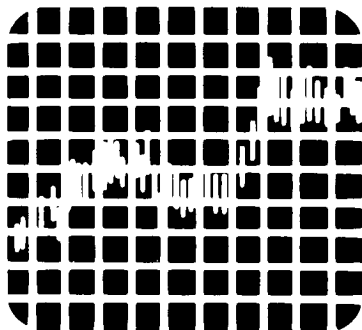# SynStock

Personal stock charting package

By Steven S. Weston

Contains SynStock disk and user's guide. Requires Atari computer with minimum 48K memory, BASIC and disk drive. Printer optional.

synapse

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1 General Introduction

Congratulations on selecting *SynStock*™ to assist you in preparing stock price charts and analyzing stock price history and trends. *SynStock* is easy to use with versatility that allows you to enter and update stock quotes from your local newspaper or from the CompuServe Information System (CIS).

CompuServe is a widely used on-line reference database. It provides a wide range of services, including the stock quote reference database, MicroQuote, which you can use with *SynStock*. MicroQuote provides you with the latest stock quote information as well as an historical analysis of any stock or stocks you wish over a period of time specified by you. You access CompuServe's data bank by using a Modem and dialing a special code. Information on subscribing to the services is included in this manual along with a tutorial on accessing (downloading) stock price data from CompuServe.

How To Use This Manual

This manual has been divided into four sections. These sections are designed to give a clear presentation of the material and easy access to the information and specifications required to run the program. Both the computer novice as well as the seasoned professional will find this program and manual easy to use and understand. As many illustrations as possible have been included to make the instructions clear.

Section One contains an overview of the program and information about your equipment needs. It covers getting the program started (loaded) and an explanation of the keyboard and some of its special keys and functions.

Section Two is a tutorial. We found, after extensive testing that the best way to introduce a program is through a step-by-step demonstration as an instructional aid. This allows you to go through the program in a methodical fashion, learning to use the various features as they appear in sequence. In reading the instructions, please try all the options as they are described (even if you are not sure that you will be using them). This will familiarize you with the overall operation of the system, making the routine functions quick and simple.

At the end of this Section is a tutorial on downloading information from CompuServe. This is followed by instructions for converting any portfolio and quote files you may have if you have been using the ATARI Stock Charting Program.

Section Three is the Reference Section. Here you will find a Summary of Operations, an Error Message Index, Helpful Hints, Command Glossary, and some Technical Notes. The Technical Notes have been included for the interest of those persons who have a more advanced knowledge of computer software.

Before starting it is a good idea to take a look through the glossary in the back of the manual. Please read through the definitions to make sure that they are used in the same way to which you are accustomed. Every effort has been made to keep the language as close to spoken English as possible. If you should encounter any unfamiliar words or do not understand a particular function while using the program, the glossary can be a handy reference.

The section containing the Summary of Operations provides a quick means for looking up and reviewing operations that you may wish to use without having to reread the entire tutorial.

The error message index is an explanation of any messages or warnings which may appear on your screen while you are using the program. This index will suggest

how you might correct the situation which has caused the error message to appear.

We have also included in this section detailed information on printer specifications, what to do if the program won't load, how to split a data diskette, how to handle any downloading problems you may have with CompuServe and how to utilize the Autorun Charts operation which allows you to do other things while you are automatically generating, printing and analyzing stock charts.

Section Four contains a quick reference page, bibliography, the index for this manual and your Warranty. The Index alphabetically lists subjects and their page numbers to help you quickly locate information in this manual. Be sure to read your warranty over carefully. It is your protection and safeguards your interest.

Overview Of The Program

SynStock produces high resolution stock price charts that can be displayed on the screen or quickly reproduced on paper using popular printers capable of bit graphics. *SynStock* produces charts showing daily highs, lows and closings with volume activities. Technical analysis is also included providing moving averages and oscillators. The charts are neatly labeled and ruled for viewing ease.

SynStock can easily be used with more than one data diskette when your files become large enough for multidisk storage. Also as an added advantage for those who are currently using ATARI's Stock Charting system, your old portfolio and quote files can easily be converted for use by *SynStock*. You won't have to start from scratch.

The tutorial will introduce you to the programs for entering data manually, producing charts, downloading quotes from CompuServe and updating your files using downloaded data. How to use moving averages and oscillators is covered in the section on Technical Analysis after the

section on Stock Charting. *SynStock* is also capable of integrating stock split adjustments or dividends into the files. This can be done either by ratios or percentages and *SynStock* will automatically update the stock quotes previous to the split or dividend payment.

SynStock can also be used with other compatible application programs such as *SynCalc* and *SynGraph*. The section on Creating a DIF File, will instruct you how to store data to a disk for use with any of these other compatible programs. A special tutorial on downloading stock price data from CompuServe is at the end of Section Two.

You will find *SynStock* to be a handy and versatile tool for watching stock market trends. As you do begin working with the program, keep in mind the following important points about handling the *SynStock* program and data diskettes. These guidelines will help prevent the loss of data from your disks.

Do not remove any disk from a drive except to replace it with a disk requested by a message on the screen.

Do not remove any disk from a disk drive while the red busy light is on.

Also, be sure to read the section on Program Capabilities (below) carefully so that you are familiar with the program capacities of SynStock.

Program Capabilities

By using different data disks, you can store quotes for an unlimited number of stocks. Each data disk may store up to 50 stocks. One disk containing a number of stocks is referred to as a portfolio. Up to 300 days of quote data can be stored for a stock on a data disk (called a stock quote file). That is equal to more than a full year of trading days. Once a diskette is full, the program alerts you with a **DISK FULL** message. By using the *SynStock* Utility Program,

quote files can be transferred from full disks to empty disks, either completely or in part.

Quote data is limited to the following: volume less than 9,999,999, high, low and close prices should be less than 999,999 and greater than 0. Prices can be manually entered as fractions (i.e. 20 7/8) or decimals (75.25). A fraction will be converted to a decimal automatically by the program.

Stock chart displays are scaled using the maximum high and low quotes. This feature provides the greatest detail possible within the limits of the screen boundaries, Volume is scaled also. Both axes of the stock chart are labeled.

What You Will Need

1. An ATARI 400/800 or XL series computer.
2. An ATARI compatible disk drive.
3. A set of blank disks.
4. A BASIC cartridge. (Not necessary if your computer is a 600XL or 800XL.)
5. A minimum of 48K RAM.
6. A TV set or other video monitor. A black and white set will work.
7. The following printers are fully supported for printing the stock charts: C. Itoh 8510A, NEC 8023, Star Gemini, Epson MX-80 with Graph-Trak option.

⚠ **Important Note:** Other printers may be used, but may not be capable of printing the stock charts.

Optional: Additionally if you wish to download stock price data, you will need a telephone Modem (300 or 1200 baud) and a CompuServe user-id password. Also An ATARI 850 Interface Module and an 80 column printer that uses the Parallel Interface on the ATARI 850 Interface Module and is capable of bit-image graphics, see section on downloading quotes from CIS for full details.

A Word On Diskettes

You cannot be too careful when it comes to handling the diskettes. Each diskette is a small magnetically coated plastic disk sealed in a protective square cover. Through the oval cut-out in the square cover, you can see the magnetic surface of the actual diskette.

Take careful note of the following guidelines for the handling of disks:

1. *Never Touch The Exposed Magnetic Surface* with your fingers or any implement.
2. Protect the disk from dust by storing it in the paper sleeve it comes in.
3. Keep it at least six inches from magnetic fields such as those generated by a TV.
4. Extremes of temperature (such as in a car trunk on a warm day) could destroy a diskette, and you would lose your data, or the program.
5. Don't bend, staple or write on the label with a hard pen or pencil (use only soft felt tip pens).

Loading The Program

Introduction

Two disks are required to run *SynStock*: the Program disk (which is provided), and a blank floppy disk to be used as a Data disk. This data disk is used to save the stock quote data you enter into *SynStock* You will need one Data disk for each set of stock portfolios you wish to analyze. See Program capabilities, for specifications. The Data disk must be "initialized" (so it can be read by the program) before data can be stored on it. *SynStock* will initialize a blank disk for you. This function is selected from the Utility Menu, and is described below in the section Initializing A Data Disk. Note, the initialization process must be completed for every Data disk. A blank formatted disk will not work.

However a disk only needs to be initialized once.

You always load the Program disk into the computer using disk drive 1. *SynStock* checks to see that the proper disk is in the drive before it performs a disk operation. With two disk drives, the data disk goes into Drive 2. Operating the program with one disk drive involves swapping the program disk and the data disk back and forth from drive 1. If you forget to do this, the screen will display a message asking you to put the correct disk into the drive.

Disks have a *write protect* notch on the side of the jacket which when covered prevents the disk from being written on. Do not cover the notch with a write protect label on the data disks. Covering this notch will stop the program. You should, however, keep write protect labels on the *SynStock* Program disk. No data is stored on that disk and the write protect label protects the program from being altered.

Booting The System

1. Insert the BASIC cartridge. (ATARI 600XL or 800XL series computers have BASIC built in).
2. Turn on the 850 interface (optional).
3. Turn on the disk drive.
4. Turn on your modem (optional).
5. Insert the program disk in drive 1.
6. Turn on the computer.

If you will be downloading data from CompuServe, make sure your ATARI 850 Interface Module is connected to your computer and your Modem is properly installed.

The program takes about a minute to load. As the program loading is completed, your first screen known as the Main Menu screen appears and should look like this:

SYN-STOCK

MAIN MENU

1 DOWNLOAD QUOTES
2 UPDATE QUOTES
3 CHART QUOTES
4 UTILITY/INIT.

SYNAPSE SOFTWARE
REL: 1A (C) 1984 STEVEN WESTON
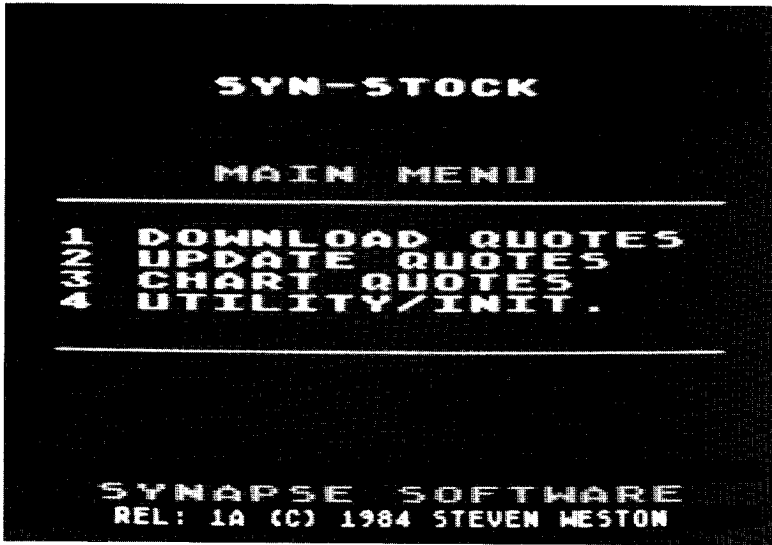
If your screen does not look like the one above, remove your program disk from the drive. Turn off the disk drive and the computer and reboot the system. If after several tries you are not successful at loading the program, see *SynStock* Won't Load, in the Reference Section.

