INTEROFFICE MEMORANDUM

DATE June 30, 1965

SUBJECT PARTS PROBLEM FOR CANADA

TO Ken Olsen

FROM Ted Johnson

After talking with Maynard and Denny Doyle the general conclusion is that the problems of getting parts seem to be the delays in the foreign sales administration here on the floor. I have offered to Denny that Alan Ross perform the same service for him that he is performing for the San Francisco office and we have agreed that this is a good step. Denny and I have come to a solid meeting of the minds here on just what we mean by sales reporting and I think his last visit to Maynard was successful in convincing him that people here are sincerely interested in his problems and we are not trying to make more work for him. In addition, I think that Alan Ross will offer me the opportunity to see if there are inordinate accumulating problems in the shipping customs area. If so, this will be valuable information for the whole operation.

TJ/pr

INTEROFFICE MEMORANDUM

DATE June 29, 1965

SUBJECT

TO Ken Olsen ✓
CC/ Stan Olsen
Loren Prentice

FROM Frank Kalwell

With an influx of orders and our present Finished Goods Stockroom expanding, we need additional space to insure a better working and packaging area for our Shipping personnel.

Additional space is also required for our mail room facility.

If such space becomes available, we'd appreciate your consideration.

Thanks ---

Frank Kalwell

INTEROFFICE MEMORANDUM

DATE June 29, 1965

SUBJECT ADAMS

TO K. H. Olsen

FROM Ted Johnson

1. Problem showed up as subtle memory problem on block transfer program.

2. Basic problem was shorted plane, temporarily solved by substituting parity plane.

3. Other memory problems attacked and apparently corrected.

4. As of today, 6/28/65, we are able to run all DEC diagnostics and are trying to have Adams programmers isolate any other problems.

5. People who worked on system were:

J. McKalip	Sat., Sun.
G. Bell	Sat.
R. Savell	Sun.
L. White	Sat. (Sun.?)
R. Yurick	Sun. (on call Sat.)

6. The problem showed up 10:00 Wednesday morning. J. Kilduff and R. Yurick put in very long hours trying to isolate the problem.

7. I called C. Adams, who had his programmer call me.

8. I do not believe we owed Adams round-the-clock service on the weekend. What are our obligations?

9. A preliminary observation is that the Adams people themselves (programmers) do not appear to be performing in a totally business-like fashion, probably changing their programs too casually, but I'll try to get a better view.

TJ:ML

INTEROFFICE MEMORANDUM

DATE June 29, 1965

SUBJECT STANFORD

TO K. H. Olsen ✓
E. DeCastro
N. Mazzarese
J. Burley

FROM Ted Johnson

Ken Larsen was as enthusiastic as I have ever seen him when I called the other day. They had just installed Stanford's PDP-8. In one hour the system was in and running. Apparently all of Stanford Med Ctr was there to see it.

On the basis of his and customer reaction, he urged us to "crank up production."

TJ/pr

Ted

INTEROFFICE MEMORANDUM

DATE June 29, 1965

SUBJECT Construction and Delivery of PDP-6 Equipment

TO Ken Olsen
Harlan Anderson

FROM Bob Beckman

During the past few months, we have been involved in an intensive effort to accelerate the construction and delivery of equipment. As a result, three PDP-6 systems and several items of peripheral equipment have been or will be delivered before the end of our fiscal year. Obviously, the PDP-6 checkout group could not have accomplished their part of the job without the support and co-operation of the entire company. I would like to take this opportunity to express my appreciation for everyone's efforts and to draw your attention to those departments and persons whose contributions were particularly significant.

The Mechanical Engineering Department was always ready to help wherever needed. In particular, the crew from the cabinet shop pitched in one Saturday and did the mechanical clean-up work that usually takes several days.

The Peripheral Checkout people, in addition to doing the off-line checkout of the various equipments, pitched in and gave us a hand whenever we ran into difficulties after the equipment had been placed on the computers. The Mag Tape and DEC Tape people, in particular, worked long hours to help get the systems finished.

The Quality Control people went out of their way to perform the necessary inspections without interferring with the checkout work. In addition, they often helped to correct or waiver minor faults in appearance in order to avoid delays. All this was done without relaxing their standards on those things that could effect system performance or general system appearance.

The Purchasing Department's work in locating and expediting the delivery of several special items was extremely valuable.

While I have avoided mentioning specific names, I would like to point out Roland Boisvert's contribution. Whenever there were troubles with the 570's, Roland cheerfully and willingly worked any and all hours needed to solve the problem. His work is an ourstanding example of the kind of spirit and effort displayed by everyone.

The comments above apply to my observations in connection with the PDP-6's. They should be multiplied by several times since all of these people were doing the same things for all of the company's product lines.

cc:
Maynard Sandler
Loren Prentice
Jack Smith
Dave Kicilinski
Bud Dill
Klaus Doering
Henry Crouse
Roland Boisvert

jam

INTEROFFICE MEMORANDUM

DATE June 28, 1965

SUBJECT International Sales Promotion: Meeting of 6/24/65

TO ✓K. Olsen J. Leng
H. Anderson G. Heuwe
S. Olsen D. Doyle
G. Moore R. Smart
J. Fadiman

FROM S. Grover

Foreign office managers, plus Gerry Moore, joined Jack Atwood, Stu Grover, and Joe Nangle on June 24 to develop possibilities for home office support of foreign sales promotion activities. The highlights of the discussion are reported below.

ADVERTISING

(1) Media - No specific foreign advertisements are planned, and none were proposed at the meeting. To prepare for such a possibility, however, the foreign office managers were asked to review a prepared list of foreign magazines as to their suitability for our various product lines and the markets they seem to be reaching. The foreign circulation of the nine U.S. magazines in the current reduced media schedule was also presented for evaluation. Three U.S. magazines were singled out as particularly effective; namely, Nucleonics, Electronics, and Scientific American.

(2) Foreign Placement, etc. - It was agreed that ads should be written, produced, and placed by Tech Pubs and/or Rumrill. Foreign offices will have the copy translated. Concurrence was reached on the following points:

a) All ads prepared for U.S. books will be sent to all foreign offices for consideration as possible local (foreign) ads.

b) Each foreign office manager who wants it (and can afford it) will return a translation to Maynard for production and placement.

c) Ads in some U.S. books can be keyed to specific foreign market areas in "split runs." That is, the basic ad is run over the foreign office logo in that office's market area only. Usually there is only a minor plate-making charge for a split run.

d) When an ad is placed in a U.S. book having significant foreign circulation, a copy of the issue in which the ad appeared will be sent to the field offices by airmail as soon as published.

e) Sales offices will be sent materials for local ad placement to provide for the infrequent case when time will not permit taking advantage of home office services. Materials will consist of: equipment photographs, reprints of U.S. ads, and proofs of any applicable foreign language ads.

PUBLICITY

(1) Releases - Releases of possible interest to a foreign office will be sent for inspection during the approval stage. To select a release for his area, the manager will have it translated, typed neatly and accurately, and returned to Tech Pubs. Using that piece of paper as a master, Tech Pubs will print the release on foreign office letterhead, type address labels from the periodical list originally approved by the manager, stuff the envelopes, and forward them in a package to the foreign office for local posting.

Lists of publications to which Tech Pubs proposes sending releases have been mailed to each manager. Also mailed are questionnaires for use in gathering information about new personnel.

(2) Photographs and Illustrations - Five copies of a photograph of each principal DEC product are being mailed to each foreign office. Technical publications will prepare any special photographs or illustrations needed for articles in the technical press. The sketches should be carefully made and the magazine's mechanical requirements should be provided.

PROMOTIONAL LITERATURE

(1) Custom Literature - In general, translation of promotional literature or the printing of individual subsidiary names on front and back covers was considered too expensive to undertake. Gummed labels bearing the subsidiary name and pasted over the parent company name are being used in the U.K. and were recommended to the other offices.

(2) Proposals - Wrap-around covers preprinted with each computer system cover and name have been printed for each foreign office and bear the office name. Text pages will not be provided from Maynard because excessive duties more than offset any savings. Two specific requests were made:

(a) Gunther will supply a typed German translation of Standard Terms and Conditions for preprinting on the back of his title pages.

(b) John Long requested preprinted covers for module system proposals. Imprint tentatively selected is "Digital Logic System." Other foreign office managers please note: If you wish quantities of these covers, send the request to Stu Grover immediately.

DIRECT MAIL

(1) It was agreed that Tech Pubs will provide printouts of customer and prospect names every quarter for updating by each foreign office. Tech Pubs will be prepared to make labels and stuff envelopes, but will ship to the foreign offices for posting.

(a) An exception was noted by Gunther, who felt that German prospects liked to be kept aware of the home plant. He suggested that some mailings be made direct from Maynard.

SG:bc

cc: J. Atwood
H. Hubbard
A. Kluchman
J. Nangle
A. Stephens
K. Gold

file

INTEROFFICE MEMORANDUM

DATE June 25, 1965

SUBJECT FY 66 Small Computer Engineering Development Budget

TO K. H. Olsen
H. E. Anderson
W. Hindle
D. Packer
S. Olsen
L. Hantman
E. De Castro
J. Hastings

FROM N. Mazzarese

The attached engineering development budget for the PDP-7 and PDP-8 computers supersedes all previously submitted budgets.

Total allocation for -

PDP-7	$276,000
PDP-8	228,000
	$504,000

Encl.

PDP-7

6/25/65

Hardware Listed in Order of Priority (includes Engineering Programming)

Project	Personnel	Budget Labor (m/m)	Budget Labor $	Budget Materials	Starting Date	Major Milestones	Completion Date	Remarks
1) PDP-7X	R. Wilson L. Seligman R. Banks	10 ET 11 D 4 CD 16 EE 11 P 3 ME	10 11 8 32 22 6 89K	35K	7/65	11/65-wire list 12/65-assembly 1/66-prototype checkout	3/66 Prototype operating	35K material expense is for bay development An additional 25K to be charged to L.C.
2) I/O Processor	R. Wilson L. Seligman R. Banks	6 P 6 EE 2 D 6 ET	12 12 2 6 32K	5K	12/65	1/66-Assembly 2/66-Prototype Checkout	4/66 Operating	
3) Disc Interface	Harwood's Group	2 P 2 EE	4 4 8K	2K	1/66		4/66	The same disc interface will be used on PDP-7, -8
4) DECTape	Harwood's Group	2 P 2 EE	4 4 8K	2K	2/66		5/66	The same DECTape will be used on PDP-7, -8
5) A-D-A	Sorensen	3.5 EE 5 ET 1 D	7 5 1 13K	2K	7/65		10/65	
6) Card Reader & Pun ch Control	Harwood's Group	1 P 2 EE 2 ET 1 D	2 4 2 1 9K	1K	4/66		7/66	
7) Line Printer								Will be started in FY '67 (7/66)
		Total	159K	47K				
		Grand Total	206K					

PDP-7 6/25/65

Software Projects Listed in Order of Priority (Excludes Engineering Programming)

Project	Personnel	Budget Labor (m/m)	Budget Labor $	Budget Materials	Starting Date	Major Milestones	Completion Date	Remarks
1) Mop-up to PDP-7	L. Hantman C. Perkins	3 P	6K		Under-way		10/1/65	
2) I/O Package	L. Hantman	7 P	14K		7/1/65	9/1-specs	2/1/66	
3) MACRO Assembler	L. Hantman	7 P	14K		8/15/65	10/15 - specs	3/15/66	
4) Real Time FORTRAN IV	L. Hantman			30K consultant	1/66		7/66	Digitak, IDS will probably be contractor An additional 30K to be spent in FY '67
5) Utility Routine	L. Hantman	3 P	6K		3/66		6/66	Utility routines to include DDT/Editor
		Total	40K	30K				
		Grand Total	70K					

PDP - 8 Hardware Projects Listed in Order of Priority (Includes Engineering Programming) 6/25/65

Project	Personnel	Budget Labor (m/m)	Budget Labor $	Budget Materials	Starting Date	Major Milestones	Completion Date	Remarks
1) Type 338 Buffer Display	D. Brown, Ld:. W. Long	4EE 4ET 3D 2P	8K 4K 3K 4K 19K		4/65	7/1/65 Wire Lists 8/1/65 - Assembly	9/30 Working Prototype	
2) Mop-Up	E. DeCastro	3EE 3ET	6K 3K 9K				Through life of project	Make existing design work
3) A/D - D/A	R. Sorensen	3.5EE 2ET 1D	7K 5K 1K 13K	2K	7/65		10/65	Complete A-D-A Package Decision to be made on whether computer special system or A-D-A Development is to get priority.
4) Teletype Interface (A) Multiline	E. DeCastro G. Finch R. Tringale	3EE 2ET 1D	6K 2K 1K 9K		7/65	9/30/65 - Ship	9/65	Part Time Two Months Effort
(B) Few Line	D. Pinkney R. Sogge	1EE 1ET 1D	2K 1K 1K 4K		Underway		9/65	One month effort spread over three months
5) Memory Extension Control	D. Pinkney	2EE	4K		Underway		7/30/65	

PDP - 8 Hardware Projects Listed in Order of Priority (Includes Engineering Programming) Con't. 6/25/65

Project	Personnel	Labor (m/m)	Labor $	Materials	Starting Date	Major Milestones	Completion Date	Remarks
6) Extra Memory Module	D. Pinkney				underway		7/30/65	This item budget under memory extension control
7) EAE	E. DeCastro	1 GE 1 ET	2K 1K 3K		underway		8/30/65	
8) 3 cycle break	E. DeCastro	1 EE 1 ET 1 D	2K 1K 1K 4K		8/65		9/65	

PDP 8 Continued

PROJECT	PERSONNEL	BUDGET LABOR M/M	BUDGET LABOR $	BUDGET MATERIALS	STARTING DATE	MAJOR MILESTONES	COMPLETION DATE	REMARKS
9. DECtape Control	S Booth	2EE 3ET 3D	4K 3K 3K 10K	3K	6/17/65		12/65	
10. Memory	E. deCastro							2 wire memory development will use results of basic PDP-7X memory development
11. Paper Tape Reader and Punch	M Arsenault						6/30/65	J. Godbout's reader might be interfaced to PDP 8
12. Disc Control	J. McKalip S Lambert	2EE 3ET 3D	4K 3K 3K 10K	4K	Unknown			Will start after firm Disc specs are established
13. Line Printer and Control	E deCastro	3EE 2ET 1D	6K 2K 1K 9K		Unknown			Design contingent upon finding good supplier for Line Printer
14. Card Punch Control	E. deCastro	2EE 1ET 1D	2K 1K 1K 4K					Design contingent upon finding good supplier for card punch.
15. Card Reader	T. Leonard	1EE 1ET 1D	2K 1K 1K 4K		6/17		8/17/65	
16. Product Improvement	E. deCastro R .Sogge	3EE 3ET	6K 3K 9K				Open End	Purpose - improve performance, decrease cost.
		TOTAL	111 K	9 K				
		GRAND TOTAL	120 K					

PDP-8 SOFTWARE PROJECTS LISTED IN ORDER OF PRIORITY (EXCLUDING ENGINEERING PROGRAM) 6/25/65

PROJECT	PERSONNEL	BUDGET LABOR M/M	BUDGET LABOR $	BUDGET MATERIALS	STARTING DATE	MAJOR MILESTONES	COMPLETION DATE	REMARKS
1. Message Concentrator	L. Hantman	2	4K		8/65		10/65	
2. Typesetting	M. Ford	6P	12K	30				Inforonics will be Programming contractor
3. Mop-Up on PDP-8	L. Hantman J. Ridgeway	4	8K					
4. Applications Packages H. Burkhardt J. Langley	J. Ridgeway	12	24K	30				
		TOTAL	48 K	60 K				
		GRAND TOTAL	108 K					

INTEROFFICE MEMORANDUM

DATE June 24, 1965

SUBJECT Control of cash balances in foreign operations

TO Ken Olsen FROM R. Dill

I believe the following policy should be established with all foreign subsidiaries regarding cash balances.

1. Establish monthly operating requirements such as below:

Canada	$15,000
Germany	6,000
United Kingdom	10,000
Australia	5,000
France	5,000

2. Require that any cash in excess of the established monthly requirement be transferred to DEC Maynard automatically.

This will facilitate our cash position and we will not have to worry about large cash balances being held in foreign banks. It would put them in the position of asking us instead of us asking them. I believe this could be approached on the basis of our wanting cash here due to the possibility of foreign currency revaluation. One last thought is that any expansion will be brought out due to a necessary increase in monthly operating requirements.

If you feel this would be good policy possibly a written memo could be given to the foreign sub managers this week.

CC A. Pontz
G. MacDonnell

file

INTEROFFICE MEMORANDUM

DATE June 23, 1965

SUBJECT Collection of Research & Development Charges

TO K. Olsen
D. Packer

FROM Fred Mariani

Part I

Product Line (1) Hardware
(2) Software

A. Hardware costs are divided into two groups.

a. Direct project costs incurred by personnel assigned to a particular division.

* b. Shared project costs incurred by personnel not assigned to a particular division, but which benefits the division.

* Shared project costs will be distributed to each division on the basis of forecasted R & D Costs.

B. Software cost will be those project numbers assigned to personnel within a particular division. eg. Programming, etc.

Part II

Central Engineering

Storage Devices Development
Semi - Conductor Development
Strate Development

A. These three costs are specific Development projects anticipated by each division in each divisional forecast submitted June 7, 1965. The distribution of costs incurred will be based on the relationship of each division to the total amount forecasted for each of the above categories.

Part III

A. Technical Publications efforts will be direct project costs. The delineation will appear in field three. Technical Publications will use a 9000 series of job numbers effective 7/6/65 to indicate the technical writing services performed. Engineering personnel who assist in the writing should ask for and charge their time and other expenses to the Technical Publications job number set up to accumulate manual costs.

Part IV Overhead Center Variance

A. From project numbers assigned to the various categories above will result an Overhead Center Variance. The amount attributable to R. & D. will be based on the direct labor content as it relates to Cost of Goods Sold or Shipped, Field Service and R & D Direct Labor.

B. The Variance is determined by the matching of an applied rate to absorb all other indirect expenses, to the determination of the actual costs of all other indirect expenses.

Part V Last but not Least

No charges will be accepted for any division or product line either direct or shared unless a "Development Charge Number Approval Form" has been accepted and signed by the Division Manager.

(See Attached Form)

CC R. Dill
B. Garvin
E. Simeone
F. MacLean

DEVELOPMENT CHARGE
NUMBER APPROVAL
FORM

Date of Request

Date of Issue

D or P#

Description of Project

Responsible Engineer

Financial Responsibility

Product Group	% of Cost	Product Line	Product Group Managers Signa
Large Computers			
Small Computers			
Modules			
Special Projects			

dec INTEROFFICE MEMORANDUM

DATE June 22, 1965

SUBJECT RCA Spectra 70 Production Facilities

TO Ken Olsen
Harlan Anderson
Stan Olsen
Nick Mazzarese

FROM Ted Johnson

I recently had the opportunity to go on a field trip tour of the RCA plant in Florida. I found the trip quite interesting from a number of aspects.

The plant is 160,000 square feet and houses 1400 people. Approximately one half of the space is used for production, the rest for warehousing, engineering, administration, etc. They are currently operating 24 hours a day, 7 days a week and still producing the RCA 301 and 3301. They announced the end of life for these computers and experienced the phenomenon that their prospects hurried up to get their orders in before the cancellation date and they were surprised by the high response.

They claim to be producing five 301's a week and one 3301. The numbers don't seem to add up quite right since at an average of $15,000 rental per month for a 301, this would mean $600,000 per week for 301's alone or well over $30,000,000. This could be the bias reflected by the unusual spurt which they are going through right now.

RCA prides itself on the ability to find and train good female employees. 85% of the plant is women.

They showed us a 7015, the smallest of the Spectra 70 series. The presentation initially was held in a very impressive room where the audience in a room 9 x 36 feet was separated by a plate of glass from the demonstration area which was roughly 18 x 36 feet. The room was darkly lit and the drapes pulled back. A good sound system enabled the speaker to give a careful, well-worded presentation at the beginning before they allowed us to come back to look at the equipment.

The 7015 and 7025 use a single plain printed circuit board so that 50% of the panel wiring is replaced by the printed circuit board and the remaining 50% hand-wrapped. On these small machines they use the PEC (passive integrated elements) similar to the circuits we have been using in the systems modules (which are a purchase from Centralab).

The 7035 is yet to be announced and will be announced later this year.

The 7045 and 7055 are the only two machines which will use monolithic integreated circuits. The wiring again is accomplished by two layer printed circuit boards which replaces 95% of the wiring and the remaining 5% are hand-wrapped. One plane has vertical connectors, the other has horizontal conductors and connections are made between the two planes, I believe, by machine.

They continually use the phrase "industry compatible" when speaking about the 8 bit byte Spectra series. The Spectra is,to some degree,compatible with the IBM 360 I believe.

I was quite amazed to see the absence of any automatic insertion equipment. The assembly process that we saw in the plant was extremely crude and very slow. On some of the boards they use a mounted board which amounted to strips of phenolic with components on them mounted vertically and inserted into the master phenolic board.

One of the quaint techniques they used throughout the plant, the result of an employee suggestion, were stovepipes of assorted sizes with coil springs wrapped around them and pedal wires inserted in the springs so that as a girl worked around the pipe, she would in sequence pick off wires which would then be placed on the panel in a determined sequence.

Along one side of the building, hanging from the ceiling, they had several hundred colored plaques with the customer names on them. There was a different color for each customer indicating the application area. The effect was most impressive. We might consider a technique similar to that to impress visitors to our plant. This would give them a quick look at the various areas we are dealing with.

The tape unit they were using on the /015 was a 10 kc byte rate tape.

Static test of each computer takes three weeks and they run the test through three times, whatever that means.

TJ/mr

MSG NO 216

TO KEN OLSEN/GERRY MOORE
FROM JIM MILTON
RE OUR INQUIRY NO 97 DATED 3RD MAY TO GERRY MOORE

HARWELL WOULD LIKE TO BUY ANOTHER 4K OF MEMORY FOR THEIR PDP-4
BUT NEED PRICE BEFORE THEY CAN GIVE US AN ORDER.

MSG NO 204
TO KEN OLSEN
FROM JOHN LENG

OK

COULD YOU LET ME KNOW WHAT WAS FINALLY AGREED FOR TELARE? HAVE THEY SIGNED THE NEW CONTRACT WITH US? I WANT TO VISIT FINLAND AND NORWAY SOON AND WANT TO KNOW WHETHER TO TAKE ARBEUS WITH ME. ALSO WILL TELARE GET COMMISSION ON PDP-8'S TO NORWAY ALREADY ON LOI'S?

END OR GA PLS

INTEROFFICE MEMORANDUM

DATE June 22, 1965

SUBJECT AL MARSTEN

TO Ken Olsen

FROM Ted Johnson

Al Marsten from CSC in California called me the other night as a result of some conversations I held some time ago with a recruiting man I had been working with in California. I formerly worked for Al at CSC. As you know, they are now part of SDS and in the process he was promoted so that he now heads up a great deal of the engineering work including development, industrial and military systems. Although he has always been in the systems business, he is definitely of the opinion that the systems business should exist to help sell standard products. He has been somewhat frustrated in the past by the lack of standard products to work with within the CSC organization. While he feels the one manager operation, (rather than Bell and Howell and Allis Chalmers as previously), is an improvement, he still apparently has some reservations about the new marriage and I believe has a sincere interest in working for us, (and, as a sideline, to return to the East Coast where his and his wife's family live).

