

StockStack

version 2.0

User's Manual

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StockStack is being distributed as shareware. You will have forty days to evaluate the program and to register. There are some features which will only become available to you after you have registered, which are noted in the manual. You will see a notice when you start StockStack which will tell you how many days you have used it and how many days you have left. If you try to use the program after 40 days, you will receive the same notice, then you will be prompted for the password. If you haven't registered, the program will then display the title screen until you click the

StockStack User's Manual

mouse, then it will quit to the Finder. Your data will be safe, and you will be able to access it once the registration process has been completed. Please do not wait until the 40th day to register; it would only create an inconvenience to you while you wait for the mail to bring you your password.

Registered users of previous versions (v1.4a and earlier) must upgrade to version 2.0.

StockStack User's Manual

Introduction

Overall Structure: StockStack is a Hypercard Stack (requires Hypercard™ 2.1 or later, and System 6.0 or later) which allows you to keep track of various stocks, mutual funds, stock indices, bonds, currencies, interest rate instruments, and volume/issues traded. It was mainly developed to read (automatically) text files downloaded from the Prodigy® Interactive Service, using the Quote Track & Quote Check features and printing the results to a text file. Please refer to your Prodigy® user's guide for information on setting up your Quote Track. You may also import data from America OnLine's® "Stock Portfolio Display", however it does not read any purchase data, and AOL does not provide Open, High or Low prices, nor Volume. StockStack will also accept text capture files from CompuServe™ MicroQuote II, and quote files from GENie™ (comma-delimited). You may also manually enter data for each security by selecting the "Add New Data" item from the "Info" menu.

History: I started working on StockStack at the end of July 1991. It was at the same time that the Prodigy® service began allowing quotes to be downloaded to a text file. It has been through several iterations, with many features added at the behest of my beta testers, as well as several bugs or quirks identified and fixed. The latest additions have consisted of the "Configuration" card, which allows you to customize some of the features, and external commands to speed the process of recording and graphing data. I will continue my efforts to increase the speed through the use of external functions/commands; I use StockStack daily to track over 170 stocks, mutual funds, and stock indices myself.

Version 2.0 changes: There are not any structural changes with version 2.0. The "Archive" files have changed slightly, but 2.0 will still read any previous version's "Archive" files. The major changes have been 1) the addition of a second "Configuration" card to automate the update and data backup process; 2) the addition of more categories to support the added "Special" symbols now available on Prodigy®, including bonds, currencies, and volume/issues traded; and 3) the re-writing of the majority of the graphing routines as external functions, resulting in a greater than 50% reduction in the time required to perform graphing operations. The graphing routines affected are the price, volume, stochastics, and moving averages. I'll continue working on the remaining routines, as well as the update and formatting procedures.

The stack consists of 1 "Index" card, which contains buttons which operate on the entire stack, and 2 "Configuration" cards which allows you to personalize the stack to your preferences. The remainder of the stack is made up of a single card for each security/item entered. You may add cards or delete cards as you desire, with the exception of the first three cards. If you get an error message saying that a certain field is not found, try sorting the stack from the first (Index) card. This shouldn't happen, but if it does, sorting should solve the problem.

In addition to maintaining a data record for each stock, StockStack will also draw various charts. The charts allow you to see in a graphical format the recent price performance of the stock, as well as other technical indicators. You should consult a book on Technical Analysis for an explanation of the different types of charts and how they should be used.

Disclaimer: Investing in stocks and mutual funds can be rewarding, however it is also risky. This program is only intended to provide an additional tool for your use in the decision-making process. No liability is either expressed or implied by this product concerning the consequences of your investment decisions.

Before I explain how to use this program to track stocks, let me point out a few good practices for the use & maintenance of the program.