If you have 2 disk drives, leave the program disk in drive one and insert a blank data disk into drive 2. (See your ATARI Manual for details on setting disk drives.)
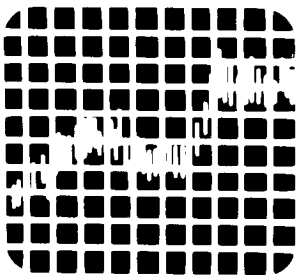
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Main Menu Screen

Study the Main Menu screen above. You will see that there are four menu options. Each option refers to a specific function available from *SynStock*.

The first option, **1-DOWNLOAD QUOTES** is selected if you want to start the on-line terminal program, obtain stock quotes from CompuServe and save them to the data disk.

The second option, **2-UPDATE QUOTES** is used to update your stock quote data disk from the keyboard, or from a quote file downloaded from CompuServe, This option is also used to delete stock quote data from your portfolio, list stock quote data, sort stock quotes by trading date, or list the stocks in your portfolio and see how much space remains on the data disk.

The third option, **3-CHART QUOTES** is used to display a graph of a stock for use in analyzing the trends.

The fourth option, **4-UTILITY/INIT.** must be used to prepare a new data dsk for use. It is also used to select the Utility program functions.

Let's begin by initializing a data disk.
PRESS (4)-UTILITY/INIT. and follow the instructions below.

Initializing A Data Disk

You must initialize a Data disk before *SynStock* can read it. This option will initialize any disk that does not have a label over the "write protect" notch on the side of the disk. Be sure that the disk to be initialized does not have any file you

want to keep. All files and programs on the disk will be erased once it is initialized.

After properly loading the Utility/Init. module, you will see a question on the screen:

HOW MANY DRIVES ARE YOU USING (1/2)?

Although the program can be used with only one drive, using two drives eliminates disk swapping.

If you answer, one drive (by pressing (1)), both the Program and Data disks will be accessed using Drive 1. The program will prompt you when disks need to be swapped.

If you answer, two drives (by pressing (2)), the Program diskette will be accessed on Drive 1 and the Data diskette will be accessed on Drive 2. You will not need to swap disks.
PRESS (1) or (2) depending on how many drives you will use.

The next question is:

WHAT KIND OF PRINTER DO YOU HAVE?
1. Epson Graftrax
2. C.Itoh 8510, NEC 8023 or ProWriter
3. Star Gemini
4. Other

Currently three types of printers are supported for printing the stock quote graphs. Just about any other kind of ATARI compatible printer can print the non-graphic listings produced by *SynStock*.
PRESS (1) if you have an Epson MX printer with Graftrax or equivalent that can produce bit-image graphics.
PRESS (2) if you have an C.Itoh 8510, NEC 8023 or ProWriter or their equivalent.
PRESS (3) if you have a Star Gemini.

PRESS ④ if you have any other kind of printer or will not be using a printer.

After selecting 1, 2, 3, or 4 the Utility Menu appears on the screen:

```
        SYN-STOCK

      UTILITY MENU
─────────────────────────────
1  INIT. DATA DISK
2  ATARI CONVERSION
3  CREATE DIF FILE
4  SPLIT ADJUSTMENT
5  TRANSFER STOCKS
6  CHANGE SYMBOL
7  MAIN MENU
─────────────────────────────

     SYNAPSE SOFTWARE
  REL: 1A (C) 1984 STEVEN WESTON
```

PRESS ①-INIT. DATA DISK

If you are using one disk drive, you will need to remove the Program disk from Drive 1 and insert a blank disk into the drive as instructed.

PRESS [RETURN]

A warning message will appear on the screen:

WARNING: EVERYTHING ON THE DISK IN DRIVE #1 WILL BE ERASED IF YOU CONTINUE.
(Note: #2 if you are using two disk drives)
    M-MENU C-CONTINUE

PRESS [M] if you decide that you really do not want to erase and initialize the disk. The Utility Menu will again appear.

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PRESS (c) if you wish to continue and the disk in Drive 1 (or 2 with two disk drives) will be initialized.

Initializing a disk takes approximately two minutes on an ATARI 810 disk drive.

When the initialization procedure is finished, the Utility Menu screen will reappear.

Tutorial: Entering Stock Quotes

If you have just initialized a disk and are looking at the Utilities Menu, remove the data diskette, insert the Program diskette and,

PRESS (7) for the Main Menu.

When the Main Menu appears,

PRESS (2)-UPDATE QUOTES to enter stock quotes.

[!] **Important Note:** If you did not insert the Program diskette, you will receive an error message prompting you to remove the data disk and insert the Program disk.

However, if you are using two disk drives, all you have to do is Press (7) for Main Menu and then (2) for Update Quotes. Swapping disks is not necessary. Throughout the rest of this manual, if you are using two disk drives, ignore instructions to swap program and data disks.

After selecting 2-UPDATE QUOTES you can begin entering stock quotes. Next, A prompt appears telling you to:

INSERT STOCK DATA DISK IN DRIVE 1
(or 2 if you are using two drives and
the data disk is not already there.)
PRESS RETURN TO CONTINUE

The Update Quote Program will load the Portfolio file. The message: **CURRENT PORTFOLIO IS BEING LOADED**, will appear on the screen while this operation is taking place.

After the Portfolio has been loaded, the following question
will appear on the screen:

**WOULD YOU LIKE TO SEE THE
CURRENT PORTFOLIO? (Y/N)**

Since you are starting a new portfolio, there are no stocks to
see.
PRESS (Y).

The screen displays a message that the portfolio is empty.
(If you had pressed (N) instead of (Y) the Update Quote
Menu would have appeared on the screen.)
PRESS (RETURN) for the Update Quotes menu:
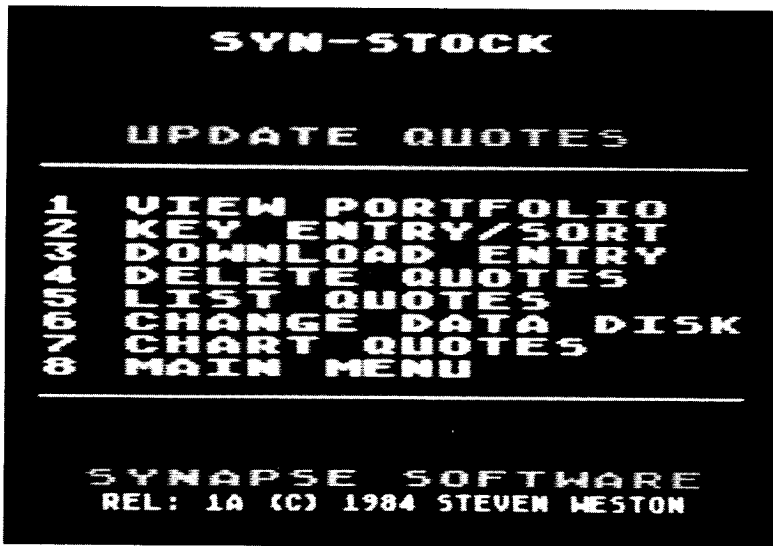
The first option,

1-VIEW PORTFOLIO

would display the same **PORTFOLIO IS EMPTY** message
you saw previously.

The second option,

2-KEY ENTRY/SORT

will allow you to enter daily stock quotes from the keyboard.
PRESS (2)

The following message is displayed:

STOCK SYMBOL: _____

Quote Entry From The Keyboard

Stock symbols are used by the stock exchanges as an
abbreviation of the stock name. The symbol must not be
longer than five characters.

Enter: XYZZ.

Do not press (RETURN) *yet.*

In this case, you can use the (DELETE BACK S) key to edit the
line before you type (RETURN).
PRESS (DELETE BACK S) once to erase the second Z.
PRESS (RETURN)

The program will display the following message:

STOCK NOT IN THIS PORTFOLIO

PRESS (RETURN) and you see:

**DO YOU WANT THIS STOCK ADDED TO THIS
PORTFOLIO (Y/N)?**

PRESS (Y)

Pressing (N) would abort the entry. A new blank KEY
ENTRY/SORT screen would appear ready for a new stock
entry.

This will add stock XYZ to the portfolio. You will then see the following prompt:

QUOTE DATE (MMDDYY): _____

ENTER: 050982 on the blank line.
PRESS [RETURN]

Next, *SynStock* prompts you for the volume:
ENTER: 1100
PRESS [RETURN]

Then you are prompted for the high:
ENTER: 45.5
PRESS [RETURN]

Now the low:
ENTER: 43.25
PRESS [RETURN]

And finally, the close:
ENTER: 44.875
PRESS [RETURN]

At this point you are presented with a new screen prompting you for the quote date. This will begin the cycle again for entering another stock quote:
ENTER: 051082
PRESS [RETURN]
ENTER: 1254 for the volumne
PRESS [RETURN]
ENTER: 45
PRESS [TAB]

Now you see a line allowing you to enter a fraction.
ENTER: 1
PRESS [TAB]
ENTER: 2
PRESS [RETURN]

You have just entered the fraction ½, making 45½ your entry for the high.

ENTER: 43

PRESS (TAB)

ENTER: 1

PRESS (TAB)

ENTER: 4

PRESS (RETURN)

You have just entered the value 43¼ for the low.

ENTER: 44

PRESS (TAB)

ENTER: 7

PRESS (TAB)

ENTER: 8

PRESS (RETURN)

You have just entered the value 44⅞ for the close.

This completes entries for two days of quotes.

In the first entry, the high, low and closing quotes were entered as decimal numbers. In the second entry, the quotes were entered as fractions. The program will accept both. Fractional entries will be converted to decimals by the program.

SynStock will edit the data you enter. That is, the program will attempt to screen out and reject any errors you may make. Errors detected by the program will display an error message. See Section Three, Error Messages, for a description of various error conditions and what to do when they occur.

