

EASY FINANCE IV

commodore 64



	1988	1989	1990
Contribution to consolidated pre-tax income (millions)	186.8	192.9	182.5
Capital expenditures (millions)	182.5	182.5	182.5
Carloads handled	75.4	75.4	75.4
Operating ratio	0.10	0.10	0.10
Revenue ton miles	575	575	575
Average haul per ton	186.3	186.3	186.3
Track miles of rail laid	822.0	822.0	822.0
Ties inserted	1,940	1,940	1,940
Freight cars	2739	2739	2739
Locomotives			
Trailers			

The business of America is business

+ 486

THIS PRODUCT REQUIRES COMMODORE 1541 DISK DRIVE

commodore

EASY FINANCE IV

COPYRIGHT

This software product is copyrighted and all rights reserved by Commodore Electronics, Ltd. The distribution and sale of this product are intended for the use of the original purchaser only. Lawful users of this program are hereby licensed only to read the program, from its medium into memory of a computer, solely for the purpose of executing the program. Duplicating, copying, selling, or otherwise distributing this product is a violation of the law.

This manual is copyrighted and all rights are reserved. This document may not, in whole or in part, be copied, photocopied, reproduced, translated or reduced to any electronic medium or machine readable form without prior consent, in writing, from Commodore Business Machines (CBM).

DISCLAIMER

COMMODORE ELECTRONICS, LTD. ("COMMODORE") MAKES NO WARRANTIES, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE PROGRAM DESCRIBED HEREIN, ITS QUALITY, PERFORMANCE, MERCHANTABILITY, OR FITNESS FOR ANY PARTICULAR PURPOSE. THIS PROGRAM IS SOLD "AS IS". THE ENTIRE RISK AS TO ITS QUALITY AND PERFORMANCE IS WITH THE BUYER. SHOULD THE PROGRAM PROVE DEFECTIVE FOLLOWING ITS PURCHASE, THE BUYER (AND NOT THE CREATOR OF THE PROGRAM, COMMODORE, THEIR DISTRIBUTORS OR THEIR RETAILERS) ASSUMES THE ENTIRE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION AND ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES. IN NO EVENT WILL COMMODORE BE LIABLE FOR DIRECT, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY DEFECT IN THE PROGRAM EVEN IF IT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. SOME LAWS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF IMPLIED WARRANTIES OR LIABILITIES FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY.

Preface

In today's fast-paced business world, you need to make the right management decisions; your Commodore 64 can show you how. EASY FINANCE helps you make the right financial decisions in areas such as:

- production
- inventory control
- compensation
- lease or purchase
- optimal quantity
- business forecasting

EASY FINANCE is completely pre-programmed; you need absolutely no programming knowledge to use this product. All the screens use several colors so the information is very clear. To make the program even easier, EASY FINANCE has a tutorial you can request to see on your screen any time during the program.

Here are the 21 business management functions EASY FINANCE can help you determine:

- Lease/purchase analysis
- Depreciation switch
- Depreciation rate
- Depreciation amount
- Salvage value
- Tax depreciation schedule
- Optimal order quantity
- Optimal production quantity
- Breakeven analysis
- Linear cost revenue schedule
- Fixed and variable production costs
- Production cost schedule
- Production alternative cost comparison
- Equipment cost analysis
- Inventory reorder point
- Inventory turnover ratio/average projections
- Production alternative profit/loss comparison
- Job cost/bidding analysis
- Profit sharing contribution
- Mutual effect of bonus payments and taxes
- Bar graph of a management decision

This manual follows the same logical sequence and uses the same terminology as the management functions you will see on your screen. Some generally accepted concepts and practices are also presented. At the end of the manual, you'll find a glossary that briefly explains some business terminology.

Read through the manual and practice the examples so you feel at ease with the package in the shortest possible time. Then, you can easily select each management function and enter your information. Each calculation requires only a few simple keystrokes. In just a few minutes, you'll master this powerful, easy-to-use product.

User Conventions

The Commodore 64 keyboard looks like a regular typewriter with a few extra keys; it is very simple to use. Here is a brief description of some of the conventions you should know to run EASY FINANCE IV.

RETURN Pressing this key transmits information to the computer's memory.

SHIFT This key is like the **SHIFT** key on a typewriter; pressing it lets you enter the top characters on double-character keys.

/ In this manual, / denotes the **CURSOR**. This is the little colored rectangle you see blinking on your screen. It shows you where to begin entering information.

=> This is the prompt character which precedes the cursor on your screen. It indicates that you will be entering information on that line.

INST/DEL You can change information you have keyed in before you press **RETURN** by using the **INST/DEL** key.

DEL stands for **DELETE**. You can delete characters on a line by following these steps:

1. Look at the cursor. The character immediately preceding its position will be the first character deleted when you press the **INST/DEL** key.
2. Press the **INST/DEL** key.
3. You will see the cursor move back one space and the character there will be erased.
4. If you wish to erase more than one character on a line, hold the **INST/DEL** key down and you will see characters deleted one at a time on your screen.
5. Continue on with the program.

'n' In this manual, any character surrounded by single quotes (') denotes entries you will key in. Enter only the character between the quotes and **not** the quotes themselves. For this example, **n** is the character, so you would key in only the **n**; not **'n'**.

"n" Any character surrounded by double quotes (") in this manual indicates information the program will present for you on the screen.

Diskette Handling

You should handle the EASY FINANCE diskette carefully; it contains your computer programs. Follow these instructions for the use, handling, and care of all of your diskettes.

- Store diskettes in their separate paper folders and stand them on edge to prevent damage to the magnetic surface.
- Do not damage the non-removable black diskette envelope; if the envelope is damaged, the diskette itself may also be damaged.
- Do not wash diskettes; you can purchase compressed air in a spray can from most photographic stores and this can be used to remove dust. You can also use a soft brush if necessary.
- Do not store diskettes in direct sunlight or near excessive heat of any kind.
- Do not bend diskettes; handle them very carefully, especially when you are placing them in or out of the disk drive.
- Do not open the disk drive door when the red IN USE light is on; you can damage the diskettes if you open the door.
- Do not attach paper clips to diskettes.
- If you need to label a diskette, use only a felt-tip pen.
- Do not expose diskettes to any magnetic source, such as electrical equipment or telephones; this may erase data from the diskettes.

Table of Contents

Section I Tutorial

1.1	Getting Started	1
1.2	Guidelines for Entering Information	5
1.3	Using Special Options	7
1.4	Returning to the Function Selection Menu.....	8
1.5	Using the 'R' Option.....	9
1.6	Quitting the Program	12

Section II Examples for Each Menu Selection

2.1	Lease/Purchase Analysis.....	14
2.2	Depreciation Switch	15
2.3	Depreciation Rate.....	16
2.4	Depreciation Amount	17
2.5	Salvage Value.....	18
2.6	Tax Depreciation Schedule	19
2.7	Optimal Order Quantity	20
2.8	Optimal Production Quantity	22
2.9	Breakeven Analysis	24
2.10	Linear Cost Revenue Schedule	26
2.11	Fixed and Variable Production Costs.....	27
2.12	Production Cost Schedule	28
2.13	Production Alternative Cost Comparison.....	30
2.14	Equipment Cost Analysis.....	31
2.15	Inventory Reorder Point.....	32
2.16	Inventory Turnover Ratio/Average Projections	33
2.17	Production Alternative Profit/Loss Comparison.....	35
2.18	Job Cost/Bidding Analysis	37
2.19	Profit Sharing Contribution	38
2.20	Mutual Effect of Bonus Payments and Taxes	40
2.21	Bar Graph	41

Section III Terms and Information

3.1	Production	43
3.2	Inventory Control	44
3.3	Compensation	45
3.4	Forecasting and Graphs.....	46
3.5	Lease vs. Purchase Decisions.....	47
3.6	Depreciation	48
3.7	Optimal Quantity	50

Section IV Sample Run of a Business Function

4.1	Lease/Purchase Analysis	51
-----	-------------------------------	----

Appendix A: Screen and Report Options	58
Appendix B: Calculation Methods	61
Glossary	80

Section I Tutorial

1.1. Getting Started

Here is how you start the EASY FINANCE program. We suggest you follow right along on your machine, step by step.

1. Turn on your Commodore 64 and your disk drive.
2. If you have a printer, turn it on and align the paper.
3. Insert EASY FINANCE disk with label side up into your disk drive.
4. Key in '**LOAD "*" ,8**' and press **RETURN**.
5. After "**SEARCHING FOR ***", "**LOADING**", and "**READY**" are displayed, enter '**RUN**' and press **RETURN**.

Then, you will see this on your screen:

EASY FINANCE IV
COPYRIGHT 1983
COMMODORE BUSINESS MACHINES
and
EAGLE SOFTWARE PUBLISHING, INC.

After a few seconds, this menu will be displayed for you:

\$\$ EASY * FINANCE IV \$\$

F1 — BACKGROUND COLOR
F3 — BORDER COLOR
F5 — CHARACTER COLOR
F7 — DONE

PRESS A FUNCTION KEY TO CHANGE COLORS

The function keys are located on the right side of the Commodore 64 keyboard. Try pressing each one several times so you can see what colors are possible on your screen. Then, choose which colors you like best for the background, border, and characters of EASY FINANCE.

When the colors on your screen are the colors you want for the program, press **F7** once. There will be a short delay and then you will see the following menu.

\$\$ EASY * FINANCE IV \$\$

BUSINESS MANAGEMENT PACKAGE

MODE: INPUT

MENU DISPLAY

- 1 LEASE/PURCHASE ANALYSIS**
- 2 DEPRECIATION SWITCH**
- 3 DEPRECIATION RATE**
- 4 DEPRECIATION AMOUNT**
- 5 SALVAGE VALUE**
- 6 TAX DEPRECIATION SCHEDULE**
- 7 OPTIMAL ORDER QUANTITY**
- 8 EXIT**
- 9 ADDITIONAL SELECTIONS**

ENTER YOUR SELECTION (1-9):/

The cursor ("I") will be blinking where you will enter your selection. Enter the number preceding the function you want to run. For example, if you want to run LEASE/PURCHASE ANALYSIS, key in '1'. If you respond with '9', you will see this screen:

\$\$ EASY * FINANCE IV \$\$

BUSINESS MANAGEMENT PACKAGE

**MODE: INPUT
MENU DISPLAY**

- 1 OPTIMAL PRODUCTION QUANTITY**
- 2 BREAKEVEN ANALYSIS**
- 3 LINEAR COST REVENUE SCHEDULE**
- 4 FIXED AND VARIABLE PRODUCTION COSTS**
- 5 PRODUCTION COST SCHEDULE**
- 6 PRODUCTION ALTERNATIVE COST COMPARISON**
- 7 EQUIPMENT COST ANALYSIS-PRESENT VALUES**
- 8 HELP**
- 9 ADDITIONAL SELECTIONS**

ENTER YOUR SELECTION (1-9):/

Enter your selection by keying in the number preceding the function you wish to perform. If you respond with '8', you will see the EASY FINANCE general overview tutorial presented on your screen. To continue through the tutorial, press 'C'; to end the tutorial and return to the first function selection menu, press 'R'.

If you enter '9', you will see this screen:

\$\$ EASY * FINANCE IV \$\$

BUSINESS MANAGEMENT PACKAGE

**MODE: INPUT
MENU DISPLAY**

- 1 INVENTORY REORDER POINT**
- 2 INVENTORY TURNOVER RATIO/AVG PROJECT**
- 3 PRODUCTION ALTERNATIVE PROFIT/LOSS**
- 4 JOB COST/BIDDING ANALYSIS**
- 5 PROFIT SHARING CONTRIBUTIONS**
- 6 MUTUAL EFFECT OF BONUS PYMTS AND TAXES**
- 7 BAR GRAPH**
- 8 HELP**
- 9 PREVIOUS SELECTIONS**

ENTER YOUR SELECTION (1-9):/

Choose the program function you want and enter the number that precedes it on the function selection menu. If you want to see the functions on the first two menus, enter '9' and the first menu will appear on your screen. Then, if you want to see the second function selection menu, enter '9' and the second function selection menu will appear. You can then see the third function selection menu again by entering '9'.

