USERS' MANUAL

Sunny J. Harris'

Indicators, Functions & Strategies
Last Update: 20230101

These Indicators are for TradeStation or MultiCharts.

SunnyBands & DMA_Histogram are available for NinjaTrader.

Sorry, I do not have them for other platforms. Yet.

This manual is a continual work in progress. It is by no means finished. If you come across something you need to know which is missing from the document, call me and I'll get to that part right away. -Sunny

[Click Here for current Products and Prices](#)

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Introduction

Quick Reference to Sunny Harris Indicators, Functions and Studies.

Sunny Harris (me) has been trading since 1981. It's my job. It's what I do. In addition, I write books about trading (not a very lucrative endeavor, but a labor of love.) And I do private consulting with new traders who want to learn the business, and seasoned traders who want to get better. And I program EasyLanguage and PowerLanguage.

Note that there are many hyperlinks in this document. You can hover over the hyperlinks (usually blue words) and then by clicking on the link you jump to that page.

For a more comprehensive understanding of Sunny's technology and philosophy, we have a consulting program available in person, by phone or via the Internet. (http:/www.moneymentor.com) Please call me at (760) 908-3070 or on Skype at sunnyjharris for further information. Or, of course, you can reach me at sunny@moneymentor.com. Reading my fourth book, "Getting Started in Trading," followed by my second book, "Trading 102—Getting Down to Business," (in that order) will help you to understand my philosophy and the thinking behind many of these indicators. Reading my 6th book, "TradeStation Made Easy!" will teach you even more, including how to program your own indicators and strategies.

And NOW I've released "The Definitive Guide to TradeStation's EasyLanguage & OOEL Programming."

The indicators and strategies in this book are the same ones (exactly) that I use in my own daily trading. I use them all, but not all on one chart. I have several screens and many charts on each. When you purchase my products, I teach you to use them just like I do. I help you install them, and I send you updates at no charge, forever.

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Next

No matter whose indicators and systems you are using, you will have to adapt them to the particular instrument (symbol) and timeframe (5-min, 15-min, 60-min, daily …) you are interested in.

You cannot expect my indicators to "work" right out of the box, until and unless you tailor them to suit **your** situation. Don't worry though, I will assist you in this process.

Before you begin to install the software, you will need to **download** it from the email I will send you.

After it is downloaded to your computer, you must undertake to **install** the software.

Tradestation, MultiCharts

Save the attachment to the email I sent you, to your Downloads folder. Then open TradeStation and navigate to File > Import/Export EasyLanguage followed by selecting the first option: Import EasyLanguage file (ELD …) and click Next.

Browse to your Downloads folder and select the file you just imported. Then click **Next** and **Next** a few more times until you get to the Finish button. Click **Finish** and then **Yes to All**. **OK** 2 more times

Now go to the chart and from the **Studies** menu, pull down to **Add Study** and browse to the name of the file I sent you. In all likelihood it will start with the letters sjh. (My initials). **Highlight** it then Check the **Prompt for Editing** box, then click OK.

In the email I also give you your j_Key password, which is unique to you. It is generally the first input value in any of my indicators.

Usually, the first Input Value in each of my routines will be j_Key, which is your personal password for my software. Please store this number somewhere for safety. Replace the number that's there with your j_Key. Next, click **Default** to save this j_Key for your future use. Now it's time for another **OK**.

If you have followed all these steps you will now see a chart with an indicator on it.

NinjaTrader

Do not open the Install Folder to which I sent you a link. Instead, open NinjaTrader and go to

   Tools > **Import** > **NinaScript Add-On**

Browse to (your Downloads folder) the place you saved from the link I sent to you. Click on the NT WinZip file.

Now go to the **Indicators** icon and add sjh_SunnyBands and/or sjh_DMA_Histogram. Voila!

Now back to General Description:

Next, you need to **adjust** the software to the rhythm of the market. I use the same settings for all markets, but you should try to improve or break it to see what works for you. You do that by testing different timeframes and different settings. As I say in my talks, the S&P generally trades on a 15-minute chart while the bonds trade on a 45-minute chart, stocks trade on daily charts. You must find the natural rhythm of **your** trading instrument.

I personally trade the ES on a 5-minute chart, bonds on 45-minute charts and stocks on daily charts.

Clearly, when you find that my indicator shows you the correct buys and sells (the ones you expect), you will have identified the rhythm of the market in question.

Then, after finding the correct timeframe, you will need to optimize the stops and profit protection to maximize your returns. You will do this with the "sjh_ExitStrategies" strategy, or by setting your exits by hand. If you have licensed my "sjh_ExitStrategies", then run a full optimization, with all the parameters maximized to find the best range of situations.

Those are the basics. Now, onto the full documentation.

------- CUT HERE AND MAIL: ---

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By my signature below, I hereby agree to the above restrictions and terms:

Signature_____Date_____

Printed Name_____

------- CUT HERE AND MAIL TO: -

Sunny Harris
1547 Mission Meadows Dr.
Oceanside, CA 92057

Before We Begin

Let's take a look at all of Sunny's Indicators

NOTE: Prices are subject to change without notice.

Pricing Overview With Pictures

Starting below and on the following pages are screen captures of my indicators. Yes, they are small, but I'm limited by page size.

If you like any of them, I can always give you a FREE 7-day trial, which comes with a FREE 20-minute consult to help you install them, get them on your chart, and show you exactly how I use them in my own trading. FOLLOWED BY another Zoom call in the live markets together.

See below for charts and prices:

Dynamic Moving Average for Charting

Created to avoid most of the problems with Whipsaw, this sophisticated mathematical formula is unparalleled by any other in the industry. It's a moving average that corrects itself as the market speeds up and slows down. (…more) $1,374.⁰⁰

Dynamic Moving Average for RadarScreen

Created to highlight the positions of the DMA Indicator, this tabular view instantly pinpoints "gold on top" or "purple on top" and the values of the difference between the two lines. Makes it easy to sort for values already in progress versus values currently in congestion phase. (…more) $1,374.⁰⁰

Dynamic Moving Average Histogram

Created to highlight the crossovers of the DMA by showing green on top and red on the bottom, this indicator also makes it easy to spot divergence between price and the indicator, allowing for early entry and exits. (…more) $1,374.⁰⁰

NOTE: You can package any two or more for a discounted price. Please call (760) 908-3070 for pricing.

Dynamic Moving Average Strategy

Created to catch trends and avoid whipsaws, this strategy can be automated if you wish, after you optimize the parameters to your desired settings, for the symbol and timeframe of your choosing. (…more)

.... $3,444.⁰⁰

Exit Strategies

Ever wished you could optimize all of TradeStation's exit techniques in one place? This is the answer. In addition to the standard TS exits, this signal also provides several more designed by Sunny. (…more)

.... **$2,060.**⁰⁰

EXIT BY:

- Share or Position
- Profit Target
- StopLoss Amount
- BreakEven Floor
- Dollar Trailing Amount
- Percent Trailing Floor Amount
- Percent Trailing Percent
- Exit On Close
- Standard Deviation
- Next Open
- Next Profitable Bar
- Trend Change
- After "n" Bars
- Time of Day

Ultimate-F Compounding Spreadsheet

Using concepts originated by Ralph Vince as a stepping off place, and adding Sunny's PhD Mathematics, this software compounds profits dramatically without the high risk of ruin encountered in Vince's work. (…more)

.... $**6,995**.⁰⁰
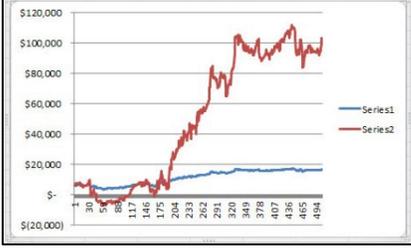
Dynamic Moving Average Crossover Marker

See at a glance on which bar the DMA turns from buy to sell, or sell to buy. The exact bar is painted a different color, and is made wider. (…more) ....$**995**.⁰⁰

Pennant Finder

Some people like to trade breakouts, rather than moving averages. This indicator was designed for a client who preferred to trade breakouts. The indicator marks areas of congestion with little triangles that show the top value and bottom value to use for breakouts. (…more) ....$**195**.⁰⁰

PHW

This is Sunny's main research tool. "I use it for marking yellow dots on all significant turning points." Then the indicator calculates: the date range of the symbol; Buy and Hold; the number of ideal trades; the ideal profit; and the PHW profit (which is 60% of the ideal) (…more) .... $**1,029.**⁰⁰

PHW for RadarScreen

The beauty of this indicator, only for RadarScreen, is that you can sort by the PHW value, ordering from greatest to least, and find the instruments (stocks, futures, …) that have the highest PHW. A high PHW means that the instrument has lots of up and down moves in it. Lots of pivots. With pivots, you can make profit from trading. Without pivots, you might as well just buy-and-hold. (…more)

.... $**1,029.**⁰⁰

SunnyBands

With the power of the proprietary DynamicMovingAverage (DMA) behind it, these bands are formed by variable Average True Ranges distant from each separate DMA. Unlike Bollinger Bands, these bands pinpoint turning points as price drops back within the bands. With the SunnyBands comes free personal instruction in how to trade with them. (…more) .... $**3,239.**⁰⁰

PBTouching SunnyBands

Want to see at a glance whether a bar is touching, or outside of, the SunnyBands? This PaintBar makes it abundantly clear. (…more)

....$**795**.⁰⁰

SunnyBars

Want to see immediately how volume affects price action? This indicator makes higher volume bars wider, and low volume bars narrower. At a glance you can see where the high-volume moves are.(…more)...........$**795**.⁰⁰

RedLiteGreenLite

This indicator is for RadarScreen. The cells turn red if price is below the moving averages and green if price is above the moving averages. There are 3 moving averages (of any type selected) and any length. If all 3 cells are red, that gives a red light for shorting. Likewise, if all 3 cells are green, that gives a green light for longs. (…more).................$**695**.⁰⁰

CPC Index

This is programmed as a signal but is actually more of an indicator. You add it to other signals to form a strategy, and CPC prints out Sunny's proprietary calculation which allows one to compare any system to all others. Instantly know your CPC Index and you'll know whether a system is tradeable or not. (…more) ....$**109**.⁰⁰

PaintBar Rollovers and Expirations

Ever worry that you might enter a trade for the wrong front-month? Ever worry about which Thursday is roll-over and which Friday is expiration Friday? Never fear, a PaintBar's here.

The magenta bars are all on Expiration Friday. With a simple input you can also highlight the Roll-Over Thursdays (shown here in green). (…more) .... $**195**.⁰⁰

Label Days of Week

By putting a letter on each bar, you can easily see what day of the week any bar is. This is especially valuable when looking at intraday charts and determining whether there is certain activity on particular days. It's subtle, but powerful. (…more) ....$**95**.⁰⁰

Paint Days of Week

Similar to the indicator above, this one paints each day of the week a different color. Makes visual inspection a breeze. (…more) ....$**95**.⁰⁰

Paint Day Sessions

The Day-Session bars are colored blue in this chart, while the Extended-Session bars are green. This makes life a lot easier for me, when I can tell which session I'm in—at a glance. (…more)......................................$**245**.⁰⁰

sjh_RSI

This indicator has several facets.

- It uses the ORIGINAL Welles Wilder formula (TS does not)
- It prints the value of the RSI on the last bar of the chart
- It colors the RSI red, blue and green, depending on overbought & oversold conditions
- It sets the OB & OS conditions to 40/60
- It draws the midline at 50 (...more)
....$**295**.⁰⁰
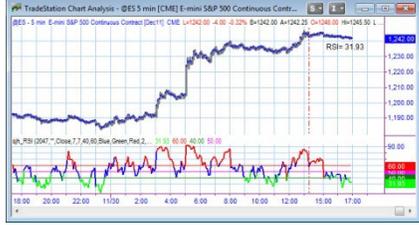
sjh_SmoothRSI

This indicator (shown on the chart along with a standard RSI) smoothes the RSI with Sunny's DMA formulae. This gives much less volatile readings and far less crossovers (...more)
....$**295**.⁰⁰

ShowMe Closes Above 200 MAV

Want a quick way to see if prices are greater or less than a certain moving average? Here it is! For instance, industrial pundits often talk about price touching the 200 day moving average. This ShowMe places dots on the applicable bars. (...more) ....$**195**.⁰⁰

What Time Is It?