On the first card of the stack, there is a button labeled "Archive Data". While this button does not perform any compression on the data, it does write the entire "data" contents of the stack to the file which you designate. If, at a later date, it becomes necessary for you to "start over", this data can be read back into the stack using the "Restore Data" button. This is especially useful if you have a power outage (of whatever sort) while the program is running. Due to the "disk-based" nature of Hypercard™, this can render the entire stack unreadable, resulting in the message "Unexpected Error: XXXX" with the only option being to "Quit". In this event, you would get out your back-up copy of StockStack, and restore your data into the new copy. You would then just update the data from the time that you last performed an "Archive Data" on your stack.

To minimize the disk space required for your back-up copy of StockStack, make a copy of it first (you might call it StockStack Back-Up). Then open this copy, select the "Delete" button while holding down the option key. This will delete all the data from the stack, leaving you with a bare program. Then close the stack, copy it to a disk, and keep it in a safe place. By periodically using the "Archive" function to save your data, and keeping your "Quote Files" on disk, you should be able to recover your data with a minimal amount of effort, although it may take a respectable amount of time, depending on the amount of data you are keeping and the machine you are running on. One way to keep the quote files is to create a "Quotes" folder, then name each quote file with the date of the quotes. You may also wish to create a folder inside the "Quotes" folder for each month.

StockStack User's Manual

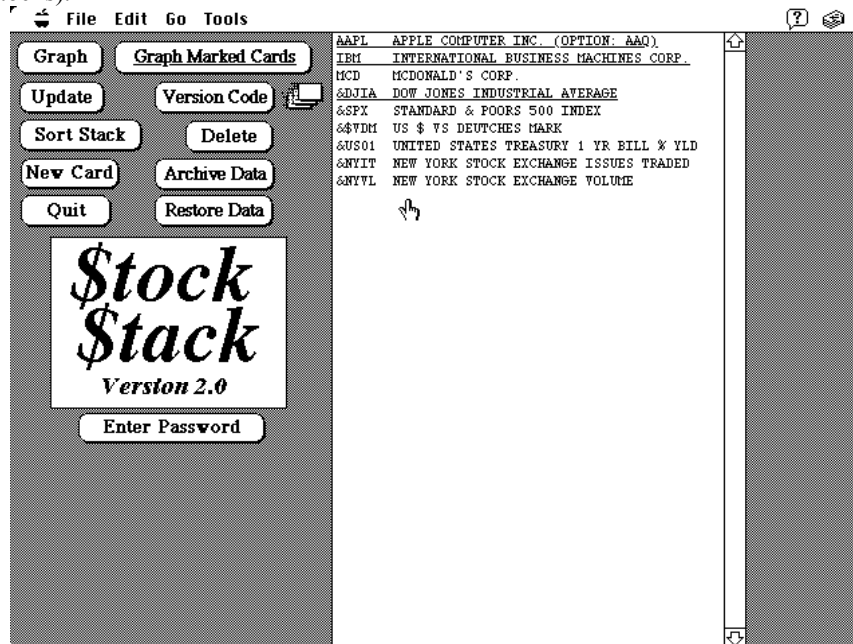
This program is really meant to maintain daily data on your stocks. To do this does require some amount of dedication on your part, though the process is fairly well automated. If, however, you miss a day here or there, the stack will simply treat that day in the same manner as it treats a holiday, and will simply skip it. It will still show up in the graphs as an empty day, and the calculations will be affected by the lack of data, so the quality of the products is dependent on the amount of data recorded.

If you are somewhat less dedicated, you may wish to use StockStack on a weekly basis. To do this, enter the weekly data, using Friday's date for that week. StockStack will record this as daily data for that Friday, and also as weekly data for that entire week. If you choose to utilize StockStack in this manner, ensure that you leave the "Check Dates" box on the Configuration page checked for data continuity.

Explanation of the Index Card:

The first card of the stack is the "Index" card. This card displays a field which lists the stocks and mutual funds that are currently in the stack. If you have added or deleted any stocks, the next time you open StockStack you will see a message displayed telling you that the Stock Index is being rebuilt. You will also see a progress field showing you a '.' for each card being read. Once StockStack has completed rebuilding the Index, the card will return to its normal appearance.