Choose the function you wish to run and then you will see different displays as you go through the program. You will be prompted for the information needed to calculate the function you chose on one of these first menus.

You may see a tutorial about the specific function you're running when you are responding to a prompt for numeric data by pressing 'T' followed by **RETURN**. To continue through this tutorial for that specific function, press 'C'; to end the tutorial and return to the point where you left the function's run, press 'R'. After you have entered all the data the program requests, EASY FINANCE will calculate the function and display the results for you.

Section 4.1 of this manual follows the program step by step for computing choice number 1 on the first of the three function selection menus, LEASE/PURCHASE ANALYSIS.

1.2. Guidelines for Entering Information

Here are some guidelines you should know when you are responding to the EASY FINANCE prompts:

- There are two ways you can enter responses to the EASY FINANCE prompts. Some prompts require that you press **RETURN** after you enter the information and some do not.
 1. If your response consists of only one character, such as ‘Y’ or ‘N’, do not press **RETURN**.
 2. If your response consists of numeric data, such as your response to the **INTEREST RATE** prompt, you must press **RETURN** after entering your response.
- You may respond to a prompt with ‘0’ by simply pressing the **RETURN** key; you will see a “0” on the next menu that displays your response.
- The message “**DATA ERROR**” will flash if entries are incorrect. If this happens immediately after you have keyed in your information, press any key and you will be prompted to change the incorrect item. Enter the correct information and continue on with the program from that point. If the message “**DATA ERROR**” flashes while you are waiting for EASY FINANCE to calculate your results, you must enter valid data. You may want to refer to the tutorial or this manual to see what entries are valid for your specific responses.
- EASY FINANCE can perform calculations on your individual responses. If you want the program to add (“+”), subtract (“-”), multiply (“*”), or divide (“/”) your entry, simply enter the appropriate arithmetic operator between your responses. For example:
 1. The program prompts you to enter the on-hand monthly quantity.
 2. You know your weekly on-hand quantity is 50, so you can enter ‘50 * 4’.
 3. The next screen will display your on-hand monthly quantity as ‘200.00’.
- Exponents will not be accepted by the program; you must enter all responses in decimal format.
- Your screen shows only two decimal places, but if you enter more than two, the extended values will be used in processing your answer.

- Enter percent values as percents; do not enter them as hundredths. For example, 5 & 3/4% is entered as '5.75'; it is not entered as '.0575'.
- If you enter a value that is more than nine digits long, percent signs ("%%%%") will appear on the screen because the screen cannot display numbers with more than nine digits. However, EASY FINANCE can perform calculations on these numbers, so the program will still process correctly. You will not be able to view any answer that is more than nine digits long.
- If the result of any calculation is greater than 10 raised to the 38th power, the message "**FATAL ERROR**" will flash on your screen and the program will stop running at this point. You **must** turn off your Commodore 64 and start the program over again.
- When EASY FINANCE prompts you for a whole number, any decimal value you may enter will not be processed even though that value will be displayed. For example:
 1. For the NUMBER OF YEARS prompt, enter '4.1'.
 2. On the next display, you will see "4.1" listed as the NUMBER OF YEARS.
 3. EASY FINANCE will calculate the answer using '4' for the NUMBER OF YEARS.

You may enter decimal values for any prompts that do not require whole numbers, such as INTEREST RATE.

1.3. Using Special Options

There are six special options you may want to use when you are running the EASY FINANCE program. You can use these options only at certain points during the program's run. The options are:

1. 'T'

- Displays the tutorial for the function you are currently running. Valid only when the EASY FINANCE disk is in the disk drive and you are responding to a data item prompt, such as "**NUMBER OF YEARS**".

2. 'D'

- Displays everything you have entered for this function. Useful when you are running a function that presents more than one screen of data. Valid only when you are responding to a data item prompt or one of these prompts:
 - "**ANY CORRECTIONS? (Y OR N)**"
 - "**PRINTER OUTPUT? (Y OR N)**"

3. 'S'

- Erases all previous entries and causes the program to prompt you for entries again. Valid only when you are responding to a data item prompt, such as "**NUMBER OF YEARS**".

4. 'N'

- Cancels your request to change information you have entered. Valid only when you are responding to the prompt, "**ITEM NUMBER TO BE MODIFIED**".

5. 'P'

- Prints what you are currently viewing on the screen. Valid only when you are responding to the prompt, "**RE-RUN? (Y OR N, OR P)**". If you use the **P** option, you must wait until printing has completed before you enter any more information. You may see a "**WAIT . . . PRINTING**" message on your screen while printing occurs.

NOTE:

If your printer is disconnected or turned off, this option is ignored.

6. 'K'

- Stops tabular screen or printer output; the program returns to the first function selection menu. Valid only when tabular output is being presented.

1.4. Returning to the Function Selection Menu

If you want the program to go back to the first function selection menu before the function has completed, simply press the up-arrow key located in the upper right-hand section of your keyboard next to the **RESTORE** key and, if necessary, press **RETURN**. (You must press **RETURN** if you have just responded to a prompt for numeric data.)

If you want **EASY FINANCE** to return directly to the function selection menu from which you chose the function you are currently running, answer '**N**' to the "**RE-RUN? (Y, OR N, OR P)**" prompt.

1.5. Using the 'R' Option

EASY FINANCE will remember your results from one function to the next. You can ask EASY FINANCE to insert this information by entering 'R' when you are prompted for data; EASY FINANCE remembers only its most recent function's run. If you interrupt the program using the up-arrow key or 'K', the 'R' values will be lost and you will have to key in the information yourself. Here is an example of how you use 'R':

1. Run EASY FINANCE to determine DEPRECIATION RATE.
2. EASY FINANCE calculates the DEPRECIATION RATE to be 13.4%.
3. Run EASY FINANCE to determine DEPRECIATION AMOUNT.
4. When you are prompted for DEPRECIATION RATE, key in 'R'. EASY FINANCE will use 13.4% for the DEPRECIATION RATE and calculate DEPRECIATION AMOUNT.

The 'R' option is a convenient way to run various functions. Here is some more information you may want to know about the 'R' option:

- EASY FINANCE always saves the calculation or final results of running any function; the program may also save other information as well. EASY FINANCE uses this data in the next run of the program if you enter 'R' when you are prompted for that specific information.
- Functions using multiple fields, like SALARY #1, #2, #3, and #4, save all the field values you enter; when you run another function and key in 'R' to the SALARY #1 prompt, the program will fill that field and all the remaining fields, SALARY #2, #3, and #4, with the responses you entered in the most recent run of the program. You will not have to enter 'R' to each SALARY field.
- Program prompts requiring date information will not accept 'R' as a response.

You may want to know what each function saves so you can key in 'R' when you are prompted for information you have just entered during a previous function's run. Here is a table of what each function saves:

Function Number and Title	Information Saved
1. LEASE/PURCHASE ANALYSIS	Difference between lease value and purchase value calculation Depreciation amounts you key in
2. DEPRECIATION SWITCH	Year number for switch
3. DEPRECIATION RATE	Depreciation rate calculation
4. DEPRECIATION AMOUNT	Depreciation amount calculation
5. SALVAGE VALUE	Salvage value calculation
6. TAX DEPRECIATION SCHEDULE	Yearly depreciation amounts calculation
7. OPTIMAL ORDER QUANTITY	(Not applicable)
8. OPTIMAL PRODUCTION QUANTITY	Optimal production quantity calculation
9. BREAKEVEN ANALYSIS	If maximum can be achieved, the maximum total profit calculation is saved. If maximum is unbounded, the revenues at breakeven points are saved.
10. LINEAR COST AND REVENUE SCHEDULE	First 45 profit results calculation
11. FIXED AND VARIABLE PRODUCTION COSTS	Variable cost/unit calculation

12. PRODUCTION COST SCHEDULE	Unit cost amounts calculation
13. PRODUCTION ALTERNATE COST COMPARISON REPORT	(Not applicable)
14. EQUIPMENT COST ANALYSIS	Present value of costs calculation Cash disbursement amounts you key in
15. INVENTORY RE-ORDER BID	Number of units at which to reorder calculation
16. INVENTORY TURNOVER/RATIO AVERAGE PROJECTIONS	Turnover ratio calculation Quantity sold you key in
17. PRODUCTION ALTERNATIVE PROFIT/LOSS COMPARISON	(Not applicable)
18. JOB COST/BIDDING ANALYSIS	Total cost calculation Profit results calculations (first 45 only)
19. PROFIT SHARING CONTRIBUTIONS	Profit sharing amount calculations
20. MUTUAL EFFECT OF BONUS PAYMENTS AND TAXES	Bonus pool amount calculation
21. BAR GRAPH	Forecast figures calculation

1.6. Quitting the Program

To end the EASY FINANCE program, enter '8' when you are viewing the first function selection menu. Remember you can get to the first function selection menu any time by pressing the up-arrow key and, if necessary, pressing **RETURN**. After you enter '8', a "**BYTES FREE**" message appears on your screen, followed by "**READY**". You are now ready to begin any other program. If you want to run the EASY FINANCE program again, you must start from the beginning and load it; the program is no longer in the computer's memory.

Section II Examples for Each Menu Selection

This section shows you some typical runs of the EASY FINANCE program. An example is provided for each choice on the function selection menus (presented after the title and color selection menus): LEASE/PURCHASE ANALYSIS, DEPRECIATION SWITCH, DEPRECIATION RATE, DEPRECIATION AMOUNT, SALVAGE VALUE, TAX DEPRECIATION SCHEDULE, OPTIMAL ORDER QUANTITY, OPTIMAL PRODUCTION QUANTITY, BREAKEVEN ANALYSIS, LINEAR COST REVENUE SCHEDULE, FIXED AND VARIABLE PRODUCTION COSTS, PRODUCTION COST SCHEDULE, PRODUCTION ALTERNATIVE COST COMPARISON, EQUIPMENT COST ANALYSIS, INVENTORY REORDER POINT, INVENTORY TURNOVER RATIO/AVERAGE PROJECTIONS, PRODUCTION ALTERNATIVE PROFIT/LOSS COMPARISON, JOB COST/BIDDING ANALYSIS, PROFIT SHARING CONTRIBUTION, MUTUAL EFFECT OF BONUS PAYMENTS AND TAXES, and BAR GRAPH. You may want to test your understanding of the program by entering these exact samples and seeing that you arrive at the same answers.

For a more detailed, step-by-step presentation of a business management function, see Section 4.1.

2.1. Lease/Purchase Analysis

This function calculates the present value of the cost to lease an asset and the present value of the cost to buy the same asset. The difference in value indicates the buying or leasing advantage. You will want to choose this function when you want to know the costs of alternative methods of acquiring an asset. This function calculates a cost analysis to show you the alternative with the lower value.

A typical example of when you would use this function is in any capital asset acquisition planning process.

Sample Application

Suppose your company can buy a truck for \$8500 with a four-year loan at 15% interest and yearly payments of \$3000 or your company can lease the truck for \$3500 per year. Taxes are 48% and depreciation is linear at \$1250 per year. Should your company buy or lease?

Information You Must Enter:

1. No. of Years — '4'
2. Cost of Asset — '8500'
3. Interest Rate — '15'
4. Salvage Value — '3500'
5. Tax Rate (%) — '48'
6. Loan Payment — '3000'
7. Lease Payment — '3500'
8. Depreciation Amount Yr 1 — '1250'
9. Depreciation Amount Yr 2 — '1250'
10. Depreciation Amount Yr 3 — '1250'
11. Depreciation Amount Yr 4 — '1250'

NOTES:

1. The term cannot exceed 45 years.
2. Lowest cost value is the most advantageous.

Results:

**"LOAN VALUE \$3620 LEASE VALUE \$5196
BUY = + 1576"**

2.2. Depreciation Switch

EASY FINANCE calculates the point where a switch to straight line depreciation from an accelerated declining balance method will allow for larger depreciation amounts in an asset's later years. Usually, this switch is made slightly after the midpoint in the depreciable life of an asset. This function will tell you precisely when the switch should be made.

