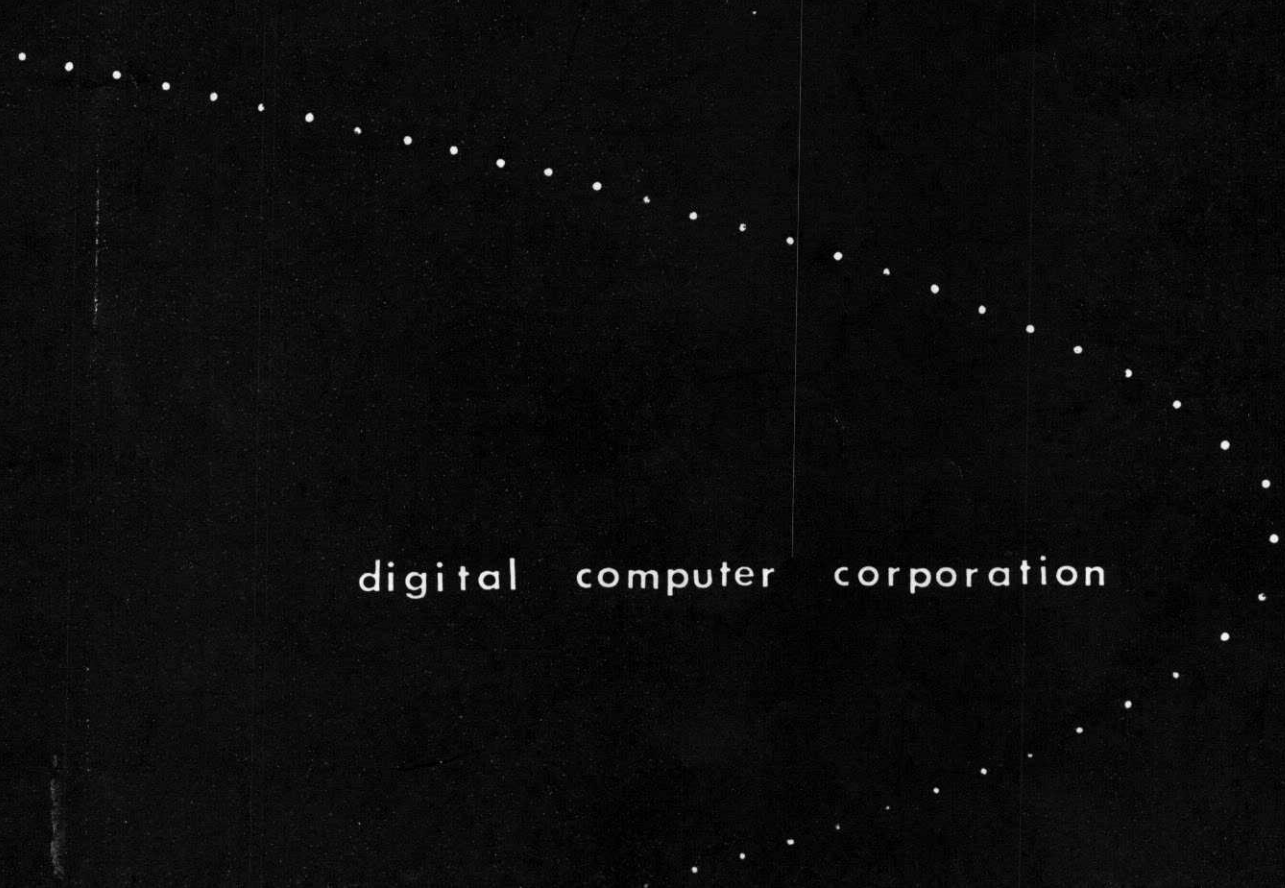
A PROPOSAL TO AMERICAN RESEARCH AND DEVELOPMENT CORPORATION 27 MAY 1957



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 will 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
Profit and Loss State.					
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
Balance Sheet					
Assets					
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
Liabilities					
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.