As I mentioned to you, I found Al a very calm, stubborn and steady individual who apparently has gained a great deal of respect for performance from his employees at CSC. If you think you might have any interest in him in the short or long-term future, I would be interested in knowing so that I might know how to deal with him in any future contacts.

TJ:ML

dec INTEROFFICE MEMORANDUM

DATE June 21, 1965

SUBJECT COMPUTER REQUEST

TO Ken Olsen

FROM Bob Hughes

This is a request for a PDP-4 computer for use in connection with the second Automatic Module Tester. The equipment required is itemized as follows:

One PDP-4 with 8K of core memory,
One extended information collector,
Two extended information distributors,
One single transport Dectape,
One Dectape control.

cc: N. Mazzarese
J. Cudmore

dec INTEROFFICE MEMORANDUM

DATE June 21, 1965

SUBJECT Xerox Copies

TO Kenneth H. Olsen

FROM Henry J. Crouse

For the period beginning April 1, 1964 through May 31, 1965, your department has produced 2,399 copies from the Building 5 Xerox Copier.

Henry J. Crouse

DATE: June 18, 1965

SUBJECT: COMMENTS ON ARTHUR HALL'S MEMO TO YOU DATED JUNE 3, 1965

TO: K. H. Olsen FROM: Bob Lassen

With reference to Arthur Hall's memo to you dated June 3, 1965, (see attached), I have made the following observations:

1. The Personnel Office is responsible for maintaining liaison and good relationships with town agencies. I feel we have developed good rapport and also feel this responsibility should remain with Personnel.

2. Financial dealings (rentals, etc.) with Maynard Industries should be the responsibility of a financial person. I believe Dick Mills used to handle this.

3. Loren and I work together on plant security force supervision. The Security Committee reviews all security measures (including proposed changes) periodically. This could eventually be the responsibility of a "Plant Manager."

4. I believe Loren is supervising departmental moves subject to your approval. Loren is still the best qualified person to handle the physical problems, and I feel we should continue on this basis. This responsibility could be turned over to a "Plant Manager" -- if the sum of all our physical plant problems warrants hiring a man in the future.

5. Parking lot rental problems should be handled by a financial man. Dick Mills used to handle this and Loren is currently filling in. The Maintenance Department is currently responsible for the physical problems (plowing, repairing, etc.) while the Personnel Office has assumed responsibility for parking discipline (regulations and stickers, etc.). This is the kind

of responsibility that could be turned over to a "Plant Manager" in the future. Presently, however, things are in pretty good shape in this area.

6. Inside building maintenance is currently being handled by the Maintenance people while Loren supervises the contractors and carpenters. This also could be turned over to a "Plant Manager" in the future.

7. Telephone Service is Brad Towle's responsibility, and this too could be handled by a "Plant Manager."

8. Henry Crouse supervises the reception lobbies, and I would not recommend a change. I would have no objection to having this fall under the Personnel area if you and Henry feel that it is interfering with our Purchasing activities.

9. The cafeteria is supervised by Henry Crouse together with the Cafeteria Committee. It may be a good idea to place this responsibility under the Personnel area. This is an employee service and may be biting into Henry's time unnecessarily.

10. Loren and the Purchasing Department handle most of the general plant supplies. This would also fall into the "Plant Manager's" category.

11. The responsibility for the plant paging system is split too finely. Henry supervises the Building 5 girl, Brad Towle supervises the telephone operators while the Test Equipment people service and repair the equipment. This whole thing should be the responsibility of one person and would eventually be part of a "Plant Manager's" job.

12. Henry Crouse's people keep track of our office equipment (typewriters, recorders, etc.) and provide the Accounting people with necessary capital expense information. This seems to be running smoothly.

13. See my comments under Item #6.

14. The Library should require only limited supervision. The girl can handle the day-to-day operation while receiving limited supervision. Arthur Hall is watching this area, and I feel we should leave things as they are.

15. We are setting up procedures in the Personnel Department to be the "guardian" of all vocational groups-with respect to performance ratings, promotions, transfers, and wages. I have assigned Paul Chambers as guardian of our female clerical people. Admittingly, this has been a loosely handled area; however, we are aware of it and have taken steps to watch over this group in pretty much the same manner as we do our technicians and other major vocational groups.

The sum of such duties as Plant Security, Departmental Moves, Building Maintenance (including supervision of outside contractors), Out-of-Building Maintenance (Parking Lots, etc.) Plant Telephone and Paging, and perhaps even the handling of Supplies and Equipment could very possibly equal a full-time responsibility. It would have the net effect of relieving a great deal of Loren's time and would most certainly pull together a lot of loose ends.
We should consider this further.

RTL/srb

dec INTEROFFICE MEMORANDUM

DATE June 18, 1965

SUBJECT REVISED TECHNICAL PUBLICATIONS BUDGET

TO K. H. Olsen
H. E. Anderson
S. C. Olsen
N. J. Mazzarese
W. R. Hindle
R. L. Best
D. W. Packer

FROM J. L. Atwood

This is a revision of the initial Tech Pubs budget for fiscal 1966 submitted on June 2.

It forecasts total operating expenses of $840,000. This compares with a forecast of $1,250,000 in the initial budget and an actual operating cost of $772,715 for the first 10 months of fiscal 1965.

In short, the revised budget represents a level of effort 33 per cent under our initial 1966 forecast and 9 per cent under our actual 1965 operating costs - projected on a straight-line basis. This reduction is particularly significant in view of the anticipated 25 to 50 per cent increase in billings during 1966.

Obviously we will need accurate information on current operating expenses if we hope to maintain the controls necessary to achieve this cost reduction. We will also need the active and interested cooperation of the product line managers in determining the proper levels of service for the new products, projects and people already imposing an increasingly heavy load on our personnel and facilities.

J.L.A.

fd

cc: C. S. Grover
R. L. Ward

TECHNICAL PUBLICATIONS BUDGET - 1966
6/18/65

		ADVERTISING			PROMOTIONAL LITERATURE						GRAPHIC ARTS			
		SPACE ADVERTISING	PUBLICITY	SUBTOTAL	DIRECT MAIL	TRADE SHOWS	LITERATURE - INC. MANUAL PRODUCTION	SALES AIDS	SUBTOTAL	TECHNICAL WRITING	PHOTO-GRAPHY	PRINTING	SUBTOTAL	TOTAL
MODULES	S	45	15	60	10	2	75	3	90			3	3	153
	E									0	3	2	5	5
	M										7	20	27	27
	SUB	45	15	60*	10	2	75	3	90*	0*	10	25	35*	185*
PDP-6	S	45	15	60	10	2	85	3	100			3	3	163
	E									65	2	2	4	69
	M										3		3	3
	SUB	45	15	60*	10	2	85	3	100*	65*	5	5	10*	235*
PDP-7	S	15	5	20	3	1	35	1	40			1	1	61
	E									30	2	1	3	33
	M										3		3	3
	SUB	15	5	20*	3	1	35	1	40*	30*	5	2	7*	97*
PDP-8	S	30	10	40	7	1	50	2	60			2	2	102
	E									35	2	1	3	38
	M										3		3	3
	SUB	30	10	40*	7	1	50	2	60*	35*	5	3	8*	143*
SM. COMPUTER	SUB	45	15	60*	10	2	85	3	100*	65*	10	5	15*	240*
LINC	S	3	1	4	3	1	15	1	20			1	1	25
	E									4	1	1	2	6
	M										1		1	1
	SUB	3	1	4*	3	1	15	1	20*	4*	2	2	4*	32*
DIGITAL TEST	S		1	1	2	2	25	1	30			1	1	32
	E									10	1	1	2	12
	M										2		2	2
	SUB		1	1*	2	2	25	1	30*	10*	3	2	5*	46*
C.A. DESIGN	S				1		4		5					5
	E									1		1	1	1
	M													
	SUB			0*	1		4		5*	1*		1	1*	7*
SPECIAL PROJECTS	SUB	3	2	5*	6	3	44	2	55*	15*	5	5	10*	85*
GEN. ENGINEERING											5	5	10*	10*
GENERAL & ADMIN.		20	30	50*		1	13	1	15*			20	20*	85*
TOTAL		158	77	235*	36	10	302	12	360*	145*	35	65	100*	840*

dec INTEROFFICE MEMORANDUM

COMPANY CONFIDENTIAL

DATE June 18, 1965

SUBJECT Royalty Provision

TO Product Line Managers
(H E Anderson, S Olsen,
Nick Mazzarese, W Hindle,
K H Olsen).

FROM J P Hastings

This morning, Harlan Anderson received a telephone call from Western Electric's patent licensing division regarding the possibility of licensing DEC. As our company becomes better known, we attract companies who would like to make money on us from their patents. Where possible we prefer a cross licensing arrangement thereby avoiding the actual payment of royalties. For our own protection, Bob Cesari recommends that we take into consideration the possibility of paying royalties when we establish prices on our products. He suggests 2% of the net selling price. This factor should be applied across the board to all government and non-government sales of computers and systems. It should not be used when establishing module prices.

I will assume all product managers will consider possible royalty payments in the future when establishing prices. If you have any questions about this please let me know and if it appears desirable we can have Bob Cesari brief us on this matter.

JPH:ASJ
CC
R A Cesari

INTEROFFICE MEMORANDUM

DATE: June 18, 1965

SUBJECT: COMMENTS ON ARTHUR HALL'S MEMO TO YOU DATED JUNE 3, 1965

TO: K. H. Olsen FROM: Bob Lassen

With reference to Arthur Hall's memo to you dated June 3, 1965, (see attached), I have made the following observations:

1. The Personnel Office is responsible for maintaining liaison and good relationships with town agencies. I feel we have developed good rapport and also feel this responsibility should remain with Personnel.

2. Financial dealings (rentals, etc.) with Maynard Industries should be the responsibility of a financial person. I believe Dick Mills used to handle this.

3. Loren and I work together on plant security force supervision. The Security Committee reviews all security measures (including proposed changes) periodically. This could eventually be the responsibility of a "Plant Manager."

4. I believe Loren is supervising departmental moves subject to your approval. Loren is still the best qualified person to handle the physical problems, and I feel we should continue on this basis. This responsibility could be turned over to a "Plant Manager" -- if the sum of all our physical plant problems warrants hiring a man in the future.

5. Parking lot rental problems should be handled by a financial man. Dick Mills used to handle this and Loren is currently filling in. The Maintenance Department is currently responsible for the physical problems (plowing, repairing, etc.) while the Personnel Office has assumed responsibility for parking discipline (regulations and stickers, etc.). This is the kind

of responsibility that could be turned over to a "Plant Manager" in the future. Presently, however, things are in pretty good shape in this area.

6. Inside building maintenance is currently being handled by the Maintenance people while Loren supervises the contractors and carpenters. This also could be turned over to a "Plant Manager" in the future.

7. Telephone Service is Brad Towle's responsibility, and this too could be handled by a "Plant Manager."

8. Henry Crouse supervises the reception lobbies, and I would not recommend a change. I would have no objection to having this fall under the Personnel area if you and Henry feel that it is interfering with our Purchasing activities.

9. The cafeteria is supervised by Henry Crouse together with the Cafeteria Committee. It may be a good idea to place this responsibility under the Personnel area. This is an employee service and may be biting into Henry's time unnecessarily.

10. Loren and the Purchasing Department handle most of the general plant supplies. This would also fall into the "Plant Manager's" category.

11. The responsibility for the plant paging system is split too finely. Henry supervises the Building 5 girl, Brad Towle supervises the telephone operators while the Test Equipment people service and repair the equipment. This whole thing should be the responsibility of one person and would eventually be part of a "Plant Manager's" job.

12. Henry Crouse's people keep track of our office equipment (typewriters, recorders, etc.) and provide the Accounting people with necessary capital expense information. This seems to be running smoothly.

13. See my comments under Item #6.

14. The Library should require only limited supervision. The girl can handle the day-to-day operation while receiving limited supervision. Arthur Hall is watching this area, and I feel we should leave things as they are.

15. We are setting up procedures in the Personnel Department to be the "guardian" of all vocational groups-with respect to performance ratings, promotions, transfers, and wages. I have assigned Paul Chambers as guardian of our female clerical people. Admittingly, this has been a loosely handled area; however, we are aware of it and have taken steps to watch over this group in pretty much the same manner as we do our technicians and other major vocational groups.

The sum of such duties as Plant Security, Departmental Moves, Building Maintenance (including supervision of outside contractors), Out-of-Building Maintenance (Parking Lots, etc.) Plant Telephone and Paging, and perhaps even the handling of Supplies and Equipment could very possibly equal a full-time responsibility. It would have the net effect of relieving a great deal of Loren's time and would most certainly pull together a lot of loose ends.
We should consider this further.

RTL/srb

6/3

K. H. OLSEN

Bob Larsen -

What shall I do about this?

Ken

PERSONNEL
JUN 4 1965

DIGITAL EQUIPMENT CORPORATION

dec INTEROFFICE MEMORANDUM

DATE: June 17, 1965

SUBJECT : VOLUNTEER FIREMEN - DEC EMPLOYEES

TO : Kenneth H. Olsen FROM : Bob Lassen

The following DEC employees are currently serving as volunteers with the Town of Maynard Fire Department:

Thomas Hinds
William Primiano

Chief Wilson has advised me that these men will be called only in the event of a box alarm. Last year there were only eleven box alarms-six of these occurred during the evening. I have assured Chief Wilson that both of these men may be called from their job for box alarm emergencies, and he has expressed his appreciation.

I will inform the men's respective supervisors of this agreement and advise them to pay for work time lost as a result of box alarm emergencies or direct calls for help from the Chief.

Other employees may join the Volunteer Fire Group in the future, but I don't feel this will be significant enough to worry about. We will watch it, however.

RTL/srb

TOWN OF MAYNARD

FIRE DEPARTMENT

NASON STREET

1) Box alarms only - 11 last year
2) Will call in emergency

MAYNARD, MASS.,

June 2, 1965

Digital Equipment Co.
Main Street
Maynard, Massachusetts

Attention: Mr. Olsen, President

Dear Mr.Olsen:

Would you kindly arrange a time convenient for you to sit down and discuss the problem of summoning a few of your employees from their work to attend to their duties as volunteer firemen. I shall be happy to try to be available anytime at your convenience.

This problem has come to a head as of Thursday, May 27th. We had a box alarm for a dwelling house at 7:50 A.M. Two of your employees are also volunteer firemen and were delayed about an hour getting to work. One was criticized by his supervision and the other was not.

The names of your employees are Thomas Hinds and William Primiano.

I am sure you realize that your fire protection rests largely with such volunteers and without the department your insurance would be much higher. On the other hand if we were to rely entirely upon full time firemen, our taxes would be much higher.

I am sure this matter can be solved by a discussion. We will do our utmost to release these men as soon as possible from any fire.

Yours very truly,

Philip A. Wilson

Chief Engineer

PAW:MTP

EQUIPEMENT DIGITAL
65 Faubourg Saint Honoré
Paris 8eme
tel. ALMA 13.28
ALMA 11.37

CONFIDENTIAL

June 17th 1965

INTEROFFICE MEMO

to : Ken Olsen
Harlan Anderson

from : Jon Fadiman

re: report on German Office (June 14th 1965)

I spent wednesday June 9th and Thursday June 10th at the Munich Office talking with Gunter Hüwe and trying to assess the situation there.

First of all, the set-up for the German offices will be as follows as of July 1st:

At the German Office in Cologne, will be Günter Hüwe, specializing in PDP-7 and PDP-8. Jürgen Kesper will be there working on the PDP-6. Manfred Jaekel will be there and his main job will be field maintenance. There will also be a bookeeper and a secretary.

Günter will continue to maintain a subsidiary office in Munich at the present address. The head of this office will be Albert Ziegler, a diplom engineer experienced in computer work. He worked at Junkers and recently at Siemens where he was an instructeur for 3 years in programing on the Siemens 2002. I have not met Mr. Ziegler, but he sounds from his background like a very capable engineer. Under him will be Klauss Kyris who is specializing in PDP-8 sales. I met Klauss Kyris at the Munich Office and was favourably impressed. He is a younger engineer, very sincere, and seems extremely bright. Although he has very little experience with our equipment so far (he will be coming to the US soon), he seems knowledgeable about our equipment and to be aware of sales possibilities. There will also be a secretary in the office : Mrs Jacobi , who is the present secretary. She seems very efficient.

Gunter and I went over in detail the various sales possibilities in Germany and the Nehterlands for the PDP-8, PDP-7 and PDP-6. I stressed to him the importance of visiting continually all of the universities, technical high schools, and research establishments. The principal technical universities are : Darmstad, Münich, Hanover, Braunschweig, Karlsruhe, Aachen, Stuggart. A new one is being established in Dortmund and a new one will be shortly established in Bochum.

.../....

The only important prospect for a PDP-6 from the German Office is for DESY in Hamburg, who is eventually interested in such a system for buble chamber experimental work. They intend to wait to see how successful the PDP-6 installations are at Bonn and Aachen. If these are successful we have a very good chance of selling the same system to DESY.

Günter has several requests for the Maynard Office in which I completely agreed with.

1) Each individual office manager must have some authority to increase staff salaries when required. Andy and I discussed this, and decided that the manager should have such authority but we never put this into effect. For example : we should definitely increase the salary of Jürgen Kesper. He is underpaid for the type of work he is doing and for the quality of work he is doing. Günter will write a complete justification on this.

2) All the foreign offices need more information from Maynard about new developments and particularly need answers to requests for information. for example : what is the present status for the PEPR Controler system ? Günter has been asked this many times by Aachen and Bonn, but does not know at present what the situation is.

3) Günter definitely needs a computer in his office at Cologne. This would best be a PDP-8 I feel. People phone him many times saying that they would like to visit the office and see our equipment in operation and it is rather embarrassing for Günter to answer that he has no equipment to show them . Remember that small fast computers, and our equipment in particular, is not nearly as well known in Europe as it is in America. Thus many people want to actually see the computer in operation inside and out before they will even consider a purchase order. Günter would like to have any computer, even a PDP-4 which he could say is simply an older model of the PDP-7. However, I feel that the PDP-8 will be the ideal system for him.

4) There must be some responsible engineer who checks over every system that is sent out to Europe to make sure that if conforms with the original contract or quotation. Günter would like to know who is the project engineer on the computers for which he is responsible so that he can communicate directly with the project engineer. For example : the Delft system was sent out without the increment on data break option, although this was in the original contract, it was in the revised contract , Günter discussed this with the engineers in charge at Maynard when he was at Maynard, and before I left the US, I asked whether this option was in the machine and was told that it was. However, the machine arrived at Delft without it and Delft refuses to accept the machine without this option since it was in the original contract.

Other important research establishment are in Bonn, Berlin, Heidelberg and Marburg. Heidelberg and Marburg are primarily for education and not for research. Günter is at present in contact with all of these places, although only some of them have responded. Many of them are just at the begining of working with computers. Indeed it must be remembered that all of Europe is maybe 5 years behind the US in computer usage.

I also stressed very heavily the fact that Günter must communicate with the people in the US and must use the facilities of the different departments.

I suspect that my discussions will bring some results in this line.

Primary prospects for the PDP-8 are the Max Planck Institute for Physic in Munich who have already ordered 2 machines. The Atomic Energy Commission in Denmark has ordered one, the University of Amsterdam has ordered one, and the University of Aachen has ordered one. One of the most important contacts in Germany for the PDP-8 is AEG, in either Frankfurt or Berlin. This would be an OEM customer in process control business. They are definitely ordering one PDP-8 and Günter feels that this is just the begining.

Another very important contact is the Max Planck Institute who are doing work in crystallography. They have done some important work on diffractometers which Siemens has the licence to produce. Both Siemens and the Max Planck Institute are extremely interested in the PDP-8 for the control of diffractometers.

Another important potential customer is TELDEX at Heidelberg who is interested in using the PDP-8 in a hybrid systemdong with an analog computer.

TELEFUNKEN is also interested in the PDP-8 and HOOGOVENS in the Netherlands will certainly order one.

There is a good possibility of selling a PDP-8 for process control work to TELEFONBAU UND NORMALZEIT, a process control work firm.

For PDP-7, one PDP-7 has already been installed at Delft. The next PDP-7 to be installed by the German Office will be at Aachen for Mr. Rubner. A second PDP-7 will probably be ordered by Aachen by Dr Feisner, and this order is about 99% sure. The next most important PDP-7 prospect is a large system for Professor Handler in Hanover and the chance of making this sale looks extremely good. Soesterburg in Holland has also issued a letter of intent for a PDP-7. Utrecht is interested but only mildly.

There is some interest at the University of Berlin in the PDP-7 also.

.../....

Remember that the European mentality is not as informal as our own, and European companies stick by the letter of the contract much more than do most of the American companies.

As for my personal evaluation of Günter Hüwe and the work which he is doing, it seems to me that he is doing a much more capable job than it appears at first glance. One of his greatest lacks, is lack of communication with the other European offices and with Maynard. Thus no one knows what he is doing, and we naturally think he is doing nothing. Furthermore, he cannot be very effective as an entity by himself. I made this very clear to him and I think now that he has a larger staff there will be some definite improvement here. I went over the design work which he has done for a special interface system for the PDP-7 for the University of Aachen. This is quite a large job which I feel he has done in an excellent manner. I am sure that the people of Aachen have also felt this. He has done a lot of design work on the memory tester for Siemens and he has also done a good deal of special module applications work.

Note : modules sales in Germany and Holland are certainly not spectacular, but hey are at least somewhat significant.

My strongest criticism of the way things are going in Germany is that Günter does not have enough hot leads. I think he is doing an excellent job with the customers with whom he is working but there are not enough hot or even warm possibilities for PDP-8 sales in particular. However, he is aware of this problem and definitely working to correct it. However, I am not sure whether he will ever have the large overall sales imagination that is desirable , but he is looking at engineering from the eyes of a sales person intent upon selling more equipment, while previously he was looking upon engineering from the eyes of doing a good design job. Günter is a bit too prone to criticize things that are going on in Maynard and to blame his trouble on lack of support from Maynard. Nevertheless I am forced to admit that every single thing that is criticized is something that is actually wrong and that must be rectified.

Günter is working very hard, spending much time working with customers and on the road. He seems to be concentrating on the right customers. Nevertheless, the market in Germany and Holland is larger than Günter has so far been able to tap, and there is certainly less Government Opposition than in England or France.

Jonathan Forbes

INTEROFFICE MEMORANDUM

DATE June 17, 1965

SUBJECT SHIPPING OF UNINSPECTED UNITS

TO Ken Olsen

FROM Don Bevins

On 6-15-65, 4 units were shipped to Adams Associates. The units identified below were released for shipment by Richard Best and Derrick Chin.

a) 163 Memory J/N M-06-00163-00007
b) 167 Drum Processor J/N D06-00167-D1250
c) 236A Drum Control J/N D06-00236-D1314
d) 237A Drum J/N D06-00237-D1251

Item (a) has had a final inspection but the faults found were not reworked.

Items b,c,d, have had no preliminary or final inspections.