Enter the following quotes to complete a week of trading days:

DATE:	051182
VOLUME:	1350
HIGH:	46
LOW:	44.25
CLOSE:	45

DATE:	051282
VOLUME:	925
HIGH:	46.25
LOW:	42
CLOSE:	42.75

DATE:	051382
VOLUME:	1500
HIGH:	48
LOW:	42.5
CLOSE:	47.75

Now you have completed entering quotes for XYZ. **PRESS** (RETURN) again without making an entry.

The program will sort the quote file into trading date sequence. The program will also display messages about what it is doing during the sort.

[!] **Important Note:** Never press (BREAK) or (SYSTEM RESET) keys while the program is using the disk drive, it could result in the loss of your data.

After sorting and saving the quote file, the program will display a message that it is **DONE!** and wait for your entry. **PRESS** (RETURN) to continue.

At this point, *SynStock* has already saved the portfolio file to the Data disk and will reload the portfolio for viewing when you press (RETURN).

The message once again appears:

WOULD YOU LIKE TO SEE THE CURRENT PORTFOLIO? (Y/N)

PRESS Ⓨ to view the portfolio.

The screen will display your portfolio contents. In this case only XYZ is in the file. Also notice that the percentage of disk space used is indicated. This number will increase as you add more quotes or stocks to your file.
PRESS ⓒ to CONTINUE the display.

The screen is displaying our only stock, XYZ, showing the beginning and ending dates of the quotes on file as well as the number of quotes.

STOCK	FROM-DATE	TO-DATE	QTS
XYZ	05/09/82	05/13/82	5

PRESS Ⓜ to return to the Quote Update Menu.

Listing & Printing Stock Quotes

Now that quote data has been saved onto the Data disk, you can list that data to your screen or printer. With the screen displaying the Quote Update Menu,
PRESS ⑤-LIST QUOTES.

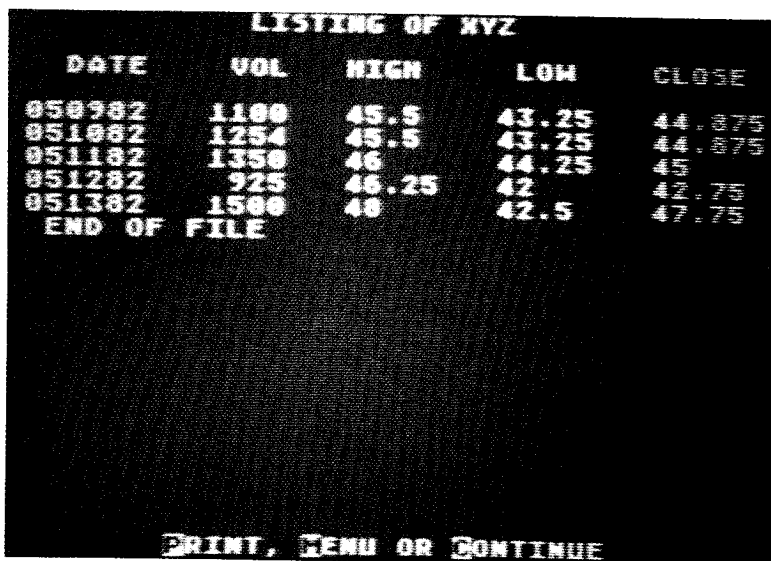The following prompt is displayed:

STOCK SYMBOL: _____

ENTER: XYZ
PRESS (RETURN)

SynStock will ask you if you want a listing of all quotes.
ENTER: Y

The screen now appears as follows:


```
        LISTING OF XYZ
  DATE    VOL    HIGH     LOW    CLOSE
 050982   1100   45.5    43.25   44.875
 051082   1254   45.5    43.25   44.875
 051182   1350   46      44.25   45
 051282    925   46.25   42      42.75
 051382   1500   48      42.5    47.75
 END OF FILE


        PRINT, MENU OR CONTINUE
```

If you have a printer make sure it is ready to print. (Plugged in, switched on and hooked up to your 850 module which is also turned on.)
PRESS (P) for Print.

The screen will now be printed just as it is displayed. If a listing requires more than one screen, the program will pause between screens for your viewing and printing.
PRESS (c) to Continue.

The prompt,

STOCK SYMBOL: _____

appears on the screen.
ENTER: XYZ
PRESS (RETURN)

Next you are again asked if you want all quotes listed. This time, enter: N for No. You are then asked to indicate the starting date for the selection of stocks you wish to view.

ENTER: 051082
PRESS (RETURN)

Now enter the ending date for the stocks you wish to view:
ENTER: 051282
PRESS (RETURN)

The screen displays the quotes from 5/10 to 5/12 inclusive.
PRESS (c) to continue.

Now, simply pressing (RETURN) without an entry will display the Quote Update Menu. Pressing (M) at the **PRINT, MENU, or CONTINUE** prompt would have brought up the menu then. However this example shows you how to escape from a menu selection if you choose not to use it.

Adding And Changing Quotes

This feature will allow you to easily add quotes to an existing file, change or correct quotes in an existing file or add new stocks and quotes to your portfolio.

You should be looking at the Update Quotes Menu.
PRESS (2)-KEY ENTRY/SORT.

The screen displays a prompt asking you for the stock symbol:
ENTER: XYZ
PRESS (RETURN)

The XYZ quote file is now ready for keyboard update. First enter the quote date:
ENTER: 050582
PRESS (RETURN)
ENTER: 1325 for the volume
PRESS (RETURN)
ENTER: 47.75 for the high
PRESS (RETURN)
ENTER: 46.25 for the low
PRESS (RETURN)

ENTER: 47.5 for the close
PRESS (RETURN)

Enter the stock quote information for the following three days in the same way:

DATE:	050682
VOLUME:	1400
HIGH:	47.5
LOW:	44.25
CLOSE:	45

DATE:	051782
VOLUME:	1014
HIGH:	48.25
LOW:	47.75
CLOSE:	49.5

DATE:	051882
VOLUME:	1296
HIGH:	49.5
LOW:	47.75
CLOSE:	49.5

Any quote entered in an earlier session or the current session can be changed by re-entering the correct data. Enter the following correction:

DATE:	050682
VOLUME:	1485
HIGH:	47.5
LOW:	44.25
CLOSE:	45

The corrected information will be superimposed over the previously entered data.

To end the quote data entry session:
PRESS (RETURN)

The disk drive will begin and the screen will display:

SORTING

The Quote file is sorted into trading date sequence every time it is updated from the keyboard. An additional benefit of the sorting is file compression. Any unused space in the file is removed and the file is reduced in size.
PRESS (RETURN) to continue, as instructed on the display.

You will be asked if you would like to see the portfolio. If you would, press (Y) and then (M) to return to the Update Quote Menu. Otherwise, press (N) to get to the Update Quote Menu.
PRESS (5) to list the quotes.
ENTER: XYZ for the stock symbol
PRESS (RETURN)
ENTER: Y to list all quotes

You will see that the "new" quotes were added to the Quote file, that they are in sequence and that the quote data for 5/6 was changed (volume was changed from 1400 to 1485).
PRESS (M) for the Update Quote Menu.

If after pressing (2)-KEY ENTRY/SORT you had entered a new stock symbol instead of XYZ, you would have entered a new stock into the portfolio and the next screen would have prompted you for date, volume, high, low and close.

Stock Chart Program Tutorial

Now we will work with the stock charting operation.

Insert your Program Disk and:
PRESS (7) CHART QUOTES

Insert Stock Data Disk in Drive #1 (or #2).
PRESS (RETURN) to continue.

The Chart Quotes Menu will appear on your screen:
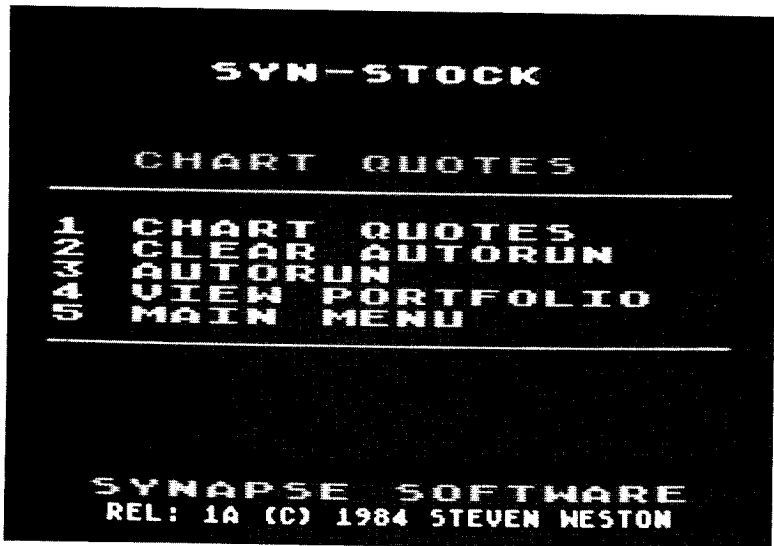
PRESS ⓵ -CHART QUOTES
ENTER: XYZ
PRESS (RETURN)

Next you are asked if you want to chart all quotes:
ENTER: Y for yes.

Had you indicated N for No you would have been asked to specify starting and ending dates.

The program will begin to read the quotes file and draw the graph.

Along the left side of the graph is a legend showing the stock price. The horizontal lines mark the stock prices shown in the legend. At the bottom of the graph is a legend showing the dates of the stock quotes charted.

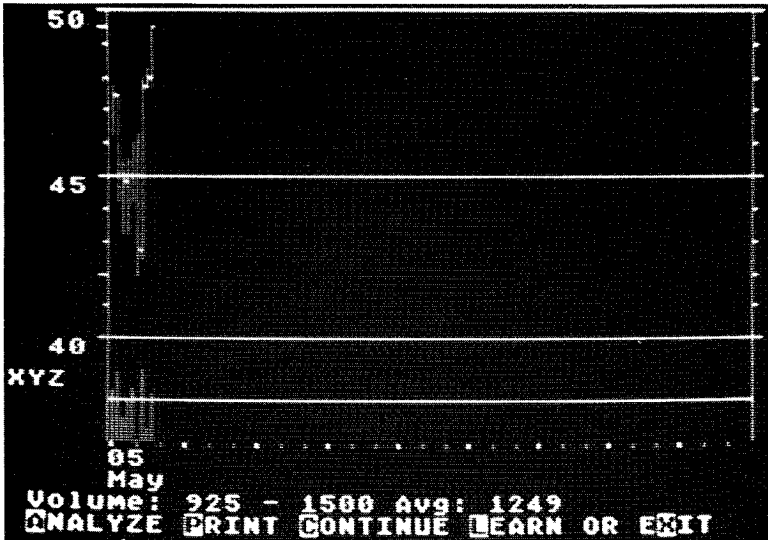To the left, the stock symbol appears (XYZ). To the right of the symbol the lowest low and the highest high prices are indicated on the price scale.

