow one of their programmers to work with us in programming the PDP-10 so he could become expert. I told them that we encourage this, and that we would get in touch with them to work out a system of how they could do this. Will you clarify your thinking on this and then contact Jean-Claude to tell him how we would like to handle it.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 14, 1968

SUBJECT: CERCI INQUIRIES ON THE PDP-8

TO: Mike Ford
Nick Mazzarese

FROM: Ken Olsen

CERCI (in France) is disappointed that they have gotten no answer to their inquiries on tolerance to frequency variations on the PDP-8. The problem they run into is when the Teletype slows down and the 8 still goes on at the same speed. They lose bits at ±2 cycles. Will you contact Jean-Claude and find out what we should do to at least give them good information.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 14, 1968

SUBJECT: INSPECTION STANDARDS

TO: Pete Kaufmann

FROM: Ken Olsen

At one of your Manufacturing meetings, I would like to have you discuss how standards are set for inspection. I have the feeling that, in time, inspectors get more and more careful when there are no standards set. I worry particularly about things like chromo-coating, painting, and cadmium plating. If the standards improve through the years, in time we will ask for perfection.

I want good looking equipment, done in a professional way, and I'm not saying we should turn out junk. I am just saying that we should somehow spell this out for the inspectors so they don't have the obligation for making their own rules.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 14, 1968

SUBJECT: SEMINARS AT MIT

TO: Nick Mazzarese FROM: Ken Olsen

In the latest EDP Weekly, it says that MIT is running seminars every Wednesday afternoon on "computers in education." Maybe we should get an invitation to send someone there.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 14, 1968

SUBJECT:

TO: John Trebendis FROM: Ken Olsen

It is probably too late now because I think we have sold all the equipment, but will you look to see if one of Tom Stockebrand's long ovens would be good to use for baking silk screened panels so they could be quick-dried to allow fast production.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE:

SUBJECT: YOUR PLANNED TRIP TO EUROPE

TO: Pete Kaufmann FROM: Ken Olsen

If you're going to Europe in the next few weeks, you might do it the first week in April. If you do, you can sit in on the District Sales Managers' meeting, and also attend the Components Show in Paris which is scheduled from the 1st to the 6th. If you took one of the English production people with you to Paris, it would give you a chance to be with him a couple days and maybe influence him in the way you couldn't do just by visiting the U.K.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 14, 1968

SUBJECT: BADGES

TO: Win Hindle

FROM: Ken Olsen

For years now, it seems that people have been proposing to me obvious solutions to the terrible bottleneck of getting badges. Each time I thought we were working out these solutions, but we never seemed to break the bottleneck.

Will you, at one of the Personnel Committee meetings, be sure we have the responsibility of this defined so we can get this trivial problem solved. We should get instant service on badges, and we shouldn't have four or five departments involved.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 15, 1968

SUBJECT: PLANT VISITORS

TO: Operations Committee

FROM: Ken Olsen

When I'm out traveling, I'm surprised to find out how many very senior people we have visit the plant. I think we should develop a system in which we can be a little more polite to these visitors by having the right people meet them.

Maybe one way we can do this is to have a visitors' list published each week, or have everyone who is having significant visitors send a note to each of the Operations Committee members. Then we can get together and at least have coffee with them. We might even hire a retired person to be our professional visitor overseer.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 19, 1968

SUBJECT: WHEN TO MAKE SPECIAL CABINETS AND WHEN TO ADD BRACKETS AND THREADED BUSHINGS ON STANDARD CABINETS

TO: Dan Sullivan
cc: Pete Kaufmann
John Trebendis

FROM: Ken Olsen

As part of your program of reviewing our manufactured parts to see how they can be done less expensively, will you consider the question of when we should make special cabinets and when we should add brackets and threaded bushings on standard cabinets.

Everyone agrees that it is good to use the same standard part all over, and so everyone tends to use the same cabinet; however, I suspect that we probably pushed this too far. We now have holes and threaded bushings on each cabinet by the dozens so that we can add brackets when we want to. The result is that the cabinets are very expensive and we inventory an infinite number of odds and ends of brackets.

Will you consider the possibility of welding on the brackets before the cabinets are painted. This is probably only practical when we weld the cabinets in our own shop. For those cabinets which are in high production, they would need something to hold them, but for those that are in low quantity, they could probably clamp the bracket by spot-welding.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 19, 1968

SUBJECT: NEW SYSTEM FOR QUALITY CONTROL

TO: Pete Kaufmann FROM: Ken Olsen

As I wander around the plant, I keep finding things that are being reworked or thrown away because Quality Control has rejected them. I would like to develop a new system of quality control where there is an immediate mediator that will mediate conflicts between the foreman and Quality Control. I would like it so that many of the decisions get challenged right away because these cost us a fortune. I want the highest quality equipment and the best looking, but a few streaks on chromocoating and a few blank holes in sheet metal don't hurt at all in some cases.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 19, 1968

SUBJECT: PLASTIC-CLAD METAL FOR PANELS UNDER CONSOLES

TO: Loren Prentice
cc: Jim Jordan
Dan Sullivan

FROM: Ken Olsen

I have asked Stan Olsen and John Jones to consider redesigning the power supply for the PDP-9 to use one large cadmium-plated steel panel instead of the two large assemblies we now use. I'm sure this would make a much neater looking assembly, and it would also be a lot less expensive and easier to maintain.

At the same time, I asked them to consider redoing the kickplate under the console. This is now painted, with a stainless steel plate on it. I suggested that, instead, they make this kickplate a simple design out of plastic-clad steel or aluminum. It would then be unnecessary to put the stainless steel plate on, and it would not have to be painted. This panel would fit right on the power supply and would eliminate much of the brackets and other sheet metal we now have underneath the 9.

Will you consider using plastic-clad metal for the whole panel under all the consoles we make. This will avoid painting and the stainless steel kickplate. It should be practically scuff-proof and can be readily washed off with a damp cloth.

If we make the power supply on a steel panel, it fits underneath the console without any special weldments or brackets. If we eliminate the aluminum trim strip on the bottom, we might be able to include brackets on the power supply that will allow this panel to be simply hung in place with no screws (or just two screws).

Ken

ecc

digital INTEROFFICE MEMORANDUM

COMPANY CONFIDENTIAL

DATE: February 19, 1968

SUBJECT: KEEPING IN TOUCH WITH OUR PRODUCTION PEOPLE

TO: Pete Kaufmann FROM: Ken Olsen

It was interesting to see that Ford has hired a president who is a "dirt under the fingernails type manufacturing man." Ford has revolutionized their own company and significantly influenced the rest of the industry, including the Department of Defense, by their whiz kids who are financial and planning type experts. It seems that they now feel the need for leadership which is close to the shop.

I fear that as we get to be more professional in our controls and planning, we tend to lose touch with our shops. We still have a lot of dirt under the nails people, but I'm afraid they are embarrassed about this and try to act the part of the global planner.

Here are a few things that worry me. Each one isn't important in itself, but there might be some symptoms of some dangers we might get into as we develop professionalism and expertise in our manufacturing. First, our metal shops have had very poor morale and very poor workmanship, but we did just like the book suggests and took care of the most important problems first, which meant the metal shops never got taken care of.

Our PDP-8/S production line wasn't important and we were getting out more than we needed. The morale degenerated, and we didn't even know when the head man there was out looking for another job.

My feeling as I walk through the PDP-8 production line, is that some of the new technicians are sullen, uncompany-minded, and we're too busy to ever get around to making them Company-minded.

Our power supply production group is a happly little club with a lot of enthusiasm, with very hard working and faithful girls who are really quite efficient. We tend to view them as a pawn to be moved around the world, and that can be made more efficient by putting them in an area with better material flow characteristics. No one listens to the girls' frustrations, or the frustrations of the foreman, which interestingly come about largely because of difficulties in getting the job done in the quality and rate they would like to accomplish. They are very frustrated when parts aren't ordered in time and they can't get the work out, or if things are done wrong in Canada and have to be reworked here. A lot of the girls live in the Marlboro area and hear of the possibility of getting $2.10 an hour closer to home, so they are seriously considering working at RCA. These girls do worry about pay. They feel they work harder than those in the module area and are paid less because they are not in the main swing. The Mothers' shifts also worry that if they leave for the summer they will have to come back again at the base rate.

I do worry as we do our global planning. We may lose the biggest asset we have, which is people whose main motivation and satisfaction in life is to get the stuff out the door. If we don't appreciate this, and if we don't listen to their problems because they are insignificant compared to our planning, I'm afraid we may become an RCA.

Ken Olsen

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 20, 1968

SUBJECT: TU79 DESIGN REVIEW COMMITTEE

TO: Bob Antonuccio
cc: Win Hindle
Bob Savell
Joe Sutton

FROM: Ken Olsen

For a number of months when we were considering whether to continue the TU79 project or not, one of the arguments was that we couldn't get it into small production soon enough to take care of the needs of the PDP-10 group. There is serious doubt now as to whether this can be done, and so we ought to review the plans and budget for the TU79. As you prepare your report, will you try to develop attitudes to be helpful in making this review.

Here are the questions we are going to have to consider:

1. Can we possibly make enough TU79's immediately to take care of the PDP-10 needs?

2. If we have to go to the Datamec 3030 and incorporate it in our product line, should we drop the TU79 and stick with the 3030?

3. If we decide to continue working on the TU79, should we continue our present course of "darn the cost, full steam ahead," or should we now make all the obvious cost reduction and simplication moves that we know about?

The important thing to realize is that we set about in the present course with the assumption that we wouldn't meet the 10 needs. Now that we may not make the 10 needs, we have to review the initial assumptions.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 20, 1968

SUBJECT: CABINET FOR CHEAP PDP-9

TO: John Jones
cc: Loren Prentice
Joe St. Amour
Pete Kaufmann
Stan Olsen

FROM: Ken Olsen

We are well underway toward the design of a new line of standardized cabinets for the Company. I think these will make a significant cost saving (even more than what people are now anticipating). We're going to take time to be sure the cabinets are interchangeable and consistent, and that the line will last for many years.

You may want to volunteer to try out the first cabinet on your cheap PDP-9. This would force us into starting production on the cabinets and make short some delays which are involved.

There are a number of features in this cabinet which will save a lot of money. First of all, it is basically a lot less expensive, and secondly, I think we save a lot in cooling in the PDP-9 and it makes a much nicer unit. We are planning to divide the cooling into two parts in our new cabinets. First of all, we will force flushing air through the cabinet from fans in the top out through a large opening in the bottom. Secondly, we have small fans throughout the system to make sure this flushing air goes through all the units that need them. In the 9, we would then have two large fans in the top which very readily change disposable furnace type air filters. Then, in the electronics, instead of having the elaborate filtering, ducting and holes in the back door type system, we would simply have a row of muffin fans which would take this clean air from within the cabinet and blow it along the modules. We would save quite a bit of room, and so it might be possible to have fans blowing on one side and sucking out the other to make efficient cooling of the modules.

As we are considering making some of the parts of the PDP-9 more cheaply, it might be worth combining this with the new cabinet.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 20, 1968

SUBJECT: SILK SCREENING PANELS FOR OUR COMPUTERS

TO: Loren Prentice

FROM: Ken Olsen

John Trebendis is working hard to silk screen panels for our computers. Will you talk with him about the possibility of using glass panels instead of plexiglass; this may make some of the operations easier.

I think we originally used dull finished glass, which I don't think John knows about. If it is readily available, this might solve some of his problems.

Will you also look at the design we have. We may be able to change the design to make it easier to do the silk screening.

Ken

ecc

KO cabinet cooling
technical design

digital INTEROFFICE MEMORANDUM

DATE: February 20, 1968

SUBJECT: NEW APPROACH TO COOLING CABINETS

TO: Tom Stockebrand
cc: Loren Prentice
Joe St. Amour
Pete Kaufmann

FROM: Ken Olsen

I have been pushing very hard for a new approach to cooling cabinets. Because I have been pushing so hard, I'm afraid that people may be reluctant to challenge me if my logic and arithmetic are wrong. You have been playing with calculus, slide rules, and handbooks lately, and you might be able to check my logic and calculations. I hate to admit to my kids that I can no longer do simple physics problems, but I can't afford that pride at work, so don't be embarrassed to mention where my decimal point might be wrong.

I propose that, in our new cabinets, we divide the cooling problem into two separate cases. First of all, we have to get enough air into the cabinet to flush out all the heat. Secondly, we should move the air around within the cabinet to make sure there are no hot spots. I think it is too difficult to do this all with one set of fans, and I suggest that, instead, we standardize on one set of flushing fans to cool all the heat that we ever want in the cabinet. Then, on each piece of equipment, include whatever is needed to move the air within that piece of equipment. This way, we have standard fans and filtering on all cabinets, and, internally, we have smaller, simple fans so we don't need any filtering.

