Box 1 1963 Letters to Olsen 2 of 6 1027373375
Folder 5

DRAFT --- DRAFT --- DRAFT Folder Record

Title: Ken Olsen Collection

Author: Olsen, Kenneth H.

Arrangement: Series I: Letters to/Letters from

Imprint: 1963

Subjects:

Description: One folder

Notes: Letters to

Summary: Feb 22 from Ed Fredkin, Information International: proposal to compare current computer systems against Digital's specifications for proposed new equipment

May 10 from Robert A. Cesari, Blair and Buckles: filing of foreign patent applications

Jul 30 *copy* of letter from General Doriot to J.M. Morris, DuPont: declining the possibility of DuPont's purchasing an interest in Digital

Oct 7 *copy* of letter from William E. Fletcher, Bolt Beranek and Newman, Inc. to Gordon Bell: proposal for additional programming for PDP-1

Oct 15 *copy* of letter from Thomas Marill, Bolt Beranek and Newman, Inc. to Gordon Bell: proposal for Drum Diagnostic/Troubleshooting Package

Oct 21 from Ted Johnson: discussion of communications and reporting methods and the current status of modules and their documentation

Nov 18 from Frank Ervin, Mass. General Hospital/Harvard Medical School: extremely detailed account of one year of use of the PDP-4

Dec 18 from Jay Forrester, MIT: copy of speech on "Dynamics of Corporate Growth" presented at MIT's conference on Management Strategy for Corporate Growth in New England

December 24, 1963

Dear Ken:

This ode is to Ken - and Digital - whom we appreciate,
To help and work with such as you is cause to celebrate.

ODE

This has been a happy year,
We've had a lot of fun.
We've done some tricks with things that mix,
And glamorized a gun.

We've worked on scales that drum up sales,
On cameras that take pictures,
On saws, and pipes, and prototypes,
And other motley mixtures.

But, though the work itself was great,
The thing we dearly prize,
Is that, while helping with these jobs,
We know such darned nice guys.

VAN DYCK CORPORATION • ONE BRIDGE SQUARE, WESTPORT, CONN. • CAPITAL 7-8401
NEW PRODUCT SERVICES: PLANNING • R&D • INDUSTRIAL DESIGN • ENGINEERING • MARKETING

F

HEYMAN MANUFACTURING COMPANY

KENILWORTH, N. J.

TELEPHONE
245 - 2345
AREA CODE 201

Strain Reliefs · Bushings
Cord Set Components

TELEGRAMS: FAX, FGT ELIZABETH
CABLES: "HEYCO"

December 23, 1963

Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Attention: Mr. Kenneth H. Olsen, Engineer

Thank you for your inquiry on HEYCO nylon Junction-Terminal Bushings.

These miniature receptacles were designed for use in chassis, housings or panels where an insulated "make or break" connection would be helpful to you. Samples and literature are enclosed for your examination and tests.

They consist of a nylon snap-in bushing and a brass terminal tab for mating with standard 3/16" or 1/4" female solderless wire terminations such as made by Ark-les Switch Corporation, Watertown, Massachusetts, Truon Division, New Cumberland, Pennsylvania, AMP, Inc., Harrisburg, Pennsylvania and ETC Corporation, Cleveland, Ohio.

The terminal tabs are made in three types, each with different means of connection to the internal wiring. The nylon bushings are available in seven colors so as to assure proper mating with your color coded harness or wiring.

These parts are available for immediate delivery and if there is any question as to how they can best meet your needs please let us know. We look forward to working with you on your future requirements.

Very truly yours,

HEYMAN MANUFACTURING COMPANY

J. L. Holder

JLH:nm
Enclosures

MOLEX PRODUCTS COMPANY

OFFICES & PLANT AT
9515 SOUTHVIEW AVENUE BROOKFIELD, ILLINOIS 60513
TELEPHONE HUnter 5-5881

December 20, 1963

Digital Equip. Corp.
Main St.
Maynard, Mass.

Attn: Kenneth H. Olsen
Pres.

Gentlemen:

Attached is the literature you requested covering our Nylon Plugs and Receptacles.

All parts are U.L. approved. Mounting is simplified with self-contained snap-in panel mounting brackets. No tools necessary, yet easily removed for service.

Snap lock terminals permit fast easy assembly.

We will be happy to send you blueprints and price lists on request.

Very truly yours,

MOLEX PRODUCTS COMPANY

Emil G. Schally

E.G.Schally/vw

Encl.

cc: Robinson Flat Terminal

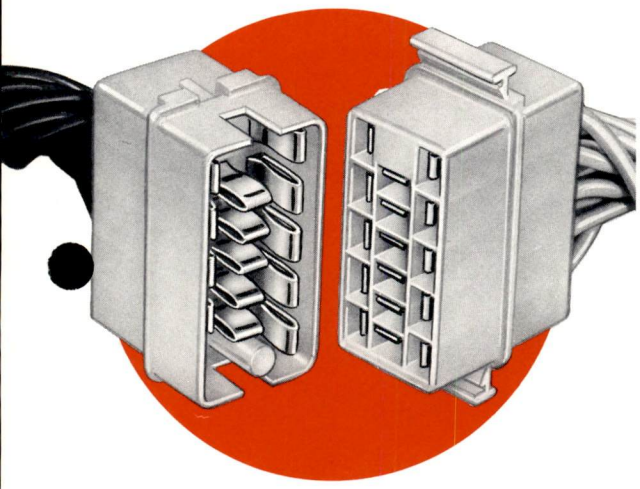
NYLON & PHENOLIC
PLUG & RECEPTACLES

. . . featuring unique double spring contact terminals



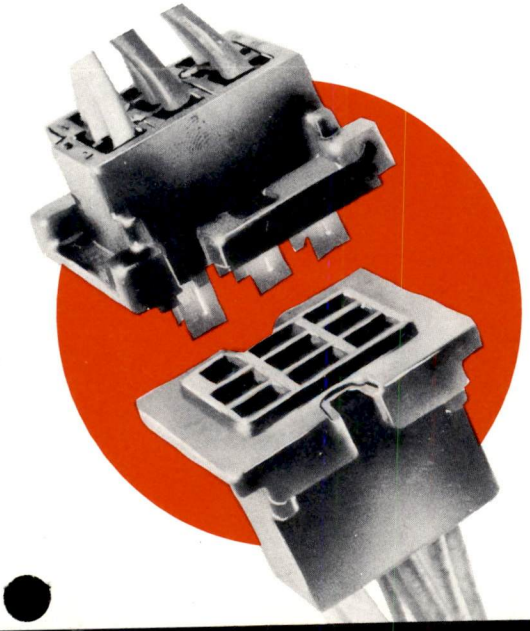
The *Original* Plug & Receptacles with snap-in, crimped terminals features proven reliability and design versatility! Now — the Molex flat contact terminal series is available in a wide range of models and circuit combinations in both nylon and phenolic housings.

Units feature positive, fool-proof polarity, easy snap-in terminals, (easily removable), self-contained integral lug mounting or simple clip mounting and totally encased female terminals . . . PLUS low unit cost, fast installation and service.



MODEL 1257-15

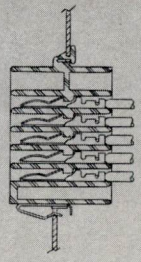
Nylon plug and receptacle for 15 circuit connections featuring choice of integral mounting lug or snap clip panel mounting. Note built-in positive, fool-proof polarity. Circuit identification available to specifications at slight added cost. Dual 1257 unit offers 30 circuit arrangement. (see back page)



MODEL 840

Durable, UL approved phenolic case featuring positive polarity, snap-in, crimped terminals and choice of clip panel mounting or securing clips for loose mounting. Model 840 is designed for 9 circuit use.

TECHNICAL INFORMATION

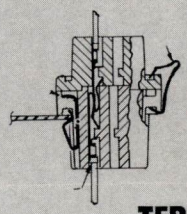


NYLON

(A) is cross section of clip panel mounting. (B) integral mounting lug method. Note polarity and terminal protection afforded by case.

Note front to front contact provides positive feel and patented over center interlock of contact members with or without detents to securely hold units in position.

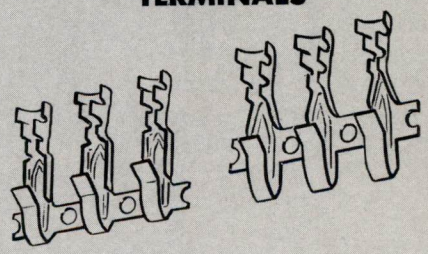
U. L. Approved to 15 amps; Wire sizes No. 22 — No. 12.



PHENOLIC

Phenolic unit showing clip mounting for both panel and loose installation. Terminals mate back to front.

TERMINALS

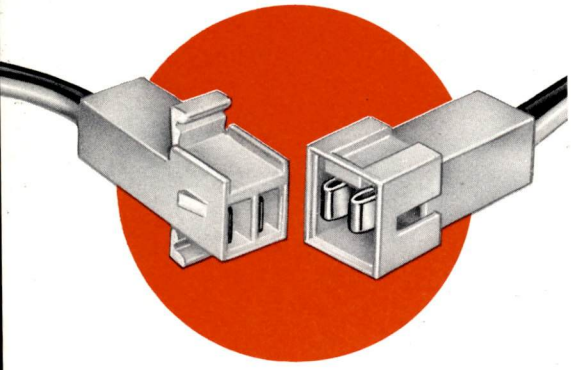


Flat type terminals, in chain or loose, are available in plain brass or tin plated in various stock thicknesses. Terminals are crimped automatically or hand crimped to wires. They snap-lock into position and are readily removed with simple ejector tool.

MOLEX PRODUCTS COMPANY
9515 Southview Ave. Brookfield, Ill. HUnter 5-5881

molex

Compact . . . Dependable . . . Economical!

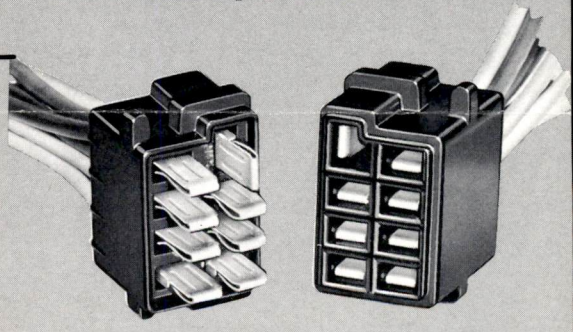


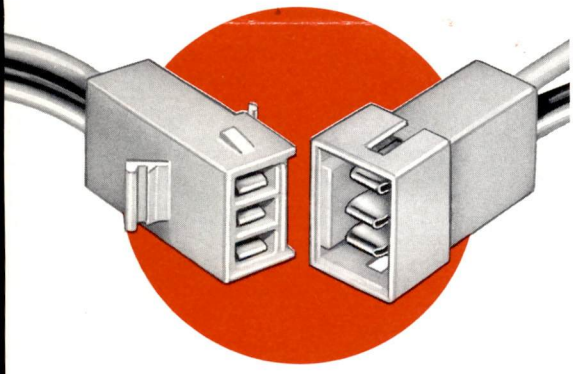
MODEL 1184

Compact, two circuit nylon connector. Can be used loose, or integral lug mounted. Ideal for simple service connections.

MODEL 1028

Phenolic case featuring excellent dielectric, simplicity in assembly, application, and service for a wide variety of installations. 8 circuit clip mounted.



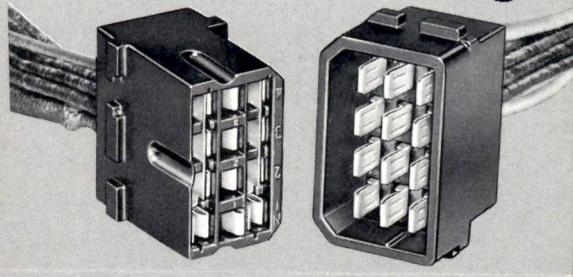


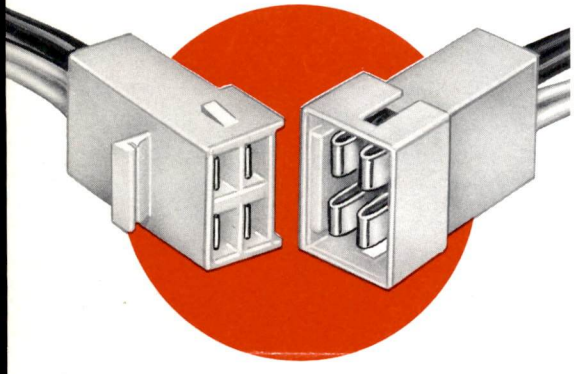
MODEL 1183

Durable nylon case for three circuit connections. Available with integral mounting lugs.

MODEL 1116

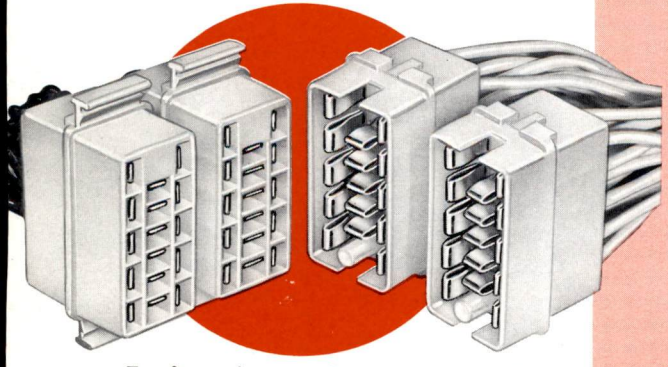
Rugged Phenolic case for twelve circuit connections. Panel mounting clip available. Bus bars for bussing each outside group of circuits from 2 to 4.





MODEL 1181

Four circuit, compact nylon plug and receptacle. Outstanding simplicity for installation and service. This unit also available with integral mounting.

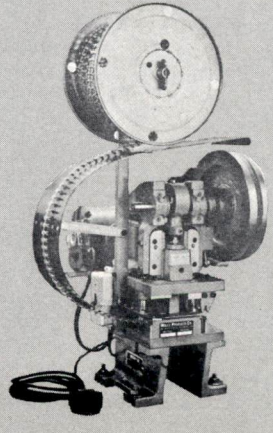


MODEL 1257-30

Thirty circuit combination possible with one unit. Either plug or receptacle can be mounted with integral lugs or mounting clips for panel mounting.

No. 1187 Molex Crimp Machines

Molex Automatic Crimping Machines for high speed terminations. Sold outright, leased, lease-purchase.



Engineering assistance is available to solve your custom multiple circuit problems. Contact your local representative or write direct to the factory.

molex

MOLEX PRODUCT CO., 9515 Southview Ave.
Brookfield, Illinois

Printed in U.S.A.

SCHOOL OF INDUSTRIAL MANAGEMENT

ESTABLISHED UNDER A GRANT FROM
THE ALFRED P. SLOAN FOUNDATION, INC.

50 MEMORIAL DRIVE
CAMBRIDGE 39, MASSACHUSETTS

December 18, 1963

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

Dear Ken,

Enclosed is a copy of the talk which I gave on November 12th at the conference you attended. We did not have much chance to talk at the meeting, and I would appreciate your comments on any part of it.

Sincerely,

Jay W. Forrester
Professor of
Industrial Management

JWF:bw
Enclosure: copy of "Dynamics of Corporate Growth"

DYNAMICS OF CORPORATE GROWTH

by

Professor Jay W. Forrester

at the conference on

MANAGEMENT STRATEGY FOR CORPORATE GROWTH IN NEW ENGLAND

Massachusetts Institute of Technology

November 12, 1963

More than ever before, corporate growth is today's challenge to New England managers. The growth cycle of a society goes through stages similar to the growth of a product. There is an early period of daring and risk-taking which is marked by courage in testing the unknown. The successes grow from this innovative stage; they create jobs, and cause the society to flourish. Growth is followed by conservatism in an effort to maintain the status-quo and to extend the period of prosperity on its earlier foundation. Conservatism means overdependence on the past, and results in loss of competitive position to other regions which are in their growth phases. The competitive pressures can lead either to the permanent decline of the society or to a renewal of vigor and the establishment of a new growth phase.

New England pioneered in America's industrial development. By the first half of this century its first growth stage had ended and it had fallen into the stage of conservatism. Being conservative was not sufficient to maintain New England's industries in their original forms. Unlike some societies, New England has not continued to decline. In response to economic and competitive pressures, we see a wave of renewal based on the new scientific frontier which replaces the old geographical and mercantile frontiers. This renewal of the New England economy is the composite of renewal in some of our older institutions and, even more conspicuously, the development of many new institutions.

Do we understand this process of growth, maturing, ageing, and renewal? I think you will agree we do not. If we did, we would cause renewal to start earlier in the previous cycle so that success builds on success, rather than being forced by an intervening period of economic decline. If we better understood the processes of product and corporate growth we could expect fewer early failures. If the foundations for healthy growth were

clearer we could avoid the stagnation which we see in many of our New England companies, even though those companies may be in new fields and have young managements. Growth means more than mere increase in size. It means renewal, the maintenance of health, and the replacement of old activities before they stagnate and decline.

CORPORATE POLICY DESIGN

There are good reasons why we do not understand the processes of growth. It is not because the manager lacks intelligence or keen perception. It is because growth is a complex process belonging to a family of systems which the human mind does not easily comprehend. These systems, known as feedback systems, are misleading in ways which cause us to generalize incorrectly about their behavior.

In the past, management methods have been learned primarily through personal experience. The developing manager rotates through numerous assignments. Management schools repeat the folklore and the experiences of practicing managers. This experience is used as a basis for generalizing, so that past experiences can become a basis for anticipating the nature of new situations.

Unfortunately, the characteristics of complex feedback systems are such as to cause incorrect generalizations from our experience. In our younger, developmental years, we encounter simple feedback systems and learn to generalize correctly from them as applied to other simple systems. But these generalizations give wrong answers when applied in more complicated circumstances. For example, one has a feedback system in the chain of reactions involved in accidentally touching a hot stove. The complexity of a feedback system can be measured by what we call the "order" of the system. The essentials in touching a hot stove constitute what we might view as a first-order system. Pain, the extent to which one is burned, depends on the distance from the stove. When we touch the stove we are burned now and we are burned at the point where the hot object is found. From simple systems we generalize to the assumption that the causes of a trouble lie close to and immediately prior to the symptoms or indications of the trouble. But this is usually not true in systems that are third-order or more complex. The manager deals with systems of twentieth to two-hundredth order.

In complex feedback systems the symptoms of difficulty arise from within the total set of system relationships. A simple, single cause seldom exists. The fundamental causes need not lie near to, or immediately prior to, the indications of difficulty. To make matters even more misleading, such systems always contain events which are close to the symptoms and occur immediately prior to the symptoms which appear to be causes but are not. One's generalization from simple systems causes him to focus on these apparent causes which are, in fact, only coincident symptoms that arise from the more

fundamental sources. As one delves into the complexity of the industrial system, he wonders not at our lack of understanding, but rather at the extent to which we do succeed.

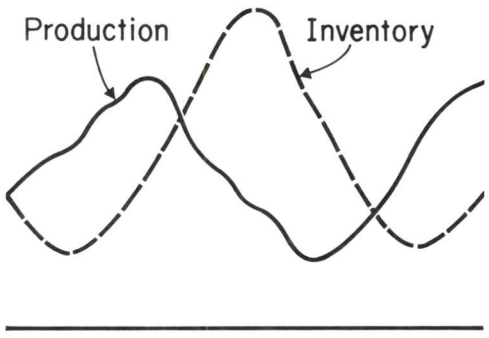


Figure 1

If you feel that I overstate the inadequacy of our understanding of the growth process, let me cite a much simpler example. It also lies beyond solution by ordinary intuitive insights. Many people feel that inventories serve the purpose of absorbing fluctuations in demand so that production rates can proceed more smoothly. This is often true in the short run, but, in general, is not true in the longer run. Consider Figure 1 showing an interval over which production rates and inventories have fluctuated. Typically, one sees the illustrated relationship in which inventories reach a peak shortly after the peak in production and reach a minimum shortly after the minimum in production. This implies that inventories are rising at the time of peak production rate and are falling at the time of minimum production. Such a relationship tells us immediately that, at the time of a production peak, production exceeds sales and the excess is going into inventories. At the time of the production minimum, the production is less than sales and the excess in market demand is coming out of inventories. Production fluctuates more than demand because of the inventory fluctuation. Inventories in these circumstances accentuate rather than alleviate production disturbances. This typical relationship does not arise from happenstance or bad luck. It is inherent in the conventional policies followed in the management of inventories and production rates.

As most of you know, we have here at the M.I.T. School of Industrial Management been developing an approach to management policy design which we call "industrial dynamics." It is intended to be a new way to understand how corporate structure and policy produce the different characteristics which one sees in business enterprises*.

Industrial dynamics uses our descriptive knowledge about the different aspects of the corporation and its market to construct a simulation model that operates in the way we believe these different parts of the system behave. The parts are linked in life, and in the model, by the flows of

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* Forrester, Jay W., Industrial Dynamics. Cambridge, Mass.: M.I.T. Press, 1961.

information, men, money, materials, capital equipment, and orders. In general, managers correctly understand the isolated, separate facets of the industrial process. But, in general, all of us are wrong about the implications of putting these separate pieces together. Most managers are surprised to learn that those practices which they know they are following are sufficient, when assembled in a system model, to cause the major difficulties which they have been experiencing. These troubles arise from the known policies, practices, and relationships more often than they are imposed by capricious outside forces beyond the manager's influence.

From 1956 to 1961, our studies of the dynamics of the corporate system related to mature industries, such as metals, automobiles, textiles, appliances, and commodities. That work explored the policies that produce the fluctuations in production, sales, inventories, employment, and prices. In the total industrial life cycle, the mature industries represent merely that central section which is preceded by the stages of innovation and growth, and is followed by decline. In the last two years, we have been shifting our attention to the growth phase of the life cycle.

GROWTH DYNAMICS

During the last few years we have been investigating new product life cycles and the influences that determine corporate growth. As part of this growth study I have constructed a simulation model of the growth of a company. You might think of it as applying to our new technically-based, Route-128-type of companies, although the implications go much further.

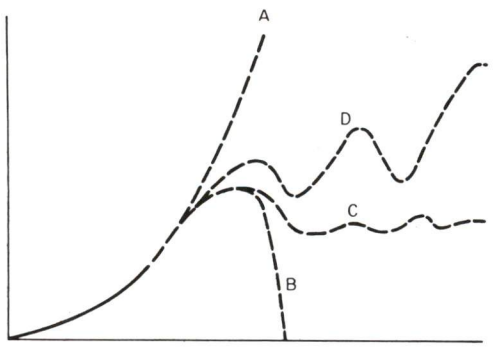


Figure 2

If one examines the histories of such companies, he sees that they fall into four classical patterns of growth behavior as shown in Figure 2. Ignoring those companies which are so ill-conceived as to never get off the ground, we see in each of the four types an initial period of growth and apparent success. The extremely rare company follows a pattern of sustained and healthy growth as in Curve A. Many show the pattern of Curve B, where initial growth leads to some form of severe crisis followed by bankruptcy or merger. A large number of the new companies which survive exhibit a pattern like Curve C, which, after a period of initial success, is characterized by stagnation, wherein the company survives

with neither marked success nor failure. Most of those companies which do show continued growth do so as in Curve D, where growth is interrupted by repeated crises and reversals.

We need to know how such different corporate growth patterns can be created. What exists in the policies, practices, and attitudes of one group of managers to produce one life history, while other managers, even in the same industry with similar products, can have an entirely different corporate growth behavior? One can say the difference lies in good or bad management, but this doesn't tell us how to manage better. We need to know which differences in emphasis, corporate structure, and information sources can produce such different life histories.

To study this diversity of growth behavior, I have constructed a model that describes the activities within a growing company and couples the company to its market. Such a model represents our understanding of how all of the separate parts of the system operate.

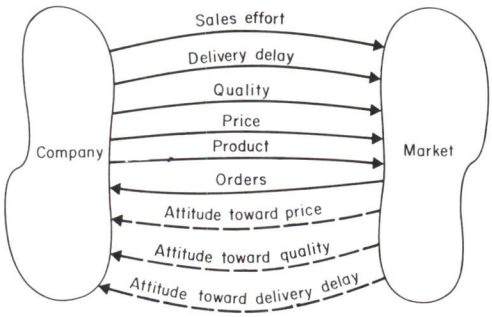


Figure 3

This growth system can be represented by two major sectors--the company and its market--as shown in Figure 3. One sector includes those activities within the company. The other sector includes those reactions within the market. Various channels of information and action flow between the company and market.

The market responds to sales effort. It orders less as delivery delays become longer. The market responds to quality, not only of the product, but the quality of salesmanship, product service, courtesy, and other factors. The market responds to price, usually by ordering less as the price increases. The market is a source of information to the company regarding the market attitudes toward price, quality, and delivery delay. In the market, one must represent his beliefs about the nonlinear interactions of sales effort, delivery delay, quality, and price that cause the market to generate a varying stream of orders. The inputs to the market have differing persuasiveness and furthermore the market takes differing lengths of time to recognize changes in these inputs coming from the company.

Within the company sector, one must represent the policies and interactions which create the outputs that flow to the market. These include not only the flow of actual products, but must also include the policies that determine price, the personnel allocation policies that determine sales effort and quality, and the investment and production policies that affect delivery delay in filling customer orders.

Time does not permit examining this system in detail. The model consists of some 250 different variables. These represent the particular technology and the attitudes and policies of the market and the management being represented.

One must realize that such a model is not derived only from the scanty financial and statistical data that exists within a corporation. Instead, it is a translation into a simple, precise, mathematical language of one's concepts about the behavior of each separate part of the corporate and market system and the way in which these parts couple to one another. When one has clarified his thinking about the relationships which are important in such a situation, one finds that the model has a number of interesting characteristics.

First, it is primarily a model of the top management power structure of the corporation. It deals with the relative emphasis that will be given to sales, production, or quality under the stresses created by poor deliveries, falling orders, or financial difficulties.

Second, the model must deal with the goals and traditions of the organization. To some extent, an organization strives for a set of absolute goals set by the top management. However, to a considerable extent these absolute goals are diluted by the knowledge of past performance. In some organizations one sees that men are striving only to equal their traditional or historical successes, and the organization is satisfied if it falls only a little below these historical goals, and this new lower level of current performance becomes the historical goal for the future. A degenerative system of declining objectives can result. The extent to which the traditional performance dilutes the absolute goals depends upon the personal influence of the management and on the size and the growth rate of the organization. Tradition becomes more important in determining goals as the organization becomes larger and as its growth rate increases. With large size or high growth rate, corporate management has less influence in setting high performance standards than in the smaller or more stable organizations.

The third characteristic of this model is a "pressure system" which is a coupling tissue between internal activities within the company. Pressures arise from poor delivery performance, from falling orders and excessive inventories, from low quality, and from financial difficulties. These pressures permeate the organizational structure to influence decision streams that are otherwise primarily responsive to local conditions. For example, the need for greater production would lead to hiring production workers and managers, but this tendency would be depressed by severe financial pressures.

The fourth characteristic of this model is the explicit recognition of the differing persuasiveness of different information channels. Managerial decisions often respond to information more on the basis of apparent

accuracy and easy availability of the information than on the importance of the information. What the market thinks of a company's product and service quality is often more important to management decisions than variables such as inventory and production rate. However, inventory information is easier to obtain and appears to have a higher accuracy, and so it receives far greater attention. By contrast, the market attitude toward quality of company performance is harder to determine and its meaning is more controversial so an unfavorable quality indication must be more extreme and must exist for a longer time than an inventory difficulty if it is to create the same influence. This means that the company may have very delayed and insufficient reactions to important market variables. Some of the major differences between corporate histories which we saw in Figure 2 are traceable to the relative emphasis that management gives to different information channels.

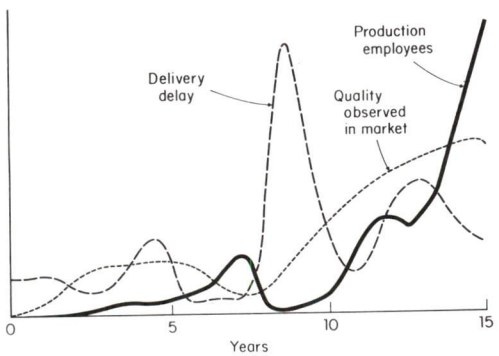


Figure 4

In Figure 4 is a fifteen-year time history of corporate growth created by one set of conditions within this model representing company and market. The behavior belongs to class D of Figure 2. Here, a rather ordinary and typical set of policies, such as one might find in a young growth company, interact with each other and the market in such a way that they cause turbulent behavior. Only three of some 250 variables are illustrated. The number of production employees climbs to a peak at seven years, then difficulty is encountered and production is sharply curtailed. During the cutback, the company readjusts its internal allocation of people and resources so that it becomes more acceptable in the marketplace and a second growth stage begins. During this time, major changes are occurring in other variables, such as seen here for delivery delay and the product quality as observed by the market.

From such a simulation model one can obtain information on all the variables and how they are affecting one another. One can see how the combinations of conditions evolve to create the apparently capricious changes in market demand. One obtains many insights into the growth mechanisms.

One of the most interesting things is to see how the company and market interact to limit sales growth. People often ask how to increase their company's sales. This is the wrong question. Instead, one should ask how he has chosen, intentionally or unintentionally, to limit his sales. It is clear that one must follow policies to limit sales. If one has the highest quality product in the market, if it is available for immediate delivery,

and if it is being distributed at zero price, it is clear that one will have more business than he can handle. Simple economics suggests that supply and demand rates are equalized primarily by adjusting price. This is naive and inadequate. There is no way to pick a price, especially for a new product, which one knows will equate supply and demand. Prices are set by cost plus a normal mark-up, or by what the competition charges for related items, or by a compromise between differing opinions. Usually this price is less than the one which would equate supply to demand. If price is less than that which will equalize production and consumption rates, then some of the burden for reducing sales must fall on making the product undesirable in other ways, such as by poor delivery, lower quality, or reduced marketing effectiveness. How the management limits sales is tremendously important in determining the growth character and profitability of the business. Low prices can cause a large order backlog. A large order backlog gives a very comfortable feeling and provides one way of absorbing uncertainty and fluctuation in the order stream. However, anyone selling a product whose delivery delay long remains high enough to be of concern to the customers is reducing the attractiveness of his product by unsatisfactory delivery performance. Under these circumstances the pressures to expedite delivery may lead to lower quality which then begins to share in the suppression of demand. Profits can be sharply reduced if one shifts too much of the task of limiting sales away from price and onto low quality and poor delivery.

These same processes that one can observe in a model of growth are readily detected in our actual companies. Underpricing of a new product reduces the profitability, increases the pressures on delivery, reduces the emphasis on quality, and decreases the incentive for effective selling and the development of replacement products. As the age of the product and the competitive conditions increase, backlogs fall, pressures develop to reduce prices still further, and profits decline and create still heavier pressures against renewal of the product stream. In these interacting forces, one finds many of the reasons for corporate stagnation and failure to grow.

In the model, one observes striking changes in the growth behavior as one changes the basis for expansion decisions. Steady, healthy growth arises from growth policies which are not quickly.and emotionally responsive to market behavior. By contrast, highly unstable growth and a variety of repeated crises occur when growth is quickly responsive to short-term market demands. The feeling that one must meet all of the market demand and dare not turn away business lies at the bottom of many problems. For example, one might start with deliveries prompt, quality high, and the price fair. Orders then begin to exceed production capability. A tendency to promise more than one can deliver leads to more rapid expansion than one can accomplish without degrading quality, delivery, and selling enthusiasm. At about the time that expansion problems have been overcome, the intervening deficiencies in quality and the failures to meet delivery promises have led to customer displeasure and falling orders. One then finds himself with a production curve which is rising and crossing an order curve which is falling. Financial, employment, and marketing crises follow. By contrast, growth can

be controlled so that it does not exceed the rate at which quality can be maintained, and additional managerial capability and marketing competence developed. Along with such a controlled growth policy must go the will power to accept no more commitments than the company can discharge without decreases in quality or increases in delivery delay. Under these circumstances a steadily increasing production meets delivery promises, sustains required inventories, and maintains quality. If at the same time the price is high enough to keep backlogs from becoming excessive, the resulting pressure on the sales department keeps sales effort at a high level.

Figure 4 shows a turbulent and undesirable growth pattern. As one begins to change the management policies within the model to produce a more stable growth, he sees why the growth process in actual companies can be so baffling. The system does not respond to most of the changes which managers try, just as the easy and obvious changes so often fail in real life. One finds that the system is filled with feedback relationships which tend to cancel the effect of many managerial actions. For example, a determination to increase sales by a greater marketing effort may merely increase the order backlog slightly, thereby increasing delivery delay and making the product sufficiently less attractive to counteract the increased selling effort. Likewise, a plan to increase product research and development can lead to increased demand accompanied by great pressures to shift research and development resources into the production and sales areas, thus counterbalancing the determination to favor new product development. At a few points, often those that one would least expect, there exist policies which give control of the growth process. These tend to lie deep within the resource creation and resource allocation practices of the company and are often the ones which receive almost no managerial attention.

I have been speaking about new ways for designing corporate policies to enhance growth. There is another different but related area of new thinking about corporate design which I believe is equally important to the future of New England industry. It would need to be the subject of another talk, so I can only mention it here. I refer to the internal, social, and political structure of the corporation as it affects motivation, initiative, and innovation. The recent books by Professors Douglas McGregor and Everett Hagen, both here at M.I.T., suggest this new direction*.

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* McGregor, Douglas, The Human Side of Enterprise, McGraw-Hill, 1960.

Hagen, Everett E., On the Theory of Social Change, Dorsey Press, Homewood, Illinois, 1962. This book is addressed to growth in the primitive societies, yet I find it pertinent to the influence of authoritarian organization on innovation in the industrial corporation.

The organizational structure of the typical corporation is authoritarian in its form. It is patterned after authoritarian political forms which have been going out of style over the last several hundred years as a rising level of education has established a basis for a capitalist, free-enterprise political structure.

We believe, and I feel correctly so, that our national economic growth has sprung from the encouragement of initiative and innovation inherent in our capitalist economy. Why does the social structure inside the corporation remain so different from that on the outside? There are both theoretical reasons and actual operating examples that suggest the possibility of corporate structures which are very different from those we now use and which would be far better suited to our changing times.

With our rising economic level, the struggle for food and shelter becomes less compelling as an individual motivation, and the psychological rewards involving respect, freedom of action, and personal sense of accomplishment become more important. The whole automation movement presses in the same direction. Fewer and fewer people are doing straight-forward routine tasks wherein performance can be specified and commanded. More and more, our corporate well-being depends upon widespread perception of new needs, innovation, and initiative to create and respond to change. There are challenging possibilities of enhancing these attributes by moving away from the authoritarian internal corporate structure toward one which is itself more like a free-enterprise, capitalist society.

New England needs innovation, not merely in products, but also in new managerial methods--methods which promise to keep abreast of our changing times.

I have tried in several situations to introduce these ideas into existing companies. This is difficult to do. Piecemeal changes are only partly effective, while the traditions of the organization are strongly entrenched against a package of changes that might be necessary to give an internally consistent structure to the growth policies. In addition, each phase in the life of a company presents its special difficulties. In the period of early success, an organization is sure of itself and unreceptive. In the comfortable, mature period, it is preserving its past success and is too conservative. In its declining and difficult years, it is unable. What then can one do?

In science and in new products, we have the tradition of experimentation to demonstrate the superiority of the new. A favorable experiment rightly carries far more weight than a proposal or theory. Speeches like this one are much less persuasive than successful living examples.

I am therefore proposing a demonstration corporation based on the two foundations I have mentioned--the design of corporate policies for growth

and continuous renewal, and an entirely different social structure to enhance initiative and innovation. These are both now timely and possible. I feel strongly enough about the importance of these to the New England economy that I am now soliciting advice and am looking for others who would like to join in establishing a company for the purpose of demonstrating these principles.

Such a demonstration company would be fully open to public examination. Its mission would be management education by example. Its measure of success would be high profitability, morale, and innovation. If these ideas are correct, such a corporation would become a training ground for a new type of manager. These men would gain experience in a new style of corporate environment, an environment that would create more managers than needed within the organization itself. They would diffuse outward into other New England companies. New England has been a pioneer in science and technology. It must also pioneer in new managerial methods to couple better our science and engineering to the needs of society.

Dec. 16, '63

INFORMATION PROCESSING CORPORATION

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BOX 3709, STANFORD, CALIF.

PRESIDENT — LAURENCE G. TESLER

NATIONAL ACADEMY OF SCIENCES

2101 CONSTITUTION AVENUE

WASHINGTON 25, D. C.

COMMITTEE ON UTILIZATION OF SCIENTIFIC AND ENGINEERING MANPOWER

EXECUTIVE 3-8100
EXTENSION 571

December 11, 1963

Mr. Kenneth Olsen, President
Digital Equipment Corporation
Main Street
Maynard, Massachusetts

Dear Mr. Olsen:

This Committee of the Academy is preparing a report on the utilization of our scientific and engineering manpower resources. Because government procurement, especially in the research and development area, absorbs so major a fraction of these resources, we have given considerable attention to the question of the policies and the practices of the government (especially DOD, NASA, and AEC) in requirements determination and contracting. Recently, members of the Committee met with senior executives of a number of large systems contractors to discuss a paper on this subject by Professor Paul W. Cherington of the Harvard Business School, who is a member of the Committee.

We would also like to obtain the views of the heads of a number of research and development firms on the problems of recruitment and utilization of scientific and engineering manpower. For this purpose, I am writing to inquire whether it would be possible for you to meet with me and a few other individuals from this area on Monday, December 30, in Boston. We will plan to meet at the Club of Odd Volumes, 77 Mt. Vernon Street, Boston, at 6:30 for dinner and an evening of discussion. A revised version of Professor Cherington's paper will be sent to you prior to the session.

I know that I speak for the other members of the Committee when I say that we hope very much that it will be possible for you to join us and give us this assistance.

Sincerely yours,

James R. Killian

James R. Killian, Jr.
Chairman

dh

THE SECRETARY OF DEFENSE
WASHINGTON

December 2, 1963

Dear Mr. Olsen:

I suggest that you give particular attention to reducing Defense procurement costs by assisting the Defense Department in achieving its three primary cost reduction objectives, which are:

- Buying only what is needed.

- Buying at the lowest sound price.

- Reducing operating costs.

You can assist us in buying only what is needed by critically appraising procurement specifications to identify both qualitative and quantitative requirements in excess of those needed to assure safe and reliable operation of military equipment. Some Defense contractors now have formal value engineering programs, and such contractors have been able to recommend hundreds of ideas to reduce costs of parts, components and end items by as much as 50%. I urge all contractors to stress such critical examinations, and to propose cost savings ideas promptly to Defense officials.

The second major way in which contractors can reduce Defense costs is by taking steps to assure that their own purchases are made at the lowest sound price. Defense prime contractors spend, on an average, 50¢ of each contract dollar with subcontractors. To the fullest possible extent, such subcontracts should be placed competitively in order to stimulate the full play of the free enterprise system. It is the experience of the Defense Department that for every dollar shifted from non-competitive to competitive procurement, 25¢ or more can be saved from the price. In placing subcontracts, fixed price and incentive contracts should be employed wherever possible, in order to provide the maximum incentive to subcontractors.

Thirdly, Defense contractors can reduce the over-all cost of government by assuring that their own internal operations are conducted in the most economical manner. Effective manpower utilization programs to increase productivity; strong budgetary controls to

reduce both direct and overhead costs; simplification of procedures; and elimination of unnecessary activities--are all matters with which I know you are constantly concerned. Wherever unreasonable government requirements are contributing to excess costs, I invite you to call these matters promptly to the attention of the proper government offices.

In conclusion, I urge that you give to these and other cost reduction ideas which I know will occur to you your immediate personal attention and that you join with me in achieving full value for every dollar spent in support of our national defense.

Sincerely,

Robert S. McNamara

Attachment
Copy of First Annual Report
on Department of Defense
Cost Reduction Program

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

Department of Defense
Cost Reduction Program



SECRETARY McNAMARA REPORTS COST REDUCTION RESULTS AT PRESS CONFERENCE ON JULY 11, 1963

The following pages contain a verbatim reprint of Secretary McNamara's First Annual Progress Report to President Kennedy dated 8 July 1963.

THE SECRETARY OF DEFENSE
WASHINGTON

8 July 1963

MEMORANDUM FOR THE PRESIDENT

SUBJECT: Department of Defense Cost Reduction Program—First Annual Progress Report

A year ago, in a memorandum dated July 5, 1962, I reported to you that, through improvements in operating efficiency, we could cut the Department's logistics costs by at least $3 billion per year within five years, and that we would realize about 25% of this goal in Fiscal Year 1963. I have now completed a review of the results to date and the opportunities that lie ahead, and I find that they are greater than estimated last year:

1. *Savings in excess of $1 billion* were actually realized during FY 1963, compared with our estimate of $750 million last July.
2. The actions now planned for FY 1964 and 1965 will bring the *estimated annual savings, to be realized by FY 1967, to almost $4 billion,* compared with the $3 billion estimated last July.

I should like to review the highlights of our progress to date and some of the ways in which we hope to achieve the ultimate goal of $4 billion in savings per year.

Let me note that these savings have not in any way been achieved at a sacrifice of national security. Indeed during the past twenty-four months we have achieved:

- a 100% increase in the number of nuclear warheads in the strategic alert forces
- a 60% increase in the tactical nuclear forces deployed in Western Europe
- a 45% increase in the number of combat-ready Army divisions
- a 30% increase in the number of tactical air squadrons
- a 60% increase in airlift capability
- a 100% increase in ship construction and conversion to modernize the Fleet
- a 200% increase in the Special Forces, trained to deal with counterinsurgency threats

The cost of these advances in our national security will begin to be balanced in future years by the very substantial savings we are assuring through this cost reduction program.

As you know, the savings are being achieved in three ways:

1. Buying only what we need to achieve balanced readiness.
2. Buying at the lowest sound price.
3. Reducing operating costs through integration and standardization.

I. BUYING ONLY WHAT WE NEED

a. *Refining Requirements Calculations*

The best way to ensure that we buy only what we need is to start at the very beginning of the procurement process—the setting of requirements. Through a systematic and intensive review of requirements calculations, we have been able to cancel $700 million of purchases which otherwise would have been made had our procurement programs still been based on planning factors and inventory levels considered necessary in past years. The largest part of this reduction occurred in spare parts for aircraft and missiles. We expect to increase these savings in fiscal years 1964 and 1965.

Here are some of the ways in which these savings were achieved in FY 1963:

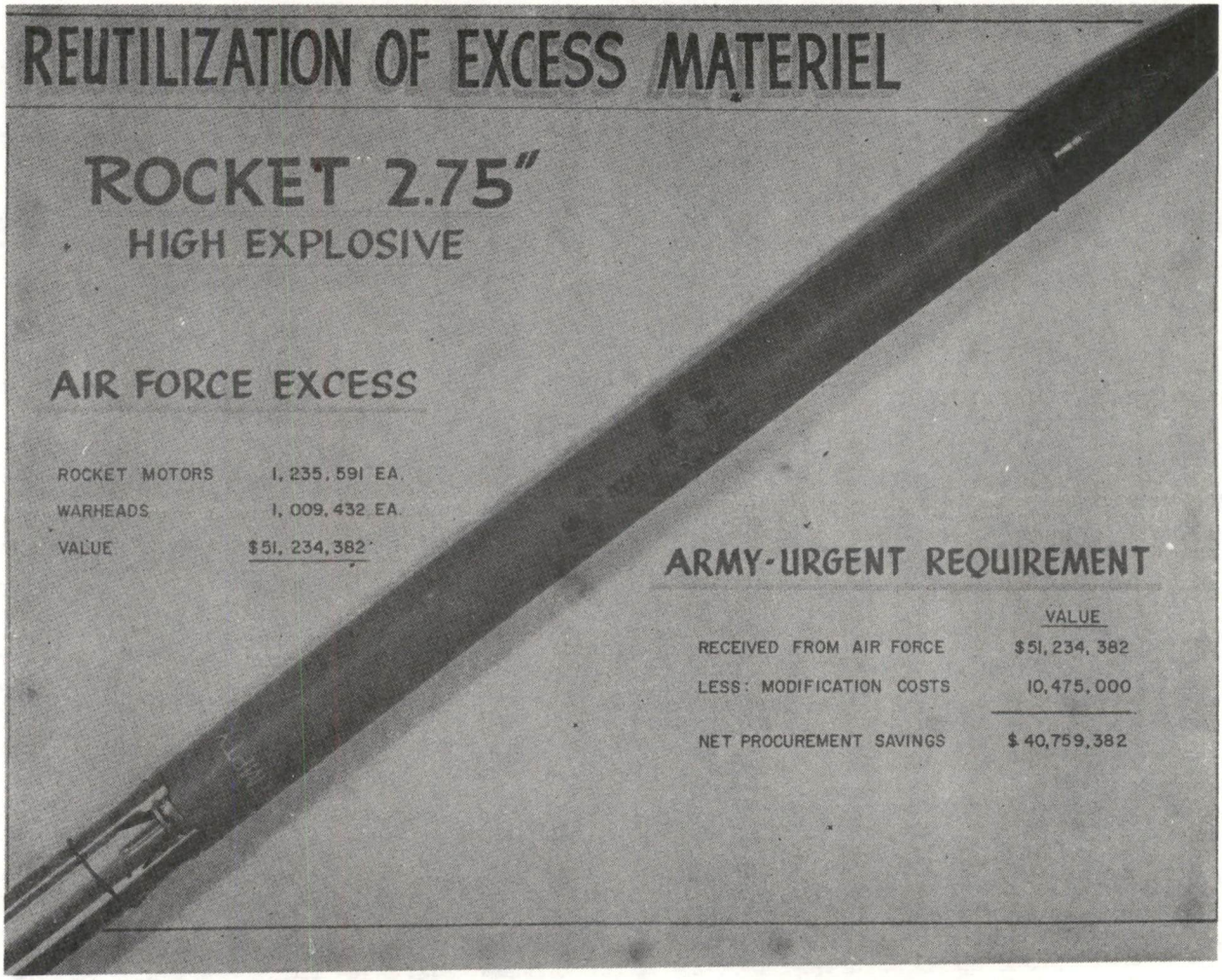
1. The Army has introduced the new Uniform Issue Priority System permitting reduction in order and shipping time by an average of 15%, thereby reducing "on-hand" inventory requirements. FY 1963 annual savings are estimated at $36.2 million.
2. By closer management control, the Navy has been able to reduce stocks of high demand spare parts on aircraft carriers by 50%.
3. By a detailed analysis of repair operations time, the Air Force has been able to reduce repair cycle time on high cost items from 90 to 45 days and on low cost items from 120 to 60 days. In total, the Air Force has reduced requirements on some 400,000 items with annual savings of $469 million.

b. *Increased Use of Excess Inventories*

During FY 1963 almost $1.2 billion in excess inventories held by the Department and its contractors has been redistributed to other military users for current consumption or mobilization reserves. This is an increase of better than $200 million in the rate of re-utilization, compared with FY 1961. Our goal for the next two years is to increase this rate to more than $400 million over the 1961 level.

Here are some examples of re-utilization of excess inventories in FY 1963:

1. More than one million 2.75″ rockets excess to the Air Force were transferred to the Army for use on helicopters. By spending $10 million to restore them to operational condition, the Army is saving $41 million over the cost of new procurement.
2. 20 J–79 jet engines excess to the Air Force were transferred to the Navy for use in KD–20–1 flying targets, thereby saving $4.4 million.

