

ATARI® 800™

INVESTMENT ANALYSIS SERIES STOCK CHARTING*

*A Control Data CYBERWARE™ product manufactured under license from Control Data Corporation ©1980.

GD
CONTROL
DATA




ATARI®
A Warner Communications Company 

Model CX8108
Use with ATARI 800™
PERSONAL COMPUTER SYSTEM

TABLE OF CONTENTS

PREFACE

- 1 AN INTRODUCTION TO STOCK CHARTING
- 2 PREPARING YOUR ATARI® 800™ PERSONAL COMPUTER SYSTEM
- 3 HOW DOES STOCK CHARTING WORK?
- 4 USING THE PROGRAM
- 5 HOW TO RUN THE PROGRAM
- 6 HOW MUCH DATA MAY BE STORED ON EACH DATA DISKETTE?
- 7 TECHNICAL ANALYSIS USING GRAPHS
- 8 PREPARING ADDITIONAL STOCK QUOTE DATA DISKETTES
- 9 INVESTMENT SERVICES

BIBLIOGRAPHY

PREFACE

The **STOCK CHARTING** program is an investment analysis tool. It is designed for users who are familiar with the stock market and its history. This program is not intended as a tutorial or an instructional aid.

This manual is a guide to the use and interpretation of the **STOCK CHARTING** Program. It contains ten sections to help you to prepare your ATARI 800 Personal Computer System, create your stock data transaction file portfolio, and read and understand stock charts and graphs. This manual also includes a list of investment services and a bibliography to assist you in understanding the **STOCK CHARTING** Program.

NOTE: Neither ATARI nor the author of this program are responsible for any losses resulting from investment action taken due to the use of this program.

1 AN INTRODUCTION TO STOCK CHARTING

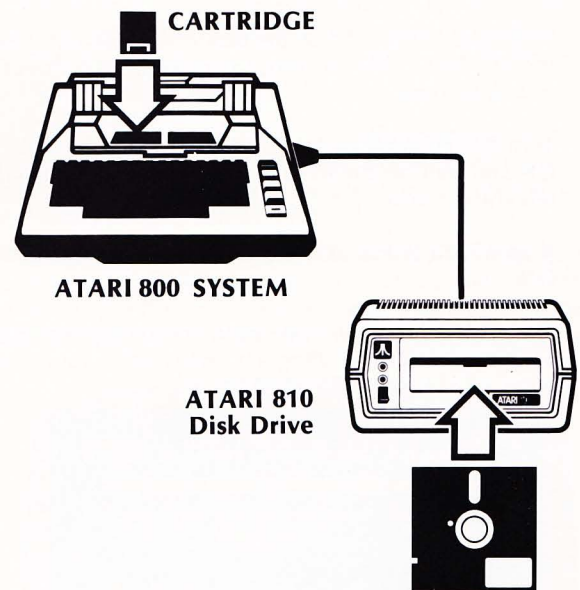
STOCK CHARTING is an excellent tool for investigating stocks prior to purchase. It graphically provides a picture of several stocks in a portfolio. To obtain the best results from this program, it is suggested that daily transactions be entered for a full twelve months (or one year). Financial figures for a particular company's assets, income, earnings, dividends, and stock prices may be found through financial research services such as **STANDARD & POOR'S CORPORATION** or **MOODY'S INVESTMENT SERVICE**. Their most useful reference books include *STANDARD & POOR'S CORPORATION RECORDS* and *MOODY'S MANUALS*. Through the use of **STOCK CHARTING** and your ATARI 800 Personal Computer System, you can rapidly screen almost an unlimited number of stocks. You can compare them to your predetermined expectations. You will see growth, price performance, and dividend-payout in relation to earnings over a specified period of time. With the variety of charts, moving averages, oscillators, volume data, and high-low and close figures you can make predictions on the market as a whole or on individual stocks. A formatted blank diskette is provided

in addition to the **STOCK CHARTING** Program diskette, for saving your stock data transaction files.

2 PREPARING YOUR ATARI® 800™ PERSONAL COMPUTER SYSTEM

To prepare your ATARI Personal Computer System for use with the **STOCK CHARTING** Program, you need the following ATARI equipment:

- ATARI 800 Personal Computer System
- ATARI 810™ Disk Drive
- ATARI BASIC (Computing Language) Cartridge (Model No. CXL 4002)
- Minimum RAM Requirement: 24K
- ATARI Printer (Optional)



To begin the **STOCK CHARTING** Program, connect your ATARI 800 Personal Computer System as follows:

1. Verify that the TV Switch Box is connected and switched to the **COMPUTER** or **GAME** position.
2. As shown in the ATARI 800 Operator's Manual, install enough RAM Memory Modules to provide at least 24K RAM.
NOTE: This may be three 8K RAM Memory Modules, two 16K RAM Memory Modules, or one 8K and one 16K RAM Memory Module.
3. Install an ATARI BASIC (Computing Language) Cartridge into the **LEFT** cartridge slot in the ATARI 800 computer console.
4. Verify that the AC Power Adaptor is plugged into a wall outlet (115 volt) and to the jack labeled **POWER IN** on the side panel of the computer console.
5. Plug another AC Power Adaptor into a wall outlet (115 volt) and to the power jack (**PWR**) on your ATARI Disk Drive.