Typical examples of this function's use are in any financial computation involving an asset.

Sample Application

Suppose your company has a printing press that should last seven years. Nine months depreciation on the press remains in the current fiscal year. When should your company switch from 150% declining balance to linear depreciation to maximize depreciation amounts?

Information You Must Enter:

- | | | |
|------------------------|---------|-----------------------------------------------------------------------|
| 1. Depreciation Method | — '150' | (percent of declining balance in the depreciation method you use now) |
| 2. Life of Asset | — '7' | (years) |
| 3. No. of Dep. Months | — '9' | (remaining in first fiscal year) |

NOTE:

For computation precision, EASY FINANCE uses a fixed asset cost of \$1000000 for separating close calculations.

Results:

**“SWITCH FROM 150% DECLINING BALANCE
TO LINEAR IN YEAR # 4”**

2.3. Depreciation Rate

This function calculates the actual annual depreciation rate for an asset if you know the original price and current value. You will want to use this function when you want to know what the average annual depreciation rate has been or is likely to be on purchased assets. This function does not determine depreciation for income tax deductions. The depreciation rate EASY FINANCE calculates shows you how fast an asset can lose value; it is the basis for determining the average value of used automobiles.

Typical examples of the DEPRECIATION RATE function are in determining the approximate rate at which personal properties, such as a car, lose value in a year. This function is also useful as an analytical or planning tool for capital asset average depreciation per year (not for tax purposes).

Sample Application

Suppose your company bought a printing press for \$100000 and sold it for \$33000 five years later. What was the actual depreciation rate?

Information You Must Enter:

1. Original Purchase Price — '100000'
2. Age in Years — '5'
3. Salvage Value — '33000' (or current resale price)

NOTE:

This function calculates the actual yearly rate at which an item loses value; not depreciation rates used for tax deduction purposes on long-term assets.

Results:

"DEPRECIATION RATE = \$ 19.89%"

2.4. Depreciation Amount

This function calculates the actual dollar amount depreciated for an asset in a given year if you know the original purchase price and the depreciation rate. You should use this function to determine annual depreciation amount for analytical or planning purposes for a specific year. This function cannot be used to determine a useful life depreciation schedule for tax depreciation purposes. You may want to run the program several times with a reduced ORIGINAL PRICE and a different RATE OF DEPRECIATION to get an estimated depreciation picture over several years.

You can use this function as a planning tool for estimating annual depreciation amounts (not for tax purposes) or for estimating how much personal property, such as your car, will depreciate in a given year.

Sample Application

Suppose your company bought a milk truck for \$6550. Using an annual depreciation rate of 22.5%, how much can the company deduct for depreciation during the third year of ownership?

Information You Must Enter:

- | | | |
|-------------------------|-----------|----------------------|
| 1. Original Price | — '6550' | |
| 2. Age in Years | — '3' | (depreciation years) |
| 3. Rate of Depreciation | — '22.50' | (annually) |

Results:

"DEPRECIATION FOR THIS YEAR \$885.17"

2.5. Salvage Value

You will want to use this function when you want to know the amount you might expect to recover when you sell an asset. This function is not used to determine salvage value for tax depreciation purposes. EASY FINANCE calculates the actual remaining value of an asset at the end of a given depreciation year if you know the original purchase price and depreciation rate.

A typical application of the SALVAGE VALUE function is to estimate the salvage value or selling price you expect to receive when you dispose of an asset.

Sample Application

Suppose your company bought a truck for \$9000; it has a 20.5% depreciation rate. What is the depreciated value of the truck four years later?

Information You Must Enter:

1. Original Purchase Price — '9000'
2. Age in Years — '4'
3. Rate of Depreciation — '20.50' (annually)

Results:

"SALVAGE VALUE AT THIS TIME \$3595.10"

NOTE:

This function calculates an actual remaining replacement value of the item. It does not determine a depreciation balance used for tax deduction purposes on long-term assets. For this information, use the TAX DEPRECIATION SCHEDULE function.

2.6. Tax Depreciation Schedule

This function calculates annual depreciation amounts and remaining balances using accelerated declining balance, sum of digits, or the new ACRS method.

You will want to use this function when you are planning any capital asset acquisition; it will be particularly helpful if you transfer depreciation schedules to the LEASE/PURCHASE ANALYSIS function.

Sample Application

Suppose your company bought a new printing press in 1982 for \$100000. The press will last ten years. What are the annual depreciation amounts if the new ACRS method is used?

Information You Must Enter:

- | | | | |
|------------------------|---|----------|------------------------------------------|
| 1. Original Price | — | '100000' | |
| 2. No. of Years | — | '10' | (45 is maximum) |
| 3. Salvage Value | — | '0' | |
| 4. Depreciation Method | — | '1' | (0 or 1) |
| 5. Year of Purchase | — | '82' | |
| 6. Property Class | — | '0' | (0 or 1) |
| 7. Month of Purchase | — | '0' | (for ACRS real estate calculations only) |

NOTES:

For ACRS computation only:

1. For assets, 1981-1984 tax laws allow 150% declining balance (1/2 year convention) with later switch to linear.
2. Starting in 1985, the tax laws will allow for 175% declining balance with later switch to sum of digits.
3. Starting in 1986, the tax laws will allow for 200% declining balance with later switch to sum of digits.

Results:

“ YEAR	DEPREC.	BALANCE
1982	8000.00	92,000.00
1990	9000.00	0.00”

2.7. Optimal Order Quantity

This function calculates the optimal order quantity that would minimize costs at each price break level and indicates if that quantity is within level range. You can analyze the unique ordering characteristics of your different products and ordering practices and alter the variables in this function to optimize profits. When you use this function, you can balance these cost conflicts:

- **Large Inventory Advantages**
 - Lower administrative cost from fewer orders
 - Lower per unit cost because of quantity discounts and freight
 - Fewer lost sales or delayed billings caused by stock outs
 - Better customer service
- **Small Inventory Advantages**
 - Lower interest costs
 - Lower warehousing costs
 - Lower obsolescence costs
 - Lower insurance costs
 - Lower taxes

Typical examples of this function's use are in breakeven analysis and profit planning where inventory planning is critical.

Sample Application

Suppose your company buys widgets marked at \$6. For orders up to 799, you get a 15% discount. If you order up to 1499, a 20% discount is provided. For orders of 1500 and over, you get 25% off. Your company uses 12000 units annually. Hold costs are 10% per unit and order costs are \$9. How should your company order?

Information You Must Enter:

OPTIMAL ORDER QUANTITY

1. # PRICE BREAKS	=	3.00
2. DISCOUNT METHOD	=	0.00
3. BASE PRICE/UNIT	=	6.00
4. UNIT HOLD COST	=	10.00
5. ORD. PLACE COST	=	9.00
6. ANNUAL SALE/USE	=	12000.00
7. MIN QUAN PB# 1	=	1.00
8. MAX QUAN PB# 1	=	799.00
9. PRICE/ % PB# 1	=	15.00
10. MIN QUAN PB# 2	=	800.00
11. MAX QUAN PB# 2	=	1499.00
12. PRICE/ % PB# 2	=	20.00
13. MIN QUAN PB# 3	=	1500.00
14. MAX QUAN PB# 3	=	2500.00
15. PRICE/ % PB# 3	=	25.00

Results:

OOQ	# ORDERS	MIN QUAN	MAX QUAN	UNIT PRICE
650	19.00	1.00	799.00	5.10
670	18.00	800.00	1499.00	4.80*
692	18.00	1500.00	2500.00	4.50*

NOTES:

1. A maximum of 15 price breaks is allowed.
2. If there is an asterisk after the output line, the optimal order quantity is not within the minimum/maximum range for that level.

2.8. Optimal Production Quantity

This function calculates the optimal quantity level for a set-up and the number of set-ups per year to produce an item where production and sales rates are known. The optimal quantity minimizes set-up and holding costs. When you use this function, you can balance these production and inventory maintenance conflicts:

- **Large Inventory Advantages**
 - Lower administrative cost from fewer orders
 - Less frequent machine set-ups; longer production runs
 - Lower non-productive labor costs
 - Less machine down time
 - Less scrap
 - Better customer service
 - Lower cost per unit
 - Few lost sales or delayed billings from stock outs
- **Small Inventory Advantages**
 - Lower interest costs
 - Lower warehousing costs
 - Lower obsolescence costs
 - Lower insurance costs
 - Lower taxes

You can use the variables in this function to reflect your unique situation. For example, if your product happens to have abnormally high scrap costs immediately after set-up but then declines, you might use a high set-up cost to reduce the number of set-ups. If your product has a high profit margin, the cost of a stock out is severe; you can influence this optimal quantity toward a larger order quantity to reduce stock outs by reducing the holding cost.

Typical examples of this function's use are in breakeven analysis and profit planning where inventory planning is critical.

Sample Application

Your company makes many different kinds of widgets and produces 500 per day. You ship 225 per day and 50000 of each kind per year. Hold costs are \$.25 per unit and tool set-up costs for each type are \$200. What is the best production plan?

Information You Must Enter:

- | | | | |
|----------------------------|---|-----------------|--------------------------------------|
| 1. Production rate | — | 500.00 | (units made per day) |
| 2. Daily sale/use rate | — | 225.00 | |
| 3. Annual sale/use rate | — | 50000.00 | |
| 4. Unit holding costs | — | 0.25 | (in dollars) |
| 5. Production set-up costs | — | 200.00 | (to switch from one type to another) |

NOTE:

EASY FINANCE assumes each type of unit is sold at the same rate and at the same price (equal market potential).

Results:

**“OPTIMAL # OF SET-UPS 4 per year
OPQ 12500 units”**

2.9. Breakeven Analysis

This function calculates the breakeven point for a product using a non-linear method which incorporates a curve for costs and prices. Revenue at breakeven and maximum gross profit, revenue costs, and profit at maximum point are also calculated. This function will help you in individual product planning and product mix strategy when you have multiple products or anticipate introducing new items. Breakeven is reached when costs are equal to sales revenue; there is no profit or loss at the breakeven point. A breakeven analysis helps you measure:

- what sales volume is needed to make a profit on potential new products;
- when price or volume on existing products has decreased to an unprofitable level; and
- when to make expansions.

Breakeven analysis uses these concepts:

- Price erosion
 - Allows for a unit price that might decrease as volume increases as in the familiar supply and demand concept; if this does not apply to your analysis, enter '0' for this value.
- Variable learning rate
 - Suggests that variable costs may not remain constant per unit as production increases. Learning rate can apply to any type of cost; if costs do not remain constant, enter '0' for this value.

Typical examples of this function's use can be found in product profitability analysis.

Sample Application

Suppose your company has a new product with a \$15000 fixed overhead. Each unit costs \$7 to make with 6% cost increases as production doubles. Unit price is \$30 and it decreases on a 2% curve. What is the breakeven point?

Information You Must Enter:

1. Unit Price	—	30.00	
2. Unit Price Erosion Rate	—	-2.00	(negative percent for decreasing price)
3. Variable Costs per Unit	—	7.00	
4. Variable Learning Rate	—	6.00	(positive percent for increase)
5. Total Fixed Overhead Costs	—	15000.00	

NOTES:

1. Fixed costs do not vary with production of each unit.
2. If costs and revenues are linear or unbounded, maximum gross profit point cannot be computed.