On the next line, the volume range appears. This shows the lowest and highest volume and the average volume for the trading days charted. The daily volumes are shown graphically at the bottom of the chart. The volume average is shown as a white line across the volume area. The volume lines are scaled so that they will seldom overlap the price lines above.

Look closely at the price lines. The little white stroke represents the closing price for the stock. The rest of the price line shows the high-low trading range for the stock.

The gaps, if any, between trading days charted represent non-trading holidays.

At the very bottom of the display is the **ANALYZE PRINT CONTINUE LEARN OR EXIT** prompt. If you have a printer capable of bit-image graphics (be sure that it and the 850 interface Module are turned on),
PRESS (P) for Print.

Your printer will begin reproducing the screen display. Refer to Section Three, Printers, if your printout does not look right.

After the screen has been printed, you can choose to print it again or continue. Sometimes more trading days are requested than will fit on one screen graph. In that case, pressing (c) will continue charting the remaining trading days.
PRESS (c)-Continue

The screen will display the stock symbol prompt:

STOCK SYMBOL: _____

Technical Analysis

SynStock has several technical analysis tools available: two user selectable moving averages of price with selectable periods and a user selectable oscillator. The oscillator plots the net difference of two time series. For example: price minus a moving average.

These analysis tools are available after a chart has been plotted by selecting Analysis.

To see how this works:
ENTER: XYZ for the stock symbol
ENTER: Y to chart all quotes.
PRESS (A)-ANALYSIS

The bottom line on your screen now reads:

MOVING AVERAGE, OSCILLATOR OR EXIT

An oscillator is the difference between two points, either the difference between the Price and a Moving Average or the difference between two Moving Averages. So, in order to plot the Oscillator you need to plot the Moving Average(s) first. Plotting Moving Averages is a way of smoothing out the closing prices which are plotted on your graph by small white horizontal bars. With *SynStock* you can average up to 51 days at a time and plot one or two Moving Averages.
PRESS (M)-MOVING AVERAGE

The bottom line on your screen changes again and reads:

MOVING AVERAGE 1 OR 2

PRESS (1)

The bottom line changes again and now reads:

ENTER MOVING AVERAGE PERIOD < 51

SynStock allows you to average up to 51 days for a moving average.
ENTER: (4)
PRESS (RETURN)

Watch your screen closely. You will see that the white marks on the screen will rearrange themselves giving you the four day moving average.
PRESS (A)-ANALYZE again so that you can graph the oscillator.
PRESS (O)-OSCILLATOR

The bottom of your screen now reads:

PRICE, MA1 OR MA2 MINUS –

PRESS (P)-PRICE

The bottom of your screen now reads:

MINUS – PRICE, MA1 OR MA2

SynStock is asking you what you want to subtract from the PRICE, Moving Average #1 or Moving Average #2.
ENTER: ⊙ for Moving Average #1

The daily volumes shown graphically at the bottom of the chart will change giving you your Oscillator graph of Price minus Moving Average #1.

You can now experiment with the Analysis features of *SynStock* to devise your own price movement indicators.
PRESS ⊙ to exit the Analysis features.
PRESS ⊙RETURN to get to Chart Quotes Menu.

If you are using one disk drive, insert the Program Disk, then:
PRESS ⊙ Main Menu

At this point you may start inputting data on other stocks or remove your disk, turn off the power and end your input. You should read the sections on COMPUSERVE INFORMATION SERVICE and preread the next tutorial before continuing.

Downloading Quotes From CIS

In order to complete this tutorial you must already have a CompuServe Information Service (CIS) user-id and password. If you do not have these, see the Reference Section for information on how to become a subscriber.
1. Turn on your ATARI 850 Interface Module before loading the program.
2. Make sure your MODEM is properly hooked up to your computer.
3. Load the Program.

PRESS ⊙-DOWNLOAD QUOTES from Main Menu

You will see a prompt reading:

INSERT DOWNLOAD DATA DISK IN DRIVE 1
(or 2 with two disk drives)

After inserting your stock data disk:
PRESS (RETURN) to continue.

Your display screen will go black. In a minute or so the screen display will return with the following display:

BYTES OF MEMORY AVAILABLE
PRESS START TO ENTER TERMINAL MODE
PRESS SELECT TO EXIT PROGRAM

The first line of the display shows how many characters of stock data can be downloaded. The next two lines are prompts for your options.
PRESS (START) to enter terminal mode.

At the top of the screen, **TERMINAL** should be displayed. A light, quick touch of the (START) key is sometimes needed. You can send and receive data only while in the terminal mode.

Follow the telephone dialing procedures for your MODEM. Once you have established connection with CIS:
PRESS (CTRL)-(C)

The screen will display:

USER ID

Important Note: Those of you on *Tymnet* may use an entry other than (CTRL)-(C)

ENTER: Your User ID and
PRESS (RETURN)

Now the screen displays:

PASSWORD

ENTER: Your password and:
PRESS (RETURN)

CIS will sometimes send a **What's New** screen at this point. If so, press (RETURN).

You should have the CIS-1 screen or the **OK** prompt on your display now.
ENTER: GO FIN-14
PRESS (RETURN)

This will take you directly to MicroQuote. CIS will send you a screen (FIN-14) to let you know that MicroQuote will cost extra (very little extra).
PRESS (RETURN) to continue. CIS will again send you an information screen. *Note The Date* through which the Database has been updated. At the bottom of this screen is the **PROGRAM** prompt.
ENTER: MQDATA
PRESS (RETURN)

CIS will respond with the MQDATA screen requesting the **INTERFACE DESIRED**. You want Option 1-PRICES.

ENTER: (1)
PRESS (RETURN)

CIS will prompt you with:

OUTPUT TO TTY OR FILENAME

You should respond by entering your initials. (If your initials are TTY, enter something else).
ENTER: (Your initials)

PRESS (RETURN)

CIS now wants you to enter the stock ticker symbols of the stocks for which you want quotes. For the purposes of this tutorial enter the following:
ENTER: XON

PRESS `RETURN`

The screen displays **ISSUE:**
ENTER: WCI
PRESS `RETURN`

The screen again displays **ISSUE:**
PRESS `RETURN`

Those entries will get the quotes for Exxon and Warner Communications, Inc.

Now CIS wants to know whether you want daily, weekly or monthly quotes. For the purposes of this tutorial, You want daily quotes.
ENTER: `D`
PRESS `RETURN`

CIS needs to know how far back you want historical quotes. You should get about two weeks of quotes so enter a date two weeks prior to the date you noted earlier.
ENTER: mm/dd/yy
PRESS `RETURN`.

CIS will prompt for an ending date. If you do not enter a date here, CIS will use the date you noted earlier.
PRESS `RETURN`

CIS allows the entry of Options here. You don't need any.
PRESS `RETURN`

CIS now displays the Items Available Menu. You want date, volume, high, low, and close, in that order.

1) for Date
2) for Volume
3) for High/Ask
4) for Low/Bid
5) for Close/Avg.
6) for Sequence

ENTER: 1, 2, 3, 4, 5
PRESS (RETURN)

You do not need the sequence number.

At this point CIS will tell you how much it will cost you to get the quotes you have requested. Unless the amount is astronomical (probably because you accidentally entered the wrong year in a date entry), reply YES.
ENTER: (Y) for Yes
PRESS (RETURN).

CIS will now tell you that the data requested has been stored in a file named: (Your initials).

CIS will then prompt for another Interface. At this point you want to exit.
PRESS (RETURN)

CIS will then prompt for another **PROGRAM**. At this point you want to download the data stored in your CIS file.
ENTER: TYP and (Your Initials), but *Do Not Press*
(RETURN).

Now you are ready to download, but the program is not ready to save the data.
PRESS (SELECT)

The screen displays **MEMSTORE ON**. If the screen also displays **MEMSTORE OFF**, keep pressing (SELECT) until **MEMSTORE ON** is the last line displayed on the screen. A light, quick touch is sometimes needed here.
PRESS (RETURN)

Your quote data will be displayed while it is being downloaded. When it stops, CIS will display the **PROGRAM** prompt.
PRESS (SELECT) again to get **MEMSTORE OFF** displayed as the last line on the screen.

With the quote data safely in the computer's memory, you can exit MicroQuote.

ENTER: EXI

PRESS (RETURN)

CIS will display how much it cost to download your quotes and then display the **OK** prompt.

ENTER: BYE

PRESS (RETURN) to sign-off.

This will disconnect CIS. You can hang up your modem now.

Now you are ready to save the quote data in the computer's memory to a disk file.

PRESS (START)

The display will prompt for a file name. Several other options are also available. Pressing a number key will display the disk directory and amount of free space for that drive number. Pressing the (OPTION) key will allow you to retain or erase the data stored in the computer's memory.

You want to save your data onto a disk.

ENTER: CISQUOTE

PRESS (RETURN)

CISQUOTE will be the name of your downloaded quotes file on disk. After the data has been stored on disk, the computer memory is reset and, if you were still connected to CIS, you could download more quotes. The Terminal Program will now ask you if you want to re-enter Terminal Mode.

PRESS (SELECT) to exit to the Main Menu.

Now insert your stock chart disk into drive 1 and:

PRESS (START).

This is the end of the Stock Terminal Program tutorial.

If you wish to continue, follow the tutorial below to learn how to update your Quotes file with the data downloaded from CIS.

Updating With CIS Quote Data

Now you will learn to integrate your downloaded stock quotes into your portfolio.

Insert your Program Disk
PRESS ②-UPDATE QUOTES from the Main Menu

Answer the prompts about how many disk drives and type of printer you are using if you have rebooted for this section of the tutorial.

Otherwise, you will be asked if you would like to see the current portfolio. If you would, press Ⓨ, if not, press Ⓝ.