6. Plug one end of the I/O Data Cord, furnished with your Disk Drive, into the plug labeled PERIPHERAL on the computer console, and the other end into either of the jacks labeled I/O CONNECTOR on the back of the disk drive.
7. If the ATARI 820™ or ATARI 822™ Printer is used, plug its I/O Data Cord into the unused I/O CONNECTOR on the back of the disk drive and into one of the I/O CONNECTORS on the back of the printer. If the ATARI 825™ Printer is used, refer to the ATARI 825 Printer Operator's Manual for correct connections and interface requirements. Plug the printer power cord into a wall outlet (115 volt).

NOTE: The STOCK CHARTING Program is formatted to print on an ATARI 40-column printer. If an ATARI 825 80-Column Printer is used, the printout may not be properly aligned.

8. Verify that the ATARI 810 Disk Drive is set to the correct DRIVE CODE NO. as shown in the ATARI 810 Disk Drive Operator's Manual.
9. Turn the disk drive power switch (PWR) to ON.
10. When the BUSY light on the disk drive goes out, insert the STOCK CHARTING Program diskette, and close the disk drive door.
11. Turn the POWER switch on the computer console to ON and wait for the READY prompt to appear on your television screen.
12. If an ATARI Printer is used, turn the POWER switch to ON.
13. The ATARI logo will appear on the screen while the STOCK CHARTING Program loads into your computer's RAM memory.

3 HOW DOES STOCK CHARTING WORK?

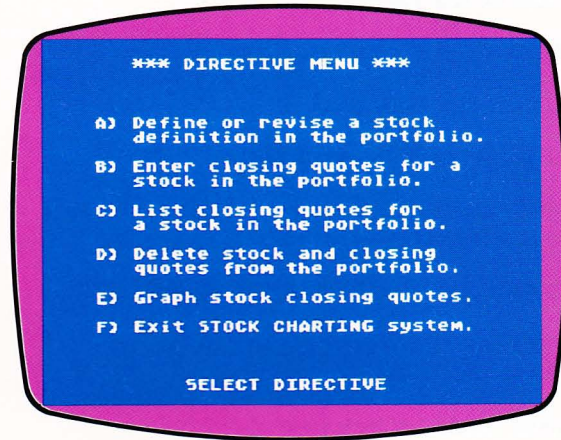
The ATARI STOCK CHARTING Program provides a method of tracking and studying selected stocks and their performance. The first step to STOCK CHARTING is establishing a portfolio of stocks. This program allows you to enter stock closing quotes on a daily basis to develop the historical trends and monitor their performance.

Once your portfolio is started, you can selectively change, update, list, and graph stock data. You have the option to print or list quote data as well as graph volume, highs, lows, ten-day averages, and six-day oscillators.

While the program is graphing quote data, it also calculates yield and price/earnings ratio. You have the option to look at your portfolio whenever necessary.

The STOCK CHARTING Program is divided into several modules, each with a specific function to aid in the computation of the stock data. Each module contains samples and directive information to help you correctly and effectively use the STOCK CHARTING Program. The five separate modules are listed on the DIRECTIVE MENU as follows:

- Define or revise stock definition in the portfolio
- Enter closing quotes for a stock in the portfolio
- List closing quotes for a stock in the portfolio
- Delete stock and closing quotes from the portfolio
- Graph stock closing quotes
- Exit STOCK CHARTING program



4 USING THE PROGRAM

To begin the STOCK CHARTING Program, insert the program diskette as described in PREPARING YOUR ATARI 800 PERSONAL COMPUTER SYSTEM. Switch the computer console POWER switch to ON and the program automatically loads into RAM memory. As the program begins, the ATARI logo is displayed before the screen displays the ATARI and Control Data Corporation credits. It automatically moves to an introduction describing the STOCK CHARTING Program.

Each display remains on the screen until you press the RETURN key. If you press P, the printer begins printing the display. You can obtain multiple copies of the printout by pressing P again after each printout. If any other letter is pressed, the computer ignores it.

To use the STOCK CHARTING Program, be prepared to provide the following input data:

- NAME OF STOCK (TICKER SYMBOL)
- EARNINGS FOR LAST 4 QUARTERS (OPTIONAL)
- DIVIDENDS FOR LAST 4 QUARTERS (OPTIONAL)
- VOLUME (DAILY)
- CLOSING QUOTES (DAILY HIGHS, LOWS)