To go to a card for a given stock, select its name in the index field. The index field will be scrollable (if you have a sufficient number of stocks).



The buttons on the card operate as follows:

Update: Allows the stack to read a text files containing stock information from Prodigy®, America OnLine®, GENie® (comma-delimited), or CompuServe® (MQuote II text capture, beginning with the "Pricing Date:" line, and ending with the "Last page!" line). You will be asked to select the type of file and then the text file to use for the updates. I usually save the Quotes files using a name with the date of the quotes, such as "Quotes 8/28/92". This allows me to keep several files for emergency use without getting them confused. There should be a sample data file included with this program.

Once you have selected a file to update from, StockStack will read the data. It will ask you to confirm the date which it finds in the data file, if present. If no date is found, it will prompt you with the current date. If the date is correct, select "OK"; otherwise, correct the date before selecting "OK". This is useful if you have gotten your quotes after midnight Eastern time, or on a weekend for Friday's data.

StockStack will then display its status in the Hypercard™ message box. Do not cancel or interrupt the procedure while the following messages are being displayed:

Interpreting Data : This is when StockStack is actually reading the text file and organizing it to make sense.

Updating Data Cards : StockStack is entering the new data for each of your stocks. You will see the screen changing as this happens.

StockStack User's Manual

Note: Cancelling this operation should not affect the data, but will require restarting the update procedure from the beginning. If you do this, you should also ensure that the "Check Dates" feature is turned on (only available to registered users).

Once StockStack has completed those two phases, you will see the following message:

Updating Individual Stock Information : StockStack is updating individual stock 52-week High/Low and 25-day High/Low information.

You can stop StockStack at this point without losing any data by holding down the Command '⌘' key and pressing the period '.' key. If you allow StockStack to continue running, it will update each card with the new Weekly/Daily High & Low information and perform the graph for that card, starting with the "Marked" cards then continuing with the remaining cards. If you stop it, then StockStack will update this information the next time you open or graph that card.

"Marked Cards" are cards that you have designated as "marked", that you have a special interest in. To "mark" a card, simply go to that card and select the "Mark This Card" command from the "Info" menu. If the card is already marked, the menu will read "Unmark This Card". StockStack allows you to mark cards so that you can prioritize, i.e. stocks that you actually have a position in as opposed to those that you are only keeping an eye on. Once the "Graph Marked Cards" operation has completed, the system will beep to let you know it has completed that action. It will then proceed as if you had selected the "Graph" button and will graph the remaining cards.

You may interrupt (⌘-) the graphing process at any time without harm to the data. If you do this, you may need to restore the menu bar (by pressing ⌘-space bar) and to reselect the "Browse" tool (⌘-tab). To resume graphing, if you were graphing marked cards, you must start over or manually graph the ones that you want; if you were graphing unmarked cards, simply go to the card that was being graphed when you stopped it, and type "finish" into the message box (to display the message box, type "⌘-M") and StockStack will pick up where it left off.

Graph Marked This will graph the cards designated as marked, then it will graph the rest of the cards.
Cards: StockStack will do a daily candlestick chart in the Upper graph section, and a Daily Stochastic chart in the Lower graph section for each of the "Marked" cards. The selection of graphs performed can be changed after registration. It will beep when this has been completed, and will then proceed to graph the remaining cards. It will also display the progress it is making.

Graph : This will graph the unmarked cards only. StockStack will do a daily candlestick chart in the Upper graph section, and a Daily Volume chart in the Lower graph section for each of the "Unmarked" cards. It will beep when this has been completed, and will also display "xx of yy cards" to show its progress.

Sort Stack: This will ask you if you want to sort by "Stock Name", "Stock Symbol", or "Type". It will also result in a stock index update.

New Card: This will build a new card for you. It has the same effect as selecting "New Card" from the "Edit" menu.