Results:

BREAKEVEN = 1298 UNITS		
TOT REVENUE AT BREAKEVEN	= \$	31598.00
MAX. GROSS PROFIT MARGIN	=	27.36%
AT 8582 UNITS		
TOTAL REVENUE	= \$	197724.00
TOTAL COSTS	= \$	143635.00
TOTAL PROFIT	= \$	54089.00

2.10. Linear Cost Revenue Schedule

This function calculates a schedule of profit or loss over a range of production and determines the breakeven point in units. With a proper forecast of the range of possible sales, you can plan your management techniques wisely. After allowing for fixed costs, variable costs, and selling price, profit and loss are usually determined by the quantity or output sold. If you anticipate a loss, you can secure the additional financing to cover it or you may want to drop the product; if you foresee a profit, you can investigate investment opportunities.

Typical examples of this function's use are in job costing and breakeven analysis.

Sample Application

Your fixed costs are \$1000. Variable costs are \$5 per unit and the selling price is \$9 per unit. What is the profit or loss at 200 units and what is the breakeven point?

Information You Must Enter:

1. Fixed Costs	—	\$1000.00	
2. Costs per Unit	—	5.00	(variable)
3. Unit Price	—	9.00	
4. Start Quantity	—	100.00	
5. End Quantity	—	300.00	
6. Units Interval	—	10.00	(between quantities)

NOTES:

1. Start Quantity must be less than End Quantity by at least one interval unit.
2. You can see a linear graph of production vs. profit by using the 'R' option explained previously.

Results:

**“BREAKEVEN POINT 250 UNITS
AT 200 UNITS THERE IS A \$200 LOSS”**

2.11. Fixed and Variable Production Costs

This function calculates fixed and variable costs per unit from two different production levels and the corresponding total production costs. Production costs include costs that do not vary with production and costs that vary directly with production. Fixed costs stay the same per unit no matter how much you produce, so between any two points of production, the change in total costs can be attributed to variable costs. From this, you can determine variable cost per unit and calculate fixed costs. If output increases by \$10,000 and total costs rise by \$20,000, variable cost per unit is \$2. At a level of output of 5000 units, if total costs are \$15,000 then fixed costs are \$5000.

Typical examples of this function's use are in job costing and breakeven analysis.

Sample Application

Suppose your total production costs at an output of 15,000 units are \$50,000; at an output of 25,000 units total production costs are \$60,000. What are fixed and variable costs per unit?

Information You Must Enter:

1. Run #1 Total Cost — '50000.00'
2. Run #1 Quantity — '15000.00'
3. Run #2 Total Cost — '60000.00'
4. Run #2 Quantity — '25000.00'

NOTE:

EASY FINANCE assumes variable costs are linear over the relevant range of output and this output is within the capacity purchased by the fixed costs.

Results:

**"FIXED COSTS \$35,000.00
VARIABLE COSTS \$1.00 PER UNIT"**

2.12. Production Cost Schedule

EASY FINANCE can help you find the most profitable level of production. Use this function when you want to determine unit cost and total cost for various levels of production. To be profitable, revenues must be sufficient to cover all the costs of production; this function helps you examine three of these costs:

1. overhead
2. fixed costs
3. variable costs

Total and unit costs for each production level are calculated to help you find the most profitable level of production; this will help you in product pricing and production scheduling. For a set price, this function can help you choose a profitable production level. If you determine the production level first, the component cost can help you set a pricing structure that will assure profitability.

Examples of this function's use include production planning, profit planning, and production method decisions.

Sample Application

Suppose your fixed costs are \$30,000 and overhead is \$10,000. Variable costs are \$20 per unit and production is 100,000 units. What are the total cost and the unit cost?

Information You Must Enter:

- | | | |
|----------------------------|---------------|----------------------|
| 1. Total Fixed Costs | — '40000' | (including overhead) |
| 2. Variable Costs per Unit | — '20.00' | |
| 3. Variable Learn Rate | — '0' | |
| 4. Start Quantity | — '100000.00' | |
| 5. End Quantity | — '200000.00' | |
| 6. Units Interval | — '10000.00' | (between quantities) |

NOTES:

1. Units Interval must be at least '1'.
2. You can apply a variable learning rate to increase cost when production doubles.

Results:

QUANTITY	FIXED COSTS	VAR COSTS	TOTAL COSTS	COSTS/UNIT
10000	40000.00	2000000.00	2040000.00	20.40
11000	40000.00	2200000.00	2240000.00	20.36
12000	40000.00	2400000.00	2440000.00	20.33
13000	40000.00	2600000.00	2640000.00	20.31
14000	40000.00	2800000.00	2840000.00	20.29
15000	40000.00	3000000.00	3040000.00	20.27
16000	40000.00	3200000.00	3240000.00	20.25
17000	40000.00	3400000.00	3440000.00	20.24
18000	40000.00	3600000.00	3640000.00	20.22
19000	40000.00	3800000.00	3840000.00	20.21
20000	40000.00	4000000.00	4040000.00	20.20

2.13. Production Alternative Cost Comparison

This function calculates the total and unit cost for each alternative production process over the range of production quantities you choose; this helps you analyze production alternatives. Varied production processes have different cost structures and production costs. When you are analyzing production alternatives, you should look at fixed and variable costs for each alternative and the different levels of output for each.

You will want to use this function for production planning, profit planning, and production method decisions.

Sample Application

Suppose you want to know the production cost for 250 units by each of the following alternative production processes:

	Fixed Costs	Variable Costs per Unit
1.	\$1000	\$8
2.	\$2000	\$2

Information You Must Enter:

1. No. of Alternative Methods — '2'
2. Start Quantity — '150'
3. End Quantity — '350'
4. Units Interval Bet. Quant. — '20'
5. Fixed Costs Method #1 — '1000'
6. Variable Costs Meth #1 — '8'
7. Fixed Costs Method #2 — '2000'
8. Variable Costs Meth #2 — '2'

NOTES:

1. The number of alternate methods must be between 2 and 4.
2. Units interval between quantities must be greater than 0.

Results:

The production cost for 250 units by each method is:

**"METHOD # 1 \$3000.00
METHOD # 2 \$2500.00"**

2.14. Equipment Cost Analysis

This function determines the present value of net costs and the equivalent annual expenditures for equipment. You can use this information to determine the optimum purchase price of the equipment and compare alternative equipment usage methods.

Most businesses are constantly evaluating the acquisition of equipment to increase productivity; managers determine useful lives, purchase prices, and disbursements. To compare the costs of different equipment, you need to express these costs in like terms; EASY FINANCE calculates the present value of the cost of each alternative and determines the equivalent annual cost of each.

You will want to use this function for capital budgeting and production method decisions.

Sample Application

Suppose you have a \$10,000 machine which requires \$3000 per year maintenance over five years of life with 0 salvage value. If the required rate of return is 10%, what is the net present value of costs and equivalent yearly expenditures?

Information You Must Enter:

- | | |
|----------------------|--------------|
| 1. Economic Life | — '5.00' |
| 2. Initial Costs | — '10000.00' |
| 3. Annual Int. Rate | — '10.00' |
| 4. Salvage Value | — '0' |
| 5. Cash Disb Year #1 | — '3000' |
| 6. Cash Disb Year #2 | — '3000' |
| 7. Cash Disb Year #3 | — '3000' |
| 8. Cash Disb Year #4 | — '3000' |
| 9. Cash Disb Year #5 | — '3000' |

NOTE:

1. The economic life cannot exceed 45 years.

Results:

**"PRESENT VALUE OF NET COSTS \$21372.36
EQUIVALENT ANNUAL EXPENDITURES \$5637.97"**

2.15. Inventory Reorder Point

This function determines when you should place your next order. Your inventory management is crucial to your business success; you must know how much and when to order. The optimal reorder point occurs when your inventory equals the lead time times the inventory used per day. The lead time is the length of time between order placement and order receipt.

When you are ready to reorder, the inventory levels should drop to zero or to the safety stock level immediately prior to receiving additional inventory. You should make adjustments to the reorder point if you anticipate an increase or decrease in demand or an increase or decrease in lead time.

Typical examples of this function's use are in economic order quantity and storage requirements.

Sample Application

Your company's total annual demand is 15,200 units and lead time for receiving orders is 28 days. What is the reorder point for your company?

Information You Must Enter:

- | | | |
|--------------------|-----------|-----------------------|
| 1. Product Number | — '555' | |
| 2. No. Days Safety | — '0' | |
| 3. Avg. Daily Use | — '42.22' | |
| 4. No. of Lag Days | — '28' | (until order receipt) |

NOTES:

1. EASY FINANCE assumes inventory is used at an equal rate every day.
2. To enter AVERAGE DAILY USE, divide total annual demand by 360 using the calculator option described previously.

Results:

"REORDER FOR THIS PRODUCT 1182 UNITS"

2.16. Inventory Turnover Ratio/Average Projections

This function calculates the number of times the average level of inventory can be produced for a given cost of goods sold at that level. Linear projection for goods sold during the next period is also calculated.

Your firm's inventory level is important for two reasons:

1. If the inventory level is too high, you must:
 - finance it;
 - pay tax on it;
 - store it;
 - risk theft;
 - risk obsolescence; and
 - risk spoilage.
2. If the inventory level is too low, you must:
 - risk stock outs;
 - risk reduced sales;
 - risk increased ordering costs; and
 - risk increased set-up costs if you are a manufacturer.

You should set inventory levels to minimize the costs associated with these problems.

You will want to use this function for ratio analysis and inventory control.

Sample Application

Suppose you want to know the inventory turnover ratio for this set of figures:

Value per item = 20 Cost per item = 10

	Period One	Period Two
Quantity on hand	2000	1000
Quantity sold	6000	7000

Information You Must Enter:

1. No. of Periods — '2'
2. Product Number — '1111'
3. Value per Item — '20'
4. Cost per Item — '10'
5. On Hand Period #1 — '2000'
6. Sold Period #1 — '6000'
7. On Hand Period #2 — '1000'
8. Sold Period #2 — '7000'

NOTES:

1. The number of periods cannot exceed 24.
2. You can have EASY FINANCE give you a bar chart of the units sold by using the 'R' option described previously.

Results:

"TURNOVER RATIO 4.333"

2.17. Production Alternative Profit/Loss Comparison

This function determines a schedule of profit or loss for each production process at a range of specified quantity levels. When you know the profits for each level of possible output for each possible production process, you can choose the alternative that yields the greatest profits for the expected product demand.

Operating leverage is the tradeoff between fixed and variable costs in the production process; it is an important consideration in profit/loss comparison. As fixed costs increase, variable costs should decrease. For instance, a labor intensive operation could be automated, saving the variable labor expense. The cost of automation would be a fixed cost; it would not change as output changes. At very high output levels the automated process would be more profitable, but at very low output levels the losses would be magnified for the automated process. If output is forecasted as being high, you would want to automate; at low output levels, your operation should be labor intensive.

Typical examples of this function's use can be found in production planning, profit planning, and production method decisions.

Sample Application

Suppose you want to know the profit or loss at 250 units of production sold for \$11 each for these production alternatives:

	#1	#2
Fixed Costs	\$1000	\$2000
Variable Cost per Unit	\$ 8	\$ 2

Information You Must Enter:

- | | | |
|----------------------------|----------|----------------------|
| 1. No. Alternate Methods | — '2' | |
| 2. Start Quantity | — '200' | |
| 3. End Quantity | — '300' | |
| 4. Units Interval | — '50' | (between quantities) |
| 5. Fixed Cost Method #1 | — '1000' | |
| 6. Variable Cost Method #1 | — '8' | |
| 7. Price per Unit Meth #1 | — '11' | |
| 8. Fixed Cost Method #2 | — '2000' | |
| 9. Variable Cost Method #2 | — '2' | |
| 10. Price per Unit Meth #2 | — '11' | |

NOTES:

1. The number of alternative methods must be between 2 and 4.
2. The units interval must be greater than 0.

Results:

For 250 units:

"#1 \$250 LOSS #2 \$250 PROFIT"

2.18. Job Cost/Bidding Analysis

This function determines profits and corresponding bids for a job based on fixed and variable cost factors and anticipated markup. You must include a profits factor in addition to figures for recovering your direct costs and production overhead in your pricing decisions; the profits factor is a percentage of the production costs. Your total costs are the sum of the overhead, fixed costs, and variable cost per unit times the output quantity. EASY FINANCE automatically calculates your profit as the markup percentage times the total costs. The sum of total costs and profit is the amount you should bid.