52 Weeks High	Low	Stock	Div.	%	Yld Ratio	P.E. 100s	Sales	High	low	Close	Net Chg.
- A-A-A -											
45 1/4	27 1/2	ACF	2.50	5.8	7	546	44	42 3/4	43	-	-1 1/8
23 3/8	11 1/2	AMF	1.24	6.2	7	774	21	19 1/2	18	-	- 1/2
24 3/4	12 1/2	AM Intl	.28	1.8	34	343	16 1/2	16	8 3/4	8 3/4	- 1/8
12 1/8	7 1/8	APL	.50	..	14	15	8 3/4	8 3/4	34	34	- 1/2
39 3/4	24 3/4	ARA	1.94	5.7	6	1488	34 1/2	34 1/2	81	82 3/4	-3 3/4
90	27	ASA	5	6.0	..	1022	86 1/4	81	342	17 1/2	16 3/4
187 1/8	8 1/8	ATO	.60	3.6	5	342	17 1/2	16 3/4	30 1/2	30 1/2	- 3/4
36 3/8	17	AVX	.32	1.0	14	151	31 1/2	30 1/2	52	52	- 1/4
55	34 1/2	AbbtLb	1.20	2.3	16	395	52 1/4	51 3/4	28 1/2	28 1/2	-1 1/4
35 1/2	18 3/4	AcmeC	1.40	4.9	6	82	29 1/2	28 1/2	4 1/2	4 1/2	- 1/4
4 3/4	2 3/4	AdmDg	.04	1.0	7	62	4 1/4	4 1/4	60	6 3/4	6 3/4
15 1/4	11	AdaEx	1.49e	10.	..	65	15	14 1/2	14 1/2	14 1/2	- 3/8
7 1/2	3 3/8	AdmMI	.20e	3.1	12	60	6 3/4	6 3/4	6 3/4	6 3/4	- 1/2
69 1/8	26 1/8	AMD n	..	..	19	715	65 1/4	60 1/4	31 1/2	31 1/2	-2 1/2
35 1/2	31 1/4	AMD wl	..	..	32	33 1/2	31 1/4	31 1/4	37 3/4	37 3/4	-1 1/2
40 1/8	29 1/2	AetnLf	2.12	5.6	6	1063	38 1/2	37 3/4	37 3/4	37 3/4	-1 1/2

CURRENT POSITION	1977	1978	2/29/80		
(\$mill.)					
Cash Assets	5.5	2.1	4.6		
Receivables	19.8	28.3	42.0		
Inventory (FIFO)	20.2	25.5	30.0		
Other	11.2	11.8	9.8		
Current Assets	56.7	68.7	86.7		
Accts Payable	22.1	24.5	18.2		
Debt Due	12.2	6.7	15.4		
Other	8.2	6	28.3		
Current Liab'ties	42.5	37.3	61.9		
ANNUAL RATES of change (per sh)					
	Past 10 Yrs	Past 5 Yrs	Est '77-'79 to '82-'84		
Revenues	-1.0%	4.0%	12.5%		
"Cash Flow"	-1.0%	49.0%	22.0%		
Earnings	-1.5%	--	21.0%		
Dividends	2.0%	--	25.0%		
Book Value	3.5%	29.5%	19.0%		
QUARTERLY REVENUES (\$ mill.)					
Fiscal Year Begins	May 31	Aug. 31	Nov. 30	Feb. 28	(A) Full Fiscal Year
1976	27.1	30.7	34.0	33.5	125.3
1977	31.5	35.2	36.6	37.3	140.6
1978	35.1	39.5	41.1	37.7	153.4
1979	25.7	58.4	58.1	28.4	188.6
1980	30.0	55.0	60.0	35.0	180
EARNINGS PER SHARE				(A) Full Fiscal Year	
Fiscal Year Begins	May 31	Aug. 31	Nov. 30	Feb. 28	Fiscal Year
1976	.15	.28	.35	.20	.98
1977	.15	.28	.48	.35	1.56
1978	.31	.46	.55	.24	1.56
1979	.08	.61	.40	d1.13	d.04
1980	d.15	.25	.60	.30	1.00
QUARTERLY DIV'D PAYMENTS				(C) Full Fiscal Year	
Calendar	Mar. 31	June 30	Sept. 30	Dec. 31	Year
1976	--	--	.043	.043	.13
1977	.041	--	.043	.045	.18
1978	.043	.043	.045	.045	.18
1979	.045	.045	.048	.048	.19
1980	.048	.048	.05		

Value Line

This data can be found in the *WALL STREET JOURNAL* or Investment guides such as *VALUE LINE*, *STANDARD & POOR'S*, and *MOODY'S*. See *INVESTMENT SERVICES* for further information.

5 HOW TO RUN THE PROGRAM

There are five separate modules in this program, each listed in the DIRECTIVE MENU. Modules A, B, C, and D allow you to enter or change input data. Module E provides a graph of stock closing quotes. Module F allows you to EXIT the program.

You can run one module at a time. At the end of a module, the DIRECTIVE MENU is displayed on the screen again. Each module follows the same format and procedure. If you type an incorrect module selection, the following error message is displayed:

SELECTION ERROR-RETYPE

Each module takes 10 to 20 seconds to load. After it has loaded the screen displays a short description of the module. The program then asks if you would like to see the current portfolio. It is a good idea to answer YES **Y** and press **P** to print a copy of the portfolio. You will want to look at the stocks listed in your portfolio at a later time. It is also a good idea to keep a list of the portfolio in the jacket of the data file diskette. This allows you to easily identify the portfolios contained on each diskette.

Each module starts with a description of the module. Each module also provides a description and example of the required input format. Always allow the modules to finish before moving to another module. If you press the **BREAK** key before the end of a module, all data previously entered may not be saved in the data file.