ESTIMATED PROFIT AND LOSS STATEMENT AND BALANCE SHEET FOR PHASE II

	1st year		2nd year		3rd year		4th year	
PROFIT AND LOSS								
Net Sales		400,000		1,200,000		3,600,000		7,200,000
Manufacturing Cost								
Materials	164,000		574,000		1,640,000		1,968,000	
Labor	144,000		565,000		910,000		1,028,000	
Rent, Ins., Util. Over.	63,600		70,000		115,000		190,000	
Depreciation	4,000		15,000		20,000		30,000	
Advertising	6,000		10,000		10,000		25,000	
Travel	6,600		10,000		50,000		85,000	
	388,200		1,244,000		2,745,000		3,326,000	
Add Beginning Inven.	0		82,000		328,000		984,000	
	388,200		1,326,000		3,073,000		4,310,000	
Less Final Inven.	82,000		328,000		984,000		984,000	
	306,200		998,000		2,089,000		3,326,000	
Gross Profit		93,800		202,000		1,511,000		3,874,000
Less Interest on Loan	0		0		0		50,000	
		93,800		202,000		1,511,000		3,824,000
Less Profit Sharing	9,380		20,200		151,100		382,400	
		84,420		181,800		1,359,900		3,441,600
Less Corp. Tax	38,000		91,800		682,000		1,750,000	
Net Profit		46,420		90,000		677,900		1,691,600
Reinvested Profit		46,420		90,000		677,900		1,491,600
Distributed Profit		0		0		0		200,000
BALANCE SHEET(End of Year)								
Assets								
Current								
Cash	266,620		99,620		171,520		363,120	
Inventory	82,000		328,000		984,000		984,000	
Fixed								
Equipment	39,000		150,000		300,000		500,000	
Plant and Site	0		0		0		1,600,000	
Total		387,620		577,620		1,455,520		3,447,120
Liabilities								
Current								
Accounts Payable	20,000		20,000		20,000		20,000	
Long Term Loan	0		0		0		500,000	
Net Worth								
Common Stock	341,200		441,200		641,200		641,200	
Earned Surplus	26,420		116,420		794,320		2,285,920	
Total		387,620		577,620		1,455,520		3,447,120

ESTIMATED PROFIT AND LOSS STATEMENT AND BALANCE SHEET FOR PHASE II

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FACILITIES

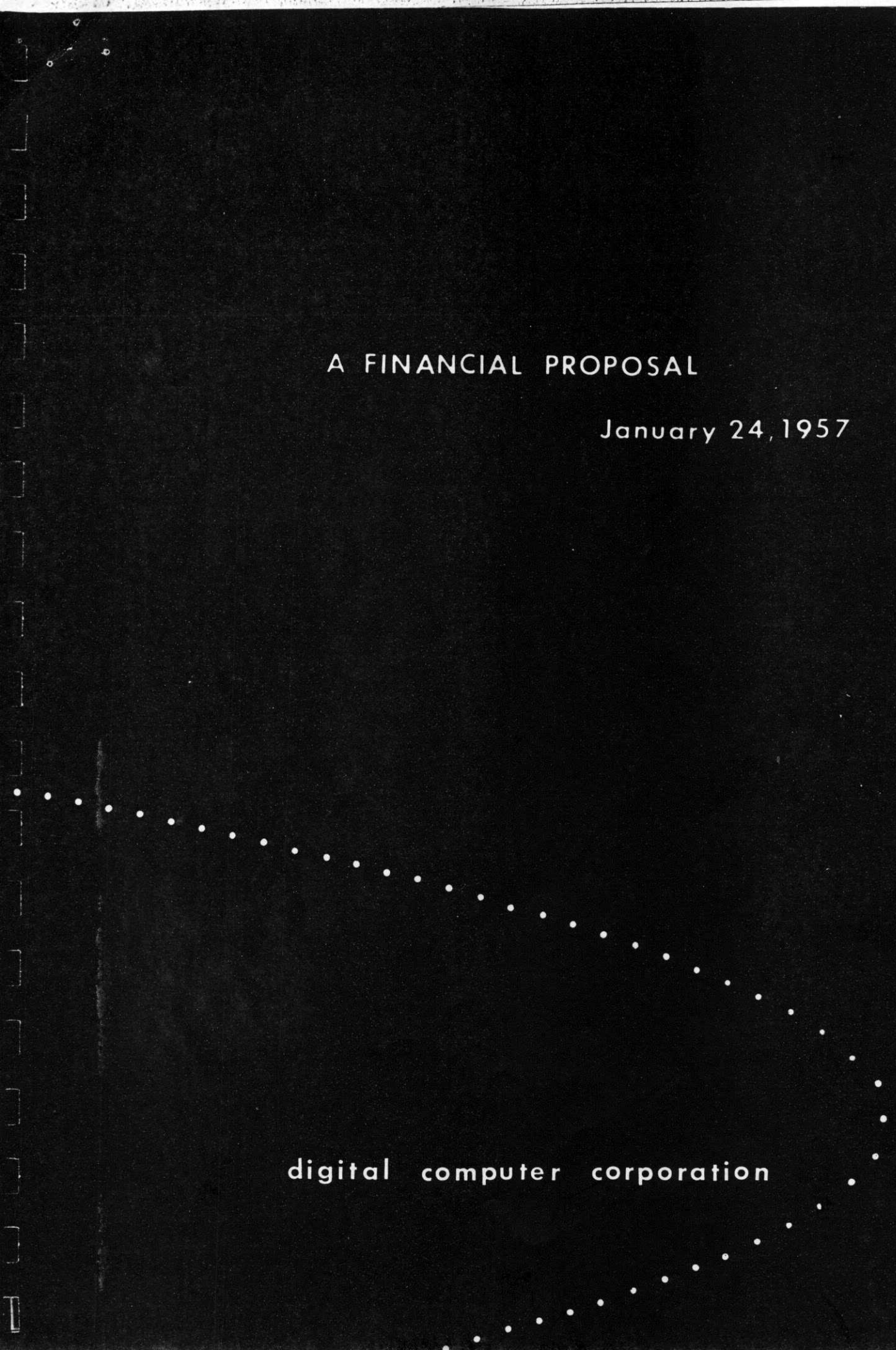
All operations will be started in a leased area of about 3,000 square feet, preferably near Lexington. Several potential locations have been investigated. Facilities for assemblying test equipment, doing etched wiring and testing will be established immediately. Those manufacturing steps requiring expensive machinery will be done initially by outside organizations. Due to the large number of such organizations in the Boston area, this procedure has worked very satisfactorily at Lincoln Lab.