You will want to use this function for pricing decisions, production planning, profit planning, and production method decisions.

Sample Application

Suppose you want to know the bid for 1000 units of output if overhead is \$500, fixed costs are \$1500, variable costs are \$20 per unit and your business is considering a 23% markup.

NOTE:

The number of cost items cannot exceed 24.

Information You Must Enter:

- | | |
|--------------------------|----------|
| 1. No. of Cost Items | — '1' |
| 2. Overhead Amount | — '500' |
| 3. Quantity to Bid | — '1000' |
| 4. Start Mark-up % | — '22' |
| 5. End Mark-up % | — '25' |
| 6. Mark-up Interval | — '1' |
| 7. Fixed Cost #1 | — '1500' |
| 8. Var. Cost per Unit #1 | — '20' |

Results:

For a 23% markup:

"PROFIT \$5060 BID \$27060"

2.19. Profit Sharing Contribution

This function determines an employee's profit sharing amount for integrated and non-integrated profit sharing plans. Corporate profit sharing contributions can be determined in many ways; this function shows you two of these methods:

1. Integrated
2. Non-integrated

Under the simpler non-integrated plan, each employee receives a percentage of the pool equal to the employee's percentage of the total salaries. For example, if the company contributes 15% of the \$100,000 in total salaries, or \$15,000, an employee who earned \$10,000 would receive 15% of the pool, or $\$10,000/\$100,000$, which would be \$1500.

Suppose a second employee is an executive who earned the remaining \$90,000. In an integrated plan, any employee who earns a salary in excess of some base figure receives a percentage of that excess; this is the integration percentage. The remaining portion of the company contribution is distributed as a non-integrated plan.

If the base figure for the executive is \$20,000, the integration percentage is 4% and the bonus pool is a company contribution of 15% of total salaries. The distribution of the \$15,000 pool is \$1220 to the first employee and \$13,870 to the executive.

Typical applications of this function are compensation packages, profit sharing, and investment financing.

Sample Application

Suppose you want to know the integrated and non-integrated portion for two employees if salaries are \$10,000 and \$90,000 with a 15% company contribution, \$20,000 base, and 4% integration.

Information You Must Enter:

- 1. No. of Employees — **2.00**
- 2. Company Contributions — **15.00**
- 3. Plan Type — **1.00** (0 is non-integrated)
- 4. Integrated Amount — **20000.00**
- 5. Integration % — **4.00**
- 6. Salary Employee #1 — **10000.00**
- 7. Salary Employee #2 — **90000.00**

NOTE:

Up to 45 employees can be calculated.

Results:

EMP #	SALARY	INTEG AMT	NON-INT AMT	TOTAL
1	10000.00	0.00	1220.00	1220.00
2	90000.00	2800.00	10980.00	13780.00
TOTAL	100000.00	2800.00	12200.00	15000.00

2.20. Mutual Effect of Bonus Payments and Taxes

This function calculates the bonus expense and the tax liability of a firm when bonus payments cause a change in the tax obligation. Generally, a bonus is tied to net income, but net income cannot be determined until after the bonus is established. If the bonus is to be treated as an expense when the bonus is being calculated, the bonus will be less than it would be otherwise.

This function can be used for computing bonuses or determining tax liability.

Sample Application

Suppose you want to know the bonus pool and tax liability for a firm in the 40% tax bracket with \$20,000 net earnings. The bonus is 25% of net income and is not treated as an expense when the bonus is calculated.

Information You Must Enter:

- | | | | |
|-------------------------|---|----------|-----------------------------------------|
| 1. Post-Tax Income | — | 20000.00 | (Amount on which to compute bonus pool) |
| 2. Bonus % Rate | — | 25.00 | |
| 3. Corporate Tax Rate % | — | 40.00 | |
| 4. Bonus Deduction | — | 0.00 | |

(0 = bonus not deducted as expenses;

1 = bonus deducted as expenses)

Results:

TAXES	= \$	6666.67
BONUS POOL AMOUNT	= \$	3333.33

2.21. Bar Graph

This function develops a forecast for a future period. The forecast for this period is determined to be the weighted and smoothed average of the preceding period's expected and actual values. This technique lets you adjust a forecast by a factor called a **smoothing constant**. The range of adjustment is from 0 to 1. A value of 2 will give a bar graph of raw input. Factors closer to 0 will weigh the values toward the forecast. Factors approaching 1 will weigh the values toward the actual value.

Typical examples of this function's use are in sales forecasting and demand forecasting.

Sample Application

Suppose your first five sales periods have actual sales of \$1000, \$2550, \$925, \$3050, and \$1810. What is the sales' forecast for period six if the smoothing value is .25? Remember that you can request results on a bar chart if you wish.

Information You Must Enter:

1. No. of Periods — '5'
2. Smoothing Value — '.25'
3. Value Period #1 — '1000'
4. Value Period #2 — '2550'
5. Value Period #3 — '925'
6. Value Period #4 — '3050'
7. Value Period #5 — '1810'

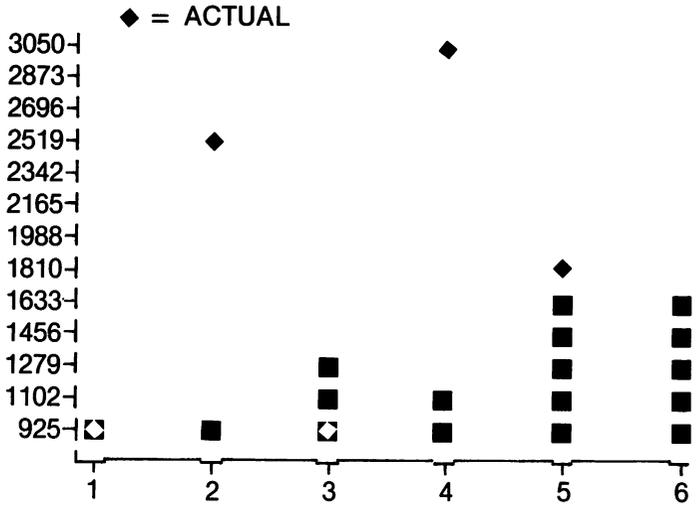
NOTE:

Only the first sixteen values will be on the bar graph.

Results:

PERIOD	FORECAST	ACTUAL	DIFF
1	1000.00	1000.00	0.00
2	1000.00	2550.00	- 1550.00
3	1387.50	925.00	462.50
4	1271.88	3050.00	- 1778.13
5	1716.41	1810.00	- 93.59
6	1739.80		

BAR GRAPH



Section III Terms and Information

3.1. Production

Controlling production costs involves many factors, such as the cost of labor, material, storage, and overhead. As a decision maker you must frequently ask questions such as:

- What's the most effective method of doing this job?
- Can the production process be made more efficient?
- What's the breakeven point?
- What is labor vs. capital?

You must ask these questions to keep improving your product-building methods and techniques. The decisions you make in the production of your products are reflected in other areas; each alternative may present well-known trade offs. For example, replacing a labor intensive operation with machinery can reduce the variable costs of your product, but it increases the fixed costs. Increasing customer service levels can mean more business, but if it means carrying more inventory, it may also mean reduced profitability. Increased costs can often be absorbed or passed on to the customer, particularly in a rapidly growing business. Products positioned in the market as a result of these kinds of decisions are subject to aggressive competition from leaner, more cost-conscious organizations.

EASY FINANCE addresses these issues with these functions:

- Linear cost and revenue schedule
- Fixed and variable production costs
- Production cost schedule
- Production alternative cost comparison report
- Equipment cost analysis
- Production alternative profit/loss comparison
- Job cost/bidding analysis

3.2. Inventory Control

You must keep your inventory under control to have a successful business. You should know:

- When to order;
- What quantities to order;
- How much storage space to allow;
- How to plan for a new shipment arrival;
- How to keep a safe inventory level; and
- How to keep costs to a minimum.

EASY FINANCE shows you how to control inventory with these functions:

- Inventory reorder point
- Inventory turnover ratio/average projections

3.3. Compensation

Compensation packages can affect your investment plans and tax liability. You should determine how much individual employees will receive and the net cost to your company for such packages. EASY FINANCE helps you with these considerations with these functions:

- Profit sharing contribution
- Mutual effect of bonus payments and taxes

3.4. Forecasting and Graphs

The EASY FINANCE program uses forecasting and graphs to calculate some of the functions. You should understand the benefits of these concepts to improve your business planning.

Forecasting is the evaluation of information with historical value and predictions of future occurrences based on probability.

Forecasting is particularly valuable in business because it reduces the uncertainty of the future by helping management assess alternatives based on ranges of performance and probabilities of occurrence. For example, a company's sales history could be used to predict future demand and trends.

Graphs are used to clarify information by presenting it in the form of pictures. You can see trends quickly when they are put on a chart; graphs show you the calculations in a format that is easily understood. Presenting a list of numbers will not tell a clear story quickly; showing these figures on a graph will help you communicate all the reasons why you've chosen a certain course for your organization.

3.5. Lease vs. Purchase Decisions

You may need to decide between leasing and purchasing equipment for your company; there are pros and cons to both, so you must make certain that your firm's cash flow allows for acquiring such equipment and that it is a good business decision.

Arguments in favor of leasing include:

- 100% of the asset is financed.
- Payments are 100% tax deductible as ordinary expenses.
- Borrowing capacity is conserved.
- Investments in fixed assets are reduced.
- Risk of obsolescence is shifted to the lessor.

Arguments in favor of purchasing include:

- Ultimate cost is lower, especially if you anticipate lease renewal.
- Terminal salvage value advantage is gained, especially if the asset appreciates.
- New accelerated depreciation laws are more liberal.
- Interest payments on the asset loan are 100% tax deductible as ordinary expense.
- Investment tax credit (ITC) applies.

3.6. Depreciation

Depreciation is an incentive for you to purchase capital assets; it reduces taxable earnings. Products wear out or otherwise lose value with use or age; depreciation is an equitable way of apportioning this type of business expense over the useful life of the asset. EASY FINANCE functions using depreciation are:

- Depreciation switch
- Depreciation rate
- Depreciation amount
- Salvage value
- Tax depreciation schedule

Here is more information about several depreciation methods.

- Sum of Years Digits

- An accelerated method of adding up all the digits that represent the depreciable years, giving you a percent to apply to the purchase price of each year to get the yearly depreciation. For example:

A five-year life on a \$10,000 asset:

Year	Fraction	Depreciation
1	5/15	\$3333.33
2	4/15	2666.67
3	3/15	2000.00
4	2/15	1333.33
5	1/15	667.67

15	15/15	\$10,000

- Declining Balance

- Applies a fixed rate each year to the net asset balance. There are several rates approved under qualified conditions; typical rates are 150%, 175%, and 200%. Straight line depreciation allows greater depreciation in later years, so you eventually switch to that.

- **Accelerated Cost Recovery System (ACRS)**
 - Replaces other methods used for assets placed in service in 1981 or later; this method contains many tax law changes. You should seek sound professional advice on how the new rules affect your business.

Property is placed in one of four classes which determines the years of depreciable life. A percentage table is set up for each class and provides the allowable percentage applied to each year. The table, applied to assets put into service from 1981-1984, approximates the results of using 150% declining balance with half year convention and switch to straight line. The 1985 table approximates the results of 175% declining balance and switch to sum of years digits. For assets placed in service after 1985, the table approximates the results of 200% declining balance and switch to sum of years digits.