This little routine simply places the price and time of the last bar, to the right of the last bar itself. I find it helpful when I'm wondering if my datafeed is still working. (...more) ....$**95**.⁰⁰

sjh_Smoothed ADX

The Smoothed ADX does what it says: It smoothes out the jagged lines to help eliminate whipsaw. In the picture to the right you see the standard ADX in red, the smoothed ADX in purple. (…more) ....$**224**.⁰⁰

Consulting, Mentoring, Courses

If you balk at the price, just consider this: How long does it take you to lose that much money in the market?

Education is NOT expensive; LACK of education IS.

1 Day Weekend…$3,945

Spend a Saturday or Sunday with Sunny—all day—studying her unique methods of testing, programming and trading. 9am – 5pm. Work on whatever ails you. You set the agenda or let Sunny. (…more) ………………………… $**3,945**[00]

2 Day Weekend…$6,706

Spend a Saturday and Sunday with Sunny—all day, both days—studying her unique methods of testing, programming and trading. 9am – 5pm. Work on whatever ails you. You set the agenda, or let Sunny. Technical Analysis, Sunny's methods, programming EasyLanguage, trading styles from 1-minute to long-term. It's up to you. Learn from her 40+ years of experience. (…more) **…………$6,706.**[00]

3 Day Weekend…$9,468

Spend a Friday, Saturday and Sunday with Sunny—all day, all 3 days—studying her unique methods of testing, programming and trading. 9am – 5pm. Work on whatever ails you. You set the agenda or let Sunny with her 42+ years of trading experience. Technical Analysis, Sunny's methods, programming EasyLanguage, trading styles from 1-minute to long-term. It's up to you. Click here to read through possible agenda topics. (…more) ………………………………………… $**9,468.**[00]

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Read the brochure in this hyperlink to see our Mentoring offerings. Click Here.

…………………………………………… $**535**.[00]/hour

…………………………………**$2,407**/5-hour package

……………………………**$4,280 .00**/ 10-hour package

(…more)

CHAPTER 0: Working Across the Ether

In This Chapter

- Working Across the Ether
- Zoom Meetings
- Downloading ASCII Data from MoneyMentor.com
- Cautions & Warnings About Trading
- Downloading and Importing Sunny's Indicators

The Internet used to be called the Ethernet. Way back when, when I had a top-secret clearance and was working as a programmer at Lockheed. The "Ether" was the substance that the ancients believed comprised our atmosphere and had some kinds of magical properties.

It really is all that. It's magical, and we transmit electrical signals over it now-a-days. We communicate with each other over vast arrays of time and space.

I have clients in Russia, in Greece, in New Zealand, Africa and in South America, just to mention a few. And, in the United States. And even some in San Diego.

So, what is the protocol so that we can work together without you having to fly to Southern California and come to my office to meet with me in person?

I Use Zoom for our Sessions

I use Zoom to connect to your computer and see you (and you can see me) and to talk with you. I'll send you the Zoom link before our scheduled time together.

For connecting to your computer and viewing what you are doing, we both run a Remote Access Program (Zoom), and I can view your screen, or whatever portion you allow me to see. It makes it easy to navigate around the programs we are using and let me catch both our mistakes or misunderstandings by "gerfingerpointing." I can move the mouse and show you what I want you to look at.

For talking to each other, or even seeing video of each other, while we are working on our project(s) I use Zoom. It's best if you have a camera and microphone for our sessions. If, for any reason, you cannot reach me, my cell phone is (760) 908-3070. Feel free to call.

Connecting: To connect with me for the first time, you will need to download and install a small Zoom program that allows the Remote Access Program to act as an intermediary between us, sending your commands through their computers and then on to me, and sending my commands through their computer and on to you. In the sections which follow I will show you exactly how to do it.

In order to do this, you simply **Click the Link** I send to you, and it will bring you right into my Personal Zoom room.

I will ask for Remote Control permission (which you need to accept) so I can show you my mouse on your computer and control the program if necessary.

Downloading ASCII Data from moneymentor.com

Some readers of "TradeStation Made Easy!" have contacted me about how to download and use the ASCII data for **DIS.txt** mentioned in the book. In this section I will show you how to download the file, save it and then bring it into TradeStation. The concepts are almost the same for MultiCharts.

Gathering the data from the website

From the main page of **https://www.moneymentor.com** look at the menus at the top and click on **Resources**. Click on the hyperlink under that for **TSME**. The first bullet is "Data for DIS download" That's where you get the data.

Figure 1: Downloading Data

If you left-click on the hyperlink "**here**" under that section, you will get a page of data on your screen. That is not what you want. Instead, go back to the "here" hyperlink and **right-click** on the link.
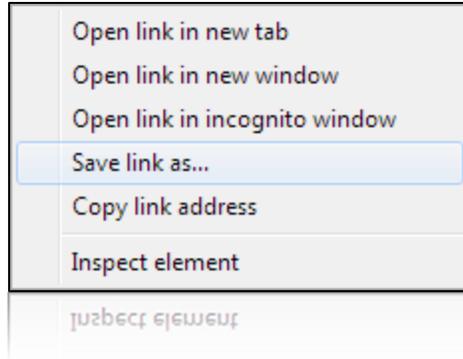
Figure 2: Save link as…

By doing this, you will get the gray pop-up menu (shown in Figure 2) from which you need to click on "**Save link as…**" There you will get a "**save as…**" screen and the default extension for the file will be "HTML." That is not what you want. You need to **change the HTML extension to ".TXT"** From my trial of this process, the default file name is "DISdata.txt" Next I clicked "Save."

To view this file and reassure yourself that it has saved, open the **File Browser** from the **Start** button on your Taskbar. Then click on Desktop and scroll down until you find the file with the name you chose. I saved two: DIS.txt and DISdata.txt, as shown below in Figure 3.

Figure 3: DIS.txt

You can see in Figure 3 that I've blurred out everything except the file names DIS.txt and DISdata.txt. These are the ASCII files that we have saved to the desktop.

The contents of the file are shown below in Figure 4.
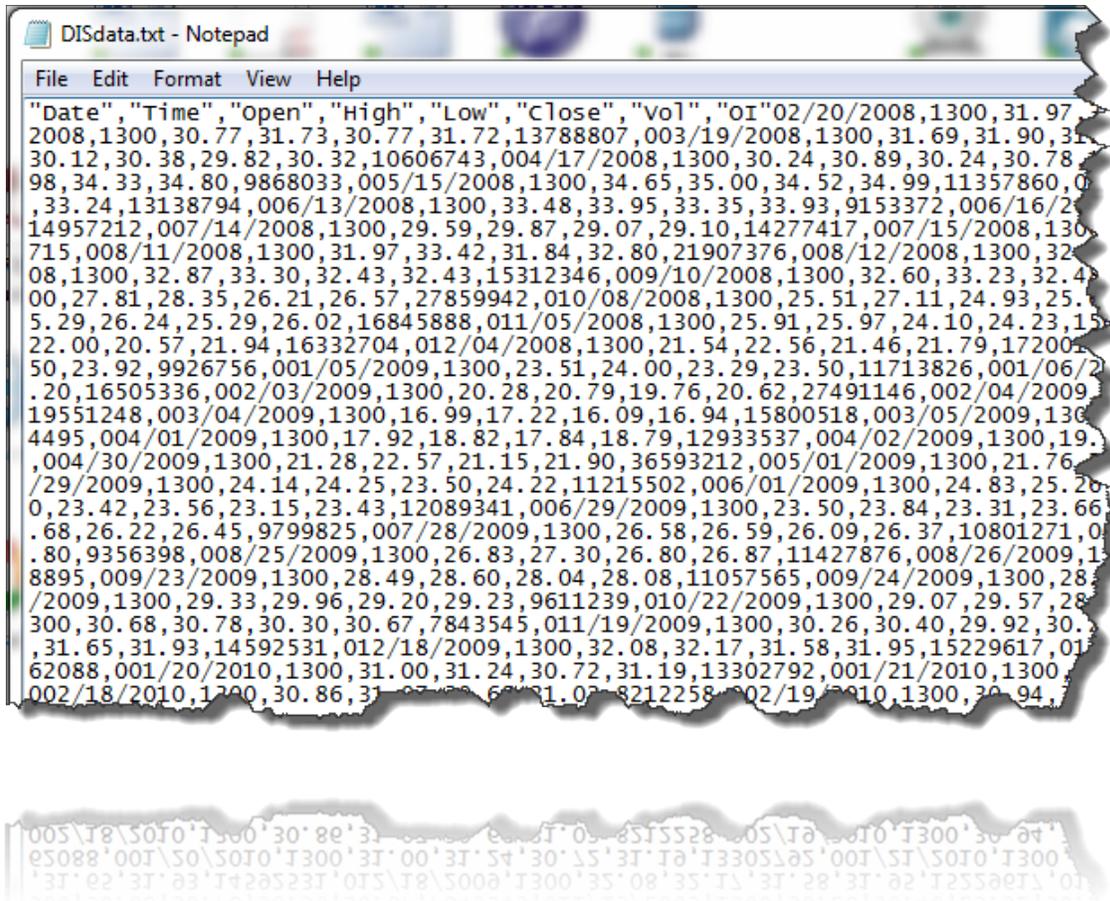
Figure 4: DIS.txt ASCII file contents

Next, the most important part of using TradeStation is to make use of their voluminous Help files. Everything you want to know is hidden somewhere within the Help files.

If you want to know more about their menus, purchase "The Definitive Guide to TradeStation's EasyLanguage & OOEL Programming" on Amazon. Be sure to get both volumes.

If you go up to the Help menu in the TradeStation platform, you can pull down to Get Help and then Platform Trading and search for the term "3rd part data." There is more information there than I can put in this document, but that's where to find everything you need.

See the Field Order – 3rd Party Data figure below.
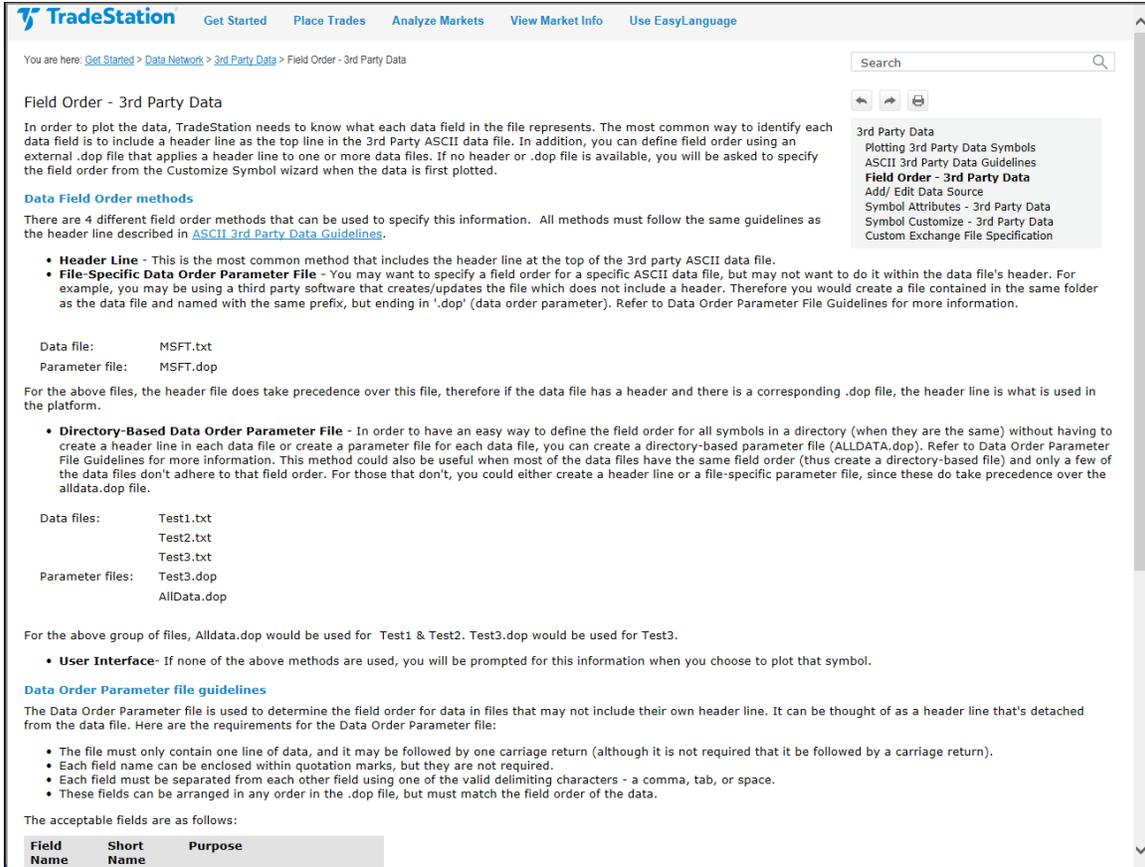
Figure 7: Field Order – 3rd Party Data

Once you type in "field order" then click on the **GO** button to the right. See Figure 7.