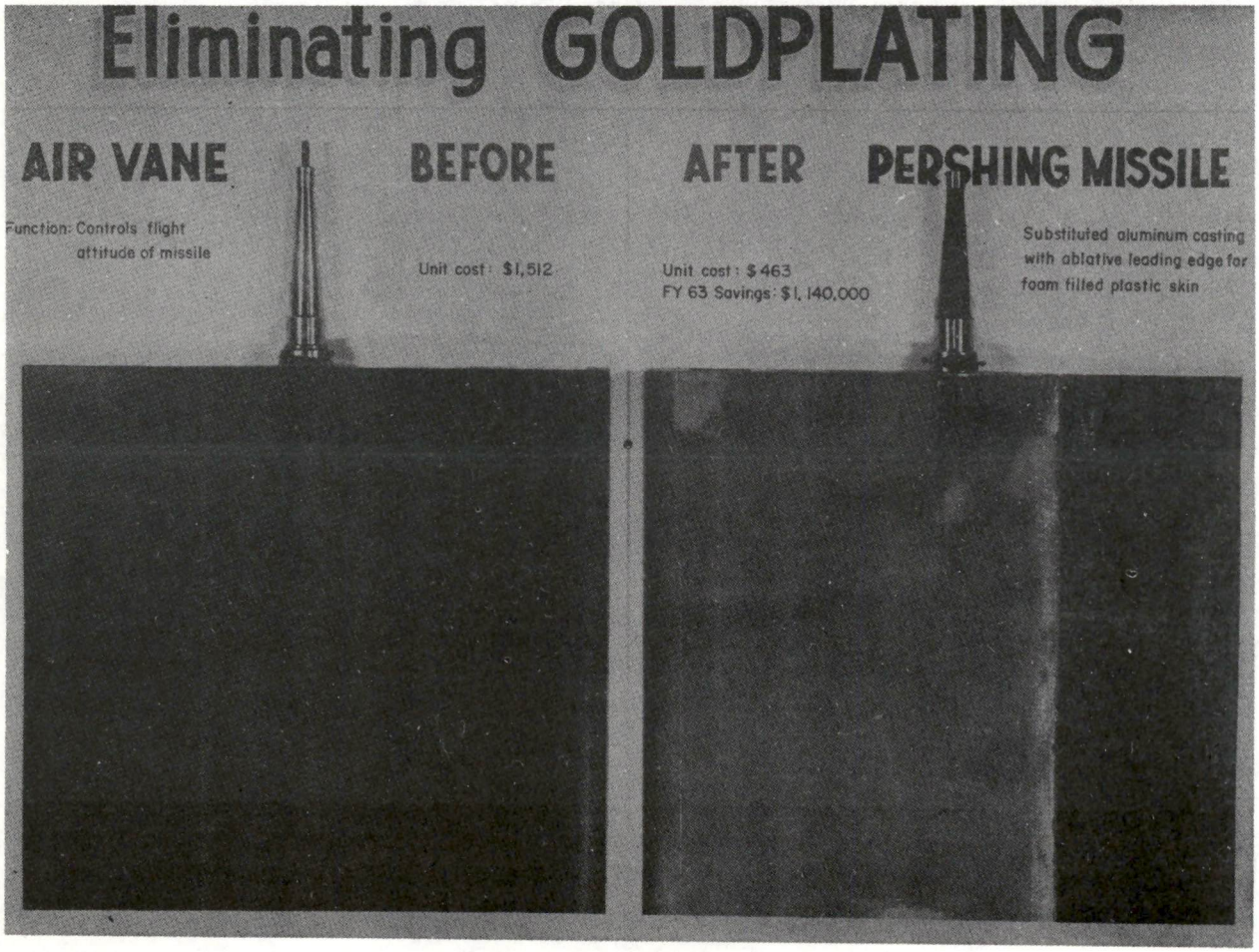


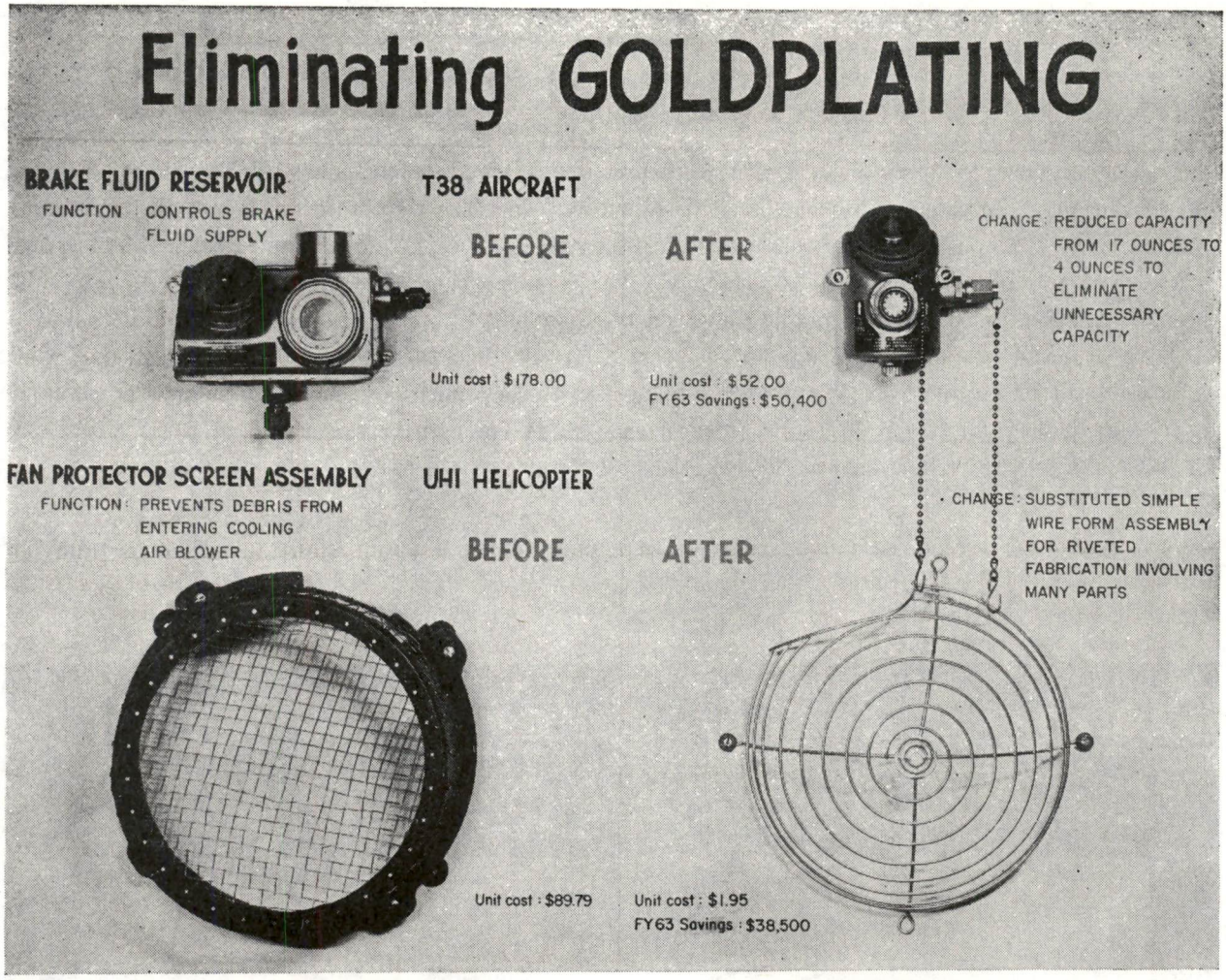
3. 5 M–33 fire control systems excess to the Army were transferred to the Navy to be used as Government furnished equipment on a Navy contract, thereby saving $2.3 million.
4. 31 unserviceable aircraft engines excess to the Air Force were transferred to the Army for use on Army aircraft. By spending $372,000 to put them in good condition, the Army was able to save $806,000 over the cost of new procurement.
5. $67.3 million worth of parts was reclaimed from excess Air Force aircraft engines during the first 11 months of FY 1963.

With excess stocks now representing a $12 billion investment, one of our most important logistics management problems is to ensure that we use every item having a further useful life. A central clearing house has recently been established at the Logistics Services Center in Battle Creek, Michigan, where by the end of this calendar year a complete inventory of such items will be available. Requirements of the Military Departments are already being screened against this central inventory and available stocks transferred from one Military Department to another to meet valid needs.

c. *Eliminating "Goldplating" in Specifications*

Last year I reported to you that we were undertaking a major effort to eliminate from our procurement specifications costly materials and fabrication processes not essential to the proper functioning of the item being bought. As a result, we are now averaging savings well over $1 million per week in reduced costs, and we expect these savings to triple during the next two years.





The following are some recent examples which illustrate the wide range of opportunities for such "value engineering" savings:

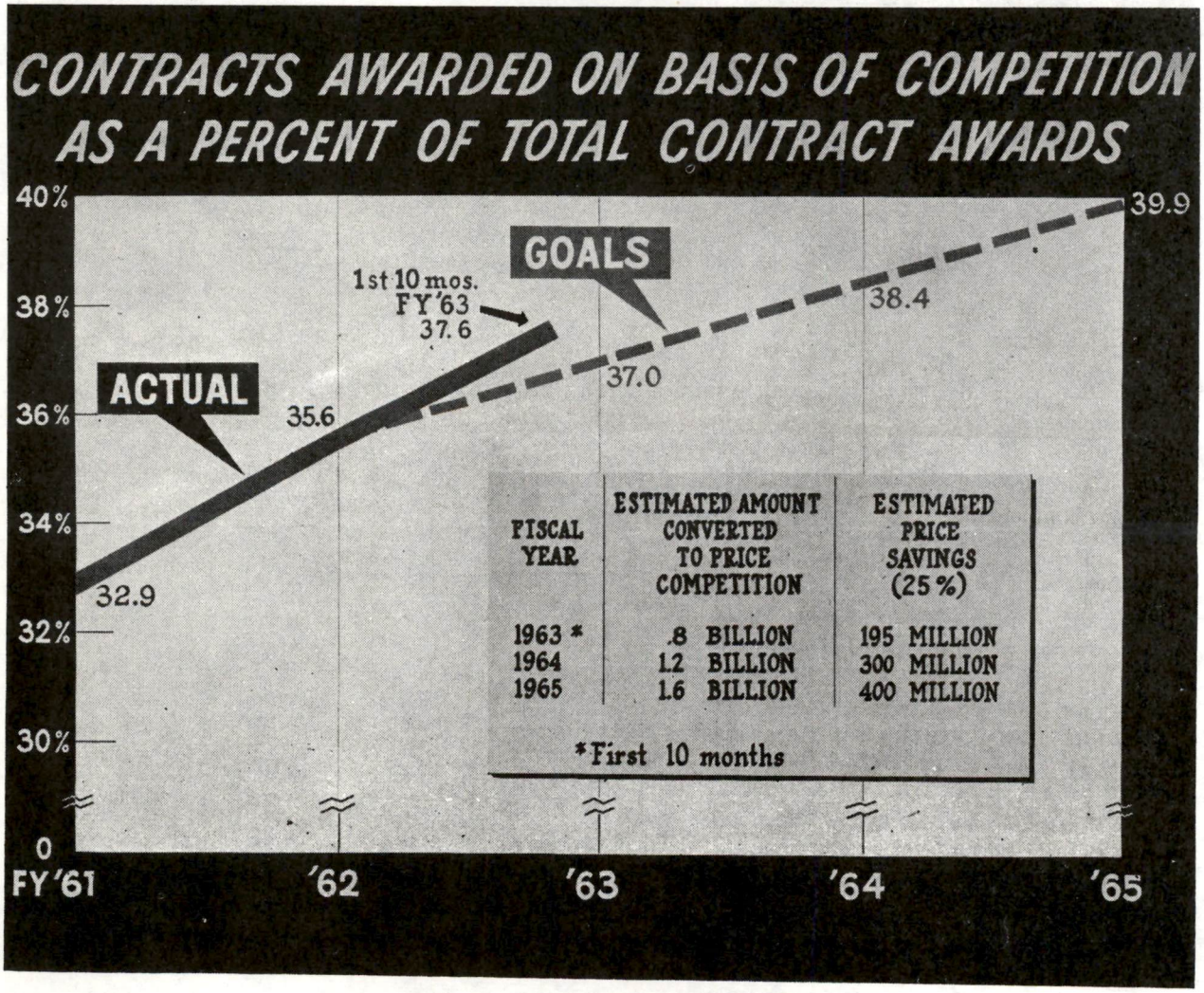
	Unit Cost		
	Before Redesign	*After Redesign*	*Savings on Current Procurement*
1. "Mule" for opening & closing MINUTEMAN silo. Substituted a commercial hydraulic for a specially designed electronic mule	$555,000	$80,800	$1,200,000
2. Air Vane for Pershing Missile. Substituted an aluminum casting with simplified fittings for a foam-filled plastic skin with special fittings....	1,512	463	1,140,000
3. Lift Truck for ASROC Missile. Substituted mechanical lifting device with disc type brakes for hydraulic device with precision machined brakes	2,480	944	245,000
4. Brake Fluid Reservoir for T38 Aircraft. Reduced capacity from 17 ounces to 4 ounces to eliminate unnecessary capacity	178	52	50,400
5. Radiation Hazard Filter for Airborne Rocket Launcher. Redesigned filter using available standard parts	13.02	4.70	83,000

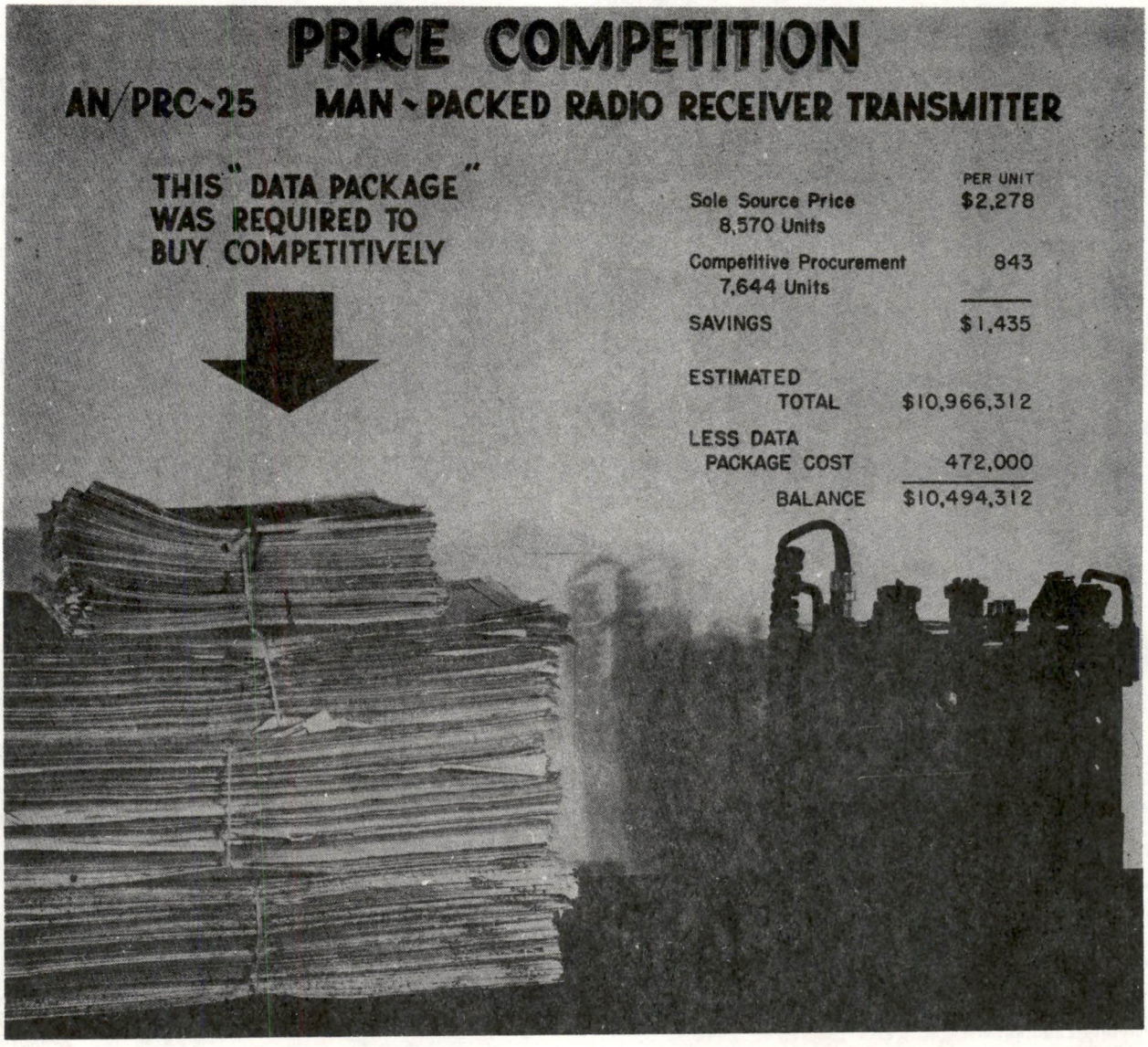
II. BUYING AT THE LOWEST SOUND PRICE

It is not enough to buy only what we need, we must also buy at the lowest sound price.

a. *Shifting from Non-Competitive to Competitive Procurement*

Maximizing competition in Defense procurement is sound public policy. It is one of the most effective means of broadening the industrial base and ensuring that we obtain the lowest sound price on what we buy. The purchase of specialized military items, however, involves unique problems which tend to limit our opportunities to buy competitively. We are attempting, nevertheless, to expand continually the opportunities for competitive bidding even on these specialized items, and in the process of doing so we have achieved savings in the first 10 months of FY 1963 of $195 million. We have found that when we are able to shift from a single source to a competitive procurement, we normally achieve a reduction in price of at least 25%. On 58 major procurements made competitively during the third quarter of FY 1963, the average reduction was 30% of the price formerly paid to the sole source producer.

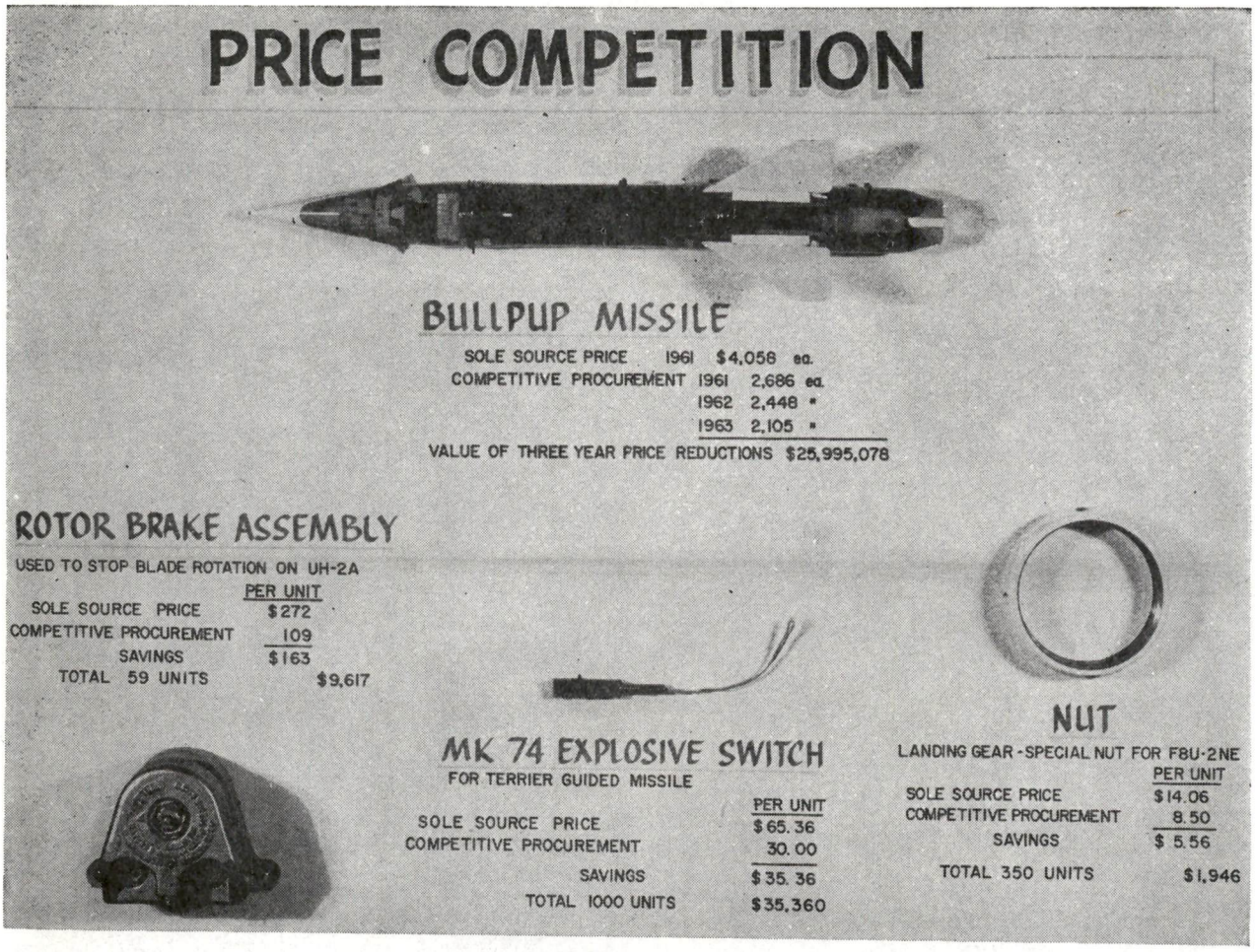




Here are some examples of shifts to competitive procurements in FY 1963, including both end items and components:

Item	*Previous Non-competitive Price*	*First Competitive Price*	*Gross Savings on FY 1963 Procurement*
1. M110 8" Howitzer	$68,044	$41,415	$ 7,855,555
2. M107 175mm Gun	68,036	41,376	3,625,760
3. R–442 Radio Receiver	1,519	1,034	908,890
4. RT–246 Receiver/Transmitter	3,976	2,692	927,048
5. RT–524 Receiver/Transmitter	3,074	2,036	7,338,660
6. AN/PRC–25 Man Pack Radio	2,278	843	10,494,312
7. GRC–50, Radio Sets	34,478	17,411	4,300,940

To ensure a concerted effort towards competitive buying whenever possible, we established specific goals to be achieved by each of the Military Departments and the Defense Supply Agency in terms of the percentage of awards to be made by price competition in each of the fiscal years 1963, 1964, 1965. As the following chart reveals, [see page 6] the Department of Defense as a whole in the first ten months of this fiscal year has exceeded the full year 1963 goal; 37.6% of all awards were made to the lowest responsible bidder, compared with 32.9% in FY 1961.



The estimated $195 million saved during the first ten months of FY 1963 breaks down as follows:

	Est. Price Savings from Competition (Millions)
Aircraft Components and Parts	$ 40
Missile Components and Parts	24
Electronic & Communications Equipment	40
Vehicles (Combat & Non-combat)	27
Ships and Components	58
Weapons and Ammunition	4
Supplies and Services	2
Total	$195

The full year savings may be somewhat greater when final results for May and June are known. Our goal in this area is to increase total price reductions through competition by an additional $100 million each year for the next three years, thereby reaching an annual rate of savings by FY 1966 of $500 million over the FY 1961 level.

b. *Shifting from Cost Plus to Fixed Price and Incentive Contracts*

The increasingly complex weapon systems resulting from the technological revolution of the 1950's led to a great expansion in the use of the cost-plus-fixed-fee (CPFF) contract. However, both Department

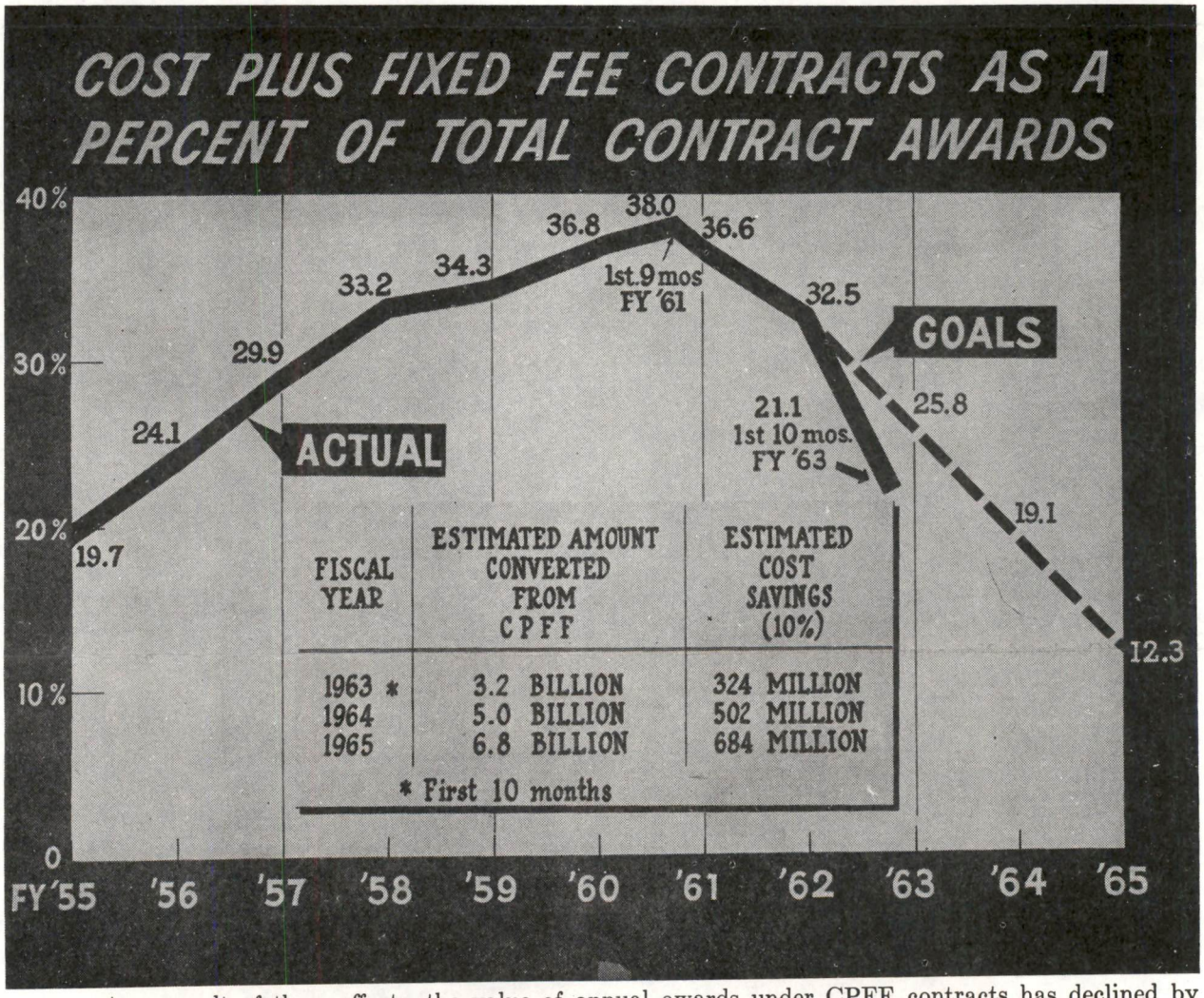
and industry officials agree that CPFF contracts not only fail to provide incentives for economy, but actually deaden management efficiency by removing the need for either the Department or the contractor to estimate costs accurately, and to plan and control programs tightly.

Accordingly, last year we established specific goals for a reduction in the use of CPFF contracts by each Military Department in each of the three fiscal years 1963-1965. The goal for FY 1963 was to reduce such contracts to 25.8% of total contract awards (compared with 38% in the first nine months of FY 1961) with an ultimate goal of not more than 12.3% by FY 1965. This is a very ambitious goal but we are exerting every effort to meet it.

Improvements actually achieved by each of the Military Departments during FY 1963 are:

	9 Mos. of FY 1961	*10 Mos. of FY 1963*	*Change*
Army	32.8%	16.0%	—16.8%
Navy	24.3	18.0	— 6.3
Air Force	50.6	30.2	—20.4
All DoD	38.0	21.1	—16.9

As shown on the following chart, CPFF contracts during the first ten months of FY 1963 dropped to 21.1% of the total—the lowest level since FY 1955.



As a result of these efforts, the value of annual awards under CPFF contracts has declined by $3.2 billion on a basis comparable to FY 1961. Our best estimate is that for each dollar shifted to firm fixed-price and incentive contracts, we should be able to reduce final costs by at least 10%—a total saving of $320 million.

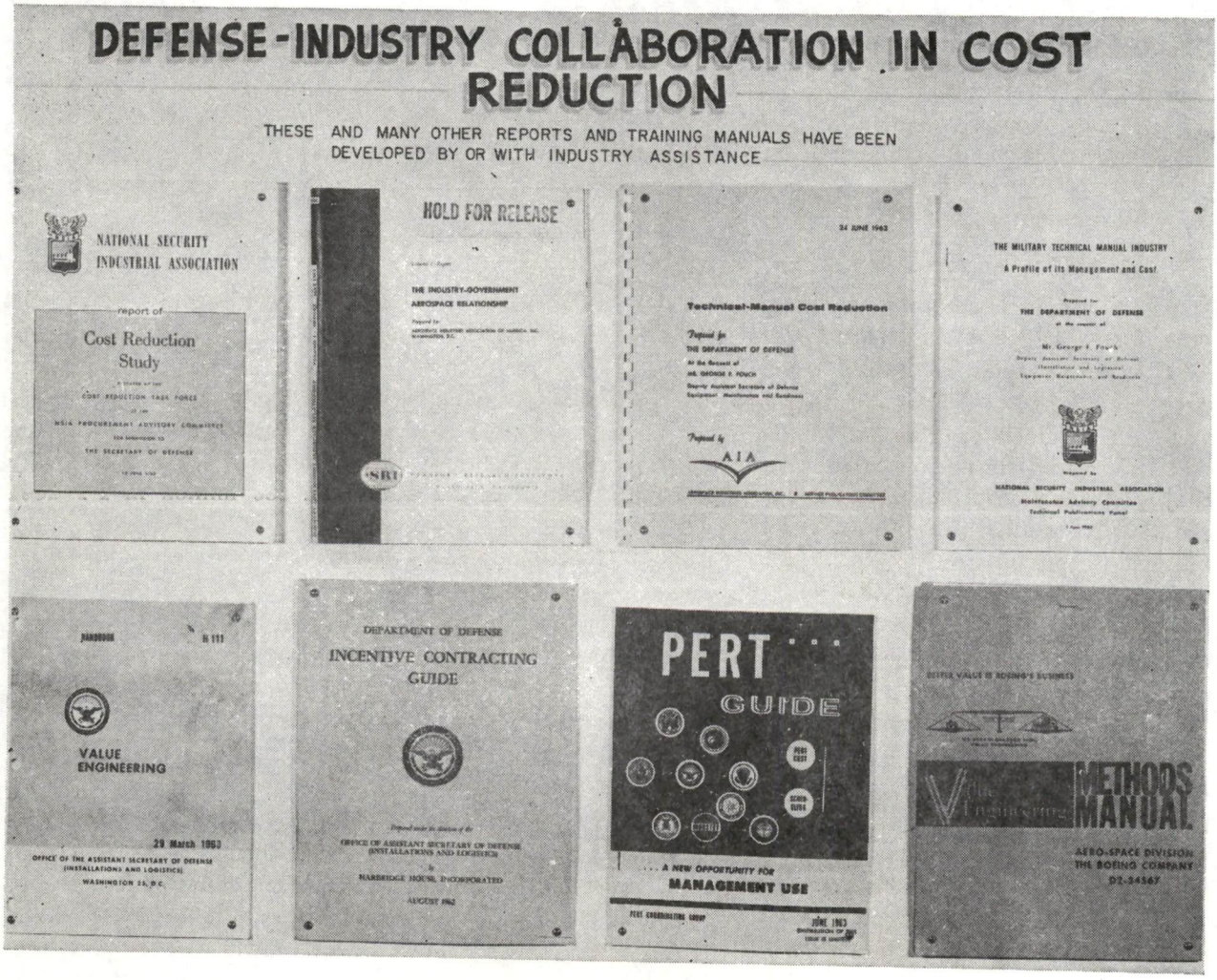
III. REDUCING OPERATING COSTS

The third broad area for improving logistics management is the reduction of operating costs by

1. Terminating unnecessary operations;
2. Standardizing and simplifying procedures; and
3. Consolidating and increasing the efficiency of major operating services: supply, communications, transportation and maintenance.

a. *Terminating Unnecessary Operations*

Retention of unneeded real estate and facilities constitutes one of the largest hidden costs in Defense operations. In 1961 you instructed me to review thoroughly our utilization of real properties,



and, wherever possible, to consolidate activities in order to eliminate unnecessary overhead costs, free personnel for higher priority duties, and release property which could be put to more productive use by the civilian economy. Accordingly, we have instituted a permanent program of inspection and review to achieve these objectives. During the past two year, actions have been initiated at over 400 locations in the U.S. and overseas which, when completed, will produce the following results:

Real estate returned to civilian use	265,905 acres
Industrial plants with commercial potential made available for sale	54 plants
Personnel being released or reassigned	53,310 men
Annual operating savings	316,000,000 dollars

During the next two years we expect to take additional actions which will increase the annual savings to almost $450 million, with further savings anticipated in later fiscal years.

The adverse impact of these actions on the local economies is being completely or substantially offset in many cases. The Administrator of GSA recently advised me that in calendar year 1962, 26 industrial plants released by Defense were sold at fair market value of $49 million, and that these plants are now employing 27,000 workers. In addition, we have an active program to assist employees and communities adversely affected by reduction or termination of Defense activities. This program has been successful in minimizing loss of employment as well as in turning the excess properties to productive non-Defense uses.

b. *Standardizing and Simplifying Procedures*

During FY 1963, 16 different requisitioning systems were successfully consolidated into one standard system, eliminating extensive rewriting of information and wasted clerical effort. As a result, manpower reductions are beginning to occur, and over the next two years the value of clerical time saved should reach $20 million per year.

On October 1, we plan to introduce a new single multi-purpose shipping document which is designed to replace the 81 different bills of lading and shipping forms now in use. The value of the man-hours which the new improved system is expected to save when fully operational is estimated at more than $30 million per year.

c. *Consolidating and Increasing Efficiency of Operations*

Actions taken during the first nine months of FY 1963 to consolidate and increase the efficiency of other logistical operations of the Department of Defense should produce savings of almost $220 million per year, somewhat more than our full year goal.

1. *The Defense Supply Agency,* in its first 18 months of operation, has produced results well beyond our estimates prior to its creation. DSA is now managing one million items of common supplies, and has proved its ability to provide effective support to military users at substantially less cost than they previously incurred. Overhead savings of $31 million in FY 1963, and $35 million in FY 1964 are already assured. Inventories in FY 1963 were reduced by 10% or $240 million and a program was initiated to consolidate DSA stocks at 11 instead of 77 primary locations. Further improvements in DSA's operating efficiency are expected in future years.

2. *Communications Systems Savings*—During the past year the responsibilities of the Defense Communications Agency have been expanded and its effectiveness improved. Consolidated procurement of leased line services, and more effective utilization of existing Defense and commercial services have produced savings of $82 million.

3. *Transportation and Traffic Management*—Savings of $13 million reported during the first nine months of FY 1963 resulted from the increased use of economy class air travel, decreased cost of household goods shipments, and more economical use of airlift for cargo movements. Our goal for FY 1963 was a saving of $17 million. These economies are expected to increase during the next two fiscal years, reaching an annual rate of $41 million by FY 1965.

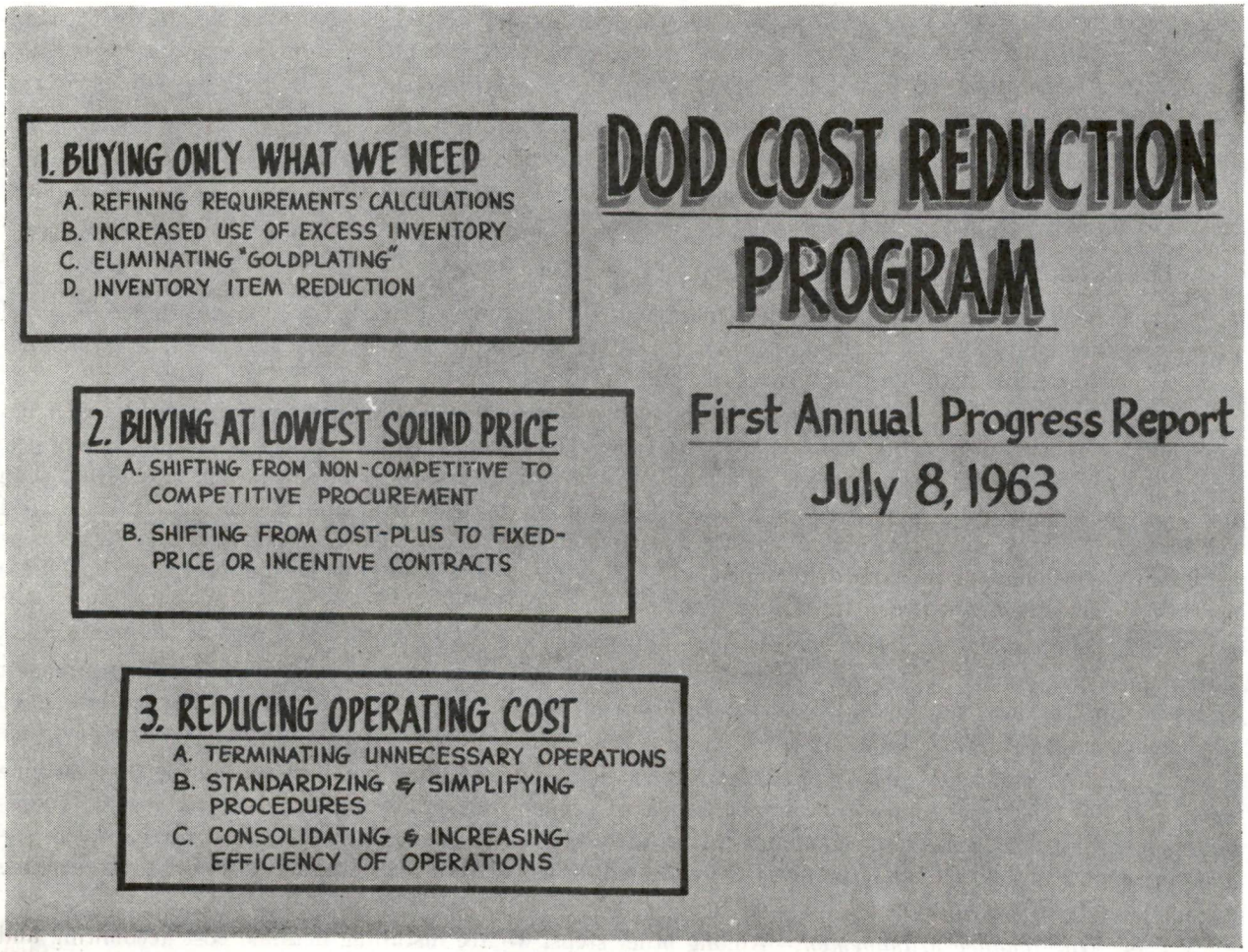
4. *Maintenance Management*—Among other steps, we are installing detailed cost accounting and information systems to provide a basis for measuring and evaluating the performance of maintenance

activities employing more than one million military and civilian personnel at some 2,000 locations. Savings from these and other reforms designed to provide more economical maintenance of equipment, family housing and other property exceeded $90 million in the first nine months of FY 1963—approximately double those in all of 1962. Our FY 1965 goal for savings in these areas is over $400 million per year.

IV. SUMMARY

Last year, I submitted a memorandum on the Cost Reduction Program reporting reforms which I estimated would produce annual savings of over $750 million in FY 1963—towards a FY 1967 goal of $3 billion per year. Today I can report savings of $1 billion in FY 1963—one-third more than planned. Largely because of the rapid progress we have been able to make, we have now raised our goal for Fiscal 1967 by about one-third—from the $3 billion proposed last year, to the $4 billion which is our current goal. As these savings materialize, they are being reflected in the Department's annual budget, helping us to meet the heavy burden of national defense with the least possible demand on the nation's resources.

Robert S. McNamara



3M COMPANY

GENERAL OFFICES • 2501 HUDSON ROAD • ST. PAUL 19, MINNESOTA • TEL: 733-1110

Magnetic Products Division

November 27, 1963

The importance of the condition of recording gear to both the quality of the recording and to the wear life of the magnetic tape cannot be over-emphasized. Equipment components subjected to extensive wear and replacement are a common deterrent to good recording, since such wear or replacement increases the probability of misalignment or incorrect adjustment.

This most recent Technical Talk Bulletin, Number 9, deals with proper alignment of equipment components along the path of tape travel.

It is recommended that you file this paper with previous technical papers dealing with magnetic tape, that its information might be available should problems of equipment alignment arise.

Very truly yours,

Curt Koefod

Curt Koefod
Sales Manager
Instrumentation Tapes

HARVARD MEDICAL SCHOOL ◆ MASSACHUSETTS GENERAL HOSPITAL

DEPARTMENT OF PSYCHIATRY

Massachusetts General Hospital
Fruit Street, Boston 14

November 18, 1963

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

Dear Ken:

The time is here to review our year of using the PDP-4 and make definite plans for the future. As I'm sure you know, there has been much discussion and planning these past few months, and I feel that I can finally present a coherent picture to you of a number of fronts. In the process I shall mention a number of unnecessarily detailed points pertinent to biomedical applications.

History of Use:

The first three months of attempting to make use of the machine on an entirely part time basis was unfruitful. Our lack of sophistication, the unavailability of simple programming languages, and several minor hardware problems not readily identified by us, made actual use a minimum. In addition, it (naturally) proved necessary to identify and cure a number of "interface" problems (e.g. analog input to D.E.C. is 0- ⊖10 volts; analog output from standard tape recorders is 0- ⊕2 volts. Our available flexowriter did not have FLO-DEC code, and programming routines had to be generated to match the two, etc. Sales people should be very alert to identifying these problems in advance for biological type customers, and hopefully have handy solutions available. They can be extraordinarily crippling for an average laboratory.)

The next 2½ months we had a programmer-operator half time, got some practical work done but were limited again by the dearth of backup programs and the time consumed in writing even reasonably simple programs. That is, there is a wide variety of program requests generated in a setting like ours, and there simply was not programming time available to fulfill all the demands in machine language. (Fortran should help lick this problem as should the increasing availability of subroutines which can be put together.) Many of our colleagues were put off from PDP-4 use by this problem. Either they could produce Fortran programs which were easily implemented on outside facilities, or they could turn to library routines. They of course were primarily concerned with getting answers, less with exploring facets of machine use.

We were slowed down again for a couple of months with no one to fill the programming gap. Most of the work accomplished was from my own laboratory and aimed at neuroelectric data processing.

At this time the uncertainties of funding and intrahospital administrative problems which I will mention later were pressing problems for the computer center. My role in organizing computer oriented research activities for the entire hospital passed on to Saul Aronow. We decided that the rapidly increasing demand for computer services was coming from problems of statistical analysis, punchcard type data, and that the laboratory oriented studies ideal for PDP-4 use were, in general, still getting off the ground, (there are now 5 such major projects), primarily retarded by lack of competent mathematical backup, i.e., they are just becoming prepared to abandon qualitative for quantitive analytic methods and not sophisticated enough to use the qualitative powers of the computer (for model building, etc.). I, therefore, agreed to take over the computer as a tool for my array of laboratories and teaching activities and since June have used it full time with a standing offer of immediate access to any other interested party. This maneuver, with a full time programmer this summer plus two students, has worked quite well, I think.

The language barrier broke, with five people in my group now comfortably machine language programming. An important corollary to this was that we had enough hardware competence to find and use many of the lovely qualities of the machine hidden from programming view. By the end of summer we could honestly encourage other laboratory groups to invest time and energy in gaining machine access. The only measure I have of this is that twenty people stuck through a five-day week, twenty hour introduction to programming we have just completed. We will see what they actually turn their education to shortly.

We will shortly have completed a fairly extensive signal analysis package, some special display routines, a statistical package to handle unit events (single nerve cell firings for us) and considerable rewrite of I-O packages. We have also become acutely aware of some machine limitations.

At this point, there is general agreement that the hospital should not institutionally invest in as small and limited an installation as the 4. However, it should now initiate a systematic analysis of total hospital needs, to arrive at a coherent plan by late spring for adequate staffing and equipping of a computer center to occupy one floor in our new "North" building. (CDC will initiate some planning in this direction based on their 3200, and we would like your sales office to be thinking systems plans with us for the next few months as our computer advisory committee and research committee try to get concrete plans on paper.)

This planning can comfortably allow routine card processing to follow its present route out to various computation centers, but does not provide for continuing development of other computer use. To meet this need, Aronow and I have agreed that an attempt should be made to keep (and expand) the 4 by my justifying it on an individual research project grant, (i.e., justify its use on my own research

problem and carry the responsibility for it). I, in turn, would make it available to the pilot studies initiated in other laboratories until their needs clarified. To this end, I am applying to NASA for support. The two administrative issues this raises are a) Is DEC willing to allow me to keep the machine until approval is (hopefully) made of the grant request (midspring, I assume?). I shall avoid raising the possibility that it won't be approved. b) For how much would DEC be willing to lease the present or similar equipment with the additions I've outlined to Jerry? (I've already been asked this informally regarding contract negotiations, and Jerry Moore felt there might be some question about leasing.)

Machine Performance:

With all factors optimal, the machine is well behaved and fun to use. However, with due allowances for newness, etc., we have felt that there was an unusual amount of down time for an instrument with such well tested basic design. Your staff was helpful beyond the call of duty about handling these problems promptly and usually efficiently, but there were lots of them, not counting our own idiot mistakes misidentified as machine problems. I trust Jerry has kept score on relative ratios of the two.

There are a number of details that we will go over with Jerry and not burden a letter with, which we think would improve machine usefulness. A basic issue--memory size, unreasonably crucial for biological data--is aided appreciably by the existence of Micro tapes, I suspect. The second large issue is harder to define. Display techniques, on line manipulation of differential equation-like methods, simulation and modelling in general are critical areas in biology. Even allowing for our limitations of skill, they seem impossibly inefficient and often impossible by digital methods. Even serial multiplications as in cross-correlation are not fast enough, in spite of the AU, for real time work. The two or three fairly sophisticated biomathematical laboratories I know of have added large analog computers to their equipment recently. It seems to me that an important area for development lies in the development of methods for combining analog-digital virtues optimally. Whether the TX-0 - pulsed analog marriage is fertile, I don't know, but this seems to me a reasonable attempt to cope with this dilemma. Another bothersome thought arises from the difficulties of making a PDP-4 and PDP-1 compatible. I know a machine can't be infinitely flexible, but for an institutional setting, the notion of local PDP-4's or 5's being able to act as elaborate consoles to PDP-1 or 6 for certain problems seems attractive. N.Y.U. for instance is tying CDC 160-A's to a 924 in this way. I suppose in principle this could be done, with almost any two machines, but I gather it is not simple to accomplish.

An area we are just beginning to investigate is scanning techniques (for diagnosis or quantitative description of biological material, e.g. X-ray pictures, tissue sections, etc.) The physicists of course are well advanced in this area, but we may come across some special problems of interest to you.

One small vexing problem that arises in the course of closed loop experiments (scope display → organism → response → computer input of data) is the interruption of scope display by the data input. This and similar I-O tieups occur because of the single accumulator for both input and output. With the 4 (and ?5) as

useful and purchaseable as they are for other than process control work, is it uneconomical to break this bottleneck?

P.R. etc.:

As I've indicated, we've sold the hospital community on Computers, now they want a big installation (not 7090 style, but say PDP-6 style). We have ongoing projects from Radiology, Anaesthesia, Biophysics, Psychology, and me, in various stages of development. We have twenty professionals trained to program the 4. There are 2 - 4 medical students per semester working on projects on it. We have a medical school tutorial built around it. (There is another based on the Brigham's 1620--no competition.) We have requests for use from Rochester, Cornell, Mayo Clinic and Worcester (!) so an increasing number of colleagues are aware of it. UCLA is convinced they need DEC and you should hear from them in spite of their 7090, 7094, 160A, etc.