I propose that we blow air in from the top, and that we have a simple home furnace air filter resting on the top so that it can be lifted off and replaced by someone simply walking by the cabinet. This way, we take clean air in from the top and blow it out the bottom. This sure beats sucking it in from the bottom where all the janitors' sweeping disappears every time he pushes a broom past the computer cabinet. It also simplifies the cabling; we have a big opening on the bottom now and the cables go in and out the opening without any trouble. When we are sucking air in from the bottom, we have to put gaskets around the cable, which is a real chore.

Everybody likes the argument so far, except that they feel it is immoral or unwise to fight nature by blowing air in from the top. It seems to me, intuitively and by my calculations, that mother nature doesn't care very much because she doesn't fight very hard against this. Here are the mathematics that I would like to have you check for me.

Rotron, Inc., claims that the change in temperature within the cabinet allows the following formula:

$$T = \frac{3170}{CFM} KW$$

CFM is the amount of flushing air put through the cabinet, and KW is the power dissipated in the cabinet. One of our caravel fans puts out about 300 CFM at 0.12 inches of water

back pressure. It seems to me that with about one KW dissipated in a cabinet, and one caravel fan, there is a temperature rise of 10°. Two KW and two caravel fans will give us the same temperature rise.

The next question is, how many inches of water back pressure does the hot air in the cabinet push against the fan? The density of air follows the following formula:

$$\frac{1.325 \text{ in. hg.}}{459.7 + T^{\circ}F.}$$

At 70°, the density is 0.075 pounds per cubic foot. The difference in density between outside air and inside air 10° higher than that outside will, I think, be pushing up against its top six times this number, or 0.007 pounds per square foot, or 5×10^{-5} pounds per square inch. One inch of water is equal to 0.0361 pounds per square inch, which sounds about right because water barometers are about 33 feet high. Using this factor, we then come up with a back pressure of about 0.0014 inches of water, which is negligible compared to the loss due to the filters and obstructions and the air flow.

If my calculations are right within a factor of 10, then it costs us a negligible amount to blow the air this way.

Ken Olsen

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 21, 1968

SUBJECT: LINE PRINTER DESIGN REVIEW COMMITTEE

TO: Bob Savell

FROM: Ken Olsen

We are scheduled to have a checkpoint on the line printer schedule soon. Will you select a design review committee that we can commission before that time, with the task of telling us whether we should continue with our program or not. The people I would suggest for this committee are Loren Prentice, Joe St. Amour, and Tom Stockebrand.

Ken

ecc

COMPANY CONFIDENTIAL

digital INTEROFFICE MEMORANDUM

DATE: February 23, 1968

SUBJECT: SUBCONTRACT WORK FOR ED HARWOOD

TO: Pete Kaufmann
Henry Crouse

FROM: Ken Olsen

Ed Harwood came to visit me on Friday, February 23, with the request that we consider him for subcontract work. Data Technology, the company he went with, felt they had production problems, but Ed got the production out, and now they discover they don't have a product. While waiting for a product, Ed would like to use his facilities.

They have almost 2,000 feet of space which they rent for $1.30 a foot from Ionics (which is behind Hyperion Company) in Watertown. They have about 70 employees, of which about 30 are production people; they have ten girls and one boy assemblers, six in the machine shop, three testers, one silk screener, one in etching and plating, and a part-time night shift of moonlighters that make the total of 30.

In December Ed shipped $100,000 worth of equipment, in January $76,000, and in February $75,000, but now he is running out of backlog.

I told Ed at one time that we wouldn't give subcontract work to former employees until they had been away for a year. Right now I can't remember what I was thinking about, so I leave the decision up to you.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 26, 1968

SUBJECT: EVALUATION OF POWER SUPPLY FUNCTIONS

TO: Dick Best
John Jones
Stan Olsen
George Gerelds

FROM: Ken Olsen

The PDP-9 is a key part of our product line, and we plan to make an integrated circuit version of it. It is important, however, that we keep this going as a product until the PDP-9/1 comes out. We are making a concentrated effort to come out with a cheap 9 immediately. Part of this is going to be an inexpensive cabinet and a less expensive power supply.

The power supply now is made in two identical pieces, all enclosed with rather elaborate mounting hardware. I am proposing that we make one simple, open power supply in a steel panel very much like we did on the PDP-8/I. We have very good ideas on how to do this, and I'm sure it will make a much nicer looking unit at a small fraction of the cost. Before we do this, I would like to have you evaluate each of the functions of the power supply to see which ones can be eliminated.

Because there are two identical units, some things are done twice but are only used once and, of course, can be left out.

We now have relay in both power supplies. It would seem to me that we can get by with just one relay. I would also guess that we could optimize the size resistors we use to bleed off current from the supplies. One 4 or 5 ohm across 15 volt might be cheaper than four 15 ohm resistors.

I have asked some of the field service technicians who are practicing on the PDP-9 to measure the currents in the hum level on each voltage. This is not easy because they will have to measure the central processor in each of the options in order to get the total current. I suspect that when this is done we will find that some of the voltages are overloaded and some are underloaded. Now that we are redesigning it, we should definitely optimize each of them.

There are a number of functions of the power control panel which should be evaluated now to see if we really want them.

I am proposing that we design the marginal check supply into the power supply. In order to marginal check, someone has to go around to the back and operate the switches, and he could, at the same time, go around to the back and operate the knob. It is really a two-man operation anyway.

We originally designed the unit for 20 amp circuit breakers, but they keep blowing, so we're now putting in larger ones. I would like to have you look into this immediately and give your recommendations so that we can get underway with a new supply design.

Ken Olsen

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 27, 1968

SUBJECT: LINE PRINTER

TO: Dick Best
cc: Menno Koning

FROM: Ken Olsen

A company, who wants to keep very secret, has approached me with the idea of buying the rights to their line printer. We saw it operate; it is very quiet and nice in many ways. It has only three problems that we know of. First of all, it stinks, secondly, the paper is expensive, and thirdly, no carbon copies are available, although it does Xerox well.

I have the instruction book. Will you look at the elctronics and tell me how expensive you think it would be to do the electronics part. I am interested in considering this unit.

It is interesting to note that if we take the shuttle mechanism and the paper motion mechanism from our present line printer, we could put a 7-dot writing head on the shuttle and have a printer of this type. This would allow us to have two printers with the same basic mechanism, but one a lot less expensive than the others.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 27, 1968

SUBJECT: FORMER EMPLOYEES OF MITRE TO START NEW COMPANY

TO: Nick Mazzarese
Mike Ford

FROM: Ken Olsen

Ed Harwood told me of a couple men who left Mitre to start a new company to make small computers. He thought they were looking for $20 million to start their business. He said it was written up in the Herald last week. Do you know anything about it?

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 27, 1968

SUBJECT: POSITIVE BUS SCHEDULE

TO: Nick Mazzarese
cc: Mike Ford

FROM: Ken Olsen

I think it would be a good idea if Mike published his plans for the positive bus schedule in the "Sales Newsletter."

Paul Scriven gave me a report on why the character generator is not in the price list.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: February 27, 1968

SUBJECT: JOB FOR NEW SILK SCREENING MAN

TO: Harry Mann
Al Hanson

FROM: Ken Olsen

We now have a man working for John Trebendis doing silk screening. He will make a real contribution to our products, but will end up with a surplus of time. I suggest that you lay out a number of mass produced signs that you would like to have him make. These will be very inexpensive if he uses them as fill-in jobs. We have some rather homemade looking signs for our men's and ladies rooms (and this sort of thing).

He might also make the signs that we use to label the posts throughout the plant.

Sometimes it is worthwhile to silk screen even one-of-a-kind signs like we're thinking of putting on the Thompson Street side of the building. He might use cut film for these because they will be rather large. He may also want to make some large wooden frames using silk rather than the small, precise screens which he would normally use.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: March 1, 1968

SUBJECT: PACKAGING FOR CHEAP COMPUTERS

TO: Nick Mazzarese
Stan Olsen

FROM: Ken Olsen

As we lay out our new computers, let's try to fit them into presently designed packaging. I believe we can make large boards rather easily now if we tack integrated circuits on the surface, and with this freedom we can force computers into present packaging.

I think we can put the cheap PDP-8/I, and even a new PDP-8/I, in a PDP-8/S package, which is probably our least expensive way of doing things.

We could put the cheap PDP-9 into an 8 frame if we made it one socket deeper and one socket higher. We could hang this upside down from the level of the top of the console and have room for power supply underneath. One wing would be the same as the present central processor, and the other wing the same as the in/out frame. The memory could then be mounted at the rear or in panels above.

The new PDP-9/I probably should be mounted in either the 8/I or 8/S frame. We could start out by trying the 8/S.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: March 1, 1968

SUBJECT: LIGHT PEN

TO: Klaus Pichler
cc: Nick Mazzarese
Pat Greene

FROM: Ken Olsen

Enclosed is a collection of literature and samples for development of a light pen. There are samples of Dupont's Corfon light pipe, and literature and samples of miniature photo diodes and photo transistors.

There are two general approaches to light pens. One is fiber optics, and the other is a miniature photo-sensitive device. It seems to me that the photo-sensitive semiconductors are too slow, and so the fiber optics are best. (We should look at what others use.)

On the other end of our fiber optics light pen, we have been using a photo multiplier, but it would be a lot easier to use a vacuum or gas photo tube.

One of the difficult problems is the actuating switch. We could build a switch into the pen and bring wires in parallel with the light pipe.

We could cut the sheath on the light pipe and form all the fibers out in a line, pot them in epoxy, then cut through the epoxy past the fibers. We could then put a shutter into this that would need very little throw to interrupt the light.

A nicer switch is to make a pen with two metal parts. When the finger is touched against a ring, the conduction from the body of the pen to the ring actuates the pen. This would need wires in parallel with the light pipe. Dupont might include the wires in their sheath, or we might put a heat-shrinkable sheath on top of the pipe and wires.

If we can get a photo cell that is faster, we could build it with low impedence so that coax is not necessary. Our first light pen had an amplifier built in and used only two wires. The wires brought the DC into the amplifier and the AC out. This was written up in "Electronics" magazine in about 1957.

It is important that the tip of the light pen be pointed so people can see what they're aiming at. With the light pipe, it may not be necessary to build a lens on the end because it is reasonably directional as it comes.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: March 8, 1968

SUBJECT: TEMPORARY BADGES

TO: Al Hanson

FROM: Ken Olsen

I like the idea of using temporary stick-on badges. Here are the ideas we discussed today as part of the system to use them.

The visitor or employee should fill out the badges themselves to avoid tying up the guard or receptionist. When badges are given to the visitor or employee, they should be fastened to a file card so that all desirable information will be placed on the file card as well as the badge.

At the end of each day, the file cards should be placed in an envelope and filed by day. There is no need to sort them alphabetically unless we want to see which employees forget their badges most often.

I would like to see a large rubber date stamp used to date each badge. The guard or receptionist could stamp and fasten badges to file cards during their slow periods.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: March 8, 1968

SUBJECT: SELLING PHYSICS EQUIPMENT TO SCHOOLS

TO: Stan Olsen

FROM: Ken Olsen

Dorothy Rowe says that a friend of ARD's, Paul Grendal, from the Airling Company (not sure of the spelling) in Cambridge, sells physics equipment to schools. Dorothy will arrange to have you meet him if you would like to know how to sell to schools.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: March 8, 1968

SUBJECT: RESTRUCTING OF PERSONNEL COMMITTEE

TO: Win Hindle
Bob Lassen
Jack Shields
Cy Kendrick
Jack Smith
Ron Smart
Ed Schwartz
Bob Dill
Larry Portner
Paul Chambers
Jim Myers
Bill Farnham
Al Hanson
Bill Long

FROM: Ken Olsen

In line with our philosophy of changing the structure of DEC committees from time to time, the Personnel Committee membership has been restructured by the Operations Committee as follows:

Win Hindle, Chairman
Bob Lassen
Jack Shields
Cy Kendrick
Jack Smith
Ron Smart
Ed Schwartz
Bob Dill
Larry Portner

To the previous Personnel Committee members who have been participating for the past year, our thanks for all your efforts. We have been very pleased by the contributions this Committee has made.

Ken

ecc

cc: Graydon Thayer
Dimitri Dimancesco
Pete Kaufmann
Henry Crouse

digital INTEROFFICE MEMORANDUM

DATE: March 12, 1968

SUBJECT: General Electric Tempo

TO: Gene Olson
cc: Nick Mazzarese
Ted Johnson

FROM: Ken Olsen

Dr. Harry P. Kramer, Post Office Drawer Q Q, of General Electric Tempo, Santa Barbara, California 93102, called to tell me about a character recognition system they have developed. He uses a PDP-8 and light pen display, makes a thousand of each character, and can read 20 characters per second. This work is developed on the D. A. funds of Tempo.

He is going to be in this area in March, and would like to demonstrate the system to me. I mentioned, however, that I plan to be in California during the next couple months and will probably stop in to visit him.

Will you have someone visit him soon to develop an idea of whether the system is worthwhile and whether they are offering the system for us to exploit commercially. These are Government funds and the work may belong to the public domain or to G.E. He is very definitely academically inclined.

He asked if we had any equipment to lock the characters on a printed page that he may use in his system. I suggested that he call John Busby at Optical Scanning.