Delete: when selected with the Option key pressed, will ask you if you wish to delete all the cards (and data) from this stack. This is useful if you are working on a copy to create a backup of StockStack. If this button is pressed without the Option key, it will have no effect, but it will tell you what it will do if you hold the option key down while selecting it.

Set Data This button is only there if you are a registered user. It will allow you to specify the amount of

Amount: data that you wish to keep. If you are not registered, the program will only maintain 50 days worth of daily data and 50 weeks worth of weekly data. Once you register, you should change the number by selecting this function. It can also be accessed via the configurations page.

Archive Data: Use this button to create a text file containing all the daily, weekly, and transaction data on every stock/card in the StockStack. Very useful in the event some unforeseen catastrophe causes you to corrupt the stack. A good idea is to use this weekly, but it should be used at least monthly.

Restore Data: Works in conjunction with "Archive Data" to read the text file and restore your information. If you were to perform an "Archive", then delete all of your cards, and then perform a "Restore", you would recover all of your data, and the only thing left would be to let the program redraw the graphs.

StockStack User's Manual

Configure This button is only there if you are a registered user. Allows you to specify which graphs you

StockStack: want done for Marked cards and Other cards. Also allows you to designate the number of days/weeks of history to maintain, the number of days/weeks to be used for moving averages, stochastics, and Relative Strength Indices, as well as entering a commission schedule for your brokerage. On the second Configuration card, you may enter a default Source file/format for quotes, and a Destination folder to copy the source file into.

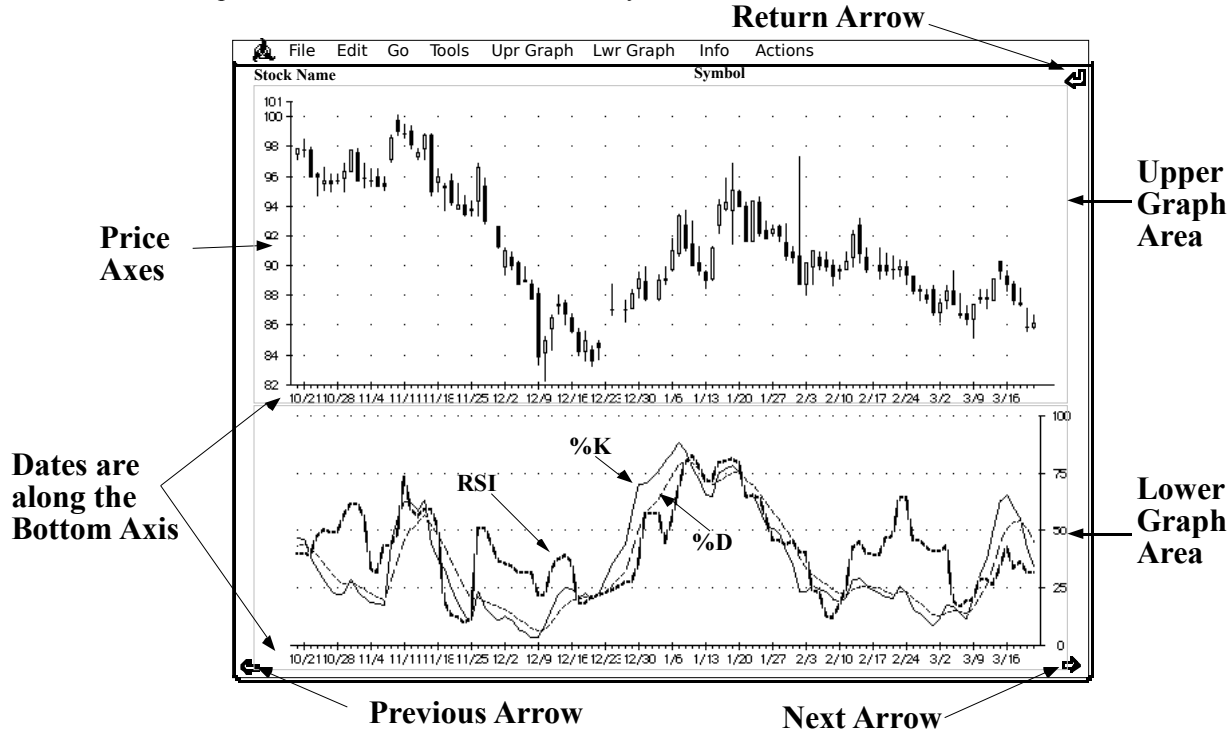
Quit: Will Quit \$tockStack and Hypercard™. Changes are saved constantly.