The NIH advisory committee on computers' executive secretary was impressed enough to invite us to submit our grant there. (NASA instead was a tactical decision.) Three major scientific papers based on our machine will be given this spring, and several have already described its use. LINC is, as anticipated, slowing enthusiasm for anything else during its evaluation. I don't think it will indefinitely.

I could hope for more, but I submit that we've made a respectable showing for you. I hope it shows up at the sales office with reasonably short latency. I don't think we've provided enough conceptual feedback to Jerry, as I reflect on it, we've mostly been immersed in our immediate problems or his immediate concerns regarding meetings, etc. I'm not sure how to tighten this up. Perhaps a seminar with several of us and some of your staff would be worthwhile one afternoon.

A hospital conference on Wednesday, November 20, should settle the outlines of future planning officially. In the meantime, I hope you will favorably consider our continued use of what has become an indispensable adjunct to our laboratory life.

Sincerely,

Frank

Frank R. Ervin, M.D.
Associate Psychiatrist, Massachusetts General Hospital
Assistant Professor in Psychiatry, Harvard Medical School

FRE:CH

P. S. I was shocked to hear about Gurley. I guess even logic engineering needs psychiatric consultants like the rest of industry. F. R. E.

File

AMERICAN RESEARCH AND DEVELOPMENT CORPORATION

THE JOHN HANCOCK BUILDING · BOSTON 16 · MASSACHUSETTS

AREA CODE 617 426-7060

November 5, 1963

Mr. Kenneth Olsen
Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Dear Ken:

These are the two situations that I mentioned to you at the close of our meeting yesterday. Please let me know if you have any interest in meeting the Neuron people who desire to become part of the DEC organization. Of course, you recall the Invac people--they merely want to serve you as a supplier!

Cordially yours,

Bill

William H. Congleton
Vice President

whc/mj
enc.

wc 100

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October 24, 1963

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OCT 25 1963
AM. RES. & DEV. CORP.

Mr. William H. Congleton
Vice President
American Research & Development
200 Berkeley Street
Boston, Massachusetts

Dear Bill:

Enclosed is the information on the Neuron that I mentioned to you the other day. I think after you read it over you will agree that this looks like it may be the next step for Digital Building Blocks.

Please give me a call after you have had a chance to look it over.

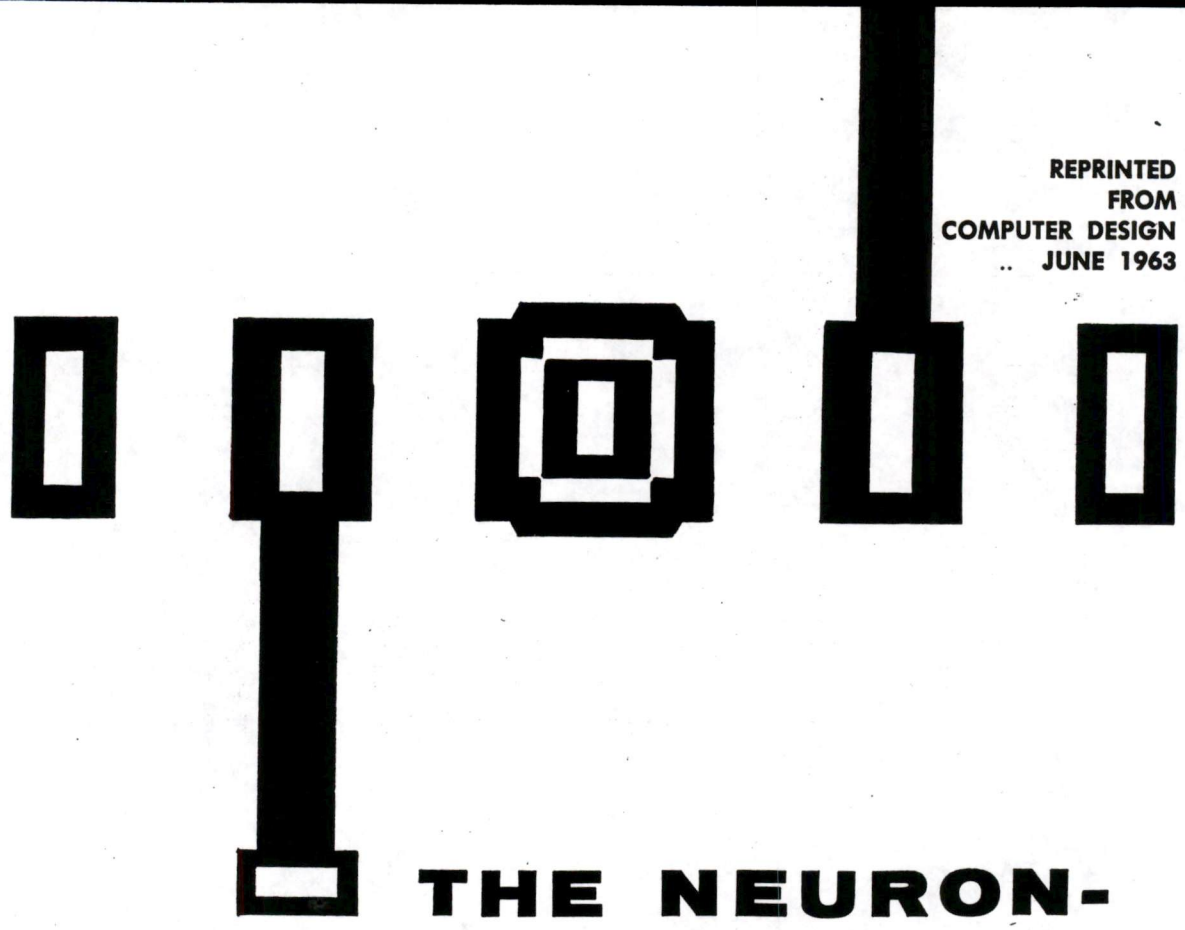
Sincerely,

Hoyt Ecker

E/w

Enclosure

REPRINTED
FROM
COMPUTER DESIGN
.. JUNE 1963



THE NEURON-
a single-crystal multi-logic component

By directly performing any basic logic function without the normal associated circuitry, this diffused-silicon semiconductor device dramatically reduces the number of components in complex digital systems.

In contrast to the approach to interconnecting lumped component characteristics to achieve specific logic functions, Crystalonics, Inc. of Cambridge, Mass. has produced a solid, single-crystal element that can directly perform almost any basic logic function. Having no sub-components (interconnecting resistances and reactances), the new transistor-size device is a diffused silicon semiconductor whose operation, based on advanced field-effect techniques, depends on both bi-polar and uni-polar transistor action. Invented by Clifford A. Levi, this basic component, plus a couple of resistors, can perform the fundamental operations of AND, OR, NOR, NAND, exclusive OR, or bistable flip-flop; a monostable flip-flop operation requires a capacitor. The actual function depends on how the leads are hooked-up.

According to William J. Heinecke, one of the engineers who helped develop the device, its other main attractive features include:

- High input impedance—in the order of megohms.
- Almost unlimited fan-out—due to its high input impedance and low output impedance, high fan-outs are achieved without having to compensate for hogging. Inputs are connected by direct coupling when cascading for complex functional operations.
- Function redundancy—for some applications (specifically those calling for AND and NAND operations), the device has a redundancy factor of two.
- Reduction in circuitry—the device is capable of inverting directly, eliminating the necessity of generating and carrying function complements.
- Drift-free operations — advanced

signal.)

It is apparent that other logic combinations can be derived from the arrangement in Fig. 5 (a). Note that if desired, C and D can be paralleled with inputs A and B to give a redundancy of two when implementing the function f=AB.

For a "negating AND-OR" function, the second basic biasing arrangement, referring again to the Neuron equivalent circuit in Fig. 4, would have terminal 2 grounded and terminals 1 and 3 negative with respect to the emitter. Fig. 6 (a) illustrates this function, and Fig. 6 (b) shows the equivalent of the operation using the conventional approach.

An "exclusive" OR, shown in Fig. 7, is also available from the second arrangement. Note that only two inputs A and B are required; complements of the inputs need not be supplied. A set-reset flip-flop also is derived from the second biasing arrangement and this is illustrated in Fig. 8.

For implementing more complex functions such as a full adder, all that is required is two resistors per Neuron. There is no need to carry complements, as they can be obtained by hooking up leads to inhibit gates. In Fig. 9, a symbolic diagram of a full adder is shown using one Neuron connected in the first biasing arrangement and two Neurons with the second biasing arrangement.

In outlining the applications of the Neuron, Heinecke said that the principles employed in the device can be used to construct majority logic circuits. And looking to the future, he predicted that the ultimate price of the Neuron may be down to $5.00 per unit which will make it economically feasible to implement self-adaptive computer systems.

At present, the unit price of sample Neurons is $85. Units are in pilot production and 4 weeks deliveries can be made on Neurons having a logic voltage of 3, 6, 9, or 13 volts. Higher voltages can be supplied on special order. Standard packaging is in a 10 lead TO-5 case, however, Neurons can be mounted in other packages to meet users' requirements. They can also be supplied in chip-form.

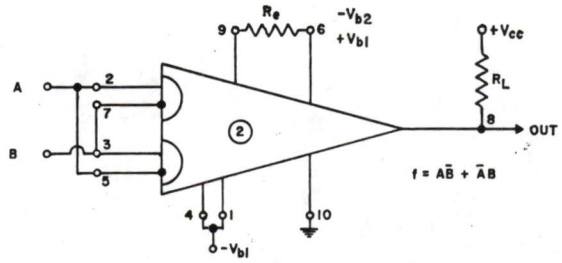


Fig. 7 An "exclusive OR" circuit using the Neuron as the only logic component. Only A and B inputs are required; complements of the inputs need not be supplied since they are generated by the inhibit gates. This logical operation is derived from the second biasing arrangement as discussed in Fig. 4.

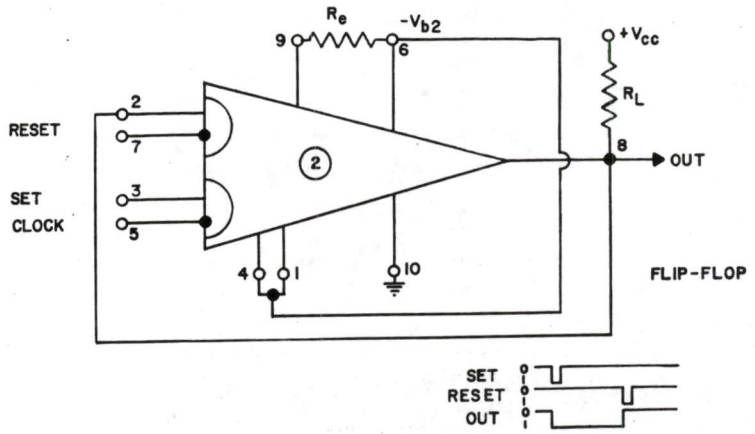


Fig. 8 A set-reset flip-flop can also be derived from the second biasing arrangement of the Neuron.

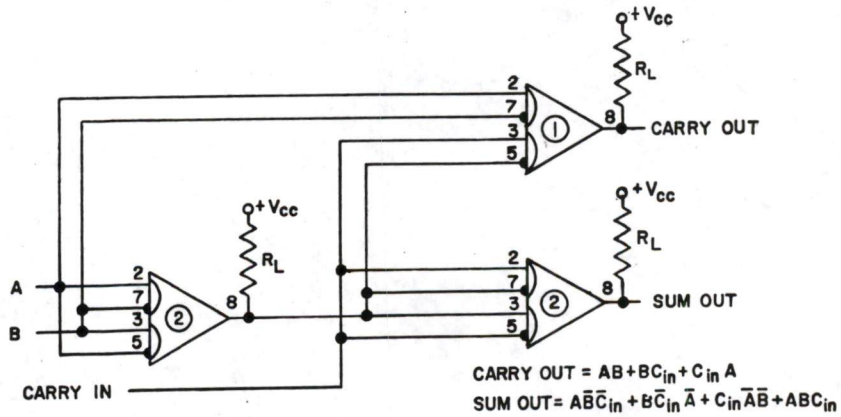


Fig. 9 Cascading of Neurons for more complex functions such as this full adder diagram is accomplished with only additions of two resistors per Neuron. Because of the high input impedance of the Neuron, high fan-out can be readily achieved. Fan-outs of 50 or more are possible. Also, low gate capacitance assures that large fan-out will not seriously affect turn-off time.

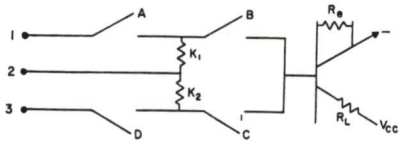
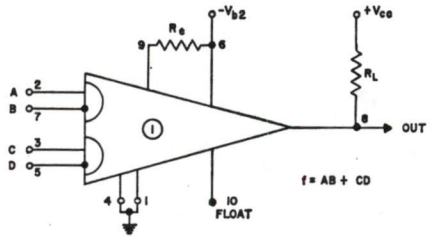
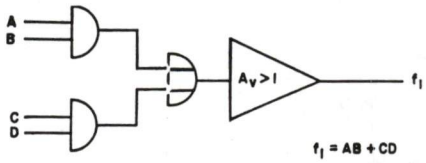


Fig. 4 A convenient equivalent circuit of the Neuron can be used to illustrate what can be accomplished with the two basic biasing arrangements. The first basic arrangement would have terminal 2 floating and terminals 1 and 3 grounded. With this first arrangement, the closure of switches A and B or C and D is necessary to obtain an output. Note that isolation between legs 1 and 3 is accomplished by the built-in resistor paths, K_1 and K_2. The second basic biasing arrangement would have terminals 1 and 3 biased negatively with respect to the emitter, and terminal 2 grounded. Under this condition, the closure of switch B or D would generate an output. Closure of switch A or C would over-ride and inhibit the effect of closing switch B or D. The logic functions that can be derived from these two biasing conditions are shown in Figs. 5 to 9 with either a circled-one or a circled-two in the Neuron symbol to denote which biasing arrangement is used.

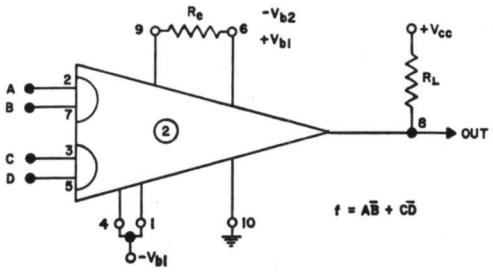


(a) AND-OR gate using the Neuron.

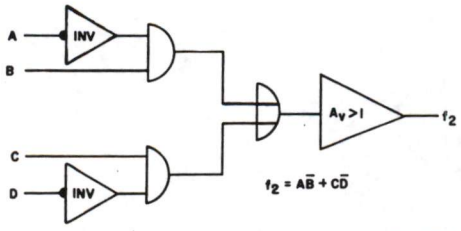


(b) Equivalent AND-OR gate using standard approach.

Fig. 5 The diagram in (a) represents a 10-lead, Neuron AND-OR gate. The basic bias arrangement, indicated by a circled-one in the center of the symbol was described in Fig. 4. V_{cc} is the logic level voltage and V_{b2} is the "excite" bias voltage.



(a) "Negating AND-OR" gate using the Neuron.



(b) Equivalent "negating AND-OR" gate with standard approach.

Fig. 6 The diagram is (a) is a 10-lead Neuron "negating AND-OR" gate derived from the second biasing arrangement described in Fig. 4.

applied to close the gate, resulting in a positive voltage at A, the device is non-inverting with respect to the gate drive.

Fig. 3 shows a plane view of the device revealing that there are actually 4 positions, areas marked E and E′, for connecting the base bias leads. If E and E′ areas are used for applying different biases with respect to one another, two configurations are possible: E grounded and E′ floating or E negative and E′ grounded. When the negative value has been properly selected, the opening of either gate A or gate D allows current to flow from E′ to E. The base is driven sufficiently negative so that the emitter will not inject even if gates B or C are open. Therefore, the function of gates A and D are that of over-riding inhibits.

Closing gates A and D strongly diminishes the flow of current from E′ and E which results in the base being anchored to ground. Opening gates B or C then allows base current to flow into the emitter region, and the device fires. The net result is that a pulse on B or C excites the device unless the inhibit is also pulsed.

Neuron Applications

As stated above, two basic biasing arrangements are available for implementing fundamental logic functions with the Neuron. Referring to a convenient equivalent circuit for the Neuron in Fig. 4, the first basic arrangement would have terminal 2 floating and terminals 1 and 3 grounded. This biasing condition results in several useful functions which can be summarized as f=AB+CD—an AND-OR gate. The symbolic diagram for the Neuron AND-OR gate is shown in Fig. 5 (a), and for comparison, the equivalent array of conventional AND, OR gates and amplifier is diagrammed in Fig. 5 (b).

If a simple AND function (f=AB) is desired, it can be obtained by connecting C and D, in Fig. 5 (a), to logical zero, $+V_{cc}$. The OR function, f=A+C, can be accomplished by grounding B and D. Grounding a gate in this configuration is equivalent to tying it to logical 1. (In the Neuron logic terminology, the "not" symbol means the absence of a

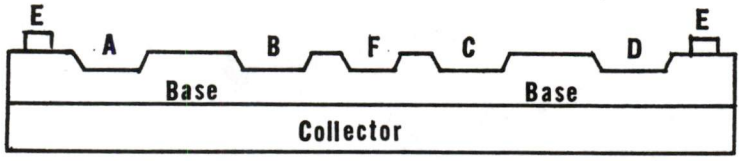


Fig. 1 Cross-section of the Neuron illustrating the gating regions of A, B, C, and D. Areas marked E are points in which base contacts are made and F represents the emitter area.

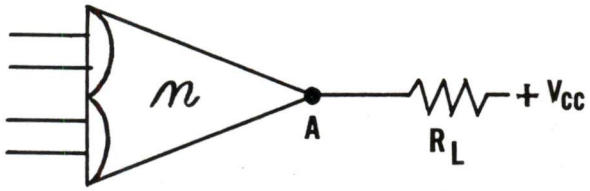


Fig. 2 Crystalonics has designed this symbol for their new device. To illustrate the two basic biasing arrangements either a circled-one or circled-two would replace the "n" in the symbol. These arrangements are discussed in Fig. 4.

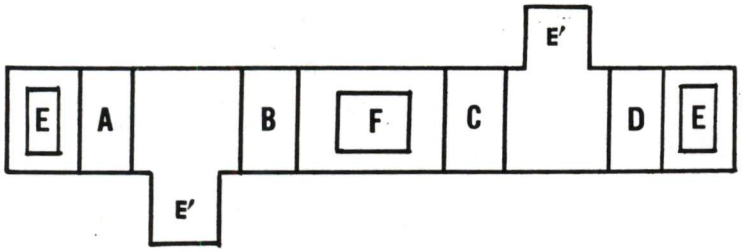


Fig. 3 A drawing of the Neuron shows 4 positions, areas marked E and E', for connecting the base bias leads. Two configurations are possible: E grounded and E' floating or E negative and E' grounded.

surface passivation techniques assure stable operation.

- Wide latitude in operating biases—variations of approximately 15% can be tolerated for the most sensitive function such as the exclusive OR. Other functions can tolerate variations of up to 40%.
- Choice of logic level voltages—with permissable under and overdrives of 20%, logic level voltages of from 3 to 25 volts can be obtained.
- High speed operation—one megacycle is typical.
- Noise immunity—the device can tolerate noise spikes up to ⅔ of the logic voltage, without propagation.

Crystalonics has trademarked the new component, the Neuron. Why the Neuron? Referring to the work of W. S. McCulloch and W. H. Pitts ("A Logical Calculus of the Ideas Imminent in Nervous Activity"—in the *Bulletin of Mathematical Biophysics*, Vol. 5, 1943, pps. 115-133), Bill Heinecke explained that Pitts-McCulloch's model of a neuron met the following three requirements:

1. It has an "excite" input such that when a pulse is received, an output is generated.
2. It contains an "over-riding inhibit" input such that when a pulse is coincident on both the "excite" and the "inhibit" inputs, no output is generated.
3. It has a "refractory period" — in which the element would not fire after it had been initially fired.

Crystalonics' Neuron meets the first two conditions but not the third. "The reason we do not have a refractory period is because it is not necessary for today's digital functions, however, if it becomes necessary, it could be put in the Neuron, and it could be externally-controlled", Heinecke declared.

Inside The Neuron

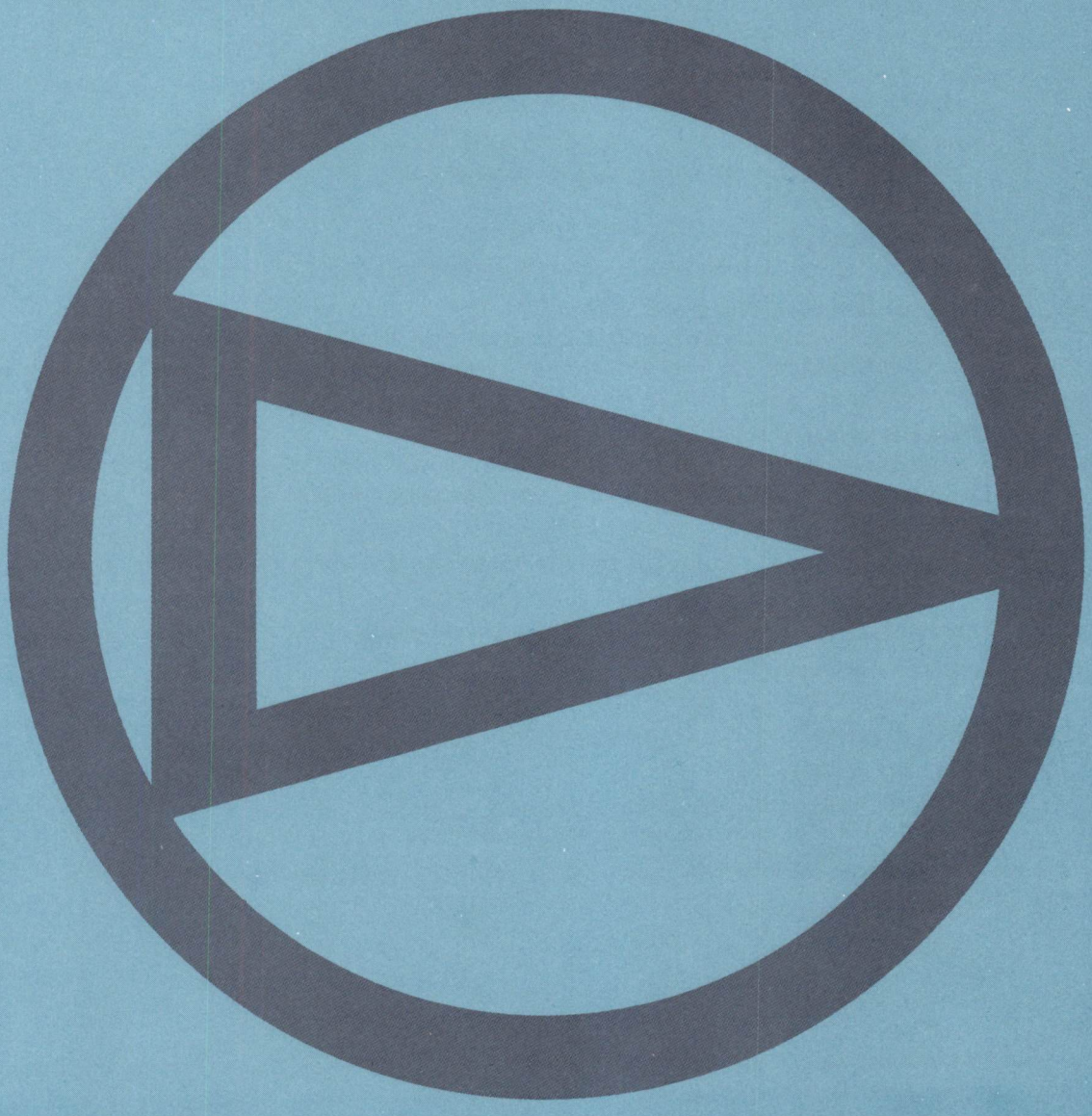
The Neuron consists of several gating regions and an amplifying region. A cross-section drawing of a four gate device, in Fig. 1, shows areas A, B, C, and D where gating occurs. Areas marked E represent the points at which base contacts are made, and area F is the emitter area. When the device is "on", current flows from E to F and is amplified between F and the collector as in the case of an ordinary transistor.

This necessitates an applied voltage between the base and the collector. This applied voltage can be specified by the user at any level up to the collector breakdown voltage. Normally, it would be held at the logic level voltage needed to operate the gates.

Applying a reverse bias to the gating areas generates a space-charge region which extends into the base region. As the gate space-charge region approaches the collector space-charge region, the conductive path is reduced. Finally when the applied gate voltage is high enough, the current flow between E and F is completely stopped, resulting in no current between the emitter and collector (leakage currents which are common to transistor structures are found in this device).

Removing the reversed bias on the gate permits the space-charge region to collapse allowing the device to conduct again. In the normal quiescent state, the device operates with a reverse bias applied to the gates. In applications, the device would normally operate in a grounded base configuration with a load resistor placed between the collector and positive collector supply voltage (V_{cc}). This configuration is shown in Fig. 2 which also illustrates Crystalonics' symbol for the Neuron. When the device is not conducting, the voltage drop between V_{cc} and the collector is zero. When the device is conducting point A (Fig. 2) is pulled negative with respect to V_{cc}. Since a positive bias is

THE NEURON®



WHAT IT IS

The NEURON is a universal, silicon, voltage operated device which has widespread application in digital systems. Examples of digital functions which can be performed are: and-or; nand-nor; bi-stable flip-flop, and the 'exclusive-or'. The inherent flexibility of the NEURON is such that other more specialized functions can also be obtained.

®REGISTERED TRADEMARK; PATENT PENDING

Crystalonics, Inc. 147 SHERMAN STREET • CAMBRIDGE 40, MASSACHUSETTS

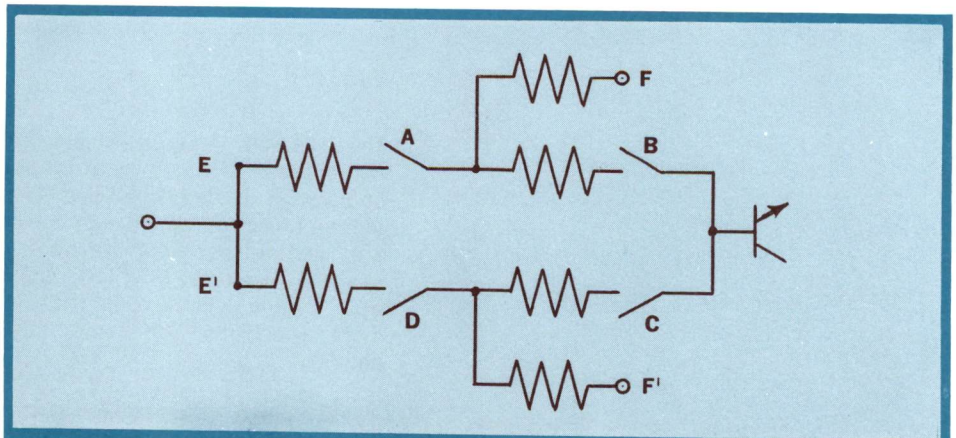
ADDITIONAL ATTRACTIVE FEATURES ARE:

1. **High input impedance —**
   Impedances of the order of megohms are typical. Such high impedances make possible very high fan-outs without having to compensate for current hogging. Inputs may be connected by direct coupling.
2. **Low output impedance —**
   Output impedance is comparable with that of a bi-polar transistor.
3. **Function redundancy —**
   For some applications (specifically those calling for "and" and "nand" functions), the device has a redundancy factor of two.
4. **Device passivation —**
   The device has a completely passivated surface to provide drift-free operation.
5. **Wide latitude in operating biases —**
   Latitude in biases depends upon the function required. Variations of approximately 15% can be tolerated for the most sensitive (exclusive-or) function. Other functions can tolerate variations up to 40%.
6. **Choice of logic level voltages —**
   Logic level voltages from 3 to 15 volts can be obtained. Logic levels quoted in device families are nominal, with permissible under or over drives of 20%.
7. **Reduction of circuitry —**
   The NEURON is capable of directly inverting, eliminating the need for generating function complements.
8. **Speed of operation —** One megacycle operation is typical.
9. **High noise immunity —**
   Noise spikes up to 60% of the logic voltage can be tolerated without propagation.
10. **Voltage operation —** The NEURON is a voltage operated device.
11. **Flexibility of design —**
    The NEURON is capable of operating under a wide range of design conditions — offering more flexibility of design than does the conventional microcircuit approach.
12. **Adaptive logic capability —** Logic function can be changed by electrical command.
13. **Single chip construction**

HOW IT WORKS

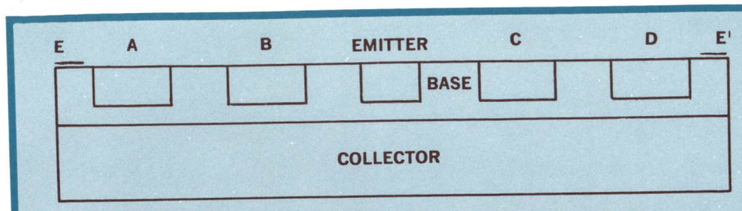
The device consists of several gating regions and an amplifying region. The arrangement is shown schematically in figure 1. Gating regions have been shown as switches in this diagram. In actuality the gates are p-n junctions.

figure 1



Conceptual equivalent of the NEURON.

figure 2



Cross section of NEURON showing active areas of the device.

Figure 2 shows a cross-section of the NEURON with several areas named by analogy to a transistor. Gating areas have been labeled A, B, C and D. Areas E and E' are ohmic contacts to the base. A plan view of the device is shown in figure 3. Areas labeled F and F' are ohmic contacts to the base side arms.

In operation, gates A, B, C and D are reversed biased with a positive voltage for the logical zero condition. A logical one results when the gate is grounded. A negative bias is always placed on the emitter allowing injection when base current can be drawn. The base-collector junction is reverse biased.

By virtue of the relation between the contact areas E, E' and F, F' and the gates, two biasing configurations are possible. In the first configuration, E and E' are grounded while F and F' are allowed to float. Considering only the left hand portion of the device, if A and B have a sufficiently large voltage, the space charge region resulting beneath the gate extends to the space charge region of the collector-base junction. As a consequence, current cannot flow between E and the emitter. This results in the device being in a non-conducting state.

Removal of the voltage from gate A makes it possible for carriers to flow from E to gate B, but not beyond. However, removing the bias from both A and B allows the current to flow from E to the emitter region. Consequently the device will go into a conducting state with an output appearing at the collector. Since the device is symmetrical about the emitter, the same arguments apply to gates C and D. The resulting function for the (1) connection is then:

$$f=AB+CD. \tag{1}$$

If areas F and F' are grounded and E and E' are connected to the negative emitter supply, a new set of functions result.

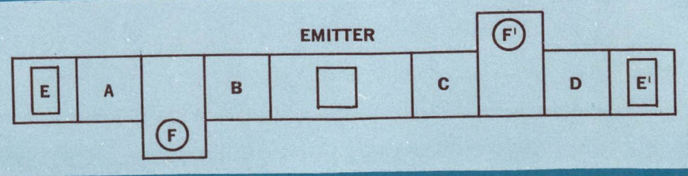
Removing the bias from gate B will allow base current flow from F to the emitter and an output will result. However, if A has the bias removed, current will flow from F to E. The consequence of this is to pull the base of the NEURON negative enough to inhibit injection by the emitter. The effect of opening gate A is that of an over-riding inhibit. The Boolian expression describing this function is:

$$f=(\bar{A})B+C(\bar{D}). \tag{2}$$

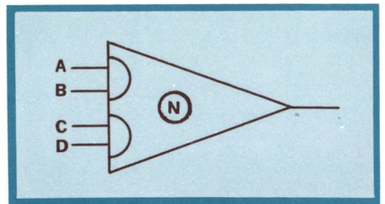
To facilitate generating other gating functions, the areas F and F' are brought out to separate pins. Contacts E and E' are brought out to a common pin.

The NEURON is symbolically represented in figure 4. Inhibitory leads are denoted by a dot at the point of entry into the triangle. The crescents represent the two halves of the device. The biasing arrangement is noted by substituting either a "1" or a "2" for "N".

figure 3



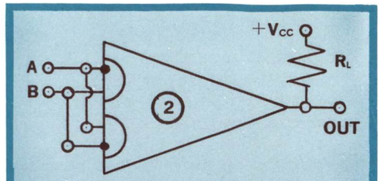
Plan view of NEURON. Areas F & F' are ohmic contacts to lateral extensions of the device base.



NEURON symbol.

figure 4

figure 5



NEURON, with external logic leads connected to generate the "exclusive-or" function.

DEVICE APPLICATIONS

When operating the device in the (2) configuration, several functions can be generated.

The first of these is the "exclusive-or" function. Referring to equation (2); if gates A and C, and B and D are paralleled the generated function becomes:

$$f=A(\bar{B})+B(\bar{A}) \tag{3}$$

Connection would be made as indicated in figure 5.

The NEURON becomes a bistable flip-flop when connected as shown in figure 6. A pulse at "B" causes the device to go into the conducting state. As a result the collector becomes slightly negative. This negative voltage is fed back to "C" which locks the device in the conducting state. A pulse at D causes the device to cease conducting. "A" may be used for clocking.

The NEURON does not generate the complement of its function. However, the function can in effect be complemented by leading it to an inhibitory gate, at the stage where the complement is required. This leads to design simplification since inverters are not necessary, and only the function need be carried through the system.

LEVEL SHIFTING

In general, the NEURON operates with the logic voltage being identical with the collector supply voltage. However, the collector of a given unit can be over biased with the result that lower gate biases can be used for the logical inputs. This results in a shift of level while performing logic functions.

PACKAGING AND SPECIAL FUNCTIONS

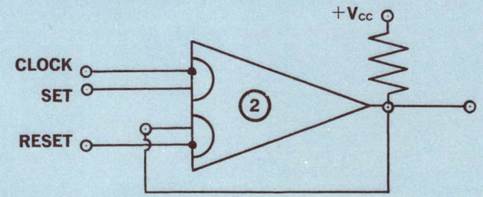
At present the NEURON is packaged in a 10 lead TO-5 transistor case. The device is also available in chip form for customer mounting. In addition, the device may be mounted in other packages on special orders.

The foregoing general applications of the NEURON in the digital logic fields are restricted by the presence of only four inputs. Considerably more sophisticated inputs can be supplied with no decrease in performance. An example of a more complex function that may be generated is

$$F=A(\bar{B})C\ (\bar{D})+EF\ (\bar{G})+(\bar{H})\ JK\ (\bar{L})\ (\bar{M}) \tag{4}$$

Requests related to particular problems are invited.

figure 6



NEURON, with external logic leads connected to generate the set-reset Flip-Flop function.

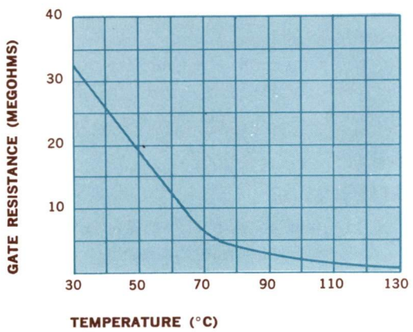
ELECTRICAL CHARACTERISTICS

	Min.	Typ.	Max.	Units
Operating frequency	1			Megacycle
Gate resistance at +5V and 25°C	10	30		Megohms
Output Leakage Current (5V and 25°C)		∠1	10	μa
Switching times (25°C)				
sum of delay and rise times:		200		n sec
sum of storage and fall times:		200		n sec
On-off current ratios:				
AB+CD (25°C)	500:1	2000:1		
$\bar{A}B+C\bar{D}$ (25°C)	500:1	1000:1		
$A\bar{B}+B\bar{A}$ (25°C)	20:1	40:1		
Typical Power Dissipation*	1.5	10		m watts
Noise immunity at all temp.	50	60		% of Logic voltage

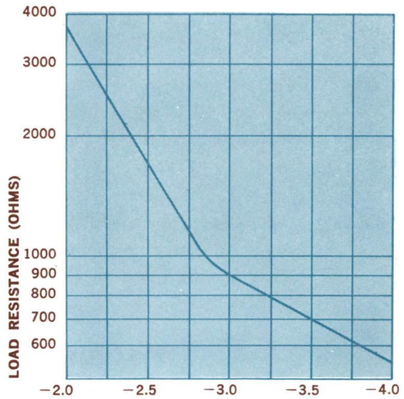
Logic voltages — all integral voltages from 3 to 15 volts

*Power Dissipation level depends upon load resistor supplied by customer.

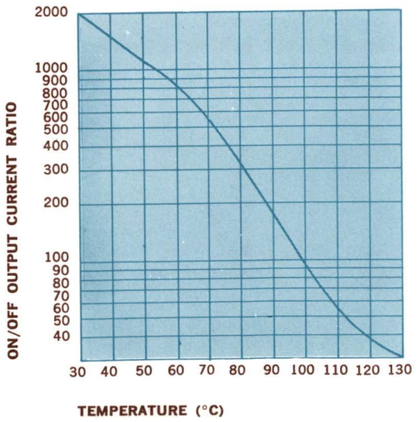
TYPICAL GATE RESISTANCE VS. TEMPERATURE @ +5V



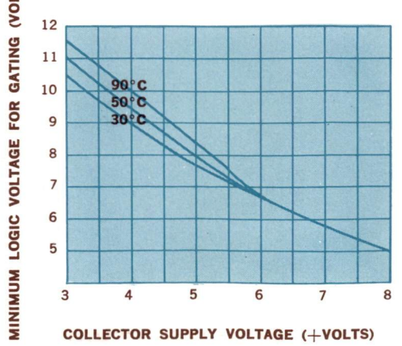
TYPICAL MINIMUM LOAD RESISTANCE VS. EMITTER VOLTAGE OF CNY 2105 f=AB+CD



TYPICAL ON/OFF CURRENT RATIOS VS. TEMPERATURE f=AB+CD



TYPICAL LEVEL SHIFTING OF CNY 2108



NOTE: Point of equal logic and collector voltages does not correspond with nominal voltage because of unit derating.

NEURON MULTI-FUNCTIONAL LOGIC DEVICE



SALES OFFICES

EASTERN: CAMBRIDGE 40, MASS. — 147 Sherman St.; Telephone: (617) 491-1690; TWX 617-499-9156

WESTERN: HOLLYWOOD 28, CALIFORNIA — 6715 Hollywood Blvd; Telephone: Hollywood 3-6992

REPRESENTATIVES: Aerol Associates, Incorporated

CALIFORNIA: SAN FRANCISCO — 1177 University Drive (Menlo Park); Telephone: Davenport 1-1014

COLORADO: DENVER — Denver Club Building; Telephone: TAbor 5-2046

CONNECTICUT: HARTFORD — 820 Park Ave. (Bloomfield); Telephone: 242-5586

D. C. 1401 K St. N.W.; Telephone: 347-2493

FLORIDA: ORLANDO — 920 Orange Avenue (Winter Park); Telephone: MIdway 4-0311

GEORGIA: ATLANTA — 3108 Piedmont Rd. N.E.; Telephone: 237-1564

ILLINOIS: CHICAGO — 1545 Waukegan Road (Glenview); Telephone: PArk 9-1600

KANSAS: KANSAS CITY — 6920 W. 82nd St. (Overland Park); Telephone: NI 8-4066
WICHITA — 6613 E. Kellogg; Telephone: MUrray 3-7421

MARYLAND: BALTIMORE — 8635 Lock Raven Blvd.; Telephone: 668-6400

MICHIGAN: DETROIT — 20441 James Couzens Highway; Telephone: VE 5-2333

MINNESOTA: MINNEAPOLIS — 3424 E. Lake Street; Telephone: 721-6321

MISSOURI: ST. LOUIS — 34 N. Brentwood Blvd. (Clayton); Telephone: PA 5-5361

NEW JERSEY: NEWARK — 207 South Harrison (East Orange); Telephone: OR 6-4080

NEW YORK: GREAT NECK, L. I. — 170 Great Neck Road; Telephone: HUnter 7-9650
SYRACUSE — 103 Pickwick Road (Dewitt); Telephone: GIbson 6-4560

OHIO: CINCINNATI — 7719 Reading Road; Telephone: VAlley 1-4898

TEXAS: DALLAS — 314 N. East Street (Arlington); Telephone: CRestview 5-2400
HOUSTON — 4101 San Jacinto; Telephone: JAckson 9-6363

WASHINGTON: SEATTLE — 10306 N.E. 10th St. (Bellevue); Telephone: 454-3029

DISTRIBUTORS:

ALABAMA: BIRMINGHAM — ACK SEMICONDUCTORS, INC. — 3101 Fourth Avenue South; Telephone: FA 2-0588

CALIFORNIA: OAKLAND — ELMAR ELECTRONICS — 140 Eleventh Street; Telephone: TEmplebar 4-3311

FLORIDA: MELBOURNE — ELECTRONIC WHOLESALERS INC. — 1301 Hibiscus Blvd.; Telephone: PA 3-1441

MARYLAND: BALTIMORE — VALLEY ELECTRONICS, INC. — 8809 Satyr Hill Rd.; Telephone: NO 8-4900

BULLETIN N 102 863

Crystalonics, Inc. 147 SHERMAN STREET • CAMBRIDGE 40, MASSACHUSETTS

NEURON Preliminary Data Sheet CNY 2106

The NEURON is a voltage operated, monolithic silicon device which performs most logic functions used in digital computer systems. Among these functions are : And-or, and nand-nor operations; exclusive-or; various flip-flop functions and logic level shifting. Outstanding features of the device are:

High noise immunity -	Rejection of spikes of 2/3 of logic voltage
High fan-out -	Fan-outs greater than 50 may be obtained
Choice of logic voltage -	Logic voltage of from 3 to 15 volts or larger can be supplied
Full MIL temperature range-	55°C to +125°C for all functions
Low power dissipation -	All logic functions can be obtained on as little as 600 μ watts[1]

There are four high impedance inputs in the CNY series NEURONS. These may be interconnected to give a wide variety of logic functions as shown under "interconnections". Input gates may be under or otherdriven by 20%.

Electrical Characteristics

	Min.	Typ.	Max.	Units
Operating frequency	1			megacycle
Gate resistance at +5V and 25°C	10	30		megohms
Output Leakage Current (5V and 25°C)		1	10	μa
Switching times (25°C)				
sum of delay and rise times:	100	200		n sec
sum of storage and fall times:	100	200		n sec
On/off current ratios:				
$AB + CD$ (25°C)	500:1	2000:1		
$A\bar{B} + C\bar{D}$ (25°C)	500:1	1000:1		
$A\bar{B} + B\bar{A}$ (25°C)	20:1	40:1		
Typical power dissipation for rated speed[2]	1.5	10		m watts
Noise immunity at all temperatures	50	60		% of logic voltage
Fan-out		50		

[1] Power dissipation level depends upon load resistor supplied by customer.

[2] Power dissipation level depends upon load resistor supplied by customer with a sacrifice of operating speed; dissipations of as little as 600 μw can be obtained.

CRYSTALONICS, INC.
147 Sherman Street
Cambridge, Massachusetts

Typical Specifications
CNY 2106

Mechanical Data:

Case: Welded metal 10 lead (TO-5) package with glass to metal seals for the leads.

Mounting Position: Any.

Absolute Maximum Ratings:

		Units
Logic Level Voltage, V_s	+12	V
Power Dissipation, P_w	250	mW
Storage Temperature	-55 to 200	°C
Output Current, I_o	25	ma
Operating Temperature Range	-55 to +125	°C

Typical Design Characteristics:

Logic Level Voltage, V_s	+6	V
Inhibit Bias V_{bi}	-3	V
Excite Bias V_{b2}	-3	V
Input Resistance Min. V_s=13V	10	MΩ
Input Capacitance, Typ. V_s=OV	6	PFD

Typical Values[3]

Function	R_L	V_{b_1}	V_{b_2}	V_s
Exclusive-or	1.2k	-3V	-3V	+6V
AB + CD	1.2k	———	-3V	+6V
Flip-Flop	5k	-3V	-3V	+6V

[3] Since the NEURON is capable of operating under a wide range of conditions, the quoted typical values are to be used only as a guide.

CRYSTALONICS, INC.
147 Sherman Street
Cambridge, Massachusetts

iny Component Promises Computer Revolution

By TIMOTHY LELAND

A remarkable electronic component that imitates the fundamental human thought cell—the neuron—has been developed by Crystalonics Inc. of Cambridge.

It promises to revolutionize computer technology.

At the very least, the device will make future computers faster in their computations, smaller, cheaper, and more reliable.

And it may possibly be the breakthrough that will finally give computers the ability to "think" for themselves.

Hailed by Many

It's being hailed by electronic engineers as one of the most important developments in years.

Appropriately enough, Crystalonics has trade-marked the new device, the Neuron. It is the product of a brand new field of research—bionics.

Bionics, or "bio-technology," is the investigation of organic systems for application to engineering design.

The inventors of the electronic Neuron examined the way the human nervous system provided organic "circuitry" — and then set about to duplicate it.

"We were looking for a completely fresh approach," explains William J. Heinecke, 36, one of the co-developers.

"We asked ourselves if there wasn't some better way of providing circuitry than the conventional method of assembling a lot of component parts, such as transistors, capacitors, diodes, resistors, and so forth.

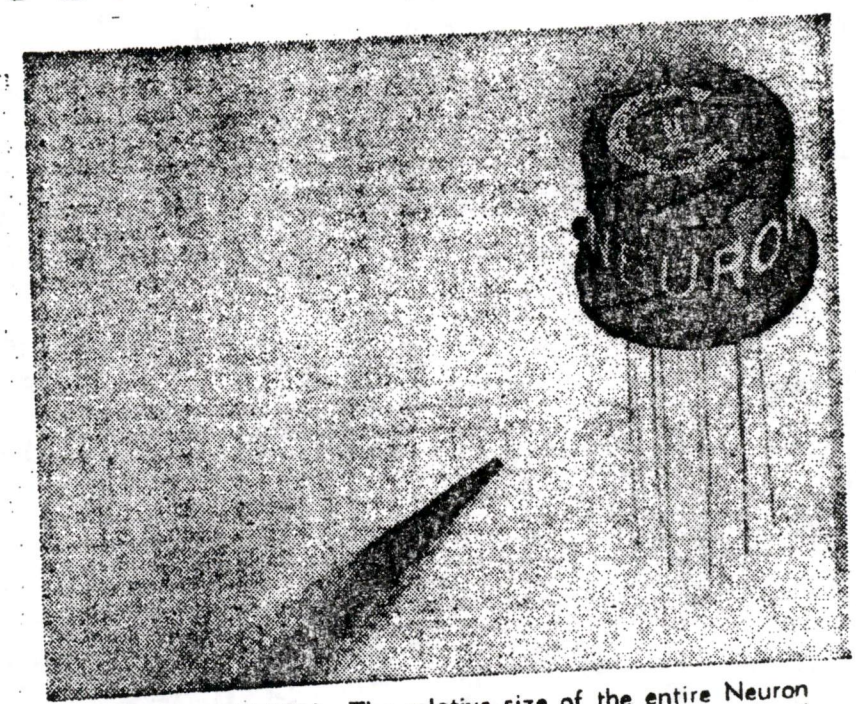
"We got the answer by going back to the biological 'circuit' in the human body—the neuron."

The result of the research, as seen in the laboratory, is a tiny speck of exotically-treated silicon crystal, about the size of a pinhead, which performs all the functions of today's digital circuitry—and then some.