It is important that all data entered is numerical or upper-case alphabetical. Do not use lower case letters, inverse video, or ATARI graphic characters. Refer to your ATARI 800 Operator's Manual for keyboard and special character modes, and how to recover from them.

The program modules are organized in the following manner:

MODULE A

When you select Module A, the program loads the module and then tells you to insert the diskette containing stock data. This is your new blank diskette or the diskette on which you have already entered data.

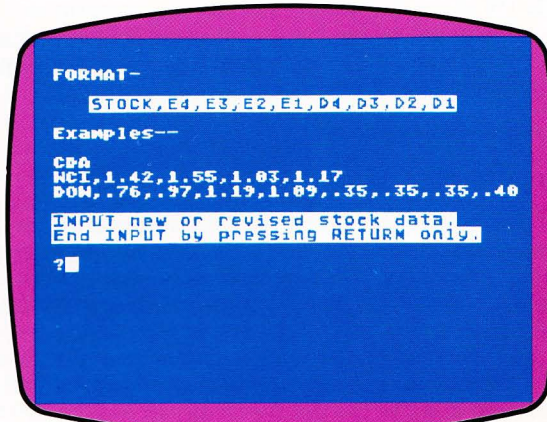
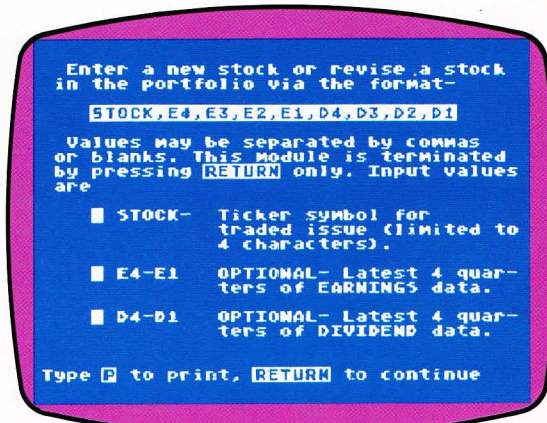
After the diskette is inserted and you have pressed **RETURN** the portfolio is loaded into the program. You can now see the current portfolio. If no portfolio has been entered yet, the program displays this message: Portfolio is empty.

Module A allows you to define new stock or revise stock data in your portfolio. The data to be listed on each stock is:

1. Stock ticker symbol. The symbol may be no longer than four characters.
2. The last four quarters of earnings per share, with commas or spaces between each quarter. List the earnings in chronological order, from the oldest to the most current. If you have data for less than four quarters, fill in the spaces with zeros (0).
3. The last four quarters of dividends per share, with commas or spaces between each quarter. List the dividends in chronological order, from the oldest to the most current. If you do not have the data for all four quarters, fill in the spaces with zeros (0).

The last four quarters of dividends and earnings are optional input data. You may list only the stock ticker symbol. If these values are not entered, the program will not calculate the Price/Earnings Ratio or the Yield.

If no data is entered or if the data entered is incorrect, the program cannot make proper calculations, and therefore displays the following message while Module E creates a graphic display: PE = NMF. NMF stands for No Meaningful Figure.



All quarters must be entered in the correct order and in the correct field on the screen to enable the computer to correctly graph and calculate your stock data. The computer will automatically alphabetize the stock ticker symbols. Each ticker symbol must be unique. A maximum of fifty different issues or stocks may be carried in a portfolio.

Your file will look like this:

```
STOCK, EARNINGS QUARTER 1,2,3,4, DIVIDENDS QUARTER 1,2,3,4
```

This data may be found in publications such as *DAILY GRAPHICS* or *THE VALUE LINE*. Both of these publications are available through major stock brokerage houses and libraries. See *INVESTMENT SERVICES* for names and addresses of these and other publications.

Press the **RETURN** key to end data input.

The program checks the data after each entry. If data input is correct, another question mark appears on the screen as a prompt. If there is an obvious detectable error, the program signals with an error message at the bottom of the screen. The incorrect line must be retyped. To end data input, type **RETURN** with no data entry. The program automatically stores the data on your data diskette before instructing you to remove the data diskette and insert the STOCK CHARTING Program diskette.

MODULE B

When you select Module B, the program instructs you when to insert the stock data diskette and when to insert the STOCK CHARTING Program diskette.

Module B allows you to enter the closing quotes for the stocks in your portfolio. The first display describes the module, and provides the opportunity to see and print the portfolio. The next displays tell you to enter a trading date. This date is the date the closing quote was listed. You must enter a date, or the computer displays:

DATE NEEDED

Type date as MONTH (MM)/DAY (DD)/YEAR (YR), for example, 12/15/76. The next display is an explanation of data input format for Module B. The explanation is followed by examples.

After the examples, the program prepares your files to accept data. During this preparation, the screen displays:

```
Files for accepting closing quotes are being prepared.  
DISKETTE IS N% FULL.
```

The program lets you know how full your diskettes is at this time. This helps you to know how much space you have left, and how much you can allot for your update.