Explanation of the Stock Card:

Each stock card has 3 visible buttons and 2 transparent ones. The visible buttons are the Return Arrow, the Next Arrow, and the Previous Arrow. The Next and Previous Arrows take you to the next or previous card in the stack, respectively. The Return Arrow will take you to the first card in the stack (the Index Card).

The two transparent buttons are located on the Upper Graph Area and the Lower graph Area. The Upper Graph button, when selected with the option key pressed, will display the "Daily Data" field. When selected with the Shift & Option keys pressed, will display the "Daily Data" field and unlock it for editing. To hide the data field, if you were not editing, just click on it. If you were editing, click outside of it.

The Lower Graph button does the same for the Weekly Data field.



The Menus:

Graph Menus (Upper/Lower):

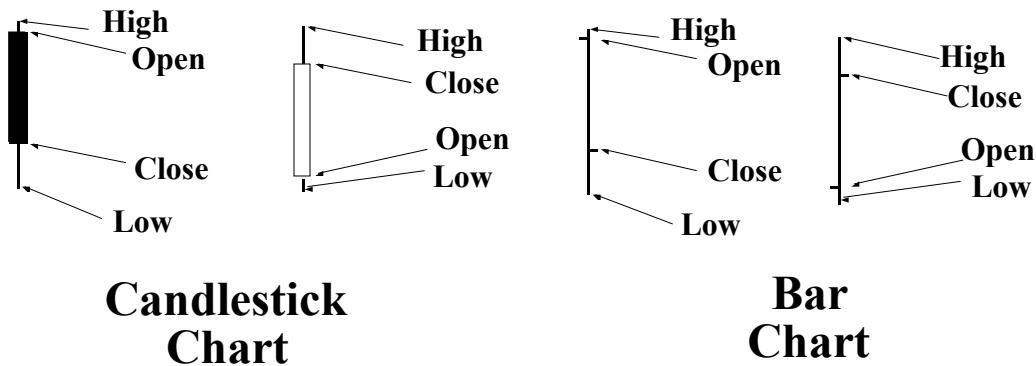
- | | |
|-----------------------|---|
| Daily Bar: | Plots a bar chart of the daily data, showing the Open, High, Low, and Close for the day. |
| Daily CandleStick: | Plots a candlestick chart of the daily data, showing the Open, High, Low, and Close for the day. |
| Daily Moving Average: | Plots the 5, 14, & 25 Day Moving Averages for the stock (or the averages which you have designated). It is only to scale if it is graphed over the Price graph (either bar or candle) without volume. |
| Daily Bar Volume: | Plots a bar chart of the daily data, showing the Open, High, Low, and Close for the day, along with the volume for each day along the lower portion of the graph. |

StockStack User's Manual

Daily CandleStick Volume:	Plots a candlestick chart of the daily data, showing the Open, High, Low, and Close for the day, along with the volume for each day along the lower portion of the graph.
Daily Volume:	Plots the daily volume data, showing the absolute volume of the stock traded during that day.
Daily On Balance Volume:	Plots the "On Balance (daily) Volume" for the stock; this is calculated by adding the traded volume on up days and subtracting the traded volume on down days; useful for identifying when a stock is being accumulated or distributed.
Daily Stochastics:	Calculates and graphs the daily stochastic information for the stock. Uses the %K and %D indicators. For further explanation, please refer to a book on technical analysis of stocks.
Daily Relative Strength Index:	Calculates and graphs the daily RSI for the stock. For further explanation, please refer to a book on technical analysis of stocks.