Data Order Parameter file guidelines

The Data Order Parameter file is used to determine the field order for data in files that may from the data file. Here are the requirements for the Data Order Parameter file:

- The file must only contain one line of data, and it may be followed by one carriage re
- Each field name can be enclosed within quotation marks, but they are not required.
- Each field must be separated from each other field using one of the valid delimiting c
- These fields can be arranged in any order in the .dop file, but must match the field or
- The acceptable fields are as follows:

Field Name	Short Name	Purpose
Date		Used to indicate the date of the bar or tick
Time		Used to indicate the time of the bar or tick
Open	O	Used to indicate the open of the bar
High	H	Used to indicate the high of the bar
Low	L	Used to indicate the low of the bar
Close	C	Used to indicate the close of the bar or tick
Volume	V	Used to indicate the volume of the bar or the Up Volume of the bar
OpenInt	OI	Used to indicate the open interest of the bar for the Down Volume of the bar
Other		Used as a placeholder

Figure 8: The Order of the Data in the Text File

It is this information that is important to get correct before you import any data into a TradeStation custom symbol. If the datafile is not in the right order, the import will make no sense to TradeStation, and will not create a valid symbol.

The data in DISdata.txt and DIS.txt is already formatted in the required TradeStation Format.

Importing ASCII data into TradeStation

To import that, or any properly formatted text file, into TradeStation you need to follow these next instructions.

Starting from an empty chart window, go to Data → Add Symbol → Lookup → 3rd Party Data. This next figure shows you the popup window that will follow. It may have a different, or no, symbol in the box.
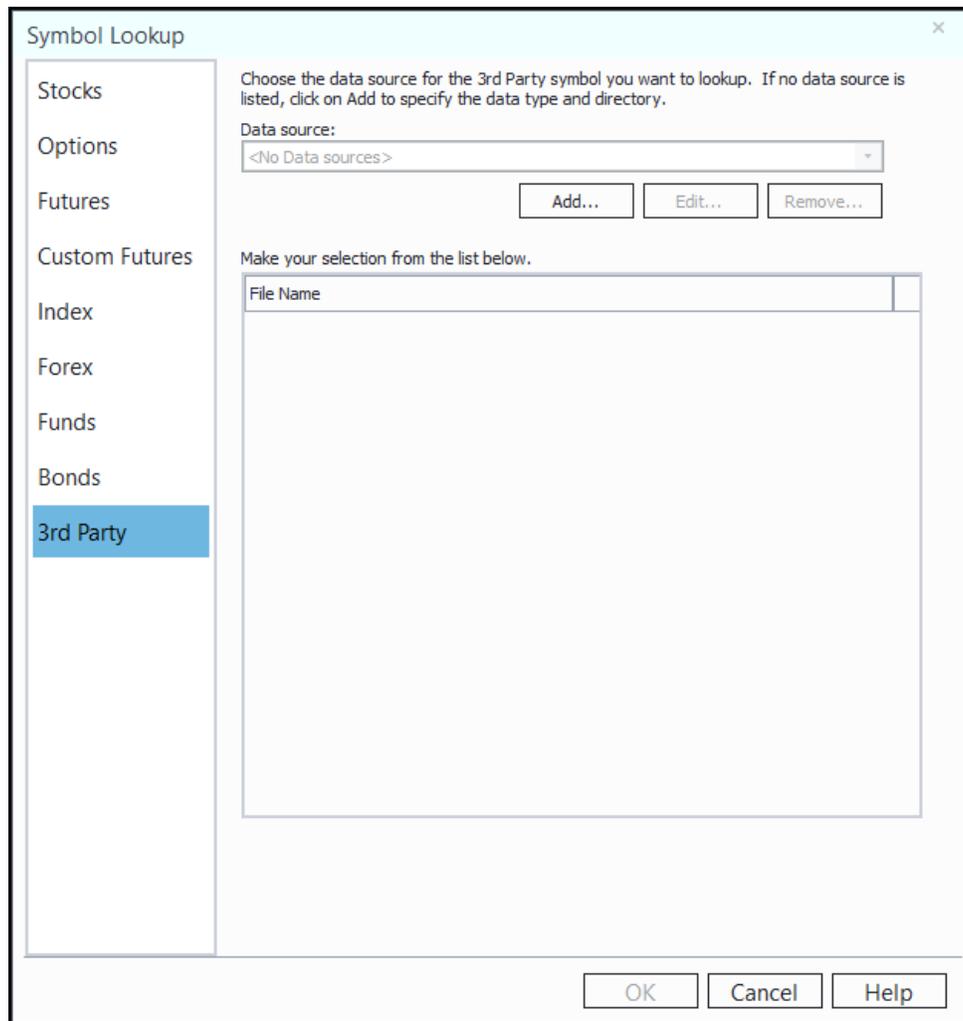
Figure 9. Insert Symbol

Under Data source: click Add, select ASCII and Browse for the location of your file.

Figure 11. Add/Edit Data Source

After clicking the Add button a box will popup (also seen in Figure 11) with "**Type:ASCII**" and a blank **Location** text box. You have to tell TradeStation where you put the DIS.txt file.

Click on **Browse** just <u>below</u> the blank **Location** box. You will get the choice of browsing your hard drives, any thumb drives or soft media to find the file. If you did as I instructed, you put the DIS.txt file on your Desktop (to make it easy to find). This concept is shown in Figure 12.
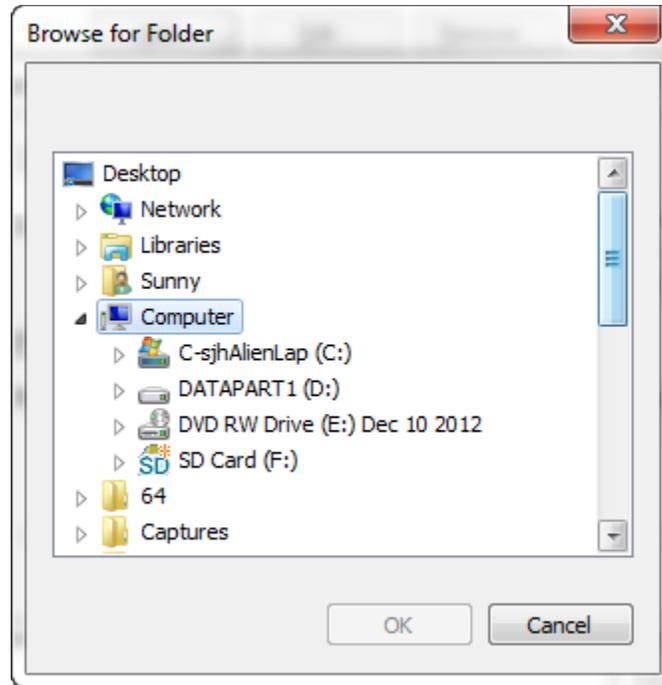
Figure 12. Browse to the Location of your file.

Let's assume you put it on the Desktop. (If not, then you are on your own to browse to the drive and folder on which you put it.) So, click on **Desktop**, at the top, and then click on **OK**.
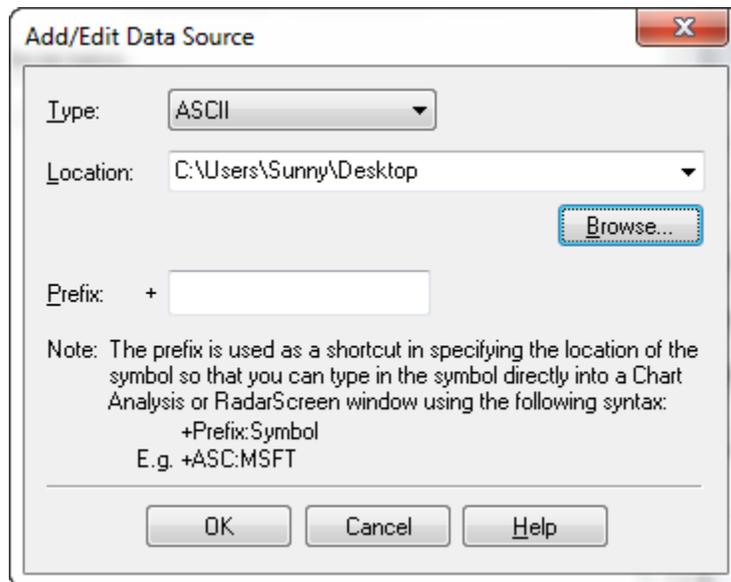
Figure 13. Locate Data Source

As shown in Figure 13, you have selected Desktop and now need to tell TradeStation the file name. In the text box which is preceded by "**Prefix: +**" just ignore the Note and type **DIS** in the box. Next, a new box will popup showing you all the files on your desktop. Simply scroll down to the **DIS.txt** or **DISdata.TXT** file (depending on what you called it.)
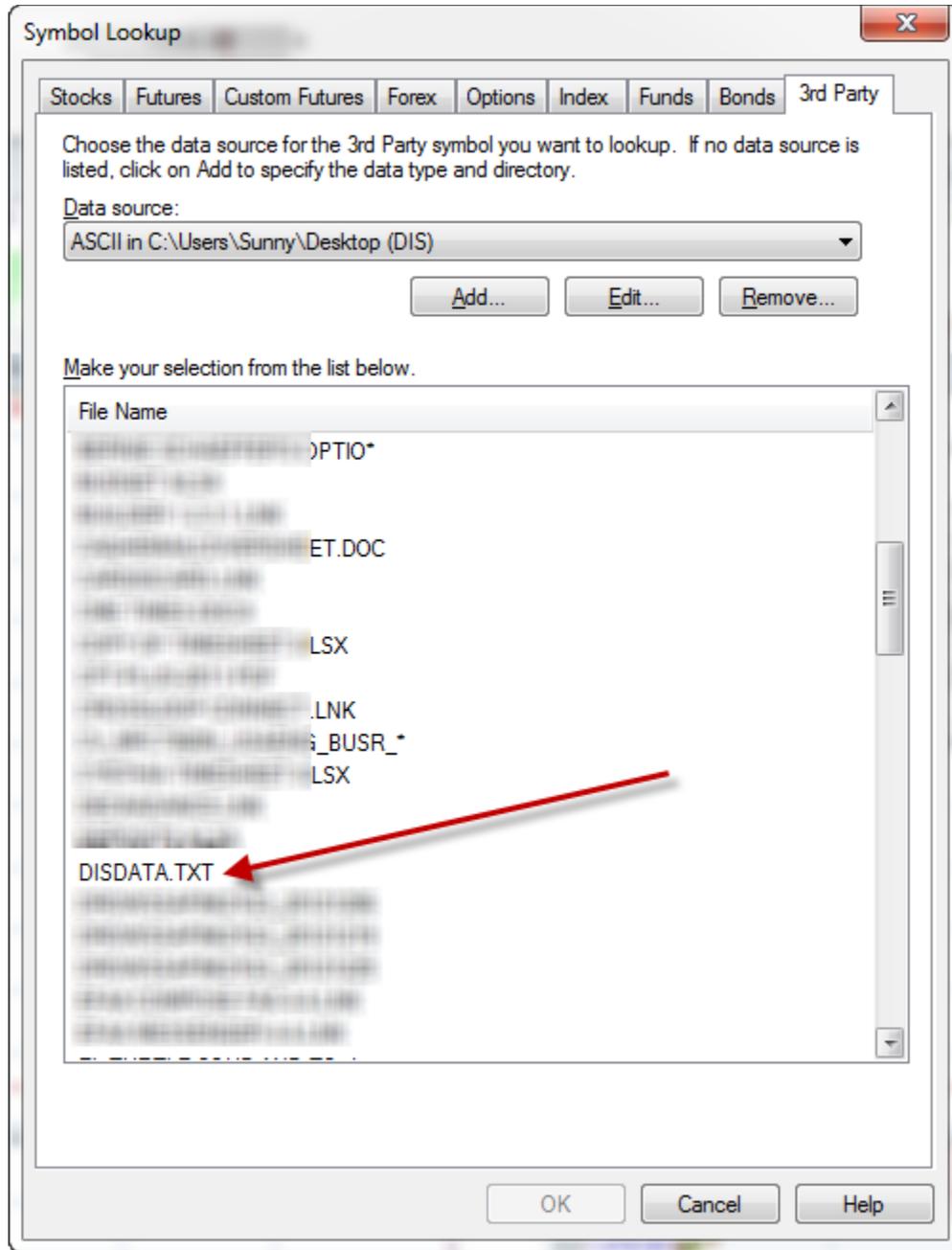
Figure 14. DISdata.txt