SALES

Initial emphasis will be placed on sales to owners of compatible units. This would be done mainly through personal contact. Nation wide sales programs centered around advertising would be started after approximately nine months had passed. Descriptive literature and demonstrations of the equipment would be available within three months

A FINANCIAL PROPOSAL

January 24, 1957



digital computer corporation

INTRODUCTION

The goal of DIGITAL COMPUTER CORPORATION is to mass produce high speed, high capacity digital computers. Because of the founders' experience in planning and directing large projects and because the designs for the machine are 'in hand', it is felt that production can commence immediately.

The founders expect to be the initial officers of the company and plan to retain reasonable operating control. It is realized that this control can be retained only as long as the confidence of the financiers is retained.

It is proposed that profit sharing for all employees be planned.

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It is proposed that profit sharing for all employees be planned.

SUMMARY

The first year costs are:

a.	Initial Charges	1[illegible],000
b.	Capital Equipment	30,000
c.	Manufacturing Parts	[illegible],000
d.	Operating Costs	[illegible],200
	Total	$[illegible]41,200

The first computer is expected to be sold after the eleventh month. The operating cost at this time is 1[illegible],[illegible]50 per month.

SUMMARY

The first year costs are:

a. Initial Charges	18,000
b. Capital Equipment	39,000
c. Manufacturing Parts	82,000
d. Operating Costs	202,200
Total	341,200

The first computer is expected to be sold after the eleventh month.
The operating cost at this time is 16,850 per month.

FIRST YEAR BUDGET

Initial Charges

Legal fees	1,000	
Filing fee and organization tax	500	
Office system consultant	1,500	
Painting and partitioning	3,000	
Library	1,000	
Office supply stock	3,000	
Electronic parts stock	8,000	
Total		18,000

Capital Equipment

Machines	10,000	
Special Tools	4,000	
Small Tools	3,000	
Test Equipment	9,000	
Office Machines	5,000	
Furniture	8,000	
Total		39,000

Manufacturing Parts

Transistors	20,000	
Ferrite Cores	10,000	
Vacuum Tubes	4,000	
Electronic Parts	15,000	
Mechanical Parts	13,000	
Miscellaneous	10,000	
Total		82,000

Monthly Operating Cost

Salaries and Wages	12,000/month	
Consultants	300/month	
Accountant	300/month	
Legal fees	300/month	
Taxes		
Rent, Insurance, Utilities, and Misc. Overhead	3,500/month	
Auto Rental	200/month	
Travel	550/month	
Advertising	500/month	
Office Supplies	200/month	
Total	16,850/month	
12 months @ 16,850/month		202,200

1st Year Total Cash Required 341,200

FIRST YEAR BUDGET

Initial Charges

Legal fees	1,000	
Filing fee and organization tax	500	
Office system consultant	1,500	
Painting and partitioning	3,000	
Library	1,000	
Office supply Stock	3,000	
Electronic parts stock	8,000	
Total		18,000

Capital Equipment

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Test Equipment	9,000	
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Electronic Parts	15,000	
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Miscellaneous	10,000	
Total		82,000

Monthly Operating Costs

Salaries and wages		12,000/month	
Consultants		300/month	
Accountant		300/month	
Legal fees		300/month	
Taxes			
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Auto Rental		200/month	
Travel		550/month	
Advertising		500/month	
Office Supplies		200/month	
	Total	16,850/month	
12 months	16,850/month		202,200

1st Year Total Cash Required	341,200