NOTE: 1% of the diskette is equivalent to approximately 5-7 stocks if they are all entered at the same time in your portfolio. For example, if your diskette is 99% full, do not expect to enter more than 5 new stocks.

Data is entered as follows:

DATE

You can leave this date out and the program will automatically assume the date is the trading date entered in the previous display. This date field allows you to enter closing quotes for several days. If you are listing several days' closing quotes, it is very important to start with the oldest date and work up to the current date. The program does NOT automatically put the dates in chronological order. The oldest date that the computer will accept is 1950. If an invalid date is entered, the computer displays: DATE ERROR.

The program takes a few seconds to prepare the files for accepting closing quotes. Separate all figures with commas.

STOCK

Enter the same ticker symbol as you used in Module A. This is where it is helpful to have a printout of the portfolio.

VOLUME

Enter the trading volume for the trading day. Enter volume in hundreds; this is how it is listed in the *WALL STREET JOURNAL*.

HIGH

Enter the high trading figure. If a fraction is used, type the whole number first and leave a space before typing the fraction (27 3/8). Fractions are automatically converted to decimals by the computer.

LOW

Enter the low trading figure. Type a space to separate the whole number from the fraction. Type 15 3/4, not 153/4, to enter fractions. Fractions are automatically converted to decimals (for example, 15 3/4 is converted to 15.75).

CLOSE

List the closing quote for the trading day. Type a space to separate the whole number from the fraction.

The STOCK CHARTING Program accepts most fractions. The computer converts all fractions to decimals for the purpose of plotting values on the graphs in Module E. Module C lists all stock quotes in decimal form unless you have typed an asterisk (*) preceding the stock ticker symbol. The asterisk tells the computer to convert the decimal to a fraction. The computer is only capable of converting two place decimals back to fractions; all others will be listed as decimals. An example of this is: 15 1/2 converted to 15.50, but 15 13/64 cannot be converted back to a fraction after the computer has converted it to a decimal and rounded the decimal to two places.

Data input errors will be indicated by an error message. The program also informs you when the diskette is full. It updates the files after every fifty entries. During this update, the program informs you of the progress of the update. This update is automatically transferred permanently to the diskette. During this update the program again lets you know how full your diskette is. If your diskette is full the screen displays:

DISKETTE FULL

Once the diskette is full, the files are locked and no more data can be added.

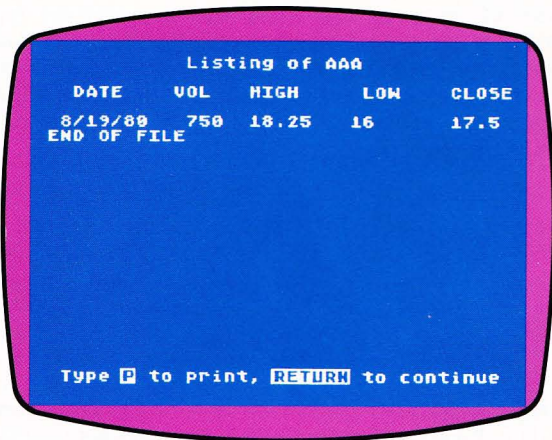
NEVER PRESS **BREAK DURING A FILE UPDATE.** Pressing **BREAK** at this time would result in a loss of data.

After the closing quotes are entered press **RETURN**. As the computer updates the files, it displays a message to inform you of what is happening (for example, File Maintenance).

MODULE C

Module C is provided to list all of the quote data previously entered. With Module C, you can list only part of the data for a particular stock or you can list all of the data for that stock. Entering dates for the beginning and end of a listing is optional. If no dates are entered, the program assumes the beginning and ending dates of the stock file, and lists everything in between. The program lists all fractions as decimals. If you would like to see fractions instead of

decimals type an asterisk (*) before the stock ticker symbol (for example, *WCI). This listing is helpful in that it allows you to make sure that all data was properly entered in chronological order and at the same time it allows you to make a printed copy of each stock file. If you should detect an error in the data entry, you must return to Module B to make corrections. Corrections require retyping all of the data.

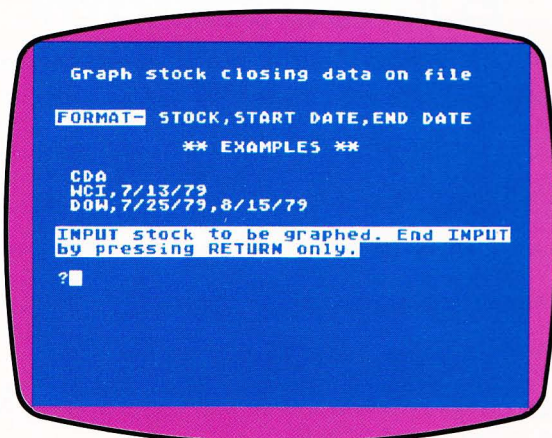


MODULE D

The purpose of this module is to allow you to delete stocks and their associated data files from the portfolio. The only input required to delete the stock file from your portfolio is the stock ticker symbol, exactly as it is listed on the portfolio list, or in Module A. If you accidentally type a stock ticker symbol which you do not want to delete, immediately type **BREAK** or **SYSTEM RESET**. To restart the program, type **RUN** and press **RETURN**. The program allows you to look at the portfolio again to verify that the wrong stock file was not deleted. You may wish to save a back-up copy of the data disk for future use. Before the revised portfolio is displayed the computer informs you that it is revising the current portfolio.