In the case of the file in Figure 14, **click on DISDATA.TXT**. Note that I have blurred out all my other files. Then click on the **OK** button.
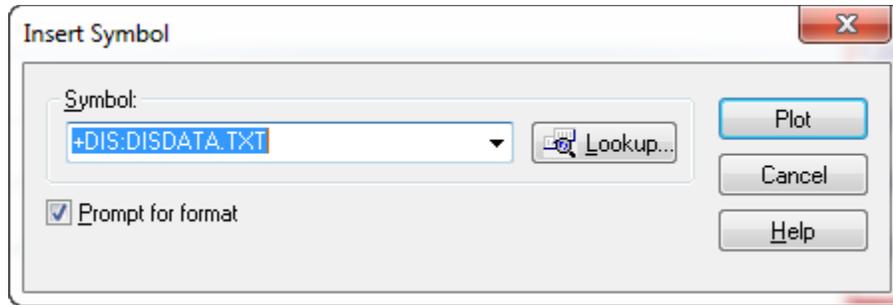
Figure 15. Insert Symbol

The next step is to click on the Plot button in Figure 15. More popup windows yet to come! This one wants you to specify the format of the data file.

The file you downloaded from my website is comma-delimited and in the order expected by TradeStation. So, pull down to the **comma** (not the slash) as the delimiter and click **OK**.

Next, be sure that the symbol is set to **Daily** data, **OHLC** format and plot it. That should do the trick.

Cautions & Warnings About Trading

So, you want to be a trader! The first thing I would tell anyone who is new to this profession and wants to trade is: Forget about it! Do something else.

Why would I, who has been trading for 42+ years, tell you not to do it? It's simple. 80-90% of the people who are new, lose ALL their trading capital within the first 12 months. So, if you have $20,000 to trade with, you will lose all of that within the first 12 months. It is HIGHLY likely. 80-90% is really bad odds for you.

Furthermore, if you think you can just start with a small account, so if you lose it, it won't hurt as bad, again I would tell you: Forget about it! You can't really start with a small account. I'll give you an example.

One of my clients (for my software products) called and was frantic to the point that I could hardly understand her. She kept telling me that TradeStation closed her account. "They just closed it! And they're sending me my money back. Why, Sunny? Why did they do that to me? I was just getting the hang of it and starting to do well, and they just closed my account for no reason."

I told her that it could be one of several reasons, but that I couldn't "guess" the reason for her. To tell her what happened I would need more information. It could be that she encountered a Margin Call due

to losses, it could be that they found a lie on her application form, if could be that your account has run out of money … I don't know, and I can't really guess. I need to see documentation of what transpired.

Finally, I talked to her nephew, who was helping her with the computer, and he said that she only had $4,500 left in her account, and she started with $5,000. That explained it. She encountered a margin call since, at the time, the EMini S&P minimum margin was $5,000.

When she asked them to re-open the account, they told her they couldn't open any accounts under her social security number.

So, let this be a lesson to all of us. You can't trade with a small account. You <u>will</u> encounter losses. And, chances are you will have most of your losses in the beginning, when you are a novice trader. If you have a small account (near the margin requirement) and you start having a string of losses, it will immediately take you below the margin requirement, and you'll be OUT.

If you do get a Margin Call, please know that **you must cure it within** 24 hours. Not 25 hours. That means you must wire the money into your account on the same day you get the margin call. In the case above, she sent them a check a few days later. That just won't do.

I suggest to my clients that they trade with 2 times the margin amount for each contract. Thus, if you are trading 1 EMini contracts you need $24,640 in your account. (It's now 2 x $12,320) Yes, it seems like a lot, but losses happen very quickly and erode your account faster than you can push the exit button.

Beware!

Downloading and Importing Sunny's Indicators to Your Computer

When I email you the products you have licensed from me, you will need to download them from your email and **save** them either to a folder (I use c:/sunnystuff) or directly to the Desktop.

Next, you go to TradeStation and **Import** the indicator, by browsing to the location where you saved it.

Then you can **Studies → Add Study** to put the Indicator/Strategy/PaintBar/ShowMe to your chart.

There is an instructional video on my YouTube Channel to walk you through the process. It is really quite simple.

CHAPTER 1: Introduction

Indicators and Functions developed by Sunny J. Harris for her own trading have been made available to qualified individuals for their own education and study. This document is sketchy and incomplete. To really learn how to use Sunny's indicators it would be best to discuss them with her either over the phone, internet or in person. Check the current prices on www.moneymentor.com.

What's Available?

This is the list of indicators, showmes, paintbars and functions available through Sunny's website: www.moneymentor.com. At this time, all of these indicators are for TradeStation, MultiCharts and TradeStation Global only. SunnyBands and DMA_Histogram are available for NinjaTrader.

To view pictures of each of these indicators, click on the hyperlinked name of the indicator below.

1. **sjh_I_ADXSmoothed** (Smoothing ADX with Sunny's DMA Function)
2. **sjh_I_AllAverages** (optimizable averages)
3. **sjh_I_ATRTrailing** (AverageTrueRange TrailingP
4. **sjh_I_BidAskDiff** (a RadarScreen indicator showing the difference between the Bid & Ask)
5. **sjh_I_BingTicks** (plays a sound for each tick of the market. I use it to gauge market activity and volume.)
6. **sjh_I_BuyHold Profit** displays the amount of profit/loss for a Buy and Hold strategy from the beginning of the chart
7. **sjh_I_Candles** (multiple indicators each highlighting candle patterns, sold as one)
8. **sjh_SM_CurrentPrice** (places a dot at the far right, at the current price. Turns blue for upticks and red for downticks and changes colors in the Night Session
9. **sjh_I_CPC** Index (calculates Sunny's single system performance measurement)
10. **sjh_PB_DaySessions** (paints the day session bars a different color)
11. **sjh_DaysOfWeek** (paints any day of the week a different color)
12. **sjh_I_DMA** (Dynamic Moving Average) Indicator
13. **sjh_S_DMA** (Dynamic Moving Average) Strategy
14. **sjh_DMA Hist** (Dynamic Moving Average Histogram) Indicator
15. **sjh_S_Exits** (optimizable Exits Strategies)
16. **sjh_ExpirationFriday** (paints the 2nd Thursday and 3rd Friday a different color)
17. **sjh_I_Pennants** (identifies areas of congestion) for charting & RadarScreen
18. **sjh_I_PHW** (Potential Hourly Wage) Indicator for charting & RadarScreen
19. **sjh_PrintStatistics** (prints the significant stats, from the Performance Report, in the PrintLog, so you don't have the Performance Report hovering over your plot area.
20. **sjh_RedLiteGreenLite** (for RadarScreen)
21. **sjh_I_SunnyBands** (DMA + ATRs on either side)
22. **sjh_f_SunnyBands** (function allowing user to access all the values of SunnyBands)
23. **sjh_SunnyBars** (Bars with more volume are painted wider; and open, high, low close are differentiated by colors)

24. **sjh_UltimateF** (proprietary spreadsheet which calculates the number of contracts to place for the next trade based on Sunny's UltimateF compounding theories—for maximizing profits on a profitable system.)
25. **sjh_WhatTimeIsIt** (plots/prints the time of the current bar in progress)
26. **sjh_I_WhosOnTop** (plots horizontal line with colors of DMA)

For pictures of each of these indicators, read on. Each indicator has its own section, which explains the inputs and shows a chart with the indicator on it.

Finding Your User/Customer ID

Before you can use my software (Indicators and Strategies, PaintBars and ShowMes) I have to put your UserID into my code. These numbers are easily found within your program (TradeStation or MultiCharts) by going to Help – About in the program.

For MultiCharts:

Follow this menu sequence: Help → About MultiCharts → read off the UserID

It looks like this:
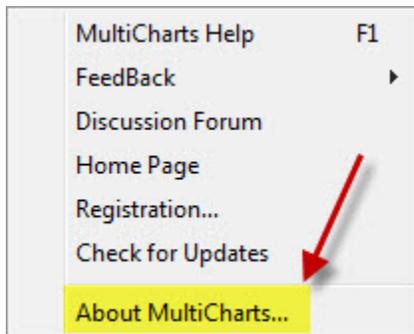
Help

About MultiCharts

User ID

For TradeStation:

Help → About TradeStation → read off the Customer ID

It looks like this:

Help
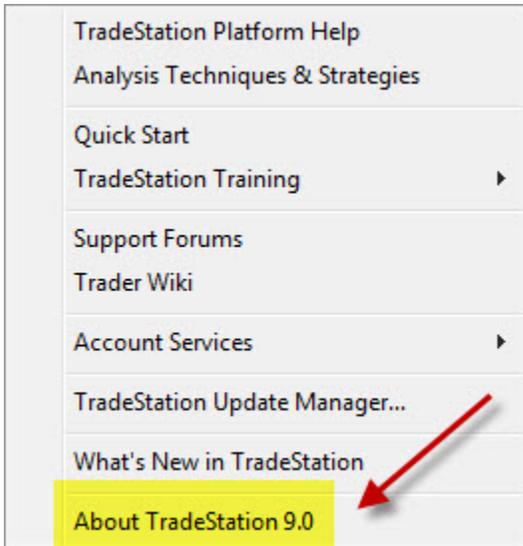
About TradeStation
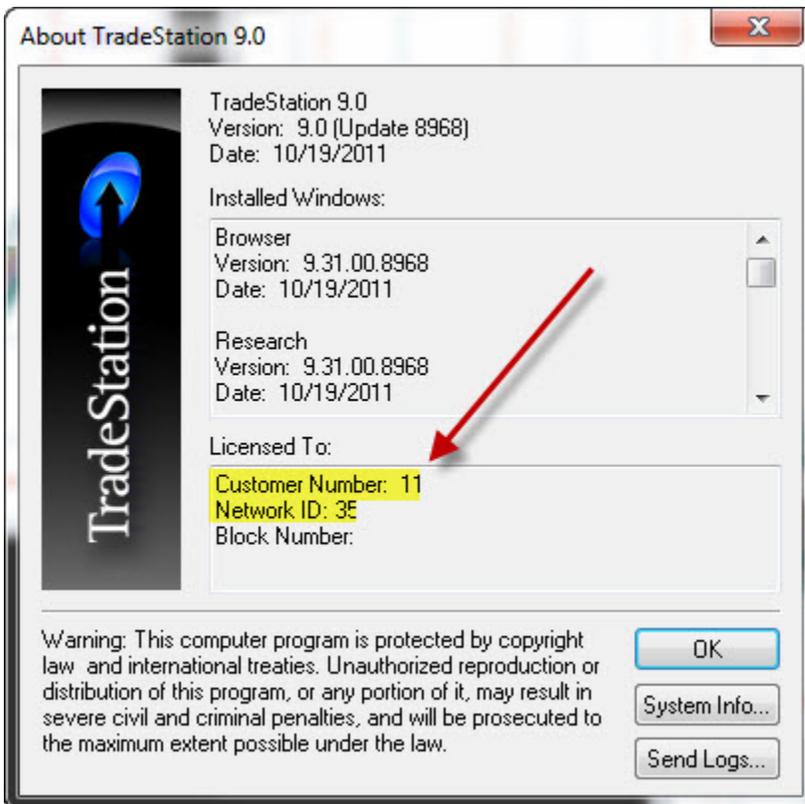
Customer Number and Network ID

Downloading an Indicator

Trial Indicators

If you want to use Sunny's indicators on a 7-Day Free trial (or click HERE), simply give her a call at 760-908-3070 or email at sunny@moneymentor.com

Licensed Indicators

If you have purchased and paid for Sunny's indicators' license, after receiving your PayPal payment or cashiers check or swiping your credit card, and then receiving your signed Disclaimer Acknowledgement/License Agreement, Sunny will send you an email with a file(s) attached containing the indicators you have licensed.