Some of the discrepancies found in Item (a) are:

1. lockwashers missing in numerous places
2. blank panel is scratched in bay 1
3. capacitor protection bracket is missing in bay 2
4. tyrector is missing on the 834 power control
5. plexiglass shield on 739 power supply is missing
6. identification labels are missing in numerous places
7. Winchester plug panel is badly scratched

Quality Control will go to Adams and inspect these units upon request of the Chief Engineer.

cc: R. Hughes
R. Best
D. Chin
K. Doering
H. Anderson
M. Sandler
J. Cudmore

Ken Olsen

INTEROFFICE MEMORANDUM

DATE June 17, 1965

SUBJECT NASA GODDARD

TO Stan Olsen, H. E. Anderson, Nick Mazzarese, Howie Painter

FROM Ted G. Johnson

On June 9th Howie Painter and I visited NASA Goddard to meet with Dick Lee, (formerly with Edwards Air Force Base), and Frank Keipert, (formerly with Holloman Air Force Base).

The purpose of this visit was to discover through our previous contacts what would be a good way to approach Goddard, an area in which we seem to have been fairly non-competitive in the past, (and to establish a possibly sounder base for evaluation of Goddard as a prospect for DEC).

Interestingly enough, the organization of Goddard has many similarities to that of JPL with which we are familiar. In fact, the Data Processing Group, (Dick Lee), and the Data Instrumentation Development Branch, (Frank Keipert), has strong parallel to the organization which we worked with at JPL in the case of Tom Miller and Walt Wolin, (where Bill Hoover's counterpart as the computer czar of Goddard seems to be James Fleming, Head of the Data Systems Section.

A number of interesting and helpful facts came out of the sessions.

1. Goddard has in the state of procurement an order which will result in either 2 IBM 360 series Mod. 92 computers with Mod. 70's as satellites (6) or CDC 6800 with 6600 as satellites. It does not seem clear how far this system will go in the total processes but primarily the whole system is oriented toward analysis of data with on-line department, (experimentors).

2. For the Data Systems Group, Beckman is currently supplying two systems for the STARS project which basically is an effort whereby some of the steps in the process of preparing data for final analysis for the experimental group is combined through the use of the 3200. They currently have a 3200 which was on Acceptance Test.

3. The price for the 3200 system was $600,000 which included 16K of memory, 5 magnetic tapes, card reader and punch and a high-speed line printer -- it should be clear from this number that the PDP-6 could have been a strong contendor had promotion been oriented toward this market. Instead, the 3200 had only one competitor in the SDS 9300.

4. There was absolutely no awareness of the capability or real existence of the PDP-6 in this group.

5. More than any group that I have ever encountered, Goddard expresses the strong preference for a GSA contract which would include the PDP-6. (We now have made a strong effort to insure that we are on the bidder's list at Goddard for all computers but, nevertheless, without hesitation everybody agrees that a GSA listing puts one in a highly preferential position.

6. The head man in Procurement to contact for modules is Julius O. Mackey, Jr. his code number is 249, telephone extension 5897. Howie will follow up with Mackey and hopefully will arrange a module seminar for interested module people. This is essentially a 3C stronghold although it is clear that they have also ordered NAVCOR and Packard Bell modules in various parts of the laboratory. We discovered at IFIPS that module orders for a combined group at Huntsville, Houston and Goddard are placed through Goddard, (or possibly the NASA Headquarters in Washington), and we are taking steps to see what the procedure there has been and whether or not we can duplicate this for our own module effort.

7. It is clear that there is no one central way of thinking at Goddard, in fact what seems to have emerged from the past, but rather that there are a number of independent bodies and it would certainly seem that we should find some solid inroads for our modules and our computers, (assuming GSA listing), in the relatively near future.

8. The Procurement liaison man for the Data Systems Group in the acquisition of computers is W. Doles code #248.

9. The Test and Evaluation Division is comparable to the Test Group for which Walt Wolin was an advisor at JPL and which bought a number of PDP-4 and PDP-7 computers. The head of this group, (Section 320), is Philip Yaffee code #324 in the Electronics Test Branch - his extension is 4876.

10. Another important contact is Mr. Kisinger who is the facility liaison man. Within the Data Systems Group the key people are:

    a. Head, Data Systems - James J. Fleming (Computers)

    b. Head, Data Instrumentation Development Branch - Bill Poland (544)

c. Data Processing Branch - Alexander Rosenberg (code 545)

d. Other parallel branches are the programming area similar to the groups headed by Max Seamon at JPL, consisting of orbital computation, experimental analysis, attitudes, computation, etc.

11. To indicate the volume of processing which goes on at Goddard, they intend to process 300 tapes per day. For one experiment, I counted 4200 reels of magnetic tape stored on the racks.

12. A significant development within the last few years, for which Dick Lee seems extremely proud, is a conversion from PAM-FM (PFM) data to PTM.

13. Stages of processing before were:

a. Analog tape to digital tape

b. Digital tape with quality control and editing to more refined digital tape to be decommutated and result in separate tapes for each experiment. For example, the 1107 has 28 magnetic tape units tied on to it for the 20 experiments which they conduct. In this area, we are essentially dealing with fixed point words with no real word length problems until they finally get to the analysis stage. They are concerned with speed and reliability.

14. The STARS II project essentially combines the signal processing stages so that the Beckman provided systems take the analog tapes to a PCM subsystem through the CDC 3200 and results in a refined digital tape.

15. The large system which they are planning has, for a central processor, the capability of handling 10 million instructions per second. The six satellite computers will also have sub-satellites which will have console CRT's, etc. There are two systems because one will be located at Goddard and another one in New York somewhere.

16. The buy-lease policy at Goddard is that most equipment which is tied to other equipment (systems) is bought, and other interim systems is a combination deal which seems to be practical. For instance, they bought the UNIVAC 1107 but they leased the peripheral, the item which they expect will change as the system grows.

There seems to be no apparent reason, particularly if we get our GSA, why we should not be more successful at Goddard. I consider that we are quite fortunate in being able to promote from the people that we do know like Frank Keipert and Dick Lee and I think we should focus as much attention in as many areas as we possibly can.

TGJ:MR:ML

INTEROFFICE MEMORANDUM

DATE June 16, 1965

SUBJECT Vouchers Capitalized - Month Ended May 22, 1965

TO K. Olsen
H. Crouse

FROM G. Mac Donnell

Vendor	Voucher #	Quantity	Amount	Description
I.B.M.	24548	1	$562.	Typewriter
I.B.M.	24005	1	714.	Typewriter
I.B.M.	23650	2	892.	Dictating & Transcribing Machines
Claus Gelotte	22114	1	795.	Processor
I.B.M.	22548	1	774.	Typewriter
Westinghouse App. Sales	23672	2	546.	Air Conditioners
Chandler - Farguhar	22666	1	7264.	Sanding Machine
Jonal Precision	23172	1	574.	Die
Tektronix	23216	1	900.	Timing Unit
New England Engineering	22843	1	7500.	Air Cond. Equip.
Bracket Heating	22522	1	1962.	Exhaust System
			$22,483.	

Total amount capitalized	$23,543.18
Less: Amounts exceeding $500.	22,483.00
	$ 1,060.18

Total amount capitalized	$23,543.18
Amount Forecast	20,000.00
	$ 3,543.18

Leasehold Improvements	$ 7,687.98
Amount Forecast	10,000.00
	$(2,312.02)

INTEROFFICE MEMORANDUM

DATE June 14, 1965

SUBJECT Programming Class Cancellations

TO Ken Olsen
Harlen Anderson
Nick Mazzarese

FROM Bob Pate

Due to manpower restrictions the following classes must be cancelled.

PDP-8 Programming	26 July
	23 August
	20 September
	18 October
	13 December

This cancellation effects only one customer who has reserved, and is paying for space in the following courses.

PDP-8 Programming	26 July	Mr. Paul Derring (General Railway Signal Co.)
PDP-8 Programming	23 August	Mr. Richard Kaiser (General Railway Signal Co.)
PDP-8 Programming	20 September	Mr. Alfred Dasbury (General Railway Signal Co.)
PDP-8 Programming	27 September	Mr. Robert Payne (General Railway Signal Co.)

Notification of this cancellation, to the Sales Offices and customers, will be withheld until Wednesday 16 June 1965.

These courses will be rescheduled when manpower becomes available.

BP/kb

cc: Bob Beckman

dec INTEROFFICE MEMORANDUM

DATE June 11, 1965

SUBJECT Status of Current Work

TO R.L. Best
K.H. Olsen

FROM Arthur Hall

1. Option Designation List: Being revised and re-issued about every 1 1/2 months. Most recently re-issued a week ago.

2. Development Charge Number List: Recently re-organized to reflect Product Line Groups re-orientation. Allocation of some projects awaiting decision by Product Line Group managers. Newest list is at the printers and should be released by 6-14-65. List must be re-organized once again following the start of the next fiscal year.

3. Library: Re-organized to the Library of Congress system. Files have been purged to eliminate people no longer at DEC and to release withdrawn books which are needed permanently by persons. Signs and a catalog card stand are being made to make use of the library easier and more attractive. A list of useful handbooks and another of books technicians may find useful are being make for posting. Library rules and policies have been long established in written form. A detailed write-up describing the librarian's duties and responsibilities is being written up from an approved outline by Jean Wick.

4. Safe Program Storage: My plan to store copies of the original tapes, write-ups and listings of our valuable program libraries was approved late last year by Ken Olsen. Space in a vault has been rented, mailing and storage procedures have been agreed upon and deliveries were to start in early February. Jack Rdigeway agreed to this plan. Despite frequent prompting by me nothing seems to have been accomplished. As I have no authority in the pertinent areas, the matter rests.

5. Environmental Studies: Ken Olsen suggested that my efforts to build an environmental test chamber be postponed indefinitely. Design work is largely complete and quotes have been received for the necessary equipment.

6. Cabinet Cooling Studies: Ron Cajolet and I recently studied airflow in the old CFG fans vs. the new Caravel under various filter conditions. The results will be published shortly. Some general but apparently haphazard thought is being given to cabinet cooling problems by the Mechanical Engineering Dept.

7. RFI testing: No further testing or research underway at present.

8. Drafting Numbering System Change: Our proposal has met with violent disagreement by Bob Savell and Bob Pate. As no detailed explanation of the present system

exists it is difficult to discuss its advantages and disadvantages intelligently. If we intend to convince people of the disadvantages of the old system we must document it properly. Further discussion has been postponed until Roger Melanson documents the present system.

9. Power Interupter: Prompted by the heavy loading of the old power interupter, I designed a new and improved one which has been built. When I can obtain 4201 modules it will be tested and released for use.

10. Budgets: There have been no requests for help since Ken's quick estimate of some weeks ago. I've done no work on this since. It is unlikely much further work of this sort will be necessary in view of the reduction of the department to three salaried persons.

11. ECO Procedure: The investigation requested by Dick Best into ECO procedures is just under way.

12. Heat Carts: Because of overloading of and damage to the old heat test cart, I have designed an improved one and several are already being used.

13. Power Testing: No further work has been done in this area since my recent input voltage, current and power factor vs. output voltage and current tests of power supplies and systems.

14. Standards: Published are: Description of the Standards System
AC Power Wiring Standards
System Design Checklist
Checking of Drawings
Partly done are: Standards for Logic Diagrams
Project Engineering Responsibilities
System Documentation Standards
System Environmental Requirements
Circuit Design Standards
Numerous other standards are in the rough planning stage.

15. Consultations concerning Teletype 33 problems or Foxboro take very little time now. Requests for assistance from persons setting up numbering, personnel control or accounting systems take a few hours each week.

INTEROFFICE MEMORANDUM

DATE June 11, 1965

SUBJECT CORRECTED MODULE TESTING REPORT

TO Ken Olsen FROM Jim Cudmore

Manual Testing Section Status: At this moment there are 19 test technicians assigned to the manual test group. There is one foreman and one assistant. This group appears to work an average of 900 man hours per week. Of this total I would estimate that there are about 750 man hours per week available for actual testing. During the past 12 weeks 40,600 modules have been tested. Of these 21,600 (1800/wk.) or 53% of the total volume have been tested by hand with an average test time of 25 minutes per module.

Auto Testing Section Status: The automatic tester has no single test operator assigned to it. The test supervisor or some manual test technician generally operates the tester and fixes the defective modules as he tests. During the past 12 weeks 19,000 modules have been automatically tested. The average test time for these modules is an estimated 30 secs. This is equivalent to 13.4 hours a week of test time for 1,580 modules per week. The A.M.T. is therefore used 2-3 hours per day.

Personnel Additions: Bob Whitton (QC technician) has been assigned to manual test to assist by locating all

missing information and helping in complicated trouble shooting. Bob also reports to QC on all test problems.

Bob Kudera (QC technician) has been assigned to the construction of special purpose adapters for the Automatic Module Tester. He is writing test programs for the memory modules under the direction of Ed Gianetto. Bob runs daily maintenance on the A.M.T. and makes all necessary repairs.

Future: An enclosed list tabulates the modules currently being tested automatically. Within the next two weeks the following additions can be made to that list:

Flip Chip Modules	System Modules
R210	6684
R211	
R212	
R220	
R302	

These additions will add 2,200 modules/month and about 3/4 hour/day to A.M.T. operating time.

By August 1 additions should include:

Flip Chip Modules	System Modules
W607	4215
W640	
G603	
G203	
G201	
G208	

These additions will add 1,770 modules/month and about 1/2 hour/day to A.M.T. operating time.

Addition of these modules will bring the usage of the present A.M.T. to about four hours per day. Assuming the same manual test rate that we presently

have, production test should be capable of testing 17,500 modules per month. I feel that we could run the A.M.T. testing R-series modules an additional 12 hours per day giving us an added capability of 396,000 modules per year. At $20 per module this is equivalent to $7,920,000 additional module business.

Power Supply Tester: The automatic power supply tester will be in on-line checkout within two weeks. A tentative program to test the 728 power supply has been written and I expect it to be operating in approximately three weeks.

When operational, the APST will require about one hour of computer time per day to test all our power supply production.

cc: Methods Committee

INTEROFFICE MEMORANDUM

DATE June 10, 1965

SUBJECT Procedure to Process Material Requisitions

TO Ken Olsen

FROM Ed Simeone

Attached is my proposal for a method to process requisitions for materials used on modules.

This system is highly desirable on the part of the people in the stockroom as it eliminates a considerable amount of card handling. It also reduces the number of cards to be keypunched by Tab.

The only possible adverse effect is that it postpones processing of these requisitions by Tab until after the close of the month. It also puts a slightly greater workload on the Cost Department. However, these are not major problems.

PROPOSAL

Procedure to Requisition and Cost Materials Used on Modules (Activity Codes 46,50,55,65, & 81)

1. Lot sheet (copy 1) is used as material requisition to draw materials from stockroom.
   A. Number of modules to be manufactured and total materials required, are recorded by Production Control. (see attached lot sheet)

2. Lot sheets forwarded to Cost Department daily.

3. Summary of number of modules put into process, by module type, prepared monthly by the Cost Department.

4. Standard cost of each material class, per specific module, applied to modules put in process summary.
   A. Tab card prepared showing material class, standard cost, module number, and total number of modules. (see alternative method below)

5. Tab card punched and summarized by material class and module type.

6. Total of this summary (actual usage at standard cost) compared with standard usage at standard cost to determine standard cost variance.

Advantages:

1. Cards do not have to be pulled by stockroom clerks. (12,250 cards)
2. Fewer cards to keypunch by Tab Department. (10,250 cards)

Disadvantages:

1. Cost Department clerks will be responsible for applying standard unit cost to each card by material class for each module. (2,000 cards) (item 4 above)
2. 100% of materials not always issued simultaneously.
3. Necessary to summarize modules put in process by type. (250 types)

Alternative Method:

3 & 4- The summary will include the standard unit cost of each material class for each module. The Tab Department will punch and summarize directly from the summary sheet.

Advantage-

Cost Department will be relieved of responsibility of preparing tab cards.

E. Simeone
6/10/65

Rev A

A502 Difference Amplifier

DIGITAL EQUIPMENT CORPORATION

JN M-50-0A502-(0)

LOT SIZE _____ DATE _____

ISSUED _____

ISSUED	PER UNIT	UNIT COST	INV.	TOTAL COST	PART NUMBER AND NAME	
	1				13-9.09K-¼W-01-50ppm	Resistor
	2				13-6.8K-¼W-10	Resistor
	1				13-6.49K-¼W-01-50ppm	Resistor
	1				13-5K-CTS-T-Pot	Resistor
	2			Material class 13	13-2.74K-¼W-01-50ppm	Resistor
	6				13-1.5K-¼W-05	Resistor
	1				13-1K-T-Pot-Bourns	Resistor
	1				13-1K-WW-Tel-Labs	Resistor
	1				13-681-¼W-.5-50ppm	Resistor
	3			class 10	10-.01mfd-50V	Capacitor
	11				11-662	Diode
	6			class 11	11-664	Diode
	1				11-007	Diode
	1			class 50	50-A502-A	Board
	1			class 12	12-100-A	Handle
	1				15-SDA-5	Transistor
	4			class 15	15-2894-3	Transistor
	2				15-2894-2	Transistor
	1				15-DEC3110	Transistor

COMPLETE TO STOCK _____ PROCESS INSPECTION _____ DATE _____

POSTED INV. _____ FINAL INSPECTION _____

COPY # 1

10/15/64

dec INTEROFFICE MEMORANDUM

DATE 10th June, 1965

SUBJECT South African Office

TO Ken Olsen

FROM Jim Milton

I have received a few replies from South Africa, but in general the response has been quite poor. Every university but one has purchased a small computer system within the last two years and the general feeling is that they will not replace it for another three years. I estimate the market potential to be about 40% of Canada's, but probably 2 years behind. The market potential is certainly there, but the method of approaching this market warrants more careful consideration, in view of the poor response to my letters.

With no firm leads to go on, it would be at least 6 months to a year before any sales would be made. It might be better to follow the successful pattern of the U.K. and display at a show, shower the country with literature and in general stir up interest before setting up an office.

If George Kents definately lands a contract in South Africa using on of our computers, this would be an ideal incentive to set up an office, because of the publicity and also we would have something to show people.

Another reason for taking another long look at the possibility of starting a South African office is the fact that the whole foreign organisation is rather over-extended and really cannot cope easily with present problems. Adding to these problems would be detremental to the organisation.

The conclusion I have reached (John agrees with this) is that the opening of the South African office should be deferred for a year or until some groundwork has been done and I should return to Canada to assist Denny Doyle. I have, therefore, made reservations to arrive in Canada on July 27th.

I hope this change in plans and more cautious approach agrees with your ideas on the subject.

JD Milton

INTEROFFICE MEMORANDUM

DATE June 10, 1965

SUBJECT High Reliability Tape Punch for PDP-8

TO Jim Milton, UK Office

FROM Nick Mazzarese

The tape punch that Ken mentioned on his recent visit to Reading is presently still under development. Our plan is to definitely include it on the PDP-7X when it becomes a reality. This probably will be next spring.

There is also a possibility of including them as the high speed reader punch package for the PDP-8. For this application, we do not expect that the reader punch package will be available before October or November of this year. This is not, of course, a firm date and we are not presently promoting this product, however, it can't be off by more than a month or two. Should this type of time scale be adequate for Hilger & Watts, we might indicate that we will have something available at that time. However, if it is not adequate, the only thing we can do now is not mention it and sell our presently available high speed paper tape punch.

CC: Ken Olsen

DEC INTEROFFICE MEMORANDUM

DATE June 9, 1965

SUBJECT AUTHORIZATION

TO Harlan Anderson
Jack Atwood
Bob Beckman
Gordon Bell
Dick Best
Henry Crouse
John Culkins
Bob Dill
Jon Fadiman
George Gerelds
Pat Greene
Ed Harwood
Bob Hughes
Ted Johnson
Bob Lassen
Roger Melanson
Ken Olsen
Stan Olsen
George Rice
Maynard Sandler
Jack Smith

FROM Loren Prentice

We are in need of a list of supervisors authorized to do the following:

1. Authorize the removal of salvage or scrap materials

2. Instruct the guards regarding new procedures or any changes in procedures such as shutdown of power switches, air conditioning equipment, fan operations, doors to be locked, etc.; authorizing notes left on machines for life tests, etc.

3. Sign as supervisor and be responsible for any tools signed out on permanent loans from the tool crib by people under their supervision

It has been suggested by Bob Lassen in Personnel, that we use the same supervisors as on the interoffice memorandum dated December 12th, 1964 for "VISITOR AUTHORIZATION" (a copy of which is attached). If there are any changes or if you wish to include other supervisors on this, please submit these at this time. We will later send each supervisor listed by you, a memo stating their authorization and explaining their responsibilities and proper procedures.

INTEROFFICE MEMORANDUM

DATE December 30, 1964

SUBJECT VISITOR AUTHORIZATION

TO PNDA Guards
Receptionists

FROM Loren Prentice

This following list of people has been submitted by the respective department heads and authorized by the Security Committee, to authorize the entrance of persons after hours by any of the following methods:

1. By personally escorting the people into the plant
2. By written, dated and signed notation to the guards
3. Via authorization to the guard over the telephone

Persons coming in are given a badge, signed into the after hours log and observe all the other rules pertaining to visitors as outlined in previous memos. All supervisors have been requested to make this new rule known to the employees within their group.

L.B. Prentice
Plant Security

NAME	HOME PHONE #	TOWN
John Atwood	877-1061	Framingham
Stuart Grover	259-8264	Lincoln
Ralph Wooldridge	933-6259	Woburn
James Lozouski	485-8604	Marlboro
George Lord	458-1060	Lowell
Robert Graham	897-2561	Maynard
Alex Stephens	443-6830	Sudbury
Joseph Nangle	366-7090	Westboro
Warren Marshall	485-8182	Marlboro
Bob Beckman	877-1151	Framingham
Stefan Mikulski	562-3102	Hudson
Robert Pate	275-8218	Bedford
Gordon Bell	369-6817	Concord
Larry Portner	429-2889	Holliston
Bob Savell	653-8336	Natick
Dick Best	358-4592	Wayland
Jim Hastings	369-5278	Carlisle
Don White	345-5420	Fitchburg
Arthur Hall	864-7480	Cambridge

Al Kotok	489-0760	Belmont
Ron Wilson	263-7409	Acton
Jim McKalip	263-7865	Acton
Dick Tringale	395-2432	Medford
Derick Chin	267-9074	Boston
Len Hantman	899-4158	Waltham
Henry Crouse	729-6297	Winchester
Bill Farnham	369-9184	Carlisle
Dick King	897-8761	Maynard
Deberoh Kuyamjian	734-3540	Brighton
Paul McGaunn	452-6551	Lowell
John Culkins	263-4507	Acton
Jon Fadiman	456-3624	Harvard
Brad Towle	486-3655	Littleton
George Gerelds	899-8149	Waltham
Pat Greene	263-5003	Boxboro
Jack McKeen	897-2863	Maynard
Lee Butterworth	263-5451	Acton
Ed Harwood	284-8568	Revere
Richard Mangsen	562-3633	Hudson
Vito Augello	369-4870	Concord
Dick Mills	369-2889	Concord
Stan Olsen	443-6360	Sudbury
Nick Mazzarese	443-6333	Sudbury
Bob Lane	No Phone	
Jack Ridgeway	263-2071	Acton
John Jones	443-8515	Sudbury
Jim Burley	877-3797	Framingham
Rod Belden	369-9180	Concord
Dave Cotton	277-6090	Brookline
Mort Ruderman	324-3695	Malden
Bob Hughes	358-7396	Sudbury
Jim Cudmore	395-5221	Medford
Klaus Doering	No Phone	
Ted Johnson	862-3959	Lexington
Jack Shields	756-9535	Worcester
Paul Gadaire	392-2041	Northboro
Bob Lassen	366-2362	Westboro
Roger Melanson	537-0554	Leominster
Loren Prentice	263-2561	Acton
Dick Richardson	663-6794	Billerica
Maynard Sandler	485-4160	Marlboro
Cy Kendrick	562-2300	Stow
Jack Smith	485-8285	Marlboro
Ken Olsen	259-9083	Lincoln
Harlan Anderson	369-2847	Concord

digital MEMO

DATE April 13/65

TO PNDA Guards
Receptionists

FROM Loren Prentice

Please add the following names to the list of people authorized to authorize entrance of persons after hours per memo "VISITOR AUTHORIZATION" dated December 30, 1964:

Bob Maxcy
George Rice
Fred Gould

F100-21

5M9/62

INTEROFFICE MEMORANDUM

DATE June 9, 1965

SUBJECT

TO K. Olsen, S. Olsen
M. Sandler

FROM A. Ross

The following information is taken from the overdue module list of June 7, 1965.