He says that Westinghouse has a PDP-8-driven TV camera which he would like to use for his project but is not able to afford it.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: March 13, 1968

SUBJECT: PDP-10 ADVERTISING

TO: Win Hindle
Bob Savell

FROM: Ken Olsen

Should we print a large number of reprints of Gordon Bell's article on time-sharing from "Computer Design" magazine and use them as advertising pieces for our PDP-10?

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: March 26, 1968

SUBJECT: XEROX

TO: Stan Olsen
Nick Mazzarese
Fred Gould
John Cohen
Rod Belden

FROM: Ken Olsen

On March 21, Carey Dobbs and Dr. George White of Xerox visited me to discuss their need for small computers in a machine they hope to make in large quantity.

When they were here in December, I told them about the PDP-X and that it would be made up of several identical machines doing different activities. They liked this idea and would like to pursue it in the future. They would like a specially-designed, 16-bit computer, of which they will use several in this system.

They looked at all the small computers and decided to buy a 516 to experiment with. From this they hope to define the exact speeds for their machines. At one time they had settled on the 620, but now have dropped it.

I wonder why they didn't evaluate us more carefully. Some people suspect that the poor field service we've given on their PDP-8 and IBM Transport during the last year has encouraged them to rule us out.

I told them that we would be interested in building this machine for them, and that we would work with them while they are designing it. I marched them around through our facilities to encourage them to believe that we are the only ones that can make a large quantity, cheap machine.

John Cohen is going to visit them this week to evaluate their ideas, and, hopefully, discourage the purchase of a 516. If they would start off with one of our computers, we would be a lot closer to them during their evaluation period.

They're talking about an initial order of 20 machines, and in the future would want one to several thousand machines a year.

Ken

ecc

KO at IEEE show

digital INTEROFFICE MEMORANDUM

DATE: March 26, 1968

SUBJECT: IEEE SHOW

TO: Operations Committee Members
Marketing Committee Members
Roy Gould

FROM: Ken Olsen

In my opinion, the IEEE Show is the most important show to the Company. We have a strong tendency to go to the computer shows and consider them most important because that is where we show off to our competitors. This satisfies a very important psychological need because all the competition spends a small fortune there doing tremendous things, and we feel we have to do something to match them.

However, our customers go to the IEEE Show. Every single customer we have probably ends up at either IEEE or WESCON. The electronic doctors, the electronic psychologists, the electronic physicists, and especially all the engineers and technicians, go to this Show, but I wouldn't think too many of them go to the computer shows.

If you agree that this is true, I think we should put more emphasis on the IEEE Show and maybe less interest in the computer shows. When I walked by our booth I didn't at all get a feeling as to what our products are. There was a very tiny display of modules (as if we are only in them halfheartedly), when other booths really got the idea across that they're in the module business. We had a small computer there demonstrating something, but only two or three people could see it.

We did have some effective girls pushing out our books. I like young, sweet looking girls, however, and I think we should look the girls over well before the shows to get the kind we want. It might be impossible to get sweet, young, innocent looking hustlers, but it is worth some effort getting the right girls.

I would like to suggest that we consider having a row of booths on each side of the aisle with a carpet between them, and really put emphasis on each of our key products. We should load the booth down with computers, with maybe everything except the PDP-10 (and we might even want to include a 10). Above all, people should know what business we're in. I'm afraid they didn't get this idea from the sort of halfhearted approach we put in the IEEE.

We should have a sign on the end of our booth so that people can tell the name of our Company while coming down the aisle.

I would like to suggest that we buy from Science Associates in Garland, Texas, one of their large display boards, which, I believe, is interfaced to a Teletype. With one of

these display boards, we can run our computer demonstrations so people can see them from across the room. They look very much like the display boards in a stockbroker's office.

We should work harder to keep our booths clean. Maybe we should have Bissel rug sweepers around to encourage people to keep them clean.

We should lay down the law to each of the people manning the booth, even if they are Field Service technicians, that they be neatly dressed in conservative suits, clean white shirts, and neckties. We are no longer in a position where we want to look like innocent young boys from MIT who design computers when we're not taking part in some protest program.

Ken Olsen

ecc

digital INTEROFFICE MEMORANDUM

DATE: March 26, 1968

SUBJECT: REDESIGNED PDP-8/I

TO: Win Hindle
Bob Sevell
Joe Sutton

FROM: Ken Olsen

Three months ago I created some turmoil in the PDP-8/I program and forced them to redesign it. I told them I thought their unit was not fit for production and that they had to change their mechanical parts. They immediately went to work on this, and I think their results are a joy to see. I wish you would look at the 8/I now because it looks like a truly professionally-done job, and I believe the simplicity that resulted from this effort made up for any of the temporary delays due to redesign.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: March 27, 1968

SUBJECT: NOTES ON THE IBM 2420

TO: Win Hindle
Bob Savell
Joe Sutton
Phil Backholm

FROM: Ken Olsen

At the IEEE Show, IBM showed off their new 2420 Tape Transport, which has a number of interesting ideas. We should feel free to copy any of these ideas because we have a license agreement with them.

It appeared that the whole front was one large casting. The shock mounts were mounted horizontally, which seems like a reasonable way to mount them. Suspended out in front was one piece of jig plate, which appeared to be ground; this mounted all their tape guides and was the back plate for both vacuum columns.

Besides the two long vacuum columns, there are two triangular horizontal vacuum columns near the top so that during the fast start/stop the tape in the large vacuum columns did not have to be moved. There was one plate of glass that covered the front of both vacuum columns.

This tape transport was nine channels, and worked at 200 inches per second, at 1600 bits to the inch. The rewind was 500 inches per second. There was a single capstan drive with a printed circuit motor. The rental price is $1,000 per month, and the sales price is about $50,000. All the corners had air bearings. Through the whole tape path, only the plastic side of the tape touched (except at the head). The head never made contact, except when short back and forth motion was used, because of the film of air over it. There was no pressure plate that held the tape against the head, but, instead, there were vacuum slots on each side of the head.

The machine was self-threading, and used standard reels that had a special pressure ring around the outside to protect it. When the reel was installed and the door closed, a pin came out and opened this protecting ring and closed the little hole. Air blew the tape out this hole as the reel unwound some tape slowly, vacuum jets pulled the tape through the correct path and then blew the tape into the pickup reel where vacuum grabbed it at the hub. This meant very quick, automatic threading. If it didn't succeed, it rewound and started over again. They have never seen it fail the second time.

I don't think we want to make a transport with all these automatic features, but they had to simplify many of the things in order to make these features work, and these are the things we should consider. It appeared that they only had a 90° wrap on their capstan; however, the capstan did appear to be a vacuum capstan.

The machines will be ready for August delivery.

Each of the vacuum columns had three holes at the bottom and three holes at the top for sensing.

The reel motors were very large, gray motors that looked like they are big enough to be two or three horsepower.

Ken Olsen

ecc

digital INTEROFFICE MEMORANDUM

DATE: March 27, 1968

SUBJECT: MOBIL OIL

TO: Nick Mazzarese
Al Alexanian
Howie Painter
Stan Olsen
Dave Denniston

FROM: Ken Olsen

Mr. A. Wacker of Mobil Oil (Communications Group) in New York, called me on Wednesday, March 27, at 11:15 a.m.

Mobil Oil still hasn't forgotten all the trouble they have had with their communications system which uses a PDP-8, and now they're about ready to shut down because they can't get tape from us. Surely, there must be a way we can get tape to them. We have an obligation to our customers who develop a system as important as a 24-hour day Mobil Oil worldwide communications system.

Mr. Wacker has talked with Howie Painter and Al Alexanian, and they promised 20 tapes to be shipped on the 21st. London hasn't received them yet, and would like to know the flight number they will be arriving on. When they called here they heard we had shipped all the tapes back to 3M because they were defective.

Why, oh why, does the customer have to call us to find out about shipments that weren't made?

If our customers are going to call me when they can't figure out a solution to their problems, then I wish our people inside would call me when they can't find an answer to a problem.

I promised him that Nick would call him back with an answer this afternoon.

Ken

ecc

KC re Mill Floor

2 memos

3/27 + 3/28

digital INTEROFFICE MEMORANDUM

DATE: March 27, 1968

SUBJECT: RANDOM IDEAS

TO: Harry Mann
Al Hanson

FROM: Ken Olsen

I looked over the hallway between Loren Prentice's office and Tom Stockebrand's new wire-wrap machine. We could lock all those doors on the stairwell and not hurt any communication problems, except for the Machine Shop floor up to Loren's area. This would solve our security problems very easily in this area, and I feel we should go ahead and do it. Perhaps we should ask the advice of Loren Prentice just so we show sensitivity to the fact that they are going to have to walk further to get to the Machine Shop, but then I feel we should do it. It also means that the girls working in the power supplies area will have to walk through Loren's area, but I don't think that will do any harm.

The next time we have a flood, I think we should try using swimming pools to stop water. I think a toy swimming pool over a hole in the floor of Building 11 would keep water from coming up through the hole. We may want to use a thin bead of calking compound to fill in any small cracks, but, other than that, a pool full of water should hold back an equivalent amount of water.

I think we might even get away with having a pool of water filling up a door opening. An 8-foot pool would probably stop a 6-foot doorway very nicely.

I'm sure that swimming pools would have been more effective at holding in place the roof of the culvert alongside Building 11.

We might also get away with using a row of swimming pools, overlapping somewhat, to make dams. We might try out this idea by putting four pools in a square and seeing if we can hold water in the middle. If this works, we can buy swimming pools wholesale and stock them for emergency. The beauty of it is, of course, they're so light, we have plenty of water available at the time, and they're so easy to clean afterwards.

During the flood, I was both proud and embarrassed by our housekeeping. We do very well in some areas, and in all areas look great compared to P.A.C.E. Plastics; however, I feel we should put new emphasis on our housekeeping habits.

The new floor in Building 7 should be coated to keep the dust down from the cement. This is a very expensive operation, and we keep the room filled with dust from the cement.

Your men should be sensitive to sloppy areas and report them to me or the appropriate vice-president. Some areas in Building 8 have cardboard boxes stacked in large heaps. This is a much more serious fire hazard than neatly stacked, filled or collapsed boxes.

The housekeeping outside our buildings is absolutely atrocious. We should try to get Maynard Industries to clean them up, but, if not, we should do it ourselves. The courtyard and loading dock wells outside Building 7 are just filthy. The whole courtyard should be raked, and, in some areas, the ground leveled.

The junk outside Building 5 has been accumulating for years, and looks terrible. We should not have Maynard Industries cut the brush there because the brush is really much more attractive than the stubble which exposes all the junk. We should also get Maynard Industries to rake down this area, and, when we make the new path, we should make sure this area is cleaned up. I am always embarrassed when visitors look out the window on the stairwell near Purchasing and Building 5.

I hear the janitors found that one of Win's engineers was the one taking the "no parking" saw horses and throwing them into the woods. They recognized him, but I'm afraid they didn't do anything about it. Will you be sure that they always report individuals who do things like this.

I would like to see a copy of the chart that lays out keys for different parts of the plant. It is time we review this system to make sure we have enough different keys to insure security. I also suggest that the GM keys not be labeled "GM," or any other equivalent code, but be labeled something tricky like, "auto," "church," "boats," or something. This way, if they are found, it is unlikely people would guess what they are for.

I see a number of young fellas leaving in the evening by going down the elevator outside the Art Department and out by the loading dock. I think they do this as a shortcut and are not stealing anything, but they are breaking the rules. All ways which are open but are not legal exits, should be labeled so that when we find someone doing it we can point to the sign and let them know. I have an idea that many of our supervisors don't realize that certain openings are not to be used as exits. We could have our silk screening man silk screen some standard signs that can be put over these exits.

Ken Olsen

ecc

digital INTEROFFICE MEMORANDUM

DATE: March 28, 1968

SUBJECT: ARTICLE FOR "ON-LINE"

TO: Dimitri Dimancesco FROM: Ken Olsen

I would like to thank everyone who played a part in protecting Digital during the flood on March 19th. It was a magnificant display of cooperation and effort on the part of many people. There was strenuous filling and carrying of sandbags, long tedious wiping up of water, and many special jobs involved in the effort with which we are so proud. In addition, we want to express appreciation to all those who stayed with their regular jobs so that we lost very little production during this dangerous time.

On Sunday afternoon, March 17th, there was just enough water in the Assabet River for a comfortable canoe ride. By Monday evening, we had received about six inches of rain, and the water was within a foot of the bank. By Tuesday morning, it was lapping over the edge, and a few hours later was well over the bank, completely flooding P.A.C.E. Plastics, and was 18 inches higher than the floor of Building 11.

We were told that in the 1955 hurricane, Raytheon had sandbagged the openings into Building 11, but the water came up through the many drains inside the Building so that it was flooded anyway. We were told that it was hopeless to protect Building 11 and that we shouldn't bother trying. Building 11 is where the first step in our production of modules is done, and we were not going to lose that facility without a good fight.