The Quote Update Menu appears on your screen:

PRESS ③-DOWNLOAD ENTRY

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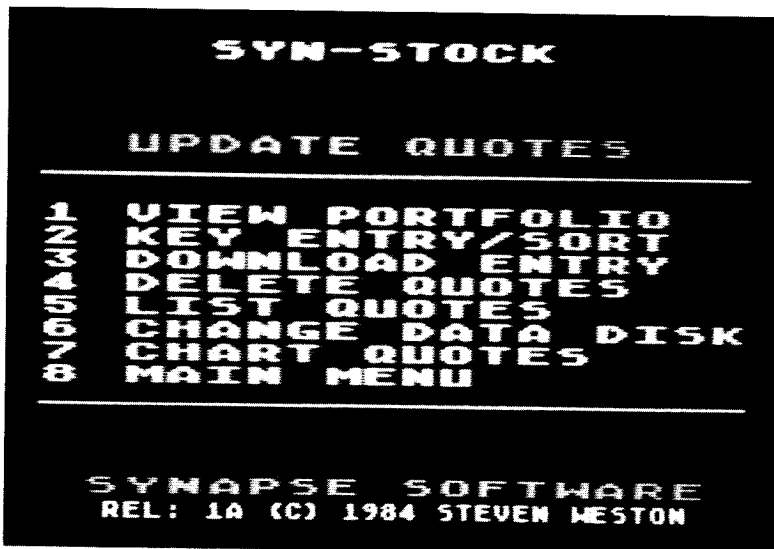
The program will now prompt you for the name of your downloaded quotes file, the quotes file that was downloaded from CIS and saved to disk in the tutorial above. If you followed the tutorial, that file name is CISQUOTE.

ENTER CISQUOTE

PRESS (RETURN)

As the program reads the downloaded quotes file, it will display the stock symbol and the number of quotes it expects to add to the Quotes file.

If the stock the program is currently updating is not in the Portfolio file, the program will display the following message:

DO YOU WANT THIS STOCK ADDED TO THIS PORTFOLIO (Y/N)?

Most people will answer "yes" to this prompt. However, some people will be following so many stocks that not all will fit on one disk. This prompt was designed for that situation. For example, if the stock that the program is ready to update is on another disk, you would answer "no." Then later you would use the same CISQUOTE file to update the stocks on the other disk, following the same procedure outlined here.

PRESS (Y)

This will add this stock to the portfolio file and update the quotes file.

When the program gets to the quotes for WCI, it will again display:

DO YOU WANT THIS STOCK ADDED TO THIS PORTFOLIO (Y/N)?

PRESS (Y) again.

When the program reaches the end of the CISQUOTE file, it will prompt you:

DELETE DN:CISQUOTE (Y/N)?

PRESS Ⓨ to delete the downloaded quotes file.

🗩 **Important Note:** Those with multidisk portfolios may wish to keep the file, however.

The program will then update the portfolio file and ask you if you wish to view the portfolio. Go ahead and take a look. Both WCI and XON are in the portfolio file now. Take a look at the charts the charting program will generate from the quotes you downloaded from CIS. Use the Stock Chart Program Tutorial as a guide. After viewing the charts, return to the Main Menu and follow the tutorial below.

Deleting A Stock And Quotes

You may want to periodically update your portfolio by deleting certain stocks.
PRESS ②-UPDATE QUOTES from Main Menu

The Quote Update Menu will appear on your screen.
PRESS ④-DELETE QUOTES

The program will prompt you to enter the stock symbol, start and end dates as you did previously. If no dates are entered, all of the quotes for the stock symbol entered will be deleted. The start and end dates are inclusive.

If you have followed this tutorial, you will have three stocks in your Portfolio file with quotes in the Quotes file.
ENTER: XYZ
PRESS (RETURN)

The program will revise the Portfolio file and delete all of the stocks and quotes for the stock selected.

The Update Quote Menu will be displayed after the portfolio is revised.
PRESS ①-VIEW PORTFOLIO to see that the XYZ quotes were indeed deleted.

This concludes the *SynStock* tutorial. At this point you should have a good general understanding of how *SynStock* operates. The more familiar you become with the program and its various operations, the easier it will become for you to keep accurate stock records and easily observe the market trends with *SynStock's* graphing capabilities.

If you are through using SynStock, you may now remove any disks from your drive and turn off the power.

Now look over the following operations. They will allow you greater versatility with *SynStock* as you become more familiar with its various aspects and uses.

Change Symbol

Sometimes the stock exchange will change the symbol for a stock. When this happens you can use the CHANGE SYMBOL operation of *SynStock* to update your file with the new symbol.
PRESS ⑥-CHANGE SYMBOL on the Utility Menu.

The following messages will be displayed:

OLD STOCK SYMBOL: ____ ____ ____ ____

ENTER: XON
PRESS (RETURN)
ENTER: XONIC
PRESS (RETURN)

The message:

PORTFOLIO IS BEING REVISED

will flash across the screen. Moments later you will find yourself looking at the Utility Menu.

To view the change, return to the Main Menu and select Update Quotes. You will be asked if you want to see the current portfolio.
PRESS (Y)

The new symbol should now be listed in your portfolio.

Create DIF™ File

This stands for Create a Data Interchange Format File and is used when you want to store data to a disk to be used with another program such as *SynCalc* (Synapse's spread sheet program), *SynTrend* (Synapse's graping and statistics program). or *SynFile+* (Synapse's database program).
PRESS (3)-CREATE DIF FILE from the Utility Menu.

You will be prompted to enter the stock symbol, the start date and the end date.
ENTER: (The required information.)

When the process is completed you will find yourself looking at the Utility Menu. The name of the DIF file will be in the following format: <Stock Symbol>. DIF (i.e., XON.DIF).

Change Data Disk

If your stock files cover more than one data disk, you will need to use the CHANGE DATA DISK operation on the Update Quote Menu.
PRESS (6)-CHANGE DATA DISK from Update Quote Menu.

The prompt,

INSERT STOCK DATA DISK IN DRIVE 1

(or #2 for two disk drives) means that you should insert the data disk that you wish to use. This feature saves your

having to reboot the system when you need to change data disks to continue your sessions.

You can also change data disks from the Chart Quotes Menu. To do this, press (4)-VIEW PORTFOLIO, and then press (c) to change data disks.

Split Adjustments

Sometimes stocks will be split or stock dividends will be paid. Often this results in an increase in the number of shares owned with each share at a lesser value. Less often this can result in fewer shares owned with each share at a greater value. *SynStock* handles stock splits through the Utilities/Init. selection on the Main Menu. You can often tell when stocks were split by Listing a file (No. 5 on the Update Quotes menu). If you notice a drastic change in Price such as a price drop from 42 to 21, you will know that the stock has been split 2 for 1. This is known as a RATIO SPLIT and gives you twice as many stocks with each one worth half as much as before the split. Sometimes split dividends are paid as a PERCENTAGE. For instance you will have a 10 percent increase in the number of shares you own with a corresponding decrease in their price value. When you download quotes from CompuServe, split and stock dividend adjustments have already been made, so you do not have to be concerned with adjusting downloaded quotes. You may, however, need to adjust your historical quotes if a split adjustment occurred since they were entered into the file.

Now, to adjust your file when a split occurs:
PRESS (4)-UTILITIES/INIT. from Main Menu.

Insert your Data Disk if you are using one disk drive and,
PRESS (4)-SPLIT ADJUSTMENT

The following messages will be displayed:

Stock Symbol: _____

ENTER: XONIC

(Remember we changed this symbol from XON)
PRESS (RETURN)

Split Date: _____

ENTER: (Your date.)
PRESS (RETURN)

The date that is being asked for is the first day of the new prices. *SynStock* adjusts everything prior to the date you enter for the stock symbol indicated.

Your screen will prompt you about ratio and percentage splits and dividends and then ask you whether yours is a ratio or a percentage split.

ENTER: Either (R) for RATIO or (P) for PERCENTAGE as the case may be.
PRESS (RETURN)

Then you will be asked to enter either the Ratio or the Percentage amount depending on whether you pressed (R) or (P) above. An example is included on the screen so that you will know the correct format for entering the Ratio or the Percentage amount.

You are then given the option to abort the operation. The bottom of the screen reads:

**QUOTES WILL BE RECALCULATED
OK TO PROCEED (Y/N)?**

PRESS (N) to stop the process.
PRESS (Y) to initiate the recalculation

You can now view your file by Listing the quotes (No. 5 of Update Quotes Menu) to observe the adjustments.

Converting From ATARI Stock Charting

Those of you who have the ATARI Stock Charting Program may wish to convert your existing Portfolio and Quotes files to be used by *SynStock*. *SynStock* has the ability to convert the Portfolio and Quote files created using the ATARI Stock Charting Program. By using the Utility Program, you can convert these files and avoid losing all of your previous data. The following is a step-by-step guide for the conversion process.

PRESS ④-UTILITY/INIT.

Answer the questions about number of disk drives and type of printer you will be using if you have rebooted.

The Utility Menu should appear on the screen.
PRESS ②-ATARI CONVERSION

The next screen appears as follows:

DO YOU WISH TO CONTINUE (Y/N)

PRESS Ⓨ

You will be prompted to:

INSERT ATARI DATA DISK IN DRIVE 1
(or 2 if you are using two disk drives)

With the data disk in the proper drive, press (RETURN) and the conversion will begin. If the program encounters any problem, an error message will be displayed.

When the conversion process completes without any errors, the program will display:

CONVERSION OK!

Copy Disk

It is very important to back up files. Accidents can and will happen (such as bad diskettes, read/write errors, system lockups, etc.) at the most inopportune times, so *it is imperative to duplicate your files frequently.*

A good practice is to copy the files at the end of every input session or when you have entered enough records to make it inconvenient to input the same data again.
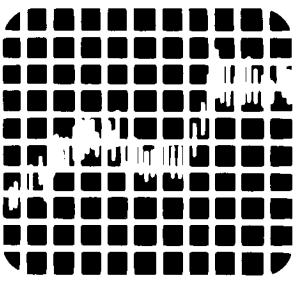
CompuServe Information Services

The CompuServe Information Service was chosen for use with *SynStock* for its ease of use, wide availability and low prices. CompuServe provides a wide range of services, most important for your purposes, is the stock quote reference database, Microquote.

In order to use CompuServe, you must be a subscriber and have a current user-id and password. If you are not currently a subscriber, you may obtain a CompuServe Starter Kit from your local computer store or by contacting:

CompuServe Information Service
5000 Arlington Centre Boulevard
Columbus, Ohio 43220

(800) 848-8990

CompuServe provides several User Guides which may be of use to you. The MicroQuote User's Guide (CS-447) and the CompuServe Information Service User's Guide are recommended. They are chargeable items and may be obtained from the above address or on-line.

Summary Of Operations

The following section has been constructed as a quick reference guide. The various major operations have been summarized for your convenience in reviewing them without having to go through the tutorials again. An alphabetical Error Message Index follows the Summary to help you quickly find your way out of any difficulties. The Glossary is included at the end of this section to give you easy access to any terms you may find unfamiliar.