MODULE E

The purpose of Module E is to provide a graphic representation of the data you have entered for each stock. This module performs the calculations and plots the graphs. It starts with a description of the module and then proceeds to describe the data input format. The next display shows examples of data input. You have the option of specifying beginning and ending dates for the graph. If no dates are entered, the graph will cover the entire time span for which you have provided stock data.



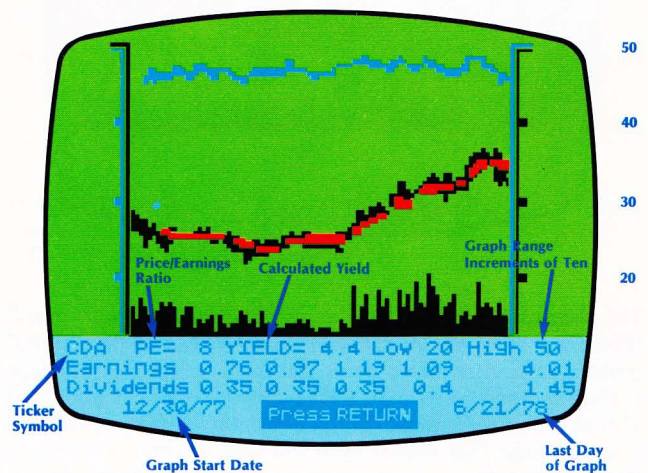
Below the graph, you will find the stock name, the PE (Price/Earnings Ratio), the Yield, the highest and the lowest range graphed, the first and last date graphed, and the quarterly and total dividends and earnings. Each graph may display data for up to 120 trading days. The trading days are listed across the bottom of the graph, and the high to low trading ranges are listed in increments of ten on the left side of the graph.

The graph is made up of four individual charts; a 6-day oscillator, a 10-day moving average, a high-low trading range, and daily volume.

To start a graph, after choosing Module E, enter the stock ticker symbol and the start and stop dates, and press **RETURN**.

The graphs are charted by color and time from the first date at the start of the graph. The HIGH-LOW TRADING RANGE and the VOLUME are charted in black. The 6-DAY OSCILLATOR is charted in blue, the 10-DAY MOVING AVERAGE is charted in red.

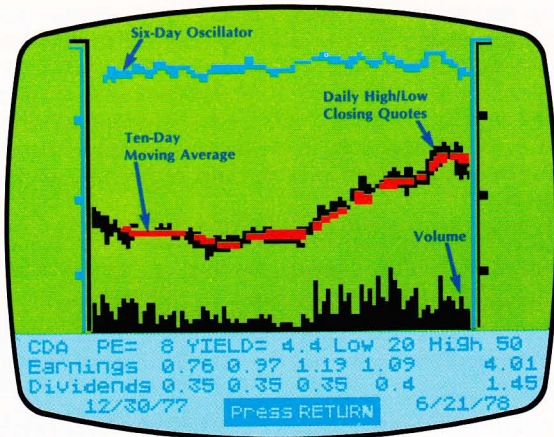
As the computer plots the graph, the VOLUME and the HIGH-LOW TRADING RANGE are plotted first because they begin at day one on the graph. On the sixth day of the graph, the 6-DAY OSCILLATOR begins its plot. On the tenth day, the 10-DAY MOVING AVERAGE begins. The VOLUME is always plotted at the bottom of the graph in vertical bars beginning at the far left side of the screen. The 6-DAY OSCILLATOR is most often found at the top of the graph. The HIGH-LOW TRADING RANGE and the 10-DAY MOVING AVERAGE are usually located in the middle of the screen.



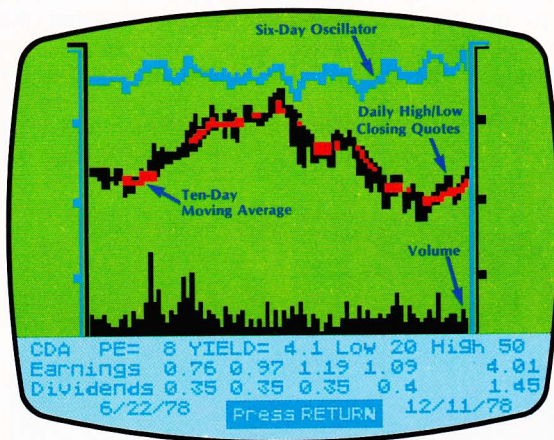
The first graph at the top of the screen is the 6-DAY OSCILLATOR. A 6-DAY OSCILLATOR is the graph of the simple net difference for the closing quotes for a 6-day period.