Note: Both the stochastic and Relative Strength calculations use a 14 day period. To change the number of days used, hold down the option key while selecting them from the menu. You will then be asked for the number of days you wish to use. Some numbers may result in graphs that don't mean anything, or they may cause division by zero, which will result in an error message. If this happens, try using a different number. This can happen especially with stocks that trade in light volume over a very narrow range. You may also change the number of days used by designating it on the "Configure StockStack" card.

The Weekly menu options do the same thing with Weekly data.



Info Menu:

Add New Data (⌘D):	Allows manual entry of stock price/volume information. Manual entry of a stock price does not require a hard space (option-space) between the whole number and the fraction. StockStack will take care of that for you.
Type:	Displays the type of security on the current card. Select this item to change the security type (Stock, Mutual Fund, or Stock Index).
Market:	For stocks only, used to show which of the major markets a stock is traded on (NYSE, AMEX, or NASDAQ/OTC).
52 Week Hi:	Displays the highest traded price over the last 52 weeks (or as far back as there is data, whichever is less).
52 Week Lo:	Displays the lowest traded price over the last 52 weeks (or as far back as there is data, whichever is less).
25 Day Hi:	Displays the highest traded price over the last 25 days (or as far back as there is data, whichever is less).
25 Day Lo:	Displays the lowest traded price over the last 25 days (or as far back as there is data, whichever is less).
Date:	Date of the last data entered.
Open:	Last entered Opening price.

StockStack User's Manual

High:

Last entered High price.

StockStack User's Manual

Low:	Last entered Low price
Close:	Last entered Closing price.
Change:	Last entered change (changes in price are not checked).
Volume:	Last entered daily volume.
(Un)Mark This Card (⌘K)	Use this item to Mark or Unmark your cards.

Actions:

Dividend/Split	Use this to record a stock split or a dividend payment. It requires the split ratio or dividend amount (you should round the dividend amount to the next highest 1/8th to keep things even) and the date which it is effective.
Clear Data	Clears all purchase/sale information that you have entered for the displayed stock. StockStack is NOT intended to maintain your financial records, but rather to allow you to monitor your individual positions. Once you have closed a position, you should "Clear" the data prior to opening a new position on the same stock.
Shares Held:	The number of shares that you currently hold.
Price:	Latest closing price.
Comm:	Commission if you were to sell at the latest closing price. StockStack will calculate a commission based on USAA Discount Brokerage's commission schedule, but will allow you to enter your actual commission. Registered owners will be allowed to modify the commission schedule to reflect their brokerage's fees.
SEC Tax:	Calculates the Securities & Exchange Commission tax for exchange listed stocks (NYSE & AMEX) of \$.01 for every \$300 of transaction amount or portion thereof, if you sold at the latest closing price.
Net:	Net sales proceeds, if you sold your position at the latest closing price.
Buy:	Use this item to record a stock purchase. StockStack now allows multiple lot purchases of a stock at different times, so you don't have to do the math yourself any more.
Date:	Recorded date of last purchase.
Shares:	The number of shares that you have bought (total).
Price:	Recorded purchase price (weighted average).
Comm:	Recorded purchase commission(s) (total). See Commission above.
Net:	Net cost of purchases (total).
Sell	Use this item to record a stock sale. StockStack now allows partial liquidations, so if you sell a partial position, StockStack will do the math for you.
Date:	Recorded date of last sale.
Shares:	The number of shares that you have sold (total).
Price:	Recorded sale price (weighted average).
Comm:	Recorded sale commission(s) (total). See Commission above.
SEC Tax:	Same as above, but for completed sales (total).
Net:	Net sales proceeds (total).
Status:	Status if you were to liquidate (your remaining position) at the latest closing price
Percentage:	Status expressed as a percentage of the cash paid (for purchase(s)).
Cash Paid:	Amount of cash that you have paid to your broker.
Debit Amount:	Amount that you have borrowed from your broker (Margin).
Note:	Selecting either "Cash Paid" or "Debit Amount" will prompt you for any additional payments you make against your Debit balance. A negative number will represent you borrowing more money, and will decrease your equity; a positive number represents a payment and will increase your Equity.
Equity:	Value of your holdings - debit amount owed.

