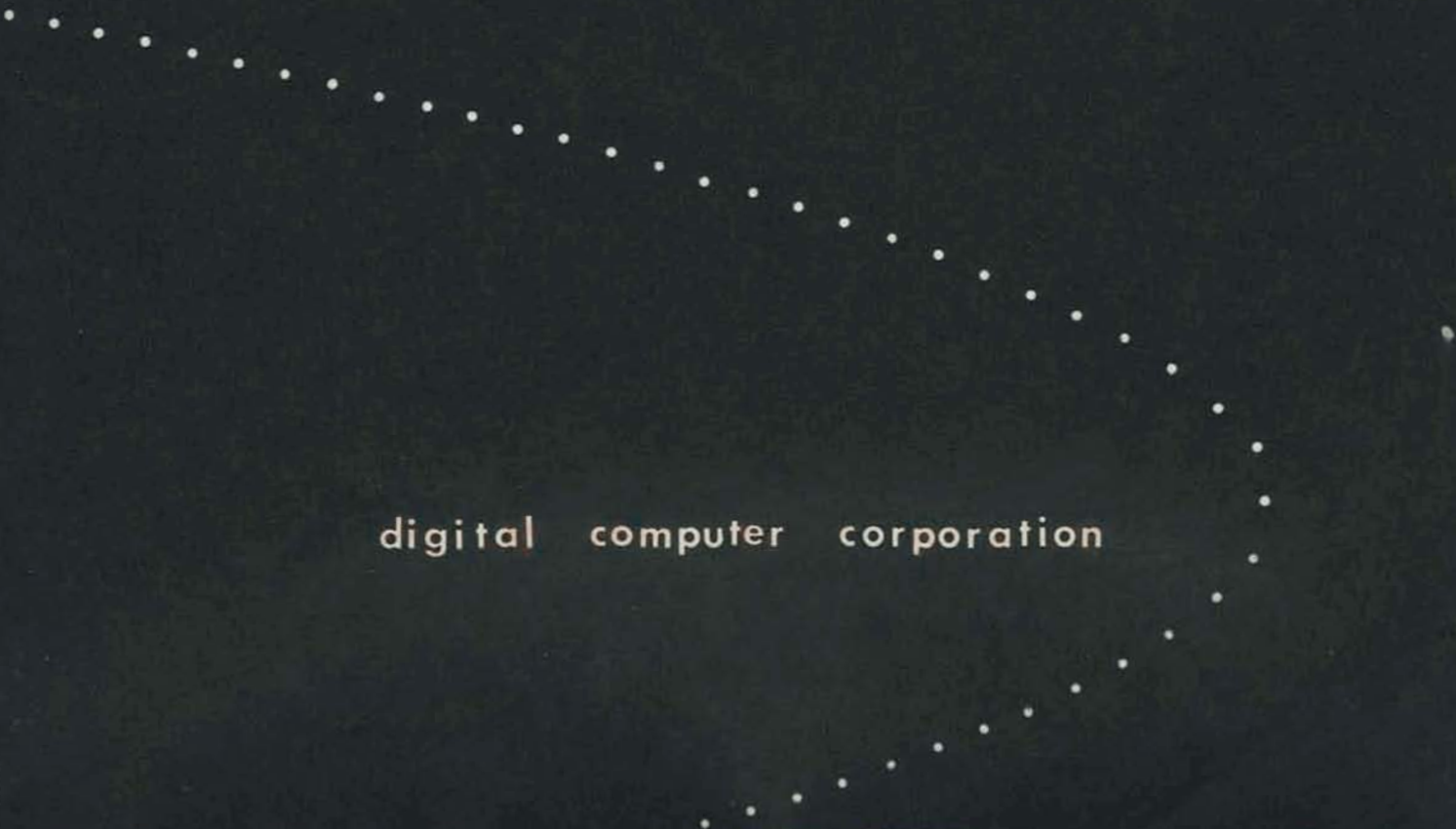


A PROPOSAL TO AMERICAN RESEARCH  
AND DEVELOPMENT CORPORATION 27 MAY 1957



digital computer corporation

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## INTRODUCTION

This is a proposal for American Research and Development Corporation to finance the starting of a new company, Digital Computer Corporation.

## OBJECTIVES

The objective of Digital Computer Corporation is to manufacture and sell electronic test equipment and high speed electronic digital computers. Emphasis will be placed on developing products which will be general purpose and have a wide variety of applications.

## BACKGROUND

The founders have been employed at MIT Lincoln Laboratory in Lexington, Massachusetts for several years developing digital computers for use in military applications. Techniques developed by the founders at Lincoln Lab will be used as a starting point for the new company.



### PHASE I (DIGITAL TEST EQUIPMENT)

The plans for starting Digital Computer Corporation are divided into two phases. Phase I will involve approximately four full time employees and four part time employees.

The primary goal of Phase I is to design, produce, and sell transistorized digital test equipment.

The secondary goal of Phase I is to design on paper the general purpose computer which will be built in Phase II and to obtain military study contracts which will lead to procurement of this type equipment.