Total FLIP-CHIPS overdue - 1300
The overdue list contains - 46 different FLIP-CHIPS
Separate orders incomplete - 103
Customers involved (attached list) 43

AR/kge

* MIT
  Xerox
  Cambridge Electron Associates
  Foxboro
  Yale Mitre
  Harvard
  Bolt, Beranek & Newman
  Brookhaven
* Bell Telephone Labs
  Computer Devices
  RCA
  Schering
  Ft. Monmouth
  Carnegie Institute
  Fabritek
* Ft. Meade
  Johns Hopkins
  NSA
  National Institute of Health
  E. I. duPont de Nemours
  Wright-Patterson
  Sensor Dynamics
  University of Michigan
  Argonne National Labs
  University of Wisconsin
  Washington University
  University of Texas
  United Gas
  Battelle
  E. G. & G.
  University of Denver
* J.P.L.
  Rancho Los Amigos Hospital
  Kauke & Corp.
* Stanford University
* University of California
  Granger Associates
  McClellan A.F.B.
  D.E.C. Canada
  University of Bonn
  University of Aachen
  D.E.C. of England

* Top Ten Customers in Fiscal '64 & 1st Half Fiscal '65

INTEROFFICE MEMORANDUM

DATE June 9, 1965

SUBJECT

K. Olsen

TO Maynard Sandler

FROM A. Titcomb

Please supply a date(s) when the following orders will have their module requirements satisfied. Some background material is enclosed.

1) DEC order 10680 (MIT GP10700 C.O. 153)

2) C98-ITM01-10011 DEC 00737 (MIT NS 59876)

I. MIT-LNS flip chip orders (Systems)

6-Systems ordered 5/21
Preliminary list to F. Kalwell 4/21
(for 5 systems)

C98-ITM01-10011 DEC 00737 MIT NS59876

II. MIT-LNS spare parts (Modules only)

must be complete before 7/1/65
or they (MIT) lose funds.

Shortages:

5-R602	2-W980
10-R202	5-B201
5-R302	5-B602
2-W005	2-B360
5-W640	2-B620
1-W985	

5-R141 DEC Order 10680 GP10700 C.O. 153

INTEROFFICE MEMORANDUM

DATE June 8, 1965

SUBJECT

TO Ken Olsen
Bob Dill

FROM Ted Johnson

Apparently the turn-around time on field office expenses has been getting very long (3 - 5 weeks).

I suggest that the red tape in accounting be examined and possibly one intelligent person assigned to handle field office accounting so that a few levels can be cut out and I'll know who to work with.

TJ/mr

KHO

DEC INTEROFFICE MEMORANDUM

DATE June 7, 1965

SUBJECT Field Service Profit and Loss Statement

TO Ken Olsen
Stan Olsen
Jack Shields

FROM Ted Johnson

The following outline should, in my opinion, be the basic form for an effective financial report for the field service operation.

This P & L is a summation of the field service portions (with allocated office overhead) of regional offices plus plant expenses (salary, plant space, etc.) associated with Jack Shields and home office administration, training, etc.

International sales offices should also be computed (the field service portion thereof) in the departmental report. (This brings up a conflict of supervision which should be clarified as soon as possible.)

Preliminary Outline (Profit and Loss)

Income

1. Warranty reserve income
2. Installation charges
3. Contract income (as order negotiated) or monthly invoices
4. On call income (as invoiced)
5. Spare Parts sales
6. Lease maintenance income
7. Loan and demo equipment maintenance income
8. In house computer maintenance income

Expenses

9. Salaries and wages (currently in F)
10. Travel expenses not clear at present /F
11. Voucher purchases vendor's price
12. * DEC equipment (modules, spare parts, etc.) at standard cost
13. Training (bought for training)
14. DEC rent (floor space, including utilities)
15. Test equipment services (inc. modules repair)
16. Company Adm. OH (insurance, etc.)
17. Tel. & Tel.
18. Operating Supplies
19. Other miscellaneous expenses

Departmental Profit

* Recharge Out - return repaired modules to inventory (see next page)

Recharge In

Travel and salaries (inc. off.) from other regions or have plant.

Possible others.

Recharges Out

Travel and salaries (inc. off) to other offices.

Sales support rendered.

Possible others.

* Credits for returning repaired modules to inventory.

INTEROFFICE MEMORANDUM

DATE June 7, 1965

SUBJECT 1966 Budget, DEC UK

TO /Ken Olsen
Harlan Anderson

FROM Gerry Moore

The following budget figures were telephoned to me by John Leng:

	direct charges	indirect charges
PDP-6	$13,200	$13,500
PDP-7	8,700	13,500
PDP-8	8,700	13,500
Linc	900	4,500
Modules	3,600	4,500
Memory Test	1,200	4,500
Field Service	30,900	36,000
Sub Total	67,200	90,000
		67,200
Total 1966 Budget		157,200

The following are the planned personnel assignments:

General overhead:
John Leng
Alan Pyke
new accountant
Pamela Wyatt
Hilary Cheeke
Marie Jones
2 additional girls

(The salaries of these people are part of "indirect charges" in the budget figures, above.)

PDP-6
Finch
Jones (programming support)
Herke (physics applications)

PDP-7
Jones (programming support)
Herke (physics applications)
1/2 new man

PDP-8
Jones (programming support)
Herke (physics applications)

Linc	Shingles Jones (programming support)
Modules	Shingles
Memory Test Systems	Shingles
Field Service	Spittle Allison Blundell Kassessinoff Deakin 3 new men

File

INTEROFFICE MEMORANDUM

DATE June 3, 1965

SUBJECT

TO K. H. Olsen
R. L. Best

FROM Arthur Hall

The recent re-organization of the "line" elements of the company plus the hoped-for results from Accounting should allow better control and knowledge of the expenses and activity of the various Product Line Groups.

By contrast the affairs of the company which do not directly concern a product are run in a very haphazard manner. The many activities listed below are handled by a variety of people all of whom have other duties more directly concerned with design or sales.

In order to release these people so that they may devote more time to their primary duties, to allow the various tasks to be performed in a more coordinated manner and to deal with some matters not now being covered, I propose that the company hire or appoint some one to be Plant Manager. This person would have the following duties:

1. Maintain liaison with the town government, Police, Fire Department, Roads Department, etc. concerning parking and fire alarm problems, ambulance service, road repair, etc. Be responsible for good relations with the town by offering use of DEC facilities or assistance where appropriate and convenient, keeping abreast of town government proposed laws and actions which might adversely affect DEC and working for their modification; helping to iron out problems caused by collective or individual action by our employees.

2. Deal with Maynard Industries about rentals, repairs, heat, etc.

3. Instruct and supervise the plant security forces and plan the security measures required for new areas and for changes in old areas.

4. Plan and supervise departmental moves.

5. Handle parking lot rental, repair, cleaning, plowing, supervision and discipline.

6. Plan and supervise cleaning and maintenance of the building and grounds.

7. Maintain plant telephone service (approving phones, issuing directories, assigning numbers, ordering Teletypes, etc.) and supervise the operators.

8. Maintain and supervise the lobbies and their attendants, ordering magazines and furniture as necessary, establishing visitor badge procedures, etc.

9. Handle all dealings with the cafeteria (maintenance, repairs, facilities, equipment, cleanliness, hours, menu, etc.)

10. Evaluate, order, store, issue and maintain such general plant supplies as furniture, fans, air conditioners, stationery supplies, computer paper, rest room supplies, etc.

11. Maintain the plant paging system and supervise the paging operators.

12. Evaluate, order or rent, store, issue, maintain and keep a record of such office equipment as typewriters, recorders, office copiers, adding machines, etc.

13. Approve, plan and supervise:

    electrical installation and maintenance
    plumbing work
    air conditioning installation
    non-product carpentry work
    use of and facilities in conference rooms

14. Maintain the Library and supervise its employees.

15. Act as a general representative for those personnel whose work is not technical in nature and thus who are not evaluated on the same basis as engineers and technicians. At this stage in DEC's development, this refers primarily to secretaries. While each engineer may deal with many technicians and other technical personnel in his work, he usually deals with only one secretary. This leaves him ill-equipped to evaluate her skills and attitudes relative to those of other girls. This can and, I think, already has caused situations where work loads differ markedly and where pay is not completely consistent with skill, attitude, responsibility and experience. Inequities of this sort will certainly lead to poor morale and possible departure of the better secretaries. (The poorer ones stand to gain from the situation and thus will stay). The average man is temperamentally as poorly equipped to objectively judge his secretary as he is to judge his wife, particularly as in each case he probably has no one else in the same relationship to compare her with. It is for this reason, particularly important that we have some one who evaluates all the secretaries and has about a 50% share with her supervisor in the salary decision.

AH/mro

dec INTEROFFICE MEMORANDUM

DATE June 1, 1965

SUBJECT

TO Kenneth H. Olsen ✓ FROM Ed Simeone

During the past four years that I have been at Digital, I have had very few opportunities to deal directly with top management. I made little effort to alter this situation as I believe a well organized business respects lines of authority.

Unfortunately, this method of operation also has its drawbacks. An employee must depend upon his immediate supervisor for any type of recognition (both favorable and unfavorable) that is rightfully due him.

There has been a great void created in my career at Digital as a result of the resignation of Dick Mills. Although we have had differences of professional opinion, I respected him as the "boss" and always tried to fulfill his wishes. At Digital, only Dick is in a position to properly and fairly evaluate my past performance. I would like to believe that Dick has given me my due credit (and criticism) to you and other top management people. There are others who can give a partial evaluation of my performance but due to the nature of my position they have observed a minute part of my overall effort.

As you know, when I came to Digital, there was no Cost Department and only a very sketchy cost system. We now have a Cost Department of eight with two more to be added shortly. This is the biggest individual section of the Accounting Department.

We have progressed from a very simple job order cost system to a sophisticated cost system utilizing data processing involving product line identification, standard cost system, actual cost system, variance analysis, setting of standard costs, estimating, spare parts pricing and a very detailed definition of inventory flow. The latter report is the only one of its kind that I have seen in the seventeen years that I have been associated in the field of accounting. This was not accomplished by me alone but is the result of a great deal of effort and cooperation on the part of the people in the Cost Department. The task is made much easier when these people have respect and professional confidence in their supervisor. There has never been any doubt in my mind that these people are not 100% loyal to me which in turn makes them equally loyal to Digital.

One of the major accomplishments of the past four years was the conversion of the module product line from an actual job order cost system to a standard job order cost system. I have been involved in two such conversions in the past and each took a minimum of twelve months and an additional several months to "iron out the bugs". I started this conversion here at Digital in September 1962 and we were operational on July 1, 1963. We have had a minimum number of problems and to quote George O'Dea, "this is simply amazing". If we had continued under the original cost system we would require at least four additional people today to process the paperwork.

The "Inventory Change Schedule" attached is invaluable as an aid in plotting cash flow and controlling inventories. I started preparing this schedule when George O'Dea required certain information to prepare his cash flow. It required several changes in the methods we were using in accumulating our cost data. I doubt if you will find many such reports in industry today.

Of course, we have had our problems in the past and we continue to have them today. Perhaps my greatest disappointment is our inability to get consistently accurate unit costs on our major pieces of equipment. This is a reporting problem which leaves us completely at the mercy of the production worker on the floor. This is a universal problem in industry today but I believe it can be solved. The production worker's prime responsibility is to produce and the reporting of an accurate job number is of secondary importance. I don't mean to imply that they deliberately report inaccurately – they are not orientated along these lines and do not appreciate the problems created by a bad job number. Therefore, it would appear that accounting personnel must assume this responsibility. It is not an impossible task.

We are also faced with an ever increasing workload due to increased volume coupled with the usual difficulty of finding good people.

Ken, I want you to believe that I had no intention of "tooting my horn" and ordinarily would never do it. However, I honestly believe the efforts in Cost Accounting over the past four years have been commendable and because of the circumstances that have arisen, I wanted to be sure that you are familiar with some of the details.

Ed Simeone

ES:ncs

DIGITAL EQUIPMENT CORPORATION
Schedule of Inventory Changes - Month of March, 1965

	Raw Materials	W.I.P. Sys. & Comp.	W.I.P. Modules	Finished Goods	Leases	Loans	Consignments	Totals
Inventory - 2/20/65	$ 952,250.30	$2,534,243.46	$ 358,544.60	$ 287,732.61	$116,506.78	$55,224.49	$208,221.69	$4,512,723.93
Input:								
Purchases - Materials	461,587.66	30,279.50	35.20					491,902.36
Outside Contracts		106,426.23	12,732.26					119,158.49
Direct Labor		76,412.45	42,288.36			74.23	230.20	119,005.24
Overhead		122,983.94	71,858.23			99.42	431.05	195,372.64
Returns and Allowances				1,295.92				1,295.92
Voucher Adjustment (Adam's Drum)		22,300.00						22,300.00
Other Voucher Adjustments	(1,723.19)	(666.95)		4,896.00				2,505.86
Total	459,864.47	357,735.17	126,914.05	6,191.92		173.65	661.25	951,540.51
Transfers:								
Raw Materials Used	(479,823.75)	141,372.74	337,975.21			672.00	(196.20)	
Manufactured Parts Used		196,401.59	(198,298.83)			1,885.24	12.00	
Finished Goods Used		236,714.58	4,032.53	(240,726.65)		(74.60)	54.14	
To Finished Goods for Sale	(1,522.18)	(437.57)	(66.58)	2,026.33				
To Leases		(28,537.37)			38,383.38	(9,846.01)		
To Loans		(40,035.46)				40,035.46		
To Consignments		(322,611.00)					322,611.00	
Inventory Adjustments	38,460.68	(38,460.68)						
Completed Jobs			(334,752.33)	334,752.33				
Total	(442,885.25)	144,406.83	(191,110.00)	96,052.01	38,383.38	32,672.09	322,480.94	
Output:								
Engineering Expenses	(9,373.95)	(2,375.79)	(3,189.79)	(12,994.11)				(27,933.64)
Field Service	(3,223.67)	(858.94)	(42.20)	(12,249.67)				(16,374.48)
"G" Expense Jobs	(20,388.01)	(3,886.00)	(4,432.79)	(2,626.67)				(31,333.47)
Cost of Goods Sold - Net		(489,195.59)		(109,096.42)			(63,876.51)	(662,168.52)
Standard Cost Variances	8,902.76		25,318.89	(8,677.66)				25,543.99
Distribution and Reserve Adjustments	(22,980.00)							(22,980.00)
Total	(47,062.87)	(496,316.32)	17,654.11	(145,644.53)			(63,876.51)	(735,246.12)
Inventory - 3/27/65	$ 922,166.65	$2,540,069.14	$ 312,002.76	$ 244,332.01	$154,890.16	$88,070.23	$467,487.37	$4,729,018.32
Maynard				217,448.76				
Branches				26,883.25				

E. Simeone
5/7/65

COMPANY CONFIDENTIAL

DIGITAL EQUIPMENT CORPORATION

ENGINEERING FORECAST

Fiscal Year 1966

June 1, 1965

Fiscal Year 1966

ENGINEERING FORECAST

Summary

Area		Cost (000's)
Large Computer Group		
PDP-6	$807	
Total		$807
Small Computer Group		
PDP-7	$389	
PDP-8	318	
Total		$707
Modules		
Module Engineering	$260	
Total		$260
Special Projects		
Memory Test Systems	$130	
LINC Engineering	105	
Computer Aided Design	155	
Total		$390
Central		
Memory Devices	$318	
Straits	120	
Semiconductor	145	
Total		$583
Technical Publications (Estimate)		$180
TOTAL COMPANY SPONSORED ENGINEERING		$2,927

June 1, 1965

PDP-6 ENGINEERING

Project	FY 1966 Cost (000's)
Hardware	
168 Processor	$236
General I/O Package	61
PEPR	60
237 Drum	46
275 Disk (1311)	46
166 Processor	34
RSO6 Small Disk Interface	26
165 Interface	14
65K Memory	12
270 Disk Control	11
Measurement Tables	10
Joss Console	9
Other	16
Total Hardware	$581
Software	
Fortran	$104
Multiprogramming System	32
8K System Modification	30
Swapping System	28
Demonstrations	20
Other	12
Total Software	$226
TOTAL PDP-6 ENGINEERING	$807

June 1, 1965

PDP-7 ENGINEERING

Project	FY 1966 Cost (000's)
Hardware	
PDP-7X	$125
PDP-7X Memory	42
A/D, D/A Converters	24
Disk Control	18
I/O Processor	18
Card Reader - Punch Control	17
DECtape Control	16
581 Control	14
Paper Tape Reader and Punch Control	8
Line Printer Control	8
Other	7
Total Hardware	$297
Software	
Real Time FORTRAN IV	$ 44
Utility Routines	16
MACRO Assembler	12
I/O Package	12
Mop-Up	8
Total Software	$ 92
TOTAL PDP-7 ENGINEERING	$389

June 1, 1965

PDP-8 ENGINEERING

Project	FY 1966 Cost (000's)
Hardware	
PDP-8 Memory	$ 42
A/D, D/A Converters	24
338 System	20
Mop-Up	18
I/O Processor	18
Disk Control	18
DECtape Control	16
Line Printer Control	12
Card-Reader Punch Control	12
Paper Tape Reader and Punch Control	8
3 Cycle Break	6
Total PDP-8 Hardware	$194
Software	
Applications Packages	$ 74
Typesetting	20
Data Processing Routines	12
Mop-Up	8
338 Routines	6
Message Concentrator	4
Total PDP-8 Software	$124
TOTAL PDP-8 ENGINEERING	$318

June 1, 1965

MODULE ENGINEERING

Project	FY 1966 Cost (000's)
FLIP-CHIP	$167
System, Lab., and Classroom	47
New Module Line	46
Total	$260
TOTAL MODULE ENGINEERING	$260

June 1, 1965

SPECIAL PROJECTS ENGINEERING

Project	FY 1966 Cost (000's)
Memory Test Systems (P. Greene)	
Memory Testers	$ 40
Core Testers	30
Module Testers	30
Current Drivers	20
Miscellaneous	10
Total Memory Test Systems	$130
LINC Computers	
New LINC	$ 80
New Options	25
Total LINC	$105
Computer Aided Design	
Decade	
Programming	$ 75
Equipment (PDP-7 and Tapes)	50
Mechanical Engineering	20
Camera	10
Total Computer Aided Design	$155
TOTAL SPECIAL PROJECTS ENGINEERING	$390

June 1, 1965

CENTRAL ENGINEERING

Project	FY 1966 Cost (000's)
Memory Devices (J. McKalip)	
800 NSec 2 wire Memory	$100
New Magnetic Tape Transport	85
Small Disk	70
9 Channel Tape Controls	15
2 μsec Memory	10
Magnetic Tape Test Equipment	10
555C Solid State DECtape	6
125 CPS Paper Tape Reader	5
580 Tape System	5
Other	12
Total Memory Devices	$318
Strait Development (T. Stockebrand)	
Strait Development	$ 60
Diode Testing and Bonding	30
Encapsulation	18
Image Placement	12
Total Strait Development	$120
Semiconductor Development (R. Brown)	
Transistor and Integrated Circuits	$ 81
DD1 Diode	45
DD2 Diode	19
Total Semiconductor	$145
TOTAL CENTRAL ENGINEERING	$583

Elsa pke: Andy
Copy to Jon Fadiman
Done

dec INTEROFFICE MEMORANDUM

DATE 27th May,1965

SUBJECT South African Office

TO Ken Olsen

FROM Jim Milton

I have been gathering information about the expected financial success of an office in South Africa, and in general it looks very promising. I won't know large numbers of specific sales potentials until I receive answers to some letters I have written.

At present, IBM,ICT National Cash Register and English Electric-Marconi sell in South Africa. This leaves us with a fairly open market for small computers. Also, there is no South African manufacturer of computers, so we won't have the trouble with Government opposition, as we have in the U.K. and France.

I have talked to two people from the University of Cape Town, and people at the South African Embassy and they were extremely enthusiastic about our computers being available in their country. They have given me the names and addresses of 14 prospective customers in the universities alone! The 9 big universities are only now starting to use computers, so we have the opportunity for sales if we act soon.

Also, an extremely large industrial complex is being built by African Chemicals and Explosives and Direct Digital Control will be used throughout. George Kents, our U.K. OEM customer for D.D.C. are certain of obtaining 50% of the control jobs hopefully using the PDP-8, and would very much like us to have representation in South Africa. With an office in South Africa, we may be able to pick up the other 50% of the control job, using the PDP-6. In this case, George Kents would still act as prime contractor with system responsibility!

There are a number of large power projects in the planning stage in South Africa, and I am certain we could tie up with another contracter who would apply our computers to these jobs.

In addition, the steel industry in South Africa now produces 3 million tons per year and is expanding rapidly. They are interested in D.D.C. and again George Kents intend to quote on their jobs with PDP-8's.

Cont'd/...

.../Cont'd

I believe that a sales and service office in South Africa should be set up this summer. The office could be considered only as an extension to the U.K. company and need not be a separate identity. In fact, it could be considered as an extended sales call the South Africa.

I hope to be able to tell you about more specific prospects in the near future.

J. M.

dec INTEROFFICE MEMORANDUM

DATE May 26, 1965

SUBJECT Reporting Proceedure

TO Ken Olsen
H. Anderson
S. Olsen
T. Johnson

FROM Denny Doyle

1. Background

Sometime ago, I submitted certain proposals to management regarding my channels of reporting. Basically, this memo stated my contention that reporting proceedures used for U. S. sales offices are unsuitable for the Canadian operation. Instead, I proposed the formation of an expanded international group which would inform management on the basic essentials of all foreign operations, and which would also supply back-up on the multitude of administrative problems which are unique to foreign operations. The long term advantage of such a group would be its ability to co-ordinate the activities of all foreign operations, both sales and production, and to keep management informed at a high level without the detail involved in the U. S. system.