Save the attachment from the email to a file location you will remember, using the same procedures as in the trial setting above. These are the files for installation of your indicators.

Importing the Indicator(s) Into TradeStation

Remember where you saved the indicator(s). You will use the file & folder location in this next step. I like to keep customers' files in a folder called SunnyStuff on the Desktop.

From the TradeStation **File** menu, pull down to **Import** (Figure 1.2) which will bring up the next menu (Figure 1.3).
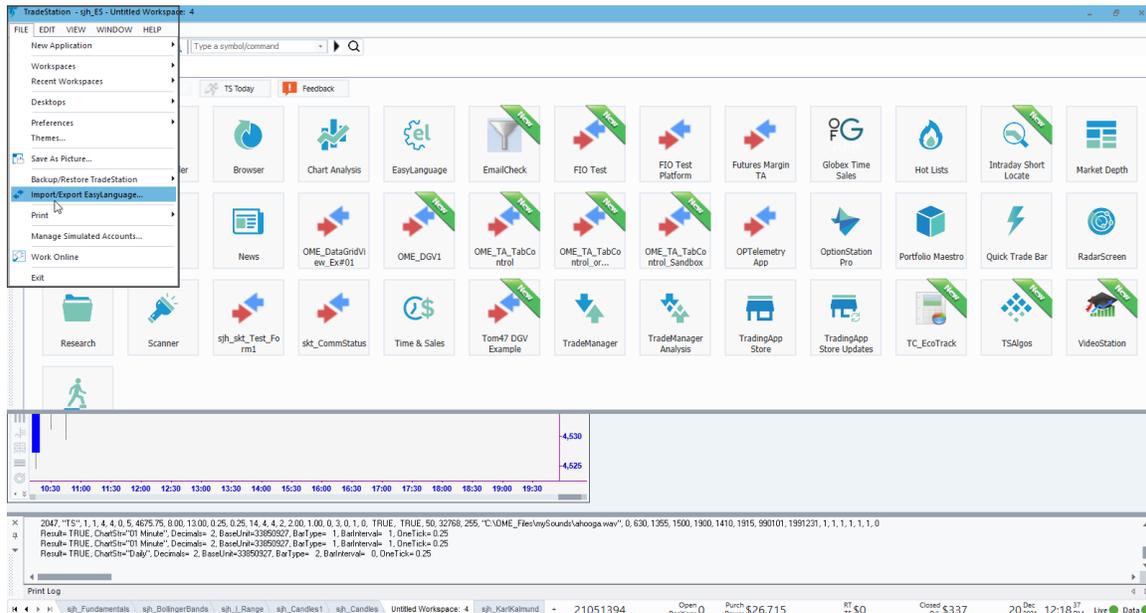
Figure 1.2—File → Import

In the next pop-up menu box select the second choice: Import EasyLanguage file (ELD, ELS or ELA), as shown in Figure 3 below.
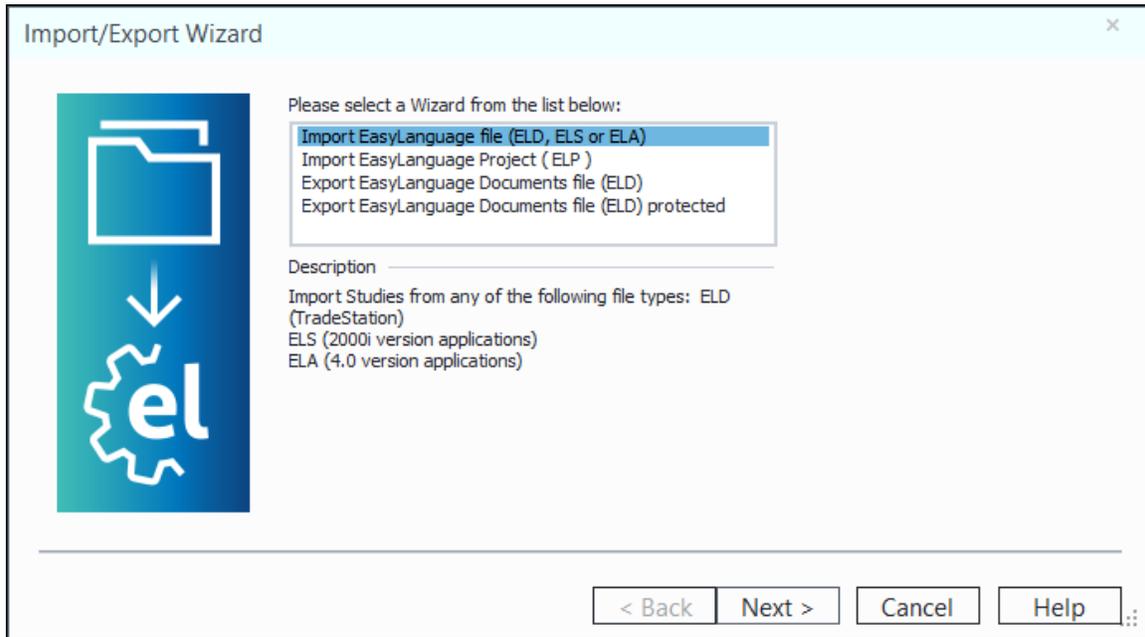
Figure 1.3—Import EasyLanguage file

Then click **Next >**.

As in Figure 1.4, **Browse** for the location of the file you saved above, in Figure 1.1. Remember where you put it and what you called it.
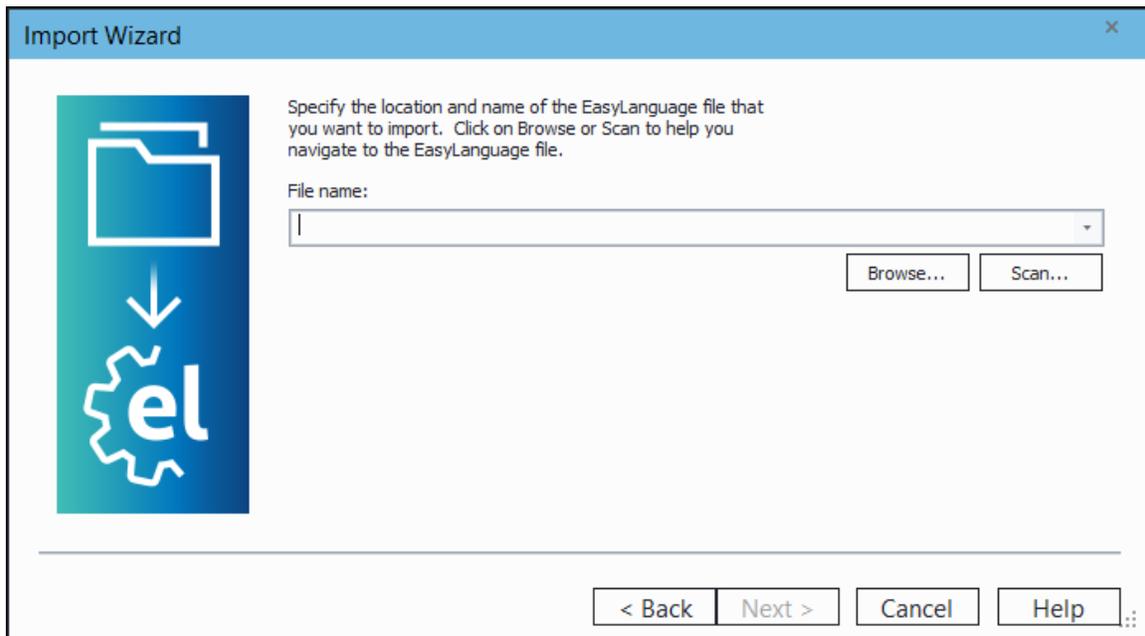
Figure 1.4—Browse for the file location

Click **Open** when you find the file and location.

And then **Next** to import the file(s).

TradeStation will then show you the list of files it is importing. All you have to do is click **Next** and **Finish** to complete the process.
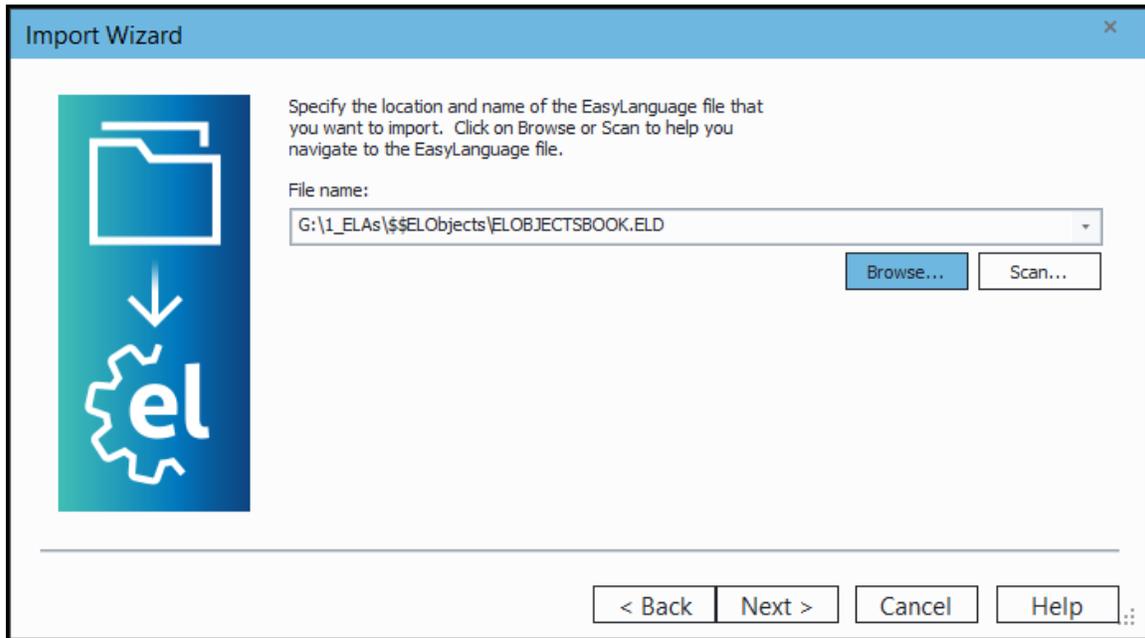
*Figure 1.5—Click **Next >***

Prompt for Editing

Be sure, when you are adding the Indicators to your chart, that you **Check the Box** that is labeled ☐ **Prompt for Editing**. This will allow you to Customize your Input values. See Figure 1.6.

The first input value for all of my indicators is "j_Key" which is your private and secret password. Be sure to input your j_Key value and Save as **Default**.