A 'Black Box'

Biologically, a neuron can ge thought of as a little "black box" along a nerve center, which processes sensory impulses and either passes them along or rejects them.

Each neuron has a number of inputs leading to it (called "dendrites") and one output leading away from it (the "axon"). The inputs may have either an inhibitory or an excitatory effect on the response of the cell. That is, they may either "go" or "stop."



ELECTRONIC NEURON—The relative size of the entire Neuron package in its tiny protective can is compared to a conventional pencil. The neuron within is smaller than the point of the pencil.

What the neuron cell does is to compare the sum of the excitatory and inhibitory impulses, and produce an appropriate response.

In a like manner, the electronic Neuron performs a similar function for a computer.

Computers, in essence, are nothing more than a system of switches, or gates, which set up different pathways for information to travel through.

Just as activity in the brain represents impulses along a nerve fiber, so in a computer, activity represents a current along an information line.

In both cases, neurons (or Neurons) allow only the correct bits of information to pass along, depending on a specific combination of inputs.

'Yes or No'

Digital computers work in accordance with binary arithmetic. Information is either "yes" or "no." The Neuron simply recognizes the two types of instruction.

If the information comes in on one lead, the device "fires" and passes it along. If it comes in on the other, no impulse gets through.

Whereas computers today require many transistors, connecters and complex wiring to accomplish this logic function, in the future the process will be accomplished by a single Neuron.

Heinecke believes this will reduce the complexity of computers by as much as 50 per cent.

Furthermore (and this is where its prospects become staggering), the electronic Neuron, with a small amount of additional circuitry, can be commanded to perform a variety of different functions.

In present computers, since conventional circuits are highly specialized in their function, the commands, or "programs," which tell a computer what to do, have to be exremely explicit and comprehensive.

With the versatility of Neutrons, however—instead of having to accommodate the program to the computer—computers will be able to accommodate themselves instantaneously to new sets of commands in varying situations.

"The Neuron will give a computer the capacity of changing its own organization," Heinecke explained.

"Presented with a new problem, the mechanical brain will be able to adapt its 'thinking' to meet the changing requirements. Who knows what this could lead to?"

The Boston Sunday Herald - July 14, 1963

WENTWORTH INSTITUTE
550 HUNTINGTON AVENUE
BOSTON, MASSACHUSETTS

OFFICE OF THE PRESIDENT

November 5, 1963

Mr. Kenneth Olsen, President
Digital Equipment Corporation
Main Street
Maynard, Massachusetts

Dear Mr. Olsen:

The Annual Career Day which was held on October 24, at Wentworth Institute was completely successful. An important factor in this success was the participation in the program by Mr. John Smith, Production Manager, and Mr. Stephen Lambert, Design Engineer, of your company, who both gave stimulating talks to groups of our students. We appreciate your kindness and cooperation in permitting them to be with us on this occasion.

The opportunity for young men who are enrolled in rigorous technical education programs, to hear and to discuss with someone who can give them first hand information about what they can expect in industry as a result of diligent study here, provides the inspiration which is a real morale booster and motivating force. This encouragement is especially valuable to those young men who have just begun the academic struggle with college level courses and are in the midst of the adjustments required.

Thank you for making it possible for Messrs. Smith and Lambert to be with us. We believe that cooperation of this type between industry and education is mutually beneficial.

Yours very truly,

H. Russell Beatty

H. Russell Beatty
President

HRB:B

FISCHER & PORTER CO.
WARMINSTER, PENNSYLVANIA, U. S. A.
TELEPHONE: AREA 215, OSBORNE 5-6000; CABLE ADDRESS: FISHPORT; TWX: 675-4582

KERMIT FISCHER
PRESIDENT

1 November 1963

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

Dear Mr. Olsen:

Last week it came to my attention that our folks are trying to work with you in connection with a very substantial instrumentation project that requires inclusion of a computer.

Up until now I have known nothing about your firm except that it existed and now, in view of the possibilities of our using your equipment in the future, I should much appreciate an opportunity to become acquainted with your organization.

Accordingly, I am writing to ask if it would be satisfactory for me to stop off at Maynard some time in the next four or five weeks with the hope that you or one of your associates could show me what is going on. In the event that you reply in the affirmative, I would plan to call you on the phone to set up a specific appointment.

Sincerely,

KF:kvh

AMERICAN RESEARCH AND DEVELOPMENT CORPORATION

THE JOHN HANCOCK BUILDING · BOSTON 16 · MASSACHUSETTS

AREA CODE 617 426-7060

31 October 1963

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

Dear Ken:

Enclosed is DEC stock certificate No. 40, registered to Horace S. Ford, in the amount of 250 shares. This is sent to you for signature by you and George O'Dea and forwarding to Mr. Ford.

Sincerely yours,

Dorothy

Dorothy E. Rowe
Treasurer

DER:pc
Enclosure

forwarded to Mr. Ford 11/4/'63
S.O.D.



The National
Shawmut Bank
of Boston

D. THOMAS TRIGG
SENIOR VICE PRESIDENT

October 29, 1963

Dear Ken:

Many thanks to you and Harlan for your kind hospitality yesterday. I enjoyed very much the opportunity to get better acquainted with you, Harlan and George, and to meet Win.

The trip through the plant was most interesting and the luncheon very enjoyable.

Thanks again.

Sincerely,

Tom

D. Thomas Trigg

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

OHIO UNIVERSITY
ATHENS, OHIO

OFFICE OF THE PRESIDENT

October 28, 1963

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

Dear Ken:

I am delighted to hear that you are sending me a new module. The old one has always been an interesting conversation piece on my desk.

Looking forward to seeing you next month.

Cordially,

Vernon R. Alden

VRA:llc

~~Ken Olsen~~
~~H E Anderson~~

John Hancock
MUTUAL LIFE INSURANCE COMPANY
200 BERKELEY STREET · BOSTON 17 · MASSACHUSETTS

ROBERT E. SLATER
SENIOR VICE PRESIDENT

October 25, 1963

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

Dear Ken:

Many thanks for sending to me the beautifully done DEC module which arrived this morning.

Not only will it occupy a place in my office - but you may be sure I shall display it proudly on my desk.

Kindest personal regards.

Sincerely,

Bob

RES/B

ELECTROPLEX, INC.

120 WEST 131 STREET • LOS ANGELES 61, CALIFORNIA • FAculty 1-6212

WE CHANGED OUR ADDRESS

Electroplex, Inc. is now located
at a new expanded facility:
644 YOUNG ST.
SANTA ANA, CALIF.
TEL: 546-6150

October 25, 1963

Mr. Ken Olsen
Digital Equipment Corp.
Maynard, Massachusetts

Dear Mr. Olsen:

I believe I have met you on several occasions at trade shows, although I am probably better acquainted with Stan.

Mr. Crawford Cooley of Draper, Gaither & Anderson talked with you briefly by telephone on October 18, and he requested that I follow up with a letter to you enclosing a catalog. We have already sent our standard catalog under separate cover.

I am not sure what might come of these conversations, but it did occur to us that Digital Equipment might be interested in a west coast operation that is operating profitably, is well known, and of course, is in the same field of plug-in circuit modules.

If any of this is of interest to your people, perhaps we should get together for further discussion.

Very truly yours,

ELECTROPLEX, INC.

Arthur B. Williams
President

ABW:mkb

Mr. Crawford Cooley
Draper Gaither & Anderson
333 Montgomery
San Francisco, California

BEAR, STEARNS & CO.
MEMBERS NEW YORK STOCK EXCHANGE
ONE WALL STREET
NEW YORK 5, N.Y.

October 22, 1963

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

Dear Ken:

One of the partners in our firm asked me to check on the quality and reputation of MAC Panel Computer tape which is manufactured by Adams Millis Corporation. Do you know anything about this product?

My continued best wishes.

Sincerely,

Melvin J. Gardner

MJG:rb

DATA TRENDS, INC.

1259 RT. 46, PARSIPPANY, N. J. TEL 201-334-1515

R. W. HUGHES
PRESIDENT

22 October 1963

Mr. Kenneth Olsen
President
Digital Equipment Corporation
Maynard, Massachusetts

Dear Ken:

This is just a note to confirm our telephone conversation concerning the data switching center for NASA. This installation will be in London and there will be competitive bidding, with a bid request being issued approximately the first of the year.

As I believe we have discussed before, the proposed division of effort would be for DEC to supply all standard available hardware and DTI to supply system engineering, system programming and maintenance. One of the things I would like to discuss with you is the question of which company the proposal should come from. There will presumably be other opportunities like this and it would be helpful to have an understanding of your policies in this area.

We talked with Dave Denniston the other day and he was very helpful in supplying us with information on the PDP-5. It seems like a nice little machine and if we had an odd $20,000 around we would like to get one, but please don't add it to the projected sales just yet.

Hope to see you soon so we can talk about the above points.

With best regards,

R. W. Hughes

RWH:jag

October 21, 1963

Mr. Ken Olsen
Digital Equipment Corporation
Maynard, Massachusetts

Dear Ken:

Thank you for your letter. The two points you discussed, Maynard-Munich communications and the module line, deserve a lot more thought and time than I can devote to this letter (I'm flying over to Cambridge, England tomorrow rather unexpectedly), but I think it would be worth something to give you my immediate responses and ask you to go over the memo that I am concurrently sending to Stan.

When I arrived, the attitude toward communications at this end and the properly active role of such communications were not good. As in all field sales offices, but even moreso here, the responsibility has to be largely the field salesman's to pound away for answers. I think we are really gaining on the use of call reports and their handling and moving toward the improved use of the telex machine. The office here needs to establish sound habits and get into the swing of it, so to speak.

I would gather from your letter that you are primarily referring to comprehensive reporting to Maynard. Certainly to get a good picture requires a continuous process of reporting and concise communications. The challenge at this end, in my mind, is one of missionary sales. At this stage, it is perhaps more difficult to give an articulate, comprehensive picture of what we can claim as a program or envisage as our realizable market. I would add that we are at least 200% percent farther along than we were several months back.

A planned telephone call every other week or every month would be of real value, following a mutual summing up of current questions and reports. I would urge that the responsible coordinator at that end always have some feeling for the problems of field sales, preferably a person who has had field experience, and that it would be worth while to have one person there spend some time at monitoring all messages. At this end

I am trying to instill a sense of purpose and company urgency, using summary discussions and informal forecasting. I have hesitated to be critical of some of the inertia I have encountered before I had my feet on the ground and had a chance to see what influence I could possibly have. The trouble is that when there is nothing happening, there is nothing to report; and when there are a good number of things happening, you don't have time to report.

A big factor in the delays here I would trace to feelings of inadequacy and understandable lack of preparation and background in computer sales. I don't think the special systems area has been fully explored or followed up sufficiently, and there is the defeatist attitude you refer to about modules sales prospects. I think it is often a real advantage in missionary sales to be a little blind, sometimes downright stupid and always persistent. Günter is sharp and trying, trying even to sacrifice his German sense of exactness and concern about his personal image when and to the degree required, and I hope that time, help and a few sales greatly resulting from activities here will have a significant effect.

I will personally attend to my reporting responsibilities and try to do much better in giving a picture of activities and prospects and problems here.

I would suggest that the problems of Germany are by no means the necessary problems of Australia. Language itself is quite a factor. Otherwise, we Americans do all right. Why not send a DEC man there right at the start and build around this nucleus for adequate training and efficient approaches? To know people in the home office is a powerful weapon for communications. I understand that American modules manufacturers have sold in Australia which indicates to me a higher level of digital customer and perhaps less significant price resistance. But I really don't know anything about that market of course. Let me close this discussion for now with my expression of optimism for sales over here and indication that no sales, no efforts results, and there really has been a very insufficient if not downright non-existent direct sales effort.

My attitude toward this attitude of despair over modules sales

and answer to Günter when he makes such a general statement as we can't sell many modules here is, "Show me" or "Prove it." It is true that many of the people in the prospective market are building relatively simple, slow digital kludges and seem to have all the time in the world to make them work. Nevertheless, there is a market there which has had nothing to work with but the universally disliked Philips modeules, which don't constitute a modules line really. This market and the people who have digital problems coming up and need to be educated, should give us some sales. I have had interested people tell me that we should put out a brochure or book "teaching" them how to use our modules. The logic handbook section scares the newcomer perhaps and we could probably stand to discard a few assumptions we have made about its merits for newcomers to digital techniques, particularly in an area like Europe where there has been less in the way of technical articles, books and circulation of ideas. As a matter of fact, even our assumptions about the catalog in the States may be egocentric to the point of closing off many new customers, particularly in the slow, inexpensive module area.

Right now, more literature and "How To Do" information in the A/D line should help sell modules. More applications notes and details on the high density modules would help them a lot. We are not stressing the advantages we do have. Were you thinking of silicon modules for this new line? I'd be very interested to know more about the new designs. I close for now and will tune in better for more information that could add to the inputs you have.

I will plan to look up Jean LEBEL during the Mesucora Show in Paris. Speaking of glamorous areas of interests, it would also seem that almost everybody is talking up nothing but Physics. It is as interesting to me, as you might see by my associations, but could be another blinder and a dangerously fickle market.

Sincerely,

Ted Johnson

Ted Johnson

Copies of
Page 3 sent to H. Painter, D. Burt + R. Doerr
copies sent to Jon + Stan 10/25/63

Ken Olsen

October 21, 1963

COPY

The Flamingo Hotel
Las Vegas
Nevada

Attention: Reservations Manager

Dear Sir:

Please refer to our letter of October 14, 1963, requesting reservations for five twin bedrooms and one 1-bedroom suite for November 11 to 14.

The person who will occupy the twin bedroom with Mr. Ken Olsen is Mr. Dick Best.

We will send the names of occupants of the two twin rooms still unassigned as soon as they become available.

Very truly yours,

Howard O. Painter, Jr.
Applications Engineer

VG

CEdar 5-1520
DAVID T. BARRY ASSOCIATES
consultants to management
572 WASHINGTON STREET • WELLESLEY 81 • MASSACHUSETTS

October 18, 1963

Mr. Kenneth H. Olsen, President
Digital Equipment Corp.
146 Main Street
Maynard, Mass.

Dear Mr. Olsen:

At the suggestion of the present members of the PRESIDENTS' GROWTH GROUP, I am extending you an invitation to meet with us at our next meeting on the afternoon and evening of November 13, 1963.

The PRESIDENTS' GROWTH GROUP was formed by us to provide a medium for the regular exchange of ideas and experiences among chief executives. We hold one meeting a month for nine months of the year at the plant of one of the members. The host president conducts the group through his plant, pointing out those things that his company does well, and also pointing out some of the problem areas upon which they are still working. At the conclusion of the plant tour, the group reassembles in an office or conference room and discusses informally the things they have seen and heard. The visiting presidents may ask questions and the host president may bring up any problem that he would like to have some objective discussion on.

The meeting starts after lunch and goes through the business day. In the evening we move to a nearby hotel or restaurant, and at that point we bring in an authority on some management subject in which the group has expressed an interest. This authority talks for a half to three quarters of an hour informally, and then answers questions for as long as the group wishes to keep him.

The cost of the program is $600.00 for the year, which includes everything, the meals, the speakers, and the notes. Notes are made of each meeting and copies distributed to the members, who keep them in an imprinted personalized loose leaf binder.

A personal questionnaire is given to each member, and copies of that completed questionnaire are distributed among the other members. A subject questionnaire is also given each member to enable him to indicate those subjects that he would particularly like to have discussed in the evening portion of the meeting.

This is the second year of the PRESIDENTS' GROWTH GROUP and three of the members listed below are repeaters from last year. This should give you some indication of their feeling of the value of the program.

The size of the group is limited to fifteen, and when we have reached that point the membership will be closed. Only companies which are not direct competitors and which are located within one hour of Boston will be admitted.

Participation will require no more than one half of a business day, plus the evening, per meeting month. Presidents should expect to attend at least 80% of the meetings to make it worthwhile for them and for the rest of the group.

If you have questions that you would like to have answered in advance of your decision about November 13th, please have no hesitation in calling my office. As soon as we've heard that you will join us, we'll send you the exact time and location of the meeting, and the subject and speaker for the evening discussion. Please let us know by November 1, 1963.

The list of members is attached as well as the list of speakers and subjects that were on the program last year.

I hope you can make it.

Cordially yours,

David T. Barry

David T. Barry

DTB/jb

PRESIDENTS' GROWTH GROUP

1963-1964 MEMBERS

Mr. David J. Milliken
Lodding Engineering Corp.
Auburn, Massachusetts

Mr. John W. Lund
New England Envelope Mfg. Co.
Worcester 9, Massachusetts

Mr. D. R. Percival
Machinery Electrification Inc.
Northboro, Massachusetts

Mr. Richard F. Jarrell
Jarrell-Ash Company
Newtonville 60, Massachusetts

Mr. James T. Hintlian
John W. Leavitt Company
Everett 49, Massachusetts

Mr. Albert H. Damon
Edgcomb Steel of New England Inc.
Nashua, New Hampshire

Mr. Stuart F. Oakes
Hobbs Manufacturing Company
Worcester, Massachusetts

1962-1963 Speakers and Their Subjects

Richard Krafve, former president Raytheon	Motivation and Selection of Executives
Walter Aikman Arthur D. Little Company	Long Range Planning
Benjamin E. Gordon Labor Consultant	How to do Business in Spite of the Union
Bruce Brown, M.D. Internist	Executive Health
Arba K. Alford Training Supervisor Mobil Petroleum Co., New York	The Development of People
John J. FitzGerald, Partner O'Brien, FitzGerald, Taylor & Keaveney, Tax Consultants	Executive Tax Reduction Practices
Professor Edward C. Bursk Editor Harvard Business Review	International Marketing
Peter Hilton, President Kastor Hilton Chesley Clifford & Atherton Inc., New York	New Products

October 17, 1963

Paul T O'Neil, Esquire
Shanley and O'Neil
2001 Wisconsin Avenue
Washington 7, D C

Dear Mr O'Neil: Re: Cleeton Patent No 2,536,035

Thank you very much for your letter of September 19, 1963 regarding the above matter.

After careful consideration this Company has concluded that we are not interested in obtaining a license.

Very truly yours

DIGITAL EQUIPMENT CORPORATION

James P Hastings

JPH:ASJ

CC:
K Olsen
R Cesari, Blair and Buckles

K. Olsen

BOLT BERANEK AND NEWMAN INC
CONSULTING DEVELOPMENT RESEARCH

50 MOULTON STREET
CAMBRIDGE 38, MASSACHUSETTS
TELEPHONE 491-1850

Ted Johnson
C. J. Cramer

15 October 1963

Mr. Gordon Bell
Digital Equipment Corporation
Maynard, Massachusetts

Re: BBN Proposal No. P64-IS-3

Dear Gordon:

I. Bolt Beranek and Newman Inc. is pleased to submit the following proposal with regard to the Drum Diagnostic/Troubleshooting Package, which we discussed in our telephone conversation of 11 October 1963.

The Drum Diagnostic/Troubleshooting Package is designed for acceptance testing, diagnostic testing, and troubleshooting of the DEC standard drum.

The system will operate in a free-running mode upon read-in, generating error print-outs as errors are detected. In addition, it will be possible for the user to execute a wide variety of tests, under typewriter control. These tests will involve the reading, writing, and swapping of data to and from the drum in various ways. The user will be able to specify, from the typewriter, the specific tests and data sets desired. The tests include the reading, writing, and swapping of fixed-length blocks and of variable length-blocks. All location on the drum are, of course, involved. The data sets include all zeroes, all ones, random words, various checkerboards, and "same-name data"; other data sets may also be specified from the typewriter. Since the tests include, among other things, full-field transfers, the program requires a system configuration with at least two fields of core memory.

The proposed system has evolved through our own need to cope with the problems of acceptance testing, diagnostic testing, and troubleshooting of the drum. As a result of our experience, we feel confident that the system we propose encompasses a set of tests of a variety and thoroughness to meet these needs most adequately and conveniently.

If you desire, we shall be pleased to give a technical presentation on the details of the proposed system.

II. Bolt Beranek and Newman Inc. will provide:

1. Operating manual for the Diagnostic/Troubleshooting Package. This manual will follow the format of the MAINDEC series. Three (3) copies of the manual will be provided.

2. Symbolic tape of Drum Diagnostic/Troubleshooting Package.

3. Binary tape of Drum Diagnostic/Troubleshooting Package.

III. Delivery will be made as soon as the system becomes available, but not later than six months after receipt of contract. It is expected, but not guaranteed, that the system will be available within four months.

IV. We propose to accomplish the above on a straight fixed price basis of $15,000.

Sincerely yours,

BOLT BERANEK AND NEWMAN INC.

Thomas Marill

Thomas Marill
Head, Information Systems Department

TM:jm

cc: Mr. Harlan Anderson

Ken Olsen

October 14, 1963

The Flamingo Hotel
Las Vegas
Nevada

Attention: Reservations Manager

Dear Sir:

Bob Oakley of our Company has talked with you regarding our hotel requirements for the period of the Fall Joint Computer Conference to be held in Las Vegas in November.

Our requirements for hotel rooms are as follows:

One 1-bedroom suite to be occupied starting November 11 until November 14 by Harlan Anderson and Nick Mazzarese. Requested price $35.00.

One twin bedroom for Mr. and Mrs. Stanley C. Olsen, November 11 to November 14.

One twin bedroom for Mr. Ken Olsen, November 11 to November 14.

One twin bedroom for Gordon Bell and Robert Lane, November 11 to November 14.

Two additional twin bedrooms to be held in the name of Mr. Stanley Olsen (names of occupants will be forwarded later).

A check in the amount of $60.00 is enclosed as a deposit for these rooms.

In addition, Mr. Oakley will be making separate reservations for some of our West Coast personnel who will also be attending the Fall Joint Computer Conference.

Very truly yours,

Howard O. Painter, Jr.
Applications Engineer

HOP:vg

Enclosure: Check for $60.00
cc: Bob Oakley

COPY

Wolf

Research and Development Corporation

P.O. Box 136; Baker Avenue, West Concord, Massachusetts EMerson 9-2111

October 14, 1963

Mr. Kenneth H. Olson
President
Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Dear Mr. Olson:

You are, I am sure quite familiar with the NASA Electronic Research Center which the National Aeronautics and Space Administration has proposed to construct in the Boston area. The Architects Collaborative, Inc. (TAC) and the engineering firm of Metcalf and Eddy have presented to NASA and the New England Corps of Engineers a joint venture proposal to accomplish the architectural-engineering function involved in bringing this Center into existence. To strengthen their proposal, TAC has requested the Wolf Research and Development Corporation (WRDC) to assemble a team of technical experts in the various disciplines to be encompassed by the NASA Center, and to provide coordination between this team and the TAC-Metcalf and Eddy group.

Our aim is to support the TAC-Metcalf and Eddy proposal with a competent technical team drawn from the local New England academic and industrial communities. This team will review the architect-engineer plans as they progress and advise them in such matters as space utilization, power requirements, special equipment and facilities and environmental requirements. WRDC will coordinate the activities of the team.

We are interested in obtaining a written expression of interest from your corporation for possible inclusion with the joint proposal. Enclosed you will find a description of the laboratories and areas of research planned for the center. In your letter please indicate the technical areas in which personnel from your corporation would be particularly competent. We would emphasize that at this time we are not desirous of a firm commitment, but rather an expression of interest in participating if the joint venture proposal is successful.

Since we are making a determined effort to prepare for a proposal resubmission as soon as possible we would greatly appreciate your answering this letter within two or three days. Please do not hesitate to call me or John Pasieka with any questions you may have.

Very truly yours,

William M. Wolf
President

WMW/sb
Enc.

October 12, 1963

NASA ELECTRONICS RESEARCH LABORATORY
POSSIBLE RESEARCH AREAS

1. Guidance and Navigation

   a. Inertial Sensors and Subsystems

      gyros
      accelerometers
      inertial platforms

   b. Passive Electromagnetic Sensors and Subsystems

      star trackers
      planet trackers
      sextants
      horizon scanners
      passive optical homing

   c. Active Electromagnetic Devices and Subsystems (Spacecraft)

      microwave radar
      optical radar
      altimeters
      transponders
      navigators
      guidance command links

   d. Computers and Displays

      guidance computers
      guidance and navigation display

   e. System and Trajectory Analysis

      launch
      abort
      rendezvous
      mid-course
      planetary landing
      take-off
      re-entry

2. Control and Stabilization

   a. Manned Flight Control Systems

   b. Flight Displays

      flight control displays
      spacecraft and mission monitors
      cathode ray tubes
      optical displays
      solid state displays
      simulator displays

   c. Automatic Flight Control Systems

      magnetic sensors
      electrostatic sensors
      solar sensors
      inertia wheels or spheres
      gas controllers
      fluid controllers
      gravity gradient techniques
      solar pressure techniques

   d. Advanced Control Theory

      Mathematical Techniques
      servomechanism problems

   e. Advanced Components for Control

      fluid components
      gas components
      magnetic components

3. Communications

a. Information Theory

b. Communications Techniques and Components

propagation phenomena
high gain vehicle antennas
telemetry
plasma transmission
exhaust gas transmission

c. Advanced Electronic Devices

masers
lasers
microelectronics
thin films
solid state devices
power amplifiers
vacuum tubes
optical components
electronic-optical components
timing devices

4. Tracking and Data Acquisition

acquisition means
automatic tracking
precision real-time optical tracking
extra terrestial tracking
extra terrestial data acquisition

5. Data Handling and Processing

a. Flight Readiness and Launch Systems

vehicle pre-launch readiness
launching programmers
launching monitors
celestial body launch monitors

b. Data Processing Space Systems

system organization
storage
editing
monitoring

c. Advanced Computing Devices

higher speeds
improved organization
increased reliability
reduced power consumption
increased packaging density
input-output devices
storage techniques

6. Instrumentation

a. Astrophysical Instrumentation

atmospheric
space
celestial body physical properties

b. Biomedical Instrumentation

c. Engineering Instrumentation

spacecraft performance
materials testing
model testing

7. Advanced Concepts

Program and Mission Analysis

8. Power Conditioning and Distribution

power conditioning
regulation
distribution
reduction of interference
voltage standardization
nuclear supplies

9. Reliability and Quality Control

reliability models
environmental testing
component standards
materials standards
Quality Control techniques
Reliability procedures

McCormick & Company
CONSULTING ENGINEERS
PARK BUILDING, YONKERS, NEW YORK

TELEPHONE YONKERS 8-7600

October 11, 1963

Mr. Kenneth H. Olsen
Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Dear Mr. Olsen:

We have developed a technique for company presidents and top officers designed to control costs and permit the planning of profits. I believe this technique will be of interest to you and your associates for it simplifies and streamlines profit communication.

This technique, known as the Marginal Income Cost System, has been installed in over 100 industries and banks in America and England. These companies are the best run organizations in their industry.

Our Vice President, Mr. Don C. Leith, will be in your area very soon and it would be a great pleasure for him to drop in and see you. May we have the pleasure of hearing from you.

Sincerely yours,

Edmund J. McCormick

EJM:jj

Edmund J. McCormick
President

BOLT BERANEK AND NEWMAN INC
CONSULTING DEVELOPMENT RESEARCH

8221 MELROSE AVENUE
LOS ANGELES 46, CALIFORNIA
TELEPHONE OLIVE 3-0180

7 October 1963

Mr. Gordon Bell
Digital Equipment Corporation
Maynard, Massachusetts

Subject: Proposal No. P64-LA-9

Dear Gordon:

Bolt Beranek and Newman Inc. is pleased to submit the following proposal for additional programming with regard to the DECAL-BBN system. Section I of this letter will detail the items we propose to deliver; Section II the delivery schedule; Section III the cost; and Section IV the personnel who will be involved. In addition, Section V lists some of the advantages to DEC of the proposed modifications, and Section VI outlines briefly how the DDT compatability modification will work.

I. Bolt Beranek and Newman Inc. will provide modifications to Skeletal DECAL-BBN to incorporate buffered input/output using the single or multichannel sequence break system, and also modifications to provide compatability with the DDT debugging system. In particular, the following items will be provided:

1) Buffered input/output utilizing the sequence break system.

a) Binary tape of Skeletal DECAL-BBN including single channel sequence break input/output.

b) Binary tape of Skeletal DECAL-BBN including sixteen channel sequence break system.

c) Symbolic tape of changes to Skeletal DECAL-BBN to incorporate Item 1.

d) Symbolic tape of changes to Skeletal DECAL-BBN to incorporate Item 2.

e) Five copies of an addendum to the DECAL-BBN Programmer's Manual describing the operation of the two versions of Skeletal DECAL-BBN with sequence break input/output.

f) Five copies of an addendum to the DECAL-BBN Technical Manual describing the two versions of Skeletal DECAL-BBN with sequence break input/output.

2) DDT Compatability

a) Symbolic tapes of Action Operators which will modify DECAL-BBN in such a way that linking loader tapes punched out will contain additional information needed for DDT compatability. The linking loader tapes punched out will have to be loaded by a special version of the DECAL-BBN LOADER in order to exercise the DDT compatability feature. However, the present version of the DECAL-BBN LOADER will be able to load these tapes.

b) Binary tapes of HI DECAL-BBN LOADER and LO DECAL-BBN LOADER which incorporate the DDT compatability feature.

c) Symbolic tapes of the changes to the DECAL-BBN LOADER to incorporate the DDT compatability feature.

d) Five copies of an addendum to the DECAL-BBN Programmer's Manual describing the operation of the DDT compatability feature.

e) Five copies of an addendum to the DECAL-BBN Technical Manual describing the DDT compatability feature.

II. The proposed schedule of delivery is as follows:

Within sixty days of receipt of contract: Items 1-a, b, c, d, e, f, and Items 2-a, b, c, d, e.

In view of the fact that only very recently the complete DECAL-BBN and associated documentation has been delivered to DEC, we feel strongly that, if these additional advantages are desired by DEC, the early completion and dissemination of them is a most desirable situation. It is our desire and aim to deliver to DEC all the items above in forty-five days. However, since unforeseen difficulties may arise, it is necessary that we propose the schedule as above. Individual items will be delivered as they are completed if so desired by DEC.

III. We propose to provide items

1-a, b, c, d, e, f, and 2-a, b, c, d, e

for a fixed price of - $5000

IV. The majority of the proposed work will be undertaken by Mr. Craig M. Fletcher. Mr. Fletcher has participated in the programming of DECAL-BBN under BBN sponsorship since October 1962, and under DEC sponsorship since May 1963. He is responsible for the present configuration of the DECAL-BBN algebraic compiler and has worked fruitfully on most of the other parts of the compiler.

The work proposed will be under the direction of Mr. William E. Fletcher. He has been familiar with the progress of DECAL-BBN since December 1960, and has worked actively during the recent BBN and DEC supported phase of the development which has led to the current DECAL-BBN.

Mr. Richard J. McQuillin will be available as liaison between DEC Maynard and BBN Los Angeles on a day-to-day basis during the execution of this contract. It is anticipated that the close working relationship between DEC

Maynard and BBN Cambridge that presently exists will continue to exist and that, in addition, the interchange between BBN Los Angeles and DEC Los Angeles will continue to be a strong and fruitful line of communication.

V. Advantages to DEC of the proposed modifications to DECAL-BBN:

1) Buffered input/output utilizing the sequence break system.

a) First in importance to DEC probably would be the decreased wear and tear on the reader and punch. The more uniform punching speed and smooth reading is easier on the apparatus. It is worth noting that calculations and some experience with an early version of sequence break (incorporated on a DECAL some time ago and using the sequence break routines written for a sixteen channel PDP-1 in 1961) shows that the compiler speed is just about the same as the punch speed. Thus, the addition of the sequence break i/o is an ideal marriage.

b) Compile time of typical programs is reduced by a factor of about 2.

c) Ambient noise is reduced due to elimination of the clatter in the punch relay and the reader brake.

2) DDT compatability modification.

a) DDT is a highly developed and widely used debugging system. People who have used it in the past are unhappy to give it up and with good reason. Providing this link between DECAL-BBN and DDT will ease the transition of stalwart MACRO users into the DECAL fold and will allow the users of DECAL-BBN the use of the powerful features of DDT.

VI. Description of the DDT Compatability Modification.

The MACRO assembly routine punches out a specially formatted tape which contains three letter symbols from the program that was just assembled along with the definition of each symbol (its address in memory). This tape is used as input to DDT when a debugging session is underway to allow symbolic reference to registers in the program being debugged. DECAL-BBN allows two freedoms which MACRO does not. Symbols may be more than three letters long and programs may be loaded anywhere in memory by the DECAL-BBN LOADER after they are compiled. Because of the second freedom allowed by DECAL-BBN, the corollary to the tape punched out by MACRO when it assembles a program cannot be produced by DECAL-BBN until loading is accomplished. For this reason the tape to be used with DDT will be punched out by a modified DECAL-BBN loader when a program is loaded. There is no perfect solution to the three character per symbol problem. The DDT compatability feature will simply use the first three characters of symbols as equivalent to the symbol. This creates the possibility of duplicate definitions. DDT always assigns the most recent definition to a symbol.

The DDT Compatability Option for DECAL-BBN will punch on the linking loader tape information about both system symbols and program symbols. The modification to the DECAL-BBN LOADER to punch out the tape to be used as input to DDT will allow, under sense switch option, both system symbol and program symbol communication, or system symbol communication alone.

We hope that the proposal contained herein will be of interest to DEC. Please contact the undersigned or Mr. Richard J. McQuillin if there are any questions concerning this proposal. We are looking forward to working on this contract.

Sincerely yours,

BOLT BERANEK AND NEWMAN INC.

William E. Fletcher

WEF:vo

cc: Addressee
Ken Olson
Harlan Anderson
Harrison Morse

Technical Marketing Associates, Inc.

33 SUDBURY ROAD
CONCORD, MASS.
EMerson 9-5500

October 2, 1963

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

Dear Mr. Olson:

During our initial conversation, we spoke briefly of the work of Henry Maubert of our organization, a specialist in international marketing who spends about half of his time in this country and the other half in Europe. His resume is included in the reading file and an extra copy is enclosed. Henry will be back in this country within the next two weeks and plans another period in Europe before Christmas. While there, he performs a variety of marketing functions for several clients including foreign sales management, negotiation with agents, acquisition studies, and general trouble shooting, as well as market research and development. It is possible that he could help you in connection with your international activities.

Perhaps you would like to meet him. He is full of ideas and has an unusual grasp of the business climate on both sides of the ocean. Unless we hear from you to the contrary, he will give you a call when he arrives in mid-October.

Sincerely yours,

TECHNICAL MARKETING ASSOCIATES, INC.

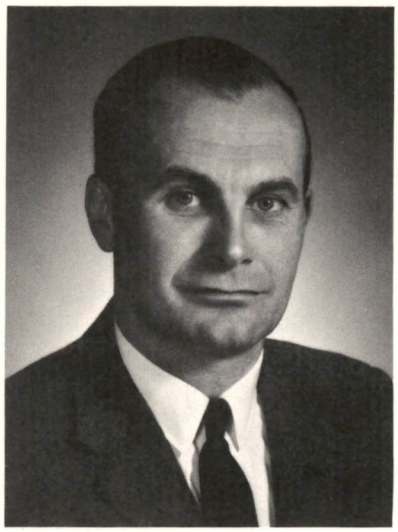
Courtland S. Randall

Courtland S. Randall
Vice President

CSR:mnh
Enc.

B6.

PROFESSIONAL RESUME



HENRY J. MAUBERT

Senior Associate

Technical Marketing Associates, Inc.
Concord, Massachusetts

EXPERIENCE

Present Position:

Senior Associate, Technical Marketing Associates, Inc. Brings to the study of product and market problems the combination of broad international background and twelve years experience in U. S. managerial and executive positions. Evaluates qualitative and quantitative relations between the functional worth and the cost of products and their impact upon the development of appropriate market plans. Conversely applies economic parameters obtained through market research to the rational planning, development, and manufacture of new products. Performs depth study of specific industries, companies, and commodities. More recently has specialized in the application of these disciplines to the solution of product and market problems facing U. S. manufacturers with existing or planned operations in Europe. Determines competitive performance and price conditions for products to be introduced in foreign markets. Assists in setting and training sales and service organizations, selecting business associates in foreign nations with particular emphasis on Europe.

Past Positions:

Senior consultant, Arthur D. Little, Inc., specialists in industrial and commercial research. Participated in and directed industry feasibility studies for new products; evaluated objectives, policies, organizations, and systems in relation to business planning, for industrial clients.

Vice President and director of materials management, J. I. Case Co., multi-plant, multi-national manufacturer of agricultural and earth moving equipment. Developed a market-oriented corporate program of value analysis in product design. Also reorganized and integrated all functions relating to the flow of materials, components, and products from supplier to customer.

Divisional Materials Manager, Westinghouse Electric Corp., Consumer Electronics, and Instruments Divisions. Developed policies and systems pertaining to the selection, procurement, and utilization of materials in the volume production of various types of precision electrical equipment. Actively participated in the development of automation techniques in production, and application of automatic data processing to the planning and programming of business operations. Responsible for the systematic analysis and selection of products and suppliers in a large-scale, diversified industrial procurement operation. Also held line responsibilities in the fields of production planning and control, the negotiation and management of large procurement programs in electrical and electronic components, and as a member of Westinghouse Corporate Staff, conducted studies and evaluations of specific industries, companies and commodities.

Sales and Promotion Manager in France for a British manufacturer of equipment for the filtration and treatment of water. Redeveloped sales operations and organizations scattered by the War.

Immediately following World War II, served as a newspaper reporter and specialized in the study of economic and social problems in European countries.

Education:

B. A. in Philosophy, University of Paris, 1939. Major in Psychology, minor in Sociology.

General Mathematics, University of Lyon, 1940.

M. B. A., Graduate School of Business Administration, Harvard University, 1953.

Military:

French Army, Mountain troops, 1940-41.

Lieutenant, Free French Forces, 1941-43. Assistant to Regional Commander for Intelligence and Sabotage, in French Alps.

Prisoner, Buchenwald Concentration Camp, 1943-45.

2 copies

Cles

Mr. Ken Olson
President
Digital Equipment Corporation
Maynard, Mass.

Centre Lebel d'Études Scientifiques

Scientific data processing services.
Digital recording of
experimental results for
analysis by Electronic Data
Processing Machines.

October 8, 1963

JL/nm/10

Dear Ken,

As I told you during my last visit to your plant six months ago, I have opened my Engineering Office in Paris.

It is not at all unlikely that we recommend Digital Equipment building blocks, memories, and maybe even computers to our customers.

I would like to know what commission× we might expect from Digital Equipment Corporation on equipment which would be sold to customers of my office.

Yours sincerely,

Jean D. LEBEL.

× Percentage fee

6 AVENUE DANIEL LESUEUR, PARIS VII^e, FRANCE BREteuil 11-70 +

LOGICAL DESIGN • MAN-MACHINE INTERFACE • SYSTEMS ANALYSIS

Dr. Ivan Flores

COMPUTER CONSULTANT

SOUTH HUCKLEBERRY DRIVE
NORWALK, CONNECTICUT
Victor 7-2809

A.C 203

October 1, 1963

Mr. Kenneth Olson
Digital Equipment Corporation
Main Street
Maynard, Massachusetts

Dear Mr. Olson:

I am a consultant in the area of digital design. A combination of experience in the hardware and software fields may be useful to your establishment. I am enclosing a brochure which summarizes my background in this area.

I expect to be in the Boston area during the week of October 14 and I would like to visit your installation during that time to discuss my potential.

May I hear from you soon, indicating which days are preferable for such a visit and which members of your staff could talk with me?

Sincerely,

Ivan Flores/m

Ivan Flores

IF:PAM
Enc: Brochure — Sent to Library for filing

Her Secretary - Mrs. Flores

IIT RESEARCH INSTITUTE

FORMERLY ARMOUR RESEARCH FOUNDATION OF ILLINOIS INSTITUTE OF TECHNOLOGY

Technology Center • 10 W. 35th Street, Chicago 16, Illinois • Area Code 312—225-9600

September 27, 1963

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

Subject: The Future of EL-PC Logic

Dear Mr. Olsen:

New areas of technology continually replace old areas of technology. The ability of the new product technology to replace the old, of course, is not always apparent at the time the new technology is beginning. This is true in the logic market today.

The Management Research Division of the IIT Research Institute (formerly Armour Research Foundation of Illinois Institute of Technology) provides for industrial concerns a service whereby products and markets, and the future of these products and markets, are studied from a combined business-technical standpoint. The end objective in mind is to assist clients in arriving at business decisions which will favorably affect their sales and profits.

We in the Management Research Division of the IIT Research Institute have noted with interest certain developments in the EL-PC (electroluminescent-photoconductive) logic field. These developments give rise to a situation whereby certain types of logic now being marketed might be replaced by EL-PC and whereby certain applications (such as industrial controls, appliances, and the like) might be opened for the use of an inexpensive logic.

There are, of course, certain problems that must be overcome in the development of EL-PC logic. We do not know if it will be readily possible to overcome these problems. We do not know, if these problems are overcome, what the market size in various applications for EL-PC logic will be. There are many other technical, product, and market questions that must be answered.

We do know, however, that the government and industry is interested in the development of an inexpensive form of logic. We also know that there are

many types of logic competing for use in the same application. We know many types of logic will come to pass in the future. We also are aware that many firms in the United States are working in the EL-PC logic area. Much work is also being conducted in Europe at this time.

We propose that you enter into an agreement with the IIT Research Institute to study the future for EL-PC logic. We are also proposing that you be joined in this agreement with six other firms. Each firm will contribute $7,500 to the proposed study and each firm will share in the results of the study.

The proposed study would be not only of a technical nature, but would be of a business nature as well. It would provide facts and figures upon which you and your management could base decisions concerning your firm's consideration of the EL-PC logic area as a possible profitable undertaking, for your future.

We would be more than happy to visit with you and discuss the details of the type of program we are proposing. May I hear from you within the next ten days.

Sincerely yours,

Donald C. Trauscht
Management Research

DCT:sk

SCM CORPORATION 410 PARK AVENUE NEW YORK 22 NEW YORK

ALLEN A. MEYER
NATIONAL SALES MANAGER
DATA PROCESSING SYSTEMS DIVISION

September 26, 1963.

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

Dear Mr. Olsen:

Marketing problems become opportunities for the man with experience, persistence and flexibility. New products, redesign of old products, more effective sales tools, up-to-date sales training, better customer service -- each has its proportionate influence on improved market penetration. Experience in these facets of marketing triggers appropriate and timely action.

A Marketing realignment within my present connection has made a change desirable for me so that my experience and talents may be used to the maximum degree possible.

A Summary of my Experience in Staff and Line Marketing in the Accounting Machine and Data Processing Systems field is enclosed for your consideration. The references suggested for you to contact are men experienced in this important industry and with whom I have been closely associated for a substantial number of years. Each is able to answer pertinent questions about me. One of the references, Mr. L. C. Overlock, as Vice President Marketing, was my immediate superior from 1959 to early summer 1963, at which time he became President of Bohn Business Machines, Inc.,N.Y.C.

To explore and confirm my value to your organization, a personal meeting with you or your designated representative would be a pleasure. Communication with me through my home address shown in my Summary will be appreciated.

Sincerely,

Allen A. Meyer

INTRONIC S.A.

Masanserstrasse 128

Chur

Switzerland

Teleph. 081 2 31 27
Telex: 52 836 CHUR
Cable address: INTRONIC CHUR

Display and Demonstration Center:
Zuercherstrasse 4
Zuerich-Schlieren
Teleph. 051 98 00 11 / 12

September 12, 1963

Mr. Kenneth E. Olsen, President
Digital Equipment Corporatiom
Maynard, Mass.

Dear Mr. Olsen,

Our U.S. director Mr. Thomas H. Miner, 135 S, La Salle st, Chicago 3, Ill. has no doubt contacted your company and outlined the scope of INTRONIC S.A., what it can do for your company. He has stressed the advantages it can offer to you in terms of: - lowering your tax burden on foreign earnings, - activating respectively intensifying your foreign sales by either raising the level of contacts and stimulating your distributors or by using our own sales outlets, - lowering the overhead of your overseas activities.

As we - of the overseas organization - would welcome the opportunity to meet you personally and you might wish to talk things over with us while you are examining our proposition, I would like to call on you during my trip to the U.S. in September and October.

In order to make the most of our future meeting we would appreciate your obligedness in answering these questions:

Our organization being aimed at serving U.S. industry, have our previous contacts with your company been satisfactory and instrumental in spelling out the substantial and unique merits of our organization?

Have you received our literature folder?

What aspects of it would you particularly like to have elaborated?

May we hear from you.

Sincerely yours,

INTRONIC S.A.

Jules Monleone

Dr. Jules Monleone
Managing Director

JM:ap

The Diebold Group, Inc.

Management Consultants

430 PARK AVENUE, NEW YORK 22, N. Y., PLAZA 5-0400

September 10, 1963

Dear Mr. Olsen:

Dick Taylor and I enjoyed very much the opportunity to meet with you and Stan Olsen and Nick Mazzarese last week to discuss the Diebold Research Program and other ways in which we might be of assistance to you. As agreed upon at the conclusion of our discussion, I am enclosing two copies of the brochure briefly describing its scope and content.

We are enthused about the response of both users and manufacturers to the Program and, indeed, this joint interest is a unique and key element in its planned operation. It will provide constant opportunity for users and manufacturers to assert a positive influence on future developments. As I had outlined for you, we already have excellent response from the manufacturers.

As we had discussed, the Program will incorporate quarterly meetings with the clients to review and discuss particular developments in detail which have received major emphasis during the three-month period preceding each meeting. Each sponsor would be advised prior to every meeting of the subject matter to be covered, to insure preparation for and maximum participation in each meeting. In this manner, we feel there will then be a unique opportunity for the sophisticated users, as well as the manufacturers, to assert a very real influence on the definition of new systems and applications. It is our intention, through this Program, to take a real leadership role in the definition of characteristics of the technological and major new applications, and to identify realistically the timing and commercial opportunities for these developments. Thus, we will establish a positive framework within which clients can test their own ideas.

I am confident that the Program would prove of real value to Digital Equipment Corporation. As I had mentioned, the fee for participation is $16,000 per year, payable upon acceptance as a joint sponsor of this major new Program. We plan to have the first client meeting on October 22nd and would strongly recommend your people being in a position to capitalize on this meeting. I will be in touch with you again in the near future, and please do not hesitate to contact me if you should have any questions in the meantime.

With very best wishes.

Very truly yours,

J. J. MacIsaac
Director, Business Planning

Mr. Kenneth Olsen
President
Digital Equipment Corp.
146 Main Street
Maynard, Massachusetts

Enc.

The Diebold Research Program will identify and study information technology developments through the early 1970's; interpret their meaning and significance for business, organization, decision making, and systems; and explore steps that can be taken today to prepare and insure compatability.

The objective of the project is to allow an experienced and imaginative group of leaders in this field to explore together the consequences of advanced development to determine the specific steps that can be taken to prepare for the changes taking place, and through this effort to influence for the better the way in which this field develops.

For Additional Information:

A detailed description of the objectives and scope of the program is available from our headquarters office:

The Diebold Group, Inc.

430 Park Avenue, New York 22, N. Y.
Telephone: PLaza 5-0400.

The Diebold Group, Inc., 430 Park Avenue, New York 22, N. Y.

The Diebold Research Program

Preparing for tomorrow's business information systems through a cooperative research program.

Basic Concept and Objectives

Information technology has, during the last decade, had major influence on costs and techniques of doing business. However, the full effects are just beginning to be felt. The next ten years will see information technology impacting broader areas of business with more intensity than in the past. Organization, management staffing, business planning, control and manpower planning will all be affected.

Newer computers; extensive and high speed data transmission nets; information retrieval systems; advanced design and programming techniques; heuristic and other goal oriented systems will substantially change business organization and systems as well as what we understand today to be business data processing.

Success in applying new information techniques to business has been based on careful planning. The increasing rate of developments in information technology and their broadening impact on totally new areas of business activity, enormously complicate the corporate planning task. On the other hand, the long lead times and the many indicators of coming breakthroughs provide a sound base for anticipating developments and establishing a sound planning base.