First, we bought all the wax toilet seals in Maynard and used them to close the drains in the Building with a sheet of plywood and three layers of sandbags. I don't think a drop of water came through these drains.

We then had two doors to dam. We built a dam across the first one with 2" x 10" planks and plywood. We couldn't nail to the second door, so we put plywood on each side of the doorway and filled it with Ready-mix concrete just as the water was reaching the door. This seemed to harden just in time to keep the door tight.

Meanwhile, we rounded up several thousand sandbags and 60 pair of boots. All through the day and well into the night, we filled sandbags. We made a stem across the courtyard with sandbags and called in six tremendous pumps to pump out the water in this courtyard to protect the buildings that contain our new plated-through-hole facility, our sheet metal and machine shops, and our Gardner-Denver wire-wrap machines.

This dam and pumping was so effective that the paving in the courtyard started to burst. There is a sluiceway underneath that opens right to the River, and the pressure of the River on the paving started to push it up.

We uncovered the sluiceway, which, of course, immediately flooded the courtyard. We then had every able-bodied man we could get hold of carry sandbags to the opening of the sluiceway. At first it seemed like the sluiceway was a bottomless pit, but, finally, after several hundred bags, the sluiceway was filled up and we were able to pump out the courtyard.

Our dam was so good and the pumps were so big, that there wasn't enough leakage through the dam to keep the pumps busy. The River reached its peak about 4:00 Wednesday morning, and then started to drop. By Wednesday night it was just a few inches over the bank, but Building 11 was cleaned and production was running smoothly.

I feel we should all be proud of the cooperation, enthusiasm (and physical strength), and competence of our people. We should also be pleased and express our appreciation to the Town, and to the local contractors, for the help we received during this emergency.

Ken Olsen

ecc

digital INTEROFFICE MEMORANDUM

DATE: April 1, 1968

SUBJECT: BOEING AIRCRAFT COMPANY

TO: Stan Olsen
cc: Nick Mazzarese
Jack Shields

FROM: Ken Olsen

Mr. E. M. (Mac) Gardner of Boeing Aircraft Company, called me at 12:00 noon, Monday, April 1, to ask if they could borrow equipment for a demonstration at the Pentagon.

They built a remote business management display system which ties the Boeing plant into remote locations, where the status is always immediately available on their program. They have a relatively small ($150 million) project, called the AGM-70, which they are doing for the Air Force using this system.

The Air Force is so enthusiastic about this that they would like to have a demonstration in the Pentagon. The Honorable Mr. Neilson, Secretary of the Air Force, would like to see this, and it will be set up in his deputy's (Mr. FitzGerald) office.

The equipment they are now using is a PDP-7, a dual DECtape, a 340 Display, and a Character Generator.

They will get modules from us and build the interface to data phone. They have lined up the modules through their local sales office. They will supply the 80-man hours necessary to build the interface. I don't know if they are going to buy or borrow the modules. You might find this out.

They would like to have a one-week, walk-in type demonstration going continuously the week before May 1st. This means the equipment has to go to Washington within a week or ten days.

If we can't supply the equipment, they will tear down their system in Dayton and airlift it to Washington.

If we can't supply equipment, I would suggest that we offer our Field Service help in making the move.

I told him we would call back this afternoon or first thing in the morning. His telephone number is (206) 773-1065. This is direct dial to his office. The back-up number is (206) 773-2044.

The Pentagon has a PDP-8 with a 338 Display, but it will be too much programming to use this.

If we set up a system, we should be sure that our name is very large on the equipment.

ecc

digital INTEROFFICE MEMORANDUM

DATE: April 8, 1968

SUBJECT:

TO: SALES NEWSLETTER

FROM: Ken Olsen

In line with our philosophy of changing the structure of DEC committees from time to time, the Personnel Committee membership has been restructured by the Operations Committee as follows:

Win Hindle, Chairman
Bob Lassen
Jack Shields
Cy Kendrick
Jack Smith
Ron Smart
Ed Schwartz
Bob Dill
Larry Portner

digital INTEROFFICE MEMORANDUM

DATE: April 9, 1968

SUBJECT: CORRECT SPELLING OF DISC

TO: "Engineering Newsletter"
"Sales Newsletter"
Allen Kluchman
Steve Bowers
Technical Writers

FROM: Ken Olsen

Being conformists at heart, we decided several years ago that we at Digital Equipment Corporation would spell the word disc with a c (not disk), because that is the way IBM spells it. Please use this spelling in all future literature, etc.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: April 9, 1968

SUBJECT: NEW MARKETING REVIEW COMMITTEE

TO:
Ted Johnson
John Jones
Mike Ford
Mort Ruderman
Bob Savell
Al Devault
Dave Cotton
Allen Kluchman
Ron Smart
Bob Lane
Howie Painter
Bill Landis

FROM: ✓Ken Olsen

A new Marketing Review Committee has been formed for the major purpose of reviewing the plans and progress of marketing functions throughout the Company. Members of this Committee are:

Ted Johnson (permanent Chairman)
John Jones
Mike Ford
Mort Ruderman
Bob Savell
Al Devault

This Committee will incorporate the role and responsibilities of the former Marketing Committee.

To the previous Marketing Committee members who have participated in the past, our thanks for all your efforts.

Ken

ecc

April 9, 1968

Jack Richardson

File but do not Mail

For some time, I have been very concerned about the attitude of people in deep Canada. The next time you're in Maynard, I would appreciate a little of your time to hear your thoughts on the matter. I know it is the fad throughout the world now to be critical and suspicious of Americans, but I want to do all we can to disspell this distrust and critical att itude within the DEC organization.

Ever since World War II, the Americans have gotten into the place where they feel it is wrong to criticize foreigners. The result is that we have set up foreign operations without the feedback necessary to develop them. The result is that each of our foreign operations, except Australia, are exceedingly critical of Maynard, but completely forgiving of their own mistakes. Some of our offices feel that because they are so overworked the fact that they don't answer letters, they don't fill out forms correctly, they don't take part in formal feedback loops, should all be forgiven because they are overworked. The 2,000 people in Maynard are all lazy, stupid, idiots conspiring to foul up the foreign operations. If you see any of this feeling in Canada, I would like to hear your attitudes.

From our Canadian people, I often sense the feeling of distrust of the sincerity of our people in Maynard. I sometimes think the Canadians feel that because they have inside they know that a marketing plan is set up to mislead and hurt the customers and therefore refuse to go along with the marketing plan. If you know of any case where this has really been true, I would like to hear about it.

People are often frustrated in large organizations by things they see that ~~should~~ would be done differently if they were in charge. Some of our field people feel that if they were in charge of each of the departments within Maynard they would do them all differently. This is one of the frustrations of life that we have to live with because no one individual can take responsibility for everything. However, the thing that worries me about these frustrations in our distant offices is that the people tend to add these frustrations to all the actual goof-ups and in their mind take the absolute sum of all these as an indication of how fouled up and contrary the whole organization is.

I want to have no goof-ups any where; however, each man runs his own show, and when he gets frustrated because someone else doesn't do his part right, I will be happy to give the frustrated one the responsibility to do it better, but ~~he~~ we can't obviously have the field people telling 40 managers how to do their job, particularly when the ~~40~~ field people don't understand the details. Can you sort out for me how many real goof-ups there have been from Maynard and separate these from such complaints as, "if I ~~was~~ were in charge of marketing, I would give comments on all competitors."

digital INTEROFFICE MEMORANDUM

DATE: April 11, 1968

SUBJECT: STANDARD DEC MEMO FORMAT

TO: Ted Johnson
Ron Smart

FROM: Ken Olsen

cc: Stan Olsen
Nick Mazzarese
Win Hindle
Harry Mann
Pete Kaufmann

I have been receiving a large number of mysterious memos lately without names (of addressee or dictator) or dates, and not on our standard Digital memo format, which includes a subject line.

From the content, I would guess they come from your Department, but they might be espionage from competitors, or even subtle techniques used by product line managers to persuade sales activities. Without names or dates, however, I have no way of checking.

Please advise people in your Department to use the standard Company format.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: April 16, 1968

SUBJECT: ENGINEERING COMMITTEE

TO: Pete Kaufmann FROM: Ken Olsen

The Engineering Committee is now a going operation!

One of the first things we would like is a report from the Production Department on what is needed to get the various types of products accepted by Production. Some need a model, some need three models, some need only drawings, and some need parts lists.

Will you please have someone come to the Engineering Committee on Tuesday, May 7th, to explain the policy. It would be good if this could be written up and distributed to the Committee members by Thursday, May 2nd.

Some of the engineers are afraid that procedures are generated on the spur of the moment, and sometimes projects just die because the procedure wasn't according to what someone thought it should be. There is also fear that models are lost within the Production Department, and, to reassure people, it would be good to explain to them your procedure for keeping models and units in case there is ever the possibility we may want to build them again.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: April 17, 1968

SUBJECT: DEFECTIVE PARTS

TO: Henry Crouse
John Trebendis

FROM: Ken Olsen

cc: Pete Kaufmann
Vito Augello

On Wednesday, Pete and I walked through the stockroom in Building 8 and saw a number of scratched panels and large capacitors in the junk can. The men there told us that they throw away all panels that are scratched and all capacitors with dents in them.

1. Will you be sure that we send back all defective parts to the manufacturers.

2. Will you be sure we check our quality standards so that we don't reject things that are good.

3. Will you set up logs so that all parts that are scratched in process or moving are recorded. We can't afford to let people feel we don't care.

4. Will you be sure we repaint sheet metal when it is worthwhile to do so.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: April 17, 1968

SUBJECT: UNIVERSITY OF MICHIGAN

TO: Jack Shields
cc: Nick Mazzarese
Stan Olsen
Ted Johnson
Bob Fronk

FROM: Ken Olsen

I received a call at noontime on Wednesday, April 17th, from Professor Burt Hertzog from the University of Michigan in Ann Arbor. His telephone number is: area code 313 764-9423. He was very polite and patient, but had a long list of problems which we should take care of right away. (If anything, he is much too patient.)

Here is the list of problems as I remember them from our telephone conversation; however, the details may not be accurate.

He has three displays tied to a PDP-7, PDP-9 and a 338. Last June, he had a disc delivered, which he accepted in December, but is still not sure whether it is working. In December, he sent a Teletype back to Maynard to be repaired, and it was just sent back to him, but is missing a part. The interim Teletype is not working, and the borrowed one isn't the same, so he isn't sure if the disc is working.

On April 5th, the display went down. On the 8th, 9th, 10th, 11th, and 12th, a man worked on it, only to find that the high voltage supply was out and he had no way of measuring high voltage. He fixed this on Friday, the 12th, and it worked on Saturday and Sunday. On Monday, the light panel went out, later the power supply went out again, and it is still not working.

His PDP-9 configuration has been down for five or six weeks. The JMS instruction went to auto-index instead of 0, and it hasn't been fixed yet.

He has requested second-shift servicing, but hasn't been able to arrange a satisfactory system for this. Because of the large amount of service necessary, and the nature of people he has working, he feels it is important that he get second-shift service.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: April 17, 1968

SUBJECT: BUILDING 11 STOCKROOM

TO: Frank Kalwell
cc: Stan Olsen

FROM: Ken Olsen

In the Building 11 stockroom, there are both cardboard boxes and electronic equipment stored in one stockroom. This gets to be a little messy, and encourages other people to be messy. I suggest you separate the two and keep them in a little neater shape.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: April 17, 1968

SUBJECT: BUILDING 11 STOCKROOM

TO: Dan Sullivan
Al Hanson
cc: Pete Kaufmann
Harry Mann

FROM: Ken Olsen

There is a stockroom in Building 11 that seems to have both production equipment and plant and maintenance equipment in it. It is a terrible mess, and I think it is because of the split responsibility. Will you two get together and divide the equipment between you so you each have your own stockroom.

I think the production equipment should either be thrown away or filed neatly. There are die sets on top of old junk, and other valuable things mixed up with stuff that should have been thrown away years ago. I would also like to have the floors kept swept up there. Then maybe other people will show more respect.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: April 17, 1968

SUBJECT: A FEW MISCELLANEOUS ITEMS

TO: Bob Savell
cc: Win Hindle

FROM: Ken Olsen

We disbanded the old Engineering Committee and formed a new one. As you know, we talked of doing this for a long time, but when Tom Stockebrand's memo came out last week telling of poor attendance, I decided this was the time to move. So, late Monday we decided to have our first meeting on Tuesday morning.

Throughout the mill, I have been discovering many storerooms or old working places of the TU-79 group. As I have asked to have one cleaned up, a new one seems to pop up somewhere. Will you make a list for me of all the places in which TU-79 materials are stored or where work is in process.

When the storeroom in Building 4 was cleaned out, many people were shocked at what was thrown out. This included 19-inch relay racks, standard DEC power supplies, and reusable mounting panels. The word is that this was done with your approval. I have asked the Engineering Committee to develop a Company attitude on throwing away material, and I would like to hear your ideas on what we do with power supplies, 19-inch racks, and the like.