My arguments that the U. S. reporting proceedures are unsuitable for the Canadian operation are based as follows:

a. We maintain our own accounting department which is already preparing cash flow and cost analysis information to U. S. management through our monthly financial statements. Duplication of this information through the U. S. sales department would be misleading and would involve the re-accumulation of data which is already being supplied to our own accountant. If my accountant is not compiling the information correctly, then he must be informed by U. S. accounting. Furthermore, a uniform system must be used for all foreign operations.

b. There would be a tendancy to judge the performance of the Canadian operation in the light of say the New York office. The hard facts are total Canadian sales will probably never equal that of the New York office, and if they did, we would have to get our hands very "dirty" in production work to overcome duties and to satisfy the nationalists in both government and industry. This is in fact true of all

foreign subsidiaries; while the thought of several manufacturing subsidiaries spread around the world is not an agreeable one in this age of high volume, mass production, we must face up to it if we are to achieve our share of international markets. As a guide line, I would predict that, in 1966-1967, the U. K. and German companies could do $5 million each, while the Canadian company could do $2 million. Foreign marketing will require greater planning and greater sacrifices, but the profits are there only for the men in the business and not for the boys.

c. I had hoped that I would be able to rely on a group of experts at Maynard to cut down the immense volume of pseudo-administrative tasks which I presently must handle myself. This may not be possible.

d. I have felt that many of the U. S. reporting proceedures are intended as a stick to be wielded over field salesmen - and rightly so. "Stick" policies will not, however, encourage a foreign manager to make the bold moves that are sometimes needed to clean out problem areas and to remove obstacles where they exist. The most significant achievements in Canada to date have been the establishment of a bonded warehouse, a module assembly facility, a customer education program (i.e., monthly module and computer seminars), the acquisition of a building and the establishment of a special systems capability. Any or all could have been disastrous ventures. The wielding of a stick would not have encouraged any of them; however, sticks have and will be used to implement them.

2. Recommendations

The following recommendations are being made in the interests of achieving an adequate degree of communication with management. They are not based on any "De Gaullist" instinct, but on what I consider to be good business practice. One must bear in mind that the foreign manager is in the best position to advise on what should be reported; if these suggestions are unsuitable to management, then a further round of compromise will be necessary. There are dangers in relying on mechanized reporting systems. For example, few people at Maynard could understand

my conservatism after a highly successful first year of operation, in which sales tripled from the year before. The fact was that we had an AECL market and little more. My present enthusiasm is based on our success in broadening the market and the module "grassfire" which seems to be underway.

I have not pressed my original recommendations for several reasons. It would involve the establishment of an organization for which we may not have the talent available; also, it may not solve the problems at hand.

The problem at hand as I see it is how to keep U. S. management in tune with the progress of the operation and my plans for the future without the disadvantages of the U. S. reporting system.

Ted has recently advised me to institute the U. S. reporting system. The following is a compromise system of reporting which I am proposing:

2.1. Sales Call Reports

These are the "sticks" which I referred to earlier. They should only be required when the salesman feels that there is an urgent need for communication back to the plant. I will insist upon receiving them from my Canadian salesmen when they serve to summarize a situation or to call for drastic action. Our guideline here is that, if it will help in preparing a quote a year from now, then write one; or if it will warn another salesman about a "nut" in an organization, then write one. If there are objections to my stand, I want to hear them.

2.2. Weekly Call Summaries

Ted advised me that these are used by the various product managers to assess interest in their line. I feel that this can be better achieved in the monthly forecasts (next section). However, we plan on using them, but I want to go on record as questioning their value as little more than another "stick".

2.3. Monthly Forecasts

This is the one and only form of reporting suggested that I thoroughly believe in. We have had it in use here since

our beginning although the format is different (and I feel more useful than the U. S. one).

The biggest housekeeping problem that a field manager has is ensuring that no prospect goes unnoticed for any period of time. The only way to gaurd against this is to list them all on a large review sheet which gets worked over at the end of each month. Surely, we can kill two birds by using this complete prospect list as a monthly forecast to management. I have seen the ones that John Leng prepares, and they tell me at a glance what markets he is breaking into and how much business he can expect. The attached appendix I is a format very similar to his and one which I am recommending for our use. It is somewhat more detailed than the computer and module summary forms used at Maynard.

2.4. Job Tickets

Our costing by product line will be done via our own accounting system and will appear on our financial statements. Job tickets will therefore not be sent to Maynard but to our own accountant.

2.5. Order Logging

Orders and RFQ's are maintained on a single record which includes a number of other details (e.g., our job number). See Appendix 2. Orders are processed in our own office, and only copies of computer orders are sent to Maynard. Monthly copies of our complete order log can be sent to Maynard as well if necessary, but it is not serving any useful checking function as in the case of the U. S. system. Please advise on this matter; if there are no comments, I will assume they are not needed.

2.6. RFQ Log

Same comments as for Order Log

2.7. Expense Forms

All expense accounts are maintained in our own system and are required here for auditing purposes.

3. Summary of Recommendations

The above should help to explain some of the problem areas which are concerning both Ted and myself. I am basically recommending that I make more use of my accountant to channel information back to Maynard. The prime reporting medium to be used by me will be my monthly sales forecasts. The Toronto office will supply more detailed reports to me, and I will incorporate them into my monthly forecasts. I will report to management through Ted but will welcome opportunities to address management on my own concerning long-term plans involving capital expenditure and manufacturing. I would welcome a visit from Ted (and from the company's officers) at frequent intervals so that my plans and proceedures can be understood more clearly.

APPENDIX 1

MONTHLY SALES POTENTIAL OFFICE
END OF MARCH
CARLETON PLACE OFFICE

Customer	Contact	Equipment	Dollar Value	Delivery	Potential	Last Date Contacted
		4 columns				
AECL (Chalk River)	Pearson	PDP-8 (3)	20K	March	60	
	Milton Fraser	PDP-8	25K		100	
	McNaught	PDP-8 (2)	20K		60	
	Graham	PDP-8	25K		100	
	Wells	Type 340	30K		40	
	Santry	Type 750	4K		100	
	Santry	Type 75A	4K		30	
AECL (Comm. Prod.)	Tolmie	PDP-8	20K	October	30	
AECL (Toronto)	Hankivsky	PDP-8	20K	December	20	
Alcan	Hudson	0	0	0	0	Bought IBM 1800
Bell Telephone	Summers	PDP-8	40K	March/66	20	
	Leger Fortier				40	
Bethel	Krocker	PDP-8	20K		20	
Burroughs	Jenkins	PDP-8			10	
C.A.E.	Tate	0	0	0	0	Bought SDS 930
	Alway	PDP-8 (60)	40K	September	40	

Customer	Contact	Equipment	Dollar Value	Delivery	Potential	Last Date Contacted
C.A.E.	~~Schlacta~~ Hughes	PDP-8 (2)	30K	September	40	
CARDE	Holland Thistle Galbraith	PDP-8			30	
CN Telecommunications	Williams	PDP-7	120K		40	
COTC	0	0	0	0	0	Bought UNIVAC
Can. Gen. Electric	Andrews	PDP-8 (2)	25K	October	60	
Canadian Vickers	Slaboszewicz	PDP-8			20	
Carleton University	George	PDP-6	400K	June/66	25	
	Hincks	PDP-8	30K	December	20	
Central Dynamics	Jackson	PDP-8	30K		40	
Central Ex. Farm	Robinson	PDP-6	400K		30	
Cote, Leclair,etc.	Cloutier	PDP-8 (22)	30K each		50	
DCF Systems	Sanders	PDP-7	170K	December	50	
D.R.T.E.	Barrington	PDP-8	25K		30	
D.M.T.S.	Goodman	PDP-?			100	Delivered Mar 31
	Wilson	PDP-7	200K	September	70	
	Manchee	PDP-7	150K	September	50	
	Herrman	PDP-7/8	70K/100K		30	
Dept. of Transport	Gilbert	0	0	0	0	Project Scrapped

APPENDIX 2

CUSTOMER	PROJ No	RFQ # & PO #	DATE REC'D	EQUIPMENT REQUESTED	AMT QUOTED	DELIVERY DATE	INVOICE # & DATE
		RFQ#					
		PO#					
		RFQ#					
		PO#					
		RFQ#					
		PO#					
		RFQ#					
		PO#					
		RFQ#					
		PO#					
		RFQ#					
		PO#					
		RFQ#					
		PO#					

INTEROFFICE MEMORANDUM

DATE 26th May, 1965.

SUBJECT

TO Jon Fadiman / Paris
Gunther Huwe / Munich
Sven Janssen / Telare
Harlan Anderson)
Ken Olsen)
Stan Olsen) Maynard
Nick Mazzarese)
Gerry Moore)
Denny Doyle / Ottawa

FROM John Leng

Now that we have established four major offices in Europe and sales are beginning to come in it would be well to consider what our sales potentials are like and how we should go about improving them.

To date we have eight computers installed in Europe with another seven to be installed by the end of this fiscal.

By 1st July we will be installing them at the rate of one per week or greater based on present purchase orders and by the end of this calendar we should have installed 50 machines in Europe.

Our target for next calendar year for PDP-8's alone should be approximately as follows:-

1. UK office 50 machines.
2. German office 50 machines.
3. French office 50 machines.
4. Scandinavian office 25 machines.

Anything less than these figures would be very disappointing as we should be able to sell these machines standing on our heads. Assuming that deliveries will remain at approximately the six month level on the 8's for the rest of this year then we should be about to take orders now on equipment to be delivered next year and by the end of the year at least half of our quota should be on the order books. If deliveries improve considerably then maybe we can improve quotas by 50%.

If we are going to keep the lead on the competition, particularly IBM, then this is the crucial year. If we don't really establish ourselves in Europe this year then we've had it. We've never been in such a good position as regard the quality and value of our products as we are now; we have to sell these products for a long time and the competition is not going to get softer.

If we make it this year then we should be able to install a total of 500 PDP'8's by the end of 1967.

Naturally to do this is going to require many more people then we've got now and is going to require us to pool our efforts to a greater extent.

We are acquiring a number of experts in various fields at Reading, Munich and France and we should make an effort to apply these people to our overall European sales. There is one particular field in which we've always been strong at Digital and that's physics. Our aim is to take every physics potential in Europe and win it for either a PDP-6, 7 or 8.

To date we have sold 12 machines for physics in the U.K. alone with amost as many more on LOI's and PDP's are gradually being considered the standard here. We should repeat this in every college, university and research institute in every country in Europe. In addition to myself, I will have Ray Jones, a physicist/programmer and Peter Herke, an engineer, who I will make available to visit throughout Europe to help bring in these physics sales. On no account must we let lack of co-operation and communication lose us a physics or any other type of sale.

Another way in which we can help at Reading is in training future maintenance technicians. At a rough guess we will need one technician per eight PDP-8's. Obviously we can't afford to send the quantities of people required to Maynard for training, yet production line check-out experience will be necessary. Since we are now going through the preliminary stages of checking out PDP-7's and 8's at Reading and will shortly be doing this at the rate of one machine per week, we will have an excellent opportunity to train new people. However, this should be used for training our own people; each of the offices will be responsible for training their customers.

By the year's end we hope to be carrying out a reasonable percentage of PDP-8 manufacture at Reading and thus we will have an excellent opportunity to train DEC personnel and also to demonstrate hardware to customers. We are, at present, negotiating for a new building in Reading with a floor area of 14,000 sq. ft. (1500 sq. metres) and if all goes well we will start moving into this by the end of June.

Another product with which we should be cleaning up the European market is our Flip-Chip line. I suspect that we will have less political opposition to selling these than with our computers so we should really take advantage of this fact. However, in spite of our propaganda to the effect that modules are very straightforward and easy to use they ~~are~~ nevertheless are very technical devices and generate some rather technical questions from a number of customers. The average run-of-the-mill salesman such as myself cannot find the time to learn all about modules and computers at the same time and therefore forever need to consult someone else. We have come to the conclusion at Reading that to sell modules one must have at leas~~t~~ one module expert in an office who will concentrate on selling modules and not get diverted by the glories of computers.

I feel that every European office should have a module sales engineer if we are to succeed in this sector of our product line. His job will be to establish hundreds of other little module experts in all of the engineering and research labs. in his area who have a perpetual thirst for Flip-Chips. The significant thing with modules are that production is easier, delivery shorter, no installation costs, no field service, no maintenance or program training, no software support to maintain therefore easier and large profits to be acquired.

EQUIPEMENT DIGITAL
65 Faubourg Saint Honoré
Paris 8eme
tel. ALMA 13.28
ALMA 11.37

May 26th, 1965

INTEROFFICE MEMO

to : Ken Olsen

from : Jon Fadiman

Dear Ken,

I think that I have actually answered many of the questions asked in your letter to me of May 4th, in my memo of May 12th.

It is true that we clearly put John Leng in charge of Scandinavia and asked him to supervise Telare.

As far as his relationship with the German Office, Stan Olsen had asked John Leng to watch over the German Office and aid in sales work as a temporary measure while things were going poorly there. As I believe I told you at the time, I never thought this would work out very well, but Stan had told John to supervise Germany, and I had no choice but to agree after the fact. John accepted the job, but he himself found that it was not a very workable system. Most of the communications that passed between the German Office and Maynard were requests for information. Since only the Maynard Office could supply the replies, John Leng was never really kept informed of what was happening in Germany. John's primary responsability was the U.K., and he had more than enough work to do there. Consequently, except for some helpful sales trips to the continent, John did not feel close to the German situation.

When John Leng came to Maynard in February, we discussed the European sales situation at length. I informed him fully that when I would come to Paris, I would take over the European supervision and John was in complete agreement with this. He too thought that the original system had not worked out well.

I believe that I stated in Works Comittee Meeting that I intended to act as European Manager on the spot while in Paris, and I particularly stressed this in my discussions with Andy. I thought you were also fully aware of this. From now on I will make sure to send copies of all important memos directly to you.

../...

../...

The arrangement under which I came to Europe was that I would be in charge of European sales as well as in charge of just the French Office. When I return, I will certainly be a better manager for international affairs because I will know first hand the problems of running a foreign office, and because I will have established closer contacts withthe other European Managers than is possible from Maynard. I intend to find out very shortly exactly what problems are with the German office and do something about them.

I do not think Günter is doing a poor job; his office is running at a profit, and he has developed sales in Germany and the Netherlands. He has also hired some good people. But, he is not the excellent sales engineer that DEC requires. Maybe Jürgen Kesper is a better man than Günter, and should be given more independant power. Maybe we should look for an experienced German salesman who would eventually come to take charge of the operation.

As you suggest, I will work out a chart with Andy showing managerial respo nsability for Europe both now and after I leave France. I hope that Andy will be coming to Europe soon. We had planed a general meeting in Europe at the end of April to work out many of these affairs, but PDP-6 business prevented Andy from coming. I plan to visit Germany, however, within the next two weeks in order to evaluate how well our computer sales program is going there, in particular for the PDP-8.

Sincerely,

Jonathan Fadiman

Jonathan Fadiman
Manager International Marketing

cc- Ken Olsen

DIGITAL EQUIPEMENT

INTEROFFICE MEMO

May 26th 1965

to : Harlan Anderson

from : Jon Fadiman

Dear Andy,

There is no compelling reason for this letter but I know that one of the problems of running a foreign office is that the Home Office often looses track of what is happening abroad and thus becomes rather uneasy. So here are few details about the opening of the French Office.

The French Company "EQUIPEMENT DIGITAL" was formely brought into existence on May 19th with the signing of the statutes by Arnaud de Vitry, Gérant, and Jean Lebel. The situation is that Arnaud de Vitry has put up 9.500 Francs and Jean Lebel 500 Francs in order to supply the minimum French capital.

Our by-law has been formely registered with the "Ministère du Commerce" and we will shortly receive a number for the SARL. We will then be able to print stationery, register with the Social Security Agency, etc...

Mr. Bernard Josien of CLEARY, GOTTLIEB, (an excellent lawyer by the way) has taken care of all the details of incorporation. He is also working out an agreement between EQUIPEMENT DIGITAL and DEC, so that DEC will have first option to purchase back the stock of EQUIPEMENT DIGITAL. We would expect the French Company to have to run for about 3 or 4 months and would then be taken over by the formation of our wholly owned subsidiary: DIGITAL EQUIPMENT FRANCE. Mr. Josien is checking withthe Ministry of Industry now to see whether or not our resolution has been passed by it so that it can be acted upon the Ministry of Finance. I doubt there will be any trouble; it just takes time.

Mr. Josien has also worked out an agreement by which EQUIPEMENT DIGITAL will act as the impo rter of DEC products, which it will then resell in France. It will import computers at 76% and modules at 78%. This is about the best percentage we can be sure of passing through the French Customs - Customs Duties are paid upon the price which EQUIPEMENT DIGITAL pays DEC for the equipment.

../...

Mr Josien is also working out a standard agreement by which EQUIPEMENT DIGITAL will receive a commission of 24% on computers and 22% on modules for equipment which it sells outside of France under the jurisdiction of the Paris Office. This aera has been set up to include the following : Italy, Spain, Portugal, Belgium, Luxemburg, French Switzerland. This arrangment is always subject to change, however.

From the financial point of view, it is obvious that EQUIPEMENT DIGITAL cannot go very far on 10.000 Francs ($ 2.000). Therefore, and agreement will be worked out by which DEC can lend EQUIPEMENT DIGITAL money for operating expenses when required. My present budget for the next 6 months looks like : about 20.000 francs or $4.000 per month. This does not include the large initial expenditures for advance rent payment, furniture, telex, typewriter, etc..., and includes only the salary of Bernard Haus and the secretary. My salary will be continued to be paid from DEC. It will be possible for EQUIPEMENT DIGITAL to take over the money which DEC has already paid out for furniture, etc... thus obtaining the Tax advantages for capital expenditures. I have a meeting tomorrow afternoon with Mr. Michel Balfour of Coopers and Lybrand to set up the books properly.

The office itself consists of 3 rooms : one of which is fairly large, plus a small entrance hall. I realize that this is not large enough for very much extension and as the staff of the Paris Office increases, we will undoubtedly want to move to larger quarters. I have eleven months lease only. However, the office is very centrally located in a new building and this is a good location from which to start business. Rent is fairly high, (3.200 Francs per month - $ 640 per month), not including heat, electricity or parking space. A private washroom is also included in this rent.

Total aera of the office space is about 680 sq. feet. No leasehold improvements are required, and the money which I am spending for furniture will of course not be wasted in a larger office.

From the point of view of sales, there will be an order for a display type 30 N a CALCOMP Plotter Control, and a D to A converter totalling about $25.000 in all, from Dr Storey of the OBSERVATOIRE DE MEUDON. This is add on equipment to the PDP-5. In addition, I have a letter of intent for a PDP-8 from the Organic Chemistry Laboratory of l'"Université de Paris". I believe this order is about 95% certain . They are also interested in DECtape in the future. The situation at "l'Université de Paris" as in most large universities in France, is that it is broken up into many small departments. Consequently they find it very difficult to get together very much money to buy a computer the size of the PDP-6 or even the size of the PDP-7. However, the PDP-8 appears to be exactly what is required at a price which is within the budget of many departments. Thus, I believe, this is only one of several PDP-8's which we should sell to the 'l'Université de Paris'.

I have also written letters to many of the contacts which we had previously made by correspondence or visit in the Paris aera, and will then follow this up by personal visits.

I am also writing personal letters to a number of the computing centers in the major universities throughout France with news about the opening of our office and litterature on the PDP-7 and PDP-8. I imagine that this will soon bring some results also.

As you are probably aware, things proceed slowly in France. I am still in the midst of trying to get the required desks, telex, Xeros copying machine, postage meter, etc....

The economic climate in France however, is very encouraging. There is a great deal of money here available to be spent on computing equipment and the economy is expanding rapidly. There is still some retisence on the part of the Government sponsored organizations about buying computers not manufacturdd in France. SDS has an edge here because they are promising peoductiqn of the 92 in France, altbough all 92 are still made in America and I suspect it may be 2 years before they have many production here in France through their affiliation with CEA.

I had lunch about a week ago with Arnaud de Vitry and Mr. Varda whom you may remember from ITT. He has left ITT now and is on his own as a consulting ingenaer. Mr. Varda feels quite strongly that it will be necessary for us to merge with a French Company and produce French computers in order to make a success in France. However neither Arnaud nor I think that this is at all the case. We have a tremendous edge both in price and performance with the PDP-8 and PDP-7, and in spite of some reluctance on the part of the French Government, most of the laboratories which want to buy computers find a way around it so as to be able to buy andAmeridan computer. If our sales go well, then we can start thinking about assembly and production on a small scale in France.

When are you coming to Europe ? I would like very much for you to come and have a chance to talk with you about the European sales situation. I would still like to hold a meeting in Paris with you, John Leng, and Gueater. Please let me know when you think you could come. Also what is your opinion about our employing Mr. Timothy Coburn for the months of July, August, and September ! He could work mostly in Paris and some in Germany on medical applications. Mort Ruderman has all details on this.

Best wishes to evayone at DEC and I hope I will be seeing you soon,

Sincerely,

Jonathan Fadiman

Jonathan Fadiman

cc KEN OLSEN
DICK MILLS

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

Nick

SALES CALL REPORT NO. 10141

-CONFIDENTIAL-

DATE 5-25-65

FROM
STREET Monroe International Inc.
Division of Litton Industries
550 Central Avenue
CITY Orange, New Jersey

SALESMAN Jim Burley
OFFICE AREA NYO
AREA CODE PHONE NO. 673-6600
PHONE (OURS THEIRS) ☐ LETTER ☐ VISIT ☒

PERSONS CONTACTED	EXTENSION
W. H. Burkhart, V.P., Prod. Development	
R. J. LaManna, Res. Dir. Elec. Research	
James L. Hinton, Systems Analyst	
Eugene Murphy, Dir. of Marketing-Computers	

EST. ANNUAL POT.	CK.		CK.	PRODUCT	CK.	TYPE
		NEW		MODULES		
UNDER $20K		OLD		A/D		
$20 - 50K		HIGH		COMPUTORS		
$50 - 150K		MED.		SPECIAL SYSTEMS		
$150K UP		LOW		OTHER		

REMARKS

I spent the day at Monroe acquainting the above people with the PDP-8 and DEC and getting acquainted with Monroe.

The principal prospect is that we would supply, on an OEM basis, PDP-8's to Monroe for inclusion in one of their own calculating systems. All of the systems they have built in the past have used a drum memory and are, therefore, somewhat limited in both I/O and computing power. It appears that their capability lies more in designing and building peripheral hardware and the overall system design, rather than in building high-speed general purpose computers. They mention their reluctance to go into a development program to build a core machine.

They showed a high level of competence in their approach to design and adaption of electromechanical devices, in their plans for semi-automation of the production line and particularly in their marketing approach. One outstanding sidelight was the fact that they are operating the ASR-33 reader at 30 and 40 characters per second and are as well taking the character code in parallel from the keyboard/reader internally rather than converting the code to serial impulses be reconverted to a parallel word.(the way we do). They say this saves them considerable logic.

They showed me the new Monrobot 12 which will be built in Italy, but which was, of course, designed in Orange. This machine will be the smallest of their product line and uses as an I/O station, the modified ASR-33. The whole machine consists of 9 flip flops plus associated gates, all of which are mounted on one printed circuit card approximately 12" square. Another card of similar size holds all of the read/write electronics for the drum. They intend to sell this computer with the associated software for building, and the ASR-33 for around $5,000. This is confidential information.

It appears that what they have done is built a practical Turing machine. Incidently the reader and punch on the ASR are both turned on and off completely under program control in the Monrobot 12.

They showed some new I/O devices which are now under development, one of which is a 200 character per line, low cost line printer. Another was a so called fool proof paper tape reader.

ACTION TO BE TAKEN

Continued on #10142

FOLLOW-UP DATE BY

SPECIAL COPIES TO -CONFIDENTIAL-

COPY

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

SALES CALL REPORT NO. 10142

- CONFIDENTIAL -

DATE

FROM Monroe International Inc.