Loading The Program

When your computer is set up, load the program as follows:

1. Insert the ATARI BASIC cartridge in the computer console if you have an ATARI 800 or 1200XL. BASIC is built into the 600XL and 800XL machines.
2. Turn on the disk drive(s).
3. If you will be downloading data from CompuServe, turn on the ATARI 850 Interface Module and your Modem. Be sure your Modem is properly connected to the telephone system.
4. Turn on the TV or video monitor.
5. Insert the *SynStock* program disk into Disk Drive #1.
6. Turn on the computer. *SynStock* program will load and the Main Menu will appear on the screen.
7. After selecting the operation from the Main Menu that you wish to work with, the screen will prompt you for the number of disk drives you will be using and the type of printer. This information must be keyed into the program every time you reload the system.

Quote Entry From Keyboard

1. **PRESS** ②-UPDATE QUOTES from Main Menu

   The screen reads:

   **WOULD YOU LIKE TO SEE THE
   CURRENT PORTFOLIO? (Y/N)?**

   Either Press (N) to get to QUOTE UPDATE MENU, or
   Press (Y) and then (M) for the QUOTE UPDATE MENU
2. **PRESS** ②-KEY ENTRY/SORT to enter daily stock
   quotes.
3. Enter STOCK SYMBOL, Press (RETURN)

   If this is a new stock, the screen reads:

   **STOCK NOT IN THIS PORTFOLIO
   (if this a new stock)**

   PRESS (RETURN)

   **DO YOU WANT THIS STOCK ADDED TO THIS
   PORTFOLIO (Y/N)?**

   PRESS (Y)
4. The screen now reads:

   QUOTE DATE (MMDDYY): _____

5. Enter your data in the format prompted by the program.
6. **PRESS** (RETURN) without making an entry to complete
   the session. The program will now sort the quote file into
   trading date sequence.
7. The screen now reads:

   **WOULD YOU LIKE TO SEE THE CURRENT
   PORTFOLIO? (Y/N)**

   PRESS (Y) to view the portfolio, Press (C) to continue
   the display and (M) to go to the QUOTE UPDATE
   MENU.

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Or you can Press ⦗N⦘ and go directly to the QUOTE
UPDATE MENU.
PRESS ⦗N⦘ if you do not wish to view it.

Listing and Printing Stock Quotes

1. **PRESS** ⦗5⦘-LIST QUOTES from Stock Quote Update
   Menu.

   The screen now reads:

   STOCK SYMBOL: _____

2. **ENTER:** Stock Symbol
   PRESS ⦗RETURN⦘
3. Indicate the quotes you wish to list.
4. **PRESS** ⦗P⦘ for Print if you have a printer hooked up.
5. **PRESS** ⦗C⦘ to Continue if you wish to list and/or print
   more stocks.
6. **PRESS** ⦗RETURN⦘ without an entry to return to the Quote
   Update Menu.
7. **PRESSING** ⦗M⦘ at the PRINT, MENU or CONTINUE
   prompt also takes you to Quote Update Menu.

View Portfolio

You can view your portfolio at various points while you are
using *SynStock*. The message on the screen display may
ask you if you wish to view the portfolio, or you may select
to view it by pressing ⦗1⦘ on the Quote Update Menu.

In either case, simply follow the prompts on the screen by
depressing the keys indicated. Pressing ⦗M⦘ will take you to
the Update Quotes Menu from where you can choose
another operation.

Adding & Changing Quotes

1. **PRESS** ⦗2⦘-KEY ENTRY/SORT from Update Quotes
   Menu.

2. **ENTER:** Stock Symbol
   PRESS [RETURN]
3. **ENTER:** Quote Date
   PRESS [RETURN] and continue entering data as prompted by the program.
4. [!] **Important Note:** Any quote entered in an earlier session or the current session can be changed by re-entering the correct data.
5. **PRESS** [RETURN] without making an entry to end the updating session.
6. Follow the prompts on the screen if you wish to view the portfolio. Otherwise press (N) to return to Update Quotes Menu.

Stock Charting

1. **PRESS** (7)-CHART QUOTES from Update Quotes Menu.
2. The Chart Quotes Menu appears on the screen.
   PRESS (1)-CHART QUOTES
3. **ENTER:** Stock Symbol
4. **PRESS** [RETURN]
5. Indicate quotes you wish to chart.
6. **PRESS** (P) to Print if you have a printer.
7. **PRESS** (c) to Continue or (x) to Exit if you wish to chart more quotes.
8. **PRESS** [RETURN] for the Updating Quotes menu.
9. **PRESS** (A) for Stock Quote Analysis.

Downloading Quotes From CompuServe

1. Turn on your ATARI Interface Module before loading the program.
2. Load the Program.
3. **PRESS** (1)-DOWNLOAD QUOTES from Main Menu.

   The screen display reads:

   INSERT DOWNLOAD DATA DISK IN DRIVE 1 (or 2)

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4. **PRESS** (RETURN) to continue.
5. **PRESS** (START) to enter terminal mode.
6. Follow telephone dialing procedures for your modem.
7. Once you have established connection with CIS, **PRESS** (CTRL)-(C).

    ! **Important Note** Those of you on Tymnet may use an entry other than (CTRL)-(C)

8. **ENTER:** your user-id and press (RETURN)
9. **ENTER:** (Your password)and press (RETURN)
10. You should have the CIS-1 menu on the screen.
    ENTER GO FIN-14
    PRESS (RETURN)
11. CIS will send you a screen letting you know that MicroQuote will cost extra.
    PRESS (RETURN) to continue.
12. Note date through which database has been updated on this screen.
    ENTER: MQDATA
    PRESS (RETURN)
13. Interface desired is now being requested.
    ENTER: (1)
    PRESS (RETURN)
14. CIS will prompt you with: **OUTPUT TO TTY OR FILENAME**
    ENTER: Your Initials. If your initials are TTY enter something else.
15. Enter the stock ticker symbols for the stock quotes you want.
16. Indicate whether you want daily, weekly, or monthly quotes.
17. **ENTER:** (mm/dd/yy) to indicate how far back you want historical quotes to go.
18. **PRESS** (RETURN) twice.
19. CIS now displays the Items Available Menu. You want date, volume, high, low and close in that order. You do not need the sequence number.
    ENTER: 1, 2, 3, 4, 5
    PRESS (RETURN)

20. At this point CIS will tell you how much it will cost you to get the quotes you have requested. Unless the amount is very high due to an entry error of the wrong year, press ⎡ Y ⎤ for YES,
PRESS ⎡ RETURN ⎤.
21. **PRESS** ⎡ RETURN ⎤ to exit.
22. **ENTER:** TYP and (your initials) to prepare to download the data. Don't press ⎡ RETURN ⎤ yet.
23. **PRESS** ⎡ SELECT ⎤ so the screen will display **MEMSTORE ON** on its last line.
24. **PRESS** ⎡ RETURN ⎤ to download the data.
25. **PRESS** ⎡ SELECT ⎤ to get **MEMSTORE OFF** displayed.
26. **ENTER:** EXI
PRESS ⎡ RETURN ⎤ to exit MicroQuote.
The data is now safely stored in memory.
27. You will get a display indicating the cost to download your quotes and then display an OK prompt.
28. **ENTER:** BYE
PRESS ⎡ RETURN ⎤ to sign-off.
29. Hang up your MODEM.Saving the Quote Data in the Computer's memory to Disk File
3O. **PRESS** ⎡ START ⎤
The display will prompt for a file name. Several other options are also available. Pressing a number key will display the disk directory and free space for that drive number. Pressing the ⎡ OPTION ⎤ key will allow you to retain or erase the data stored in the computer's memory.
31. **ENTER:** CISQUOTE
PRESS ⎡ RETURN ⎤ to save your data onto a disk.
CISQUOTE will be the name of your quotes file on disk. After the data has been stored on disk, the computer memory is reset and, if you were still connected to CIS, you could download more quotes.
32. The terminal program will now ask you if you want to re-enter TERMINAL MODE.
PRESS ⎡ START ⎤, then
PRESS ⎡ SELECT ⎤ to exit to Main Menu.

Updating Portfolios With CompuServe Quote Data

1. Insert your Program Disk
2. **PRESS** (2)-UPDATE QUOTES from Main Menu
   Answer the prompts about how many disk drives and type of printer you are using if you have rebooted for this section of the tutorial.

   Otherwise you will be asked if you would like to see the current portfolio. If you would, press (Y), if not, press (N).
3. **PRESS** (3)-DOWNLOAD ENTRY from Update Quotes Menu.
4. Enter name of downloaded quotes file. If you have been following the tutorial, it is: CISQUOTE.
5. If the stock the program is currently updating is not in the portfolio file, the program will display the following message:

   DO YOU WANT THIS STOCK ADDED TO THIS PORTFOLIO (Y/N)?

   PRESS (Y) for YES, unless the particular stock is stored on another disk.
6. When the program reaches the end of the downloaded quotes file, you will be prompted:

   DELETE DN:CISQUOTE (Y/N)?

   If you have a multidisk portfolio, press (N); otherwise, press (Y) to delete the downloaded quotes file.

Deleting A Stock & Quotes

1. Select (2)-UPDATE QUOTES from Main Menu.

   The Quote Update Menu appears on the screen.
2. **PRESS** (4)-DELETE QUOTES from Quote Update Menu.

3. **ENTER:** (Stock Symbol for the stock you wish to delete.) Indicate whether you want to delete all quotes or enter the start and end dates to be deleted. If you do not enter start and end dates, both the stock entry in the portfolio and the quotes will be deleted.
4. You may view the portfolio file at this point, if you wish: **PRESS** (1)-VIEW PORTFOLIO from Quote Update Menu.

Split Adjustments

1. **PRESS** (4)-UTILITIES/INIT. from Main Menu
2. **PRESS** (4)-SPLIT ADJUSTMENT from Utilities Menu
3. **ENTER:** STOCK SYMBOL,
   PRESS (RETURN),
   ENTER SPLIT DATE.
   The date entered should be the first date of the new prices.
4. Indicate whether split was ratio (R) or percentage (P).
5. Enter either the Ratio or Percentage amount, depending on whether you pressed (R) or (P) above.
6. **PRESS** (Y) to initiate recalculation or
   PRESS (N) to abort the operation.

Converting From ATARI Stock Charting

1. **PRESS** (4)-UTILITY/INIT. from Main Menu
   Answer the questions about number of disk drives and type of printer if you have rebooted.
2. **PRESS** (2)-ATARI CONVERSION from Utility Menu
3. Insert data disk in Drive#1 Or in Drive #2 if you have two disk drives
4. **PRESS** (RETURN) to start the conversion.
5. The screen will display: **CONVERSION OK!** upon completion of the conversion.
6. Follow the procedure for loading the program.