That way you won't have to input it every time.
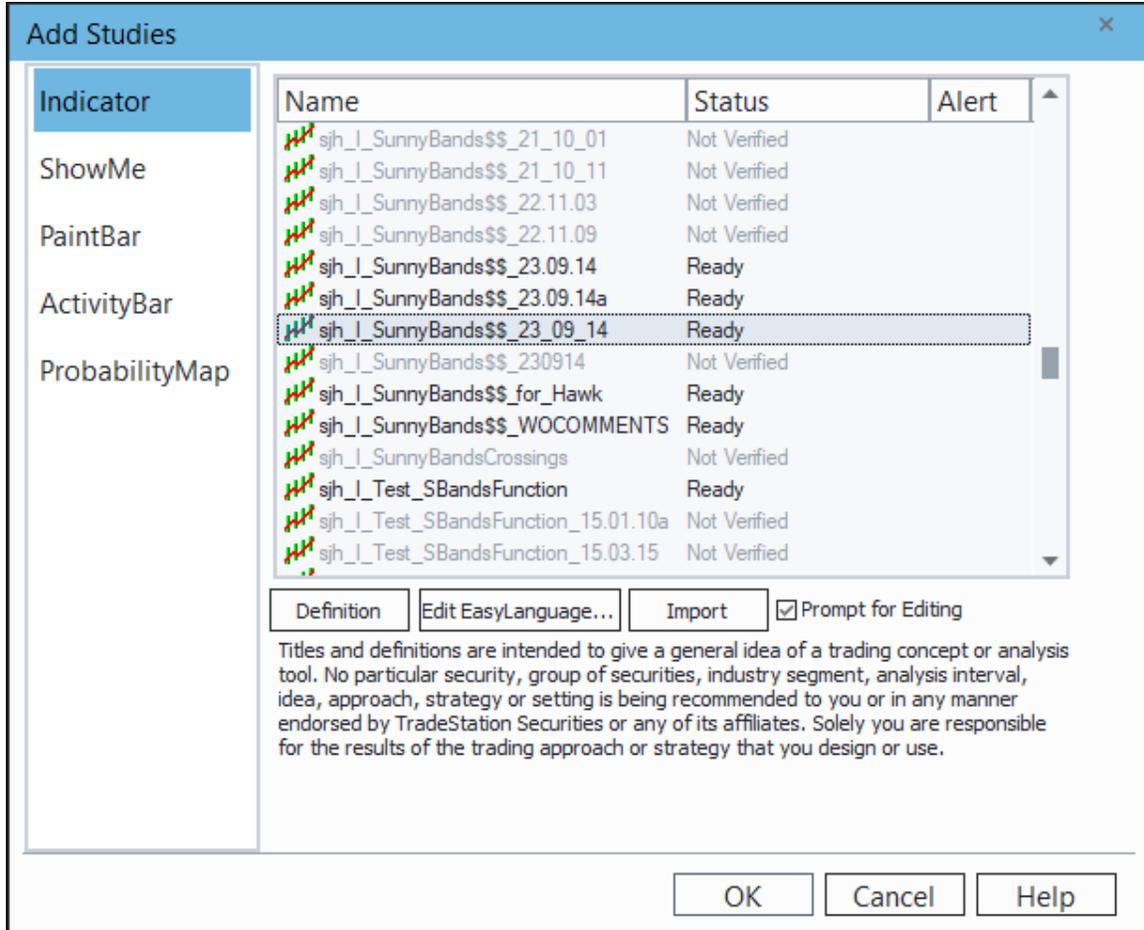
Figure 1.6—Prompt for Editing

Allowing for Enough Bars to Calculate

In order for any indicator to make its calculations you need to give it enough bars with which to calculate. For instance, a 10-period moving average needs 11 bars to calculate. Likewise, a 50-period moving average needs 51 bars with which to calculate.

I don't always know how many bars back to specify for an indicator, so I just find a suitable value by trial and error. For my PHW for RadarScreen, for my DMA, and for any of my RadarScreen indicators, I just lazily type in 111 OR 1111 under the Properties tab, after checking **Load Additional data**… The Properties window is shown in Figure 1.5a, below. In this example I had put 51 bars for calculating.

NOTE: If you don't check the box and allow for additional data, the indicator won't plot.

Format Indicator: sjh_PHWindicator$_R for All Symbols

General | Inputs | Alerts | Style | Color | Advanced

Name: Short name:

sjh_PHWindicator$_R

Notes:

Maximum number of bars study will reference:
⦿ Auto-detect
◯ User defined: 50

☑ Update value intra-bar (tick-by-tick)
     Note: This will allow alerts to be triggered intra-bar

☑ Load additional data for accumulative calculations   Details...
     Additional bars to load: 5|1

Currency Based on:
Symbol   ▼

Amount currency is set to USD by default in the case of no account specified.

Preview

	PHW Total	
1		Same as Symbol
2		Same as Symbol

Edit EasyLanguage...   OK   Cancel   Help

Using the Indicators, Functions, ShowMe's, PaintBars
Strategies

I have seventeen basic indicators, strategies & functions currently available. They are listed above. And the list grows as I develop more facilities for my own personal trading.

My favorites, and the ones I use for all my trading, are the SunnyBands and Dynamic Moving Average Histogram (DMA_H). So, I'll start with those.

To insert any indicator on your chart, here are the steps:

1. From the top menu bar select **Studies → Add Study → Indicator**
2. Select the name of the desired indicator and click **OK**
3. Set the **Input Values** to proper values for this indicator, under **Customize**.

Or, in graphical format, here are the same steps:

Steps to inserting an indicator on your chart:

1.

Add Studies

	Name	Status	Alert
Indicator	sjh_I_SunnyBands$$_21.10.01	Not Verified	
ShowMe	sjh_I_SunnyBands$$_21.10.13a	Not Verified	
	sjh_I_SunnyBands$$_21.10.22	Not Verified	✓
PaintBar	sjh_I_SunnyBands$$_21.10.27	Not Verified	
	sjh_I_SunnyBands$$_21_09_28	Not Verified	
ActivityBar	sjh_I_SunnyBands$$_21_10_01	Not Verified	
	sjh_I_SunnyBands$$_21_10_11	Not Verified	
ProbabilityMap	sjh_I_SunnyBands$$_22.11.03	Not Verified	
	sjh_I_SunnyBands$$_22.11.09	Not Verified	
	sjh_I_SunnyBands$$_23.09.14	Ready	
	sjh_I_SunnyBands$$_23.09.14a	Ready	
	sjh_I_SunnyBands$$_23_09_14	Ready	
	sjh_I_SunnyBands$$_230914	Not Verified	
	sjh_I_SunnyBands$$_for_Hawk	Ready	

Definition   Edit EasyLanguage...   Import   ☑ Prompt for Editing

Titles and definitions are intended to give a general idea of a trading concept or analysis tool. No particular security, group of securities, industry segment, analysis interval, idea, approach, strategy or setting is being recommended to you or in any manner endorsed by TradeStation Securities or any of its affiliates. Solely you are responsible for the results of the trading approach or strategy that you design or use.

OK   Cancel   Help

2.

3. You will be given your own unique **j_Key** passkey to use with your Sunny Harris indicators. It is only for you to use. The figure below shows you mine. It is always **the first input value** and you must replace the default value with the j_Key Sunny assigns to you. This is highlighted in the next illustration.

4.

Now we will look at all the indicators I offer, one by one. Next chapter, please.

CHAPTER 2: Sunny Harris' Dynamic Average

There are other indicators by other vendors, that call themselves Dynamic or Adaptive. Marc Jurik has one; Perry Kaufman has one. And there is one in TradeStation's standard list of indicators. But **none of them works like mine**. I invite you to try them all and compare. You will soon see by the evidence, that mine has some sophisticated mathematics in the algorithm that allows it to move out of the way of most whipsaw activity. **And it's the whipsaw that eats up all of most traders' profits**.

Dynamic Moving Average Indicator

```
NAME: sjh_I_DynamicMovingAverage
    Inputs:
    j_Key(2047),                // your personal password
    j_Vendor("TS"),             // TS = TradeStation, MC = MultiCharts
    Price1 (Close),             // Open, High, Low, Close
    Price2 (Close),             // Open, High, Low, Close
    j_L1 (08),                  // Fast Length
    j_L2 (13),                  // Slow Length
    j_T1 (0.25),                // Smoothing Factor
    j_T2 (0.25),                // Smoothing Factor
    j_ATR_Len (14),             // Length of ATR
    j_Precision (04),           // How many decimal places to use
    j_Color1 (darkbrown),       // Color of Gold DMA Line
    j_Color2 (darkmagenta),     // Color of Purple DMA Line
    j_DMAFastThick (02),        // Thickness of Fast DMA Lines
    j_DMASlowThick (02),        // Thickness of Slow DMA Lines
    j_SwitchOff(00),            // Print Text 0=off, 1=on
    Int   j_TextColor (Black),// write misc text in this color
    Int   j_BarsDisplace (03) // Number of Bars to Displace CurrentPrice
```

When it comes to the Strategy form of this indicator, not all values for the inputs are optimizable. For instance, you wouldn't want to optimize the thickness of the lines or the color values. It wouldn't make sense. For more information on the **Strategy** format, see Chapter 3.

To insert the indicator on your chart, follow these steps:

Go to the top menu bar and click on **Studies**. Then pull-down to **Add Study**.
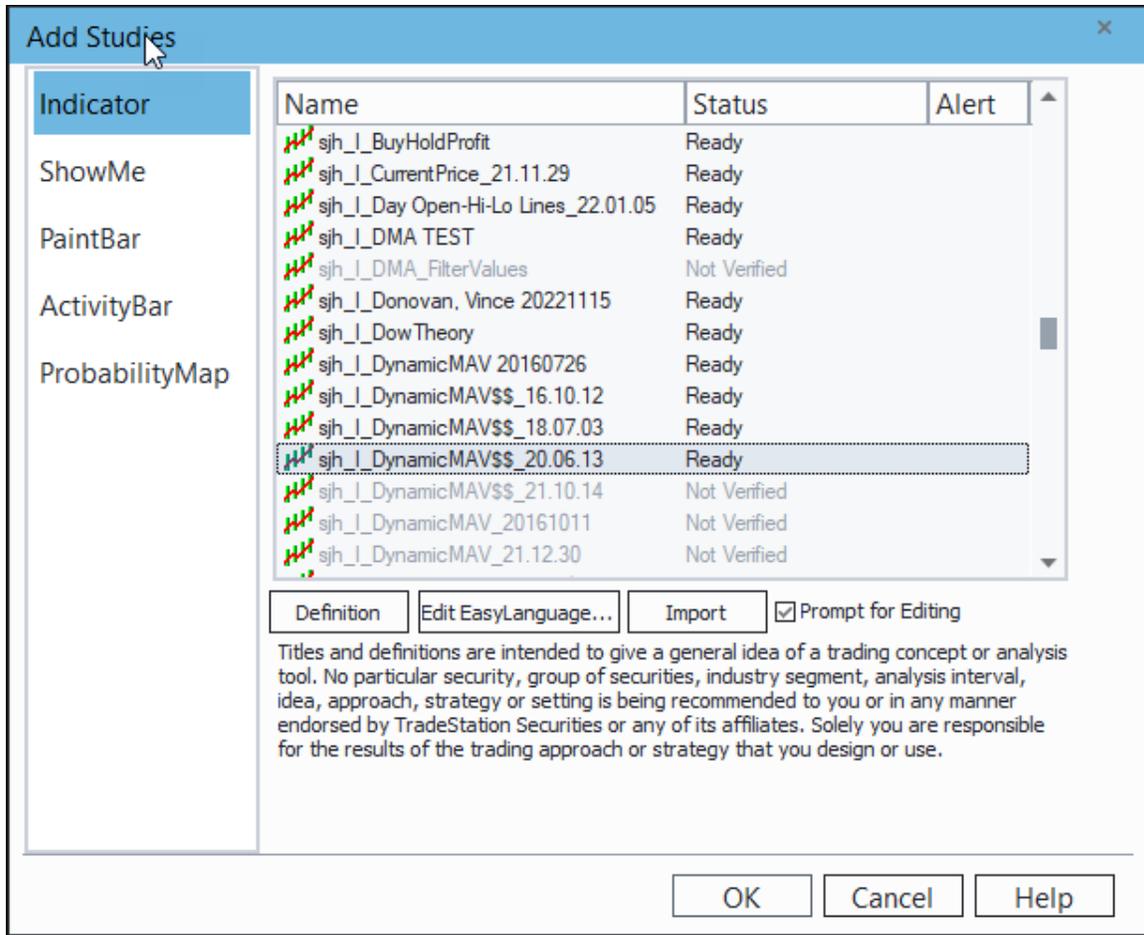
Figure 2.1—Insert → Indicator (TS 10)

Select the DynamicMovingAverage from the list of available indicators.

The name of my (current) DynamicMovingAverage in the list is sjh_I_DynamicMAV$$_20.06.13.

Next you need to set the **Input Values** to the proper values. See Figure 2.3.