The objective of this program is to provide the basis for sound medium and long term planning for corporate response to information technology developments:

- to identify the nature and timing of significant developments
- to permit early discrimination between important areas and blind alleys
- to interpret the effect of technical (hardware and software) developments on business systems and organization
- to enable participants, through expression of their requirements, to exert a positive influence on these developments.

Conduct of Study and Data Sources

A research team of Diebold staff will organize the study, undertake major elements of the research, and prepare all reports and documentation. The Diebold team has full access to the Diebold Data Files used in the extensive business, market and product planning work undertaken by the firm on behalf of the equipment manufacturers. In parallel with and as part of the study, participation by the subscribing companies will form an important part of the program. It is anticipated that a close working relationship will exist between the full time research team and key individuals of the project's member companies. This relationship will include:

- work shop discussions by participating members on plans and expectations to be held regularly throughout the study.
- special information sessions with technical leaders, to provide participating members with insights in advanced activities, *and to enable participants to influence future developments on the basis of their own information needs.*
- quarterly reports and an annual report issued to member companies.

Membership

Invitation for membership is limited to those who can make significant contributions to the research project, through their experience and participation, and who are in a position to apply progressively and dynamically the concepts and information that result from the two-year project. Number of members is also restricted to assure a select group that can maximize interchange of ideas.

Scope

The following areas are included in the research program. *Each is covered from the viewpoint of its real significance to business systems, operations, and organization, and the timing of its impact.*

- automatic data processing
- scientific computation
- management science techniques
- data communications and transmission
- information storage and retrieval
- data display techniques for business planning and control
- heuristic or self-organizing systems
- high speed output techniques, data input techniques including optical scanning, data collection, etc.
- new memory and data storage media
- factory-office data linkage.
- software, computer languages, and man-machine communications.

The Diebold Group

The Diebold Group, Inc. is an international management service company specializing in automation and information systems. The firm performs extensive work in applying computers to advanced business and scientific applications. On the basis of this understanding of user needs, the firm has also undertaken business planning studies to aid major manufacturers identify future trends and equipment and software needs. This combined experience provides valuable background for guiding a study to identify the future impact of information technology on business.

The Diebold Research Program will identify and study information technology developments through the early 1970's; interpret their meaning and significance for business, organization, decision making, and systems; and explore steps that can be taken today to prepare and insure compatability.

The objective of the project is to allow an experienced and imaginative group of leaders in this field to explore together the consequences of advanced development to determine the specific steps that can be taken to prepare for the changes taking place, and through this effort to influence for the better the way in which this field develops.

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File

information sciences and technology

AUERBACH
corporation
1634 arch st.
philadelphia 3
pennsylvania
locust 3-7737

September 3, 1963

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

Dear Mr. Olsen:

We recently wrote to you proposing that you participate in the AUERBACH Annual Survey of the Digital Computer Market, but have as yet received no reply. We appreciate that it is the vacation season and that you are very busy at this time. However, it is necessary for us to know very soon of your decision to participate, in order to provide the survey information to you on schedule, so that it can be used by you in making your 1964 plans.

I should like to make one additional point in emphasizing the importance of the information that will be accumulated in this survey. Our original proposal pointed out the obvious value of the statistics that will be supplied. In addition, this source material will be put on punched cards or tape and will be available for many specialized tabulations of information. This will make it possible for you to have detailed information on the nature of existing installations in order to pinpoint specific sales targets effectively.

This valuable sales tool will henceforth be supplied on an annual basis and in future years the information will be provided in the last quarter of the calendar year so that it can be used for market planning for the forthcoming year.

We look forward to your favorable response and to the opportunity of working with you.

Very truly yours,

H. G. Asmus

H. G. Asmus

HGA:jml

TRC
SERVICE
CORPORATION

250 CONSTITUTION PLAZA | HARTFORD, CONNECTICUT 06103

WILLIAM T. LLOYD
Manager,
Marketing & Public Relations
277-3738

August 27, 1963

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

Dear Mr. Olsen:

We would appreciate it if you would advise us as to the possibilities of contracting opportunities at Digital Equipment Corporation in the area of programming systems support.

If such opportunities exist, we would like to offer our services for the design and implementation of such computer software.

The TRC Service Corporation, a subsidiary of the Travelers Research Center, Inc., has devoted itself to research and development in the areas of mathematics and computers. Our staff has wide experience on a diversity of computing systems, but, more importantly, has the experience and know-how to develop efficient programming systems.

Our staff of systems analysts and mathematician/programmers has worked on such problems as the application of multiple discriminant analysis to weather forecasting techniques and the design of a data processing sub-system for the Common Aviation Weather System.

We are confident that we can provide you with software which will fully and economically utilize the power of your data processing systems.

If our knowledge and experience would assist you in your program of customer service, we would welcome the opportunity of discussing them further.

Very truly yours,

William T. Lloyd

William T. Lloyd

WTL:crc

The London Letter

A Service of European Securities Publications, Inc.

26-A WELLINGTON ROAD LONDON NW 8, ENGLAND

- CABLE: LONDONLET
- FOREIGN FINANCE
- SPECIAL STUDIES

14 MAIDEN LANE
NEW YORK 38, NEW YORK

August 27, 1963

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

Dear Mr. Olsen:

I believe you might be interested in the story on IBM's progress in the European market, and the outlook for the Office Equipment and Data Processing industry in Europe, carried on pages 3 and 4 of a recent issue of The London Letter. Once you read this article, I wonder if you might not give thought to subscribing to our weekly publication. If you do, you will be joining hundreds of other distinguished executives who now rely upon The London Letter to bring them hard news of business activities throughout Europe and Asia.

Subscribers to The London Letter include such distinguished firms as Standard Oil of New Jersey, U.S. Rubber, Reynolds International, Monsanto Chemical, General Telephone and Electronic, Singer Sewing Machine, International Nickel Company, and Merck Sharp & Dohme. Other subscribers include Rockefeller Bros., Inc., Mr. J. Peter Grace, The London Economist, U.S. News and World Report, Morgan Guaranty Trust Company, First National City Trust and leading banking houses such as Carl M. Loeb, Rhoades & Company, Dominick & Dominick, Lehman Bros., White Weld & Co., and Goldman Sachs.

The London Letter is managed by three former Wall Street Journal newsmen and maintains bureaus in London, Tokyo and New York. Correspondents are maintained in all leading business centers throughout Europe and Asia including Brussels, Geneva, Paris, Dusseldorf, Frankfurt, Milan, Hong Kong and others.

In addition to its weekly report, containing information which often beats the U.S. Press by many weeks and sometimes months, The London Letter each week carries a special service supplement of great use to a variety of executives in internationally-minded organizations. Weekly supplements cover new European financings, new product developments and licenses available to U.S. companies, joint ventures between U.S. and foreign companies and new plant openings.

Only last week an oil company subscriber, currently negotiating a contract in France, informed us that our report last month on France's move against U.S. oil companies saved him much time and thousands of dollars. I am sure that you can find this publication just as useful.

May we have the privilege of adding your name to our list of distinguished subscribers? The cost is only $125 per year. A subscription blank is enclosed.

Sincerely yours,

William D. Buckley

William D. Buckley

WDB/lt
Encl.

The London Letter

• NEW YORK
• LONDON
• TOKYO

A Service of European Securities Publications, Inc.
82 CARLTON HILL LONDON NW 8, ENGLAND

Editorial Director
CLARE M. COTTON, Jr.

August 19, 1963

14 MAIDEN LANE
NEW YORK 38, NEW YORK
WORTH 2-5855

THERE'S AN AWFUL LOT OF NESCAFE IN BRAZIL

Nestle Alimentana gets most of its Brazilian coffee from state surplus stores at below world market prices and Brazilian government has guaranteed Nestle minimum quota of roasted coffee at "attractive prices," reports Der Spiegel, hard-hitting German paper, in analysis purporting to lay bare some of submerged 90% of Swiss food giant.

Nestle's earnings last year, Der Spiegel said, represented only 1% of total sales and it quotes official of competing German concern as saying 8% return on turnover is more nearly correct. If this is so, Nestle's average earnings in recent years have been near $173 million annual rate.

Nestle, says article, having entered frozen food market through Findus International, expects to see frozen food consumption in Germany rise fourfold. Company recently increased holdings in Libby, McNeil & Libby, leading US frozen food producer, to 20%.

MOVING MID-EAST MOUNTAINS

Komatsu Mfg. Co., Ltd., and Kinoshita & Co., Ltd., disclose plans to establish Komatsu Overseas Co. in Beirut and build bulldozer assembly plant in partnership with Lebanonese nationals. Komatsu, which last year exported tractors and similar equipment worth $2,778,000 to Africa and Mid-East, hopes to move into markets now dominated by Caterpiller and International Harvester, both of US. Venture still needs approval of Japanese government but hopes are for assembly of 40 to 50 bulldozers monthly.

UK DIVIDENDS: WATCH OUT FOR LABOR

Prospects that a Labor government would tie dividends to wages give directors of UK companies cause for consideration as they study next payout action, possibly last before general election.

To US companies operating in Britain, prospective dividend harness coupled with Washington pressure to step-up remittances from subsidiaries abroad, may make 1963 good year in which to send more money home. Possibility is that dividends during next five years could not be sharply increased, without accompanying boost in wages, even though heavy capital investments may end.

For further information on any item appearing in The London Letter, contact the New York or London office.

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For UK, analysts already are advising shareholders of companies, which have lagged in boosting dividends even though earnings have climbed, to "do a bit of badgering" to establish a higher rate now to avoid penalties later in case restraints are imposed.

One company which already has taken such action is Anglo-Dutch Unilever which sharply boosted its payout on 14.3% gain in six-month profits. Profit gain came on rise of sales of only 1.2%.

STEEL DUMPING: ANOTHER PLACE

American steel producers who failed to prove charges that some Continental mills are dumping steel in US may find it ironic that Greek finance ministry is considering charges by that nation's new steel producers of Common Market dumping of concrete reinforcing bars. Ministry is expected to require Athens importers to make up difference between delivered price of such steel in Common Market and their delivery price in Greece.

ANOTHER ONE FOR AMEX

American Express takes stake in Pontinental, UK enterprise formed to build European chain of vacation hotels. Amex invests $140,000 to get 13% of issued capital with option to double holding. In addition, Maxwell Elliot, Amex vice-president and UK general manager, joins Pontinental board. American Express says it plans to promote hotels as sites for business conferences and conventions.

BAYER: SALES UP, PRICES DOWN

Farbenfabriken Bayer sets good example for other European companies by issuing report for second quarter first half. Synthetic fibers, plastics, synthetic rubber, photo products, dyestuffs, and plant protection chemicals lead growth parade with first half sales up 9.5% to $446.25 million. However, pressure on prices continues with average tab off 3.7%, costing company $15 million in sales over six months.

Biggest item in second quarter: Bayer's expansion in exports. For the three months, total sales rose 9.2% to $232 million but domestic volume climbed only 3% to $118.75 million, leaving exports 16.5% ahead at $112.75 million. In all, exports accounted for 48.8% of sales, a new record.

W.R. GRACE'S NEW OPERATION IN FRANCE

Ste Atlantique d'Engrais Chimiques is created to operate new fertilizer plant at Bayonne, France. It will start operations in 1965. W.R. Grace & Co. of US is principal company with other participants Ste des Produits Chimiques, Ste Nationale des Petroles d'Aquitaine and Louis Dreyfus & Co., investment bank. Plant will make phosphoric acid, superphosphates, ammonium phosphates and mixed fertilizers with daily production of 500 tons.

IBM: GROWTH AND COMPETITION IN EUROPE

The winter Olympics at Innsbruck, Austria, next year and later the full games in Tokyo will use a computer for scoring, courtesy of International Business Machines. Results of individual events will be transmitted electronically to a processing center and final scores flashed to the public in seconds; in 1956 it took eight hours to calculate and publish scores.

Cost of this exercise to IBM will be about $700,000, but through it, the company will dramatize its role as a world leader in computers as well as the part played by IBM World Trade Corp., its wholly-owned subsidiary which handles all business outside the US. The subsidiary has a growth record which in recent years has more than kept pace with its parent. Total revenues in 1957 were $202.2 million and they more than trebled to $653.1 million in 1962; earnings also rose more than threefold from $27.2 million in 1957 to $86.7 million in 1962. In the same span, parent revenues went from $1.2 billion to $1.9 billion and earnings from $89.3 million to $241.4 million.

This spring IBM World Trade opened a development laboratory at La Guade, in southern France, and a pure research center at Ruschlikon, Switzerland. The Swiss lab has a strong team working on thin magnetic film memory devices with ultra-high switching speeds; it also is developing "hydraulic" computer units - devices in which the flow of electricity is replaced by the flow of water and electronic tubes and transistors by valves. These hydraulic units may have large potential applications in taking the relatively weak electric signals from a big computer and amplifying the signal hydraulically so that actual physical work can be done by the computer.

These two centers are only part of IBM's European establishment. Electric typewriter production is centered in Greenock, Scotland, and in Amsterdam; large computers and automatic switch and remote control recording equipment are made outside Paris; medium-sized computers and dictation equipment at Sindelfingen, Germany; computer components, near Stockholm; punched card machines, Milan; time systems - a division sold in the US several years ago but operating successfully elsewhere in the world - London and Boeblingen, Germany; and an office equipment plant dating before the war in West Berlin.

World Trade Corp. was organized in 1949 and in 1950 it sold electric typewriters, accounting machines and time systems. Manufacturing in Europe was then decentralized on a component basis. Since 1950, though, the company has swung over to designing and marketing entire data processing systems. Sindelfingen, for instance, is making medium-sized 1401 computers for the world, outside the US.

Responsibility for European operations is centered in Paris with Elmer S. Groo, vice-president, in charge. The largest company is IBM Deutschland, which also is IBM's largest operating unit outside the US. Its 1961 sales totaled $146 million, 35% in front of 1960, and capital spending of the unit has been above $60 million for the past two years. Data processing presently is the biggest sales item in Europe but electric typewriters are another major item and recently annual sales gains for typewriters have been as high as 30-50%.

However, IBM's swift growth in Europe has been closely watched and competition promises to become intense. In Germany, huge Siemens & Halske has some computers which have yet to be aggressively pushed; in Italy, Olivetti has computers in the pipeline which it will sell around the world using its existing business-machine oriented force; Machines Bull in France, IBM's leading Continental challenger, has managed to get European banks to specify use of its magnetic code system and may grab the lead in the field of banking applications.

But the most serious challenge may come from the UK with the recently announced merger of Ferranti's computer business into International Computers & Tabulators, the British company formed in 1959 by merger of British Tabulating Machines and Powers Samas. Some experts believe this combination may be more than a match for IBM.

Behind this belief is widespread feeling in Europe that IBM's computers technically are not world leaders and that its dominance has been achieved by greater skills in marketing and maintenance services as well as ample manufacturing space. Ferranti executives, for example, admit their great handicap has been inability to produce at a competitive level; they are more than ready to put their machines to comparison tests with IBM's best. They point to their Atlas, costing about $8.5 million, which they say is the biggest, fastest computer in the world and a technical success where the IBM Stretch, aimed at the same size and speed, so far has been viewed as a flop.

Now, Ferranti's development men will concentrate their talents on coming up with a winner in the $500,000 field; and ICT will put its manufacturing and selling skills to work for the new group. And if Ferranti has always radiated confidence in how it stands relative to IBM technically, ICT's executives are sure they can match IBM's sales magic given Ferranti's technical and engineering support.

Ferranti-ICT, Machines Bull, Olivetti, and possibly Siemens add up to powerful competition in any man's league. However, no one can deny that IBM World Trade lacks momentum, the sales network, manufacturing know-how and the all-important service system. And, in fact, US investors looking for ways to share in the European computer boom, now that the Kennedy tax proposals make direct equity investments abroad more costly, could do worse than stick to old faithful IBM.

THE CHANGING MOOD OF GERMAN TOURISM

Germans have been leaders in Italy's great tourist boom in recent years but latest figures show 1963 may be harbinger of a switch. Hummel Reise, among largest travel agencies, reports bookings for Italy this year are down 20%, and blames widespread publicity of anti-German feeling in Italy.

Recipient of boom in German travel - Germans spend a higher percentage of income on travel than citizens of almost any other country - seems to be Yugoslavia, with German tourism up 80%. Sadly for Kennedy, there are few signs the big US campaign to attract German tourists is paying off.

BUSINESS INDICATORS

FRANCE: Boost of 1.3 to 3.2% in auto prices, 4% in bread threatens to send living costs still higher. Finance Minister Giscard d'Estaing pledges "stabilizing" measures for fall. Index in June stood at record 149.1.

SPAIN: Commerce Ministry expresses concern over rising foreign trade deficit, sees need to curb imports. Excess of imports over exports in first six months nearly doubled to $637.6 million from $331 million in '62 period. Failure of orange crop is blamed for export drop.

GERMANY: Camera production figures, excluding special and technical cameras, show steady swing to less costly models. Overall camera output fell to 1,060,000 units in first five months from 1,090,000 a year-ago. But cameras costing $7.50 to $37.50 rose to nearly 500,000 from 410,000.

BRITAIN: Steel production improves slowly, but producers still show little enthusiasm over outlook. Seasonally adjusted output gained 6% in July over '62 month and average weekly total was 427,500 tons, up from 414,900 tons in June. However, second quarter adjusted consumption of 3.53 million tons was best since second quarter of 1961 and 2.5% above year-ago period.

BRAZIL: Trade deficit in first four months was trimmed 17% to $72.3 million. Exports dropped 0.7% while imports fell 4%.

OTHER IMPORTANT BUSINESS DEVELOPMENTS

FRANCE: Automobiles Peugeot is following French auto boom with output in first half up 10.8% to 152,000 vehicles. Reflecting rising importance of more expensive cars, sales rose 18.5% to $278 million. Peugeot's capacity is rated at only 300,000 vehicles yearly so for the first six months operations were full blast.

IRELAND: Filler & Fiebig starts production of drawing materials in Irish port of Sligo. Company is the 31st German firm to set up operations in Ireland since 1955 when big Irish industrialization campaign started. Free port deals in Ireland allow import duty-free of raw materials and export from free port areas to other countries.

JAPAN: Arabian Oil Co. of Japan reports it has discovered extremely rich oil field in its Persian Gulf concession. Arabian said the deposit, estimated at 800 million tons, will be the 10th richest in world and will boost company's international competitive power.

GERMANY: Kloeckner-Werke, leading steel producer, gives preliminary results for year ended June 30 which indicate earlier concentration on rolled products paid off. It notes for 12 months ended June 30 overall German steel production fell by 2% to 31.74 million tons, but crude steel output rose 4.6% to 2.57 million tons with rolled steel up 4.4% to 1.95 million tons.

The London Letter

Special Service Supplement

• NEW YORK
• LONDON
• TOKYO

NEW EUROPEAN FINANCINGS
July-August 1963

Anglo-Israel Bank seeks listing and quotation on London stock exchange. Bank will list entire issued capital in one million shares of nominal $2.80 each.

Arbed, giant Luxembourg-based steel company, increases capital to $100 million from $60 million and splits shares in ratio of five to one. Capital for increase will come from reserves, industrial equipment fund and premium account following revaluation of certain French assets. Company will propose rights issue in 1965 to raise capital further to $120 million.

Bank Voor Nederlandsche Gemeenten (Dt) municipal bank, borrows $27.8 million. The 30-year debenture loan carries 4.25% interest. Denominations are $139 and $278.

Three British West Indies countries float new 6.5% loan stocks with final redemption in 1976. Governments of Caribbean republics of Dominica, St. Christopher, Nevis and Anguilla, and St. Vincent offer nominal amounts of $1.22 million, $1.13 million and $915,000 respectively to make total of $3.24 million. Proceeds will be used to finance public works and other developments.

Fortes, (Br), major catering group, places $11.4 million 5.75% debentures. Proceeds will be used to extend service to motels, airports and superhighways. Fortes is currently building 300-room motel at London Airport and 200-room motel near Manchester airport.

Gardner, Mountain d'Ambrumenil (Br), leading insurance broker and underwriting agent at Lloyds, offers 350,000 ordinary 5s.(70¢) shares at $2.98 each. Over the past 10 years there has been considerable fluctuation in profits of group, due mainly to fluctuation in underwriting commission, but directors confidently forecast dividend of 32.5%.

Henschel-Werke (Gr), heavy-duty vehicles, plans to raise capital by $2.5 million to $15.7 million in offer to shareholders at price of 150% ($37.50 per 100 DM share). US group which includes Ford Foundation, holds about 43% of the stock.

Huttenwerk Oberhausen (Gr), major steel producer, lists $10 million 1962 debenture issue on stock exchanges. Issue was for 15 years, paid 6% interest. It is in form of 1,600 units of 5,000 DM nominal ($1,250), 25,000 of 1,000 DM ($250), 10,000 of 500 DM ($125) and 20,000 of 100 DM ($25).

Hutten-und Bergwerke Rheinhausen sets conversion of 1967 7.5% $12.5 million loan inherited from Huttenwerke Rheinhausen. While company has not announced rate of new loan, it's almost certain to be at current usual rate of 6% and company says it will pay 1% bonus in compensation for first year.

Industrie und Handelsbank (Swi) house bank of Buehrle engineering and armaments group of Oerlikon, increases capital to $700,000 from $231,000 by issue of 400 new shares of nominal $1,160.

Italy sets $161 million loan to be repayable in 12 months.

Joseph Lucas (Br), engineering, borrows $11.6 million on Swiss market. Coupon is 4.5% and issue price 100%. Loan is for 15 years, with repayment from 1970 onwards. Proceeds will be used for repayment of Swiss banking credits and financing investment projects.

Moores Stores (Br), north of England food retailers, issues $4.05 million 5.75% debenture stock. Net proceeds will be used to repay bank short-term loan and for general purposes. Principal is covered 4.5 times, interest over 11 times by last year's profits.

Nigerian Ports Authority floats $11.9 million 6% loan on London stock exchange with backing not only of Federal Government but also from Shell and BP. Proceeds of loan, repayable in 1983, will finance scheme to dredge deep-water channel for tankers to reach Shell-BP terminal at Bonny.

Nikko Securities (Jp) says four leading securities companies - Nomura, Daiwa, Yamaichi and Nikko - have asked 15 Japanese companies to postpone capital increases, set for September, until October. Company says this is necessary to avoid another collapse of stock market which skidded following President Kennedy's foreign securities tax proposals. Nikko says companies are reluctant to accept postponement, for fears of operational shortage of funds.

Nurit, Interstor and Romit, three Swiss mutual trusts, are introduced into UK markets. All three, with combined assets of $14.3 million are part of larger group of mutual trusts managed in Switzerland by Ag fur Fondsverwaltung Zug. Nurit specializes in shares of leading food, drink and tobacco manufacturers. At current offered price of $29.10, units yield 3.56%. Interstor, international fund for investment in retail stores, expects next distribution to exceed March 1962 distribution of 58¢ per unit. At current price of $21.50, each, unit yields 2.96%. Romit specializes in natural resources and its portfolio includes leading corporations all over world. It has accumulated funds of $1.56 million and current offer price is $25.80.

Papeteries de France (Fr), major paper maker, floats $3.06 million loan in bonds of 200F ($41) nominal at $40.84, repayable at $42 within 12 years. Company's current capital is $4.22 million.

Phoenix-Rheinrohr (Gr), steel, follows current German trend and sets exchange of its 1957 8% loan for new 6% loan. Amount, $25 million, remains the same.

Portland-Cement-Werk (Gr), expects to increase capital substantially in not too distant future to aid in carrying out projected modernization at Heilbronn plant. Company had sales of $10.5 million in 1962 against $9.99 million in 1961.

Rheinisch-Westfalisches Elektrizitatswerk (Gr), largest electric utility floats 6%, $25 million loan. RWE produces 40% of West Germany's electricity.

Rinascente-Societa (It) department store investment company, will float $4.85 million, 18-year, 5.5% bond issue in September.

Spain discusses $25-$30 million loan from World Bank for first stage of highway modernization plan. A Spanish economic mission is in US to discuss financial aid with American commercial, financial and economic authorities.

Ste des Ciments Francais, second largest French cement producer, floats 5% issue of 125,000 bonds of 200 F ($41) nominal with life of 15 years.

Tanganyika will receive $5.6 million loan from United Kingdom for financing current Tanganyikan development plan.

Tanganyika Portland Cement Co. gets financing from two UK banks for new cement plant at Wazo Hill near Daar-es-Salaam. Commonwealth Development Finance Co. will provide secured sterling loan of $1.12 million, an unsecured loan of $105,000 and subscription of $84,000 for ordinary shares. Barclays Overseas Development Corp. will provide secured sterling loan of $280,000, an unsecured loan of $25,000 and subscription of $28,000 for ordinary shares.

Tunnel Portland (Br), cement, launches $84 million debenture issue, says last year's drop in profits was due wholly to bad weather in last three months of fiscal year. Company reports sales in first quarter of current year 10% above same period in 1961-2 and increase is expected to continue.

Union Bank of Switzerland launches its first borrowing, long-term, of $23.2 million with 3.75%, 12-year loan. Swiss commercial banks have been issuing longer term credits, mostly for exports to developing countries. They also have found difficulty in attracting further money by issuing three-to-five year bank bonds at fixed interest rate of 3.5%. So far, Swiss National Bank has resisted commercial banks demands to raise this rate to 3.75%. Two other commercial banks, Swiss Bank Corp., and Swiss Credit, have so far decided against launching long-term loans.

Computer Consultants Limited

Established 1957

CECIL COURT
LONDON ROAD
ENFIELD, MIDDX

Telegrams & Cables:—COMPUTERS ENFIELD
Telephones:—ENField 7185, 9219

Associated Companies:
Computer Assembling Limited
Computer Bingo Limited
Computer Colleges Limited
Computer Consultants (International) Limited
Computer Maintenance Limited
Computer Research Limited
Computer Spares Limited
Computer Staff Selection Limited
Computer Time Hire Limited

Monday 26th August 1963

Kenneth J. Olsen, Esq.,
The President,
Digital Equipment Corporation,
Maynard,
Massachusetts, U.S.A.

Dear Mr. Olsen,

A number of organisations have consulted us from time to time with a view to asking us to prepare a survey of the computer market in Europe, broken down country by country and extending until 1970.

This is, of course, a large task, and we have had to quote appropriately. As a result, the people concerned have considered the project too expensive.

What we would, in fact, be doing would be collecting up to date facts, in addition to those which we already possess, and adding to those our projection. Obviously for whoever this is prepared the answers would be the same, and they would have to look at it from the point of view of their particular products.

Because this has arisen again, we are now proposing, if sufficient people are interested in doing so, to carry out this work for a number of clients, and divide the overall cost between them.

We attach details of what the report would contain, and we would be glad to know before the end of September whether you are interested in acquiring a copy of such a report for your own organisation, at a cost of four hundred and twenty five guineas.

The field work would be started early in January, but it would be necessary to make preparations from October, and we would expect that the final report would

...../continued

Directors: R. H. Williams, A.I.B., F.Inst.D. E. E. Williams, F.Inst.D. R. Smith.
Registered Offices: Hirnant, Dolgelley, Merioneth. Telephone: Dolgelley 577

be in your hands by the end of March.

As a matter of principle we will only provide this report to those who have contracted with us in advance, and we expect the number to be about twenty people.

Yours sincerely,

Denis Butler-Jones

p.p. Managing Director

RHWILLIAMS/GME

DATA-CONTROL SYSTEMS INC.
EAST LIBERTY STREET
DANBURY, CONNECTICUT

August 22, 1963

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

Dear Mr. Olsen:

I was sorry I did not get to talk with you by phone. I can, however, appreciate that you, too, find it both necessary and desirable to get away from the plant occasionally.

As you undoubtedly have heard, we have arranged a meeting with DCS personnel with your Mr. Nick Mazzarese, at your Plant on August 30th. I had intended to accompany our technical people - however, I now find that this will not be possible. We are sending up the Manager of our Systems Dept., and two technical personnel, who will be interested in discussing with you the specification of a computer which we feel we could incorporate in systems which we sell, which, in turn, embody many of our products.

I believe it would be a desirable objective of this first meeting to clarify what we would like ideally, and then to get your response as to how close you might come to those ideal preferences with some of your standard products and/or with slight modifications. Once this technical definition of desirability and economic feasibility is established, perhaps you and I can discuss the basis upon which you might make such equipment available to us. We have similar arrangements that we participate in, both as buyers and sellers, which include OEM arrangements, quantity discounts, exclusivity, etc. Therefore, I feel confident that if you are willing and desirous of cooperating with us in this fashion we can arrive at a mutually acceptable basis of association.

Sorry I won't get to see you this trip but I will be in contact with you just as soon as the results of the scheduled visit are known.

Cordially yours,

DATA-CONTROL SYSTEMS, INC.

Robert J. Jeffries,
President

RJJ:rk

Copy to Mr. Olsen

30 July 1963

Mr. J. M. Morris, Development Department
E. I. duPont deNemours & Company
Wilmington, Delaware

Dear Mr. Morris:

Thank you for your letter of July 11, which awaited my return from Europe. This explains why I have not answered it.

I have talked to our friends at Digital Equipment Corporation, and they tell me that they are so happy with their present relationship with American Research that they do not want to make any changes now.

The information you request has never been given out; however, a time will come when we shall make more information public about the company. Personally I believe that at the present time it would not be possible for you to interest yourselves financially in Digital Equipment.

With my best wishes, I am

Sincerely yours,

Georges F. Doriot

GFD:pc

AMERICAN RESEARCH AND DEVELOPMENT CORPORATION

THE JOHN HANCOCK BUILDING - BOSTON 16 - MASSACHUSETTS

7/16/63

TO: Mr. K. H. Olsen

FROM: Georges F. Doriot

Dear Ken,

How do I answer this letter?

With best wishes,

Geo

FORM DV-1001

DU PONT
REG. U.S. PAT. OFF.
ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE

DEVELOPMENT DEPARTMENT

DEC
letterfile
RECEIVED
JUL 12 19
AM. RES. & DEV. CORP.

July 11, 1963

General Georges Doriot, President
American Research and Development Corp.
The John Hancock Building
Boston 16, Massachusetts

Dear General Doriot:

As you know, we are still looking for opportunities for Du Pont minority investment as part of our diversification program. One area in which we are interested is that of computer and data handling systems. A potential candidate for us to consider is Digital Equipment Corporation of Maynard, Massachusetts, in which ARD holds a majority interest.

Before we decide to make a visit, it is generally helpful if we could obtain certain information about the company and wonder if it is possible for you to supply us with current financial information and some feeling as to whether or not this company intends to expand its activity beyond its present line. Specifically, does DEC intend to emphasize the systems business as opposed to production and sale of modules? It would also be helpful if we had some idea as to the current sales breakdown between systems and modules.

I am sure that any information you can supply us along these lines will be most helpful. We will, of course, keep you informed as to any action we would plan to take with respect to DEC.

Cordially yours,

J. M. Morris
DEVELOPMENT DEPARTMENT

JMM/pq

PACE CONTROLS CORP.

EXCLUSIVE MANUFACTURERS OF
digitork®
PRODUCTS

661 HIGHLAND AVENUE
NEEDHAM HEIGHTS 94, MASS.
HILLCREST 4-8844

July 8, 1963

DIGITAL EQUIP. CORP.
JUL 9 1963
CATALOG FILE

Moore Reed and Company Limited
Woodman Works Durnsford Road
London, England

Attention: B. Longden, Director

Gentlemen:

Enclosed are the latest specification sheets for our line of DIGITORK incremental servo motors and associated controls.

DIGITORK motors are discrete positioning devices in which the rotor advances one increment of angular rotation for each low energy input pulse applied to the electronic controls. Stepping rates from 0 to 3000 steps per second are available, and torques up to 15 inch pounds. Steps per revolution vary from 36 to 108 depending on basic motor type used.

Pace Controls has developed complete numerical control systems utilizing DIGITORK as the end positioning device. These systems are completely digital systems utilizing the latest techniques and are capable of path positioning in multiple axes.

We are prepared to supply motors as components or quote on complete systems required by your application.

Thank you for your interest, and may we hear from you soon.

Sincerely,

PACE CONTROLS CORP.

Charles E. Walton

Charles E. Walton
President

CEW/cb

Enclosure: 1 set of data sheets

Hantman

281 Mason St.
Ann Arbor, Mich.
July 4, 1963

Mr. Kenneth Olsen
Digital Equipment Corp.
Maynard, Mass.

Dear Ken,

Thank you for the invitation to speak at DEC. I am not sure that I will be able to swing it in the near future, but I will try to take advantage of my next trip east to come and visit you.

As you probably know, I am assigned to Project MICHIGAN, a research contract run for the Signal Corps at the U. of Michigan. There is no computer in sight now, but I understand that a PDP-1 is to be delivered to the University in October. I have arranged to trade my experience for free computer time.

I am looking forward to seeing you again soon.

Yours truly,

Ivan E. Sutherland

Ivan E. Sutherland

File

information sciences and technology

AUERBACH
corporation
1634 arch st.
philadelphia 3
pennsylvania
locust 3-7737

July 3, 1963

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

Dear Ken:

We are enclosing for your consideration our proposal for the AUERBACH Annual Survey of the Digital Computer Market, a new planning service that supplies accurate, timely information which is vital to your operation.

The information presently available concerning the commercial computer market is limited, discrepant, and of questionable accuracy, due to the varying methods of compilation. This situation exists at a time when because of the importance of this growing computer market, it is essential to have valid information on which to base market analyses and projections.

The development of reliable statistical information concerning various aspects of the information sciences and technology market is a major activity of AUERBACH senior technical people. Almost since its inception, the company has exerted a sustained effort in analyzing and forecasting many aspects of the market in both the United States and foreign countries.

Not only has the company performed exceptional work in electronics market analysis, but a major corollary benefit of activity in the field has been the establishment of an extensive information collection concerned with information and data processing technology. Production of Standard EDP Reports, the authoritative, encyclopedic technical characterization of major U. S. commercial computers, and the scope and activity of the Company's technical library are reflections of the volume and value of this collection of technical material. Thus, the AUERBACH Corporation has both the technical experience and supporting services to conduct the proposed survey in a fully competent manner. Further, the knowledge and experience of the Company's senior people, gained from extensive participation in all aspects of the computer field from concept to application and operation, will be available to provide authoritative and critical analysis of the collected statistical information.

AUERBACH

The AUERBACH Annual Survey of the Digital Computer Market will provide this service and we can present you with ten copies of the initial report on or before March 15, 1964. The fixed price for this initial report is $8,500.00, if your order is received by August 15, 1963. Subsequent updated annual reports will be available to the original subscribers for a substantially reduced annual charge. We reserve the right to rescind this offer, without obligation on your part, dependent on acceptance of the offer by a minimum number of subscribers.

We look forward to providing this much-needed but heretofore unavailable service, and feel that it will offer valuable assistance in an area of great importance to the industry. We should be glad to provide additional information or meet with you at your convenience if further clarification is desired. May we have the pleasure of an early purchase order from your company or your signature on the enclosed copy of this letter, as your authorization to enter your order for the AUERBACH Annual Survey of the Digital Computer Market.

Cordially,

Isaac L. Auerbach

Isaac L. Auerbach
President

ILA:jc

enc.

ACCEPTED

By:_____

Title:_____

Date:_____

information sciences and technology

AUERBACH
corporation
1634 arch st.
philadelphia 3
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locust 3-7737

July 3, 1963

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Cordially,

Isaac L. Auerbach

Isaac L. Auerbach
President

ILA:jc

enc.

ACCEPTED

By:_____

Title:_____

Date:_____

AUERBACH ANNUAL SURVEY OF THE DIGITAL COMPUTER MARKET

In response to a long recognized need for reliable statistical data on the U. S. digital computer market, AUERBACH Corporation is pleased to announce the availability of a new planning service: the AUERBACH Annual Computer Market Survey.

For the first time, product and market planners, marketing executives, and corporate decision-makers, men whose business decisions require valid and meaningful information about the U. S. computer market will have the facts they need.

The AUERBACH Annual Computer Market Survey will present detailed statistical analyses covering such vital topics as the following:

- The total size of the U. S. computer market measured by volume of products shipped, value of computers installed, and by total revenues.
- The geographical distribution of this market.
- The industry of application, identified by 2-digit Standard Industrial Classification (S.I.C.) number, and types of applications.
- The computer manufacturers' share of market as measured by value of computers installed and (after the first year of the survey) by value of yearly computer shipments.

AUERBACH®

In addition, similar analyses and statistical data will be presented on:

- The peripheral equipment market.
- The population of computers bought used.
- The numbers and types of personnel directly associated with digital computer installations.
- Estimates on the number and value of computers on order.
- Rental versus purchase.

The data for the computer market survey will be developed through use of accepted valid statistical sampling techniques. A split sampling technique will be used in which 3/4 of the total sample of present and possible computer users will be surveyed by means of a carefully designed mail questionnaire and 1/4 of the sample will be interviewed by telephone. The survey data will be correlated with AUERBACH in-house computer inventory data which is virtually complete for selected segments of the market. The techniques to be used are believed adequate to assure validity within $\pm$ 2.5% at a 99% confidence level for the primary market estimates.

This service will represent the most comprehensive and definitive statistical analysis of the computer market undertaken to date. It will provide a vital source of data on this significant market; information of value to all manufacturers and suppliers of the wide range of products produced for and used by the computer industry.

AUERBACH®

ARTHUR H. RICHLAND
COMPANY

BOARD OF TRADE BLDG., 141 WEST JACKSON BOULEVARD, CHICAGO 4

WABASH 2-6414

NEW YORK • PHILADELPHIA • SAN FRANCISCO

June 21, 1963

CONFIDENTIAL

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

Dear Mr. Olsen:

We have just concluded a series of meetings and discussions with the top officials of a nationally known concern on the subject of their expansion and diversification objectives - which they feel might best be achieved by the acquisition of another company.

Our client, which is one of the most prominent firms in the electronic industry, is closely idnetified with all aspects of the missile and space fields, as well as with industrial and commercial electronic products, and their primary objective is to expand their activities by the acquisition of companies whose products would meet the objectives of their long-range plans.

From the studies we have made, your company would appear to meet the principal specifications given us - and it is for this reason that we are addressing this letter to you.

I would like to state that our people are fully mindful of the fact that they must be generous in their evaluation of a company of their choice. They are also aware that they must make it attractive for the management and key personnel to remain in the picture.

I am hoping that by giving you this background, you will distinguish this letter from the others that doubtlessly you have received of this character.

In closing, I would like to assure you that any discussions we may have with you on this subject will be regarded in strictest confidence. And, as we are being fully compensated by our people, there would be no obligation on your part whatsoever.

I am very hopeful that we will be hearing affirmatively from you.

Sincerely,

A H Richland

ARTHUR H. RICHLAND COMPANY

AHR:p

BLAIR AND BUCKLES
PATENT AND TRADEMARK COUNSEL
79 MILK STREET
BOSTON 9, MASSACHUSETTS

HUBBARD 2-5161
CABLE: "EMBOVA"

May 13, 1963

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

Re: Filing of Foreign Applications

Dear Ken:

As I mentioned to you on the phone the other day, it is time to consider the filing of patent applications in foreign countries. Generally speaking, these applications should be filed within a year after the corresponding U. S. applications are filed in order to obtain the benefits of certain treaties.

I understand that you expect to develop a substantial Canadian market, and also that Great Britain and Germany may well provide markets for your products. Therefore, you should consider filing in at least these three countries applications covering equipment of the type which you hope to sell or have manufactured there.

You will note that I have not stated that you definitely ought to file applications in these countries. This is a business decision based on the expected sales or manufacture of goods covered by the patents. Also to be taken into consideration is the cost of preparing and filing the applications. Generally, you can expect a figure of about $300 per case per country, assuming that you file an application in a minimum of three or four countries. If the application is fairly long, the cost will be increased somewhat because of increased translation charges where applicable.

There is also a cost of amending the applications in response to the Office Actions issued in the various countries, and further, there are annual taxes on patents in most countries. In Germany, these taxes increase as time goes on, and they become quite substantial toward the end of the term of the patent.

While I do not expect you to rush into a general decision one way or another at this time, I do note that the deadline for filing of foreign applications on the Line Printer Buffer is June 4, 1963, if we are to take advantage of the provisions of the International Convention. Therefore, I would appreciate a decision with respect to this application within the next few days, inasmuch as it does take us some time to prepare and forward the necessary papers.

Sincerely,

Robert A. Cesari

D/pam

CC: Harlan E. Anderson

digital equipment corporation
MAYNARD, MASSACHUSETTS
TWinoaks 7-8822 TWX MAYN 816

April 26, 1963

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

Dear Mr. Olsen:

Please consider this notice of a meeting of the Board of Directors of Digital Equipment Corporation, to be held at the offices of American Research and Development Corporation, 200 Berkeley Street, Boston, Massachusetts, on Tuesday, May 14, 1963, at 2:00 p.m.

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

Very truly yours,

Dorothy E Rowe

Dorothy E. Rowe
Clerk

DER:ah
Enclosure

TECHNICAL MEASUREMENT CORPORATION
441 WASHINGTON AVENUE • NORTH HAVEN, CONNECTICUT
CEdar 9-2501 TWX: NH 99

April 23, 1963

Mr. Kenneth Olsen, President
Digital Equipment Company
Maynard, Massachusetts

Dear Mr. Olsen:

This will confirm our conversation today. Mr. Ghen and I are planning to visit you on Wednesday, May 8, 1963. We estimate that we will arrive at your plant about 11:00 A.M. I will telephone you the day before to re-confirm the appointment.

As I indicated, we would like to discuss a possible working arrangement with your firm in the field of biological data processing.

We look forward to seeing you on the 8th.

Yours very truly,

Stanley J. Goslovich

Stanley J. Goslovich,
Assistant to the President

SJG/cgp

SPEIDEL CORPORATION
PRESSURE CONTROLS GROUP
WARWICK, R. I.

KHO

Speidel
CORPORATION
INDUSTRIAL DIVISION

SPEIDEL INDUSTRIAL PARK, WARWICK, RHODE ISLAND • PHONE REGENT 9-7000 • TWX WRWK 267U

11 April, 1963

Digital Equipment Corporation
Main Street
Maynard, Massachusetts

Attention: K. H. Olsen, Pres.

Reference: Our Ad in Instrument & Apparatus News

Gentlemen:

In response to your request for literature on our Model G-210 Pressure Switch, we are enclosing our Summary Sheet.

If you require additional information, or if you have a specific application, you may contact our representative in your area - Schaal Associates, 11 Adams Street, Burlington, Massachusetts.

Very truly yours,

SPEIDEL CORPORATION

Herb Merritt, Jr.

Herb Merritt, Jr.-Sales Mgr.
Pressure Controls Group

HM:nb
Encl.

Speidel CORPORATION

REPRESENTED BY:

PRESSURE SWITCH SUMMARY SHEET

	MODEL	SETTING RANGE	ELEC. RATING	WEIGHT
	G-200 Gage Pressure Switch, Standard	0.4 to 175.0 psig	A	5.0 oz. (0.313 lbs.)
	G-100 Gage Pressure Switch, Miniature	1.0 to 500.0 psig	A	2.0 oz. (0.128 lbs.)
	G-300 Gage Pressure Switch, Sensitive	0.1 to 50.0 psig	B	12 oz. (.75 lbs.)
	G-205 Gage Pressure Switch, Externally Adjustable	5 to 150 psig	A	5.75 oz. (.359 lbs.)
	G-210 Gage Pressure Switch, Dual, (D. P. D. T.)	0.75 to 175.0 psig	A	5.4 oz. (.338 lbs.)
	AR-200 Absolute (Altitude) Pressure Switch, Standard, Remote Sensing	1,500′ to 75,000′ 1.5 to 75 in./Hg abs 0.75 to 35 psia	A	5.0 oz. (0.3 lbs.)
	AR-100 Absolute (Altitude) Pressure Switch, Miniature, Remote Sensing	3,000′ to 50,000′ 2.0 to 100 in./Hg abs 1.0 to 50 psia	A	2 oz. (.125 lbs.)
	AR-300 Absolute (Altitude) Pressure Switch, Sensitive, Remote Sensing	1,000′ to 75,000′ 0.6 to 75 in./Hg abs 0.5 to 35 psia	B	12 oz. (.75 lbs.)
	ARD-200 Absolute (Altitude) Pressure Switch, Dual, Remote Sensing	1,500′ to 75,000′ 1.5 to 100 in./Hg abs 0.75 to 50 psia	A	12 oz. (.75 lbs.)
	ARQ-200 Absolute (Altitude) Pressure Switch, Four Element, Remote Sensing	1,500′ to 75,000′ 1.5 to 100 in./Hg abs 0.75 to 50 psia	A	24 oz. (1.5 lbs.)

WEIGHT	ELEC. RATING	SETTING RANGE	MODEL	
1.92 oz. (0.12 lbs.)	A	1,500′ to 75,000′ 1.5 to 100 in./Hg abs 0.75 to 50 psia	AA-200 Absolute (Altitude) Pressure Switch, Standard, Ambient Sensing	
2 oz. (.125 lbs.)	A	2,000′ to 50,000′ 2.0 to 250 in./Hg abs 1 to 125 psia	AA-100 Absolute (Altitude) Pressure Switch, Miniature, Ambient Sensing	
0.5 oz. (0.03 lbs.)	A	3,000′ to 50,000′ 2.0 to 250 in./Hg abs 1.0 to 100 psia	AA-10 Absolute (Altitude) Pressure Switch Subminiature, Ambient Sensing	
5.6 oz. (.35 lbs.)	B	1,000′ to 75,000′ 0.6 to 75 in./Hg abs 0.5 to 35 psia	AA-300 Absolute (Altitude) Pressure Switch, Sensitive, Ambient Sensing	
4.5 oz. (0.28 lbs.)	A	1.0 to 500.0 psid	D-100 Differential Pressure Switch, Miniature	
16 oz. (1.0 lbs.)	B	0.1 to 50.0 psid	D-300 Differential Pressure Switch, Sensitive	
4.5 oz. (0.28 lbs.)	A	1.0 to 500.0 psid	DD-100 Differential Pressure Switch, Miniature, Dual (D. P. D. T.)	
9.6 oz. (.6 lbs.)	0.5 amps @ 28V	0.5 to 250 psid	D-200 Differential Pressure Switch, Special	
10.4 oz. (0.65 lbs.)	A	1.0 to 250 psid	D-205 Differential Pressure Switch, Special	
6 oz. (.375 lbs.)	.250 amps @ 28 VDC	0.5 to 30 in./Hg Vac.	V-200 Vacuum Switch, Special	
12 oz. (.75 lbs.)	B	0.2 to 32.0 in./Hg Vac.	V-300 Vacuum Switch, Sensitive	



TIME DELAY SWITCH



AIRSPEED ALTITUDE SWITCH



ADJUSTABLE BAROSWITCH



ALTITUDE ACTUATED RELEASE

ELECTRICAL RATING A

125 or 250 VAC	5 amps
30 VDC	
Inductive — Sea Level	3 amps
50,000 ft.	2.5 amps
Resistive — Sea Level	4 amps
50,000 ft.	4 amps
Maximum Inrush	15 amps

ELECTRICAL RATING B

10 amps 115 VAC 1.0 PF
10 amps 30 VDC Resistive

The breadth and complexity of our pressure switch line prohibits inclusion of every model we manufacture. Therefore consult your local Speidel representative concerning additional requirements.

SPEIDEL CORPORATION, Industrial Div., ***PRESSURE CONTROLS GROUP,*** Warwick, Rhode Island
Tel. REgent 9-7000 TWX-401-739-7551

Printed in U.S.A.

Telephone ORange 4-3036

SCHNEIDER TOOL & MFG. CO.