I would like to have a list made of all places where we store parts for the Midwestern tape transports, and what we plan to do with parts stored in the various sundry places throughout the mill. If you are responsible for this, will you have this done. If you're not, will you ask the appropriate person to do it for me. I see parts in at least three of the stockrooms in Building 11, and I have an idea that if we needed service parts we wouldn't be able to find them.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: April 22, 1968

SUBJECT: PDP-8/S's for NEGRO COLLEGES

TO: Nick Mazzarese
Norm Doelling

FROM: Ken Olsen

On Saturday, April 20, I received a telephone call from Dr. Vern Alden, President of Ohio University. He said that he is a member of the Institute for Educational Services, who are helping thirteen Negro colleges.

These colleges receive time-sharing facilities for a G. E. computer (I believe, at no cost), but the telephone charges are $500 a month for each college. Vern suggested that the Company (he is on our Board of Directors) rent them PDP-8/S's and, after a time, they might be donated to the schools. I told Vern that we would follow up on it immediately.

The man in charge of this project is Conrad Snowden, 555 Chapel Street, Newton, Mass., telephone number 969-5067.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: April 24, 1968

SUBJECT: RECEPTION AREAS

TO: Jim Myers

FROM: Ken Olsen

cc: Harry Mann
Win Hindle
Stan Olsen
Nick Mazzarese
Ted Johnson
Pete Kaufmann

Attached is an article on how reception desks should be run. I believe we should take this into account because I have heard some complaints about our receptionists not being knowledgeable about the Company or even showing very much interest in what is going on. (It is a little distracting to see a receptionist reading a pocket book when she should be paying attention to what is going on.)

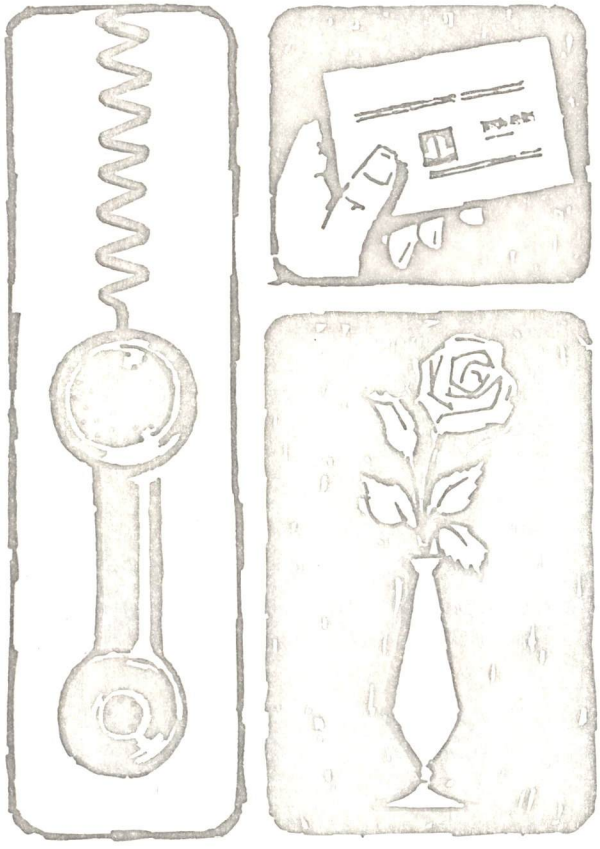
I think we should also neaten, or jazz, up the reception areas a little bit (there is one part of a wall that hasn't been painted for years). Also, the reception desks should look very neat, with no odds and ends laying around.

I want the Operations Committee to start showing more interest in what is going on in, and the looks of, the Company.

Ken

ecc

THE VISITORS FIRST IMPRESSION



YOUR RECEPTION DESK

By: Rick Krepela

Malcomb Barrett, vice-president of a national sales company, recently returned from an extended field trip and ordered a revision of his own company's policies governing the staffing of reception desks. He had visited more than 100 offices—customers, suppliers, and his own firm's branches—and was appalled at how little attention businesses pay to the "first impression" they make on visitors.

"Elaborate reception rooms, tasteful decor and current magazines are only part of the story," he says. "The girl *behind* the desk makes the difference between a good impression of the company she represents or a bad one."

Since this executive makes it a habit to arrive from 10 to 15 minutes before his scheduled appointment, he had ample opportunity to observe how well receptionists received other visitors. Thus, Barrett's informal survey is a cross section of how the reception desk—quite possibly yours—looks from the visitor's side.

Curiously, this executive found no clear-cut patterns, only generalities. Salesmen, for example, seemed less welcome than potential customers. Service oriented offices had better reception desk procedures than did those places where salesmen were frequent visitors.

But the generalities are almost worthless because of the variations within each category. At one of his own branch offices, he was told curtly, "Come back later, or tomorrow, it's too near lunch time."

Once he watched the receptionist in the buying office for a large chain store turn down a dozen salesmen in a row because the buyer had been called to an emergency meeting. She did it so skillfully that each man left with a warm feeling about the company—despite the lost opportunity to make a sale.

"I don't care if someone wants to sell us something, wants to buy something or is merely curious; when they are in *our* offices, they are to be treated as *guests*," begins Barrett's memo to all branch offices. Here are some of the points the managers were especially cautioned to watch:

1—Mature Attitude: This doesn't necessarily mean age, although some of the best receptionists, this executive discovered, are elderly women well past the giddy stage. It does mean a girl or woman who can greet people in an adult manner. All too often the newest, youngest employee on the payroll is shoved out to the reception desk. She knows nothing about the company or the people who work there.

At several large companies the receptionists didn't even recognize the name of the person with whom the visitor had his appointment. Yet, that person was either the president or general manager.

Barrett's own firm now uses only experienced personnel to "man" the reception desks. The women handle each guest tactfully and efficiently; without being too cold or overly friendly.

"In short," says Barrett, "they are mature women regardless of their age."

2—*Neat Appearance:* The field trip revealed that at least 15% of the receptionists Barrett encountered were "overdressed." Fancy coiffures, cocktail dresses and excessive make-up look out of place in a business office.

The really attractive receptionists—and Barrett concedes that watching a pretty girl is better than thumbing through outdated magazines — were neatly groomed and wore *natural* make-up and clothes in keeping with their surroundings.

3—*Pleasant Manner:* Perhaps the most important factor in a visitor's welcome is the manner in which the receptionist greets him. Barrett found that a grumpy or bored welcome from the receptionist put him in a poor mood for his interview. It made no difference whether he had come to sell or to buy, the friendliness of the first contact set the tone for his feelings about the company.

"I don't think any visitor expects a gushy, red carpet welcome," Barrett's memo continues. "But everyone visiting us has a right to expect civil treatment and an attentive response when they state the purpose of their visit."

4—*Personal Chit-Chat:* Barrett's pet peeve was the sexy receptonist who was so busy charming the male office help or juggling boy friends on the telephone that she had little time for the visitor. He once waited 10 minutes ("Just a minute," the girl had said when she took his card) while she tied up the telephone line rehashing a previous night's date with a girl friend.

Again quoting from Barrett's memo: "Impress upon our receptionists that they are on duty and are supposed to be *working*. Our reception rooms are for visitors and are not a social gathering place."

5—*Efficient Organization:* There is admiration in Barrett's voice when he describes the receptionists who were able to keep visitors and telephone calls flowing efficiently.

"The best organized girls seemed to exert the least effort in keeping things running smoothly. It was the scatter-brains who tried to do everything at once who couldn't remember whom I had come to see or why I was there," Barrett concludes.

6—*Too Many Duties:* Which leads to the final point in his inter-office memo. Barrett met one overworked receptionist who greeted an average of 15 visitors an hour, took all the company calls on an 8-line switchboard, had some 20 letters a day to type and doubled as a part-time secretary. "The poor girl was so rushed she couldn't do any job properly," he says.

Nor was this a small, understaffed company. It was the regional office for a large manufacturer employing some sixty clerical people.

Which only points up how little attention business pays to its own "front desk." Some large companies, with otherwise flawless businesslike images, occasionally use an inexperienced, giddy, sometimes flighty "kid" to greet visitors. On the other hand, competent, completely efficient receptionists were often found in the smallest offices.

Barrett reasons the variation is due to management's failure to look at their own reception desks objectively. "No company wants to make a bad impression," he says, "it's just that we go through our own reception rooms as a boss, not as a visitor. Since we see the receptionist every day we tend to overlook day-to-day lapses. But the visitor sees her only once or occasionally, and that is the impression that counts."

This is why Barrett drew up these six points as a means of checking on how well his company's receptionists rated. There was no "point system" and his ratings were all subjective. (A girl either had *too* many personal calls or she handled the few personal intrusions deftly and speedily). He didn't try to define *good taste* when scoring a girl on appearance; she was either appropriately dressed and groomed or she simply did not "project his firm's image."

Significantly, he rejects the view that "salesmen are used to callous treatment and shouldn't be made too welcome anyway."

"If we have any visitors — and what business doesn't have some visitors — we are going to treat them as guests. When I see someone, he's already formulated an impression of our company and a large part of that picture is based on how graciously, or ungraciously, he was received by our receptionist."

Does all of this sound very elementary? Ask someone with whom you do business, a frequent caller at your premises, to give you an honest down-to-earth appraisal of your front desk. The answers you get may set you to thinking that there is work to be done in your own reception room, and the time to start is now.

digital INTEROFFICE MEMORANDUM

DATE: April 24, 1968

SUBJECT: HAROLD MC FARLAND

TO: John Cohen

FROM: Ken Olsen

Harold McFarland, a protege of Gordon Bell's at Carnegie-Mellon, worked for us last summer and has been doing some work for us during the year. We hope to hire him full-time when he finishes school this Spring to be a computer architect.

Harold has been designing an 8-bit computer which he would like very much to have us build. You might want to get in touch with him to learn about this machine because it may fit into your plans.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: April 25, 1968

SUBJECT: LISTS OF DECUS MEMBERS (your memo dated April 17th)

TO: Angela Cossette
cc: Ted Johnson

FROM: Ken Olsen

Most of the requests from within the Company for information about DECUS users should be filled, if they seem reasonable to you. The two things we want to be careful of are:

1. Mailing lists are very valuable, and when one collects a list like we do for DECUS, we should respect it and not allow it to get into anyone's hands, even if it is just the Encyclopedia Britannica.

2. From a competitive point of view, we should never give out complete lists. Our competition would like to have this type of information, and would take full advantage of it.

I would also show precaution in handing out long lists internally. At times, we do lose employees to competitors, and some of our people are too innocent to realize the seriousness of taking customer lists with them.

And, of course, don't let this get to be too much work for you.

On the other hand, let's use DECUS to sell our products. Some of our DECUS members feel we don't work hard enough to sell them our products. They appreciate hearing about them and getting a sales pitch, too.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: April 17, 1968

SUBJECT: Lists of DECUS Members

TO: Ted Johnson FROM: Angela Cossette

Many cases have arisen in the past where both users and DEC personnel have asked for lists of DECUS members. These lists seem to be in popular demand these days, so I thought it best to get company policy decisions regarding the issuing of these lists. A complete DECUS membership list would give someone at least 90 percent of DEC's customers.

The requests are divided up into the following areas:

1. Requests from users (most cases DECUS members) for special lists such as other users with the same application or special equipment.

2. Requests from the field offices for cases similar to number 1.

3. Requests from the field offices regarding DECUS members in their specific area.

4. Requests from both the field offices and users for lists of members for specific machine lines.

5. Requests from in-house personnel for cases similar to numbers 1 and 4.

6. Requests from users, DEC personnel, and non-DEC computer owners for lists of the complete membership.

We have in the past complied with requests indicated in numbers 1, 2, 3, and 5. Only in a few cases have we provided the lists indicated in number 4. Up to the present time, we have not provided anyone with a complete list of DECUS members with the exception of Tim McInerney, for whose mailing list we provided a list of DECUS Installation members only.

At the present time, I have six outstanding requests for lists of members for specific machine lines and two requests for a complete list of members.

A hard and fast policy does not exist as far as the DECUS Board is concerned regarding the issuing of these lists. I plan to bring it up, however, at the next Board meeting. The only decision regarding this was made in conjunction with providing complete lists to either DEC or non-DEC customers. They suggested I not send a list of this kind outside the company but have left the honoring of other types of requests to my discretion.

One of my main objections to providing these lists in the past was that it is too time consuming and a lot of work for any of my staff to compile, since it had to be compiled manually and the list was comprised of over 2,000 names. Updating a printed list would also take up a lot of time due to the large number of applications received each month. To discourage anyone from compiling

such a list from the new members announced in DECUSCOPE, we have eliminated addresses and only publish a name and company affiliation.

The DECUS list is now automated, and lists of members by machine line can be obtained quite easily. For this reason, I feel there should be a policy (company wise) that I could fall back on whenever requests for lists come in.

A.J.C.