For Example:

- DAY 1 Closing Quote = 15 1/4
- DAY 2 Closing Quote = 15 1/4
- DAY 3 Closing Quote = 15 3/4
- DAY 4 Closing Quote = 15 5/8
- DAY 5 Closing Quote = 15 1/2
- DAY 6 Closing Quote = 15 1/2
- DAY 7 Closing Quote = 15 3/8
- DAY 8 Closing Quote = 15 1/2
- DAY 9 Closing Quote = 16
- DAY 10 Closing Quote = 16 1/4
- DAY 11 Closing Quote = 16 1/4
- DAY 12 Closing Quote = 16 1/4
- DAY 13 Closing Quote = 16 3/8
- DAY 14 Closing Quote = 16 1/4
- DAY 15 Closing Quote = 17



The first amount graphed on the oscillator is DAY 6 minus DAY 1. The second amount is DAY 7 minus DAY 2, and the graph continues as DAY 8 minus DAY 3 and so forth.



The second graph is a ten day moving average. This graph takes the sum of the closing quotes for ten sequential trading days, divided by ten to get the average. The average is then multiplied by 9/10 (.9) and the product is added to 1/10 of the closing quote for the tenth day. A moving average is an average that moves with the unit of time covered, in this case ten days. The average starts with the tenth day of closing quotes entered and adds the previous nine days to get the average. The closing quote for the eleventh day is added to the closing quotes for the last nine days previous to get the average for the eleventh day. Each day is charted in the same manner.

Using the example on the previous page, the 10-DAY MOVING AVERAGE starts on day 10 and plots as follows:

DAY 10 Plots 15.6641
 DAY 11 Plots 15.7541
 DAY 12 Plots 15.8441
 DAY 13 Plots 15.9119
 DAY 14 Plots 15.9566
 DAY 15 Plots 16.1666

The third graph is a chart of daily HIGH-LOW TRADING RANGES. It indicates the daily highs and lows with a vertical bar for each day.

The last graph at the bottom of the screen charts the daily trading VOLUME in hundreds. The VOLUME is charted with a vertical bar for each day.

MODULE F

This module is included to allow you to quickly exit the STOCK CHARTING Program. Choosing Module F exits the entire program and you will only see the READY prompt on your television screen. At this point you may wish to reenter the STOCK CHARTING program, or remove the diskette and use your ATARI 800 Personal Computer System for a different program or purpose. If you decide to run the STOCK CHARTING Program again you may access it by typing RUN'D:STOCK and pressing the **RETURN** key. This will initiate the beginning of the program again. An alternate method to reentering the program is, turning the POWER switch on the computer console to OFF and then to ON again (rebooting).

6 HOW MUCH DATA MAY BE STORED ON EACH DATA DISKETTE?

You will want to know how much space is available on your new data diskette. After formatting, you have approximately 707 free sectors of space available, but the STOCK CHARTING Program will need to use approximately 17 sectors. This allows you approximately 690 sectors to use for your portfolio transaction files. The STOCK CHARTING Program allows you to enter 50 stocks, but the amount of quote data allowed is limited by space (sectors) available on your data diskettes. To conserve space, it is wise to enter closing quotes for all stocks for several days at a time. This is because, each time you access the data entry files, you use up 1% of the diskette. By entering several days of quote data at a time, you can enter five to seven stocks and only use 1% of the diskette. Remember to enter the quote data in chronological order, starting with the oldest date and working up to the current date. Once the diskette is full, the program alerts you with a DISKETTE FULL message.

7 TECHNICAL ANALYSIS USING GRAPHS

It is wise not to depend on any one particular chart or technical indicator. No matter how accurate any chart, average, or graph is, it cannot be 100% reliable. The market can fall twice as fast as it rose. It is always a good idea to look at several types of graphs to confirm an indicator or pattern. For this reason, the STOCK CHARTING Program provides a graph of four different charts. This theory also applies to investment services. It is wise to use more than one service. The INVESTMENT SERVICES section in this manual provides names and addresses of several such services.

STOCK CHARTING is not to be used as an infallible investment guide, but rather as a tool to:

- 1) Provide a quick history of a stock.
- 2) Help determine a current trend.
- 3) Call attention to unusual volume or price behavior.
- 4) Help determine when to buy and when to sell.
- 5) Offer a way to confirm a buy or sell decision.

STOCK CHARTING provides you with the information. Now its up to YOU to interpret it.

8 PREPARING ADDITIONAL STOCK QUOTE DATA DISKETTES

You may wish to store additional stock portfolio transaction files on separate diskettes. If you have completely filled the formatted diskette with your stock data, and want to create another stock data diskette, follow these instructions to prepare an additional diskette.

Do not write a data file on the STOCK CHARTING Program diskette. The program specifically requires you to enter portfolio data on a separate diskette.

After loading the STOCK CHARTING Program as instructed in PREPARING YOUR ATARI 800 PERSONAL COMPUTER SYSTEM, format a new blank diskette as follows:

1. Using the DIRECTIVE MENU, Exit STOCK CHARTING by choosing selection F and pressing **RETURN**.
2. When the READY prompt appears on your television screen, type DOS and press **RETURN**.
3. When the BUSY light on the disk drive goes off, remove the STOCK CHARTING diskette and insert the new blank diskette.
4. Type **F** and press the **RETURN** key.
5. Select appropriate disk drive number; "1" if only one disk drive is being used. You will hear a clicking noise while the diskette is being formatted.
6. When the diskette is formatted, the following message appears:

SELECT ITEM OR **RETURN** FOR MENU.
7. Remove the newly formatted diskette, and insert the STOCK CHARTING Program diskette. Type **B** and press **RETURN**.
8. To restart the STOCK CHARTING Program, either repeat the instructions above in PREPARING YOUR ATARI 800 PERSONAL COMPUTER SYSTEM or type RUN"D:STOCK and press **RETURN**.
9. Refer to the Disk Operating System (DOS) Reference Manual for further details.