Error Messages

You may occasionally receive on-screen error messages from *SynStock*. These messages are provided for common errors, such as failure to turn on the printer before trying to print, or having the wrong disk in the disk drive. You should check the device and follow the instructions given in the error message index. Most errors can be corrected without losing any of your data.

The following are common messages and their probable causes and cures:

Closing Data Exceeds Program Limits: Your data values are too high. Volume must be less than 10,000,000 and prices less than 1,000,000. Re-enter data.

Date Error: Caused by entering a non-existent date (i.e., 13/32/82).

Dates Not Logical: You have made an error in entering the beginning and ending dates. The beginning date must be prior to the ending date. Re-enter.

Disk I/O Error nnn: The program has encountered a fatal error while accessing the disk. The value nnn is the error number. See Appendix C of your Disk Operating System II Reference Manual for the cause and recovery procedure. Some of your data may have been lost.

Diskette Full: The Data disk is full or nearly full. Start a new Data disk.

Diskette is nn% Full: This is not an error message. It simply informs you about how much space has been used on your Data disk.

Error-High, Low, Close-Inconsistent: Stock prices are illogical, the close must be between the high and low prices and the high must be greater than the low price. Re-enter price data.

Error nnn At Line mmmm: Here nnn and mmmm are numbers. These messages come from the ATARI BASIC Language program running *SynStock*, and they are produced when the program is unable to perform an instruction. The reason for each error message is described in Appendix B of the ATARI BASIC Reference manual.

If such an error occurs, enter: END, Press (RETURN), and reload *SynStock*. Some data may be lost, so you should go over your entries carefully to check them for completeness. If much data was lost, use your most recent backup Data disk.

Insufficient Data: You have not supplied the requested information. Often caused by failure to enter the closing price.

No Closing Data In File: The stock requested is in the Portfolio file but there are no quotes in the Quote file.

Number Of Quotes Limit Exceeded: The program can only accept up to 300 trading days of quotes. Start another Data disk.

Portfolio Is Empty: This is not an error. You are using a new Data disk which does not have any stocks in the portfolio file.

Premature End Of Input File: Conversion Program was unable to convert your ATARI Stock Charting data file. Try to fix your ATARI data file using the ATARI programs and try converting again.

Printer Not On: Your printer or ATARI 850 Interface Module is not turned on. Make sure they are turned on and try again.

Stock Not In This Portfolio: You have attempted to access a stock which is not in the Portfolio file of this Data disk. You may have no data on this stock or it is on another Data disk.

Unable To Open File-Name: The terminal program is unable to save your downloaded data to disk because the disk is full. Use another Data disk.

Unable To Complete Due To Error nnn: The program has encountered a fatal error while accessing the disk. The value nnn is the error number. See Appendix C of your Disk Operating System II Reference Manual for the cause and recovery procedure. Some of your data may have been lost.

Unable To Initialize Disk: The data disk initialization procedure could not be completed due to a bad disk or the presence of a file protect label. Either remove the sticker or simply try again. If you are unsuccessful a second time, you have a bad disk which should be discarded. Try again with another disk.

Your ATARI 850 Interface Module Was Not Turned On: You have tried to download data from CompuServe but when you booted *SynStock* you failed to turn on the 850 before booting. The 850 must be on before loading *SynStock* if you intend to use your modem.

SynStock Won't Load

If *SynStock* won't load, check the following:
A. BASIC cartridge should be properly installed (800 and 1200XL only).
B. The cable between the computer and the disk drive should be in place.
C. At least 48K of RAM must be installed.

If it still won't load, try flipping the disk over and rebooting. SynStock has been recorded on both sides of the disk. At this point it most likely has something to do with your disk drive. If you have more than one drive, try loading from the other one (don't forget to set the disk address to 1). Also try loading other programs from your disk drive (sometimes this will work, but because of speed variations, you still won't be able to load *SynStock*). If you are sure that all of your

equipment is operating correctly and you are within the 90 day warranty period established at the date of purchase, then you may mail us your *SynStock* disks along with the sales slip or proof of purchase and we will verify their condition and replace if necessary.

Downloading Problems

Occasionally when you are on-line with CompuServe, transmission difficulties and errors will arise.

The most common problem is losing your connection with CompuServe due to telephone network problems or computer failure at CompuServe. If this occurs while you are downloading a quotes file into your computer's memory, do not try to save the data in memory to disk. You will have to erase the data in the computer's memory buffer and reestablish your connection with CompuServe.

Infrequently, CompuServe will send you a message (i.e., computer going down in nn minutes). These messages are usually prefixed with a percent character (%) and will cause the computer to beep. If this occurs while you are downloading data into computer memory, do not try to save the data in memory to disk.

Remember, once you have successfully selected quotes from CompuServe and saved them to a file on CompuServe (as we did in the tutorial) those quotes may be downloaded from your CompuServe data file. This saves you from paying for your stock quotes more than once, should you experience difficulty during a download.

Printers

SynStock is designed to work with printers that use the parallel (Centronics) interface on the ATARI 850 Interface Module. If your printer is not listed as a printer option on the **TWO QUESTIONS** screen, then it may not be capable of

printing the graphic stock charts and you should choose Option 4-OTHER, when asked for your printer type.

Listed output (letters and numbers) from *SynStock* is 40 columns wide, and should be printed with a constant-pitch character set at about 10 characters per inch. Almost any parallel printer can be used for listed output.

If your printed stock charts appear to be reversed every other stripe, try choosing another printer type on the **TWO QUESTIONS** screen.

SynStock is designed to print one chart per 8½ inch by 11 inch page, skipping over the perforations between pages. You may have to disable any automatic perforation skip in your printer to maintain proper pagination. After any charts have been printed, you may have to reset the printer's top-of-form location. Refer to your printer manual for the procedures involved.

Splitting A Data Disk And Transferring Stocks

Undoubtedly, some of you will completely fill a Data disk with quotes. When this happens you have two choices. You can selectively delete stock quotes to make more room or you can split your portfolio.

Splitting your portfolio involves creating two (or more) Data disks, each with its own set of stocks in the Portfolio file.

This procedure is relatively simple. From the Main Menu:
PRESS (4)-UTILITY/INIT.

The Utility menu will be displayed.
PRESS (5)-TRANSFER STOCKS

The screen displays the message:

**PUT SOURCE DATA DISK IN DRIVE 1
ENTER STOCK SYMBOL**

ENTER: Stock Symbol as directed
PRESS (RETURN)

The screen then displays the message:

**INSERT DESTINATION DISK IN DRIVE 1 (or 2)
PRESS ANY KEY TO CONTINUE**

The message:

PORTFOLIO IS BEING REVISED

flashes across the screen, then the UTILITY MENU appears.

You may be prompted with the message:

**STOCK EXISTS IN DESTINATION PORTFOLIO
APPEND, OVERWRITE OR QUIT (A/O/Q)?**

The program is giving you a warning and supplying you with three alternatives. You can append the source file to the destination file by pressing (A) or you can overwrite the source file onto the destination file by pressing (O). If you want to abort the operation, press (Q) for Quit.

The transfer has been completed. Now you can start the procedure over to transfer other stocks and quotes by reinserting your source data disk and following the instructions above beginning with Select (5)-TRANSFER STOCKS. After transferring all of the stocks and quotes from the source disk to the destination disk that you want to, erase the transferred stocks from the source data disk following the procedures for Deleting A Stock & Quotes.

Autorun Charts

SynStock has the ability to automatically run a sequence of commands that you define and then print price charts. This allows you to do something else while the computer does the work.

PRESS (3)-CHART QUOTES from the Main Menu

If you are using one disk drive, insert your stock data disk into Drive #1 as prompted and press any key to continue. Otherwise it should be in drive No. 2.

PRESS (1)-CHART QUOTES from the Chart Quotes Menu.

Follow the prompts to draw a stock chart on the screen. Once the chart has been drawn, the prompt on the bottom of the screen will show:

ANALYZE, PRINT, CONTINUE, LEARN or EXIT

The LEARN command will cause the program to store on the data disk all of the commands you have entered to get the current chart.

PRESS (L) for Learn.

The program will ask if you want the chart printed.

PRESS (N) for No.

If you had selected Yes, the chart would be printed during the autorun.

Now do some analysis by plotting a moving average.

PRESS (L) for Learn again.

The commands to get this chart will be stored on the data disk.

To test this,

PRESS (x) to Exit to the Menu.

PRESS (3) for Autorun from the Chart Quotes Menu.

The program will automatically redraw the two charts you did previously.

PRESS ⊗ to leave Autorun and return to the Chart Quotes Menu.

The Autorun command file can be cleared or erased by selecting ② for Clear Autorun from the Chart Quotes Menu.

Once an Autorun has been learned, it can be used over and over saving you a lot of time.

Quick Reference Page

Main Menu

1. Download Quotes — Starts the on-line terminal program, obtains stock quotes from CompuServe, and saves quotes to disk.

2. Update Quotes — Updates stock quote data disk from the keyboard or from a downloaded quote file, deletes stock quote data from portfolio, lists stock quote data, sorts stock quotes by trading date, or lists stocks in portfolio.

3. Chart Quotes — Displays a graph of a stock.

4. Utility/Init. — Prepares a data disk for use and is used to select Utility program functions.

Utility Menu

1. Init. Data Disk — Prepares a data disk for use by *SynStock*.

2. ATARI Conversion	Converts ATARI Stock Charting program files for use with *SynStock*.
3. Create DIF File	Stores data to a disk to be used with a DIF compatible program.
4. Split Adjustment	Adjusts historical quotes when a split adjustment occurs.
5. Transfer Stocks	Creates two or more data disks from a full disk. Divides portfolio in sections to be stored on two or more disks.
6. Change Symbol	Updates portfolio with new stock symbol.
7. Main Menu	Returns to Main Menu.

Update Quotes Menu

1. View Portfolio	Displays portfolio contents and indicates percentage of disk space used.
2. Key Entry/Sort	Enters daily stock quotes from keyboard.
3. Download Entry	Integrates downloaded stock quotes into portfolio.
4. Delete Quotes	Deletes selected stock quotes and revises portfolio.
5. List Quotes	Lists data on screen or printer.
6. Change Data Disk	When using more than one data disk, use this operation to swap disks.
7. Chart Quotes	Displays Chart Quotes Menu.
8. Main Menu	Returns to Main Menu.