STREET

CITY

SALESMAN

OFFICE AREA

AREA CODE PHONE NO.

PHONE (OURS THEIRS) ☐ LETTER ☐ VISIT ☐

PERSONS CONTACTED	EXTENSION

EST. ANNUAL POT.	CK.		CK.	PRODUCT	CK.	TYPE
		NEW		MODULES		
UNDER $20K		OLD		A/D		
$20 - 50K		HIGH		COMPUTORS		
$50 - 150K		MED.		SPECIAL SYSTEMS		
$150K UP		LOW		OTHER		

REMARKS

Continued from 10141

All of the above gentlemen appeared to be most impressed with the logical organization of the PDP-8 and its real-time capabilities. It was obvious from the conversation that at first they did not appreciate some of the inherent advantages in a core machine.

With their 375 sales offices, Monroe has a tremendous capacity for marketing these business machines and has what appears to me to be the most organized sales organization I have encountered. It certainly is obvious that they understand their market fully and have no misconceptions as to the type of business they are in, nor the type of customers that they should be dealing with.

The seriousness of their plans to consider DEC were evidenced by Mr. Burkhart's instructions to his systems programming people, as well as his program analyst, Mr. Hinton, and his research director. There was no reluctance on Mr. Burkhart's part to delve very deeply into all aspects of the PDP-8 and DEC.

I would judge the most critical ingredient in making the complete sale to Monroe would be a show of interest and activity on the part of our highest management to their management. They gave no indication that they either desired to or had any intentions to make any restrictions on DEC with regard to marketing plans. We did not, however, microscopically study the business basis on which we might negotiate.

The next major step is to give them time to study the material I sent to them in quadruplicate so that we might yield their questions technically and then to show a genuine willingness on our part to do the proper things to get their business.

ACTION TO BE TAKEN

- CONFIDENTIAL -

FOLLOW-UP DATE BY

SPECIAL COPIES TO

COPY

INTEROFFICE MEMORANDUM

DATE May 20, 1965

SUBJECT Orders Booked - 4 Month Moving Average

TO Ken Olsen
Harlan Anderson
Stan Olsen
Nick Mazzarese
Win Hindle

FROM Dick Mills

The attached graphical study presents from July, 1964 through April, 1965 trend lines for all lines - Computers, Systems, Regular Modules, and Flip Chip Modules for DEC.

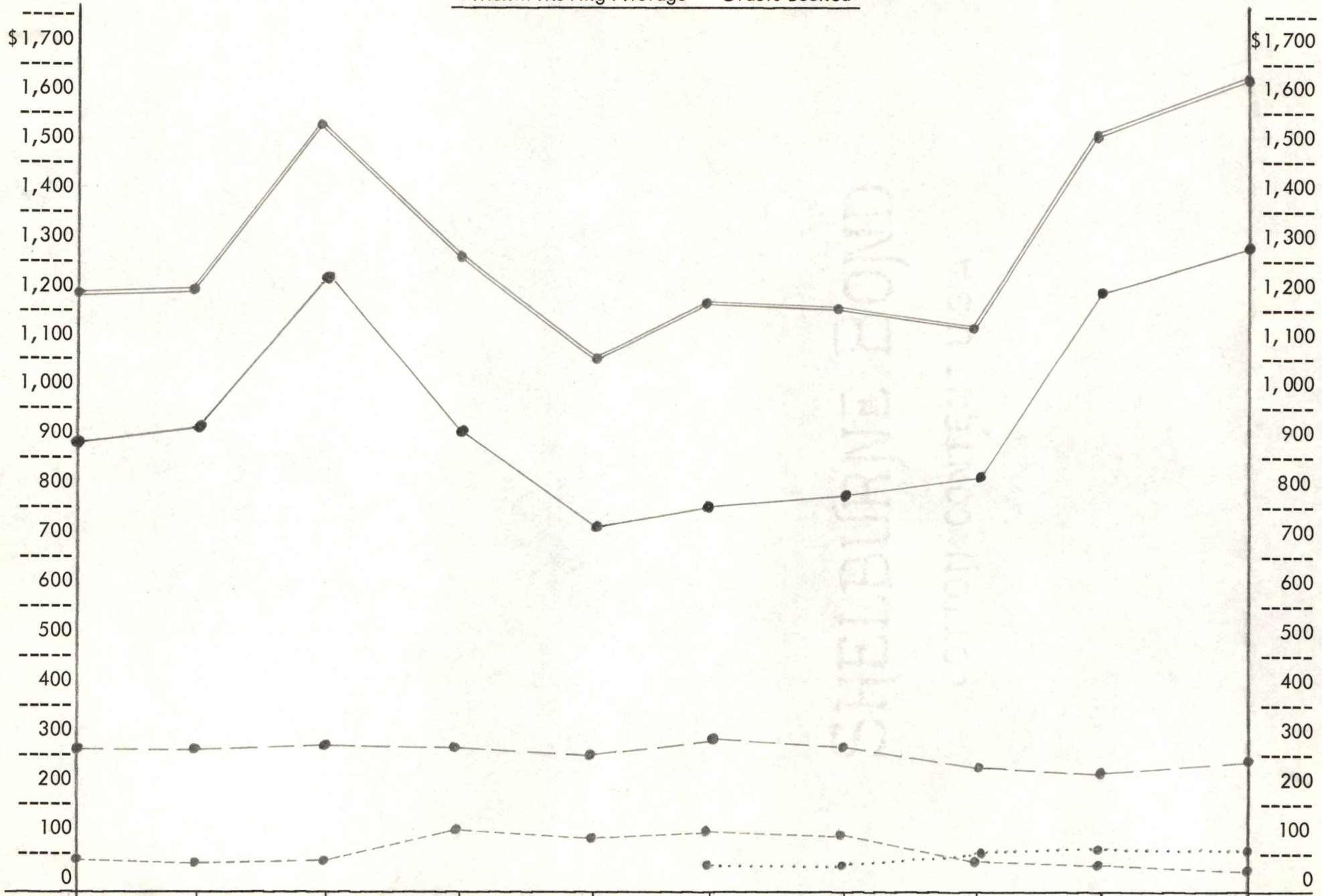
The surge in the Computer line was caused by PDP-7 and PDP-8 with the growth factor here well represented. It becomes quite obvious on the Systems that there is a decreasing trend line starting in December, 1964. Regular Modules have held rather consistently to the $300,000 per month level, but in recent weeks, excluding the Radiation Engineering order, this has dropped rather markedly. Flip Chip Modules show a constant gaining trend, but certainly not at a rate which will have us meet our forecast figures.

The weekly backlog analyses which you receive each Tuesday for the week ending the previous Friday will give you details by individual product line, also showing major registered orders by customer.

RFM/jh

Digital Equipment Corporation

4 Month Moving Average - Orders Booked



000.00 Omitted

digital MEMO

DATE May 20th

TO Ken Olsen FROM Nancy Survilas

Western Union called in this message:

To: Ken Olsen

From: H. Dorn Stewart

Brewster Kopp called to Washington tomorrow morning to receive assignment from President.

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dec INTEROFFICE MEMORANDUM

DATE May 20, 1965

SUBJECT 3 FLOORS IN BUILDING #11

TO Ken Olsen
cc: Dick Mills
Stan Olsen

FROM Loren Prentice

The first is a ground level floor 9,000 square feet and is occupied by Electronautics which has been purchased by Warren Manufacturing Company, Littleton, Massachusetts. This is available upon 30 days notice with a lease of $375.00 which includes the heat. Their lease expires October 31st, 1965. They did not have the lease in hand when I talked with them but believed it contained an option to renew.

Electrical service is 208-120 and provides lighting. The area is well lighted and has buss ducts for power. Lighting fixtures are available at a nominal cost and the buss duct and power wiring are available at one half their installed cost.

Office space and toilets are tile-over-concrete and 2,200 square feet. Toilets consist of 2 stools, 2 urinals and 2 lavatories in the men's room and 2 stools and 2 lavatories in the women's room.

There is a reception room and a storeroom at the entrance next to the 6B building. There are two offices next to the Assabet River. The two toilets and a conference room are on the opposite side of the building from the river. These are all on the end of the building next to 6B. The center of the building is an open shop area with a partitioned off section for power and compressors near building #12 and there is a rough partition storage area of about one quarter of the building on the Main Street side. The floor is concrete and in excellent condition.

The second floor was formerly occupied by Spectran. This space contains 9,000 square feet in building #11 and 1,000 square feet in building #8A. There are 12 small rooms including a reception room and a mail room and the rest being offices and other small rooms. There are two large toilets consisting of 2 seats, 2 urinals and 4 lavatories on the men's side and the women's toilet is believed to contain 3 seats and 4 lavatories.

One fairly large area is air conditioned, humidity controlled with a humidifier rented from the Boston Filter Company at $97.00 per month. This was used as an environmental testing area for instruments.

The entire area is serviced by one 600 amp, 208-120, 3 phase, 4 wire circuit from transformers located near Main Street.

The rental is $508.33 per month including heat. The present lease would be from June 1st, 1965 to September 1st, 1966.

The office areas are reasonably nice; some of the partitions are rather cheaply and poorly built, the floors are poor to good, the paint is only fair, the lighting is adequate in all areas and has new fixtures similar to the type we put in most of our areas here. Entrance is available from the stairway underneath the clock tower and from the elevator located at the rear of Building #12.

Third floor is now rented by us at approximately $0.40 per square foot and consists of 9,000 square feet plus approximately 2,000 square feet in building #8A. We are also renting the adjacent building #8A of approximately 8,400 square feet.

This is one of the poorest areas that we have in the plant. The floor is rough plank, lighting and other facilities are nonexistent. The cost of installing toilet facilities and repainting here is deemed almost prohibited. I would estimate the painting to cost $1,400 to $1,600, new service and lighting $800 to $1,200, and installation of toilet facilities $2,500. Access to this property is from building #6B, across the bridge to building 8A and into the top floor from two sections or from #8 through the tower into building #11. Access is available from the elevator at the rear of building #12.

Dick seems to be of the opinion that we could do better to lease these directly from Maynard Industries. There is of course, the question of whether or not Electronautics would vacate for Maynard Industries or not. The arrangements for them to vacate in 30 days was worked out through Boston Capital which is a holding company similar to ARD which I believe holds stock in both Spectran and Nortronics (a subsidiary of Hoover

Electric Company), also, the Warren Manufacturing Company.

I am almost certain that Maynard Industries would raise the rent on the lower floor as the rent there for the space seems to me to be unusually low.

TO TAN OLSEN/GERRY MOORE
FROM JOHN LENG

WE CANNOT DO A GOOD JOB OF SELLING MODULES IF DELIVERIES CONTINUE TO BE SO LATE. WE HAVE ORDERS OUTSTANDING WITH YOU THAT GO BACK TO THE 1ST MARCH. IN ADDITION WE GET ANSWERS WHICH SAY BEING SHIPPED THIS WEEK AND A E E E AND YET A MONTH LATER WE STILL HAVE NOT RECEIVED THEM. WHEN WE PASS THIS SORT OF NONSENSE ON TO CUSTOMERS THEY GET PRETTY UPSET.
END OR GA PLS

MOM PLS

END TU

END

DIGITAL MAYN
+
DIGITAL READINGV

5/18/65 -- INFORMATION COPY FOR: Ken Olsen --

Nick

dec INTEROFFICE MEMORANDUM

DATE 17th May, 1965.

SUBJECT

TO Ken Olsen

FROM Jim Milton

What is the time scale on the slow high reliability tape punch which you mentioned when you were in Reading?

We have applications right now (Hilger & Watts) for the punch. With the diffractometer-PDP-8 system, approximately 1 roll of paper tape will be punched in 8 hours and I don't think the ASR-33 is going to be satisfactory because of reliability.

The high speed teletype is rather expensive because a punching rate of 10 - 20 characters per second will be sufficient for this job. Have you any suggestions of what I could do to satisfy these requirements?

DEC. INQUIRY NO. 114

Jim Milton.

c.c. Gerry Moore, Stan Olsen, Nick Mazzarese.

INTEROFFICE MEMORANDUM

DATE May 17, 1965

SUBJECT

TO K. Olsen ✓
R. Belden
J. Burley
E. Harwood
N. Mazzarese
D. Packer
T. Whalen

FROM J. Smith

A decision was made today to assign the first available lot of gold strate modules to the prototype and the second available lot to PDP-8-6. The resulting effect is noted in red on the attached chart.

INTEROFFICE MEMORANDUM

DATE May 14, 1965

SUBJECT

TO K. Olsen
R. Belden
J. Burley
E. Harwood
N. Mazzarese
T. Whalen

FROM J. Smith

Attached you will find a table depicting the present status of the PDP-8 program. The overall factor limiting shipments will be the availability of gold can strates for R210, R211, R220. The module availability table shows in detail the dates that modules will be available from Test. Utilizing these dates, module lots have been assigned to machine numbers.

The initial lots have been assigned as replacements for "black strate" modules currently in machines undergoing checkout. Machines in Checkout should keep ahead of gold strate module availability by utilizing "black strate" modules. A machine should be fully checked out by the time its set of "gold strate modules" becomes available. Shipment should then be just a matter of a few days.

Higher yields and the new strate specification could help improve this shipping schedule.

MACHINE #	CUSTOMER	C.P.	MEMORY	GOLD CHIPS R210	GOLD CHIPS R211	GOLD CHIPS R220	GOLD CHIPS R007	LOT ASSIGNMENT	MODULES COMPLETE	SHIPPING DATE
2	S. Hamp.	X	X					1 3	5/17/65	5/19
3	A.D.I.	X	X	X	X	X	X	---	X	5/19/65
4	Watts	X	X					2 4	5/17/65	5/20
5	A.D.I.	X	X	X	X	X	X	---	X	5/13/65
6	U. of Pa.	X	X					3 2	5/19/65	5/17
7	M.I.T.	X	X			X		4 5	5/20/65	5/20
8	N.S.A.	X	Off L.			X		5 6	5/20/65	5/24
9	Stan. Med.	X	Off L.		X			6 7	5/24/65	5/24
10	Dymec	X	Off L.					7 8	5/24/65	5/24
11	Stan. Res.							8 9	5/24/65	5/26
12	Transdata							9 10	5/26/65	5/26
13	Mitre							10 11	5/26/65	5/27
14	Granger							11 12	5/27/65	5/27
15	U. of Mich							12 13	5/27/65	5/27
16	Raytheon							13 14	5/27/65	5/27
17	Ann Arbor							14 15	5/27/65	5/28
18	Johns Hop.							15 16	5/28/65	5/28
19	DEC, Sales							16 17	5/28/65	6/1
20	Columbia							17 18	6/1/65	6/2
21	Max Planck							18 19	6/2/65	6/3
22	Transdata							19 20	6/3/65	6/4
23	Astrodata							20 21	6/4/65	6/7
24	Argonne							21 22	6/7/65	6/8
25	Transdata							22 23	6/8/65	6/9
26	Gen. Rail.							23 24	6/9/65	6/10
27	U. of Wisc							24 25	6/10/65	6/11
28	Johns Hop.							25 26	6/11/65	6/14
29	L.R.L.							26 27	6/14/65	6/15
30	G.E., Rich.							27 28	6/15/65	6/16
31	E.A.I.							28 29	6/16/65	6/17
32	Transdata							29 30	6/17/65	6/18
								30 31	6/18/65	6/21
								31 32	6/21/65	6/22
								32	6/22/65	

	MODULE AVAILABILITY				SET COMPLETE
LOT #	R210	R211	R220	R007	
1	5/12/65	5/12/65	5/12/65	5/17/65	5/17/65
2	5/17/65	5/13/65	5/12/65	5/17/65	5/17/65
3	5/17/65	5/17/65	5/12/65	5/19/65	5/19/65
4	5/20/65	5/19/65	5/12/65	5/19/65	5/20/65
5	5/20/65	5/19/65	5/14/65	5/19/65	5/20/65
6	5/20/65	5/19/65	5/14/65	5/24/65	5/24/65
7	5/24/65	5/20/65	5/17/65	5/24/65	5/24/65
8	5/24/65	5/22/65	5/17/65	5/24/65	5/24/65
9	5/26/65	5/22/65	5/17/65	5/26/65	5/26/65
10	5/26/65	5/22/65	5/19/65	5/26/65	5/26/65
11	5/27/65	5/24/65	5/19/65	5/26/65	5/26/65
12	5/27/65	5/24/65	5/19/65	5/27/65	5/27/65
13	5/28/65	5/26/65	5/21/65	5/27/65	5/27/65
14	5/28/65	5/26/65	5/21/65	5/27/65	5/27/65
15	5/28/65	5/28/65	5/22/65	5/28/65	5/28/65
16	5/28/65	5/28/65	5/22/65	5/28/65	5/28/65
17					6/1/65
18					6/2/65
19					6/3/65
20					6/4/65
21					6/7/65
22					6/8/65
23					6/9/65
24					6/10/65
25					6/11/65
26					6/14/65
27					6/15/65
28					6/16/65
29					6/17/65
30					6/18/65
31					6/21/65
32					6/22/65

INTEROFFICE MEMORANDUM

DATE May 14, 1965

SUBJECT Interdata - 65 Estimated Costs

TO Ken Olsen

FROM Tim McInerney Tim

Booth #2-#5 - PDP-8, Modules

Space	$2,000.00
Display Refurbishing	1,200.00
2 chests (for seating)	250.00
12 - 1'x 1' color transparencies	1,260.00
12 - 1'x 1' light boxes for trans.	600.00
2 - Module display stands	800.00
Electrical	150.00
Misc. - Furniture, cleaning	65.00
Photos of booth at show	55.00
Set-up and dismantle	565.00
Shipping - (40' booth share)	1,000.00
Telephone	120.00
Rug (new 10' & pad)	107.00
Exhibits Manager Travel	100.00
Total Exhibit Estimate	$8,272.00
Hotel Rooms-Including Suite	634.00
	$8,906.00

Booth #217 & 218 - PDP-6

Space	$1,500.00
Display (New)	1,500.00
Telephone (4 TWX lines)	400.00
Electrical	70.00
Cleaning	25.00
Photos of booth at show	55.00
Shipping	500.00
Furniture, Rug, etc.	215.00
Exhibit Manager's Travel	100.00
Set up and dismantle	385.00
Total Exhibit Estimate	$4,750.00

MAY 1? 1965

EQUIPEMENT DIGITAL S.A.R.L.
65 Faubourg St Honoré
Paris 8ème
tel: ALMa I3.28

Paris, 12th May 1965

Memo to : Ken Olsen
Harlan Anderson

from : Jon Fadiman

subject : European Sales

The following are my comments concerning your telex of April 30th and your memo of April 27th 1965.

1 - TELARE : I suggest that we sign a two year contract with TELARE. They have done a good job for us so far and I do not see any reason to change at this point. I suspect, however, that their good job will always be limited mostly to Sweden. Normally when a territory for a representative becomes too large, it does a good job only in the small territory around the office and not in the rest. Therefore I question the validity of making them our exclusive representative for Scandinavia. It seems to me that the rest of Scandinavia should come directly under JohnLeng.

I think we should definitely give to TELARE 5% commission on sales. This should be 5% on DEC items, and 1 1/2% on non DEC items, such as tape transports. We can then pay TELARE an extra 2% for servicing which TELARE will then charge to the customers. However, this should be revocable at any time, when they do not seem to do a good job in servicing.

John Leng should keep a close watch over TELARE to make sure that they continue to do the type of job which we wish to have done.

2 - I definitely do not think that John Leng should be manager for all of Europe. He is doing an excellent job in England and should definitely also be in chrage of Sweden, Norway, Finland, and Denmark. However, he is not the man to be in charge of the Common Market countries of Europe. These are countries with languages, cultures, and scientific thinking very different from that of England. In my opinion, the way Europe should be organized for DEC is as follows :

- English office in charge of the United Kingdom, Norway, Sweden Denmark.

- German Office in charge of Germany, the Netherlands, and German Switzerland.

- French office in charge of France, Belgium, Luwemburg, Italy, Spain and Portugal, as well as French Switzerland.

While I am in Paris, I will be supervising the European market (*). I will be able to maintain close contacts with Guenter in order to have a better idea of what is going on in the German Office. If it appears that the German Office is not competent enough to handle the affairs of its territory then we must find another first-rate german engineer to be in charge of sales.

Before I left the US, I told Andy that the French office should be in charge of sales for Italy, Spain and French Switzerland and I guess Portugal although there is not any market there now. These latin countries naturally look to France for technical and scientific leadership. I think that we have a good man in Bernard Haus, and that he and I together will be able to do an excellent selling job in these latin countries. Bernard Haus's knowledge of the Italian market and Italian language will, of course, be a help (he worked for 2 years for Olivetti,in Italy) .

I have already made a trip to CERN and I think that they will be happy to deal through the French office. Communications between Geneva and Paris are excellent, and this is the logical office for Service for Geneva. I will of course call on John Leng for technical help in the physic's field.

I definitely think that the German office should continue in charge of the Netherlands. Guenter is moving the main office to Cologne so,as to be closer to the major sales in Northern Germany and Netherlands. All of the sales so far in the Netherlands have been through the German office, and our customers there expect to continue dealing with the German office. Futhermore the Netherlands is in the Common Market and has links with Continental Europe. For these reasons I think that it would be a great mistake to shift the aera responsability.

The English office should probably also have charge of South Africa, but I don't think there will be much business there for a while. Any other places where we do not have offices, such as India, should be covered directly from the Maynard office. I will be making some trips to Israel to evaluate the sales possibility there, and to see what kind of a job Mr. Pekelman could do for us.

(*) see attached note.

The following are my comments in order on your memo :

1 - The only module competition in Europe is from PHILIPS (TRANSCO). These units are considerably inferior to our Flipchip modules and no longer have much price advantage. Jean Lebel, for example, has been using our modules when necessary and TRANSCO mosules when he felt he did not need great reliability. Now he is considering using flipchip modules entirely. Some written material by our module people about the advantages of our modules over American integrated circuits would be helpful.

2 - European competition for the PDP-7 and PDP-8 is mostly from American companies such as IBM. SDS is also going to be a strong competitor in France because of their alliance with CEA.

SDS has 920 at CERN and they are very strong competitors there for this next computor. One of the reasons is that they promise to have production in France through CEA in the future and, because France is a member nation of CERN, the financial people at CERN would rather buy a computer, produced by a member nation. However, in actuality all the SDS computers are produced in America just like our own.

We are definitely going to have to consider producing in some European Common Market Country, however, within the next two years.

3 - European countries are a bit afraid of the PDP-6 except in the specialized physics fields. They havebeen brainwashed by IBM and CDC to except a large computer only from these companies who would provide large amounts of programing support and not only FORTRAN but also ALGOL and COBOL. The Swedish Government has issued an edict that all computers in the size range of the PDP-6 must have ALGOL, otherwise they will not even be considered for bid. Incidentally, the Swedish Government controls all funds for thepurchase of medium size and large computers in Sweden.

4 - TELARE has been getting good support, some of it from John Leng, and some of it from the MAYNARD office through Gerry Moore and myself. All enquiries should come through Gerry Moore and/or Brad Towle depending on whether they are technical or more routine. We should definitely arrange with the advertising department to send litterature automatically to the foreigh offices as soon as it is printed.

5 - see comments above

6 - see comments above.