/rmf
cc: Ron Smart
Larry Portner
John Jones

digital INTEROFFICE MEMORANDUM

DATE: April 29, 1968

SUBJECT: TEACHING PROGRAMMING TO PRISONERS

TO: Larry Portner
cc: Win Hindle

FROM: Ken Olsen

Mr. Spangle, President of Honeywell, Data Processing, called me to tell of their success in teaching programming to prisoners at Walpole State Prison. They would like to encourage other computer companies to do likewise.

Next week, Malcom Smith, from their engineering department in Waltham, will call me to see if we have people interested in setting up a like program at Concord Reformatory.

The programmers did this on their own time, and the company supplied computer time. Of the ten taking the course, Honeywell tried to hire two, but one got a job elsewhere.

Let me know if you think our programmers would be interested in a program like this. If so, I will encourage Mal Smith to come out and talk to us.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: April 29, 1968

SUBJECT: PROSPECTIVE VISIT FROM HERB ROTH, PRESIDENT OF LFE

TO: Nick Mazzarese
cc: Stan Olsen
Mike Ford

FROM: Ken Olsen

Mr. Herbert Roth, Jr., formerly of Analex and now President of LFE, would like to come out here next week with ~~Jim~~ John Barker, Auto Signal Division in Norwalk, Connecticut, to discuss bidding PDP-8's with their traffic signal system. He will call again on Monday, May 6, to make an appointment.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: April 29, 1968

SUBJECT: CAMCO

TO: Nick Mazzarese
Mike Ford
cc: Tony Liveris

FROM: Ken Olsen

I called Harold McGowen, President of Camco, in Houston, Texas, on Monday, April 29, to talk about their purchase of PDP-8's. In 1971 and 1972, they expect this business to be $200 million a year, which involves the collection and moving of gas, oil, and water.

Their competitors are TRW, Halliburton ($500 million per year company), and Dresser Industries. Because of the large size of these competitors (I believe Camco is $20 million per year), Camco would like to make ties with us so we can jointly go after the business. To do this, they would like to have an exclusive agreement with us for five years. If we don't give them this, they propose making computers and components themselves and buy the catalog parts from many suppliers.

Humble Oil just bid out a $15 million contract, which is the first large contract in this field, but Camco lost it because they weren't big enough.

Camco is exhibiting their system, interfaced to an IBM 1800, in the oil show. I asked how they could pick such a poor machine and he said it was standard in the oil industry, that 80% use 1800's.

Ken

ecc

KO - spelling
Disc or Disk

digital INTEROFFICE MEMORANDUM

DATE: April 30, 1968

SUBJECT: DISC OR DISK

TO: SALES NEWSLETTER
ENGINEERING NEWSLETTER

FROM: Ken Olsen

George Arnold, one of our programmers, pointed out to me that IBM has changed the spelling of a certain word from disc to disk. Last week, when I reminded people that the official DEC way of spelling it was disc, I joked that we were conforming with IBM. We don't mind being in the same boat with IBM, but we hate to follow IBM. In this case, however, most dictionaries list disk as first preference, some say disc is obsolete, and Random House doesn't even acknowledge disc.

We will, therefore, take George's suggestion, and the official Company way of spelling the word is disk (until further notice).

Ken

ecc

KO Harold McFarland
8 bit & 16 bit PDP-8

digital INTEROFFICE MEMORANDUM

DATE: April 30, 1968

SUBJECT: MISCELLANEOUS THOUGHTS

TO: Nick Mazzarese

FROM: Ken Olsen
(dictated over the telephone from SJCC)

I suggest we set up a committee to propose tape transport models needed in the future.

Mike is very enthusiastic about an 8-bit computer. It would be done by Gordon Bell's protege, Harold McFarland, and John Cohen. I like the idea, but it probably would be done best under you (and not under Mike), because it will be competitive with the 8.

Mike and I have been talking about a cheap PDP-8 that is laid out so that it will evolve into a replacement for the 8/I. At the same time, we would lay out a 16-bit PDP-8 so that we'll end up with three new computers with one development program.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: April 30, 1968

SUBJECT: PDP-10 CONSOLE

TO: Allen Kluchman
cc: Jim Jordan
Loren Prentice

FROM: Ken Olsen

I may be somewhat prejudice, but I feel the PDP-10 console is one of the most beautiful pieces of industrial design I have seen. I think you should try to arrange to have it win an award for industrial design somewhere, and it ought to make the cover of several magazines because of its color and style.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 3, 1968

SUBJECT: MAGENTIC DISKS

TO: John Leng
cc: Joe St. Amour
Steve Lambert

FROM: Ken Olsen

We now have a good source of magnetic disks for our disk storage units, but it is our only source so we have to develop a backup in case this one disappears. Because they are so critical to us, I would like to consider making the disks ourselves.

We think we can develop the plating with the skills we have developed in that area, but would like to line up suppliers of machinery for machining the disks. Then if we need the equipment, we can get it very quickly. A large number of people are manufacturing IBM disk packs, so machinery and techniques for making aluminum blanks are getting to be quite well developed.

I understand that one of the ways of preparing blanks is to buy a lathe from Bryant-Simmons in London. With this lathe, people are able to make the disks flat and obtain a finish fine enough to plate without lapping.

Will you have someone contact this company to find out if this is really true. We would like to know the cost of the equipment and how large a disk can be handled. We would also like to know how they are able to make it flat, and if they supply the cutting tools to obtain this very fine finish. We should also find out the delivery of the machine. We may not get moving on this project until we are in trouble.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 3, 1968

SUBJECT: AUTOMATIC DRILL FOR DRILLING BARS

TO: Joe St. Amour

FROM: Ken Olsen

If we make an automatic drill for drilling bars, we might make one that is trivial because we will be drilling the same bar all the time. For a tape-controlled machine, all the accuracy is built into the positioning mechanism. In our case, we can make a very rough approximate locating procedure, and then, just before the bar is drilled, it can be located precisely with a tapered pin being driven into a tapered hole.

For those holes that are both drilled and tapped, we could locate a tapping head just opposite a drill head. Then, while in the same location, it is first drilled and then tapped.

We may be able to move the bar by a simple ratchet mechanism. By adjusting the notches in the ratchet, we may make it move approximately the right length for each step, and then do the final locating with a pin.

We might also move the bar by simply pushing it with a long air cylinder relatively slowly, and then have the pin drop in to do the stopping and locating.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 3, 1968

SUBJECT: CHARACTER PRINTERS AND LINE PRINTERS

TO: Menno Koning FROM: Ken Olsen

Will you prepare a list of possible products in the general category of "Character Printers and Line Printers," and a list of those that you suggest we develop in the next three years (in order of the priority you would suggest), and if we should develop or buy. Then I would like you to be available to attend a combined meeting of the Operations Committee and Product Line Managers on Monday, May 13th, to discuss these two lists.

Twelve copies of your lists should be handed in to Elsa by Wednesday, May 8th, so she can distribute them to the Product Line Managers and members of the Operations Committee for review prior to the meeting.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 3, 1968

SUBJECT: DISKS

TO: Steve Lambert

FROM: Ken Olsen

Will you prepare a list of possible products in the general category of "Disks," and a list of those that you suggest we develop in the next three years (in order of the priority you would suggest), and if we should develop or buy. Then I would like you to be available to attend a combined meeting of the Operations Committee and Product Line Managers on Monday, May 13th, to discuss these two lists.

Twelve copies of your lists should be handed in to Elsa by Wednesday, May 8th, so she can distribute them to the Product Line Managers and members of the Operations Committee for review prior to the meeting.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 3, 1968

SUBJECT: Paper Tape Readers and Punches/Card Readers and Punches

TO: Ken FitzGerald FROM: Ken Olsen

Will you prepare a list of possible products in the general category of "Paper Tape Readers and Punches/Card Readers and Punches," and a list of those that you suggest we develop in the next three years (in order of the priority you would suggest), and if we should develop or buy. Then I would like you to be available to attend a combined meeting of the Operations Committee and Product Line Managers on Monday, May 13th, to discuss these two lists.

Twelve copies of your lists should be handed in to Elsa by Wednesday, May 8th, so she can distribute them to the Product Line Managers and members of the Operations Committee for review prior to the meeting.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 3, 1968

SUBJECT: MAGNETIC TAPE SYSTEMS

TO: Joe Sutton

FROM: Ken Olsen

Will you prepare a list of possible products in the general category of "Magnetic Tape Systems," and a list of those that you suggest we develop in the next three years (in order of the priority you would suggest), and if we should develop or buy. Then I would like you to be available to attend a combined meeting of the Operations Committee and Product Line Managers on Monday, May 13th, to discuss these two lists.

Twelve copies of your lists should be handed intto Elsa by Wednesday, May 8th, so she can distribute them to the Product Line Managers and members of the Operations Committee for review prior to the meeting.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 3, 1968

SUBJECT: INVENTORY/BUDGET

TO: Harry Mann
cc: Operations Committee

FROM: Ken Olsen

The last time I looked at the budget, it looked like we were spending about 2% less on engineering this year than in years past. It also seems to me that we are not doing the engineering we should to maintain our future. I am now asking the Product Line Managers to consider a number of significant projects which we should get underway.

When the budget is all wound up, will you give a note to the Operations Committee describing what would happen if our plans for inventory changed for the year. Maybe we should do this by having two or three cash flows; one that we plan on, and one saying what would happen if we manufactured everything but couldn't sell it all and it went into Z stock. Maybe a third one would be what would happen if we had a recession next year.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 3, 1968

SUBJECT: POLICY FOR LOANING EQUIPMENT FOR USE AT TRADE SHOWS

TO: Nick Mazzarese
Ted Johnson
Roger Handy

FROM: Ken Olsen

I met Chuck Stein (now at Sanders) at the Spring Joint Computer Conference. He said that they would like to have borrowed a PDP-8 for their demonstration, but we said no. At one time we had the policy of loaning equipment to people whenever we could for use at trade shows, like Tektronix does. I suggest that we develop a policy (and make sure we all know what it is) so we can all tend to be rather consistent.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 3, 1968

SUBJECT: TRADE SHOW BOOTHS

TO: Operations Committee
Marketing Committee
Roy Gould

FROM: Ken Olsen

We are not doing all that we should at trade shows. We don't show off well at all at the small shows, and don't get the picture across at the big ones.

We should budget to build new show material so that we don't have the hodgepodge, pieced-together booth floors that we now use. I also suggest that we get rid of the black ramp in the front. It is more dangerous than a step, and is relatively ugly.

We should also inventory these booth sections so we can make up booths without having to maneuver sections that are being sent to different parts of the country for other trade shows we're participating in.

We should also work on the theme for our shows (we do give a fragmented picture). We have two shows coming up in which we should make a concentrated effort at presenting an image. One is IFIPS in Scotland in August, and the other is the Fall Joint Computer Conference in San Francisco in December.

I have two themes that I would like you to consider. One is "Time-Sharing." PDP-10 time-sharing is obvious, we could give our time-sharing story for the PDP-8, and the background story of the PDP-9 could be gotten across well this way.

The other vehicle would be to present the theme of "A - D." We could push the simulation/hybrid uses of the 10 and the multitude of A - D applications for the 8 and 9.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 3, 1968

SUBJECT: COMBINED MEETING OF OPERATIONS COMMITTEE AND PRODUCT LINE MANAGERS

TO: Mike Ford, Bob Savell, John Jones, Bob Lane, Al Devault, Nick Mazzarese, Stan Olsen, Win Hindle, Harry Mann, Ted Johnson, Pete Kaufmann

FROM: Ken Olsen

I would like to have a combined meeting of the Operations Committee and Product Line Managers on Monday, May 13th, at 8:30 a.m. At that time, I would like to review the list of peripheral products we might go into.

I have asked the following people to prepare a list of possible products in their areas, and to list what they think we should do for the next three years:

Pat Greene	Displays
Joe Sutton	Magnetic Tape Systems
Steve Lambert	Disks
Ken FitzGerald	Paper Tape Readers and Punches/Card Readers and Punches
Menno Koning	Character Printers and Line Printers

I would like all the Product Line Managers to make a list of things they don't think should be covered by this list. Everyone requested to make lists should get twelve copies of them to Elsa by Wednesday, May 8th, so she can distribute them before the meeting.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 3, 1968

SUBJECT: DISPLAYS

TO: Pat Greene

FROM: Ken Olsen

Will you prepare a list of possible products in the general category of "Displays," and a list of those that you suggest we develop in the next three years (in order of the priority you would suggest), and if we should develop or buy. Then I would like you to be available to attend a combined meeting of the Operations Committee and Product Line Managers on Monday, May 13th, to discuss these two lists.

Twelve copies of your lists should be handed in to Elsa by Wednesday, May 8th, so she can distribute them to the Product Line Managers and members of the Operations Committee for review prior to the meeting.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 4, 1968

SUBJECT: MANUFACTURE OF DISKS

TO: Joe St. Amour

FROM: Ken Olsen

We should start thinking about how to make disks if we ever have to. The problem in machining disks is getting the warpage out of them. If you clamp the disk with a magnet or vacuum and machine it, it goes back to its original shape when you let it go.