3.7. Optimal Quantity

Your business objective should be to manage and balance conflicting cost elements of buying, making, and keeping inventory. EASY FINANCE functions using this concept are:

- Optimal order quantity
- Optimal production quantity

The conflicting costs are:

- Price or Production Cost
 - You can get a price discount or quantity discount or a lower per unit production cost if you buy or make a very large quantity each time.
- Ordering Cost
 - You must consider administrative costs such as labor and supplies each time you place an order or set up a machine for production. This dictates large but infrequent orders.
- Holding or Carrying Cost
 - The costs involved in holding inventory include:
 1. warehousing
 2. interest
 3. insurance
 4. taxes applied directly to inventory assetsSmall and infrequent orders are the result of holding inventory.

Section IV Sample Run of a Business Function

Here is a menu-by-menu presentation of one of the functions of the EASY FINANCE program. This example calculates LEASE/PURCHASE ANALYSIS, choice number 1 on the first function selection menu.

4.1. Lease/Purchase Analysis

When you enter '1' on the first display, the screen will clear and the following screen will appear:

```
    $$ EASY * FINANCE IV $$
    BUSINESS MANAGEMENT PACKAGE
    MODE: INPUT
    LEASE/PURCHASE ANALYSIS
    NO. OF YEARS => /
```

A cursor ("P") will be blinking on the display, waiting for your response.

For our example, the number of years is 3. Enter '3'; before you press RETURN, you may change your response by using the INST/DEL key. Your response is not entered into the computer until you press RETURN. Press RETURN and the following screen is displayed:

```
    $$ EASY * FINANCE IV $$
    BUSINESS MANAGEMENT PACKAGE
    MODE: INPUT
    LEASE/PURCHASE ANALYSIS
    1. NO. OF YEARS      =    3.00
    COST OF ASSET => /
```

You can see that your response, '3', has been entered as the number of periods. The cursor ("P") will be blinking where you will enter your response to the cost of the asset. For our example, enter '8500' and press RETURN, remembering the computer does not receive your response until you press RETURN.

Next, this screen is displayed:

\$\$ EASY * FINANCE IV \$\$
BUSINESS MANAGEMENT PACKAGE

MODE: INPUT
LEASE/PURCHASE ANALYSIS

1. NO. OF YEARS = 3.00
2. COST OF ASSET = 8500.00

INTEREST RATE (%) => /

Enter '15' for the interest rate and press **RETURN**. The next screen displayed will be:

\$\$ EASY * FINANCE IV \$\$
BUSINESS MANAGEMENT PACKAGE

MODE: INPUT
LEASE/PURCHASE ANALYSIS

1. NO. OF YEARS = 3.00
2. COST OF ASSET = 8500.00
3. INTEREST RATE (%) = 15.00

SALVAGE VALUE => /

For this example, enter the salvage value as '0' and press **RETURN**. Then, you will see this screen:

\$\$ EASY * FINANCE IV \$\$
BUSINESS MANAGEMENT PACKAGE

MODE: INPUT
LEASE/PURCHASE ANALYSIS

1. NO. OF YEARS = 3.00
2. COST OF ASSET = 8500.00
3. INTEREST RATE (%) = 15.00
4. SALVAGE VALUE = 0.00

TAX RATE (%) => /

Enter '48' for the tax rate and press **RETURN**.

After you have responded to this prompt, you will see this screen:

\$\$ EASY * FINANCE IV \$\$
BUSINESS MANAGEMENT PACKAGE

MODE: INPUT
LEASE/PURCHASE ANALYSIS

- 1. NO. OF YEARS = 3.00**
- 2. COST OF ASSET = 8500.00**
- 3. INTEREST RATE (%) = 15.00**
- 4. SALVAGE VALUE = 0.00**
- 5. TAX RATE (%) = 48.00**

LOAN PAYMENT = > /

Key in '2800' for the loan payment and press **RETURN**. Then, you will see this screen:

\$\$ EASY * FINANCE IV \$\$
BUSINESS MANAGEMENT PACKAGE

MODE: INPUT
LEASE/PURCHASE ANALYSIS

- 1. NO. OF YEARS = 3.00**
- 2. COST OF ASSET = 8500.00**
- 3. INTEREST RATE (%) = 15.00**
- 4. SALVAGE VALUE = 0.00**
- 5. TAX RATE (%) = 48.00**
- 6. LOAN PAYMENT = 2800.00**

LEASE PAYMENT = > /

Enter '2600' as the lease payment and press **RETURN**. Then, you will see this screen:

\$\$ EASY * FINANCE IV \$\$
BUSINESS MANAGEMENT PACKAGE

MODE: INPUT
LEASE/PURCHASE ANALYSIS

- 1. NO. OF YEARS = 3.00**
- 2. COST OF ASSET = 8500.00**
- 3. INTEREST RATE (%) = 15.00**
- 4. SALVAGE VALUE = 0.00**
- 5. TAX RATE (%) = 48.00**
- 6. LOAN PAYMENT = 2800.00**
- 7. LEASE PAYMENT = 2600.00**

DEP AMT YR #1 = > /

Enter '2125' and press RETURN. Then, you will see this screen:

\$\$ EASY * FINANCE IV \$\$
BUSINESS MANAGEMENT PACKAGE

MODE: INPUT
LEASE/PURCHASE ANALYSIS

1. NO. OF YEARS	=	3.00
2. COST OF ASSET	=	8500.00
3. INTEREST RATE (%)	=	15.00
4. SALVAGE VALUE	=	0.00
5. TAX RATE (%)	=	48.00
6. LOAN PAYMENT	=	2800.00
7. LEASE PAYMENT	=	2600.00
8. DEP AMT YR # 1	=	2125.00

DEP AMT YR #2 => /

Key in '3230' and press RETURN. Next, you will see this screen:

\$\$ EASY * FINANCE IV \$\$
BUSINESS MANAGEMENT PACKAGE

MODE: INPUT
LEASE/PURCHASE ANALYSIS

1. NO. OF YEARS	=	3.00
2. COST OF ASSET	=	8500.00
3. INTEREST RATE (%)	=	15.00
4. SALVAGE VALUE	=	0.00
5. TAX RATE (%)	=	48.00
6. LOAN PAYMENT	=	2800.00
7. LEASE PAYMENT	=	2600.00
8. DEP AMT YR # 1	=	2125.00
9. DEP AMT YR # 2	=	3230.00

DEP AMT YR #3 => /

Enter '3145' and press the RETURN key. Next, this screen will appear:

**\$\$ EASY * FINANCE IV \$\$
BUSINESS MANAGEMENT PACKAGE**

**MODE: INPUT
LEASE/PURCHASE ANALYSIS**

- | | | |
|----------------------|---|---------|
| 1. NO. OF YEARS | = | 3.00 |
| 2. COST OF ASSET | = | 8500.00 |
| 3. INTEREST RATE (%) | = | 15.00 |
| 4. SALVAGE VALUE | = | 0.00 |
| 5. TAX RATE (%) | = | 48.00 |
| 6. LOAN PAYMENT | = | 2800.00 |
| 7. LEASE PAYMENT | = | 2600.00 |
| 8. DEP AMT YR # 1 | = | 2125.00 |
| 9. DEP AMT YR # 2 | = | 3230.00 |
| 10. DEP AMT YR # 3 | = | 3145.00 |

ANY CORRECTIONS? (Y OR N) => /

Enter 'Y', but do not press RETURN. You will now see a prompt requesting "ITEM # TO BE MODIFIED". In this example, you want to change the interest rate, so enter '3' and press RETURN.

The next screen highlights the area you want to change (the interest rate). The last line of the display prompts you for the new interest rate. Enter '14' and press RETURN. This corrects the interest rate and another "ANY CORRECTIONS? (Y OR N)" prompt is displayed.

**\$\$ EASY * FINANCE IV \$\$
BUSINESS MANAGEMENT PACKAGE**

**MODE: INPUT
LEASE/PURCHASE ANALYSIS**

- | | | |
|----------------------|---|---------|
| 1. NO. OF YEARS | = | 3.00 |
| 2. COST OF ASSET | = | 8500.00 |
| 3. INTEREST RATE (%) | = | 14.00 |
| 4. SALVAGE VALUE | = | 0.00 |
| 5. TAX RATE (%) | = | 48.00 |
| 6. LOAN PAYMENT | = | 2800.00 |
| 7. LEASE PAYMENT | = | 2600.00 |
| 8. DEP AMT YR # 1 | = | 2125.00 |
| 9. DEP AMT YR # 2 | = | 3230.00 |
| 10. DEP AMT YR # 3 | = | 3145.00 |

ANY CORRECTIONS? (Y OR N) => /

Enter 'N' and do not press RETURN. You may see a "WAIT . . . COMPUTING" message as computation occurs. After the answer has been calculated, it replaces the "WAIT" message.

Next, a prompt for re-running the program appears on the last line of the display.

```

          $$ EASY * FINANCE IV $$
        BUSINESS MANAGEMENT PACKAGE
MODE: CALCULATION/OUTPUT
LEASE/PURCHASE ANALYSIS
  1. NO. OF YEARS           =    3.00
  2. COST OF ASSET          =  8500.00
  3. INTEREST RATE (%)      =   14.00
  4. SALVAGE VALUE          =    0.00
  5. TAX RATE (%)           =   48.00
  6. LOAN PAYMENT           =  2800.00
  7. LEASE PAYMENT          =  2600.00
  8. DEP AMT YR # 1         =  2125.00
  9. DEP AMT YR # 2         =  3230.00
 10. DEP AMT YR # 3         =  3145.00
LOAN VALUE   = $ 2307.00
LEASE VALUE  = $ 3139.00   BUY = $ + 832
RE-RUN? (Y OR N, OR P) /
```

Enter 'N'. The program returns to the first function selection menu where you may now select additional functions. To print these results, simply enter 'P'. A "WAIT . . . PRINTING" message may be displayed after the "RE-RUN" prompt until printing is finished.

If you answer 'Y' to the "RE-RUN" prompt on the preceding screen display, you will be asked if you want to begin the function with all new data. The preceding screen continues to be displayed until you enter an answer to this prompt.

If you enter 'N' to the "ALL NEW DATA" prompt after entering 'Y' to the "RE-RUN" prompt, you will be asked which item number from the previous run you wish to change. After you enter that number and press RETURN, you will see the item you wish to change displayed as described in the sample run. Proceed with the program as discussed previously.

If you enter 'Y' to the "ALL NEW DATA" prompt, the program will clear the data display area and start prompting you from the first function's prompt (in this case, NO. OF YEARS) as if you had just selected the LEASE/PURCHASE ANALYSIS function.

To end the EASY FINANCE program, enter '8' when you are viewing the first function selection menu. Remember you can get to the first selection menu any time during the program by pressing the up-arrow key and, if necessary, pressing RETURN. After you enter '8', a "BYTES FREE" message appears on your screen, followed by "READY". You are now ready to begin any other program.

Appendix A: Screen and Report Options

This section shows you samples of the tabular reports EASY FINANCE can tell your printer to print out for you. You will always see the results EASY FINANCE has calculated for you on your screen. If the function you are running presents results in tabular form, you can ask the program to make a printed copy of the tabular report if you wish. A graphic report is possible with the bar graph function, and you can have the program print this graph as well. If the function you are running does not present results in tabular form, you can request that the screen that shows the results in non-tabular form be printed.

Tabular reports are possible with these functions:

- Tax Depreciation Schedule
- Optimal Order Quantity
- Linear Cost Revenue Schedule
- Production Cost Schedule
- Production Alternative Cost Comparison
- Production Alternative Profit/Loss Comparison
- Job Cost/Bidding Analysis
- Profit Sharing Contribution
- Bar Graph

With these tabular functions the program can print:

- Exactly what you see on your screen when function results are presented; and
- A tabular report of the calculations.

With the bar graph function, the program can print the input screen, a tabular report, and a bar graph of the calculations.

Examples of tabular reports are presented in this section.