Chart Quotes Menu

1. Chart Quotes	Produces stock quote graph.

2. **Clear Autorun** Erases previously defined Autorun file.
3. **Autorun** Automatically produces stock charts according to defined commands.
4. **View Portfolio** Displays portfolio contents and indicates percentage of disk space used.
5. **Main Menu** Returns to Main Menu.

Downloading Quotes

Turn on ATARI 850 Interface Module. Check that Modem is properly set up. Load program.
Select "Download Quotes" from Main Menu.
Insert data disk.
PRESS [RETURN].
PRESS [START] to enter Terminal Mode.
Follow telephone dialing procedures.
PRESS [CTRL]-[C] (unless on Tymnet).
ENTER: Your User ID, press [RETURN].
ENTER: Your password
PRESS [RETURN].
PRESS [RETURN] if you receive a **What's New** screen.
ENTER: GO FIN-14
PRESS [RETURN]
PRESS [RETURN] to continue.
ENTER: MQDATA
PRESS [RETURN]
ENTER: 1 for Prices
PRESS [RETURN]
ENTER: (Your initials), Press [RETURN]
ENTER: Stock symbols for which you want quotes.
Indicate Daily, Weekly or Monthly by entering: D, W, or M respectively.
ENTER: Starting date (mm/dd/yy), press [RETURN].
ENTER: Ending date (mm/dd/yy), press [RETURN].

PRESS (RETURN) to bypass entering options.
ENTER: (1), (2), (3), (4), (5)
PRESS (RETURN) for date, volumne, high, low and close in that order.
ENTER: (Y) for Yes to the downloading cost
PRESS (RETURN)
PRESS (RETURN)

Next you will download the data stored in the CIS file.

ENTER: TYP and the file (your initials) for the downloaded data file.
PRESS (SELECT) until the screen reads: **MEMSTORE ON**.
PRESS (RETURN) and the quote data will be downloaded.
PRESS (SELECT) until the screen reads: **MEMSTORE OFF**.
ENTER: EXI
PRESS (RETURN) to exit MicroQuote.
ENTER: BYE
PRESS (RETURN) to sign off and disconnect CIS.
Hang up your Modem.

Next you will save the downloaded quote data in your computer's memory to a disk file.
PRESS (START)
ENTER: CISQUOTE, press (RETURN) to save data onto a disk under the file name CISQUOTE.
PRESS (SELECT) for Main Menu.

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Command Glossary

Access: The method (or order) in which information is read from, or written to a diskette.

Alphanumeric: The capital letters A-Z and the numbers 0-9, and/or combinations of letters and numbers. Specifically excludes graphic symbols, punctuation marks, and other special characters.

Autorun: A program feature which will automatically draw (and print) stock charts using previously "learned" commands. See Learn.

BASIC: Beginners All-purpose Symbolic Instruction Code.

Baud: A unit of data transmission speed usually equal to 110, 300, 1200, and 9600 bits per second (bps).

Bit: Abbreviaion of binary digit. The smallest unit of information, represented by the value 0 or 1.

Bit Graphics: Units of information linked together in such a way as to create patterns when displayed on a screen or printer.

Boot: The process of initializing the computer for use by automatically clearing memory and loading the the first few instructions which call other instructions. This gets the computer started.

Byte: Eight bits treated as one unit and often used to represent a character.

Characters: Letters of the alphabet, numbers, punctuation marks, graphic symbols or any combination thereof.

CIS: CompuServe Information System. An on-line reference database.

Chart Quotes: The daily, weekly or monthly stock market trends. These include figures for the highs, lows, close and the volume.

CompuServe Information System: An on-line reference database.

CPU: Central Processing Unit. The "brains" of the computer. Logic and control functions are performed in the CPU.

CRT: Cathode Ray Tube. The television receiver or monitor used to display computer output.

Data: Information of any kind.

Data Bank: An organization of data files containing information or reference material on a particular subject or subjects.

Data Diskette: The diskette upon which your data is sorted.

Data File: A system of information organization on disk.

Delete: Erasing or changing data in a record.

Default: Condition which exists when no instructions to the contrary are given to the program.

Disk: Same as diskette.

Disk Drive: A device that rotates magnetic disks and accesses its data by means of a read/write head.

Diskette: The 5¼ inch magnetic storage medium on which data is stored.

Downloading Quotes: To transfer programs and/or data files from a computer to another device or computer.

Error Message: Any of a number of prompts which appear on the screen when you have attempted a function out of its proper order, pressed the wrong key or incorrectly entered a Command.

Formatting: Preparing a new disk for information storage. Formatting a disk causes any information on that disk to be erased. This should not be confused with columnar format.

Function: A computation built into the computer that can be called for by the program.

Hardware: The electronic components of the computer system.

High Resolution: The display on the television screen or monitor is composed of little dots known as a dot matrix. High resolution is the use of a large number of these dots to increase visual clarity.

Initialize: Dividing a disk into numbered sectors and placing additional information onto the disk which will enable the program to write data to the disk and read it later on.

Input: To transfer data from outside the computer onto your disk or into the computer. This is a data transferring operation.

Learn: To store chart commands on file which will be used later to automatically chart quotes. See Autorun.

List Quotes: The fifth selection on the Quote Update Menu. This operation lists a stock and all of the quotes for it which are contained in the file.

Load: Putting a created portfolio or file into the system for changes, modifications, printing or retrieval.

Memory: Where information is stored in the computer.

Menu: A program-generated list of options usually presented on the display screen. Selections from a menu screen will cause the program to execute indicated procedures.

MicroQuote: The stock quote reference database service of CompuServe.

Modem: Modulator-demodulator (acronym). A device that connects peripherals and that converts and reconverts digital signals from a computer into tone variations for transmission over standard telephone.

On-Line: A connection established between a peripheral and the CPU of either another system or of its own system for the purposes of processing and/or transmitting information.

Operation: The practical application of various options of the software, i.e., Update Quotes or Graph Chart.

Oscillators: The variance above and below a mean value.

Output: The transfer of data from inside the computer to outside, such as to a printer.

Peripheral: A device connected to a computer and under its control to some degree usually used for input/output such as terminals, printers disk drives or other similar equipment.

Portfolio: A collection of stocks and quotes on a single disk.

Program: A sequence of software instructions given to a computer for the performance of certain functions or tasks. A program must be in the language that the particular

computer understands.

Prompt: Signals which appear at the top of the screen indicating the necessity of further input or the location of an input.

Quote File: A collection of quotes for a particular stock. A file is designated by the ticker symbol for the stock contained in it. Up to 50 files (stocks) can fit into one portfolio (disk).

RAM: Random Access Memory

Read: The inputting of data from the diskette to the computer.

Record: A block of data.

Software: Instructions and programs that tell the computer what operations to perform.

Sort Routine: A software function that sorts and organizes inputted data in a convenient form (i.e. chronologically).

Special Characters: A character that can be displayed by a computer but is neither a letter nor a numeral. Punctuation marks are special characters. So are the ATARI graphics symbols.

Stock Quotes: The high, low, close and volume figures for a stock or several stocks.

Stock Symbol: The symbol used by the stock exchanges as an abbreviation for the stock name. The symbol must not be longer than 5 characters for use with *SynStock*.

Terminal: A device (CRT & keyboard) through which a user can communica te with a computer.

Trend: The tendencies of the stock market indicated by the daily, weekly or monthly ups and downs. The prevailing tendency or inclination of a particular stock or group of stocks.

Update Quotes: To change a record already entered in a file.

Wraparound: When the cursor reaches the right edge of the screen, it disappears and "wraps around" to the beginning of the next line.

Write: The transfer of data to a magnetic diskette. *SynStock* writes out records as they are entered.

Write Protect: A disk that is proteced from having data written to it.

Technical Notes

File Structure

Your *SynStock* Data disk contains two types of files, Portfolio and Quote files. There is only one Portfolio file and there may be many Quote files. The Portfolio file is named "PORTFILE." The individual quote files are named with the stock ticker symbols (i.e. XON). Both types of files are usually locked. That is, they cannot be erased or written to while they are locked. The programs handle the locking and unlocking automatically.

The Portfolio consists of a header record containing the Stock Pointer (SP) value which is equal to the number of stocks in the portfolio times five, plus one (SP = # of stocks * 5 + 1). Following the header record are two records for each stock in the portfolio. The first record consists of the stock ticker symbol (five bytes). The second record consists of five values: the number of quotes in that stock's quote file, the highest high price, the lowest low price, the oldest quote date and the newest quote date.

The Quote files contain one record for each trading day. Each record consists of the trading date, the volume, the high price, the low price and the closing price.

Various Subroutines

The sort routine is a modified shell sort written in BASIC. This is a very efficient and fast sort. The quote data is not sorted directly. Only the file pointers are sorted and the quote data is rewritten in correct sequence.

The graphic print routine is written in machine language for fast printing times. The graphic printout is actually twice the size of the screen display. Each dot on the screen is printed twice. The alphanumeric characters displayed on the stock charts are painted by a machine language routine. Both of these routines share code instructions.

The technical analysis routines provide two weighted moving averages and an oscillator. The moving averages may have a selectable period of up to 51 days. For a 10 day moving average the program sums the closing quotes for ten trading days, divides by ten to get the average, multiplies the average by $9/10$ (.9) and the product is added to $1/10$ of the closing quote for the tenth day. The oscillator is plotted by taking the net difference of two selectable time series, i.e., price minus moving average #1.

Index

Warranty

SYNAPSE warrants to the original consumer/purchaser that this SYNAPSE cassette/disk (not including the computer programs) shall be free from any defects in materials or workmanship for a period of 90 days from date of purchase. If a defect is discovered during this 90 warranty period, and you have timely validated this warranty, SYNAPSE will repair or replace the cassette/disk at SYNAPSE's option, provided the cassette/disk and proof of purchase is delivered or mailed, postage prepaid, to SYNAPSE.

This warranty shall not apply if the cassette/disk (1) has been misused or shows signs of excessive wear, (2) has been damaged by playback equipment, or (3) if the purchaser permits the cassette/disk to be serviced by anyone other than SYNAPSE. Any applicable implied warranties, including merchantability and fitness, are hereby limited to 90 days from the date of purchase. Consequential or incidental damages resulting from a breach of any applicable express or implied warranties are hereby excluded.

Notice

All SYNAPSE 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 program prove defective following its purchase, the purchaser, not the manufacturer, distributor, or retailer, assumes the entire cost of necessary servicing or repair.

SYNAPSE 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 or alleged to be caused directly or indirectly by programs sold through SYNAPSE.

The provisions of the foregoing warranty are subject to the laws of the state in which the cassette/disk is purchased. Such laws may broaden the warranty protection available to the purchaser of the cassette/disk.

SynStock