StockStack User's Manual

% Equity:	Equity divided by the current value of your holdings.
Cash Received:	The amount of cash received for any stock sales, after your debit amount has been reconciled/cleared.

Technical Information (Data Format)

Data is stored in the Daily data field in the following format:

Date Open High Low Close Change Volume

The format for these items are as follows:

Date: MM/DD/YR

Stock Prices: As fractions, using a hard space (option-space) to separate the whole number and the fraction.

Change: Same as a stock price, using a plus or minus sign preceding the amount of change.

Volume: Standard numeric entry, without using commas.

Each item is separated by at least one space. Fractions are represented as the whole number followed by a hard space (option-space) followed by the fraction. Only "even" fraction denominators are legal (1/2, 3/4, 5/8, 3/16, 7/32, etc).

Data is stored in the Weekly data field in the following format:

Date Open High Low Close Change Volume Day_Code

The format for these items are as follows:

Date: MM/DD/YR - Monday of the week.

Stock Prices: As fractions, using a hard space (option-space) to separate the whole number and the fraction.

Change: Same as a stock price, using a plus or minus sign preceding the amount of change.

Volume: Standard numeric entry, without using commas.

Day_Code: Used by the program to determine whether the information has been computed for the entire week. 2 = Monday, 6 = Friday. If the day code is a 6 (Friday) then the data will not be updated by future calculations. If you want the data to be replaced, edit the data field and remove the line from the week that you want updated to the end, then graph a weekly graph.

Note: For the Volume or Issues Traded category, the information is stored in the Daily History field in the following format:

Date Total Advancing Declining Unchanged

Formula/equations used by StockStack in its calculations.

"Action" menu items:

Status is now the Net Value of shares held (minus commissions & SEC taxes) minus Cash Paid minus Debit Amount (Margin) plus Cash Received from previous sales.

$$\text{STATUS} = \text{NET_VALUE} - \text{CASH_PAID} - \text{DEBIT_AMOUNT} + \text{CASH_RECEIVED};$$

Percentage (Gain/Loss) is now the Status amount divided by the Cash Paid. For short sales, it is the Status amount divided by the current value (net) of the stock sold.

$$\text{PCT} = 100 * (\text{STATUS} / \text{CASH_PAID});$$

Equity is the Current Value of stock held (no commissions) minus any Debit Amount (Margin).

$$\text{EQUITY} = \text{CURRENT_VALUE} - \text{DEBIT_AMOUNT};$$

% Equity is Equity divided by the Current Value of stock held.

$$\% \text{EQUITY} = 100 * (\text{EQUITY} / \text{CURRENT_VALUE});$$

Graphs:

Stochastics:

There are a few values used to compute stochastics. Please refer to a book on technical analysis for an explanation of the terms used if you would like a detailed discussion. Stochastics uses the relationship between the latest closing price of the stock and the high & low prices over the last 'X' days; 'X' is commonly '14' and this is the default for StockStack.

Raw Value is the latest close minus the low for the period (X days), divided by the range for the period (high for the period minus low for the period).

$$\text{RAW_VALUE} = 100 * \{ (\text{LAST_CLOSE} - \text{LOW_X}) / (\text{HIGH_X} - \text{LOW_X}) \};$$

where X is the length of the (past) period used.

StockStack User's Manual

From this Raw Value, we derive two additional values: %K, which lags the Raw Value and smooths it; and %D, which lags %K and smooths it.

$$\%K_TODAY = (2/3 * \%K_YESTERDAY) + (1/3 * RAW_VALUE_TODAY);$$

$$\%D_TODAY = (2/3 * \%D_YESTERDAY) + (1/3 * \%K_TODAY);$$

Technical (Data Processing Procedures)

To minimize the time it takes to do a daily update, I have broken the process down so that the minimum amount of calculating takes place when you actually do an update. The calculations now consist of four distinct phases, which are executed as follows:

Phase I: Getting the data from the text file into the database. Performs minimal record keeping/stats.