First of all, we should find out how others do it (but I'm not sure if they even have a good technique). One approach would be to lay the disk on a tray of wax or plastic so that it would keep its original shape, and then make a fine cut over the surface. When the tray is heated and the disk is taken off, that one surface should be completely flat. Afterward, it can be held in vacuuming chuck and the other side finished.

I used to be a hand-grinder, and remember quite vividly the problems of grinding something to make it flat. We used to put shims under a flat piece to help maintain its shape while being held in a magnetic chuck. This, of course, is impossible with a disk, and it is a terrible chore anyway, but wax or plastic might do.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 6, 1968

SUBJECT: MODULE M222

TO: Joe St. Amour

FROM: Ken Olsen

I was visiting with Dick Clayton recently and he showed me a new module of his. It is not officially into the system because he is a little afraid of it being so hard to make. Looking over this module, it seems to me that all its problems would be solved if we laid the individual circuits on the surface. (It's a module he calls M222.)

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 6, 1968

SUBJECT: OPTIMUM MARK SENSE CARD

TO: John Jones

FROM: Ken Olsen

Please let me know when you decide on an optimum mark sense card. I would like to see it before you send it to Jim Hall at General Design.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 6, 1968

SUBJECT: 1968 ANNUAL REPORT

TO: Allen Kluchman
Elliott Hendrickson
cc: Harry Mann

FROM: Ken Olsen

I would like you to organize your present thoughts on this year's annual report and discuss them at the Operations Committee on May 13th. Please give Elsa seven copies of your report by Wednesday, the 8th, so she can distribute them to the Committee for review before the meeting.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 6, 1968

SUBJECT:

TO: Joe Sutton
Bob Savell
Win Hindle

FROM: Ken Olsen

I am putting pressure on people to start several more tape transport projects; however, this does not modify our enthusiasm for getting the present TU79 into production. When I encourage new projects that in any way slow down our present schedule for getting the TU79 into production, please let me know.

Ken

ecc

KO - Bimonthly
Reports
(after folks left
to start a new
company)

digital INTEROFFICE MEMORANDUM

DATE: May 8, 1968

SUBJECT: BIWEEKLY REPORTS

TO: Operations Committee

FROM: Ken Olsen

I have always believed in our Biweekly Reports. I believe that the professional man who is working pretty much on his own can afford to write a paragraph once every two weeks saying what he has been doing. Management is continuously being forced, in one way or another, to report on what it is doing, but somehow we feel engineers are so conscientious, honest, and wise in their use of time that there is no need for them to report.

Now that three people have left us to go into business for themselves, we are trying to figure out what they were doing for the last six months. We have practically no record, and we have no statement from them as to what they had been working on. If they have stolen anything from us, we are going to have difficulty proving that they really developed it here.

Bob Collings has been working on a proposal that he wants to make to us. I think he has commanded time from Pat Greene's people, Jim Jordan, Purchasing, and a number of others, to work on this proposal. I will have very little sympathy with people who say their project is behind schedule because they have been working on something for Ken Olsen. I know nothing about it, and when people think it's below their dignity to report on what they are spending their time on, I can't sympathize with them.

I would like the Operations Committee to again consider having Biweekly Reports. We are getting more and more engineers, and they are getting less and less supervision from senior people. I would very much like to have it a standard rule that every engineer must write a report every two weeks, even if it is never read.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 10, 1968

SUBJECT:

TO: Ron Smart
cc: Ted Johnson
Nick Mazzarese
Stan Olsen
Win Hindle
Harry Mann
Dave Denniston

FROM: Ken Olsen

Bob Dill recently received an order for a PDP-8/I from a Government military organization. The story this man had to tell Bob is absolutely horrible.

He had tried all the previous week to call DEC in Maynard to place the order. Each time he called, the switchboard operator told him he couldn't talk to anyone here, that he had to contact his local salesman. He finally got in touch with the local salesman and made an appointment, but the local salesman didn't show up for it. About that time, he would have been very happy to buy from someone else.

Because of the military nature of his organization, they knew Bob Dill's name as being our Security Officer, so, because they had the name of an individual within DEC, they were able to talk to somebody in the Maynard plant who would take their order.

This brings up all sorts of worries. How many people are not persistent enough to finally place an order with us? How many appointments do our sales people make and never follow through on? How many people who would like to buy our equipment aren't fortunate enough to know someone within by name?

For years we were the only company offering products, but now we do have competition, and we're going to have to polish some of our attitudes if we're going to smash the competition.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 10, 1968

SUBJECT: DECTAPE

TO: Dick Best
Jack Shields
Don Vonada
Dan Wardimon

FROM: Ken Olsen

CC: Operations Committee
Mike Ford
John Jones

It is time we solve our DECtape problems and eliminate all apparent communication problems within the Company. I would like you four to be a committee to come to a conclusion as to what we should do to solve our DECtape problems.

I would like you to come to a meeting of the Operations Committee after Schedule Review on Friday, May 17th. If you can't come to a conclusion because of communication breakdown, do come and let us observe the communication breakdown.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 10, 1968

SUBJECT: LINE PRINTER

TO: Joe St. Amour
cc: Menno Koning
Dick Best

FROM: Ken Olsen

I like your idea of a line printer in which the paper is folded around a rotating disk. I think you should pursue this and talk to our patent lawyer to see if it is worth patenting before we improve the idea.

I suggest that you plan on a disk about six inches in diameter. We are now working with fonts of 64 characters, and may want to go to 96 someday. The characters are on 0.1-inch centers, and three fonts would make a circumference of 19.2 inches. Two fonts of 96 characters would fit in the same circle. This is very close to being six inches in diameter. I'm now thinking that we should make all of our line printers floor models because they look more like they're worth the money, and it makes it easier to hold the paper. In the case of this line printer, it would allow about 30 inches from the roller shape-up to the shape bent around a drum.

We would probably like to have the hammers movable between two or four stations. The whole hammer assembly could be rotated around the same center as the disk.

The ribbon-moving system is probably the most difficult part of this printer. It seems to me that it would have to be kept in contact with a metal surface for the full printing radius. Maybe we should change to a more expensive paper which uses no carbon.

We have also considered printers using paper which burns the mark. In this printer, we would have about ten styli, made of tungsten, which rub across the paper. The paper moves uniformly, and the styli rotate at a slight angle so that any one line is straight across the paper. Seven of the styli generate 5 x 7 characters. The extra two or three styli are, therefore, plenty for plotting pictures and graphs.

This type printer is very simple, but has two disadvantages. First of all, it smells like ozone, and, secondly, the paper is expensive. Neither of these particularly bother me if we can make the printer inexpensively. We can then be the source of the paper also, which is nice.

Teletype now sells an ink-squirting printer which uses electrodes to electrostatically deflect the ink. We might make a simple version of this by having seven or ten ink sources on the rotating member. We would then just have to squirt a drop of ink out at each position and wouldn't have to worry about deflecting it like Teletype does.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 15, 1968

SUBJECT: CHART OF COSTS AND BOOKINGS FOR MARKETING GROUPS

TO: Operations Committee

FROM: Ken Olsen

cc: Clayton Rix

Attached is a chart of an idea I have for how we can chart the costs and bookings for the various marketing groups. In the left-hand column, I have listed all the marketing groups I can think of offhand. We'll have one page for each product line, which will include the Family of 8, PDP-9, PDP-10, Modules, and LINC-8.

Next to the last column on the right-hand side is a sum of the cost for all product lines using a particular group. If this sum is the same as the number on the page, it shows that this marketing group is used 100% for this product line. If the numbers are different, one can immediately get a picture of what percentage is used for this particular product line.

Ken

ecc

FAMILY OF 8		Budgeted Bookings	Actual Bookings	Budgeted Cost	Actual Cost	Actual Bookings To Cost	Budgeted Bookings to Cost	Total Cost all Product Lines Using This Group	%
Product Line Marketing									
Biomedical Marketing Mort Ruderman									
Data Acquisition Dick Sorensen									
Education Norm Doelling									
Communication Don Murphy									
Analytical Instrumentation									
Numerical Control									
Oceanography Bob O'Hagan									
Science									
Typesetting Marv Cothran									
Time-Sharing									
Simulation Ward MacKenzie									
Industrial Modules									
Computer Lab									
Peripherals & Memories									
Totals								Kenneth H. Olsen 5/15/68	

digital INTEROFFICE MEMORANDUM

DATE: May 15, 1968

SUBJECT: BUDGET

TO: Operations Committee

FROM: Ken Olsen

When we present the budget to the Board of Directors, it would be very helpful if we include what we expect to ship for the whole year of 1970. It should show those product lines that we expect to taper off, and those which we are making investments in this coming year for 1970.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 16, 1968

SUBJECT: FIRE ALARMS

TO: Bob Lassen
Al Hanson

FROM: Ken Olsen

I have a feeling the Safety/Security Committee feels I'm holding things up by refusing to have a fire drill. I feel the Safety/Security Committee is holding things up by not getting the information across to employees.

After the word is put across to employees and fire marshalls, and we interview the fire marshalls to make sure they understand all the rules, then let's consider having a fire drill. The fire alarm of May 15th shows that practically no one in the Company has gotten any information about fire alarms, and another fire drill would compound the problem, not solve it.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 16, 1968

SUBJECT: CLOSED-CIRCUIT TELEVISION SYSTEMS BILL

TO: Ed Schwartz FROM: Ken Olsen

At times, we have considered planting time-lapsed cameras around in the Company to catch people who are stealing. Would this law make it illegal to do it?

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 14, 1968

SUBJECT: Closed-Circuit T.V. Systems Bill

TO: Ken Olsen

FROM: Ed Schwartz

There is presently pending in the Massachusetts Legislature, a bill which was initially filed by the AFL-CIO barring any employer from using any closed-circuit T.V. system or other monitoring systems or devices without the express permission of the employees. This bill was reported by the Committee on Commerce and Labor and amended so as to require that the operation of an in-plant, closed-circuit T.V. system be generally known to the employees.

The Associated Industries of Massachusetts has commented in one of their recent legislative bulletins that this bill is realistic and wise as an alternative in an increasingly technological economy to the original labor bill that sought to bar the use of all such systems or other monitoring systems without express employee consent. In other words, A.I.M. is saying that if all the employer has to do is to inform the employees of this fact, it is not a bad bill.

If we wish to express our sentiment on this, I think it should be via A.I.M. I would appreciate your comments.

digital INTEROFFICE MEMORANDUM

DATE: May 20, 1968

SUBJECT: NEW ENGINEERING COMMITTEE

TO: ENGINEERING NEWSLETTER
SALES NEWSLETTER

FROM: Ken Olsen

In line with our policy of changing the structure of DEC committees from time to time, we have reorganized the Engineering Committee. Its membership now consists of:

Ken Olsen, Chairman
Tom Stockebrand, Secretary
Dick Best
Joe St. Amour
Russ Doane
Bob Wyman
Dick Clayton
Bill Melesky
Jerry Butler
Brad Vachon
Roger Cady

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 23, 1968

SUBJECT: OFFICE SUPPLIES CATALOG

TO: Harry Mann

FROM: Ken Olsen

cc: Stan Olsen
Jim Myers

It is my understanding that the Operations Committee decided to make Stan Czar of the office supplies catalog. He will pass on proposals of what things should be added to or removed from the catalog. People do, of course, have the freedom of going over Stan's head if they don't like his decisions.

Ken

ecc

6/14 Jack Rider making up new ones and will send copy when finished 6/14

digital INTEROFFICE MEMORANDUM

DATE: May 23, 1968

SUBJECT: PUBLIC ADDRESS SYSTEM SCHEMATICS

TO: Al Hanson FROM: Ken Olsen

Please send me a copy of your schematics for the public address system that we now have and the new, enlarged system.

Don't make up special drawings for me, just send the ones you now use.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 23, 1968

SUBJECT:

TO: Bob Collings

FROM: Ken Olsen

Rand Corporation has a publication entitled, "Window on Russian Computers." Will you try to get on their mailing list for this.

This may be a secret document, and may even be restricted information that they published, so approach the question carefully.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 24, 1968

SUBJECT: PDP-10 COMPARABLE WITH SIGMA 5

TO: Gordon Bell FROM: Ken Olsen

SDS seems to have outsmarted us when they came out with their Sigma 5. They now have the lowest priced computer of this size, and are taking many orders away from our PDP-10.

What can we cut out of the PDP-10 to make a useful, low-priced computer?

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 24, 1968

SUBJECT: STAIRWAY IN CENTER OF BUILDING 5

TO: Al Hanson FROM: Ken Olsen

If you give the man running the elevator in the center of Building 5 the job of keeping the stairway clean, he can probably sweep it several times a day and not hurt his elevator service. He would also probably teach some of our younger people not to mess the stairs.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 24, 1968

SUBJECT: SILK SCREENED NOTEBOOKS

TO: Henry Crouse

FROM: Ken Olsen

cc: Leo Reardon

When we again need notebooks silk screened, let's consider doing them in-house.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: May 24, 1968

SUBJECT: INCLUDING THE FIRE ALARM INTO THE PUBLIC ADDRESS SYSTEM

TO: Al Hanson FROM: Ken Olsen

The next time we redo the public address system, I think we should include the fire alarm into the system. This will give wider coverage to the alarm, and just make extra sure everybody can hear it.