7 - I agree that the name of the UK company should be changed to DIGITAL EQUIPMENT LIMITED.

8 - By this I assume you mean that the State Department is loosening up on its restrictions for selling to Eastern Europe. This matter should be brought up to the next Board Meeting. Many of our customers in Europe such as AGA in Sweden, SINTRA in France, and others wish to use our equipment in their system and then sell these systems both in Western Europe and Eastern Europe. There is a considerable market for the Link Computer in Chechoslovakia. It is true that Eastern Europe is a less important problem than others right now, but we should consider what we want to do. My own opinion is that we should be willing to sell there if we are allowed to do so by the State Department, and I think that within the next year or so we will be allowed to do so.

9 - See comments above. We would have to think of a good reason for marking up our prices by 2% and then giving a 2% discount. Our policy has always been that our prices in Europe are identical to our prices in the US except for adding Customs, freight and local taxes. This is an excellent policy which inspires confidence in our customers that we are not trying to charge higher prices in Europe than in our home country so we must be very careful about any special price-list.

IO - I gather you have already decided that John Leng should go ahead and rent the larger building of 15.000 square feet. He certainly seems to be getting the business to warrant this.

II - I agree that we must be careful about accepting letters of intent which are really hot inquiries. The individual office manager must be responsible for putting a percentage of probability on the letters of intent. As our delivery time improves, this problem will cure itself, however, and letters of intent will not be so necessary.

12 - If the machine is sold to AGA, TELARE should get the commission. If it is sold to one of AGA's customers in anot another country and not through AGA, then the office in that country should get the commission and that particular office should be responsible for service.

13 - I agree from having talked with Mr.Osborne that there is a good chance of selling large number of DECtapes to ICT. We must be a bit careful in doing this, however, and consider what our policy is going to be on selling things such as DECtapes and displays.

After all, one of the items which makes our PDP-8 and PDP-7 superior to ICT's products, is the fact that wehave DECtape. Thus by selling them DECtapes, we will be making money for ourselves but also losing computer sales in the future. Nick Mazzarese should be a help in evaluating this situation.

Trade shows are important, particularly in Europe, and are a very important part of the image that this company presents. We will not enter very many trade show; this can too easily spend too much of our engineer's time and money. In France we will be entering MESUCORA and SICOB. In Germany we have INTERKAMA in Dusseldorf. In Switzerland we will be entering the INEL show in Basle. I agree that we must take more care in what we would be presenting and to whom we will be presenting it before the actual time of a trade-show.

J. Forbes

INTEROFFICE MEMORANDUM

DATE May 11, 1965

SUBJECT Making Present PDP-6 Reliable through 7 1/2 Weeks of Circuit Design

TO K. Olsen

FROM R. Savell
G. Bell

SUMMARY: 7 1/2 weeks Circuit Design HELP! to complete Present PDP-6

In order to make a solid Arithmetic Processor, we require 7 1/2 weeks of circuit design help, plus an equivalent amount of technician and system design assistance. Please help us get this assistance. We have been trying to get a circuit design from outside for 1/2 year, and have been ineffective. Processors requiring retrofit and modification are going out. (hopefully).

The problems are:

6205 - 1 week

1. Suspected heat problem may be cured by the 750 to 470 ohm resistor change, but should be investigated.

2. Pull up resistor change has been made to help MB↔MQ transfer where we have lost a bit.

3. Suspect more problems, but no one to look at.

4. A tester for testing 18 at a time would be very desirable (2-4 weeks) + technician time.

6615 - 2 weeks

1. Still very insensitive to input pulses.

2. Also looks as if base resistors should be increased and also examine base network to make sure no PRF sensitivity at 10 mc.

3. Except in a few spots on the 6205, the bigger the pulse out of the 6615 the better, so that pulse regulation out of the 6615 does not really seem to be the major problem.

4. Burt's feeling is that improving the sensitivity will probably improve regulation so that it may be possible to avoid redesigning the 6615. Only testing will tell.

5. When driven with 40 ns. pulses, +10 margins are poor.

6. Terminators are standard at 100 ohms except for 3 locations that must be trimmed occasionally.

6122, etc. - 1 week

1. When using the output to gate an emitter, and if the output overshoots above ground, and the base of the gated transistor is at ground, then an output will be produced. This is especially bad if driving a PA.

6203 - 1 week

1. Arrangement of logic physically needs to be checked.

2. Operation of shift should be checked on a system with both modified 6203's and 6205's installed.

3. The complement line is very sensitive to noise inputs under certain conditions.

4. Needs 100 ohms on all outputs of FF's due probably to no twisted pair used between SC and SC control.

6131 - 1 week

The 6131 oscillates at -3v at about 30 mc. In addition, false outputs appear momentarily about 50 ns after the input has changed state.

1609 - 1/2 week

Generates pulses of 80-100 ns when used in the system. The nominal is supposed to be 70 ns. L. White will have measurements made on a new 1609 in the system and pass the results on to Don White for action.

Noise Problems - 1 week

There are many places in the systems where overshoot and noise cause problems. The greater number of these are listed below:

1. An emitter transistion from -3 volts to ground will cause a positive glitch in the base. If this base is tied to other bases this positive glitch will be enough to cause some of the other transistors to go out of saturation and cause a negative 1 to 2 volt glitch in the output. If we are lucky enough and this glitch occurs at the right time it may be coincident with a pulse which causes the input to a amplifier to trigger. The cure for this at present is to put series 100 ohm resistors in the base leads of all transistors that are emittergated.

2. When driving a pulse amplifier from 2 transistors in series with the upper transistor at ground, the pulse amplifier will produce an output if the collector of the bottom transistor overshoots above ground.

3. Driving a 6000 series pulse amplifier from a 3 transistor stack with the top transistor input grounded, the bottom transistor having a 3 volt pulse input, and the center transistor having a level transistion to -3 which overshoots to -5 will cause the pulse amplifier to fire. I suspect this is due to collector to base or emitter to base capacity of the top transistor and that we're just lucky it doesn't occur with a 3 volt swing.

4. If the upper level transistor input makes a transition from -3 to ground and overshoots above ground when driving a PA from a 2 transistor stack where the bottom pulse transistor input is at ground, a pulse will be generated. We suspect this is probably due to collector to base capacitance. The cure at present is to insert a 100 ohm resistor in series with the base lead.

5. Same configuration as above. When the level goes negative, if it overshoots to -5 volts with the input pulse line at ground, a pulse will sometimes be generated. We suspect that this may be due to the base to collector capacity of the pulse transistor causing enough current to be drawn so that the level transistor can conduct.

6. The claim is that even on a single transistor input to a PA that a negative going noise pulse of 3 to 4/10 of a volt will trigger to PA even though the spec says that less than .5 volts will not produce an output.

1665 Problem - 1 week

The 1665 is supposed to contain a number of standardizing PA's which convert approximately 70 nsec. wide pulses to 100 nsec. pulses. It does not do this. The pulse output indeed is somewhat wider than the input, but the output pulse width varies directly as the input pulse width until the input pulse width reaches approximately 100 to 120 nsec. At that point the output becomes standardized at a width of approximately 100 to 120 nsec. and remains there as the input pulse width is extended.

RES/mro

CC: H. Anderson
R. L. Best
J. P. Hastings

DIGITAL MAYN

RCANY TLX MOM
0433 11.MAY WRU
DIGITAL MAYN
WRU
DIGITAL MAYN

CLEARGO PARIS

TO COLON KEN OLSEN ANF HARLAN ANDERSON
FROM COLON JON FADIMAN

WE ARE GOING AHEAD WITH INCORPORATION OF EQUIPEMENT DIGITAL S.A.R.L.AS OUTLINED IN MR. JOSIEN,S MEMO. IF ANY OBJECTIONS PLEASE TELEX IMMEDIATELY. GENERAL MEMO ON EUROPEAN SITUATION COMING.

OK

INTEROFFICE MEMORANDUM

DATE May 11, 1965

SUBJECT

TO K. Olsen ✓
N. Mazzarese
R. Mills
M. Sandler
T. Stockebrand

FROM J. Smith

Due to low yields and continued engineering requirements, the cost of strates for use in PDP-8's is running very high. .Manufacturing unit cost per strate is running approximately $3.50. This versus an estimated cost of $.68, which was used on the original pricing of the PDP-8 manufacturing cost. The difference of $2.82 per unit, when applied against the required 453 strates per computer, increases the manufacturing cost of PDP-8's by $1,287.46. This could have a very disastrous effect on our PDP-8 profit structure as is indicated below.

Original Estimated Profit Structure:

Selling Price	$18,000
Manufacturing Cost	8,000
Profit Margin	$10,000
Assumed 45% SGA Charge	8,100
Net Profit	$ 1,900
10% Before Taxes	

Effect of Addition of $1,287 to Manufacturing Cost:

Selling Price	$18,000
Manufacturing Cost	9,287
Profit Margin	$ 8,713
45% SGA Charge	8,100
Net Profit	$ 613
3.4% Before Taxes	

It would not seem practical that the PDP-8 profit structure be required to absorb the additional manufacturing costs being incurred by continuing strate development. I would suggest a procedure be generated for a percentage recharge of the current manufacturing costs to the strate development account. The recharge could be based on a sliding scale based on unit yield.

INTEROFFICE MEMORANDUM

DATE May 8, 1965

SUBJECT Raytheon (Packard-Bell)

TO Kenneth H. Olsen

FROM Henry J. Crouse

I have learned from Sylvania (Semiconductor Division) that they are supplying to the Packard-Bell Computer Group a type of integrated circuit called SUHL-2. They have orders for one (1) complete set of logic to build a computer. They expect to take a second order the last part of May and; the third order to be shipped late in the summer. These are for three (3) different computers, as far as the fellow I was talking to knew.

The type of integrated circuits that Sylvania is supplying is SUHL-1 and its latter version SUHL-2. SUHL-2 is a 50 megacycle and SUHL-1 is 20 megacycles. The price structure of SUHL-1 is in the $5.00 to $10.00 region. For example, a dual four (4) input gate costs about $5.00 and SUHL-2 will probably cost a small percentage more. Sylvania claims that they have an adequate line of integrated circuits to make a complete system, except in SUHL-2, where the only element not available is a line driver.

HJC

Henry J. Crouse

INTEROFFICE MEMORANDUM

DATE May 7, 1965

SUBJECT

TO Nick Mazzarese
Maynard Sandler
Jack Smith

FROM Kenneth H. Olsen ✓

The new DECtape is apparently done and I have asked to have a batch of ten made. No one has taken this seriously and I would like to see us stop making the old ones. They are a disgrace to have on the market and they really don't work well at all. I would like to see us stop taking the orders for the old ones and take orders for the new ones and maybe we can get them built.

Ken

KHO:ecc

Mechanical Parts

A parts list of mechanical parts required has been received from Drafting. Standard parts (used in the current model) have been checked for availability. New parts have been ordered by D. Nevala and are in process. All parts should be available in 2 to 3 weeks.

Electrical Parts

There never has been a parts list issued by Engineering or Drafting. In the absence of a parts list, we have acquired a block schematic and from this have checked the availability of standard parts. Non-standard parts have been placed on order.

Assembly of the first lot of ten (10) should begin in three (3) weeks. We are currently only manufacturing those old type units needed to fill present customer requirements.

Jack

WU3 NL PD COLUMBUS OHIO MAY 7
DIGITAL EQUIPMENT CORP KENNETH H OLSEN PRES MAYNARD MASS

THE OHIO DEVELOPMENT TEAM WILL BE ARRIVING TODAY IN BOSTON AND WILL BE CALLING FOR AN APPOINTMENT TO DISCUSS OHIO'S ADVANTAGES FOR EXPANDING INDUSTRY. OHIO'S STABILIZED TAX PROGRAM IS ATTRACTING GROWTH EXPANSIONS FROM ALL PARTS OF THE COUNTRY. I HOPE YOU WILL ARRANGE TIME TO SEE THEM

JAMES A RHODES GOVERNOR STATE OF OHIO

928A

CLR

RWU1,2,3 TXS

Arthur Hall
May 7, 1965

File

COMPANY CONFIDENTIAL

FORECAST

COMPANY - SPONSORED ENGINEERING

Copies To: K. H. Olsen
R. L. Best

The attached forecast is based on a quick review of year-to-date information and estimates of activity for next year and for the rest of this year.

In order to avoid a tremendous expenditure of time on the project, estimates were made by Product Line and not by individual development projects. Labor and material data were not available summarized separately for each project or Product Line and so the combined figures were used.

The major element likely to cause inaccuracy in a prediction of this sort is changes in the development cost of allocated items (tapes, memories, etc.) not considered by the Product Line manager. A quick look indicates that allocated cost will remain very roughly the same next year as this.

Any forecast requiring more accuracy than this will have to consider estimated costs per development project and should also consider changes in allocation percentages.

FORECAST

COMPANY - SPONSORED ENGINEERING

	FISCAL 65	FISCAL 66
TOTAL FOR COMPANY	2,338,500 ~~2,590,600~~	2,703,000
SMALL COMPUTER GROUP		
Total	629,900	568,000
PDP-1	18,500	0
PDP-4	26,700	0
PDP-5	108,300	25,000
PDP-7	228,700	300,000
PDP-8	247,700	243,000
LARGE COMPUTER GROUP		
Total	800,000	956,000
SPECIAL PROJECT GROUP		
Total	209600 ~~452,700~~	415,000
Memory Test System	140,100	130,000
Link Computer	32,500	105,000
Computer Aided Design	~~280,100~~ 28,000	180,000
MODULES AND ENGINEERING		
Total	708,000	764,000
FLIP CHIP	548,000	600,000
System Mod.	113,000	113,000
Lab Modules	31,000	35,000
Accessories	16,000	16,000

Production Engineering ?

INTEROFFICE MEMORANDUM

DATE May 4, 1965

SUBJECT FLIP CHIP Problems

TO S. Olsen

FROM R. E. Savell

CC: K. Olsen
R. L. Best
R. Doane

We are becoming quite convinced that many of the problems that we have encountered with blown FLIP CHIP Modules are due to the fact that the transistors on some modules are mounted high enough so that their cans, with very little bending of the module, touch the printed wiring on the next module. Also some other modules such as the B301 Delay have mounting screws on the pots that are so long that they come very close to touching the printed wiring on the next module. A very little bit of jiggling will cause them to short. Attached is a memo from Steve Lambert detailing many problems which he has encountered in the design of the Disc File Control for PDP-6.

RES/mro

INTEROFFICE MEMORANDUM

DATE May 1, 1965

SUBJECT FLIP CHIP Modules

TO R. E. Savell
J. McKalip
D. White
R. L. Best

FROM S. Lambert

The R and W series modules along with termi-point wiring, have created many delays in the completion of the Type 270 Disc Control.

The Module Problems uncovered were:

R201, 2, 3, 5 flip-flops when loaded unsymetrically (> 5 ma difference) will not set or clear through the DCD gates with standard pulse widths. The loading must be adjusted by adding clamp loads (W005) to make the flop symetrical.

R601, 2, 3 pulse amplifiers did not meet pulse width standards. The capacitor on the output stage (base) was changed from 120 pf to 220 pf. After 12 inches of wire coming from the PA's, 82 ohms with .001 μf caps were required to cut the 1 volt position overshoot down. If terminators are not used the logic will not work. Over 50 terminators were required to make the 270 system work.

The R401 clock must always be terminated at the end of the line to cut down overshoot.

The R302 Delay must also be terminated when the delay level is connected to DCD gates on either the pulse or level input. Again, excessive overshoot is the problem.

When flip-flops drive long wires, additional clamp loads (W005) must be added to both 0 and 1 side outputs to help change wire and diode capacitance. The discharge current of the cap in the DCD gate must also be drawn by the flip-flop.

When negative pulses are required in R-logic, two R107 inverters in parellel with a positive pulse input provide the negative pulse out. If this pulse is used to strobe more than 6 R111 type diodes, a clamp load (W005) must be added for each additional group of 6. The negative drive is a function of the load resistors and clamps attached. Again, the amount of load required, is a function of line capacitance.

The W100 Emitter Follower oscillates and appears on the scope at 50 megacycles. The 100 ohm resistor in series with the base does not stop the oscillation but cuts it down in amplitude.

The W700 will not drive more than one R107 type gate. The internal positive load supplied is not enough when all six inputs of the W700 are brought positive.

The W800 Relay board either had contact trouble or the germanium transistor stayed on. The resulting effect seemed to be the cause for wiping out headers on the 5022 Disc File System. After this module was removed, headers were no longer wiped out. This relay is used to generate master clear.

Trouble was encountered with two R205 flip-flops. The spec sheet indicated on the Low Frequency AC Sensitivity Test that the DCD set and clear (Ground Enable) was about 2.8 volts. Normally this should not be greater than 2.5 volts.

Shorts between boards were encountered between an R202 and an R181. The cause was a transistor can sticking out too far, touching the printed circuit of the R202.

Wiring:

Termi-point wiring is definitely not the way to wire FLIP CHIP systems. The termi-points do not always push over the posts. The resulting effect is that the post is pushed through the block.

When the clip is pushed down the post, if there is a wire below the clip, the clip will sheer the insulation on the wire below in a manner that cannot be seen by human eyes. This one problem has hampered checkout for the last month and has created the majority of delays in project completion time. Also, the clips have sharp edges that cut insulation if a wire is strung tight across the clip. I strongly recommend that termi-point wiring be completely banned for use at DEC.

136 Data Control:

The 4230's created havoc for a week while checking the 270 Control out. This system was supposed to be checked out. It was found that the modules were switched during a last minute panic with newly tested 4230's but these had poor transistors.

SL/mro

INTEROFFICE MEMORANDUM

DATE May 3, 1965

SUBJECT SPACE ADVERTISING IN JUNE

TO Harlan Anderson
Stan Olsen
Nick Mazzarese
Win Hindle

FROM Jack Atwood

CC: ✓ Kenneth Olsen
Stu Grover

Pursuant to Ken's recommendation, we are cancelling all possible space advertising contracts for June.

If you would like to request an exception, please let me know immediately.

J.L.A.

fd

K. Olsen

INTEROFFICE MEMORANDUM

DATE April 29, 1965

SUBJECT Your memo of 3-29-65 and Jim Cudmore's memo of 4-23-65

TO Ray Lindsay FROM Klaus Doering

We fully agree with your complaints.
Seven months ago we made a number of mechanical changes to the back cover of the classroom modules. The 901C mtg. panel was redesigned to eliminate several problems we had had in the past.

The modifications were made with the knowledge that only two 901C mtg. panels (which we intended to exchange) were in the field. Don White was willing to use up the panels in the house for his teaching work. We did not sell any of these units for quite a few months.

When the orders came, the modifications had not been completed yet and things got mixed up because the original info. had become lost over that span of time. The parts did not go through the Quality Control checks. In addition, we learned that contrary to previous belief there were quite a few more 901C mtg. panels with several customers. This forced us to go back and make the back cover of the modules interchangeable with both panel designs.

Figure 3 represents the mtg. cutout that will always fit.

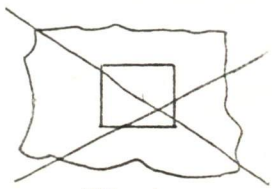

FIG. 1

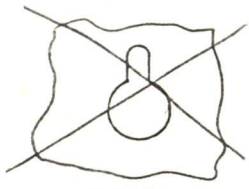

FIG. 2

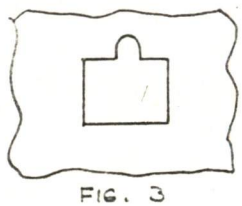

FIG. 3

We will send you enough covers to exchange any that do not fit.

Finally the parts went together, perfectly. Jim Cudmore, however, found during his visit in Philadelphia that the Amphenol connectors engaged too loosely. I talked to the Amphenol man who claims that the contact retention force can be doubled by eliminating the greasing operation on the connector. He will send me test samples next week.
The wobbling of modules can be eliminated by decreasing

the length of the shoulder on the shoulder screws.

I will discuss these problems with Loren Prentice so that our mech. engineers become involved in this matter. The general feeling in the past has been: do not spend time on the 901C mtg. panel because we have not sold it for years. But this was true only until recently.

I shall keep you informed on the progress we will be making.

cc: K. Olsen
R. Hughes
J. Cudmore
D. Denniston
L. Prentice
R. Best
S. Olsen
F. Kalwell

Ken

INTEROFFICE MEMORANDUM

DATE April 27, 1965

SUBJECT Flip Chip Module Production Requirements for Outside Module Customers for month of May (fiscal)

TO Maynard Sandler

FROM Stan Olsen

CC: Works Committee list
Cy Kendrick
Frank Kalwell
Ray Michel

BACKLOG

	Overdue Real Panic	4 week Delivery Promise Due During Month	Projected Sales for Month	Total Requirement
R001		83	72	155
R002		51	338	389
R107	37	141	206	384
R111		239	1000	1239
R113			14	14
R131			0	0
R141		57	272	329
R151		5	43	48
R181			5	5
R200		2	18	20
R201		210	217	427
R202	260	256	1280	1796
R203	95	34	212	341
R204	3	32	86	121
R205		24	89	113
R210	1		1	2
R211	1		1	2
R212		12	7	19
R220	1		1	2

R284			2	2
R302	49	74	172	295
R401	4	24	54	82
R405		5	6	11
R601	60	17	89	166
R602	1	80	154	235
R603	4	53	77	134
R650		10	86	96
W002		32	40	72
W005		47	24	71
W020			4	4
W021	8		13	21
W022			0	
W023			0	
W024			0	
W025			0	
W026			0	
W028	3	40	5	48
W028R			20	20
W040	30	17	65	112
W050		18	96	114
W051		1	9	10
W061		25	30	55

W100		1	0	1
W101		6	4	10
W102			0	
W300			1	1
W501	31	135	185	351
W510			13	13
W590			6	6
W600		8	43	51
W601		37	19	56
W607		15	7	22
W640		22	27	49
W690			2	2
W700		7	30	37
W800	6	10	4	20
W980	1	16	33	50
W985		1	3	4
W990		17	237	254
W992		22	83	105
W994		84	77	161
B104		10	53	63
B105		14	27	41
B113		1	9	10
B115		14	19	33
B117		11	7	18

B124	1	4	5
B130	3	9	12
B155	10	5	15
B171	21	34	55
B201	10	27	37
B204	1	8	9
B210	13	1	14
B301		9	9
B310		3	3
B360	10	5	15
B401	4	8	12
B602	5	14	19
B620	8	4	12
B681		14	14
B684	9	8	17
A101	2	4	6
A102	8	13	21
A103	1	12	13
A201		16	16
A502	3	19	22
A601	11	82	93
A604	2	25	27
A605	2	5	7
A702		16	16
A704	1	8	9

RCANY 105 1117+
DIGITAL MAYN

DIGITAL READING
MSG NO 148 AGAIN

26.4.65
MSG NO 148

TO KEN OLSEN/HARLAN ANDERSON
FROM JOHN LENG

HEATING COSTS ON BUILDING 1200 DOLLARS YEAR.
NO EXTRA COST FOR PARKING SPACE, WILL BE GRAVELLED.
INVESTOR WILL PAY FOR EXTRA TOILETS AND REQUIRE 10 PERCENT
RETURN ON HIS MONEY.
NEED BUILDING NOW AS FOLLOWS.
UPSTAIRS AND DOWNSTAIRS SALES OFFICES, CLASSROMM, FIELD SERVICE
AND CHECKOUT OFFICES, MODULE AND PARTS STORAGE.
HALF OF MAIN HALL FOR PDP-7 AND 8 CHECKOUT AND SHIPPING.
THIS ALLOWS ABOUT 8 SYSTEMS TO BECHECKED OUT CONCURRENTLY.
WILL EXPECT TO START USING REMAINING SPACE STARTING JAN. 1966
FOR PRODUCTION MEMORY MODULES, SPECIAL SYSTEM WIRING SUCH AS
A TO DA, DATA LOGGING, PHYSICS INTERFACES ETC.
SPARE SPACE DOES NOT JUSTIFY SUBLEASING FOR ONE YEAR PERIOD.
AM WRITING TO READING CORPORATION TO GET PERMISSION TO TAKE
BUILDING.