Phase II: Cleaning up the data for display in the menu and building the menus. This results in a delay the first time you look at a card after you have done an update, and a slight delay every time you look at a card.

Phase III: Calculating the data on a daily basis. This occurs the first time you perform the first "Daily" graph after an update. Subsequent "Daily" graphs will be quicker because this will already have been done.

Phase IV: Calculating the data on a weekly basis. This occurs the first time you perform the first "Weekly" graph after an update. Subsequent "Weekly" graphs will be quicker because this will already have been done.

Note: The 52-week High & Low may not properly update without performing the "Weekly" cleanup. This cleanup is also performed when you perform an "Archive" and answer "Clean Up First". Doing this routinely (weekly) will ensure that your data is correct and will help to ensure a quick recovery in the event of a corruption of data.

Configuration Card

This card allows you to specify the default graphs for Marked and Unmarked cards. These are the graphs that will be done when you select the "Graph Marked Cards" or "Graph" button on the Index card. When you select or deselect a graph under the "All Cards" column, the corresponding graph is selected or deselected under the "Marked Cards" column. Some of the graphs erase what was previously there; those graphs are marked by a bullet symbol (•) before the graph name. Graphs are executed from top to bottom.

You can also designate the number of days/weeks of history to be maintained and the number of days/weeks to be used for Moving Averages, Stochastics, and Relative Strength Indices by entering the appropriate number in the corresponding field.

To enter your brokerage commission, enter the minimum per share and maximum per share amounts in place of those provided. To enter the actual schedule, enter the breakpoint amounts, followed by the base rate and the percentage amount. You can have up to 8 lines entered, but the last line must have "AND_OVER" as the ceiling amount.

The "Check Dates" option allows you to turn off the date checking for data continuity. De-Selecting "Check Dates" turns off the sorting & cleaning (filling) routine for dates. This is useful for speeding up the update process. If you regularly update and do not miss dates, then you could turn this option "Off". This doesn't mean that you need to update every day, but that you need data for every day and that you enter the data in chronological order. You should still turn this "On" after a holiday so that the dates are properly filled in, with a gap for the holiday. If you notice that your data doesn't look right, try turning this "On" before you do your next update. By having this feature turned "Off" you save about 20 seconds/card on a Mac IIcx. (More on slower machines)

The "Format History Data" option allows you to turn off data formatting. De-Selecting "Format History Data" turns off the alignment routine for data. This is also useful for speeding up the update process. If you don't care if the data is aligned, you can turn this off, and there will be one space between each of the data items.

Configuration Card #2

This card allows you to specify a default source file for your quotes, a default source format, and a destination folder into which to copy your quote file.

Default Source File: If this box is checked, StockStack will use the designated file for its quotes when you perform an Update. This file does NOT have to be located in any specific directory or folder. When you select this option, you will be prompted with a list of file formats, then you'll be prompted to select a file. The selected file name and format will be entered into the appropriate fields. You may override this feature when performing an update by holding down the "Option" key while selecting the "Update" button.

Destination folder: If this box is checked, StockStack will copy the source file to the designated Destination Folder. When you select this option, you will be asked to select a file in the destination folder, therefore there must be a file in the folder beforehand. StockStack will then write following "Update" quote files to this folder.

A typical use of these features would be if, as in the case of Prodigy™, your communications program requires downloaded files to be located in a certain directory. You could always download to the same file, then have StockStack read that file and, in addition to using it for an update, to copy it to a "Quotes" folder for backup. StockStack will ask you what to name this file, with the default name being "MM/DD/YY" (using the current date).

StockStack User's Manual

Note: The configuration cards can only be accessed after you have registered.