If you are running a non-tabular function and you want the program to print what is on the screen that presents the function calculations, enter 'P' when EASY FINANCE asks you "**RE-RUN? (Y OR N, OR P)**" on the screen where the results are being displayed.

If you are running a tabular function and you want the program to print the tabular report of the calculations, enter 'Y' to the "**PRINTER OUTPUT? (Y OR N)**" prompt.

If you are running the bar graph function and you want the program to print the screen, a tabular report, and a bar graph of the calculations, enter 'Y' to the "PRINTER OUTPUT? (Y OR N)" prompt and enter 'Y' to the "GRAPHIC OUTPUT? (Y OR N)" prompt. Then, enter 'Y' to the second "PRINTER OUTPUT? (Y OR N)" prompt.

If you want to see the tabular or graphic reports on your screen, but you do not want the results to be printed, simply answer 'N' to the OUTPUT prompts and the results will appear only on your screen.

LINEAR COST REVENUE SCHEDULE

- 1. FIXED COSTS = 1000.00
- 2. COSTS PER UNIT = 5.00
- 3. UNIT PRICE = 9.00
- 4. START QUANTITY = 100.00
- 5. END QUANTITY = 300.00
- 6. UNITS INTERVAL = 10.00

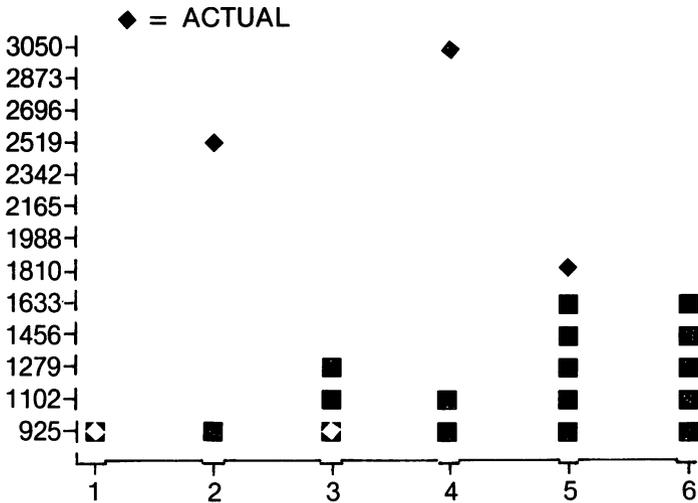
QTY	COST	REVENUE	PROFIT/LOSS	UNIT COST
100	1500.00	900.00	- 600.00	15.00
110	1550.00	990.00	- 560.00	14.09
120	1600.00	1080.00	- 520.00	13.33
130	1650.00	1170.00	- 480.00	12.69
140	1700.00	1260.00	- 440.00	12.14
150	1750.00	1350.00	- 400.00	11.67
160	1800.00	1440.00	- 360.00	11.25
170	1850.00	1530.00	- 320.00	10.88
180	1900.00	1620.00	- 280.00	10.56
190	1950.00	1710.00	- 240.00	10.26
200	2000.00	1800.00	- 200.00	10.00
210	2050.00	1890.00	- 160.00	9.76
220	2100.00	1980.00	- 120.00	9.55
230	2150.00	2070.00	- 80.00	9.35
240	2200.00	2160.00	- 40.00	9.17
*** BREAKEVEN ***				
250	2250.00	2250.00		
250	2250.00	2250.00	0.00	9.00
260	2300.00	2340.00	40.00	8.85
270	2350.00	2430.00	80.00	8.70
280	2400.00	2520.00	120.00	8.57
290	2450.00	2610.00	160.00	8.45
300	2500.00	2700.00	200.00	8.33

BAR GRAPH

1. NO. OF PERIODS	=	5.00
2. SMOOTHING VALUE	=	0.25
3. VALUE PERIOD # 1	=	1000.00
4. VALUE PERIOD # 2	=	2550.00
5. VALUE PERIOD # 3	=	925.00
6. VALUE PERIOD # 4	=	3050.00
7. VALUE PERIOD # 5	=	1810.00

PERIOD	FORECAST	ACTUAL	DIFF
1	1000.00	1000.00	0.00
2	1000.00	2550.00	- 1550.00
3	1387.50	925.00	462.50
4	1271.88	3050.00	- 1778.13
5	1716.41	1810.00	- 93.59
6	1739.80		

BAR GRAPH



Appendix B: Calculation Methods

Here are the calculation methods EASY FINANCE uses to determine each function's results. You do not need to know how the program calculates results to use EASY FINANCE, but if you want to see what methods are used, they are provided here.

1. LEASE/PURCHASE ANALYSIS

$$\text{Step 1: } IA_n = [B_{n-1} - B_{n-1} * (1 + I)] \quad (B_0 = C)$$

$$\text{Step 2: } VB_n = \frac{(LOP - D_n + IA_n) * TR}{(1 + i)_n}$$

$$\text{Step 3: } B_n = B_{n-1} - LOP + IA_n$$

$$\text{Step 4: } VB = \sum_{i=1}^n VB_i \frac{-SV}{(1+i)_n}$$

$$\text{Step 5: } VL = \sum_{i=1}^n \frac{LEP - (LEP * TR)}{(1 + I)^i}$$

$$\text{Step 6: Advantage} = VB - VL$$

IA_n = Interest paid for period # n

B_n = Principal balance at period # n ($B_0 = C$)

C = Cost of asset (or loan principal)

VB_n = Value of cost to buy for year # n

VB = Total value of cost to buy

VL = Total value of cost to lease

D_n = Depreciation of year # n

I = Interest rate (annual)

LOP = Loan payment amount

LEP = Lease payment amount

TR = Tax rate

SV = Advantage value of asset

2. DEPRECIATION SWITCH

Iteration Method:

Step 1: $DD_{\phi} = (M/12) * (p/100/N) * 10^6$ (integer value rounded)

Step 2: $DD_n = (p/100/N) * (10^6 - DA_{n-1})$ (integer value rounded)

Step 3: $DL_n = (10^6 - DA_{n-1}) / (N - n + 1) * (12 - M) / 12$ (integer value rounded)

Step 4: if $DD_n \geq DL_n$ then $DA_n = DA_{n-1} + DD_n$ ($DA_{\phi} = \phi$)
go to step 2 to perform iteration # (n + 1)

if $DD_n < DL_n$ then $S = n$

DD_{ϕ} = 1st year dep. amount using
declining balance method

DD_n = Depreciation amount for
year # n using declining
balance method

M = No. of depreciation months
in first year

p = Declining balance percent-
age

N = Life of the asset (in years)

S = Year to switch to linear
method

D_n = Depreciation amount for
year # n

OP = Original price of the asset

SV = Salvage value of the asset

N = Number of years over
which depreciation is done

n = Current year number
($1 \leq n \leq N$)

DA_n = Accumulated depreciation
amount to year # n

DB_n = Balance of depreciation after year # n
p = Declining balance percentage
P_n = Percentage of depreciation for year #n according to IRS tax depreciation tables for class of asset and year of purchase. Reference - Prentice Hall Federal Tax Guide

3. DEPRECIATION RATE

$$DR = 1 - \left(\frac{SV}{OP} \right)^{\frac{1}{DY}}$$

DR = Depreciation rate

SV = Salvage value or selling price

OP = Original price

DY = Depreciable years

4. DEPRECIATION AMOUNT

$$DA = P \cdot i (i-1)^{Y-1}$$

DA = Depreciation amount

P = Price

i = Depreciation rate

Y = Year of depreciation

5. SALVAGE VALUE

$$SV = P (1-i)^Y$$

SV = Salvage value

P = Price

i = Depreciation rate

y = Age in years

6. TAX DEPRECIATION SCHEDULE

SUM OF DIGITS METHOD

$$D_n = 2 * (OP-SV) * (N-n + 1) (N * (N + 1))$$

$$DA_n = DA_{n-1} + D_n \quad (DA_0 = \emptyset)$$

$$DB_n = (OP-SV) - DA_n$$

DECLINING BALANCE METHOD:

$$D_n = DB_{n-1} * (p/100/N) \quad (DB_0 = OP-SV)$$

$$DA_n = DA_{n-1} + D_n \quad (DA_0 = 0)$$

$$DB_n = DB_{n-1} - D_n \quad (DB_0 = OP-SV)$$

ACRS METHOD:

$$D_n = OP * P_n / 100$$

$$DA_n = DA_{n-1} + D_n$$

$$DB_n = OP - DA_n$$

- D_n = Depreciation amount for year # n
 OP = Original price of the asset
 SV = Salvage value of the asset
 N = Number of years over which depreciation is done
 n = current year number ($1 \leq n \leq N$)
 DA_n = Accumulated depreciation amount to year # n
 DB_n = Balance of depreciation after year # n
 p = Declining balance percentage
 P_n = Percentage of depreciation for year # n according to IRS tax depreciation tables for class of asset and year of purchase. (Reference - Prentice Hall Federal Tax Guide, 1981)

7. OPTIMAL ORDER QUANTITY

$$P_n = BP - BP * P_n$$

$$Q_n = \left[\frac{(2 * AU * OC)}{(P_n * h)} \right]^{1/2}$$

$$N_n = \frac{AU}{Q_n}$$

- P_n = Price at break # n
- BP = Base price per unit
- P_n = Percentage off at price break # n
- Q_n = Optimal order quantity at price break # n
- AU = Annual sales/use rate
- OC = Order placement costs
- h = Hold cost percentage rate per unit
- N_n = # of orders per year at price break # n

8. OPTIMAL PRODUCTION QUANTITY

$$N = \left[\left(\frac{H * AU}{2 * SC} \right) * \left(1 - \frac{DU}{DP} \right) \right]^{1/2}$$

$$Q = \frac{AU}{N}$$

N = # of setups per year
H = Hold cost per unit
AU = Annual sales/use rate
SC = Product, setup costs
DU = Daily sales/use rate
DP = Daily production rate
Q = Optimal production quantity

9. BREAKEVEN ANALYSIS

$$C_1 = - \frac{\text{LOG}_e \left(1 + \frac{ER}{100} \right)}{\text{LOG}_e (2)}$$

$$C_2 = \text{LOG}_e \frac{\left(1 + \frac{ER}{100} \right)}{\text{LOG}_e (2)} + 1$$

$$C_3 = - \text{LOG}_e \frac{\left(1 + \frac{LR}{100} \right)}{\text{LOG}_e (2)}$$

$$C_4 = \text{LOG}_e \frac{\left(1 + \frac{LR}{100} \right)}{\text{LOG}_e (2)} + 1$$

$$\text{Step 1: } K_n = \frac{(K_{n-1} + J_{n-1})}{2} \quad (J_n = 10^3, K_n = 1 \text{ A})$$

Step 2: if $K_{n-1} = K_n$ then $\left. \begin{array}{l} N = K_n \\ TR = R_n \end{array} \right\}$ go to step 7

$$\begin{aligned} \text{Step 3: } R_n &= \text{UP}(K_n)^{C_2} \\ E_n &= \text{VC}(K_n)^{C_4} + \text{TC} \end{aligned}$$

Step 4: if $R_n = E_n$ then $\left. \begin{array}{l} N = K_n \\ TR = R_n \end{array} \right\}$ go to step 7

Step 5: else if $R_n \leq E_n$ then perform iteration $n + 1$ (go to step #1)

Step 6: else: $J_n = K_n$ perform iteration $n + 1$ (go to step #1)

Step 7:

$$C_5 = \text{LOG}_e \left(\frac{TC(C_1 - 1)}{VC(C_3 - C_1)} \right)$$

$$K_m = (e)^{C_5}$$

$$MR = UP * (K_m)^{C_2}$$

$$MC = VC * (K_m)^{C_4} + TC$$

$$MP = MR - MC$$

$$R = \frac{100(MR - MC)}{MR}$$

NOTE: if $ER = LR$ costs and revenues are linear (no max profit possible)
if $ER > \Phi$ revenues are unbounded
if $LR < \Phi$ revenues are unbounded

$C_1, C_2, C_3, C_4, C_5,$
are calculations constant.