IMPORTANT IF WE ARE GOING TO PRODUCE IN EUROPE THAT I GET
STARTED AS ABOVE RIGHT AWAY TO USE AS MUCH OF MY TIME HERE
GUIDING THIS EFFORT.
ALSO REST OF EUROPE SHOULD FOCUS ON READING FOR BOTH SALES AND
PRODUCTION IF WE ARE GOING TO SELL 500 PDP-8'S IN EUROPE.
WE CAN PROVIDE 7 AND 8 MAINTENANCE AND PROGRAM TRAINING HERE
FOR EUROPEAN PERSONNEL AS WE GET INTO PRODUCTION, AND WE CAN
PROVIDE MOST SPECIALIST SUPPORT IN PHYSICS MESSAGE SWITCHING,
DATA LOGGING APPLICATIONS ETC.

CAN YOU TELEX ME TOMORROW?

END OR GA PLS

+
DIGITAL MAYN

DIGITAL READING

Ken Olsen

DIGITAL MAYN

DIGITAL READING

23.4.65

MSG NP 141

TO HARLAN ANDERSON
FROM JOHN LENG / WALLY SPITTLE

TELARE FEEL THEY HAVE TO GIVE LONGER GUARANTEE ON COMPUTERS. WE SHOULD NOT INCREASE OUR COMMISSION ON MAINTENANCE FOR THIS RATHER THEY SHOULD ABSOR IT IN THEIR 5 PERCENT COMMISSION . WE CALCULATE THAT 2 PERCENT ADDITIONAL FEE SHOULD COVER THEIR NORMAL GUARANTEE COSTS INCLUDING THEIR COSTS OF STORING ADEQUATE SPARES.

IF THEY CAN GET MAINTENANCE CONTRACT AFTER GUARANTEE THEN THIS IS TO THEIR ADVANTAGE. WE WILL TRAIN TELARE PEOPLE IN PROGRAMMING AND MAINTENANCE AT READING THEN THEY MUST TRAIN MSUBSEQUENT CUSTOMERS. WE WILL PROVIDE FIRE BRIGADE MAINTENANCE BACKUP BUT WILL CHARGE WHEN CALLED ON.

KEN AND I FEEL THAT THEY SHOULD HAVE ALL OF SCANDINAVIA AND SHOULD BE INCLUDED IN CONTRACTM

KEN AND I INTERVIEWED CANADIAN ENGINEERING GRADUATE PETER HERKE. E.E. BRITISH COLUMBIA, NOW AT LONDON SCHOOL OF ECONOMICS, SPEAKES GERMAN. WANT TO HIRE FOR INTERNATIONAL SALES. 3 MONTHS AT MAYNARD THEN WORK OUT OF READING TO SUPPORT PHYSICS SALES ALL OVER EUROPE. WILL HIRE NEXT TUESDAY. PLEASE PHONE IF FURTHER DETAILS REQUIRED. HAVE SPOKEN TO JON F. ON THIS.

END OR GA PLS

DIGITAL MAYN

DIGITAL READING

INTEROFFICE MEMORANDUM

DATE April 22, 1965

SUBJECT Purchasing Personnel

TO /Kenneth H. Olsen
Harlan Anderson
Stanley C. Olsen
Richard Best
Maynard Sandler
Robert Beckman
Nick Mazzarese
Winston Hindle
Loren Prentice
Jack Smith
Cy Kendrick
Ed Harwood
Pat Greene
Ron Wilson

FROM Henry J. Crouse

The following is a list of Purchasing personnel names, addresses and home telephone numbers:

Peter Brown
36 Dighton Circle
Brighton, Massachusetts
254-7771

Henry Crouse
14 Forest Street
Winchester, Massachusetts
PA 9-6297

William Farnham
Lowell Road
Carlisle, Massachusetts
369-9184

Phillip Feehan
148 Haynes Road
North Sudbury, Massachusetts
HI 3-6796

Richard King
9 Louise Street
Maynard, Massachusetts
TW 7-8761

Deborah Kuyamjian
325 Summit Avenue, Apartment 9
Brighton, Massachusetts
BE 2-2536

Paul McGaunn
108 Inland Street
Lowell, Massachusetts
GL 2-6551

Donald Smith
64 Oxford Street, Apartment 12
Cambridge, Massachusetts
491-4364

INTEROFFICE MEMORANDUM

DATE April 22, 1965

SUBJECT Machine Schedules

TO Kenneth Olsen
Harlan Anderson
Nick Mazzarese
Ed Harwood
Bob Beckman
Jack Smith
Pat Greene
Mort Ruderman
Win Hindle

FROM Dave Packer

Attached are summary sheets showing schedules for machines for which you are responsible.

These sheets will be updated each Monday so we can effectively keep track of progress toward our production goals.

If you see any items that require changes, please let me know.

Dave Packer

Distribution:

PDP-6	PDP-5, 7, & 8	LINC	Memory Test Equipment
H. Anderson	N. Mazzarese	W. Hindle	W. Hindle
R. Beckman	J. Smith	M. Ruderman	P. Greene
J. Smith	E. Harwood		

PDP-5

Customer	Order #	Machine #	# Value	Del to Ckout Sched	Del to Ckout Act	Del to Cust Sched	Del to Cust Act	Cust Accpt Sched	Cust Accpt Act
Telare		98	50,005		3/26	5/24		5/31	
Mare Is.		99	50,875		4/13	5/3		5/10	
Dupont #1		100	37,721	4/20		6/1		6/8	
Dupont #2		101	33,399	4/26		6/1		6/8	
Phillips Oil		102	29,420	5/3		6/11		6/18	

D.P.
9/16

PDP-6

CUSTOMER	ORDER #	MACHINE #	$ VALUE		DEL TO CHECKOUT ~~SCHED~~ ~~ACT~~	DEL TO CUST ~~SCHED~~ ~~ACT~~	CUST ACCPT. ~~SCHED~~ ~~ACT~~
BROOKHAVEN		3	416,344			1/12	4/23
U OF W. AUST.		4	349,700		ALL IN CHECKOUT ON 4/16.	2/11	5/15
ADAMS		6	990,022	5/1 w/o drum + disk 6/1 with		3/5	6/1
~~DEC~~		7					
RUTGERS		8	75,000			3/24	4/23
RAND		9				5/12	5/24
BONN		10	443,266			5/12	5/31
AACHEN		12	430,591			6/1	6/23
BERKELEY		11				6/15	6/24
RAND PERIPH		PERIPH				6/8	6/20

D. P.
4/16

PDP-7

Customer Name	Order #	Machine #	$ Value		Del. to Chkout Sched	Del. to Chkout Act	Del. to Customer Sched	Del. to Customer Act	Cust Accpt Sched	Cust Accpt Act	
Stanford		5	92,212			2/8		3/23		3/30*	
Delft		6	114,753			2/8	5/3		5/10		
Cambridge		7	68,083			2/3		4/2		4/10*	
III		8	78,900			2/17	5/26		6/2		
RPI		9	80,650			3/2	5/11		5/18		
Aeroneutronics		10	60,200			3/23	4/23		4/30		
Mass Gen		Periph	5147								
Oxford		11	104,747			3/31	To U.K. → 4/27		5/15		
Royal (Telare)		12	91,182			4/13	5/20		5/27		
U of Pitt		13	79,008		4/16	4/16	6/1		6/8		
Foxboro		14	159,250		4/16	4/16	5/24		5/31		
JPL #1		15	55,000		4/22		6/5		6/12		
U of Texas		16	108,925		4/22		6/5		6/12		
M.I.T. (Lincoln)		17	160,250		4/23		6/15		6/22		
Carnegie		18	97,000		4/30		6/9		6/16		
JPL #2		19	55,000	To LA →	5/3		6/14		6/21		
Battelle		20	61,900	To PA →	5/7		6/21		6/24		
LRL		21	54,100		5/10		6/17		6/24		
Argonne		22	66,500		5/14		6/14		6/21		End of Fiscal Year
Astrodata		23			5/17						
JPL		24			5/21						
Manchester		25			5/24						
M.I.T.		26			5/28						

* Est.

D.P.
4/16

PDP-8

Customer	Order #	Machine #	$ Value		Del to Checkout Sched	Del to Checkout Act	Del to Cust Sched	Del to Cust Act	Cust Accpt Sched	Cust Accpt Act
U of S Hampton		2	13,680			4/2	5/15		5/22	
ADI		3	18,000			4/5	4/30		5/7	
ADI		4	18,000			4/8	4/30		5/7	
PROG & MISC		5	18,000							
HILGAR & WATTS		6	18,000			4/9	5/30		6/7	
U of Mich		7	18,000		4/20	4/21	4/30		5/7	
Granger Assoc.		8	19,400		4/23		5/4		5/11	
Max Planck		9	18,000		4/26		5/7		5/14	
M.I.T. (MAC)	*	10	37,700		4/28		6/4 x		6/11 x	
U of Penn	*	11	64,000		4/30		6/11 x		6/18 x	
G.E.		12	19,450		5/3		5/10		5/17	
Argonne		13	18,000	(one per working day thru #32 in May 33-53 in June)	5/4		5/15		5/22	
SRI		14	16,998		5/5		5/16		5/23	
DEC Sales		15	18,000		5/6		5/18		5/25	
NSA	*	16	50,000		5/7		6/14 x		6/21 x	
Yokagawa		17	18,000		5/10		5/19		5/26	
U of Wis		18	18,000		5/11		5/20		5/27	
Stanford Med	*	19	51,194		5/12		6/17 x		6/24 x	
Dunlap		20	18,000		5/13		5/22		5/29	
Transdata		21	18,000		5/14		5/25		6/1	
		22	18,000		5/17		5/28		6/4	
		23	18,000		5/18		5/29		6/5	
		24	18,000		5/19		5/30		6/6	
LRL		25	18,000		5/20		6/1		6/8	
Gen Railway Signl		26	19,000		5/21		6/2		6/9	
Ann Arbor		27	18,000		5/24		6/5		6/12	
Johns Hopkins		28	18,000		5/25		6/6		6/13	
Columbia		29	18,000		5/26		6/8		6/14	
MITRE		30	18,000		5/27		6/8		6/15	
DYMEC		31	18,000		5/28		6/9		6/16	
Astrodata		32	18,000		5/31		6/10		6/17	

10 days -- CHKOUT → SHIPMENT

x EST., NOT FIRM AS OF 4/16

D.P.
4/16

LINC

CUSTOMER	ORDER #	MACHINE #	$ VALUE	DEL TO CHECKOUT SCHED	DEL TO CHECKOUT ACT	DEL TO CUST SCHED	DEL TO CUST ACT	CUST ACCPT SCHED	CUST ACCPT ACT
U OF WISCONSIN	(NOT FIRM YET)	10	43,600			5/15		5/22	
MAYO CLINIC	(" " ")	11	43,600	5/24		6/15		6/12	

D.P.
4/16

MEMORY TEST EQUIPMENT

CUSTOMER	ORDER #	MACHINE #	$ VALUE	DEL TO CKOUT	DEL TO CUST SCHED	DEL TO CUST ACT	CUST ACCPT. SCHED	CUST ACCPT. ACT
EMI	8536 9099		20,400	N/A	4/26		5/3	
NAT CASH	9474		4,000		4/21		4/28	
IND GEN	9178		27,400		4/30		5/7	
RCA NEEDHAM	10001		30,000		5/31		6/7	
RCA "	10002		17,000		6/15		6/22	
RIKEI	8421		67,500		4/17		4/17*	
RIKEI	8971		75,050		6/6		6/6*	

*LETTER OF CREDIT

25K CURRENT DRIVERS

D.P.
4/16

INTEROFFICE MEMORANDUM

DATE April 21, 1965

SUBJECT SPECTRAN ELECTRONIC SPACE, 2ND FLOOR, BUILDING #11

TO Ken Olsen
cc: Dick Mills

FROM Loren Prentice

The above mentioned space contains 9,000 square feet in building #11 and 1,000 square feet in building 8A. The rest of 8A is common area. This common space next to the elevator contains approximately 2,172 square feet and allows access to other tenants from the elevator into building #8 on the second floor.

There are 12 small rooms including a reception and mail room and the rest being offices and other small rooms.

There are two large toilets, two seats, 2 urinals and 4 lavatories in the men's side and it's reasonable to believe that the women's toilet contains 3 seats and 4 lavatories.

One fairly large area is air conditioned and humidity controlled with a humidifier rented from Boston Filter at $97.00 per month.

The entire area is serviced by one 600 amp, 208-120, 3 phase, four wire circuit from Transformers located near Main Street. The rental is $508.33 per month including heat and the present lease would be from June 1, 1965 to September 1, 1966.

The office areas are reasonably nice; some of the partitions are rather cheaply and poorly built, the floors are poor to good, the paint is only fair, the lighting is adequate in all areas and has new fixtures similar in type to the ones we put in most of our areas here (that is 8 foot double florescent fixtures).

If we could acquire the leases of the rest of building #11, it might be an area that could be used by sales. However, I do not believe it to be a very attractive sales area, being on the second floor with the only entrance being underneath the clock tower in building #8A. There is a fire escape on the riverside of the building. It of course, can be reached by the area we now rent in building #11 by going down one flight of stairs, however, this is not a very attractive entrance for a sales area either. If we give up the areas in building #8 and #11 that is now envisioned, the only entrance would be from the ground in building #8A through a stairway as mentioned above.

INTEROFFICE MEMORANDUM

DATE April 20, 1965

SUBJECT

TO K. H. Olsen
H. Anderson
S. Olsen
N. Mazzarese
W. Hindle
L. Portner
L. Hantman
G. Bell
T. Johnson
J. Atwood
R. Beckman
L. Prentice
K. Fitzgerald
R. Melanson
T. Stockebrand
R. Brown
R. L. Best
D. White
R. Savell
E. Harwood
P. Greene
H. Crouse
R. Lassen
R. Hughes
M. Sandler

FROM Arthur Hall

A suggestion has been made that the Engineering Library offer a storage and retrieval service for articles and clippings pertinent to DEC business which have been obtained by various interested persons at DEC and which are now stored in their files.

An article would be assigned a serial number, stored in chronological order of reception and discarded one year after reception unless a different time before obsolescence was specified.

Each new article would be added to a list of titles and serial numbers as received.

The library would list each serial number under one or more of 10-15 categories to assist users in searching for pertinent articles.

If you have any interest in a system of this sort, please notify Arthur Hall.

AH/mro

dec INTEROFFICE MEMORANDUM

DATE April 15, 1965

SUBJECT

TO H. Anderson
cc K. Olsen
S. Olsen

FROM Denny Doyle

During our meeting of a few weeks ago, some discussion arose about my profit margin. I believe I predicted $20,000 on $500,000 business. This does indeed appear low. It in fact may turn out to be lower. I felt therefore that certain points should be explained, because they refer generally to our foreign operations.

1. A look at my books for March 31 shows that, on sales of $438,917 to date, my cost of goods sold has been $377,160. Average markup has therefore only been about 16%, instead of the 20% that we had estimated. This was due to the fact that we absorbed quantity discounts on five PDP-5's in varying amounts. We also absorbed any educational discounts which we gave.

2. The following are some elements of expense which we are bearing, and which may not be included in our cost of sales in the U.S.:

   a. Installation of machines
   b. Warranty - including parts for repair and field modifications
   c. Training of our own field service technicians

3. Apart from the above, we are paying all of our own trade show expenses, all of our own office supplies, taxes, group insurance, duties on test equipment, literature, etc., trade journal advertising, etc.

4. Our total travel (year to date) has been $4,553. I would like to see how this compares with other offices.

5. We have expensed a number of tools and manufacturing fixtures costing less than $100 (which can be done) and a lot of labour expended on our building.

6. Canadian-assembled special systems accounted for about $70,000 worth of our sales.

7. Our sales effort requires more office staff since we are doing all of our own invoicing, collecting, shipping, customs clearing, etc. At least two of our staff are involved in functions which are truly accounting functions rather than sales functions.

Hope that this information may serve as clarification and as a guide for other foreign operations.

Denny

INTEROFFICE MEMORANDUM

DATE April 15, 1965

SUBJECT

TO K. H. Olsen
H. Anderson
N. Mazzarese
J. Atwood
J. Hastings
L. Portner
L. Hantman
D. Packer
L. Prentice
R. Melanson
R. L. Best
E. Harwood
W. Hindle
P. Greene
S. Olsen
R. Hughes
H. Crouse
R. Lassen
M. Sandler
R. Mills

FROM Arthur Hall

Following is a brief outline of the policies and duties of the Engineering Library as I have interpreted them. If you have suggestions for changes please write your comments on this memo and return it to Arthur Hall.

Library Purpose:

To make available useful reference material pertinent to the development, production and support activities of DEC.

Librarian's Duties:

First priority is the day's mail.

a. Distribute magazines to interested parties on the mailing list.
b. File magazines which have completed their rounds.
c. Notify the orderers of books of their arrival.
d. Classify, mark, record and shelve new books.
e. Log in and shelve returned books.

Second priority is the acquisition of required new reference material.

a. Order books and magazines as requested by DEC employees for the library (requests screened by Arthur Hall).
b. Order reprints (of material not available in the library) from magazines or reproduction libraries.

Last Priority:

a. Withdrawal of material for persons not willing to come get it themselves.
b. Bibliographic research.
c. Ordering material not for addition to the library.

Policies:

The scope and priority of the librarian's duties are as shown above.

The librarian will not leave the library to copy or deliver library material.

Books and magazines available in the library but not pertinent to the company's business activities are maintained for the use of DEC personnel only during their off-duty hours. No special care will be devoted to their maintenance and they will not be distributed.

Requests for books, reprints, etc. to be bought by but not for the library must be accompanied by a charge number (such material will not be charged to the library).

Books are due back in the library 30 days from date of withdrawal. Persons discovering an extended need for a book should purchase a copy charged to their cost center.

Projects:

The classification system is being changed from Dewey Decimal to Library of Congress, the latter system being more useful in a special-purpose, restricted subject library.

Signs will be posted in the library giving explicit instructions for easier location, withdrawal and return of literature.

Books out for more than a month will be retrieved.

AH/mro

Dave Packer
April 12, 1965

MODULE DISTRIBUTION SYSTEM PROPOSAL

Rules:

1. All module orders must be placed with the Sales Department.
2. All completed modules go into the stock room for distribution.
3. Orders will be filled on the basis of date submitted, subject to the constraint below.

   Constraint: If orders are submitted with a due date more than 4 weeks in the future, they will be filled only if the modules required are not needed for orders due within the next 4 weeks. When these orders become current (due within 4 weeks), they will be filled via rule 3.

4. All orders must be approved by the appropriate supervisor, who is responsible for assuring the due date is reasonable.
5. Complete orders not picked up within 2 days of notification will be cancelled.
6. Exceptions to rule 3 must be approved by K. H. Olsen.
7. The manufacturing sequence schedule must be reviewed weekly and approved by S. C. Olsen and M. Sandler.

D. W. Packer

DWP:ncs

INTEROFFICE MEMORANDUM

DATE April 2, 1965

SUBJECT

TO K. Olsen

FROM C. Kendrick

cc: M. Sandler

The reeled jumpers you inquired about are purchased at a cost of $8.50 per thousand.

The breakdown is $3.50 per thousand purchase price and $5.00 per thousand for taping and reeling.

Our monthly usage is presently about twenty-five thousand jumpers; this will no doubt double in the next few months.

I have a quote from Universal Instruments Corporation for a Standard Model Taping machine with optional attachments of $8,555.00.

This machine is capable of taping other components of similar lead diameter.

25000
25
8
200

INTEROFFICE MEMORANDUM

DATE April 2, 1965

SUBJECT

TO Ken Olsen
cc: Harlan Anderson

FROM Jack Smith

In reference to your request on how to increase PDP-7 production during the month of May, the critical area affecting delivery would be module test. By putting priority on PDP-7 modules, PDP-6 modules would suffer to the extent that the delivery of a PDP-6 in May may be affected. Also, outside customer modules may be delayed one or two weeks.

JS:ecc

Ken Olsen

INTEROFFICE MEMORANDUM

SUBJECT: Outline and Schedule for PDP-6 Plan for Board of Directors and Works Committee

DATE: April 1, 1965

TO:
Kenneth Olsen ✓
Dave Packer
Ted Johnson
Bob Beckman
Gordon Bell
Bob Lane
Larry Portner
Bob Savell

FROM: Harlan Anderson

The following outline will specify the modus operandi of PDP-6 over the next three years:

I. Product Strategy (H. Anderson)
   - A. History
   - B. Summary
   - C. Assumptions:
     1. Competition
     2. Market Life
     3. Company Goals
   - D. Goals
   - E. Competition

II. Marketing (D. Packer, T. Johnson, R. Beckman, H. Anderson, G. Bell, R. Lane)
   - A. Brief Text Description (Ref. Appendix)
   - B. Chart Showing:
     1. Machines over three year period:
        - a. Sold
        - b. Rented
     2. Marketing Costs:
        - a. Selling effort and people
        - b. Advertising and promotion
   - C. Pricing
   - D. Organizational Structure:
     1. Front Line Sales:
        - a. Home Office
        - b. Field Office

2. System Engineering
3. Field Service Engineering
4. Applications Specialists

E. Computer Center.

III. Development (G. Bell, R. Savell, L. Portner)

A. Software

1. Multiprogramming (System 60)
2. Prog. Swapping (System 600)
3. Multi-processing (System 6000)
4. Industry Components:
   a. Sort-Merge
   b. Statistical Packages
   c. Linear Programming
   d. Special Conversion
5. Languages
   a. COBOL
   b. NPL
   c. LISP
   d. ALGOL
6. Personnel

B. Hardware

1. Present Components
2. New Components:
   a. Processors (168-6A, 169-6B, 6C)
   b. Memories (designs, paging, stacks, mass core)
   c. Peripherals
   d. Discs (1311, 2311, Small Disc)
   e. Tape (Mag tape, DECtape)

f. Displays

g. CRTS

3. Automatic Design

4. Personnel

IV. Production (D. Packer and R. Beckman)

A. Capabilities

B. Personnel

C. Peripheral Checkout

V. Financial (D. Packer)

VI. Appendices

A. Market Appendices (D. Packer)

B. DEC Computation Center Appendix (L. Portner, G. Bell)

C. Organization (H. Anderson)

1. PDP-6

2. Interface with rest of DEC.

FINAL SCHEDULE

April 2	5 p.m.	Rough Draft Marketing Appendices
April 6	5 p.m.	Rough Draft Complete
April 7		Review Rough Draft
April 8	5 p.m.	Mail Final Report to Board of Directors and Works Committee
April 12		Works Committee Review
April 13		Board of Directors .

Harlan E. Anderson

HEA:ncs