### MARKET FOR DIGITAL TEST EQUIPMENT

In about 1950 a compatible family of digital vacuum tube building blocks was designed at MIT Digital Computer Laboratory for use in work associated with the Whirlwind computer. Burroughs Corporation started manufacturing and distributing these building blocks soon thereafter. They are still manufacturing this same line of test equipment today. Their total sales of this equipment are not known, but include more than \$500,000 to Lincoln and probably the same amount to IBM. Other users of this test equipment include Sprague Electric, General Ceramics and many others. The Burroughs Corporation has built computers out of this test equipment, but the use of these building blocks has been limited by its large size, the heat dissipated and the expensive power supplies needed.

A line of transistorized test equipment which is compatible with these vacuum tube circuits will have a ready market in all owners of Burroughs test equipment as well as many other customers. Potential users consist of a) manufacturers of general purpose computers b) manufacturers of digital fire control systems c) atomic energy installations d) laboratories working on pulse circuits in general e) operators of telemeter data reduction facilities f) military development laboratories and g) component manufacturers.

Lincoln Laboratory is at the present time developing a line of transistorized test equipment, under the direction of one of the Digital Computer Corporation founders, that will be compatible with Burroughs and will eventually replace it. Very soon this equipment will be ready to be manufactured commercially. Lincoln Laboratory is expected to be one of the big customers.

## PHASE II (DIGITAL TEST EQUIPMENT AND GENERAL PURPOSE COMPUTERS)

The initial goal during Phase II will be production of the first general purpose computer by Digital Computer Corporation. It is anticipated that this will soon be followed by additional production based on orders. A modest expansion of personnel will be made when Phase II is entered.

Phase II will be entered after one of the following conditions exist:

- a) the test equipment business is operating at a profit,
- or b) a firm purchase order for a general purpose computer has been obtained.

It should be emphasized that Phase II can be entered anytime. It is anticipated that it will be possible to enter it during the first year.

The same general circuits that will be used in the test equipment line will be used in the general purpose computer to be produced in Phase II. Therefore the test equipment business can be considered a stepping stone toward the manufacture of the first computer. The computer's capacity and speed would be in excess of computers available today while the price (about \$400,000) would be significantly less. Initial models would be well suited for use in scientific computation and control applications. Later with the addition of a complete line of input output devices, this same basic computer will also be suited for use in business applications.

The logical design of this computer will be prepared as part of Phase I. The actual construction will not start until Phase II. The reason for this is to minimize the financing required for starting Digital Computer Corporation.



## FINANCIAL

Phase I of Digital Computer Corporation can be entered with initial cash of \$91,200.

## First Quarter Budget

Initial Charges		
Legal fees	\$500	
Filing fee and organization tax	200	
Painting and partitioning	500	
Library	200	
Office supply stock	300	
	Total	\$1,700
Capital Equipment		
Machines	\$2,800	
Special Tools	900	
Small Tools	300	
Test Equipment	1,800	
Office Machines	1,800	
Furniture (Leased with option to buy)		
	Total	7,600
Manufacturing Parts		
Transistors	5,000	
Electronic parts	4,500	
Mechanical parts	2,500	
Miscellaneous	1,000	
	Total	13,000
Monthly Operating Cost		
Salaries and wages	4,520/mo.	
Accountant service	200/mo.	
Legal fees	100/mo.	
Rent, insurance, utilities and misc. overhead	500/mo.	
Travel	400/mo.	
Advertising	400/mo.	
Office supplies	50/mo.	
Furniture rent	130/mo.	
	Total	6,300/mo
Three months @ \$6,300/month		18,900
1st Quarter Total Cash Required		41,200
Reserve for Contingencies		50,000
Phase I Total Cash Required		91,200

Assuming that Phase I lasts for one year, a profit and loss statement and balance sheet would look as follows.

## ESTIMATED PROFIT AND LOSS STATEMENT AND BALANCE SHEET (PHASE I)

	Initial	1st quarter	2nd quarter	3d quarter	4th quarter
<b>Profit and Loss State.</b>					
Net Sales		0	40,000	65,000	80,000
Manufacturing Cost					
Materials		13,000	12,000	22,000	30,000
Labor		13,560	18,000	23,000	26,000
Overhead		7,040	8,000	10,000	11,000
Change in Inventory		13,000	4,000	5,000	8,000
		20,600	34,000	52,000	59,000
Gross Profit		-20,600	6,000	13,000	21,000
Tax		0	0	0	5,000
Net Profit		-20,600	6,000	13,000	16,000
<b>Balance Sheet</b>					
<b>Assets</b>					
Current					
Cash	91,200	40,000	40,000	40,000	40,000
Inventory		13,000	17,000	22,000	30,000
Fixed					
Equipment		7,600	9,600	17,600	25,600
Total	91,200	60,600	66,600	79,600	95,700
<b>Liabilities</b>					
Net Worth					
Common Stock	91,200	60,600	66,600	79,600	91,200
Earned Surplus					4,500
Total	91,200	60,600	66,600	79,600	95,700



When Phase II of Digital Computer Corporation is entered about \$250,000 additional financing will be required. This may be obtained in any combination of the following ways:

- a) purchase of additional stock by American Research and Development Corporation
- b) profits from test equipment business
- c) other financial sources.

A four year profit and loss statement and balance sheet beginning when Phase II is entered is shown below.