MODEL, EXPERIMENTAL, PRECISION SHEET METAL AND PROTOTYPE WORK
TOOLS . . . DIES . . . FIXTURES

410 TOMPKINS STREET
ORANGE, NEW JERSEY

April 11, 1963

Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Attention: Mr. Kenneth H. Olsen, President

Dear Sir:

This is in reply to your inquiry for further information on our Paper Tape Punch.

We have manufactured approximately 5,000 punches (eight-channel) for the Monroe Calculating Machine Company. In a breakdown test conducted by our customer, they proved that our tools exceeded in performance and endurance over all others tested. A 60,000,000 cycle result was reported.

We have had many calls for samples and upon request, should be pleased to send you one. You may inspect and test at your convenience. If after your inspection you find the unit suitable to your needs, you may purchase at price listed below. We only ask that sample be return to us if no order is contemplated.

Should this unit not be applicable to your drive mechanisms, we would appreciate receiving prints of your own design so that we may quote on your requirements.

Prices for the sample unit are as follows:

1	-	$35.00
10	-	30.00 each
50	-	28.00 "
100	-	27.00 "
1000	-	24.00 "

Thank you for your interest and we shall look forward to hearing from you.

Yours very truly,
SCHNEIDER TOOL & MFG. CO.

Henry G. Schneider

Henry G. Schneider

ew

HGS:ew

DATA TRENDS INC

R. W. HUGHES
PRESIDENT

DATA TRENDS, INC.

1259 RT. 46, PARSIPPANY, N. J. TEL 201-334-1515

8 April 1963

Mr. Kenneth Olsen
President
Digital Equipment Corporation
Maynard, Massachusetts

Dear Ken:

I just talked to Bob Kreer in Washington and he is still trying to reschedule the visit for Thursday or Friday of this week. If he does, it will probably be on short notice and I will telephone you immediately. In the meantime, I will assume that a visit late this week will be acceptable to you.

With best regards,

R. W. Hughes

RWH/adk

cc: Mr. W. Congleton - ARD

DATA TRENDS INC

R. W. HUGHES
PRESIDENT

DATA TRENDS, INC.

1259 RT. 46, PARSIPPANY, N. J. TEL 201-334-1515

1 April 1963

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

Dear Bill:

Many thanks for your recent letter. I have forwarded it to Mr. Kreer at the State Department and feel sure it had a desirable effect.

Concerning the Data Switching Center for the Paris Embassy, my current feeling is quite optimistic and, in fact, our internal marketing estimate is a 50% probability. I believe the biggest question is simply one of the State Department getting the necessary funds. If, in fact, they are obtained, I rate our competitive position very high.

In order to keep that competitive position high, I have arranged for Mr. Kreer and a Captain Sylvio Pilozzi to visit DEC on Monday, April 8th. I believe it would be most helpful if I could bring Mr. Kreer to your office to meet with you and General Doriot. The primary purpose of the meeting would be to further emphasize the financial and management backing of both DEC and DTI. We will be on a fairly tight schedule so that the meeting would necessarily have to be quite brief.

I hope this is convenient and can be arranged as I believe it is an important step in combating the prestige and status efforts that our prime competition is certainly using.

I would appreciate it if you could give me a call letting me know if this meeting can be arranged. Our current plan is to fly into Boston Monday morning, go straight to DEC for the morning, and visit ARD after lunch in the area of 2 - 3 P.M., before catching a plane to New York.

With best regards,

R. W. Hughes

R WH/adk

cc: Mr. K. Olsen - DEC

DATA TRENDS INC

R. W. HUGHES
PRESIDENT

DATA TRENDS, INC.

1259 RT. 46, PARSIPPANY, N. J. TEL 201-334-1515

27 March 1963

Mr. Robert G. Kreer
Director of U.S. Diplomatic Communications
Department of State
Washington 25, D. C.

Dear Bob;

Please find enclosed a set of "DECUSCOPE" Monthly Newsletters which are published by DECUS (Digital Equipment Computer Users Society). These newsletters provide a lot of valuable contributions from other PDP-1 users and often give directly usable routines for programming. In addition, DECUS has meetings periodically, with the next one scheduled for May 3, 1963 at M.I.T. (see the March issue for details).

As a purchaser of a PDP-1 system, you would be eligible to join the group and receive the newsletters, and I would certainly recommend it. Some of the possible side uses of a PDP-1 are quite interesting and might well be of considerable benefit to you. In this regard, I hope we can arrange a visit to DEC soon so you can see first-hand some of the potentialities of this machine.

I'll be in touch with you next week to follow up on the status of the switching center procurement.

With best regards,

R. W. Hughes

RWH/adk
enclosures

bcc: Mr. K. Olsen

DATA-CONTROL SYSTEMS INC.
EAST LIBERTY STREET
DANBURY, CONNECTICUT

March 15, 1963

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

Dear Ken:

We are finding an increasing number of systems which incorporate considerable amounts of our proprietary products, which also require specialized scientific digital computors of a type, which I am sure is well within the capability of your organization.

It is quite possible that one of your present computors could be used in the majority of these instances. We do not now have any such computor of our own design, nor do we desire to enter the computor field. We would, however, like to develop a working relationship with a computor manufacturer under the terms of which we might use his computors in our systems designs without getting involved in a situation where the two organizations would be competing for the same business.

If you feel that this situation might have some mutual attraction for our respective organizations, I would like to meet with you to explore the potentialities. We would be happy to have you visit with us here in Danbury, or we would be glad to visit with you at your plant.

I would appreciate your consideration of the implications of this letter and learning of your reactions. If you feel that a meeting is appropriate would you please suggest the time and place of your preference. I assume that any such meeting should probably wait until after the 1st of April in view of the IRE activities which will probably clog up the remainder of the month.

Cordially yours,

DATA-CONTROLS SYSTEMS, INC.

Robert J. Jeffries,
President RK

RJJ:rk

Cles

Centre Lebel d'Études Scientifiques

Services de traitement
d'informations scientifiques.
Enregistrement digital
de résultats expérimentaux
pour analyses par ordinateurs.

V.R.

N.R.

March 14, 1963

Mr. Kenneth Olson
Digital Equipment Corporation
Maynard, Mass:

Dear Mr. Olson:

I plan to come to Maynard on Friday, March 22, 1963. I hope this day will be convenient for you and that it will be possible for us to see each other again. In any case, I shall see John Fadiman. Would you kindly advise Mr. Fadiman of my plans.

Sincerely yours,

Jean D. Lebel

JL/lg/10

6 AVENUE DANIEL LESUEUR, PARIS VII^{e}, FRANCE BREteuil 11-70 +

Olin

EAST ALTON, ILLINOIS

March 13, 1963

JOHN M. OLIN
Chairman
Executive Committee

Mr. Kenneth H. Olsen, Pres.
Digital Equipment Corp.
146 Main Street
Maynard, Mass.

Dear Mr. Olsen:

Dr. Wendell G. Swank, President of the Wildlife Society, has asked me to drop you a note urging you to support the Society with a contribution of $100. In case you've misplaced his letter to you, I enclose my copy.

I'm sure you must be aware of what a potent force in conservation is this organization. It is the professional society for fulltime wildlife conservationists. As such, its work is irreplaceable. Yet the men who compose it are engaged, for the most part, in work for state and federal governments, at rates of compensation that are not great. Most of them have a tremendous dedication to their work and that dedication is reflected in the fact the Society devotes virtually all its income to preparing and distributing vitally important published material on conservation management techniques.

To give you more information on this organization, I enclose a brief history of the Society together with a copy of its modest financial statement.

We who are familiar with the Society's functions realize the time has come to expand its services. It needs a fulltime executive secretary to coordinate the many aspects of its work. It should open an office, staff it, increase its publication commitments. These things require money. The men who serve the Society as officers, editors, executive secretary, and in other capacities, do so without pay, as such.

They have asked me to assist them in obtaining additional funds for the accomplishment of these objectives. It seems to me this organization has been fighting your and my battles and that it needs and deserves our support.

Will you mail your check for $100 to the Society at 5921 Anniston Road, Bethesda 14, Maryland, today? You will be enrolled as a member and your contribution is, for tax purposes, fully deductible.

Sincerely yours,

John M. Olin

JMO:st
Enclosures

RP 2-0350

Established 1942

Gibbons & Associates

Industrial Profit Consultants

41 Tremont Street

Boston 8, Massachusetts

March 7, 1963

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

Dear Mr. Olsen:

It is with pleasure we call your attention to the reestablishment of Gibbons & Associates, Industrial Profit Consultants. Our staff is unique in that no one has had less than twenty-five years of practical experience. It is our purpose to provide the greatest possible talent and experience to expeditiously increase your profits.

Your company, like many who have enjoyed increased business during the past few years, is unquestionably faced with the necessity to decrease steadily rising costs by reviews of all phases of your operations which might contribute to improving your profit picture. With the additional responsibilities incurred by vigorous competition, the normal staff usually is not in a position to cope with your indirect, yet profit consuming costs. Because of our extensive experience in specialized areas, we feel that we are in a position to solve those problems without loss of valuable time on the part of your permanent productive staff.

The attached profiles will acquaint you with our various backgrounds. You will note they cover years of attainment in our particular fields, thus well equipping us to analyze any phase of your operations requiring attention.

Due to our particular association and our negligible overhead, the economies effected by the retention of our services are unapproachable either by transference of, or additions to, your permanent staff.

We appreciate your kind consideration and request we may have the pleasure of discussing your requirements in greater detail.

Sincerely yours,

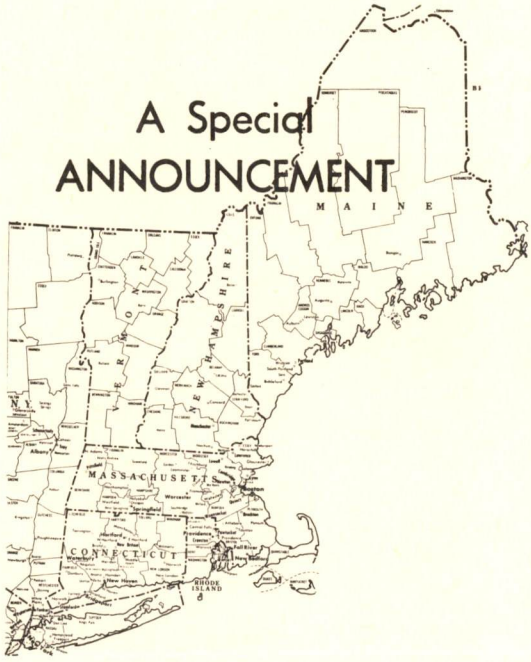
GIBBONS & ASSOCIATES

James A. Gibbons

JAG:lb
Att.

Attention

A Special
ANNOUNCEMENT





JAMES A. GIBBONS

Management Consultant - Coordinator

There is no Substitute for Experience . . .

Gibbons & Associates

Industrial Profit Consultants

41 TREMONT STREET, BOSTON 8, MASSACHUSETTS RI 2-0350 ESTABLISHED 1942

PROFILES

of GIBBONS & ASSOCIATES

JAMES A. GIBBONS (Experienced in Organization Procedures, Materials Handling and Plant Layout) - Degree as Mechanical Engineer; Licensed Professional Engineer; Civil Service rating of GS-16 as Industrial Specialist and Industrial Engineer; President of Gibbons Engineering Corporation; Partner in Gibbons & Associates; Self-employed Industrial Consultant; Assistant Economic Commissioner, U. S. Department of State, Rome, Italy; Chief of Management Division, International Cooperation Administration; Works Manager, Crosby Valve and Gage Company; General Manager, Sun Glass Division - American Optical Company; Assistant National Sales Manager, Manning, Maxwell & Moore, Inc.

TAYLOR A. DUNCAN (Experienced in Accounting System Installations and Auditing) - Degree as B.S.C., Temple University; Degree as M.B.A. with Distinction, Boston University; Ph.D. Candidate at Harvard University until recalled by U. S. Department of Navy for Service; Captain, U. S. Navy functioning as U. S. Naval Shipyard Fiscal Officer; Certified Public Accountant, Massachusetts and Pennsylvania; Professor, Bentley School of Accounting and Finance; Instructor in Accounting and Economics, Boston University; Vice President of Austin-Johnson, Inc., Public Accountants; Manager-Auditing, General Electric Company; Self-employed Certified Public Accountant.

ALFRED CRAMER (Experienced in Work Simplification, Advanced Time Study and MTM) - Princeton University; Philadelphia College of Textiles and Science; Instructor in Job Analysis and Time Study, Northeastern University; Chief Industrial Engineer, United Printers & Publishers; Supervisor of Systems and Procedures, Raytheon Company; Staff Engineer, Anderson-Nichols & Company; Chief Industrial Engineer, Atlas Plywood Corporation; Supervisor of Industrial Engineering, Sylvania Electric Products, Inc.

EARLE F. ORR (Experienced in Quality Control Procedures and Government Inspection Requirements) - Lowell Institute, Boston College and M.I.T.; Chief of Mechanical Inspection, Dunn Engineering Corporation; Quality Control Technician, National Company; Quality Control Technician, Allied Research Associates; Chief Inspector, Keystone Manufacturing Company; Self-employed Quality Control Consultant.

LAWSON W. WAITT (Experienced in Tooling and Tool Analysis, Production Planning, Plant Layout and Materials Handling) - Graduate, General Electric Apprentice Course; President, Lawson W. Waitt & Associates; Developer of Waitt Incentive System; General Electric Company: Manager of Manufacturing Engineering, Manager of Parts Manufacture, Plant Methods Supervisor, Assistant Superintendent of Press, Tool and Die Operation.

ARTHUR T. ROGDE (Experienced in Sales Organization, Management, Advertising and Publicity) - B.S. in B.A., Boston University; Jack Lacy Sales Institute; Trustee, Director and Past President, Fabric Salesmen's Association; Member, Sales Manager Club of Boston and the National Council of Salesmen's Organization; Talon, Incorporated: Executive Sales Manager, Sales Promotion Manager, Supervisor of Investigations on Markets, Sales Distribution, Competition, Advertising and Publicity.

JOHN W. DOWNING (Experienced in Office Procedures, Office Services, Training and Personnel) - Degree from Harvard University; Self-employed Management Consultant; General Electric Company: Assistant Manager, Business Services and Manager, Customer Service and Data Processing; Office Manager, Manning, Maxwell & Moore, Inc.; Consultant, Holtzer-Cabot Electric Co.; Manager of Order Clerical Department, Sears, Roebuck & Co.

MORTIMER C. BUDLONG (Experienced in Accounting and Cost Control Systems and Methods, Government Contracts and Office Procedures) - B.S. in Engineering Administration, M.I.T.; Chief Accountant, Comptroller and General Manager, Westclox Division; Vice President and Director of General Time Corporation.

THE WILDLIFE SOCIETY

OFFICIAL PUBLICATIONS:
JOURNAL OF WILDLIFE MANAGEMENT
WILDLIFE SOCIETY NEWS
WILDLIFE MONOGRAPHS

OFFICE OF THE PRESIDENT
ARIZONA GAME & FISH DEPARTMENT
ARIZONA STATE OFFICE BUILDING
PHOENIX 7, ARIZONA

February 25, 1963

PLEASE ADDRESS REPLY TO:
5921 ANNISTON ROAD
BETHESDA 14, MARYLAND

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

Dear Mr. Olsen:

The great forward strides made in the field of conservation in recent years derive from two things - the public's growing awareness of resource values, and the existence of a hard core of professionals in the resource management field who, through good times and bad, have dedicated themselves unstintingly to the conservation job.

We of The Wildlife Society take much pride in the fact that many of those conservation leaders are numbered among our membership. Name virtually any leader in the wildlife management field, for example, and you'll name a Society member, for ours is an organization composed of men who, literally and physically, are safeguarding the natural resources which have produced America's tremendous business economy.

It has become increasingly obvious, however, that the Society's services must be expanded. We must open and maintain a permanent office, staff it with fulltime executive leadership, give that leadership the physical tools with which to work. Yet our income is meager - and the vast bulk of it reserved for assembling, publishing and distributing material of critical importance in the conservation field.

Certainly you and your company are better aware than most that our work is vital and important. Will you support continuance of that work with a contribution of $100 to The Wildlife Society? Your contribution will be treated as a membership, and is tax deductible.

Your check may be sent to: The Wildlife Society, 5921 Anniston Road, Bethesda 14, Maryland. Why not make it out today, please?

Sincerely,

Wendell G. Swank

Wendell G. Swank
President

WGS:st
Enclosure

February 25, 1963

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

Dear Mr. Olsen:

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Your check may be sent to: The Wildlife Society, 5921 Anniston Road, Bethesda 14, Maryland. Why not make it out today, please?

Sincerely,

Wendell G. Swank
President

WGS:st
Enclosure

These accomplishments for conservation are possible because THE WILDLIFE SOCIETY . . .

Through its modest central office staff and its countless, able, unselfish volunteers, works unceasingly to advance professional standards by—

Disseminating current, valuable, information on management techniques by publishing the "Journal of Wildlife Management," "Wildlife Monographs" and the "Wildlife Society News."

Sponsoring and programming wildlife and resource use seminars, conferences and meetings, local, regional and national in scope.

Serving as a clearing house for up-to-the-minute management information.

These and many other aspects of professional conservation work are responsible for the maintenance of the highest conceivable ethical standards by

The Wildlife Society



Code of ethics

Members of The Wildlife Society have a responsibility for contributing to an understanding of man's proper relationship with natural resources, and in particular, for determining the role of wildlife in satisfying human needs. Each member of The Wildlife Society should strive to meet this obligation by subscribing to the highest standards of integrity and conduct and to the professional goals set forth below:



He recognizes the conservation and management of wildlife species as the primary goal of his profession.



He will support research to improve wildlife conservation programs, and he will encourage the exchange of information among members of his profession and the interested public.



He will strive for public understanding of the need for the wise use of wildlife resources.



He will increase his knowledge and utilize his skills to advance the practice of wildlife management; he will encourage professional competence by supporting high standards of education, employment, and performance.



He will discharge his professional responsibilities in an objective manner, and will base decisions on sound biological and management principles.



He will act in such manner and engage in those practices that will bring credit to his profession, employer, and community.

TO THESE GOALS THE COUNCIL OF THE WILDLIFE SOCIETY IS PLEDGED

by maintaining this high set of standards and by the application of knowledge gained through research, the society and its individual members promote the sound conservation and use of the WILDLIFE heritage by man . . . . . .

. . . . . in so doing, these additional benefits are obtained

Performing a wildlife management job which provides opportunities for healthy outdoor recreation.

Discovery of new techniques for managing and nurturing our vital soil and water resources.

Encouragement of programs to restore the water table, clean our streams of pollution and keep an abundance of water available for domestic, municipal, recreational and industrial uses.

Development of appreciation for the total productivity of the land, its forests, plains, and waters.

Telling the conservation story; this toward the end that public acceptance of resource conservation becomes quick and complete.

THE WILDLIFE SOCIETY 5921 ANNISTON ROAD • BETHESDA 14, MARYLAND

Mail To: THE WILDLIFE SOCIETY
5921 ANNISTON ROAD
BETHESDA 14, MARYLAND

THE WILDLIFE SOCIETY
PLEDGE OF SUPPORT

CHECK ONE:

☐ $100

☐ _____
Amount

☐ Check Enclosed
☐ Bill Me

NAME_____

ADDRESS_____

CITY AND STATE_____

Membership includes subscription to Journal of Wildlife Management, Wildlife Society News, Wildlife Monographs

Mail To: THE WILDLIFE SOCIETY
5921 ANNISTON ROAD
BETHESDA 14, MARYLAND

THE WILDLIFE SOCIETY
PLEDGE OF SUPPORT

CHECK ONE:

☐ $100

☐ _____
Amount

☐ Check Enclosed
☐ Bill Me

NAME_____

ADDRESS_____

CITY AND STATE_____

Membership includes subscription to Journal of Wildlife Management, Wildlife Society News, Wildlife Monographs

THE WILDLIFE SOCIETY: ITS FIRST QUARTER CENTURY

Whereas history finds its greatest and most comprehending audience among the legions of posterity, events pertaining to the creation and development of the Wildlife Society are of utmost concern to those currently engaged in the wildlife field. The interest of prospective members can be helpfully cultivated by an understanding of the origin, objectives, and attainments of the Society. Newly elected members may be apprised of the course of events leading to the present status of an organization that pioneered in a relatively new profession. Also, there will always be a substantial group of oldsters whose failing memories do not recall who did what, where, when, and why. It is hoped that this account will aid in fulfilling these needs.

Earlier Drafts of History

The idea of recording the history of the Wildlife Society can rightfully be credited to the late Dr. P. F. English. As Secretary of the Society he published (Journal of Forestry, Vol. 44, No. 5, May 1946) an article entitled "The Wildlife Society" in which he described its origin, structure, and objectives, and called attention to its growing membership. Prior to 1953 English informed President Leedy that a revised and enlarged version of his earlier paper was being prepared. When, on September 22, 1954, Editor Hewitt suggested such a document for the Journal of Wildlife Management, he was promptly informed that it was in the mail.

In this version, "A History of the Wildlife Society and its Functions," English related the events associated with the formation, first, of the Society of Wildlife Specialists and later of the Wildlife Society. He then summarized pertinent events and functions of the first 18 years of the Society's existence.

This document elicited diverse editorial comment with the result that English prepared a second and, later, a third version to meet the suggestions made. At that point fate stepped in. The third version was on his desk when "P. F." passed away on October 8, 1958.

Thereafter preparation of a history of the first quarter century of the Wildlife Society was assigned to the Committee whose names are attached to this document.[1] In accepting this task your Committee wishes gratefully to acknowledge the ground work done by the late P. F. English and the generous help given by many individuals, particularly with respect to events and thinking that took place during the beginnings of the Society.

Before the Beginning

The steps taken and the individuals involved in the actual organization of the Society are matters of record. On the other hand, the events and thinking of earlier years that shaped an unplanned course in its present direction are largely undocumented. Many of these nebulous beginnings had little objectivity, yet they marked a halting progress toward the creation of a society dedicated to wildlife management and research. The associated circumstances were many and varied and had no common point of origin. In calling attention to these there may be oversight and underappraisal and, possibly, some exaggeration, for which sincere apology and regret are partial recompense.

One may find vestiges of modern wildlife management in reports of the early conservation meetings. Though forest conservation, soil erosion, commercial fisheries, game protection, migratory birds, and related topics were on their agenda, there was less time given to topics on the technology involved in promoting these objectives and still less on the training of men for greater competence in those fields. Among these early conferences were the five National Conservation Congresses (1909–1913) followed by the series of 21 meetings of the American Game Association in which the subject of game breeding occupied a prominent place. With the realignment, in 1935, of such meetings (now called The North American Wildlife and Natural Resources Conferences) and with the creation of sessions devoted exclusively to the technical aspects of wildlife management and research, these sciences began to take on their justified stature. In the maturation of wildlife management and research The Wildlife Society has played an ever increasing part through its formulation of the technical programs.

Gradually, increased emphasis was placed on the need for technically trained personnel in the wildlife agencies of federal and state governments. A number of universities and colleges began to meet this demand by additions to their curricula and holding seminars on wildlife topics. Dr. A. A. Allen was instrumental in developing an effective program of instruction at his Research Roundtables at Cornell University and in organizing the research sessions of the earlier American Game Conferences. Noteworthy, also, was his stimulation of the ruffed grouse study in New York in which Alfred Gross, Gardiner Bump, and Frank Edminster played important roles. This northeastern group later played a large part in forming what became the first organized section of the Wildlife Society. Its creation was the direct result of a meeting of wildlife technicians held in

[1] W. L. McAtee, a Committee member, passed away at Chapel Hill, North Carolina on January 7, 1962. He did not have opportunity to see the final draft of this paper but he contributed to it valuable notes, particularly with respect to the formative stage of the Society and its early years when he was editor of the Journal of Wildlife Management.

conjunction with a previously scheduled conference on Conservation Education at Ithaca on February 18–19, 1937. In addition to those previously mentioned, E. L. Palmer, Richard Gerstell, Lester MacNamara, Leo Luttringer, Jr., and James Morton were among the participants. An invitation to attend this meeting expressed the conviction that "this conference, in the absence of a regional organization of wildlife technicians, provides the kind of opportunity you would like for the exchange of mutually useful information and ideas and for the advancement of the interests and standards of the wildlife profession."

At the same time, similar things were happening in the Midwest where Aldo Leopold was the one most actively concerned with the movement to make wildlife management a soundly based profession in this country. His traveling, under the auspices of the Sporting Arms and Ammunition Institute, resulted in the publication of his game survey of the North Central States and the stimulation of fellowship grants in wildlife research in which Ralph King, Paul Errington, and Ralph Yeatter unearthed significant facts in the management of upland game birds.

When in 1933 the Chair of Game Management at the University of Wisconsin was offered to Leopold, he was able to instill in a substantial group of young men the ideals of modern game management which his genius had developed and nurtured. He foresaw, probably more clearly than any other contemporary in this field, the need for training in the fundamentals of wildlife management and for the creation of professional standards to implement it.

With the establishment and rapid expansion of the Soil Erosion Service in the early thirties the demand increased for personnel technically trained in wildlife matters. In 1933 Ernest G. Holt was appointed chief forester of the S. E. S. with headquarters in LaCrosse, Wisconsin. Though designated a forester, Holt brought to his position the qualifications of a biologist with a very clear concept of the need for technical training in the performance of his job. He immediately set out to staff his organization with young men, largely graduates of schools in the Midwest. That Holt was an excellent judge of what was needed is proven by those whom he brought under his banner. Among others, there were Warren Chase, William Van Dersal, E. H. Graham, A. Starker Leopold, Phil Allan, Gustav Swanson, Lansing Parker, and Urban Nelson, truly an elite coterie of the wildlife profession. Besides those trained under Leopold in Wisconsin, Holt obtained recruits taught by Ralph King at the University of Minnesota and by the late Howard Wight at the University of Michigan, where the Williamston Game Management Project had served as a training ground (1931–1934). Further development in the Midwest came with the establishment, in 1933, of the Cooperative Wildlife Research Unit at Iowa State University, designed to train men in the budding profession. There, with the financial blessing of the late "Ding" Darling and the Iowa Conservation Commission, a 25-year wildlife survey was prepared and published in book form. This can rightfully be considered an important byproduct of the earlier preachings of Aldo Leopold. Thus, with the stimulus provided by the universities and the need created by the C.C.C., S.E.S. (now the Soil Conservation Service), and other agencies battling the depression, the idea of a professional wildlife organization came into being.

THE START

To retell the story of the creation of the Wildlife Society it is highly appropriate to employ the hitherto unpublished account prepared on February 20, 1936 by the Secretary–Treasurer of the Society of Wildlife Specialists, the late W. L. McAtee. From that report we learn that "at a meeting of persons interested in wildlife management held at Urbana, Illinois, December 5–7, 1935,[2] the need of a journal for the rapidly expanding profession was urgently stressed. Some of those especially interested attended the North American Wildlife Conference in Washington, D. C., February 3–7, 1936, and presented their ideas at an informal dinner gathering on February 3 in which 34 persons participated. Ralph T. King of the Minnesota Agricultural Experiment Station was elected chairman of that group on motion of R. E. Trippensee who was most active in organizing the meeting. Discussion brought up the points that a journal must have backing and that the most practicable form of backing is an organization of those interested in the maintenance of the periodical."

"A Committee was appointed by the chairman to consider the general desirability, and the present advisability, of the formation of an association of those interested from a professional point of view in wildlife management and research, . . . The committee consisted of Robert G. Green of the University of Minnesota, Herbert L. Stoddard of Thomasville, Georgia, R. E. Trippensee of The Massachusetts State College, and W. L. McAtee, chairman, of the Biological Survey."

McAtee presided over a meeting called on February 6 to discuss its report. He outlined events leading to the meeting, spoke of "the growth of the group, youthful, well-trained and thoroughly committed to the solution of wildlife problems along sound biological lines, as the most hopeful feature of a long series of American Wildlife Con-

[2] This was the First North Central States Fish and Game Conference which was sponsored by the Illinois State Natural History Survey. David H. Thompson and T. H. Frison were chiefly responsible for its inception. The 3-day program involved general sessions and others devoted to fisheries and game. Included among the participants were many who were instrumental in forming the Society of Wildlife Specialists (now the Wildlife Society).

ferences," and urged that "officers be selected from the younger members of the group actively engaged in wildlife management and research."

The committee on organization submitted seven recommendations which, with minor changes, were accepted by the group. Significant was the fact (and these were McAtee's words) "that the need exists and the time is ripe for inauguration of a professional society, which should, however, continue to cooperate with the General Wildlife Federation and other organizations with similar objectives." The group then adopted the name of The Society of Wildlife Specialists and elected as officers Ralph T. King, President; Ernest G. Holt, First Vice-president; Miles D. Pirnie, Second Vice-president; and W. L. McAtee, Secretary–Treasurer. The President chose Aldo Leopold and Herbert L. Stoddard as Counsellors and a regional Advisory Board of 13 members, geographically distributed and representative of different branches of wildlife management and research, was appointed. That constituted the governing body of The Society of Wildlife Specialists until its reorganization as the Wildlife Society.

Further sidelights on the organizational meeting have been supplied by Ralph King. He commented (in a letter) that he and Trippensee had discussed informally the possibility of a professional society with Errington, Holt, Leopold, and others at the Urbana meeting in 1935 and that at that time Aldo Leopold was a bit dubious of possible success because of the relatively small number of individuals who might be interested. However, Dr. King relates that at Washington, a year later, there had been so many inquiries from professional wildlife men about the status of the proposed organization that the hotel management was asked to furnish a meeting room. This it was unable to do, but a group of tables was reserved in the main diningroom. There the organization meeting was conducted "amid the applause and freely offered advice of all the others in the dining room." There followed on the next day another session in Constitution Hall where officers for The Society of Wildlife Specialists were elected and a constitution adopted. In outlining procedures, McAtee drew on his experience of many years as Treasurer of the American Ornithologists' Union and was ably assisted by Victor H. Cahalane, Ernest G. Holt, E. H. Graham, William R. Van Dersal, and others available in Washington at that time.

At the meeting in St. Louis, Missouri in the following year, there was, as expressed by one individual, considerable "pulling and hauling" concerning the prospective form of the Society and the course it should pursue. A few thought it unnecessary to form a new society to accommodate the wildlifers and at the same time "promote the disintegration of biologists." There was some opposition to the creation of another publication, coupled with the suggestion that wildlife contributions might just as well be included in a section of some established periodical. Numerous names were offered for the new organization, including that of "Conservation Biologists" proposed by one who admitted he had been fired when he held a job with that title. Yet out of all of this came the now firmly established Wildlife Society, a name apparently suggested by W. R. Van Dersal, and THE JOURNAL OF WILDLIFE MANAGEMENT, a name proposed by W. L. McAtee.

CHARTER MEMBERS

Because of the "two-stage" beginning of the Society the question of charter membership in the Wildlife Society has moot aspects. Technically speaking, charter members of the current society would be those who had joined the organization between the time of its origin, February 28, 1937, and a deadline date of September 1, 1937. Their names appear in the first list of members published as a supplement to Volume 2 of THE JOURNAL (April 1938). However, in that same issue (p. 61) a list was printed of those who had sealed their affiliation with The Society of Wildlife Specialists, the precursor of the Wildlife Society, by paying the stipulated fee on February 3, 1936 and, in the language there used, were declared to be "real charter members." Of the sixty so listed, nearly a third failed to register as charter members of the Wildlife Society a year later and, of course, there were many more among the latter group who were not charter members of The Society of Wildlife Specialists.

With the passing of the years, varied fates have befallen those on these two lists of charter members. Some did not retain their membership, and some dropped out, only to rejoin at a later date. Others faithfully maintained their membership till the end of their careers. In a few cases the records are obscure. Rosters of the Society, with charter members indicated, have appeared as supplements to the Journal. In addition to the first one in 1938, others were published in 1939, 1940, 1941, 1942, 1945, 1946, 1947, 1948, 1949, 1953, 1955, 1957, and 1959.

MEMBERSHIP AND DUES

The impact of World War II on the otherwise steady growth of the Society is shown in Fig. 1. Although in 1942 the membership dropped to a level slightly below that of its first year, later it rose with vigor and in four years had more than doubled the figure recorded for 1942. One can see, however, that some other factor periodically had an arresting effect on membership increase. This proved to be increases of dues. The initial annual dues of $3 remained in force only one year when, in 1938, the dues for active members were placed at $5. One cannot be certain whether this was the sole cause of the leveling of the membership in 1939–1941, or whether the impending war had begun to show its effect. Nevertheless, we see another leveling of the member-

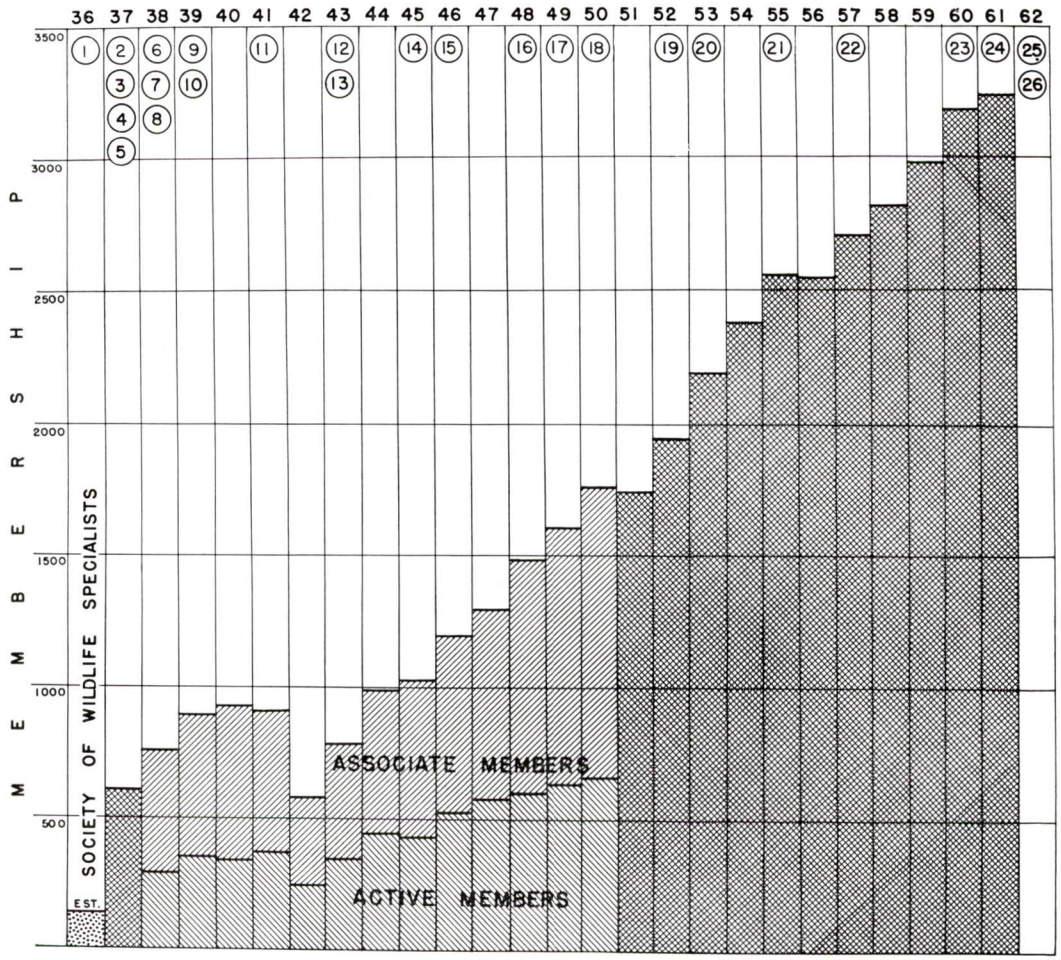


FIG. 1. THE FIRST QUARTER CENTURY OF THE WILDLIFE SOCIETY. The shaded portions show the growth of membership from an estimated 100 or more, representing the Society of Wildlife Specialists in 1936, to the current total of more than 3,200. The heavy shading in 1937 represents the single form of membership before separation into active and associate classes during the period 1938 to 1950. Thereafter a single class of membership again was established. The one very conspicuous deviation (1942–43) from an otherwise nearly uniform increase was brought about by World War II. At four other points, 1938–39, 1944–45, 1950–51, and 1955–56, there were levelings, or even slight recessions, in each case following an increase of dues of one kind or another. Other significant events in the history of the Society are mentioned in the accompanying notes referred to numerically under the associated year. Because of the fact that formerly there were variations in the dates ending the fiscal year of the Society causing variations in periods covered by the records of the Secretary, there are minor discrepancies in the plotting of membership growth in some early years. More recently the figure used for membership was that recorded at the end of the calendar year.

Encircled numerals in Fig. 1 refer to the following significant events in the history of the Wildlife Society:

1. Creation (in Washington, D. C.) of the Society of Wildlife Specialists, the progenitor of the Wildlife Society.
2. Formation of the Wildlife Society at St. Louis, Mo., February 27–28, 1937, and the adoption of a Constitution and Bylaws providing for active and associate membership. Initial dues were $3 for all members.
3. The Wildlife Society Employment Service was established.
4. THE JOURNAL OF WILDLIFE MANAGEMENT appeared under the editorship of the late W. L. McAtee.

5. Agreement reached with The American Wildlife Institute whereby the Wildlife Society will arrange the technical programs of the North American Wildlife Conferences.
6. First publishing of the Constitution and Bylaws and lists of active and associate members. The Regions were defined.
7. Dues for active members, $5; for associates, $3.
8. The late J. N. Darling elected first honorary member.
9. Committee on Professional Standards submitted first report, a document useful in the classification of members.
10. WILDLIFE SOCIETY INFORMATION, news organ of the Society, appeared under the editorship of Leo A. Luttringer, Jr.
11. Name of the news organ changed to WILDLIFE NEWS.
12. Dues of associate members raised to $4.
13. Publishing of WILDLIFE NEWS suspended for duration of the War. During this period two numbers of a "War-time Newsletter of the Wildlife Society" were issued (June 20, 1944 and February 1, 1945).
14. The North American Wildlife Conference and the associated annual meeting of the Wildlife Society were cancelled at the request of the Office of Defense Transportation. Life membership was established.
15. Region 7 of the Society established in Canada; Puerto Rico and The Virgin Islands were added to Region 2, Mexico to Region 5, and Alaska and Hawaii to Region 6.
16. The Society incorporated in the District of Columbia on March 25, 1948.
17. The Aldo Leopold Memorial Medal was authorized in recognition of "service to wildlife conservation." The first recipient was the late J. N. Darling.
18. A single class of membership was established in place of the dual classification; dues were placed at $5 for all but honorary and life members.
19. With the May 1952 number THE WILDLIFE SOCIETY NEWSLETTER became THE WILDLIFE SOCIETY NEWS.
20. Offices and functions of the Secretary and Treasurer were combined under the designation of Executive Secretary.
21. Increase of annual dues to $6 was approved.
22. Publication of WILDLIFE MONOGRAPHS was authorized.
23. *Manual of Game Investigational Techniques* was published.
24. On January 1, 1961 life membership dues were increased to $200.
25. On January 1, 1962 dues for regular members became $10. Student ($6), official ($50), and sustaining ($100) memberships were established.
26. With the opening of the annual meeting on March 11, 1962 a second quarter century began for the Wildlife Society.

ship in 1944–1945 after the annual dues of associate members were increased to $4, effective in 1943. Again, in 1950–1951, progress was arrested, coincidentally this time with two events. One was the abandonment of the dual classification of members and the other was the setting of annual dues of all members at $5, an increase of $1 for those previously named as associates. In 1955 and 1956 there was another temporary halt in membership increase, which occurred when the dues of all except life and honorary members were raised to $6.

That brings us down to current times when, effective January 1, 1962, the annual dues were increased to $10. Fig. 1 shows a slight arresting of the normal increase at the end of 1961 which may prophesy a still more emphatic halt in progress in 1962 as a result of the largest increase in dues sanctioned by the Society since its inception.

A class of honorary membership, "in recognition of distinguished service or outstanding achievement in the field of wildlife management," was created at the time the Society was established. This honor, bestowed in response to a majority vote of the Council and members present at any stated meeting, carries with it immunity to the payment of dues. The late J. N. Darling was the first to be so honored at the second annual meeting of the Society in 1938. Others, similarly recognized in later years and still associated with the Society, are A. A. Allen, F. Fraser Darling, Albert M. Day, Charles S. Elton, Paul L. Errington, Ira. N. Gabrielson, Seth Gordon, C. R. Gutermuth, A. G. Huntsman, E. R. Kalmbach, Harrison F. Lewis, Hoyes Lloyd, Carl D. Shoemaker, Herbert L. Stoddard, Walter P. Taylor, Harold Titus, and Stanley P. Young. The names of seven others, now deceased, formerly appeared on this

honor roll. They were P. F. English, George O. Hendrickson, Aldo Leopold, W. L. McAtee, K. A. Reid, Ernest Thompson Seton, and Frederic C. Walcott.

A class of life membership was created in 1944 based on the payment into the permanent trust fund of the Society of a lump sum of $100. Later, provision was made for paying such a fee in installments, and in 1961 the cost of life membership became $200. Members, life members, and honorary members are entitled to vote, hold office, and represent the Society when properly designated.

In 1960 the Society voted to create a student class of membership with annual dues of $6; this became effective in 1962. Student members are entitled to all publications regularly distributed to other classes of members but are not entitled to vote or hold office in the Society. Furthermore such membership is restricted to those regularly registered as undergraduate or graduate students at a college or university.

Also in 1961 a class of official membership (annual dues, $50) was opened to those public agencies officially concerned with wildlife management or research. They receive three copies of all regular publications of the Society but do not have a voting privilege. In that same year a class of sustaining membership (annual dues, $100 minimum) was made available to any business, industry, or organization interested in wildlife management or research. The Richfield Oil Corporation of Los Angeles, California was the first to submit an application and the required fee.

GOVERNING CODE AND ORGANIZATION

A draft of a Constitution and Bylaws for the Society was compiled originally by a committee under the chairmanship of Gardiner Bump in February 1937. In common with most embryonic organizations, the Wildlife Society started its career with the usual set of officers, a president, vice-president, secretary, and treasurer. These, together with a single representative from each of the Regions, formed the Council, the governing body of the Society. Provision was also made for a Board of Trustees (three) who would control the permanent funds.

As explained at the time, the objective of the Society was to steer a middle course between a highly organized, professional group and one which might attract individuals less technically trained, but still deeply concerned with wildlife conservation and management. In the original Constitution and Bylaws the objectives of the Society were set forth as (1) "establishment of professional solidarity and the maintenance of the highest possible professional standards; (2) development of all types of wildlife management along sound biological lines; (3) publications to effect these ends; and (4) protection of the interests of its members." These purposes, with the exception of No. 4, are still the aims of the Society. "Protection of the interests of its members" was deleted by a vote of the members in 1953 because of a ruling of the U. S. Treasury Department that any benefits accruing directly to a dues-paying membership would prevent the Society obtaining tax exemption.

The balanced organizational approach involved dual classification of the membership (active and associate members) based on proficiency in the wildlife field. Active membership was restricted to those professionally engaged in the practice or teaching of wildlife management or those who "in the opinion of the Council possessed other attainments worthy of recognition" and whose application for active membership would have been approved by the Membership Committee. A person became eligible for "associate" membership upon recommendation of two "active" members and acceptance by the Secretary. This form of dual membership prevailed until 1951 when, by a vote of the members, it was abandoned and a single class of general membership established. This action was approved by 69 per cent of the members voting.

From time to time changes were made in the Constitution and Bylaws. Ten printings of this governing code with its periodic alterations have appeared in THE JOURNAL, the first in Vol. 2:275–278 (1938). Others followed in Vols. 7:340–342 (1943); 10:361–364 (1946); 11:361–364 (1947); 12:441–444 (1948); 14:483–486 (1950); 16: 116–120 (1952); 17:226–230 (1953); 18:392–397 (1954); and 21:368–372 (1957). The last two printings include Bylaws only, after the former Constitution and Bylaws were abolished following the incorporation of the Society.

As a sequel to the incorporation under the laws of the District of Columbia on March 25, 1948, other changes were made in the governing code. In the first place, the word "incorporated" was added to the name of the Society on all legal documents. The Council was given authority to combine the offices of the Secretary and Treasurer under the title of Executive Secretary, an officer who would become the executive officer of the Society under the general direction of the Council. Despite the granting of this authority, the title of Secretary–Treasurer was considered to be accurately descriptive of the position at the time and it was retained for a short period. Furthermore, since the Certificate of Incorporation constituted and served as a constitution, or charter of the Society, the Constitution became a superfluous document. This led to its abolishment and the drafting of a new set of Bylaws embracing all the elements needed to implement the Certificate of Incorporation. The new Bylaws were first published in THE JOURNAL, Vol. 18: 392–397 (July 1954). This major revision contained much new phraseology primarily to accommodate the changed organizational picture. An

emphatic vote of approval, 1,208 to 18, reflected the popularity of the change.

Further revisions, by 1957, made the Executive Secretary an advisor to, but not a voting member of, the Council. At that time provisions for the establishment and operations of Sections were elaborated, and student, official, and sustaining memberships were defined. In 1961 the Society initiated a system of electing regional representatives for overlapping 3-year terms. (An appendix lists the officers and editors of the Wildlife Society from 1937 to 1962.)

By January 1962 arrangements were completed for the Society to avail itself of editorial and business facilities offered by the American Institute of Biological Sciences, thus expediting the work of the Editor and Executive Secretary. With this arrangement all purely business and proofreading matters were sent to the Wildlife Society but at the address of the A.I.B.S., 2000 P St., N. W., Washington, D. C.

THE REGIONS

Regional (geographic) segregation of membership with appropriate representation in the Council has been a feature of the administrative structure of the Society since its origin. Initially six regions were established with the states grouped in areas which might be defined as (1) northeastern, (2) southeastern, (3) north central, (4) plains, (5) southwestern, and (6) west coast. Canadian areas originally were included as parts of the groups of states contiguous to the international border. The West Indies were included with the southeastern group; Mexico with those in the southwest; and Alaska and Hawaii with those of the West Coast. Later (1939), the boundary between Regions 1 and 2 was altered to coincide with the provincial boundary between Ontario and Quebec. Still later (1946), Canada was voted a separate region, No. 7; Puerto Rico was added to Region 2 in the southeast; and the term "West Indies" was changed to "the Virgin Islands" in the definition of that region. In 1955 Maryland and the District of Columbia were transferred from Region 1 (northeast) to Region 2 (southeast). With these changes the seven regions of the Society remain as published in THE JOURNAL, Vol. 21(3):369 (July 1957), and as set forth in Fig. 2 of this document.

In 1955 a committee, appointed for a review of regions and sections of the Society, recommended several changes in their boundaries and suggested that their number be increased from seven to nine. This proposal involved no change in Regions 1, 2, 3, and 7, except that referred to with respect to Maryland and the District of Columbia. West of the Mississippi, however, the total area would be divided into five regions delineated largely along ecological lines. At the time of this writing no action has been taken on these recommendations.

SECTIONS AND CHAPTERS

Sections may be authorized by the Council "on petition of ten or more members in any designated areas within the boundaries of Regions, but transgressing regional boundaries when convenience so requires." Regulations require that sections shall adopt bylaws approved by the Council, that annual reports be made to the Society, and that all section members shall also be bona fide members of the parent organization. In this manner the section becomes an integral and functional part of the Society at a level where it can best promote community interest in the organization.

The Northeast Section, the first to be created, was authorized by the Council in 1938. Originally it included all the states of Region 1 of the Society. In 1949 the Southeastern, the Minnesota, and the Northern Rocky Mountain Sections were authorized. The last was redesignated as the Northwest Section and currently includes the states of Washington, Oregon, Idaho, and Montana and the Province of British Columbia. Members from Alberta and Alaska also have participated. The formation of the California Section in 1953 and the Central Mountains and Plains Section in 1954 makes a total of six currently functioning sections. Indication of a future addition to the sectional organization came from Santa Fe, New Mexico in the summer of 1961 when a group of members proposed the formation of a section embracing New Mexico and Arizona.