Ken

ecc

INTEROFFICE MEMORANDUM

DATE May 29, 1968

SUBJECT SMALL HAND TOOLS

TO Department Managers and Supervisors

FROM John J. Trebendis

On May 13, 1968, a memo was send to all concerned on tools issues. To date, five (5) managers and/or supervisors have answered.

In a seven day period, four (4) employees that left us had no tools to turn in -- the complete tool box was gone. WHERE?????

From now on no tools will be replaced after initial issue unless a broken tool is returned, and only managers or supervisors can release tools. If anyone comes down for tools and does not have a written approval from his supervisor, he will not be issued the tools.

This notice is effective immediately.

John

cc: Ken Olsen

6/3 John — should we have a tool box inspection periodically. — we can't afford to have men without good tools

Ken

digital INTEROFFICE MEMORANDUM

DATE: May 29, 1968

SUBJECT: LATHES FOR MOUNTING MAGNETIC DISKS

TO: Pete Kaufmann

FROM: Ken Olsen

I got some more information on the lathes for mounting magnetic disks. They are distributed in this country by the Milo Manufacturing Company in Union, New Jersey.

Bob Milo is the young fellow doing the marketing, and Joe Milo, his father, is the engineer who knows all the details. They sell lathes to a number of disk manufacturers, and will give us the list. They can also help us with techniques for making good disks. The lathes not only give a micro finish, but also makes them flat and round.

They make lathes that turn disks up to 48 inches, but the one we want would turn up to 17 or 19 inches and costs approximately $35,000 fully-equipped.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: June 11, 1968

SUBJECT: FOCAL

TO: Nick Mazzarese
Mike Ford
Norm Doelling
Rick Merrill
Allen Kluchman

FROM: Ken Olsen

We still haven't gotten our message of FOCAL across to the public. I would like to have a meeting next Monday afternoon, June 17th, at 3:00, to hear your plans for getting this message across.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: June 11, 1968

SUBJECT: PDP-8/I DRAWINGS

TO: Mike Ford
Nick Mazzarese
Roger Cady

FROM: Ken Olsen

cc: Engineering Committee

The Engineering Committee has requested that you have the PDP-8/I drawings redrawn in the DEC standard format. If you don't want to do this, please let us know why, and if you do, please let us know your schedule.

Ken Olsen, Chairman
Engineering Committee

ecc

digital INTEROFFICE MEMORANDUM

DATE: June 11, 1968

SUBJECT: MODULE SALES EFFORT

TO: Ted Johnson

FROM: Ken Olsen

cc: Operations Committee

At the meeting you scheduled for this Friday to discuss plans for new offices, will you cover one other item for me first?

Several months ago we all agreed to the importance of increasing our module sales effort. I would like a report from you on what the increase has been for the last three months, and then I would like to have you compare it with the other product lines. I would also like to have you report on the results of your famous London meeting. I've heard rumblings (but not from Stan) that you have turned down the technicians that module people wanted as dedicated module salesmen.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: June 14, 1968

SUBJECT: FUTURE PAPER TAPE DEVELOPMENT

TO: Mike Ford

FROM: Ken Olsen

cc: Nick Mazzarese
Pete Kaufmann

Ken FitzGerald had a whole list of future paper tape projects, including one that used a spooler. He also had data on all the various card readers.
Now that many of the peripherals are being turned over to Pete, will you write a note (of which I would like to receive a copy) explaining the future projects that Ken had in mind, and his experience with the various card readers he ran tests on.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: June 14, 1968

SUBJECT:

TO: Dick Best

FROM: ✓Ken Olsen

Murray Ruben, who works in Pat Greene's group, is being limited by lack of a precision digital volt meter and an interval counter. Will you check with him to see if there is some way we can make these measurements with equipment we now have.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: June 17, 1968

SUBJECT: "WOODS" MEETING SCHEDULED FOR JULY 9TH

TO: Operations Committee FROM: Ken Olsen

July 9th looks like a good day for the next "Woods" meeting. We will have it in my yard in Lincoln, where there are a few trees to make it look "Woodsy," a pool to cool off in, and a park to warm up in for softball (if the "Has Beens" game hasn't already been played).

The two subjects I would like us to talk about are: 1) how to run engineers, and 2) how to run salesmen. The problem of managing engineers is perhaps easier to define, so we'll save that until afternoon. I would like to concentrate on writing and documentation in respect to the engineers, and maybe technical writing, and maybe even letter writing.

In the morning, I would like to talk about how we run salesmen. We just completed an enormous growth in this area, and plan to increase our bookings tremendously in the next year, and I feel we haven't spent much time talking about how we manage our sales people. I also feel that Ted is too much involved directly with the people to have a chance to relax and get a distant view.

At the Operations Committee on Monday, June 24th, I would like one agenda item to be to make an outline for our discussion.

Ken

cc

digital INTEROFFICE MEMORANDUM

DATE: June 17, 1968

SUBJECT: CHEAP TAPE INFORMATION FROM LOU ILLINGWORTH

TO: Mike Ford

FROM: Ken Olsen

cc: Nick Mazzarese

Now that you have decided not to continue with the cheap tape, I would like you to send me a copy of all drawings, reports, notebook entires, and any notes on future ideas, that you might have gotten from Lou Illingworth when he left.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: June 17, 1968

SUBJECT: HEALTH SERVICE SYSTEMS

TO: Mort Ruderman
cc: Win Hindle

FROM: Ken Olsen

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QC 413
567-0938

At 2:30 on Friday afternoon, June 14th, I had a visit from Mr. William Stern of Health Service Systems (a private company) in New York City. For the last two or three years, they have been working on an organization with some of the most well-known doctors in the New York and Boston areas, and, for the last nine months, with Jordan Baruch of Medinet. They plan to set up two medical-screening centers, and to franchise a large number of others throughout the country. These will be owned by doctors who use the services, so there will be very little feeling of competition with the system. They plan to charge $50 for checking a patient, and will do everything, including checking for cancer. They will not, however, do X-ray, but propose taking some of the thermo photographs.

They would like to have someone supply the digital portion of their system. I told him we were very much interested in this, and that you were the man he should talk to. I told him that when you got back from Japan you would be happy to spend some time with them. Two men he would like to have you talk with are Gerald Rosenthal, Ph.D in Economics from Harvard, and Jordan Baruch of Medinet.

I am convinced that this type of operation will one day be a very big thing in this country. They have worked hard with some of the doctors in laying out what they want done, but I'm afraid they haven't considered the hardware problems. This might be typical of Jordan Baruch. They would like to be on-line in six months. AGA has offered them an auto-chemist (for free) to try out the same system, and they have offered them the exclusive rights for sales in this country.

I think they'll get the money easily. However, I predict they will have a lot of trouble getting the electronics in their systems going because they haven't thought about this problem at all. I'm afraid they would like us to solve all these problems for them. I'm sure they have to get some really competent systems people before we can make a positive contribution to them. We can fill them up with ideas, but they'll have to take responsibility for them.

When they interrogate a patient, they could also have all the labels produced that go on the various samples and smears. They might also produce a miniature card or paper tape that would go into the weighing scale and blood pressure testing machine so that all the right data will get to the central machine.

I believe they ought to collect data in one of these centers very much like Tom Stockebrand collected test data on his strate production. There was one small computer that sorted all the data and put it on magnetic tape.

They have done a lot of planning and a lot of work (most of it political and sales type), but very little thinking of how they want to do this. They thought they wanted to punch IBM cards. This is obsolete and old-fashioned, and shows the level of which they have thought of things.

Ken Olsen

ecc

digital INTEROFFICE MEMORANDUM

DATE: June 24, 1968

SUBJECT: JOY STICK DEVICE

TO: Pat Greene

FROM: Ken Olsen

Here is a joy stick. When I sit through long Board meetings, I like to design mechanical devices. This one is a result of many hours' design, but it may be exactly like the one I saw up in your area.

The ball can be spun out of aluminum or stainless steel. The ball could be less than three inches in diameter, and the other parts could be made with closer dimensions to make the whole thing more compact.

Only two pots are needed, but I used four to get inexpensive bearings and mechanical bearings of symmetry. This can be used as a ball-in-hand device or the base of a joy stick. When a joy stick is used, a metal brush with a round hole in the middle can cover most of the ball.

Gordon Bell suggests that a pot be put on the top bracket, and the shaft tied to the ball, so that a third motion (rotary) can be obtained.

There are several companies in this area that do spinning, and I believe we can get balls from them very inexpensively.

Ken

ecc

KO-VL Sales org

digital INTEROFFICE MEMORANDUM

DATE: June 28, 1968

SUBJECT: CONVERSATION WITH BILL SEWALK

TO: Operations Committee
Allen Kluchman
Mike Ford
John Jones

FROM: Ken Olsen

Here are some notes from my talk with Bill Sewalk this morning. He made a survey of the small computer business, and these are points that I can remember.

DEC's strong points are: excellent service, history of good products, diverse products, and DECUS.

DEC's weak points are: nonaggressive sales, poor advertising, no special programs, no systems responsibility, high-cost central processor, and 12 bits.

They don't consider SDS as important, and H-P isn't trying very hard. The comments about Varian are weak in cost and reliability of peripherals. Their strong points are: very aggressive selling, excellent advertising, they take systems responsibility, do a lot of customer programming, and people like the fact that they negotiate prices.

Bill said that when you open a copy of "Datamation," you immediately see Varian's ads, but may miss DEC's. He said we don't get the point across, nor do we show our size and capability. He says we are ten times bigger than Varian, but look smaller in the ads.

When questioned what he meant by an aggressive salesman, he said he didn't mean one who is aggressive in personality or offensive, but one who will not take no for an answer, and will keep hammering away at the customer. A salesman should spend all the time necessary with important customers, and not be deluded by the large number of less important customers. "A salesman is never too busy to be with the man who is placing an order." He doesn't back off when the pressure is on because the customer is probably testing his reaction.

Some people say that we have a Boy Scouts' sales organization. Our salesmen should have the ability to stand up to all levels of an organization (up to the president), and represent the Company and give the impression that the Company is behind him.

This survey was taken in the Western region, with about 30 samples, most of which came from aerospace, industrial, and the communications industry, and also included the instrument, peripheral, and mining industries. It not only contains all the prejudices of these industries, but includes a few of Bill's prejudices.

Bill said we should do very well in the communications industry. Besides message switching and message concentration, the telephone industry is very much interested in computers, and we have no one looking into it.

Ken Olsen

ecc

digital INTEROFFICE MEMORANDUM

DATE: June 25, 1968

SUBJECT: USE OF CAMERAS IN THE PLANT

TO: Al Hanson

FROM: Ken Olsen

cc: Harry Mann

We normally have the rule that we don't consider notes to the Operations Committee without written proposals. Your note on the use of cameras was a problem without a proposal, but we acted on it anyway.

We decided that you should put a plaque at each reception desk saying that no cameras are allowed in the plant. This should not, however, hinder use of cameras for normal work operations.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: June 25, 1968

SUBJECT: LARGE-SCALE INTEGRATION

TO: Bob Hughes

FROM: Ken Olsen

We have been saying that all the enthusiasm for large-scale integration is premature, and that much of what is being said is foolishness. However, time passes quickly, and we want to be sure that we're not caught by surprise when some of these techniques are useful. Will you write a note (just a page or two, or even less) to the Operations Committee saying what you think the state of the art is now and when you think it will be useful for parts of our computers.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: June 26, 1968

SUBJECT: IN-HOUSE COMPUTERS

TO: Jim Myers

FROM: Ken Olsen

cc: Harry Mann

Please go over your list of in-house computers because the Operations Committee, at our meeting on Monday, could think of computers that were not on your list and we should make sure it is complete.

Will you also identify those that are capitalized and those that are in inventory.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: June 26, 1968

SUBJECT: JOE SUTTON'S TU79 RESPONSIBILITIES

TO: Win Hindle
Bob Savell

FROM: Ken Olsen

Sometime ago, I reprimanded Mike Ford for using Ken FitzGerald on PDP-8 mechanical engineering jobs while Ken was working on a Company-wide-supported project which Mike happened to be supervising for the rest of the Company.

I feel you should have gotten permission from the supporting projects before giving Joe Sutton responsibilities other than the TU79. When others agreed to support the TU79, I believe it was with the understanding they were getting Joe full-time.

Ken

ecc

digital INTEROFFICE MEMORANDUM

DATE: June 27, 1968

SUBJECT: PERIPHERAL PROJECTS

TO: Operations Committee

FROM: Ken Olsen

Various Vice-Presidents are supervising peripheral projects, but I have the very definite feeling these projects receive secondary attention, and I sometimes have the feeling that it is somewhat of an honorary title rather than one of real obligation to supervise.

After the Schedule Review meeting next Wednesday, July 3rd, I would like to have a meeting, at which time we document the staffing plans for each of the peripheral projects. Please prepare for this meeting.

Ken

ecc