The values I use most of the time are shown in Figure 2.3. Set them accordingly the first time. You can venture out from there depending on your choice of symbol and time period.
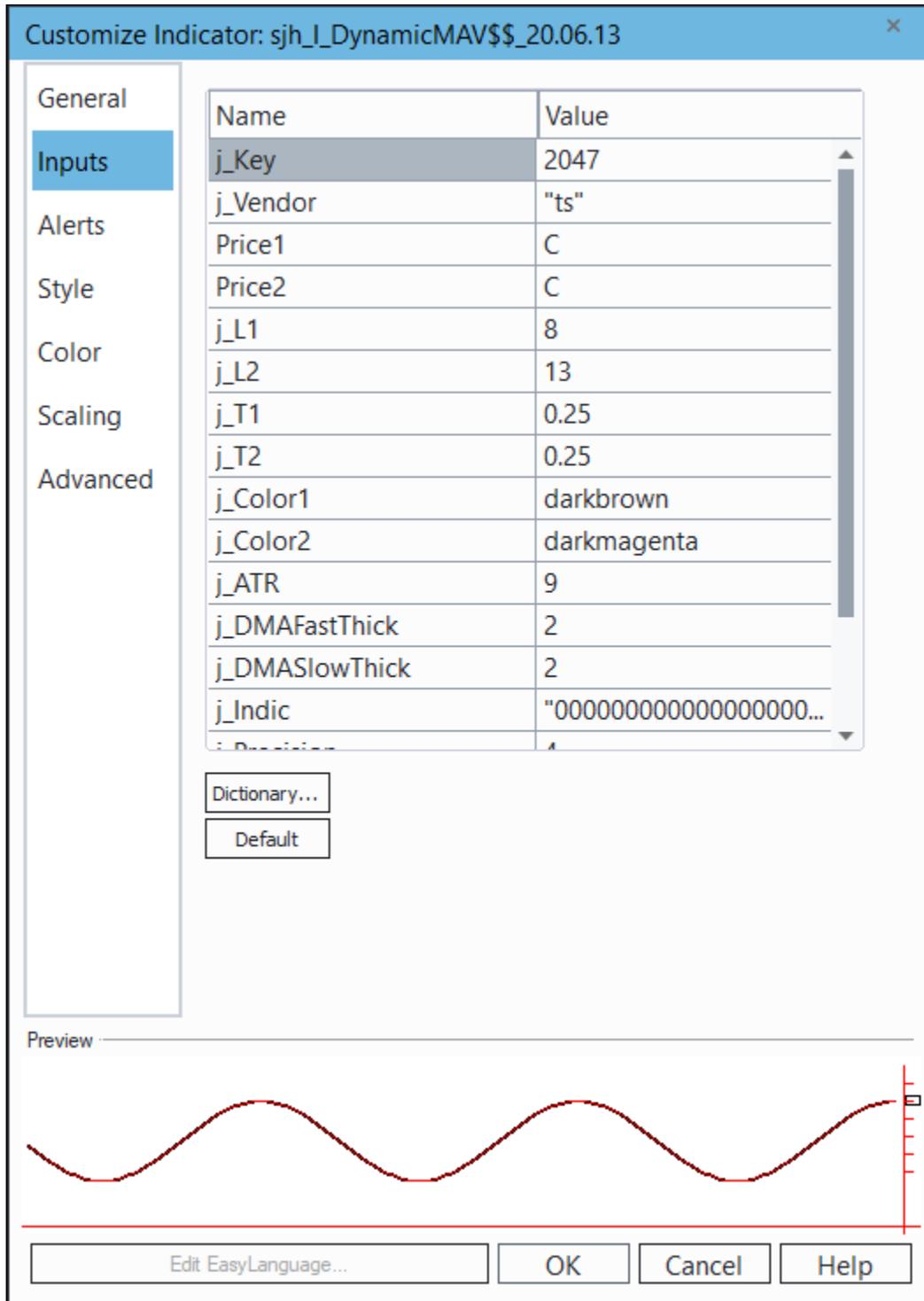
Figure 2.3—DynamicMovingAverage Input Values

On the E-Mini S&P, daily bars, here's what the indicator should look like. (Figure 2.4)

Figure 2.4—DynamicMovingAverage on a chart

Notice the sophistocation of the mathematics in this indicator! It beautifully stays away from most of the choppiness in the market. When the market is in whipsaw mode, generally the indicator refuses to cross back and forth, as most indicators do.

For comparison, let's take a look at TradeStation's built-in Adaptive Moving Average. In Figure 2.5 it is shown with the same 8 and 13 input values as my DMA.

I don't see any great utility in it. Do you?

Figure 2.5—TradeStation's Adaptive Moving Average

Furthermore, if you put my PHW yellow dots on the charts to mark the ideal buys and sells, you'll see that TradeStation's AMA misses most of the ideal turning points. We'll leave PHW dots for a later chapter.

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Figure 2.6—Jurik Adaptive Moving Average in Cyan

Notice in Figure 2.6 that the Jurik moving average follows price very closely. This one results in <u>many more</u> crossovers and whipsaw. The blue and read averages on Figure 2.6 are Exponential MAV and Simple MAV respectively.

Figure 2.7—Kaufman's Adaptive Moving Average

Compare the moving average in Figure 2.7 to my moving average in Figure 2.4. They are not the same. In fact, to see an enlarged area comparing the two moving averages, take a look at Figure 2.8.

Figure 2.8—Kaufman's AMA and my AMA in one picture

Notice that Kaufman's average still has more whipsaw than mine does.

Now on to the Strategy manifestation of this moving average. After examining the Strategy of this format, we will go on to my DMA Histogram and SunnyBands, which are still more forms of my DMA.

How I Trade With This Indicator

My DMA (Dynamic Moving Average) was the mainstay of all my trading for many, many years. I would go long when the gold line crossed on top and go short when the purple line crossed on top. Gold means long and purple means short. This worked very well, and still does, but there are many periods of indecision where symbols are in trading ranges, and these periods usually lose money, even though the DMA far surpasses other moving averages in its smoothness.

That's why I eventually invented my [SunnyBands](#) indicator. With SunnyBands I can trade the channels easily, though still using the DMA for overall direction.

CHAPTER 2a: Dynamic Average for RadarScreen

RadarScreen is a different animal from Charting. A chart is obvious: it's a picture, usually with lines, showing price and indicators. RadarScreen, however, is like a spreadsheet. It is a collection of rows and columns showing numbers instead of lines. It is a matrix, not a picture.

Dynamic Moving Average Indicator for RadarScreen

NAME: sjh_I_DynamicMovingAverage

```
Inputs:
 Int   j_Key        (2047),
 String j_Vendor    ("TS"),
    j_L1     (    8 ),
    j_L2     (   13 ),        //Color of Gold DMA Line
    DnColor  ( DarkMagenta ), //Color of Purple DMA Line
    j_ATR_Len ( 9 ),          // Length for ADX
    j_DMAFastThick  (02),     // Thickness of Fast DMA Lines
    j_DMASlowThick  (02),     // Thickness of Slow DMA Lines
    j_Precision     (04),     // How many decimal places
    j_LRLength      (02),     // Bars to average linear reg angle?
    j_SwitchOff     (00 {1 = TextOn}) ;
  //Switch Text On or Off / 1=On, 0=Off, 2=Print to File, 3=Purple/Gold
  ;
```

Explanation of Inputs:

j_Key   a password value given to you on trial or purchase of the indicator

j_Vendor   "TS" = TradeStation; "MC"=MultiCharts

j_L1   Length for the fast moving average

j_L2   Length for the slow moving average

j_T1   Scaling factor for the fast moving average (Optimize values from 0.1 to 0.4)

j_T2   Scaling factor for the slow moving average (Optimize values from 0.1 to 0.4)

UpColor   Color value for the fast moving average (See Appendix A)

DnColor   Color value for the slow moving average (See Appendix A)

J_ATR_Len   Length for the ADX

j_LRLength   Number of bars to use in calculating LinearRegression Line (Angle)

	Symbol	Interval	Last	Net Chg	Net %...	sjh_R_DMA_23_06_27							
						DMA_fast	DMA_sl...	SDMA	Dir	Bars ...	MidAngle	DifAngle	Diff
1	@ES	1 Min	4,326.00	1.75	0.04%	4,324.13	4,323.87	Bullish	V	0	2.511	(0.510)	0.265
2	@ES	5 Min	4,326.00	1.75	0.04%	4,322.90	4,323.24	Bearish	Λ	0	3.022	1.936	(0.345)
3	@ES	15 Min	4,326.00	1.75	0.04%	4,320.30	4,318.37	Bullish	V	0	2.033	(1.924)	1.926
4	@ES	Daily	4,326.00	1.75	0.04%	4,399.29	4,433.72	Bearish	Λ	0	(84.412)	57.922	(34.429)
5	@ES	Weekly	4,326.00	1.75	0.04%	4,402.41	4,347.33	Bullish	V	0	(72.523)	(78.842)	55.078

Figure 2A.1—RadarScreen showing DynamicMovingAverage_RadarScreen

While my DMA for charting draws lines, the RadarScreen version **writes numbers** in rows and columns and it colors the cells to give you rapid access to all the information.

When the fastDMA is on top, the sjh_DMA1 cell is colored gold (DarkBrown); while the slowDMA is on top, the sjh_DMA2 cell is colored purple (DarkMagenta).

If the DMA Histogram is "Gold on Top" but is now moving downward, the cell is colored Red. If the DMA Histogram is "Purple on Top" but is now moving upward, the cell is colored Green. These are early signals that the market is trying to change direction.

Notice in the figure above that in the first row the sjh_R_DMA cell is colored Red. You can tell at a glance that the 1-minute eMini is about to go Long, but the second row is colored Green showing that the 5 min is bearish but turning down (sas moving up but now moving down).

There is more information in the RadarScreen as well. The Diff column tells the difference between the purple line and the gold line. If the number is positive the cell is colored green; if the number is negative, the cell is colored red. Again, at a glance information.

The Angle column tells you the angle of the Slope line of the last "n" bars, where n is specified with the j_LRLength input parameter. I use this to tell me at a glance whether the DMA is travelling sideways (flat) or is directional. Again, green cells show a positive angle while red cells show a negative angle. Further, if the cell is gold, that means the angle is essentially flat.

I also use this RadarScreen to tell me quickly when all timeframes are pointing in the same direction. In Figure 2A.1 the 5-min, 15-min, 30-min and daily are all in a long configuration, while only the 1-min is saying short. This usually portends a strong move in the direction of the DMA, in this case long.

With all this information, it's pretty easy to tell that with DMA1 on top (gold) and Angle in a green cell, that it's time to take long trades.

CHAPTER 3: DynamicMovingAverage Strategies

The simplest version of the strategy is simply to use the SDMA Indicator crossovers as signals to buy or sell. In this form it is very simple to use. All you need to do is tailor the lengths and scaling factors to produce the results you are looking for. You do this through optimizations. If you need to know how to do optimizations, give me a call.

I have found that the markets change over time. The market does not behave now as it did 10 years ago. To this end, I re-run optimizations on a regular basis to "tune up" the parameters. There is no fixed schedule on which to do this, but I would suggest running optimizations fairly often if you are using short timeframe bars. For instance, if you use weekly bars, you probably should optimize every few months or so, while if you are using 1-minute bars you should optimize as often as weekly.

Hint: you can't make more profit than the ideal for any particular symbol. It is a good idea to use my **PHW Indicator** to learn what the ideal profit is before embarking on optimizing the strategy.

There are several versions of the SDMA strategy with differing inputs. I have created conditions in some of them that allow trades only to happen if price moves beyond the signal bar plus/minus a specified amount and others that only take trades if the angle of movement is beyond a specified value. These versions have name changes and version variations to signify which they are.

Inserting a Strategy on a Chart

Obviously, first you must have a chart, of whatever symbol you are studying, and whatever time compression you wish. I suggest starting with 10 years of historical data on a daily chart.

A Strategy is simply a set of rules to buy and sell, based on underlying indicator(s) or patterns. A Strategy can be based on one or several or many indicators and other conditions.

In the case of my DynamicMovingAverage Strategy (S_DMA), it is built simply on buying the upward crossover of the fast and slow lines, and selling the downward crossover.

Many strategies can be added together to form a more complex strategy. For instance, I immediately recommend adding my ExitStrategies to the DynamicMovingAverage (S_DMA). And, if you want to trade like I do, consider using the DMA and my SunnyBands together. I can teach you that[1].

So, here we go on inserting the first strategy.

---

[1] I'm available 12 hours a day, weekends included. 1-760-908-3070.