In 1961 the Council proposed and in 1962 the members approved an amendment to the Bylaws providing for chapters, a designation applicable to groups of members or student members (or both) within a geographical subdivision of a section. The purpose of chapters is to stimulate Society organization and affairs at levels even more local in character than those of a section.

WORK OF COMMITTEES

Currently twenty committees assist in carrying on the diverse activities of the Wildlife Society. Some of these conduct the routine housekeeping chores, others are set up for specific or short-time assignments (such as the preparation of this history), and still others aid in formulating the long-time policies and actions of the organization.

Active since the Society's origin have been the successive committees assigned to the task of revising the Constitution and Bylaws. Many of their recommendations have been incorporated in the governing code. Mention has been made of the more important changes (page 296) while their sequence is recorded in Fig. 1 and its notes (page 294).

An exacting and potentially controversial job in earlier years was that of the Membership Committee when it was called upon to classify members as "active" or "associate." At the outset its greatest concern was the formulating of adequate

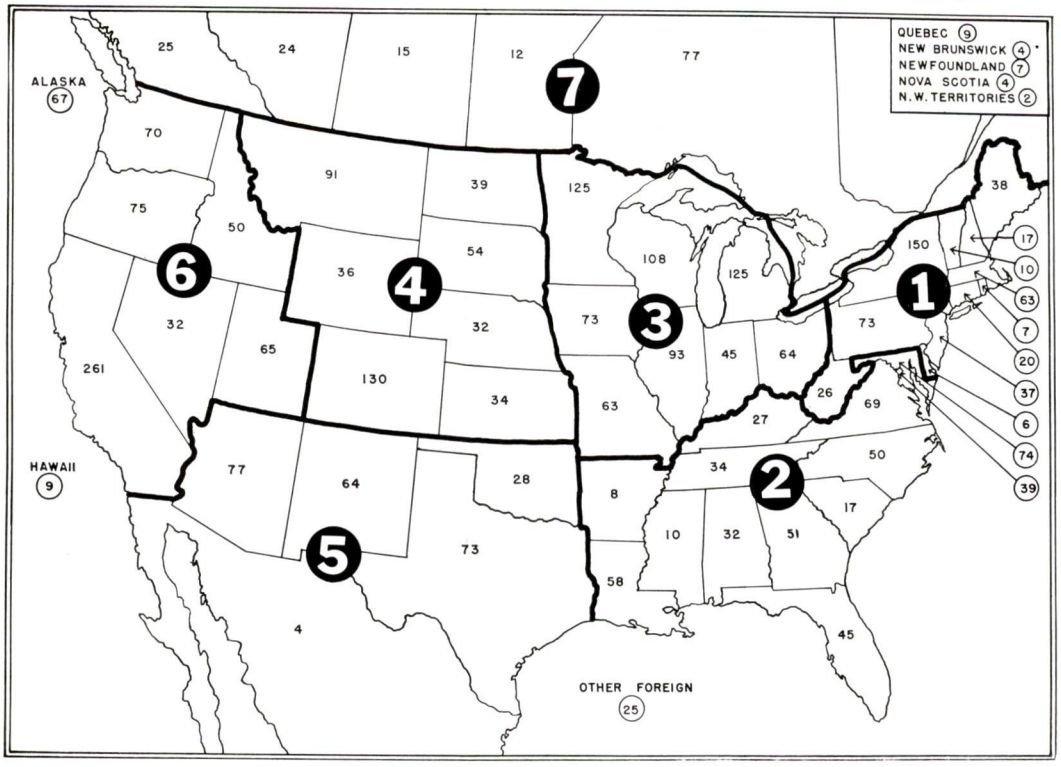


FIG. 2. THE DISTRIBUTION OF MEMBERS OF THE WILDLIFE SOCIETY. This chart is based on figures available on November 1, 1961, slightly before the end of the first quarter century of the Society's growth. The seven regions are designated in large numerals and their borders are outlined with heavy lines. The regional totals were, in the numerical sequence of the seven regions, 447, 514, 696, 416, 242, 629, and 179, respectively.

and interpretable criteria on which to base such decisions. In this concern the Committee was placed in an awkward position of "unwillingly, but necessarily accepting some share of the responsibility for molding the professional requirement for Society membership in its formative stage," a function that logically could be assigned to the Committee on Professional Standards. This the members decided to abandon the dual form of membership. From that time on, the primary function of this Committee was one of increasing the Society's membership and stature in the wildlife field. A debt of gratitude is due these successive Committees and, if one individual may be singled out, to Lee E. Yeager, the chairman for many years.

In February 1938 a Committee on Professional Standards was established. "Its responsibility was the preparation of a statement of professional qualifications that might serve as a guide to persons intending to enter the wildlife field, and that might also be of interest to institutions training these men." Such a statement was prepared by the late Aldo Leopold with the assistance and endorsement of other members of the Committee, and published in THE JOURNAL (Vol. 3[2]:156–161 [April 1939]). Following the publication of this document, Paul L. Errington, at that time a member of the same committee, prepared a paper on another aspect of professional training, "Publication Standards in Wildlife Management" (*ibid.*, pp. 162–165).

"Professional Standards and Training in the mittee on Professional Standards, appeared in THE JOURNAL in 1952 (Vol. 16[3]:370–378). Therein the Committee, in cooperation with the Society's Committee on Employment, obtained through questionnaires the reaction of 63 colleges in the United States and Canada to many of the academic problems confronting teaching in the wildlife field. This report, prepared under the chairmanship of D. L. Leedy, also cited contributions made by several members of the Society to the literature on such academic training.

The 1958–59 Employment Committee prepared a special report under the title of "Training and Employment of Wildlife Biologists and Fishery Biologists" that was published in THE JOURNAL (Vol. 25[2]:190–197, April 1961). This document reviewed the general work areas in which

employment was possible, including management, research, and information services. It also pointed out the requisites in training and experience and, in appendices, listed colleges and universities offering training in the wildlife field, and a roster of federal, state, and provincial agencies concerned with fishery and wildlife conservation and management.

In furtherance of one of its initial objectives, the Society through its Committee on Employment (now termed the Committee on Professional Training and Employment) offered the columns of THE JOURNAL to facilitate an employment service. Information from prospective employers concerning available positions and the qualifications of those seeking jobs was printed subject to space limitations. All correspondence was handled directly between the employers and applicants, not by any official of the Society. In 1939 the Committee, with a membership distributed geographically, was assigned the task of appraising the future of employment in the wildlife field.

The subject of employment also was touched upon in documents emanating from other sources in the Society. In the July 1941 number of THE JOURNAL, Errington's "Objectives in Civil Service" appeared as a contribution from the Committee on Professional Standards.

Eventually through decreased use the listing of job opportunities was abandoned in THE JOURNAL. In its place successive analyses of student enrollment, graduations, and scholastic facilities available at American schools became the primary activity of the Committee on Employment. A comprehensive report of this nature was published in THE JOURNAL of April 1951 under the title of "It's Time to Take Stock" and, for several years thereafter, similar contributions in THE JOURNAL aimed to keep the academic training picture up to date. Also, during this period, the Committee published a well-summarized statement regarding the opportunities for employment in the WILDLIFE SOCIETY NEWSLETTER (January 1947:1–4). Similar contributions appeared in following numbers of THE NEWSLETTER.

In 1953 a job referral desk was maintained at the North American Wildlife Conference in Washington, D. C. There employers and applicants for positions could be brought into personal contact. Later this service was discontinued but the columns of THE NEWSLETTER still were open to applicants for jobs.

Another product of committee action was the joint report on wildlife prepared by the Wildlife Society and the Division of Biology and Agriculture of the National Research Council. This report, which illustrates cooperative effort with an affiliated agency, was published in THE NEWSLETTER in the Winter Issue of 1948.

A Commitee on Wildlife Terminology was established in 1948 "to standardize wildlife nomenclature . . . as recommended by related, recognized, scientific organizations." It prepared and published in the July 1957 number of THE JOURNAL a "Glossary of Wildlife Terms." Only those terms that had been inadequately defined or were controversial or often erroneously used were included. The publishing committee, the last under five different chairmen and embracing the views of 22 members, frankly confided that the glossary might have been altered in the opinion of others.

PUBLICATIONS

The Journal of Wildlife Management

The need for a publication outlet for papers dealing with wildlife management was a motivating factor in the formation of the Wildlife Society. This goal was quickly realized through the founding, in the first year of the Society's existence, of THE JOURNAL OF WILDLIFE MANAGEMENT, a quarterly which has since taken a distinguished place in its sphere. Most fortunate for the embryonic society and its venture into a virgin publication field was the choice of its first editor, the late W. L. McAtee. In recognition of his service to the cause it is fitting to insert at this point an excerpt from THE WILDLIFE NEWS which appeared at the time of his retirement as editor, five years later.

"To his new task Mr. McAtee brought years of experience as a biologist, writer and editor. He believed that the new society should encourage the publication of original papers of the highest quality obtainable on wildlife research, development and administration along sound biological lines, but that The Journal was no medium for untried theories, speculations or prophecies. A diligent and conscientious editor, he made, from the start, able criticisms and suggestions that not only resulted in a periodical of unquestioned worth, but also assisted many a young contributor to become a better writer. Undoubtedly some of the veteran writers have also profited."

With zeal and devotion to those early ideals, subsequent editors of THE JOURNAL have made of it an outstanding periodical in the fields of technical and applied wildlife management. Each in turn, Tracy I. Storer (1942–46), Harlow B. Mills (1946–50), Gustav A. Swanson (1950–53), Oliver H. Hewitt (1953–56), Joseph J. Hickey (1956–59), and Charles M. Kirkpatrick (1959–62), has added his personal talents to the job, while the basic high standards have remained constant. As a result THE JOURNAL has experienced a steady growth in circulation. Non-member subscribers have increased from a mere 32 in 1937 to more than 600 in 1961. Editorial tasks finally increased to the point where the help of associate editors was called for, positions which were faithfully filled through the years by members of the Society. Recently the service of an Editorial Board of about 15 was invoked to expedite appraisal of manuscripts, and, at the end of 1958, the associate editors included one specifically for fishery papers and another for the handling of reviews.

In volume of the printed word, THE JOURNAL has maintained a healthy pace. THE JOURNAL was planned as a quarterly, but the first volume in 1937 was issued under two covers, Nos. 1–2 and 3–4 being combined. Thereafter THE JOURNAL has appeared as planned with the pages of contributed papers totaling a high of 552 in 1953. This figure, however, is not a true index of the volume of print. By the use of thinner paper and a larger type bed, Vol. 22 (1958) contained in its 460 pages 10 per cent greater word length than appeared in the 524 pages of Vol. 16 (1952), the "thickest" previously issued. From 1937 to the end of 1961, contributed papers and annual indexes of THE JOURNAL comprised 10,643 pages and the printing of tables of contents and lists of officers and members totaled 415 more.

In addition to separates of articles appearing in THE JOURNAL, requested and paid for by authors and others, arrangements have been made for the printing and sale of important articles, the income from which accrues to the Society. Among such articles were "A Symposium on Farm Fish Ponds and Management," "Biologists in the Field of Wildlife Conservation," and "A Symposium on Cycles in Animal Populations." Then there were the two 10-year indexes to THE JOURNAL, Vols. 1–10 (1937–1946) and Vols. 11–20 (1947–1956). These were prepared by appointed committees, the first by G. A. Petrides, C. A. Dambach, and D. L. Leedy and the second by O. B. Cope, G. H. Kelker, J. B. Low, and A. W. Stokes. The first index was published in 1950 and the second in 1958.

The Egyptian style of hieroglyphics, appearing in a block on the cover of THE JOURNAL, may seem to be just a decoration to fill an otherwise empty space. This is not the case. Its interpretation was set forth in the first number of THE JOURNAL and, as a reminder, it was repeated in 1952. Now, with the passing of another decade, the story bears telling again. After a fruitless attempt to devise a well-composed design representative of all the important elements of the wildlife field, those concerned decided to boil the matter down to simple comprehensive symbols of fauna and flora. This led to consideration of Egyptian hieroglyphics and with the aid of J. E. Lodge, Curator of the Freer Gallery of Art in Washington, and the artistic skill of W. A. Weber, then with the National Park Service, the design was evolved. From top to bottom, the four horizontal lines of figures may be translated as: beasts, birds, fishes, and flowering plants.

An item of general interest, for which credit should be given to the Secretaries, Treasurers, and Executive Secretaries whose records supplied the basis, has been the published lists of members. These appeared as supplements to the volumes in the following years: 1938, 1939, 1940, 1941, 1942, 1945, 1946, 1947, 1948, 1949, 1953, 1955, 1957, and 1959.

Wildlife Monographs

As early as 1941 a proposal was approved to publish WILDLIFE MONOGRAPHS, a series which would accommodate papers too lengthy for inclusion in THE JOURNAL. However, the Editor wisely indicated that such a proposal, worthy though it was, would have to await the time when adequate finances became available. Later a plan was evolved under which a MONOGRAPH would be sponsored by an organization or agency under which the research was conducted. This relieved the Society of the costs of printing, mailing, and editorial assistance, but it still provided skilled editors and the channel through which the MONOGRAPH would be distributed, not only to its own members and subscribers but also to others from whom orders were received. With the financial hurdle crossed, the Society published its first MONOGRAPH in May 1958. Others followed in gratifying sequence as set forth in the following list. Werner O. Nagel and Louis A. Krumholz were the successive editors.

No. 1. Field-feeding by waterfowl in southern Manitoba, by Eugene F. Bossenmaier and William H. Marshall. March 1958.

No. 2. Biology of the Great Plains muskrat in Nebraska, by J. Henry Sather. May 1958.

No. 3. Prairie dogs, white-faces, and blue grama, by Carl B. Koford. December 1958.

No. 4. The bighorn sheep in the United States: Its past, present, and future, by Helmut K. Buechner. May 1960.

No. 5. An ecological reconnaissance of the Mara Plains in Kenya Colony, by F. Fraser Darling. August 1960.

No. 6. Study of waterfowl ecology on small impoundments in southeastern Alberta, by Lloyd B. Keith. October 1961.

No. 7. A population study of the brook trout, *Salvelinus fontinalis*, by James T. McFadden. November 1961.

No. 8. Ecology of the scaled quail in the Oklahoma Panhandle, by Sandford D. Schemnitz. December 1961.

Wildlife Society News

At the third annual meeting of the Society held in Detroit, February 13, 1939, it was decided to establish a leaflet of information of interest to members. Initially arrangements for such a news outlet were left to the President, the Secretary, and a third individual, Leo A. Luttringer, Jr., who then became the first editor of WILDLIFE SOCIETY INFORMATION, a mimeographed circular issued at irregular intervals. The stated scope of the publication was "to include all material deemed of value for circulation among the members except that ordered printed in THE JOURNAL OF WILDLIFE MANAGEMENT or otherwise provided for by the Society." Two pages of suggested "topics for debate," in the form of 26 questions, were printed in the initial number. Whether this stimulus was called for is questionable since many of the questions are still unanswered or are subjects of as marked differences of opinion as when they were propounded. Be that as it may, WILD-

LIFE SOCIETY INFORMATION and its successors under varied names have provided an open forum where any member has a chance to be heard. Their value has amply been demonstrated.

Succeeding Leo Luttringer, Jr. as editor were W. R. Van Dersal (1941–42), D. E. Wade (1942–43), R. E. Trippensee and V. H. Cahalane (1944–45), C. A. Dambach (1945–48), H. S. Mosby (1948–55), and T. R. Evans (1955–). The name was changed in 1941 to WILDLIFE NEWS, in 1946 to THE WILDLIFE SOCIETY NEWSLETTER, and in 1952 to THE WILDLIFE SOCIETY NEWS, a change made to obtain a lower postal rate. Since 1949 this publication has appeared as a quarterly. Earlier there was some irregularity in its release and during the war it was suspended, but replaced by two "Wartime Newsletters" issued on June 20, 1944 and February 1, 1945, to keep members informed regarding Society matters and the status of those in the military services.

Other Publications

In 1941 the Council recommended publishing a manual of wildlife management techniques. This 376-page volume, under the editorship of Henry S. Mosby and bearing the title of *A Manual of Game Investigational Techniques*, was distributed in May 1960 through the office of the Virginia Cooperative Wildlife Research Unit, Blacksburg, Va. The first printing of 2,000 copies was exhausted by January 1961, whereupon a second printing of 1,000 copies was authorized.

Another publication of great concern to technical workers in the wildlife field is *The Wildlife Writing Handbook* prepared by Werner O. Nagel. This was conceived and planned originally by the National Wildlife Federation and the completed manuscript was turned over to the Wildlife Society and the American Fisheries Society for joint publication and distribution. This document, published through financial aid from the American Conservation Association, is now available from the American Fisheries Society, Box 492, McLean, Virginia.

Another publication venture of the Wildlife Society was the preparation of the index to all printed Transactions of the American Game Conferences (1928–1935) and the North American Wildlife Conferences (1937–1947). This combined index was prepared by a committee under the chairmanship of Lee E. Yeager and, with aid from the Fish and Wildlife Service, was published by the Wildlife Management Institute as an appendix to the Transactions of The Twelfth North American Wildlife Conference in 1947.

AWARDS

Aldo Leopold Memorial Medal

In furtherance of an idea to honor the late Aldo Leopold, the Awards Committee, under the chairmanship of Durward Allen, proposed in 1949 that a Leopold Memorial Medal be awarded annually to a single individual for "service to wildlife conservation." The project received the approval of the Leopold family. Accordingly, such a medal was struck (Fig. 3) and awarded at banquets of the North American Wildlife Conferences for the past 12 years.

This honor, considered the highest which the Society has in its power to bestow, has had the following recipients: J. N. Darling (1950), Carl D. Shoemaker (1951), Olaus J. Murie (1952), Ira N. Gabrielson (1953), Harold Titus (1954), Clarence Cottam (1955), Hoyes Lloyd (1956), C. R. Gutermuth (1957), E. R. Kalmbach (1958), Ernest F. Swift (1959), Enrique Beltrán (1960), and Walter P. Taylor (1961).

In 1951, in conformity with a unanimous vote of the members of the Wildlife Society, Mrs. Aldo Leopold was presented the medal honoring her distinguished husband.

PUBLICATION AWARDS

In 1940 a committee was appointed to recommend the granting of awards to authors of outstanding papers in the field of wildlife ecology and management. This award (an appropriately inscribed scroll) is bestowed at annual meetings of the Society and involves recognition of papers which usually appeared during the previous calendar year. Originally the papers so recognized were restricted to what had been termed "terrestrial wildlife." No award was bestowed when the Committee did not consider any published work of the previous year worthy of such distinction.

It became apparent to subsequent committees that commendable publications in the field of fisheries were being neglected. This was corrected in 1951 by the granting of a similar award for an outstanding contribution to the literature of fishery ecology and management. Two years later the important field of conservation education was also given full recognition in the award program. As was expected the committee in charge found it difficult in some years to settle on one contribution in each category, whereupon dual awards were bestowed. A list of papers receiving honorable mention frequently was appended to the Award Committee's report.

In the following table of awards so far bestowed the dates in the left-hand column refer to the year when the award was bestowed by the Society; the year of publication appears in the citation. To indicate the categories of terrestrial wildlife, fishery ecology and management, and conservation education, the citations are preceded, respectively, by the letters T, F, and CE, in parentheses.

WILDLIFE SOCIETY PUBLICATION AWARDS

1941 (T) Paul L. Errington, Frances Hamerstrom, and F. N. Hamerstrom, Jr. The great horned owl and its prey in north-central United States. Iowa State Coll. Agr. and Mech. Arts, Exp. Sta. Res. Bull. 277:759–850, 1940.

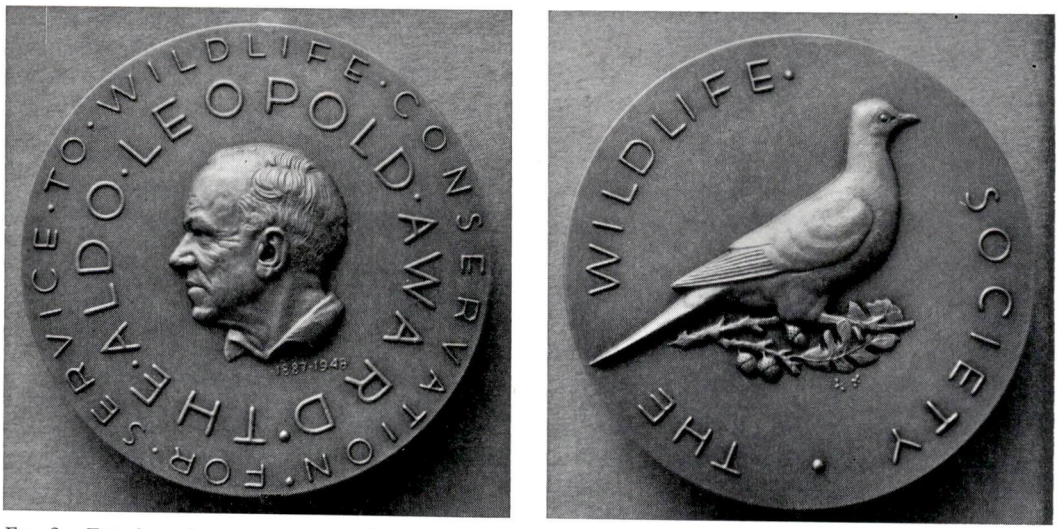


FIG. 3. THE ALDO LEOPOLD AWARD. The Aldo Leopold Award, the highest honor bestowed by the Wildlife Society in recognition of "service to wildlife conservation," was designed by Gifford MacG. Proctor and struck off in bronze by The Medallic Arts Co. of New York. The design, in bold relief, is shown here in about 9/10 natural size. An appropriate inscription, indicating the recipient, appears on the edge of the medal.

1942 (T) Adolph Murie. Ecology of the coyote in the Yellowstone. Fauna of the National Parks of the United States. Cons. Bull. No. 4, U. S. Dept. of the Interior, xii + 206pp., 1940.

1943 No award

1944 (T) Henry S. Mosby and Charles O. Handley. The wild turkey in Virginia: its status, life history and management. Va. Comm. Game and Inland Fish.: xx + 281pp., 1943.
(T)Richard Gerstell. The place of winter feeding in practical wildlife management. Pa. Game Comm. Res. Bull. No. 3:121pp., 1943.

1945 (T) H. Albert Hochbaum. The canvasback on a prairie marsh. The Am. Wildl. Inst., Wash., D. C.: xii + 201pp., 1944.
(T) Durward L. Allen. Michigan fox squirrel management. Mich. Dept. Cons., Game Div. Publ. 100:404pp., 1943.

1946 (T) W. L. McAtee (editor). The ring-necked pheasant and its management in North America. The Am. Wildl. Inst., Wash., D. C.: xii + 320pp. 1945.

1947 (T) Paul L. Errington. Predation and vertebrate populations. Quart. Rev. Biol., 21(2):144–177 and 21(3):221–245, 1946.

1948 (T) Gardiner Bump, Robert W. Darrow, Frank C. Edminster, and Walter F. Crissey. The ruffed grouse, life history, propagation, management. New York State Cons. Dept.: xxxvi + 915pp., 1947.

1949 (T) Arthur S. Einarsen. The pronghorn antelope and its management. The Wildl. Mgmt. Inst., Wash., D. C.: xvi + 238pp., 1948.

1950 No award.

1951 (T) Charles W. Schwartz and Elizabeth Reeder Schwartz. The game birds in Hawaii. Board of Commissioners of Agriculture and Forestry, Territory of Hawaii: 168 pp., 1949.
(F) F. E. J. Fry. Statistics of a lake trout fishery.

1952 (T) Olaus J. Murie. The elk of North America. The Stackpole Co., Harrisburg, Pa., and The Wildl. Mgmt. Inst., Wash., D. C.: 376pp., 1951.
(F) Paul H. Eschmeyer. The life history of the walleye (*Stizostedion vitreum vitreum*) in Michigan. Bull. No. 3, Mich. Inst. Fish. Res., 1950.

1953 (T) Robert L. Patterson. The sage grouse in Wyoming. Sage Books, Denver, Colo.: xxiv + 341pp., 1952.
(F) Hardin F. Taylor. Survey of marine fisheries of North Carolina (editor); and Economics of the fisheries of North Carolina, pt. 3, Survey of marine fisheries of North Carolina, 1951.

1954 (T) Carl B. Koford. The California condor. Natl. Audubon Soc. Res. Rept. No. 4, xiii + 154pp., 1953.
(F) Herbert S. Davis. Culture and diseases of game fishes. Univ. Calif. Press, 1953.
(CE) Charles Schwartz and Jack Stanford. Bobwhite through the year (motion picture); and Whirring wings, the bobwhite quail in Missouri (booklet). Missouri Cons. Comm., 96pp., 1952.

1955 (T) Allen W. Stokes. Population studies of ring-necked pheasants on Pelee Island, Ontario. Tech. Bull. (Wildlife series No. 4), Ontario Dept. of Lands and Forests, Toronto, Canada. 154pp., 1954.
(F) William E. Ricker. Stock and recruitment. J. Fish. Res. Bd., Canada, 11(5):559–623, 1954.
(CE) Ted S. Pettit. Conservation good turn (Boy Scout program) 1954, and
Durward L. Allen. Our Wildlife Legacy. Funk and Wagnalls Co., N. Y., x + 422pp., 1954.

1956 (T) Lyle K. Sowls. Prairie ducks: a study of their behavior, ecology and management. The Stackpole Co., Harrisburg, Pa. and The Wildl. Mgmt. Inst., Wash., D. C., xii + 193pp., 1955.
(F) Leo Shapovalov and Alan C. Taft. The life histories of the steelhead rainbow trout *Salmo gairdneri gairdneri* and silver salmon *Oncorhynchus kisutch*. Calif. Fish and Game Bull. 98: 1–375, 1954.
(CE) Ralph A. MacMullan and Oscar Warbach. The life and times of Michigan pheasants. Game Div., Mich. Dept. Cons., 63pp., 1954; and

(CE) Benjamin Draper and Earl S. Hearld. Science in action. (Television program produced live in California, 39 weeks of the year.) Calif. Acad. Sci.

1957 (T) H. Albert Hochbaum. Travels and traditions of waterfowl. Univ. Minn. Press, xii + 301pp., 1955.
(F) Louis A. Krumholz. Observations on the fish populations of a lake contaminated by radio-active wastes. Am. Mus. Nat. Hist., Bull. 110(4):281–367, 1956.

1957 (CE) Michael Hudoba. Report from Washington (a monthly presentation in *Sports Afield*); and New York Sportsmen's Conservation Workshop, Cornell University.

1958 (T) G. A. Ammann. The prairie grouse of Michigan. Game Div., Mich. Cons. Dept., 200pp., 1957; and
F. N. Hamerstrom, Jr., Oswald E. Mattson, and Frances Hamerstrom. A guide to prairie chicken management. Tech. Wildl. Bull. 15, Wisc. Cons. Dept., 128pp., 1957.
(F) R. Weldon Larimore. The ecological life history of the warmouth (Centrarchidae). Bull. Ill. Nat. Hist. Surv., 27(1):1–83, 1957.
(CE) David A. Arnold and Oscar Warbach. Red foxes of Michigan. Mich. Dept. Cons., 48pp., 1956.

1959 (T) Howard L. Mendall. The ring-necked duck in the northeast. Univ. Maine Bull. Vol. 60, No. 16, xv + 317pp., 1958.
(F) Milton B. Trautman. The fishes of Ohio. Ohio State Univ. Press, xvii + 683pp., 1957; and
Raymond J. H. Beverton and Sidney J. Holt. On the dynamics of exploited fish populations. Ministry of Agri., Fisheries and Food; Fish. Investigations, ser. 2, Vol. 19. Her Majesty's Stationery Office, London, 1957.
(CE) Fred J. Schmeeckle. For developing a model conservation program at the Wisconsin State College, begun in 1945.

1960 (T) A. Starker Leopold. Wildlife of Mexico. Univ. Calif. Press, Berkeley, Calif., xiii + 568pp., 1959.
(F) William E. Ricker. Handbook for computations for biological statistics of fish populations. Bull. Fish. Res. Bd. of Canada, No. 119, 300pp., 1958.
(CE) Richard W. Westwood. For work of the nature study society and the establishment and growth of the International Union for the Protection of Nature (now Int. Union for Conservation) and as editor of *Nature Magazine*.

1961 (T) Helmut K. Buechner. The bighorn sheep of the United States, its past, present and future. Wildl. Monograph No. 4, 174pp., 1960; and
(T) Robert S. Dorney and Cyril Kabat. Relation of weather, parasitic diseases and hunting to Wisconsin ruffed grouse populations. Tech. Bull. No. 20, Wisc. Cons. Dept., 64pp., 1960.
(F) Kenneth E. F. Watt. Studies on population productivity, II. Factors governing productivity in a population of smallmouth bass. Ecological Monog. No. 29:367–392, 1959.
(CE) Byron S. Asbaugh and Muriel Beuschlein. Things to do in science and conservation. Sponsored in 1960 by the Conservation Education Assoc. in cooperation with the Am. Nature Assoc.

AFFILIATION AND COOPERATION

The concept of affiliation and cooperation with other societies having related objectives has been ever present in the minds of those guiding the destiny of the Wildlife Society. Affiliation, however, does have connotations other than merely sharing common interests. This fact was brought out in the formative stage of the organization when the Society of Wildlife Specialists, the precursor of the present Society, was confronted with the decision of choosing between joining some functioning organization or embarking on the uncharted sea of wildlife management. The matter was the subject of a conference in the fall of 1936 between members of the Society of Wildlife Specialists (King, Leopold, and Errington) and representatives of the Ecological Society with which affiliation had been suggested. Though there still were some differences of opinion, the issue was settled emphatically in St. Louis on February 28, 1937 when the "wildlifers" voted 71 to 2 to "maintain an independent status, unaffiliated with any existing group." The subsequent growth and present stature of the Wildlife Society attest to the wisdom of that decision.

Nevertheless the president appointed at that time a committee to arrange "friendly cooperation with the Ecological Society on matters of common interest." That expression has reflected the nature of affiliation of the Wildlife Society with numerous organizations during the first quarter century of its existence. Currently it maintains representation with the following: The American Association for the Advancement of Science, The American Committee for International Wildlife Protection, The International Council for Bird Protection, The International Science Foundation, The International Union for the Conservation of Nature and Natural Resources, The International Wildlife Biologists' Congress, The National Research Councl, The National Watershed Congress, The Natural Resources Council of America, and The Waterfowl Advisory Committee. In 1957 the A.A.A.S. changed the status of the Wildlife Society from an associate to an affiliate in its organization with the privilege of representation on its Council. The Wildlife Society also has been represented and members have participated in other international conferences. Included in these were The Inter-American Conference on Conservation of Renewable Natural Resources held in Denver, Colo. in 1948 and the Sexta Conferencia Panamericana de Directores de Sanidad held in Mexico City in that same year.

A highly satisfactory and mutually beneficial form of affiliation has existed between the Wildlife Society and The Wildlife Management Institute (formerly The American Wildlife Institute) of Washington, D. C. The Institute and the Society agreed, prior to the Third National Wildlife Conference held in Baltimore, that the Society would prepare and administer the technical program. That arrangement still prevails, and, as a practical result thereof, the annual meetings of the Wildlife Society have been held in conjunction with the conferences which now bear the name of North American Wildlife and Natural

Resources Conferences. Thus, since its founding, the annual meetings of the Wildlife Society have been held in the following cities.

St. Louis, Mo.	1937	San Francisco, Calif.	1950
Baltimore, Md.	1938	Milwaukee, Wis.	1951
Detroit, Mich.	1939	Miami, Fla.	1952
Washington, D. C.	1940	Washington, D. C.	1953
Memphis, Tenn.	1941	Chicago, Ill.	1954
Toronto, Canada	1942	Montreal, Canada	1955
Denver, Colo.	1943	New Orleans, La.	1956
Chicago, Ill.	1944	Washington, D. C.	1957
No conference in	1945	St. Louis, Mo.	1958
New York City	1946	New York City	1959
San Antonio, Tex.	1947	Dallas, Tex.	1960
St. Louis, Mo.	1948	Washington, D. C.	1961
Washington, D. C.	1949	Denver, Colo.	1962

More recently the Society has become an affiliate of The American Institute of Biological Sciences, thereby availing itself in January 1962 of the business management and redactory services of that organization.

Repeatedly discussed has been the matter of closer affiliation (possibly amalgamation) of the Wildlife Society and The American Fisheries Society. The subject was brought up as early as the second annual meeting of the Wildlife Society (1938) and it has been a recurring topic of informal discussion among members of each group. Perhaps some future historian of the Society will record the union of these two societies.

THE GREAT DEBATE

Compilers of the Society's Constitution were faced with the problem of choosing between a highly organized professional organization on the one hand, with a membership restricted to those competent in wildlife management and research, and an organization in which such requirements were less exacting and thus open to a wider range of public participation. To avoid serious division a middle course was adopted involving, however, a dual form of membership. Under it, one class (active) was limited by prerequisites which would reflect professional proficiency and the other (associate) would be open to those with less technical training and experience. Such qualifications, plus the degree of professionalism which should be built into the Society's structure and objectives, have been the subject of the "great debate" for a full quarter century.

Your Committee properly and thankfully refrains from becoming a participant in this cleavage of ideas. Yet it cannot wholly ignore a matter which has been a stirring and fruitful source of copy for the NEWSLETTER and has caused many annual meetings to extend far beyond the midnight hour. Perhaps a few selections from previously expressed comments will best tell the story. In the forceful words of one who was opposed to a split membership and "over-professionalization" we learn:

"It always seemed to me that a professional standard was like a good name. If we think and act and produce like professionals, we have it, and no one can take it away from us. It inheres in the quality of our works, and thus in a field for individual, rather than mass, action. The science behind wildlife management is as complex a brand of biology as anyone is likely to deal with; if we serve that science with distinction, there won't be any anxious questions. I don't think our professional standing will be affected by the results of any voting or action by committees or councils.

"I realize now that it has been several years since we haggled our way out of the membership classification system. I thought we had learned our lesson and were through with it. I know several fine biologists who were thoroughly disgusted by what happened when their qualifications were being passed upon by peers. It has been difficult to get them to participate in Society affairs ever since. . . .

"During the past few years I have made deliberate efforts to add to our membership some of the distinguished leaders among the Nation's sportsmen. Some have no formal academic training in the wildlife field. We have among us administrators, information specialists, and management people who have had the benefit of self-training in biological science. Their accomplishment frequently is of high order. Personally I have always felt complimented when an out-and-out non-professional had the interest to pay his money, receive our publications, attend our meetings, and expose himself to what we had to offer. Isn't this the easy way to accomplish one of our jobs? Are we degraded by such support?

"Fancy definitions as to what we are and what we ought to be leave me a bit cold. If our objective is the scientific management of wildlife resources for the benefit of mankind (or something like that), then we don't have much time for organizational complexities, regional schisms, segregation systems, or professional posing."

An opposing viewpoint has been expressed by one of our esteemed members to the north. From him we hear: "there seem to be two roads we can follow,—and there can be no straddling the fence. If we are to become a professional society, our objectives are not merely to press for personal gain, but rather to establish a code of ethics, qualifications for membership and the reputation in society generally for high standards of purpose and accomplishment. From these should arise public acceptance leading to greater advances in the wildlife field. Professionalism, in its best sense, will mean acceptance of self-discipline, some group discipline and some responsibility to the community at large for the actions of our members. The alternative is to remain a scientific society, to which every person with an interest in the field may belong. . . . It cannot speak with too strong a voice because it lacks homogeneity; it cannot discipline because it has no standards of membership; it can have a code of ethics but this must be largely the expression of a pious hope."

When in 1958 the Minnesota Section of the Society proposed a course of action aimed at enhancing the professional stature of the Society, the subject of professional standards and classes of members again came to the front. In an explanatory statement the feeling was expressed that "the Society is now ready for professional standards, — this is essential to a strong profession. This should be accomplished through classes of membership because interested prospective members, who may not qualify professionally, should not be ruled out, nor is it equitable to expect "affiliate" members to pay full dues. The Society is strengthened by a diversified membership and the adoption of standards should not mean the exclusion of non-professional personnel. These are separate questions, — one relates to professional standards as such, not as a prerequisite to membership. The second relates to membership categories, one of which may be contingent upon certain standards."[3]

And so we see that the "great debate" still continues down to the present day and possibly beyond. It has taken on additional aspects apart from the points originally at issue. To that degree it reflects, regardless of viewpoint, a wholesome, growing interest in the welfare and future of the Society and the wildlife profession.

With that confident expectation, your Committee brings to a close its interpretation of the Wildlife Society's first quarter century. — W. L. McATEE (deceased), TRACY I. STORER, E. R. KALMBACH, Chairman, Committee on the History of the Wildlife Society. March 11, 1962, Denver, Colorado.

[3] An ironical memento of the early classification of members was unearthed in a perusal of the files of the late Aldo Leopold. There, duly signed by the treasurer of the Society, was a receipt for $3 as payment for dues as an "associate" member.

APPENDIX

WILDLIFE SOCIETY OFFICERS, EDITORS, AND REGIONAL REPRESENTATIVES, 1937–62

WILDLIFE SOCIETY OFFICERS AND EDITORS, 1937–62

Year	President	Vice-President	Secretary	Treasurer	Editor, J.W.M.
1937–38	Bennitt, Rudolf	Dixon, J. S.	Cahalane, V. H.	Chase, W. W.	McAtee, W. L.
1938–39	Allen, A. A.	Langlois, T. H.	Cahalane, V. H.	Chase, W. W.	McAtee, W. L.
1939–40	Leopold, Aldo	Hubbs, C. L.	Cahalane, V. H.	Chase, W. W.	McAtee, W. L.
1940–41	Cahalane, V. H.	Needham, P. R.	Edminster, F. C.	Chase, W. W.	McAtee, W. L.
1941–42	Gerstell, Richard	Taylor, W. P.	Edminster, F. C.	Yeager, L. E.	McAtee, W. L.
1942–43	Needham, P. R.	Hendrickson, G. O.	Bennett, L. J.	Yeager, L. E.	Storer, T. I.
1943–44	Taylor, W. P.	Murie, O. J.	Bennett, L. J.	Wade, D. E.	Storer, T. I.
1944–45	Murie, O. J.	Yeager, L. E.	English, P. F.	Wade, D. E.	Storer, T. I.
1945–46	Yeager, L. E.	Swanson, G. A.	English, P. F.	Wade, D. E.	Storer, T. I.
1946–47	English, P. F.	Wade, D. E.	Bennett, L. J.	Dalke, P. D.	Storer, T. I.
1947–48	Bennett, L. J.	Storer, T. I.	Petrides, G. A.	Dalke, P. D.	Mills, H. B.
1948–49	Storer, T. I.	Cowan, I. McT.	Petrides, G. A.	Dalke, P. D.	Mills, H. B.
1949–50	Cottam, Clarence	Kalmbach, E. R.	Aldous, S. E.	Baker, M. S.	Mills, H. B.
1950–51	Cowan, I. McT.	Rasmussen, D. I.	Aldous, S. E.	Gresh, W. A.	Swanson, G. A.
1951–52	Chase, W. W.	Leedy, D. L.	Glazener, W. C.	Gresh, W. A.	Swanson, G. A.
1952–53	Leedy, D. L.	Dalke, P. D.	Glazener, W. C.	Cheatum, E. L.	Swanson, G. A.
			Executive Secretary		
1953–54	Clarke, C. H. D.	Glazener, W. C.	Petrides, G. A.; Leedy, D. L.		Hewitt, O. H.
1954–55	Swanson, G. A.	Evans, T. R.	Leedy, D. L.		Hewitt, O. H.
1955–56	Leonard, J. W.	Cheatum, E. L.	Leedy, D. L.		Hewitt, O. H.
1956–57	Allen, D. L.	Gottschalk, J. S.	Leedy, D. L.		Hewitt; Hickey
1957–58	Leopold, A. S.	Miller, R. B.	Leedy, D. L.; Linduska, J. P.		Hickey, J. J.
1958–59	Dambach, C. A.	Hewitt, O. H.	Linduska, J. P.		Hickey, J. J.
1959–60	Dambach, C. A.	Mosby, H. S.	Linduska, J. P.		Hickey; Kirkpatrick, C. M.
1960–61	Cheatum, E. L.	Berryman, J. H.	Linduska, J. P.; Fredine, C. G.		Kirkpatrick, C. M.
1961–62	Cheatum, E. L.	Berryman, J. H.	Fredine, C. G.		Kirkpatrick, C. M.

Editors of WILDLIFE SOCIETY NEWS (and its predecessors): L. A. Luttringer, Jr. (1939–41), W. R. Van Dersal (1941–42), D. E. Wade (1942–43), R. E. Trippensee and V. H. Cahalane (1944–45), C. A. Dambach (1945–48), H. S. Mosby (1948–55), and T. R. Evans (1955–).

Editors of WILDLIFE MONOGRAPHS: W. O. Nagel (1958), L. A. Krumholz (1958–).

TABLE 2.—STATEMENT OF RECEIPTS AND DISBURSEMENTS, 1961

RECEIPTS

Bank balance, Bank of Bethesda and Savings, February 28, 1961			$62,457.25
Receipts (deposited to checking account, Bank of Bethesda)			
Dues, annual	$ 4,222.31		
Subscriptions	1,918.00	$ 6,140.31	
Sales of publications (back issues, etc.)			
JOURNAL OF WILDLIFE MANAGEMENT	1,147.50		
WILDLIFE MONOGRAPHS and indices	643.25		
Techniques Manual	4,604.50	6,395.25	
Reimbursements			
WILDLIFE MONOGRAPH No. 5	1,809.67		
WILDLIFE MONOGRAPH No. 6	2,225.00		
WILDLIFE MONOGRAPH No. 7 (plus previous payment of $1,500 by Sport Fishing Institute)	700.00		
JOURNAL (for extra pages and tables)	161.84	4,896.51	
Miscellaneous (overpayments, etc.)	131.90	131.90	
Receipts (deposited to savings accounts)			
Life Member payments	2,950.00		
Dividends and interest	2,141.52	5,091.52	
TOTAL RECEIPTS			$22,655.49
			$85,112.74

DISBURSEMENTS

(from Bank of Bethesda account)

Publication costs (printing and mailing)			
JOURNAL (Vol. 25, Nos. 2, 3, and 4)	$ 8,620.20		
WILDLIFE SOCIETY NEWS (Nos. 76 to 79)	1,434.51		
WILDLIFE MONOGRAPHS (Nos. 5, 6, and 7)	4,691.38		
Techniques Manual (reprinting)	2,047.88	$16,793.97	
Editorial costs			
JOURNAL (assistance to Editor)	684.75		
" (travel, postage, etc.)	423.92		
" (Editor's honorarium)	500.00	1,608.67	
WILDLIFE MONOGRAPHS (assistance to Editor)	570.00		
" " (expenses, postage, etc.)	200.00		
" " (Editor's honorarium)	250.00	1,020.00	
NEWS Editor's honorarium	150.00	150.00	
Maintenance of address stencils, misc. mailings	1,173.55	1,173.55	
Executive Secretary's honorarium	799.92		
Clerical assistance	1,026.25		
Travel and meeting costs	30.65		
Mimeographing and mailing	247.65	2,104.47	
AIBS charge for business services in 1961	285.34	285.34	
Transfer of 1962 dues and subscriber receipts to Riggs National Bank account	1,944.00	1,944.00	
General supplies and printing (ballots, dues notices, stationery, reprints, postage, etc.)	1,255.36		
Annual Meeting expenses	98.21		
Affiliation dues (Natural Res. Council, 1961)	50.00		
Miscellaneous (refunds, bank charges, audit)	136.09	1,539.66	
TOTAL DISBURSEMENTS	$26,619.66	$26,619.66	$26,619.66
Bank balance (Bank of Bethesda and Savings), 2/28/62			$58,493.08

Minneapolis-Honeywell Regulator Company

Electronic Data Processing Division

60 WALNUT STREET • WELLESLEY HILLS 81, MASSACHUSETTS • CEdar 5-7450

February 22, 1963

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

Dear Mr. Olsen:

This is to acknowledge receipt of your letter of February 15, 1963 in which you inquired about the licensing rights that might be available for a tape drive system using a vacuum capstan.

Honeywell has issued a number of patents covering various features of pnuematic tape drives. I will be glad to sit down with you and review this general matter of licensing. My schedule for the next two weeks is very full and, consequently, I would like to suggest a meeting during the week of March 11th.

Unless I hear from you to the contrary, I will plan on calling you on March 11th, to see if we can set up a date for a meeting during that week.

Sincerely yours,

Henry L. Hanson

Henry L. Hanson
Counsel

HLH:my

Information International, Main Street, Building 6, Maynard, Massachusetts, TWinoaks 7-9159, WOodward 9-7371

February 22, 1963

Mr. Kenneth Olsen, President
Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Dear Ken:

We would like to propose a study to compare and evaluate the characteristics of the computer systems offered by various manufacturers and to relate these to Digital Equipment specifications for proposed new equipment. (By "system" we mean the overall package - machine, ancilliary equipment, programs, support, service, documentation.) This study would be carried out primarily by myself and Ben Gurley over the following three month period. In carrying out this work we would begin by reviewing initially the format and content of computer surveys such as those published by Auerbach (Bureau of National Affairs) and Adams Associates. We would then design an amplified and more inclusive format for a study specifically directed at the special interests of the Digital Equipment Corporation.

We would then conduct intensive research with computer manufacturers and users. This research would be aimed, first, at developing specific and detailed information regarding presently available computers. Second, for each such computer we would submit a detailed description of what we consider to be its good and bad features, as well as other information regarding each computer which we consider to be significant and relevant to DEC's purposes.

Thus Part I of our report would consist of a detailed description of common core technical information for each computer. Part II would consist of a more general engineering appraisal for each computer based on the experience of Ben and myself in the fields of computer design and programming. It will include an analysis of the relative marketing potential for each computer, taking into consideration the nature of equipment users, the incremental manufacturing cost of the equipment, and other relevant factors.

Finally, we would summarize the results of our research by describing characteristics which we feel would be most valuable in

the design of new items of computer equipment. (We would also describe features or characteristics which we feel should be avoided.) In effect, then, the results of our research would be to establish general specifications for the design of new computer equipment.

In conclusion, we feel that such a study would be a valuable means for I.I.I. to contribute its ideas in the area of computer design to the development of new DEC hardware. We would estimate that the total cost of such a study would be approximately $10,000. Ben and I would be very happy to discuss with you in more detail, at your convenience, the possibility of our performing this work for DEC.

Yours very truly,

INFORMATION INTERNATIONAL, INC.

Edward Fredkin

Edward Fredkin
President

EF/mcs

KHO

DATA TRENDS INC

R. W. HUGHES
PRESIDENT

DATA TRENDS, INC.

1259 RT. 46, PARSIPPANY, N. J. TEL 201-334-1515

19 February 1963

Mr. Kenneth Olsen
President
Digital Equipment Corporation
Maynard, Massachusetts

Dear Ken:

It was nice to talk to you the other day and also interesting to hear of the new 16,000 word memory with its attractive low price.

We are all quite enthused at the prospect of working with DEC and believe that the combination of our talents will permit a very attractive package for quite a few customers. I have - in fact - already contacted one customer and the response was quite favorable. Since this customer is interested in an early delivery, I would like to meet with you to define - between ourselves - the split of responsibilities so that we are clear from the beginning on this point. As I believe I mentioned, I plan to attend the ARD Annual Meeting on March 6th and also plan to be in Boston either the day before or the day after. If you are free on one of these days, I suggest that I come to DEC and we can discuss the above subject. Why don't you select the day convenient for you and drop me a line?