ER = Unit price erosion rate

LR = Variable learning rate

K_n = # of units at iteration # n

J_n = Interval of convergence
at iterative # n

R_n = Revenue at iterative # n

E_n = Costs at iteration # n

N = # of units at breakeven

TR = Total revenue at breakeven

UP = Unit price

VC = Variable costs per unit

TC = Total fixed costs

MR = Revenue at max profit point

MC = Costs at max profit point

MP = Max profit

R = Max gross profit margin

K_m = # of units at max profit
point

e = Natural logarithmic base

10. LINEAR COST REVENUE SCHEDULE

$$P/L = (P * Q) - (V * Q) - FC$$

$$BE = \frac{FC}{P - V}$$

P/L = Profit or Loss

P = Selling price per unit

Q = Quantity of output
produced and sold

V = Variable cost per unit

FC = Total fixed costs

BE = Breakeven point in units

11. FIXED AND VARIABLE PRODUCTION COSTS

$$VC = \frac{PC_1 - PC_2}{Q_1 - Q_2}$$

$$FC = PC_1 - VC * Q_1$$

VC = Variable costs per unit

PC₁ = Total production costs at
output level 1

PC₂ = Total production costs at
output level 2

Q₁ = Output level 1

Q₂ = Output level 2

FC = Fixed costs

12. PRODUCTION COST SCHEDULE

$$TC = O + F + V \cdot Q$$

$$UC = TC/Q$$

TC = Total costs

O = Overhead

F = Fixed costs

V = Variable cost per unit

Q = Quantity of output

UC = Unit cost per unit

13. PRODUCTION ALTERNATIVE COST COMPARISON

$$TC_i = FC_i + (V_i \cdot Q)$$

PC_i = Production cost for alternative i

FC_i = Fixed cost for alternative i

V_i = Variable cost per unit for alternative i

Q = Quantity of output produced

TC_i = Total production cost for alternative i (at Q units)

14. EQUIPMENT COST ANALYSIS

$$PV = P + \sum_{t=1}^N \frac{CO_t}{(1+r)^t}$$

$$EAE = \frac{PV}{\sum_{t=1}^N \frac{1}{(1+r)^t}}$$

PV = Present value of net cost

P = Net purchase price of equipment

N = Useful life of equipment

CO_t = Net costs in period t

r = Required rate of return

EAE = Equivalent annual expenditure

t = Subscript for period, $t=1, \dots, N$

15. INVENTORY REORDER POINT

$$R = (L + S) \cdot D$$

R = Reorder point in units

D = Daily demands in units

L = Lead time in days

S = No. of days safety stock to maintain.

16. INVENTORY TURNOVER RATIO/AVERAGE PROJECTIONS

$$IT = \frac{\left(\sum_{t=1}^N S_t \right) \cdot C}{OH_{val}}$$

$$OH_{avg} = \frac{\sum_{t=1}^N OH_t}{N} \quad \begin{array}{l} OH_{val} = (OH_{avg}) (V) \\ OH_{cost} = (OH_{avg}) (C) \end{array}$$

$$S_{avg} = \frac{\sum_{t=1}^N S_t}{N} \quad \begin{array}{l} S_{val} = (S_{avg}) (V) \\ S_{cost} = (S_{avg}) (C) \end{array}$$

Projection of units sold for next period is based on linear regression curve fit (least squares) of data for unit sold during analyzed periods (see Linear Regression/Forecasting function).

IT = Inventory turnover ratio
OH_t = On hand period t
S_t = Sold period t
N = No. of periods analyzed
V = Average value per item
C = Average cost per item
N = No. of periods analyzed
OH_{avg} = Average units on hand
OH_{val} = Average value of units on hand
OH_{cost} = Average cost of units on hand
S_{avg} = Average units sold
S_{val} = Average value of units sold
S_{cost} = Average cost of units sold
t = Subscript for analyzed period,
t=1.....N

17. PRODUCTION ALTERNATIVE PROFIT/LOSS COMPARISON

$$P/L = (P \cdot Q) - (V \cdot Q) - FC$$

P/L = Profit or loss

P = Selling price per unit

Q = Quantity of output produced and sold

V = Variable cost per unit

FC = Total fixed costs

18. JOB COST/BIDDING ANALYSIS

$$B = (1 + m)[O + F + (V \cdot Q)]$$

P = Profit (at Q units)

P = B * m

B = Bid

m = Markup percentage /100

O = Overhead applied to production

F = Fixed costs

V = Variable costs per unit

Q = Quantity of output to be bid

19. PROFIT SHARING CONTRIBUTION

Non-integrated:

$$E_i = S_i * P$$

E_i = Employee i's portion of profit sharing plan

S_i = Salary of employee i

P = Company contribution percentage

Integrated:

$$I_i = \max 0, [(S_i - B) * IP]$$

$$E_i = I_i + \frac{S_i}{TS} * [(P * TS) - \sum_{i=1}^N I_i]$$

I_i = Integrated portion of employee's distribution

S_i = Salary of employee i

B = Base figure

IP = Integration percentage

E_i = Employee i's portion of profit sharing plan

TS = Total salaries

P = Company contribution percentage

20. MUTUAL EFFECT OF BONUS PAYMENTS AND TAXES

1. Bonus not an expense when computing bonus:

$$\begin{cases} B = B_r (I - T) \\ T = T_r (I - B) \end{cases} \left\{ \begin{array}{l} \text{Solved} \\ \text{simultaneously} \\ \text{for } B \text{ and } T \end{array} \right.$$

2. Bonus an expense when computing bonus:

$$\begin{cases} B = B_r (I - B - T) \\ T = T_r (I - B) \end{cases} \left\{ \begin{array}{l} \text{Solved} \\ \text{simultaneously} \\ \text{for } B \text{ and } T \end{array} \right.$$

$B =$ Bonus

$B_r =$ Bonus rate

$I =$ Income before bonus and taxes

$T =$ Taxes

$T_r =$ Tax rate

21. BAR GRAPH

$$F_t = A_{t-1} (X) + F_{t-1} (1-X)$$

F_t = Forecast for period t (this period)

A_{t-1} = Actual for period $t-1$ (last period)

X = Smoothing value expressed as a decimal

F_{t-1} = Forecast for period $t-1$ (last period)

Glossary

Asset	Something of value owned by an individual or corporation. It can be tangible or intangible, but generally has some market value.
Breakeven Analysis	A method of determining the sales volume level at which the sum of variable and fixed costs are just covered by sales revenue. Profit occurs at a sales volume above the breakeven point.
Breakeven Point	The point at which sales covers variable costs plus fixed production costs and net income is zero.
Capital Gain	Profit on the sale of a capital asset held for a year or more.
Cash Flow	The positive or negative change in a cash position in a given period.
Coefficient of Variation	A measurement of the variation in the relative values used in a computation. A small company and a large one may have no basis for comparison in absolute sales dollars, but the return on sales expressed as a percent ratio is a basis for performance comparison. This is useful when comparing analyses that can only be compared in a relative sense, such as percentages and ratios.
Cost of Capital	The minimum rate of return needed by a firm to satisfy the rate of return required by investors.
Decimal	A proper fraction in which the denominator is a power of 10 signified by a point placed at the left of the numerator. For example: $.25 = 25/100$
Declining Balance Depreciation	One of the approved methods of applying an accelerated depreciation rate to a fixed asset that involves multiplying a constant rate by the decreasing undepreciated cost of this asset.

Depreciation	An accounting concept recognizing that fixed assets decrease in productivity as they are used; it is a tax deductible business expense.
Depreciation Switch	An accounting concept that involves changing the method of depreciation of a fixed asset from one of the accelerated depreciation methods to the straight line method at some point in the depreciable life of the asset. Usually, this change is made at the optimal point.
Discounting	The process of converting future dollars into present dollars.
Discount Rate	The percentage used in the discounting process.
Fiscal Year	The financial accounting year chosen by a business; it need not be the calendar year and may be made up of thirteen nearly equal monthly periods.
Fixed	Cannot be sold quickly for cash.
Fixed Overhead Costs	Costs not varying with the level of production or sales, such as rent and real estate taxes.
Flotation Cost	The cost of issuing new stocks or bonds.
Forecasting	Predicting the outcome of future events and actions.
Holding Costs	The cost associated with retaining inventory which may include labor, warehousing, interest, and insurance.
Interest	Dollars paid by the borrower to the lender for use of cash.
Interest Rate	An amount paid for the use of capital.

Net Present Value	The present value of an investment minus the amount required to purchase the investment.
Non-numeric	Any character other than 0 through 9. Such characters may be alphabetic or special characters like a dash (–) or an asterisk (*).
Numeric	Information consisting of the digits 0 through 9 or any combination of such characters.
Optimal Order Quantity	A purchase order quantity which considers and optimizes order placement and inventory holding costs against available quantity price discounts.
Optimal Production Quantity	A manufacturing order quantity which considers and optimizes production rate, sales rate, annual sales volume, inventory holding costs, and production set-up costs.
Present Value	The current value of a future payment or stream of payments discounted at the appropriate discount rate.
Price Erosion Rate	The percentage of decrease in price which a product might command as product availability or sales volume increases.
Safety Stock	An amount added to inventory holdings as a precaution when delivery times, usage rates, and stock-out cost are uncertain.
Salvage Value	The residual or marked value of a capital asset at the end of its usefulness.
Smoothing	Removing uneven amounts to adjust for variations.
Smoothing Constant	A factor used to adjust a series of data to smooth out variations in data.

Straight-Line (or linear) Depreciation	A method of depreciating a fixed asset which provides the same depreciation amount each year of the depreciable life of the asset.
Sum of Year's Digits	A method of applying an accelerated depreciation rate to a fixed asset. For example, if the determined life of the asset is three years, the sum of the three years is $3 + 2 + 1 = 6$. Fractions are used to then calculate the depreciation amount in year 1, and $\frac{3}{6}$ th of the asset is found to be depreciable.
Tax Rate	The percentage of tax obligation applied to personal or business taxable earnings.
Uneven Cash	An investment in which the deposits or withdrawals vary in amount over time.
Variable Costs	Costs that fluctuate directly with production or sales volume.
Variable Learning Rate	The idea that variable costs per unit will increase or decrease as production rates change; the relationships could be direct or uneven depending on assumptions.

EASY FINANCE IV

In today's fast-paced business world, you need to know how to make the right management decisions. Your Commodore 64 can show you how! This EASY FINANCE package lets your Commodore 64 help you make the right decisions about production, inventory control, compensation, and much more.

You need absolutely no programming knowledge to use this product. EASY FINANCE is completely pre-programmed; it is very clear and easy to use. With just a few simple keystrokes, you can improve your business!

Easy Finance shows you how to make the most out of these business management concepts:

- Lease purchase analysis
- Depreciation switch
- Depreciation rate
- Depreciation amount
- Salvage value
- Tax depreciation schedule
- Optimal order quantity
- Optimal production quantity
- Breakeven analysis
- Linear cost revenue schedule
- Fixed and variable production costs
- Production cost schedule
- Production alternative cost comparisons
- Equipment cost analysis
- Inventory reorder point
- Inventory turnover ratio/average projections
- Production alternative profit/loss comparison
- Job cost/bidding analysis
- Profit sharing contribution
- Mutual effect of bonus payments and taxes
- Bar graph of management decisions

Financial terminology is defined and clarified in this package. Some generally accepted concepts and practices are also presented. Have fun using EASY FINANCE and improve your management techniques at the same time!

© Copyright 1983 by Commodore Electronics, Ltd. All rights reserved. No part of the programs or manual included in this work may be duplicated, copied, transmitted or reproduced in any form or by any means without the prior written permission of Commodore.

Commodore Business Machines, Inc. • 1200 Wilson Drive • West Chester, PA 19380