9 INVESTMENT SERVICES

To correctly graph the required data, it is helpful to subscribe to an investment service such as those listed below. Some public libraries also offer these publications for investors' use. These services offer guides, charts, and trend information to help you in the technical analysis of your stock portfolio.

- 1) Standard & Poor's Corporation
345 Hudson Street
New York, New York 10014
- 2) M.C. Horsey & Company
120 South Blvd.
Salisbury, Md. 21801

- 3) Securities Research Company
208 Newbury Street
Boston, Mass. 02116
- 4) Value Line Investment Survey
5 East 40th Street
New York, New York 10017
- 5) Moody's Investor's Service
99 Church Street
New York, New York 10005
- 6) Stock Research Corporation
55 Liberty Street
New York, New York 10005
- 7) Dow Forecasts
Box 4550
Grand Central Station
New York, New York 10017

BIBLIOGRAPHY

The following publications can be helpful resources to use for understanding the stock market and its trends. These publications also offer a guide to understanding the technical analysis of graphs and charts.

C. Colburn Hardy, *Dun & Bradstreet's Guide to \$Your Investments\$TM*, 1980-1981, Twenty-fifth edition

Jeffery B. Little and Lucien Rhodes, *Understanding Wall Street*, 1980, Liberty Publishing Company

C. Norman Stabler, *How To Read The Financial News*, Tenth Edition, Barnes & Noble Books

The STOCK CHARTING Program diskette is a selection from the ATARI INVESTMENT ANALYSIS SERIES. The INVESTMENT ANALYSIS SERIES includes these programs:

- STOCK ANALYSIS Diskette Program (CX8107)
- MORTGAGE AND LOAN ANALYSIS Cassette Program (CX4115)
- STOCK CHARTING Diskette Program (CX8108)
- BOND ANALYSIS Diskette Program (CX8106)

**LIMITED 90-DAY WARRANTY
ON ATARI® PERSONAL COMPUTER PRODUCTS**

ATARI, INC. ("ATARI") warrants to the original consumer purchaser that this ATARI Personal Computer Product (not including computer programs) shall be free from any defects in material or workmanship for a period of 90 days from the date of purchase. If any such defect is discovered within the warranty period, ATARI's sole obligation will be to repair or replace, at its election, the Computer Product free of charge on receipt of the unit (charges prepaid, if mailed or shipped) with proof of date of purchase satisfactory to ATARI at any authorized ATARI Service Center. For the location of an authorized ATARI Service Center nearest you, call toll-free:

In California (800) 672-1430
Continental U.S. (800) 538-8547

or write to: Atari, Inc.
Customer Service Department
1340 Bordeaux Drive
Sunnyvale, CA 94086

YOU MUST RETURN DEFECTIVE COMPUTER PRODUCTS TO AN AUTHORIZED ATARI SERVICE CENTER FOR IN-WARRANTY REPAIR.

This warranty shall not apply if the Computer Product: (i) has been misused or shows signs of excessive wear, (ii) has been damaged by being used with any products not supplied by ATARI, or (iii) has been damaged by being serviced or modified by anyone other than an authorized ATARI Service Center.

ANY APPLICABLE IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY LIMITED TO NINETY DAYS FROM THE DATE OF PURCHASE. CONSEQUENTIAL OR INCIDENTAL DAMAGES RESULTING FROM A BREACH OF ANY APPLICABLE EXPRESS OR IMPLIED WARRANTIES ARE HEREBY EXCLUDED. Some states do not allow limitations on how long an implied warranty lasts or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

**DISCLAIMER OF WARRANTY
ON ATARI COMPUTER PROGRAMS**

All ATARI computer programs are distributed on an "as is" basis without warranty of any kind. The entire risk as to the quality and performance of such programs is with the purchaser. Should the programs prove defective following their purchase, the purchaser and not the manufacturer, distributor, or retailer assumes the entire cost of all necessary servicing or repair.

ATARI shall have no liability or responsibility to a purchaser, customer, or any other person or entity with respect to any liability, loss, or damage caused directly or indirectly by computer programs sold by ATARI. This disclaimer includes but is not limited to any interruption of service, loss of business or anticipatory profits or consequential damages resulting from the use or operation of such computer programs.


REPAIR SERVICE

If your ATARI Personal Computer Product requires repair other than under warranty, please contact your local authorized ATARI Service Center for repair information.

IMPORTANT: If you ship your ATARI Personal Computer Product, package it securely and ship it, charges prepaid and insured, by parcel post or United Parcel Service.



© 1980 ATARI, INC.
PRINTED IN U.S.A.

A Warner Communications Company 

C016083-08 REV.2