As a preliminary thought on the split of responsibilities, our feeling is that a logical arrangement is for DEC to provide the following:

1. The PDP-1 equipment.
2. Manuals covering the equipment supplied, including any drawings necessary for maintenance.
3. To ship, install, and check out the equipment from an equipment operating viewpoint.

On the other hand, DTI would furnish:

1. The marketing of the system.
2. System analysis and system engineering.
3. All programming.
4. System checkout and final system acceptance.
5. System manuals and system information.

I will be looking forward to seeing you and Andy.

With best regards,

R. W. Hughes

RWH/adk

THE OMEGA ELECTRONICS CORPORATION

10017 NORTH 19 AVENUE PHONE 943-7217 CABLE OMEGA PHOENIX 21, ARIZONA

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

Dear Mr. Olsen:

Omega is for sale! And along with it our profit potency.

Briefly, Omega's future profit is assured by public demand for the only proven line of all transistor high fidelity components being manufactured today. Our sophisticated solid state circuitry, which has strong patent protection, is two years in advance of the research efforts of all other high fidelity manufacturers.

Because we lack sufficient capital to take advantage of the market that is assured to us, the company presents to you an outstanding opportunity to realize profits that are far disproportionate to the investment required. We have financed the speculative period, now you can take advantage of our investment in research and development and also obtain an attractive tax advantage.

Your expression of interest will be answered immediately with any information you may desire. Better still, come to Phoenix and look us over.

Very sincerely,

THE OMEGA ELECTRONICS CORPORATION

R. L. Scott, President

January 17, 1963

RLS/j

the omega

FRESH NEW STYLING NEW CONTROL NEW PERFORMANCE

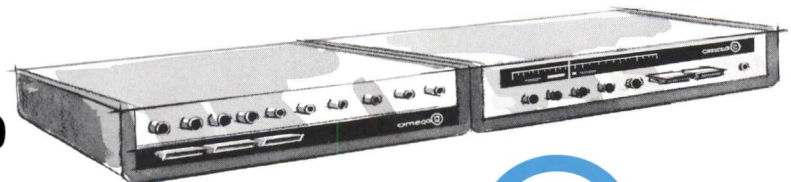


FOR THE FIRST TIME an all-transistor 60 watt STEREO-AMPLIFIER

. . . so carefully engineered and crafted, it provides you with flawless sound far beyond the normal hearing range.

. . . so performance proved, it carries an unconditional 2-year guarantee!





The Omega 1600 all-transistor Amplifier is the perfect companion for the Omega 1650 all-transistor FM/Multiplex Tuner. Together they provide the most outstanding high fidelity performance available anywhere.

"The PIONEER in Transistorized High Fidelity Equipment"

omega ELECTRONICS CORPORATION

10017 North 19th Avenue • Phone 943-7217

Phoenix 21, Arizona

THE ALL-TRANSISTOR OMEGA STEREO AMPLIFIER

. . . a product of the West's sophisticated electronics industry

The Omega amplifier represents a major "breakthrough" in electronic design. Its all-transistor circuitry provides a lasting new level in listening enjoyment.

Exclusive circuitry developed by Omega, results in audio performance never before available with transistor circuitry. The Omega amplifier offers you the performance of the finest tube-type equipment plus all the big listening and maintenance advantages of transistors.

EXCLUSIVE FEATURES

1. IMPROVED SOUND QUALITY —

A. The Omega amplifier has an extremely flat frequency characteristic and delivers full output power over a frequency range extending considerably beyond audible limits. Direct coupling and degenerative damping provide an ideal output signal to drive any speaker. The best speakers are free to perform with unhampered brilliance. Economy speakers exhibit surprising new quality due to elimination of ringing and electrical resonance.

B. NON MICROPHONIC — unlike tubes, critical electronic sections of transistors do not tend to vibrate and produce bothersome microphonic noise.

C. TUBE HEATER HUM — eliminated.

2. CONSTANT PERFORMANCE LEVEL — Your Omega amplifier will maintain its original high-performance level throughout its long life. Transistors exhibit almost no change with age. Gradual performance deterioration in the Omega amplifier is eliminated.

3. LONGER MAINTENANCE-FREE LIFE — Your all-transistor Omega amplifier will have a far longer, service-free life than tube-type units for two big reasons:

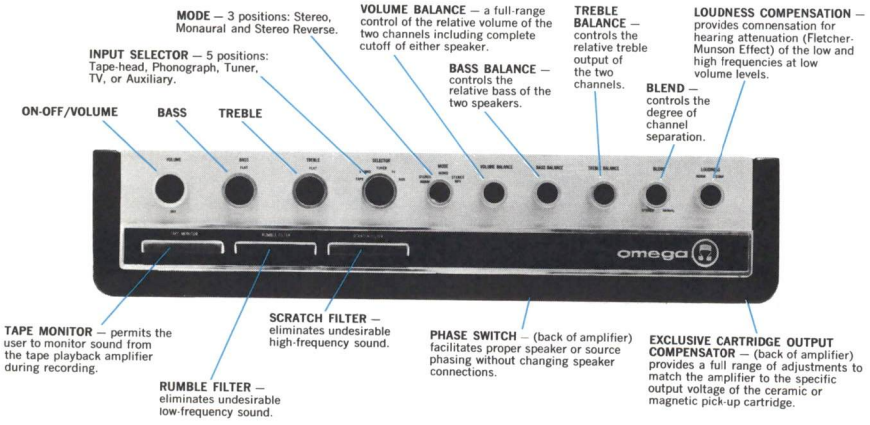
first — transistors have an indefinite life and do not deteriorate as do tubes.

second — transistors generate a greatly reduced amount of heat . . . and heat is the major source of amplifier performance deterioration and failure. Cooler operation reduces component aging (capacitors, resistors, etc.).

4. UNIQUE SOUND CONTROL — The Omega provides master Bass and Treble controls which — for the first time — allow a simple simultaneous balanced adjustment in both channels. It also provides independent Balance controls for both Bass and Treble. These two Balance controls, plus Mode, Volume Balance, Blend and Loudness provide complete flexibility and allow "ultra-fine" adjustments for the most sensitive listener.

5. CARTRIDGE OUTPUT COMPENSATOR — Another advanced feature of the Omega amplifier is the exclusive Cartridge Output Compensator — which enables you to adjust the amplifier to the specific output voltage of your ceramic or magnetic pick-up cartridge. This allows all front panel controls to operate over their optimum range regardless of cartridge output level.

6. MODERN LOW SILHOUETTE — The all-transistorized Omega amplifier looks as modern as it is. Its low, smart lines are at home with any decor. Only 3 inches high, 15½ inches wide, 9 inches deep.



THE SOUND ADVANTAGES OF OMEGA'S ALL-TRANSISTOR "QUADRA-POWER" CIRCUIT

The "Quadra-Power Circuit"* is an exclusive Omega development. This advanced concept employs four power transistors per channel in a basic bridge configuration permitting symmetrical operation and uniform distribution of power dissipation. A unique difference amplifier allows feedback from the symmetrical load to the input of the single ended driver. The result is an amplifier of the most advanced design . . . extremely linear, powerful, with very low distortion and a frequency range extending well beyond normal hearing.

*Copyright 1961 Patent Pending

SPECIFICATIONS

Power Supply — 117 VAC 60 Cycles

Power Output — 30 watts (IHFM Music Rating) per channel stereo - 60 watts monaural

Frequency Range — 18-20,000 CPS ±0.3 db at full output

Harmonic Distortion — Less than 1%

Intermodulation Distortion — Less than 1%

Hum & Noise — 75 db below full output at 10 MV sensitivity — All controls in flat position — Rumble & scratch filters nonoperative

Dimensions — 3" high, 15½" wide, 9" deep

Weight — 12 lbs.

Sensitivities:
- Mag Phono - 4 MV
- Ceramic Phono - 0.25 Volts
- Tape - 3.5 MV
- T.V., Aux., Tuner - 0.30 Volts

TRANSISTOR AND DIODE COMPLEMENT

8 PNP — diffused base high frequency power transistors
7 PNP — medium power transistors
4 NPN — small signal transistors
12 PNP — small signal transistors
4 — bias stabilizing germanium diodes
2 — silicon rectifiers 3 AMP
1 — zener diode voltage regulator

For complete information, contact your local Omega dealer or write directly to Omega

Subject to such changes or improvements as the company may hereafter deem necessary.

"The PIONEER in Transistorized High Fidelity Equipment"
omega ELECTRONICS CORPORATION
10017 North 19th Avenue • Phone 943-7217
Phoenix 21, Arizona

new from **omega**



ALL-TRANSISTOR FM/MULTIPLEX TUNER

For the first time, the flawless FM/Stereo reception that music lovers have been promised and have long awaited is now a reality. The Omega 1650 FM/Multiplex Tuner outperforms all present day equipment . . . gives you laboratory-perfect reproduction even under difficult reception conditions.

The Omega 1650 is not a reworked monaural set! It's a spectacular design achievement destined to become the standard of the industry. Omega engineers developed the 1650 with one objective in mind — the finest Stereo performance attainable. New circuit concepts and the very latest electronic components were utilized to attain this goal. The result — unmatched clarity and channel separation even under marginal signal conditions.

Since the Omega 1650 Tuner is fully transistorized, its original peak performance will last for years. An unconditional 2 year warranty is indicative of its precision quality.

Hear and compare it today. Write for the name of your nearest Omega dealer.



An Amplifier, Too!

The Omega 1650 all-transistor FM/Stereo Tuner is the perfect companion for the Omega 1600 all-transistor 60 Watt Stereo-Amplifier. Together they provide the most outstanding high fidelity performance available anywhere.

"The PIONEER in Transistorized High Fidelity Equipment"

omega ELECTRONICS CORPORATION

10017 North 19th Avenue • Phone 943-7217
Phoenix 21, Arizona

THE ALL-TRANSISTOR OMEGA FM/MULTIPLEX TUNER

. . . a product of the West's sophisticated electronics industry

Now, out of the communications know-how that permits us to pull in selected radio signals from millions of miles in space, comes the first truly new, space-age tuner for the best in home FM stereo reception.

Exclusive ORTHO-PHASE* circuitry, developed by Omega, eliminates deficiencies of vacuum tube equipment . . . gives greater reliability over a longer service-free life . . . provides for sharp, clear-cut stereo channel separation even under marginal conditions . . . results in the finest instrument available for home enjoyment today.

EXCLUSIVE FEATURES

1. SUPERIOR SOUND QUALITY—

A. With a new order of sensitivity, the Omega tuner zeros in precisely on the desired channel . . . turns a deaf ear to noise . . . ensures a pure signal at the amplifier input. Coupled together with the Omega stereo amplifier—these two companions deliver a pure and powerful signal that results in brilliant high fidelity performance.

B. NON MICROPHONIC—unlike tubes, critical electronic sections of transistors do not tend to vibrate and produce bothersome microphonic noise.

C. TUBE HEATER HUM — eliminated.

2. UNDIMINISHED PERFORMANCE—Because transistors exhibit almost no change with age, your Omega tuner will maintain its original high performance level throughout its long life. We are so sure of its precision quality that an unconditional 2 year warranty goes with every Omega tuner.

3. LONGER SERVICE-FREE LIFE—There are three important reasons why your Omega tuner will have a far longer, maintenance-free life than ordinary tube-type units:

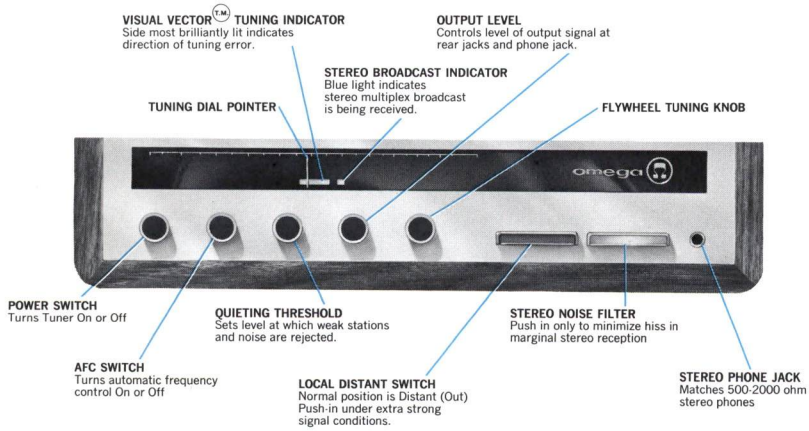
one—when properly employed in good circuit design—such as Omega's exclusive ORTHO-PHASE circuitry—transistors have an almost limitless life and do not deteriorate as tubes do.

two—heat is a major source of equipment performance deterioration and failure, but transistors generate almost no heat. The cooler operation of such active components in the circuit as transistors also reduces the aging of such passive components as capacitors and resistors.

three—only the highest quality components and military type construction methods are employed.

4. EXCLUSIVE VISUAL VECTOR* INDICATOR—The Omega tuner provides a unique light indication of the tuning process . . . permits you to "see" as well as "hear" your way into perfect tuning. It sets a new standard for facilitating fast and accurate tuning. The Omega VISUAL VECTOR INDICATOR is transistor operated to maintain the integrity and reliability of solid-state circuitry throughout. The other conventional controls and indicators normally provided on high quality FM stereo tuners are, of course, included.

5. SMART LOW SILHOUETTE—The Omega FM/Multiplex Tuner is not only modern inside, but it is smart and modern outside, too. Its smooth, clean lines and low silhouette are at home with any decor. It measures only 3 inches high, 15½ inches wide, and 9 inches deep.



CHECK THESE "SOUND" ADVANTAGES OF OMEGA'S ALL-TRANSISTOR "ORTHO-PHASE" CIRCUIT . . .

Omega's exclusive ORTHO-PHASE circuitry has resulted in an FM/Multiplex tuner that is without precedent in design concept and in performance capability. It employs 28 precision transistors, 18 high quality diodes, and 3 power rectifiers. It eliminates noise associated with unreliable vacuum tubes, and it increases the longevity and reduces the maintenance of the equipment. The advanced ORTHO-PHASE multiplex circuitry of the Omega tuner also completely eliminates phase-lock drift and attendant deterioration in channel separation. The result is optimum tuner performance.

*Trade Mark of the Omega Electronics Corporation

SPECIFICATIONS

Sensitivity (IHFM Usable)—1.8μv
Stereo Channel Separation—33 db
Distortion—.4% max.
Frequency Response (± 1 db)—15-30,000 cps (Total FM Broadcast Spectrum)
Capture Ratio—3 db
Hum—–60 db
Output Signal (100% Modulation)—.8 v
Drift—.01%
Sub Carrier Filter (Important for Tape Recording)
SCA Filter
Limiters—3

Input:
Antenna — 300 Ω balanced; 75 Ω coaxial; Built-in indoor antenna
Power—117v/60 cycles AC
Dimensions—3" high, 15½" wide, 9" deep
Weight—10½ lbs.

TRANSISTOR AND DIODE COMPLEMENT

8—HF & UHF Micro Alloy Diffused Transistors
20—PNP Medium Signal Transistors
3—Silicon Power Rectifiers
1—Zener Diode Voltage Regulator
1—Silicon Variable Capacitance Diode
9—Silicon Small Signal Diodes
9—Germanium Small Signal Diodes

For complete information, contact your local Omega dealer or write directly to Omega

Subject to such changes or improvements as the company may hereafter deem necessary.

"The PIONEER in Transistorized High Fidelity Equipment"

omega ELECTRONICS CORPORATION

10017 North 19th Avenue • Phone 943-7217
Phoenix 21, Arizona

4284 Pomona Way
Livermore, California
January 20, 1963

Mr. Ken Olson, President
Digital Equipment Corporation
146 Main Street
Maynard Massachusetts

Dear Mr. Olson:-

Eyeball Associates has been formed for the purpose of providing, to business, military and governmental agencies, fast accurate digitization of visual records. Our main service, at least in the beginning, will be that of digitizing curves and graphs. We have been developing this technique for over two years and now have a proven method of automatic curve reading, which utilizes the eyeball attachment on the PDP 1. We have successfully read and processed curves from both film and hard copy, including pictures of oscilloscope traces taken by a Polaroid Land camera. Therefore, with the successful obtaing of contracts, we will need to rent time locally on a PDP 1.

We have worked with IBM 704, 709, 7090 and 7094 computers and with your PDP 1 and find, that for eyeball purposes, your computer is capable of producing vastly superior results. We have proven that PDP 1 eyeball can consistently read curves with greater speed and more accuracy than any known manual or semi-automatic method. It is now ready for commercial and industrial use. We believe that Eyeball, Associates and D.E.C. can work together to promote this use and both can profit from this cooperation.

The PDP 1 is competitively priced, as well as reliable, and we are convinced that its outstanding sales appeal may rest in an effort to offer a visual reduction system in addition to its computational facility. The market for visual data reduction is virtually unlimited and we are confident that we can help your organization stay well ahead of any competition that develops in this field.

Ted Johnson mentioned to us that you are considering opening an office in the San Francisco area in the near future. Perhaps you are planning to make a trip to the West Coast, at which time we would like very much to make arrangements to meet with you and discuss our ideas in greater detail.

Yours truly,

Roger L. Fulton
Dr. R. L. Fulton

William P. Hyde
William P. Hyde

David C Mapes
David C. Mapes

mj
CC: Ted Johnson

CENTRAL INSTITUTE FOR THE DEAF

818 SOUTH KINGSHIGHWAY

DR. MAX A. GOLDSTEIN, FOUNDER

ORAL SCHOOL FOR DEAF CHILDREN
CORRECTION OF DEFECTS IN SPEECH
CLINICS FOR DEAFNESS AND SPEECH CORRECTION

TEACHERS' COLLEGE
RESEARCH LABORATORIES
LIP READING AND AUDITORY TRAINING

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HELEN S. LANE, PH. D., PRINCIPAL
HALLOWELL DAVIS, M. D., DIRECTOR OF RESEARCH

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CHARLES A. THOMAS
CARL TOLMAN
MR. MAHLON B. WALLACE, JR.
MRS. DAVID P. WOHL
MRS. NORMAN C. WOLFF

ST. LOUIS 10, MO.,
January 2, 1963

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

Dear Ken:

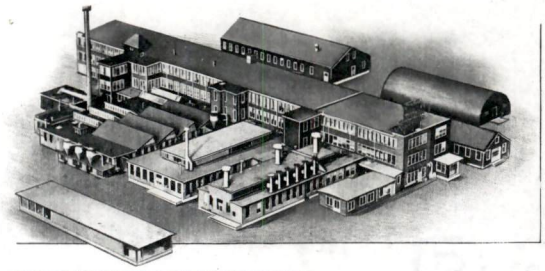
Thank you very much for the copies of the PDP Manual sent recently by your secretary. I appreciate your cooperation very much.

Sincerely yours,

Jerry

Jerome R. Cox, Jr.
Research Associate

JRC/ezl



FACTORY, NORTH ATTLEBORO, MASSACHUSETTS

FIRST UNITED *Corporation*

EXECUTIVE OFFICES: 274 MAIN STREET · WORCESTER, MASSACHUSETTS · PLEASANT 3-7230

January 7, 1963

Kenneth H. Olsen, President
Digital Equipment Corp.
146 Main Street
Maynard, Massachusetts

Dear Mr. Olsen:

Your company has been called to our attention during our search for the acquisition of a well established manufacturing firm.

We are in the unique position of being able to offer a better price than most other companies looking for expansion and diversification.

Should you be desirous of selling your plant, we would be most interested in talking this over with you.

A reply at your earliest convenience will be appreciated.

Very truly yours

FIRST UNITED CORPORATION

William Roberts
Treasurer

WR/jel

digital equipment corporation
engineering and manufacturing

MAYNARD, MASSACHUSETTS
TWINOAKS 7-8821

January 4, 1963

Mr. John Hart, Purchasing Manager
Information Systems Division
International Telephone and Telegraph
600 Industrial Avenue
Paramus, New Jersey

Dear Mr. Hart:

In reference to the meeting between ITT/ISD and DEC December 28, 1962, DEC offers the following comments:

I

Items 2, 13, and 15 - Tape Units and Tape Controls

Mr. Roland Boisvert of DEC will be at the Paramus facility Monday, January 7th, to discuss these matters.

Items 3, 4, and 5 - Tape Unit Modification Kits

These kits will be shipped to ITT by January 30, 1963.

Item 6 - Field Maintenance

Mr. Robert Beckman and Mrs. Elsa Newman of DEC will be in contact with ITT/ISD to establish closer relationships in field maintenance and programming.

Item 7 - Sense Switch Noise

3.9 MFD Capacitors have been shipped to ITT.

Item 8 - High Voltage Protection

DEC has installed power protection on ADX-8. If this arrangement is satisfactory to ITT, we will continue to install this type of cover on all future ADX machines.

Item 10 - Quality Control Reinspection

A schedule for the reinspection of ADX-1, 2, and 4 is being worked out between Mr. L. Gainey and DEC.

Item 12 - Additional AC Outlets

DEC will be installing extra AC outlets on all future PDP-1's and ADX's. ITT should make known to DEC the type of connectors and length of cable to be supplied for power connections on future machines.

Item 14 - Replacement of Defective Components

Mr. L. Gainey will supply DEC with a list of spare components required to establish a field module repair center.

II Better ITT/ISD - DEC liaison

This is covered in I Item 6

III Delivery of Memories, Tape Controls, and Tape Units

A. Memories can be delivered according to the following schedule:

5 memories in 5 weeks
9 memories in 6 weeks
13 memories in 7 weeks
17 memories in 8 weeks
20 memories in 9 weeks

B. Tape Controls can be delivered as follows:

1 Tape Control - immediately
2 Tape Controls in 4 weeks

C. Tape Units can be delivered as follows:

5 Tape Units in 1 month
12 Tape Units in 4 months

COPY

These schedules are effective for thirty (30) days from date of letter. At this time DEC will inform ITT of the validity of the above schedules for the next thirty (30) day period.

IV Discount Schedule

A new discount schedule is attached.

Items 1, 9, 11, 16, and 17 have been completed.

Sincerely,

Nick J. Mazzarese
Computer Sales Manager

NJM/jr
cc: Mr. K. Olsen, DEC
Mr. J. N. Ackley, ITT/ISD
Mr. T. Dmochowski, ITT/ISD
Mr. L. Gainey, ITT/ISD
Mr. J. Paivinen, ITT/ISD
Mr. R. L. Lane, ITT/ISD
Mr. H. Strong, ITT/ISD

COPY

PDP DISCOUNT POLICY

1. The following equipment and options are covered by this discount policy:

   Standard PDP-1
   Standard PDP-4 Computer Systems (PDP-4A or PDP-4B)
   Type 25 Real Time Option
   Type 17 Magnetic Core Memory Module
   Type 54 Magnetic Tape Control
   Type 16 Extended Memory Control
   Type 18 Extended Arithmetic Control Unit
   Type 10 Automatic Multiply and Divide
   Type 12 Magnetic Core Memory Module
   Type 15 Magnetic Core Memory Extension Control
   Type 19 High Speed Channel Control
   Type 20 16-Channel Sequence Break System
   Type 23 High Speed Data Channel
   Type 30 Display
   Type 32 Light Pen
   Type 51 Magnetic Tape Control Unit
   Type 52 Magnetic Tape Control Unit
   Type 56 Magnetic Tape Control Unit

2. Discounts are computed when the order is placed based on the following table:

N	Discount %
1	0
2	6
3	12
4	18
5 or more	24

   where N is defined to be the total number of PDP-1 and PDP-4 Computer Systems that have been ordered in the 12 months preceding the order date plus the number in current order. The delivery date of the systems in the current order must be mutually acceptable and not extend more than 12 months in the future.

3. Orders for Standard Computer Systems and those options listed above may be cancelled at any time up to two months prior to the agreed upon delivery date at no penalty. If such cancellation changes the value of N used in computing the discount percentage, the new discount will apply to all machines by the order so affected.

COPY

4. The above quantity discounts do not apply to the following options:

   Type 40-523 Card Punch Control
   Type 40-523 Card Reader Control
   Type 50 Magnetic Tape
   Type 62 Line Printer and Control
   Type 75 Paper Tape Punch and Control
   Type 65 Printer Keyboard and Control
   Type 67 Relay Buffer
   All non-standard options

5. The Magnetic Drum System will be handled on separate discount basis not related to any other options or standard computer systems. The table of quantities and discounts will be the same as those in section 2 above.

6. When quantity orders are placed for computer options, listed under item 1, the discount schedule detailed in item 2 applies. However, N is now defined as the total number of computer options on a single order.

   It should be noted that computer options are subject to discount under two schedules; the schedule which offers the largest discount is applicable, but in no case will both be applied to the same component.

Should a single order for 16 or more core memories be placed, we will provide a 20% discount.

COPY

Not necessary to respond HHH

STATE STREET BANK and TRUST COMPANY
BOSTON 1, MASSACHUSETTS

H. FREDERICK HAGEMANN, JR.
PRESIDENT

RICHMOND 2-4500

January 9, 1963

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

Dear Mr. Olsen:

I regret that circumstances prevent your serving actively on our 35th Anniversary Dinner Committee for the National Conference of Christians and Jews.

I am hopeful, however, that you will want to attend the Dinner to be held Thursday, March 21, 1963, at 7:00 P.M., in the Sheraton Plaza Hotel, Boston, when National Citations are to be awarded to Mr. Charles F. Adams, Hon. Howard W. Fitzpatrick and Mr. Louis P. Smith for distinguished service in the field of human relations and Brotherhood. If your schedule does not permit your attendance, you may want to provide the opportunity for members of the clergy, for teachers, and for Greater Boston youth, who work closely with the Conference, to be present as your guests.

Your check for a table of ten places ($1,000), a half-table ($500), or for individual places (at $100 per plate) will help underwrite the expanded program of the National Conference in this Region by supporting better intergroup relations so vital to the welfare of our community. We are happy to enclose a program report, which tells, in some detail, the substantial work being done. We need your help to assure its continuance.

With your check, payable to the National Conference of Christians and Jews, for ten places you will be listed in the program as a SPONSOR, and with five to nine places as a PATRON, and one to four places as a SUBSCRIBER. Please let me know whether you wish your own name or that of your firm to appear on the SPONSOR'S, PATRON'S or SUBSCRIBER'S list. As you know, contributions to the National Conference are tax deductible.

We shall look forward to hearing from you.

Sincerely yours,

H. Frederick Hagemann

H. FREDERICK HAGEMANN, JR.
General Chairman

HFH:s
Enclosures (4)



P R O G R A M

M E M O R A N D U M

THE NATIONAL CONFERENCE OF CHRISTIANS & JEWS, INC.
Northeastern Region
73 Tremont Street
Boston 8, Mass.
LAfayette 3-7510

September 1962 - October 1963

to

NCCJ BOARDS OF DIRECTORS
(Region and NCCJ Chapters)

FRANK E. McELROY

Executive Director

AUGUSTIN H. PARKER, JR.
ROBERT E. MANSMANN
ROGER P. SONNABEND

Regional Co-Chairmen

NATIONAL CONFERENCE OF CHRISTIANS AND JEWS

Northeastern Region
73 Tremont Street
Boston 8, Mass.
LAfayette 3-7510

The Regional program of NCCJ is basically carried out through three broad areas of activity: (1) direct planning, development and carrying through of institutes and workshops by NCCJ staff and NCCJ committees of lay and educational leadership throughout the year to provide intensive intergroup leadership experiences for youth and adults, and which also serve as demonstration, and, (in some few cases) as experimental educational experiences. The keynote here is always active involvement in the intergroup educational process of all concerned, not passive participation. Scholarship help to youth and adults to attend NCCJ Workshops and Institutes are provided as part of this area of program. (2) the encouragement of similar specific institutes and workshops under proper auspices throughout the Region (Eastern Mass., Maine, New Hampshire and Vermont) through the involvement of educational and lay leadership in various communities with NCCJ's program. (3) through intergroup literature, films, speakers, news media and staff consultations with individuals and groups, of a professional character, to develop and stimulate good intergroup relations and programs in every area of the Region, by encouraging and counseling local leadership.

All the above is carried out with the greatest practicable involvement in the work of planning and program committees of people who represent the educational, religious, professional and lay leadership in each community or area involved. Brotherhood Week Committees serve well each year to bring new people into the year-round consideration of intergroup relations in their communities.

A further note: the specific program of institutes and workshops will vary each year, as they are developed in each community. Continuing emphasis of our NCCJ program is particularly in the area of Interreligious Relations, and Youth (High School and College level). The latter involves adults through REARING YOUTH OF GOOD WILL Institutes for adults, as well as through Police-Community Relations Institutes, and such other general community intergroup relations institutes as are developed in any one year. One more note: NCCJ works with people at all levels of their intergroup relations sophistication; thus, NCCJ's program will reflect various educational and administrative means of involving participation. More time, effort and funds per activity and per individual is invested in programs within (1) above, less under (2), and least under (3). As with any educational organization, the quality of professional staff and educational leadership determines the co-operation of other professional and lay leadership, and the continuing value of the program year by year, and thus its lasting influence within the region.

PROGRAM: 1962-1963

A. Youth

1. NCCJ Regional High School Youth Council: There are about 35 two to three hour sessions of this volunteer member group, plus another 150-200 hours minimum in sub-committee activity, involving about 75-100 youth (with a similar group of 50 in Worcester). Purpose: to provide a year-round intensive inter-group educational experience across religious, racial and ethnic lines for high school youth, and to stimulate co-operation of other high school youth, and faculties. Youth help plan youth intergroup institutes, TV and Radio programs, intergroup programs within high schools, and study problems of intergroup leadership.

2. Parent-High School Youth Institute: One-day Institute planned to include parents and adult friends of youth in intensive small group discussions of community inter-group relations problems: Involvement: about 125-150 persons.

3. High School Youth - 10 Session Workshop: Planning sessions now underway for this intensive educational series to be held within Roxbury, Mass., involving 30-50 youth and 20 adults in planning intensive sessions of three hours duration each on problems of intergroup relations. This is a demonstration, pioneer workshop.

4. One-week High School Youth Leadership Human Relations Institute-summer of 1963 (as was held in 1962) for about 100-125 youth from throughout the NCCJ Region (and other cities of Northeast U.S.A.), and at least 10 adult leaders.

   Year-round development of understanding and co-operation of about 50 organizations and 150 other individuals in 25-30 communities with this Institute.

5. High School Youth - 12 Session Workshop: Planning sessions now underway for this series of intensive human relations workshop sessions of three to four hours each for 30-40 youth, and 8-10 adults, in Winthrop, Mass. (This is a demonstration and experimental workshop with youth who are "natural" leaders of community and school youth unorganized groups in co-operation with Winthrop Guidance Department.)

6. High School Youth Intergroup Discussion Leadership Course: Course now being arranged for 20-25 high school youth (selected on basis of potential capacity of each youth) to complete a 10 session course of three hours each, developed with Northeastern University, and NCCJ Educational Consultants, covering small group dynamics and leadership.

7. The development of High School Human Relations Concepts, and/or programs by staff and NCCJ Educational advisors in co-operation with students, and/or faculties and school administrators. Working with 9 high schools currently.

8. One-week College Youth Leadership Institute: an intensive small group discussion educational experience in intergroup relations of one week duration (plus planning and recruiting activity of 200 hours minimum) for 35-50 college youth, from NCCJ Region, and Northeast U.S.A., 10 adults and 10 to 15 colleges or universities. Includes scholarship help to youth to attend.

9. Three-day NCCJ Divisional Human Relations College Youth Leadership Conference: Allocation for scholarships for 4 college youth to attend.

10. College Campus NCCJ Chapters and intergroup education programming involving 200 youth directly and hundreds more indirectly, including co-operative develpment with college youth organizations, administrators and faculty.

B. Adults

1. NCCJ: REARING YOUTH OF GOOD WILL Institutes:

a. Radnor, Pa. Scholarships for 6 adult educational leaders to attend this divisional NCCJ Institute, for development of Regional Institute leadership.

b. Worcester County, Mass. Now planning one-day REARING YOUTH OF GOOD WILL Institute NCCJ Chapter to involve 100 leaders, and 50 organizations to develop local NCCJ chapter intergroup leadership.

2. NCCJ Interreligious Division Institutes and Workshops:

a. Two-day Clergy Dialogue Interreligious Leadership Institute: group dialogue of community conflict or tension involving religious differences. Participation: 30-40 leading clergy.

b. One-week Interreligious Relations Institute: (in co-operation with National NCCJ) (Held November 1962.)

c. Clergy Dialogue Sessions (Bi-monthly of 3 hours each): Discussions and dialogue, involving a total of 200 clergy directly, many more indirectly, with matters of common civic concern to clergy of major faiths.

d. 1963: One-week NCCJ Nationally Sponsored Religious Freedom and Public Affairs Institute: 100 participants.

e. NCCJ Two-day Police-Community Relations Institute: Now being planned for Worcester County involvement of police, community organization leaders and youth in discussion of the development of positive community values and constructive intergroup relations based upon amity, safety and justice. Participation: plus, planning and recruiting activity in many communities.

f. NCCJ Education Division: Consultants and Advisory group of educators. (Total: 30). Policy and planning meetings: minimum of five meetings, plus frequent individual consultations throughout year.

1. Annual Education Division Report Meeting: involvement: 150 educational leaders, including Certificate of Recognition Program.

g. Scholarship Awards Program: Approximately 25-30 scholarships (awarded by NCCJ Award Committee of educators) chosen from average of 75 requests each year at $100 average each to teachers and professional people (nurses, social workers, guidance personnel) to attend summer human relations workshops at average of six to ten (of about 45) universities co-operating with NCCJ.

h. NCCJ Intergroup Literature Review Consultation: Review of literature and educational resources used in NCCJ program by education division consultants

C. Community Wide Program:

1. Community Brotherhood "Week" Committees Throughout NCCJ Regions There are committees developed each year in co-operation with NCCJ's National Brotherhood "Week" in February. Participation (all communities are invited to form committees) averages about 75-100 cities and towns, and approximately 200-250 different organizations and groups in cities and towns, with whom NCCJ works in regard to programming and provision of material (literature, etc.). Value: Keeping general public aware of importance of intergroup problems, and the identification and recruitment of community leaders for NCCJ's year-round program. Involvement: about 1000 individuals directly on committees, and programs reaching thousands through news media of all kinds, school and church programs and organizational and public meetings

2. NCCJ Chapter Development, and professional consultation and co-operation: in local intergroup relations programs by Chapters: Active year-round Chapters currently are: Worcester, Mass., Rutland, Vt., New Hampshire State-Wide Chapter. (250 serve on Chapter Boards and Committees). Committees, or leaders are in 100 other communities.

3. Distribution of Intergroup NCCJ Literature and Reports: throughout Region to schools, universities, churches and church groups, and individuals, Basic mailing list of about 3,000, with material mailed about 10 times per year, plus average of 200 pieces each week in response to individual and organizational requests for material. Total approximately 35,000 to 40,000 pieces.

4. NCCJ Annual Meeting and Neighborhood Award Program: to report on Annual NCCJ program, and to encourage leadership of organizations and small community groups in good intergroup relations. Participation: 125-150 (including 25-30 different community organizations) at meeting, plus 15-20 organizations nominating individuals as possible recipients of awards.

5. Development of intergroup program with Mass Media of Communications (TV, Radio, Press), including co-operation with National Mass Media Committees, and local NCCJ chairmen. Consultation and development of programming and coverage of NCCJ's educational program (290 Regional TV, Radio and Press Media).

6. Annual Dinner (1963): 35th Anniversary Dinner, March 21st). Purpose to raise substantial part of budget; to honor three outstanding individuals for leadership in intergroup relations; and to tell as much of NCCJ's programs as possible (includes one-half hour live TV program, WNAC).

D. Administration - Other phases of educational program. Fund raising.

1. Speakers Bureau: Recruitment of selected speakers from NCCJ Board and Committees (to fill individual engagements of 20-30 per year) and related work with organizations.

2. Films: Purchase and administration of intergroup relation films, and loans and rentals. 15 films and related material currently on hand for use of organizations. About 20-25 releases per year, plus use at workshops and institutes throughout the year.

3. Policy Meetings of NCCJ Executive Committee, Regional Co-Chairmen, Board, other Regional NCCJ Standing Committees large Contributors, and NCCJ National leadership. 15 meetings approximately per year 300 participants.

4. Executive Director's professional leadership and association with regional agencies or organizations within Intergroup Relations Field.

5. Fund Raising Programs: Other phases of fund raising: Special Projects Campaign (involving 80-100 committeemen over 5 month period), Regular Annual Renewal Contributors, Trust and Foundation Support, Scholarship Fund.

Total individuals very closely involved in Regional educational program annually: 3,000-3,500, approximately, as estimated for 1962-1963 (based upon 1961-1962). Number involved directly but less closely: (Anniversary Dinner report meetings, Brotherhood Week meetings, recipients of material, briefer consultations, written reports, etc., etc.): 5,000. Reached via TV, Radio and Press, and organizational meetings, unknown -- but is hundreds of thousands annually.

Mr. H. Frederick Hagemann, Jr.

General Chairman

requests the honor of your presence at the

Thirty-fifth Anniversary Dinner

Honoring

Mr. Charles F. Adams

Hon. Howard W. Fitzpatrick

Mr. Louis P. Smith

who will receive

National Brotherhood Awards

from the

National Conference of Christians and Jews

Ballroom Sheraton Plaza Hotel

Boston

Thursday Evening, the Twenty-first of March

Nineteen Hundred and Sixty-three

Seven O'clock

R.s.v.p.

Dress Optional

(by enclosed card)

THE NATIONAL CONFERENCE OF CHRISTIANS AND JEWS

H. FREDERICK HAGEMANN, JR.
General Dinner Chairman

AUGUSTIN H. PARKER, JR.
ROBERT E. MANSMANN
ROGER P. SONNABEND
Regional Co-Chairmen

JOSEPH C. WHITE
ALEXANDER WHITESIDE
MARK BORTMAN
Honorary Regional Co-Chairmen

ROY W. LAWSON
Regional Treasurer

EXECUTIVE DINNER COMMITTEE
(as of time of printing)

Abraham, Nicholas
Allsopp, Thomas
Almy, Doris E.
Anderson, Arthur J.
Anderson, O. Kelley
Avery, Charles K.
Bachrach, Louis Fabian, Sr.
Barker, B. Devereux, Jr.
Barron, Hon. Jennie Loitman
Barron, Samuel, Jr.
Barron, William A., Jr.
Barrows, Thomas S.
Bayes, Philip B.
Beal, Thaddeus R.
Beckford, Fred A.
Beckwith, Edwin L.
Belanger, J. William
Benner, Dorothy L., Mrs.
Benson, Daniel A.
Bergstrom, Oliver T.
Berlin, Gerald H.
Billings, Harold D.
Black, S. Bruce
Bloom, Gordon F.
Bloom, Joseph
Bloom, Rabbi Bernard H.
Bond, Davis S.
Bortman, Mark
Bottomley, Mrs. John T.
Boyd, Ralph G.
Brace, Lloyd D.
Brennan, William P.
Brin, Dr. Alexander
Bronstein, Harry
Brown, Earl F.
Brown, Morris L.
Bullock, Arnold J.
Burg, Abraham S.
Burgess, Rt. Rev. Bishop John M.
Burgin, C. Rodgers
Cabot, Charles C.
Cahners, Norman L.
Callahan, Raymond J.
Canham, Erwin D.
Carmen, William
Case, Harold C. Dr.
Case, Mrs. Harold C.
Casty, David
Catlin, Ephron, Jr.
Cazayoux, Lawrence M.
Chapman, Richard P.
Chase, Jere A.
Chase, Theodore
Chin, Miss Helen
Choate, Robert B.
Clapp, Eugene H., II
Clark, Forrester A.
Collins, Mark F.
Connolly, James M.
Damon, Roger C.
DeMambro, Joseph A.
Devine, John H.
Dockser, Charles E.
Doe, William A.
Donnelly, Edward C., Jr.
Donnelly, John E.
Druker, Bertram A.
Dumaine, Frederick C., Jr.
Eacker, Earl H.
Eaton, Charles F., Jr.
Ehrmann, Herbert C.
Eiseman, Philip
Elliott, Byron K.
Feeley, Charles E.
Feinberg, H. M.
Feldberg, Max
Feldberg, Morris
Feldman, Edward I.
Fenno, J. Brooks
Fine, Murray R.
Foster, Lewis M.
Fowell, Dr. Myron W.
Fowler, Richard B.
Fox, Franklin H.
Foy, Frank H.
Friedlander, George N.
Fuller, Peter
Gallagher, Thomas G.
Galvin, John T.
Gearan, Margaret M.
Gilman, A. George
Ginzberg, A. M.
Goldberg, Harold Sherman
Goldston, Eli
Gordon, Frank B.
Grandin, John L. Jr.
Greaney, James R.
Griffin, John
Grossman, Mike
Gryzmish, Reuben P.
Habin, David
Haley, Dr, Dennis C.
Halloran, Eugene R.
Hanrihan, John J.
Havice, Dr. Charles W.
Hawks, Dr. Franklin P.
Hayes, Gerard E.
Hebert, William H.
Henderson, Ernest
Hennessey, Thomas M.
Hoag, Garrett S.
Hoffman, Herbert S.
Howe, Richard O.
Howland, George
Hyneman, Simon C.
Ireland, William D.
Jackson, James, Jr.
Jeffries, J. Amory
Johnson, Alfred
Johnson, Earl
Kahn, Milton
Kallen, Professor Miriam
Kaplan, Leonard
Kaufman, Earle B.
Keller, Joseph P.
Kern, Harold G.
Kiernan, Owen B.
Kingman, Henry E.
Klein, Dr. Donald
Knight, Norman
Knowles, Dr. Asa S.
Kramer, Philip
Ladd, Merlin J.
Lawson, Roy W.
Leeder, Frank
Leen, Henry M.
Linsey, Joseph M.
Looney, Dr. William F.
Loring, Caleb, Jr.
Lowell, Ralph
Lyons, Joseph N.
Macomber, C. Clark
Mansmann, Robert E.
Margolin, Reuben J. Dr.
Marks, Sidney
Marriner, Kenneth W.
Martin, Lawrence H.
Mates, Benjamin P.
Mattair, Mrs. Robert B.
McAdam, Angus W.
McCann, R. V.
McCormack, Hon. Edward J., Jr.
McCormack, William A.
McCormick, William M.
McCrea, John L., Admiral
McCreech, Robert B.
McGrath, William B.
McIntosh, James B.
McKinley, Dr. S. Justus
McMeninmen, Albert C.
Minot, James J.
Mintz, Herman A.
Monosson, Fred
Morgan, F. Paul
Mugar, Stephen P.
Mulkern, Paul V.
Mumford, George S.
Needham, Daniel, General
Nelson, Rabbi Zev K.
Newhall, Charles B.
Nilan, John O.
Nixon, Hugh
O'Conor, Charles W.
O'Keeffe, Adrian
Olmstead, George, Jr.
Parker, Augustin H., Jr.
Parker, William A.
Parks, Earle C.
Patterson, Dr. Franklin K.
Patterson, George A.
Pearson, Paul F.
Perini, Louis R.
Powers, William M.
Proctor, Robert
Purcell, Philip
Rabinowitz, Bert
Raye, William H., Jr.
Redstone, Sumner M.
Reeves, Courtney H.
Remis, Harry
Richardson, John
Robie, Richard S.
Robinson, Dwight P., Jr.
Robinson, G. Bruce
Rosen, Carl
Rosenfeld, Jerome
Rousseve, Dr. Ferdinand L.
Rozelle, Frederick C., Jr.
Sachar, Dr. Abram L.
Saval, Maurice H.
Schwartz, Joseph
Scott, Hermon H.
Sculos, Nicholas
Semenenko, Serge
Shactman, Arthur
Shapiro, Frank S.
Sholley, Sidney L.
Smith, Carol M.
Snow, William B.
Snowden, O. Phillip
Snowden, Mrs. Muriel S.
Sonnabend, Roger P.
Starr, Jason E.
Steadman, Chester C.
Steele, Chauncey Depew, Jr.
Stocker, Crawford H., Jr.
Stubbs, John O.
Sullivan, John A.
Sullivan, William H., Jr.
Sunderland, Thomas E.
Taylor, Wm. Davis
Thompson, Cameron S.
Trustman, Benjamin A.
Tuckerman, Bayard, Jr.
Tully, John E.
Twiss, Marion D.
Wallace, George R., III
Warshaver, Arthur M.
Wasserman, Max
Webster, William
Weinstein, Lewis H.
Wessell, Dr. Nils Y.
Wheeler, Mark C.
Whiteside, Alexander
Whitney, George K.
Widett, Harold
Wilkins, Mrs. George F.
Williams, Roy F.
Winnick, Pauline
Wolbach, William W.
Zanetos, Reverend John
Zimble, Louis

H. FREDERICK HAGEMANN, Jr., General Chairman

35th Anniversary Dinner

National Conference of Christians and Jews

73 Tremont Street

Boston 8, Mass.

To: H. FREDERICK HAGEMANN, JR., General Chairman
35th ANNIVERSARY DINNER
NATIONAL CONFERENCE OF CHRISTIANS AND JEWS
73 Tremont Street, Boston 8, Mass. - LA 3-7510

I am happy to accept your invitation.

I wish to be a SPONSOR ..... ☐ $1000 (Table of ten)

PATRON ..... ☐ $500 to $900 (five to nine places)

SUBSCRIBER ..... ☐ $100 to $400 (one to four places)

I am enclosing my check for $.....made payable as a contribution to the National Conference of Christians and Jews.

Please send me.....ticket reservations to the 35th Anniversary Dinner honoring Mr. Charles F. Adams, Hon. Howard W. Fitzpatrick, and Mr. Louis P. Smith, to be held in the Main Ballroom, Sheraton Plaza Hotel. Boston, Thursday, March 21, 1963, at 7:00 p.m.

Name .....

Firm Name ..... Phone .....

Address ..... Zone ..... City .....

All names to be listed in Dinner Program.
(Contributions and Bequests are Tax Deductible)
Supported by Voluntary Gifts and Bequests.

(Over)

NAMES OF GUESTS

1. .....

2. .....

3. .....

4. .....

5. .....

6. .....

7. .....

8. .....

9. .....

10. .....

Called 1/10/63
Unable to attend

EMERSON HOSPITAL
OLD ROAD TO NINE ACRE CORNER
CONCORD, MASSACHUSETTS

January 5, 1963

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

Dear Mr. Olsen:

In July 1961 many of the executives of industry who are affected by the operation of Emerson Hospital, participated in a panel discussion intended to bring into focus the hospital's problems as related to those of the industries served. This discussion was most helpful in crystallizing the hospital's future plans and needs, thereby having an impact on the successful funding of a new wing now under construction.

The Trustees and Staff of the Hospital are most desirous of keeping in touch with the management of the industries whose employees we serve. We are therefore inviting you to attend a luncheon at the hospital on January 14, 1963 at 12:15. Following the luncheon, it will be our pleasure to have our Medical Staff review some of the medical programs planned and underway at the hospital. We also would welcome this opportunity for observation by executives of the industries so allied.

Very truly yours,

George R. Walker, President
Emerson Hospital

GRW/bs

AMERICAN DYNAMICS CORPORATION
Technical Sales Representatives
Contract Manufacturers
Development Engineers
146 MAIN STREET MAYNARD, MASSACHUSETTS

TELEPHONE
MAYNARD 897-7293

We are Proud and Pleased . . .

. . . to announce that we have been appointed manufacturer's representative for the new Bausch & Lomb V.O.M.-5 Strip Chart Recorder.

Bausch & Lomb, as you know, is an aggressive, century-old firm having an enviable reputation as a supplier of the world's finest optical products ---- instrumentation, eyewear and allied products. The new V.O.M.-5, Bausch & Lomb's first completely electronic product is certainly worthy of its parentage.

We will welcome the opportunity to discuss this instrument with you and to demonstrate how it can be a wise investment for you in your work. Just drop the enclosed postcard in the mail.

Sincerely,

AMERICAN DYNAMICS CORPORATION

Donald R. Curtis

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