Steps to Insert the Strategy
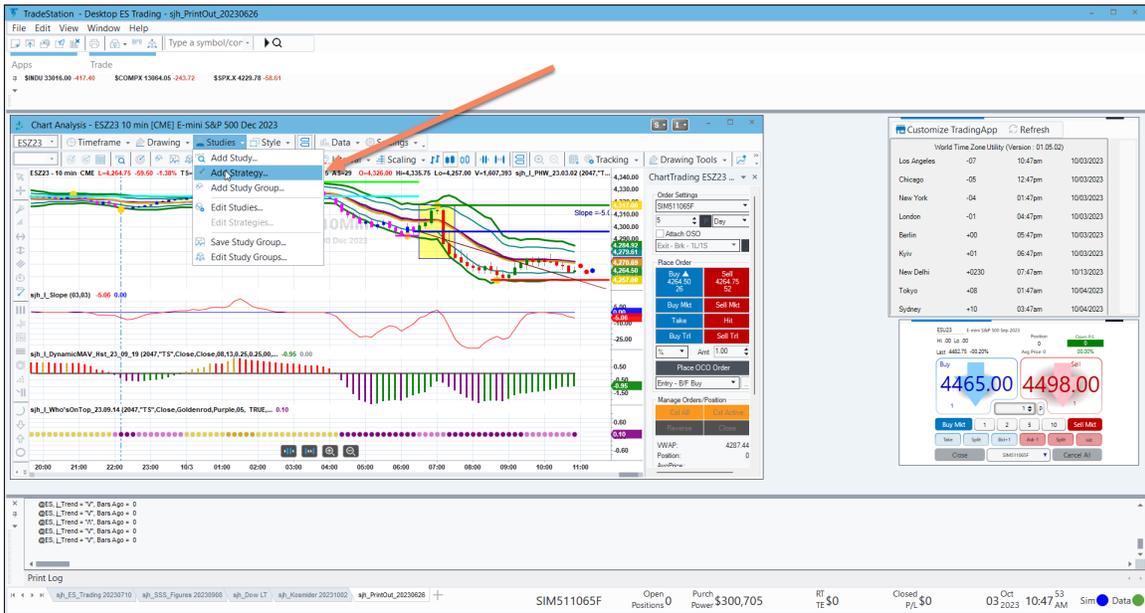
Figure 3.1—Insert → Strategy

1. **Sstudies → Add Strategy → Strategy** (Figure 3.1)
2. Select the strategy (Figure 3.2)
3. Click **OK**
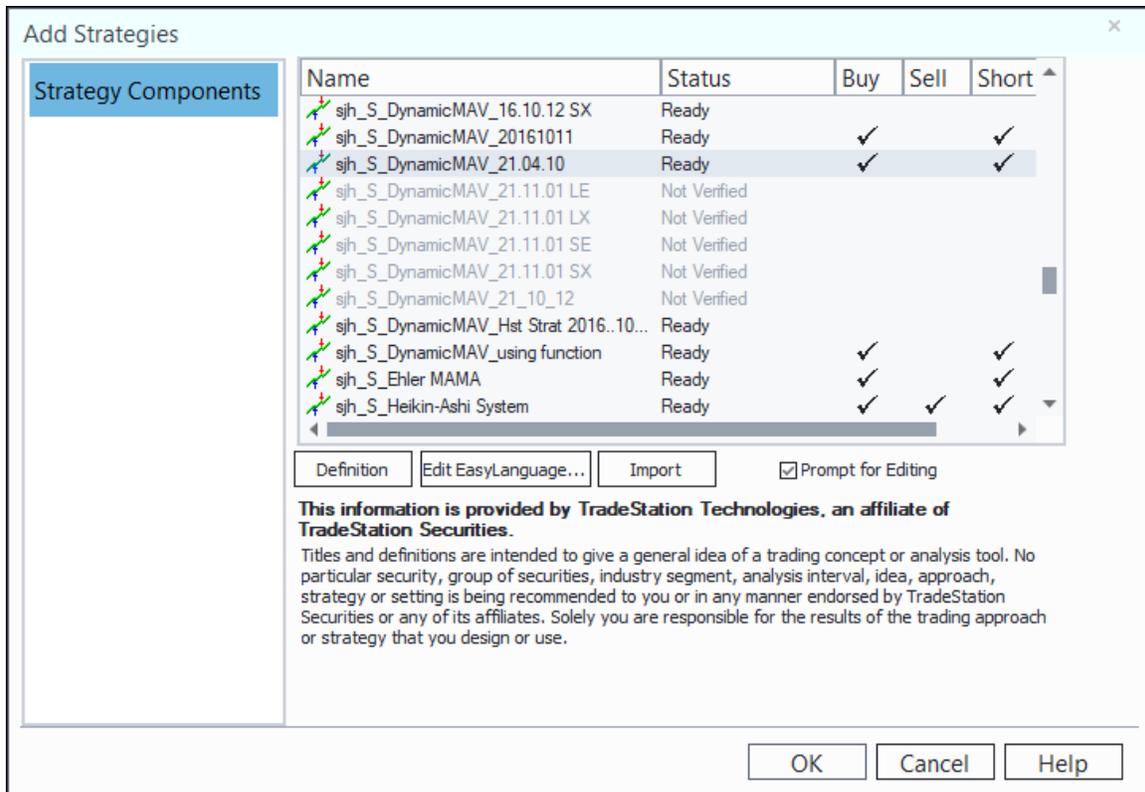
Figure 3.2—Choose the strategy

You must now set up the initial input parameters for the strategy. It makes good sense to set the inputs for the strategy to the same values as you used for the indicator. That way you can see visually where the crossover points are.

Input Values

The values I start with are:

```
Inputs:
 Int    j_Key          (2047),
 Int    j_Product      (39),
 String j_Vendor       ("TS"),
 Double Price1         (Close),
 Double j_L1           (08),
 Double j_L2           (13),
 Double j_T1           (0.25),
 Double j_T2           (0.25),
 Int    j_ATR_Len      (09),
 Int    j_Precision    (04),
 Int    j_LRLength     (05),  //How many bars to avg linear regression
 Int    j_SmoothLength (05),
 Int    j_Print        (00)
 ;
```

and are shown below in Figure 3.3:

Since you can't plot a chart from within a strategy, there are no inputs for color or thickness.
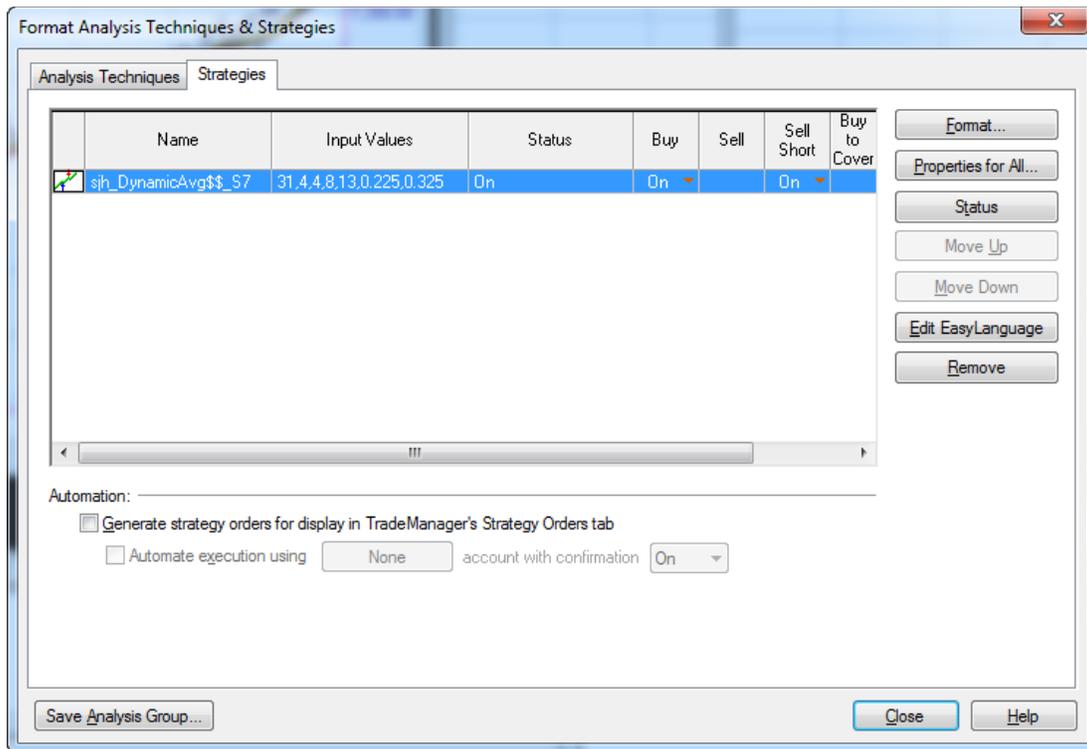
Figure 3.3: Set Input Parameters

Other than that, the inputs have the same meaning as in the indicator back in Chapter 2.

At this point, you will want to optimize 'til your heart's content. Remember to use my theory of how to optimize without over-optimizing, finding alligators and islands for the clustering effects of good optimization. If you didn't attend one of my talks on this subject, the read my article at **www.moneymentor.com** under the **Articles** link. It's currently the second article in the list. It is entitled "The Clustering Effects of Good Optimization." Several years ago, it appeared in one of the international trading magazines. It's about time to publish it again.

On the subject of optimizing this particular strategy, here are some things to consider.

1. It doesn't make any sense to try to optimize the password value. Leave it the value I gave you.
2. Only the values P1 and P2 make any sense for Open, High, Low and Close. Don't try any decimal values.
3. For the lengths of the moving averages (L1 and L2), it doesn't make any sense to use a larger value for the fast moving average than for the slow moving average. Results would be backwards. So, always use smaller values for the fast moving average.
4. For the T-factor values (T1 and T2), always use decimal values between 0 and 1. Find the best fit for your application, but stay in that range. I always use 0.25.
5. When optimizing, remember that the number of tests you will run is equal to the number of tests for each variable, multiplied times each other. So, if you use 8 choices for Length1 and 8 choices for Length2 you will run 64 tests. If you use 8 choices for Length1 and 8 choices for Length2 and 8 choices for T1 and 8 choices for T2 it will be (8 * 8 * 8 * 8) = 4,096 tests. You

can very quickly get up into the millions of tests, which is untenable. If that happens, simply select the **Genetic** option, right under the Exhaustive selection under **Method**.
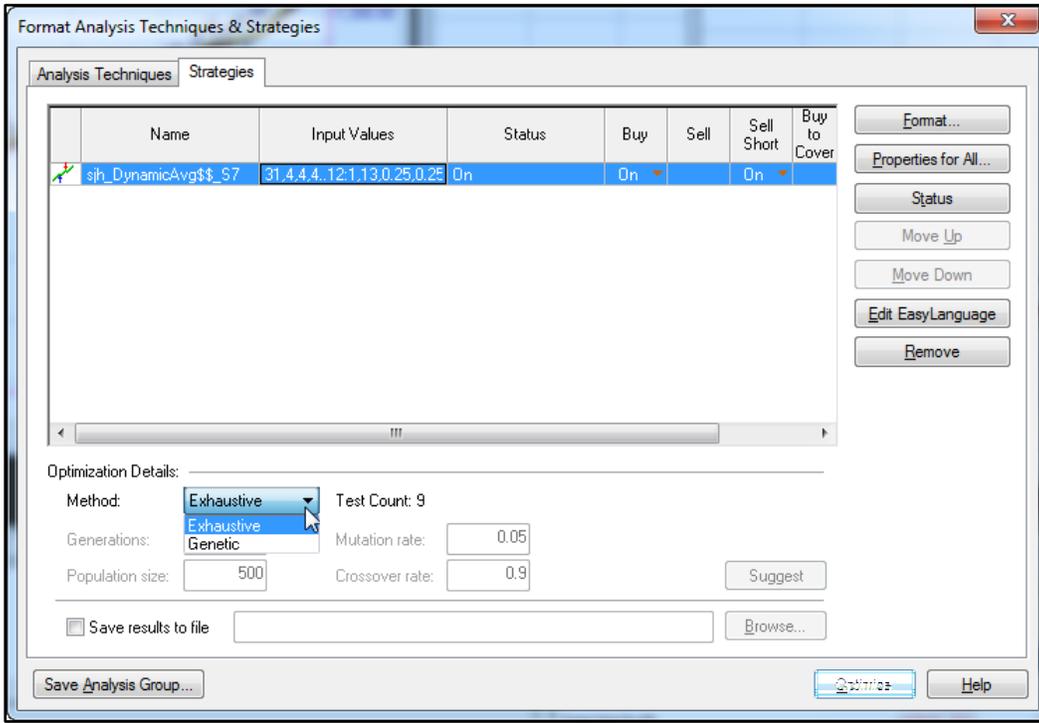
Figure 3.4: Genetic Testing option

After selecting the values to optimize, next click the **Optimize** button. (Figure 3.5) Then the tests will start running. This is where I always say "let 'er rip!"

While they are running, don't edit any of the related functions, indicators or strategies with the optimization running in the background. If you do, it will stop running the tests.
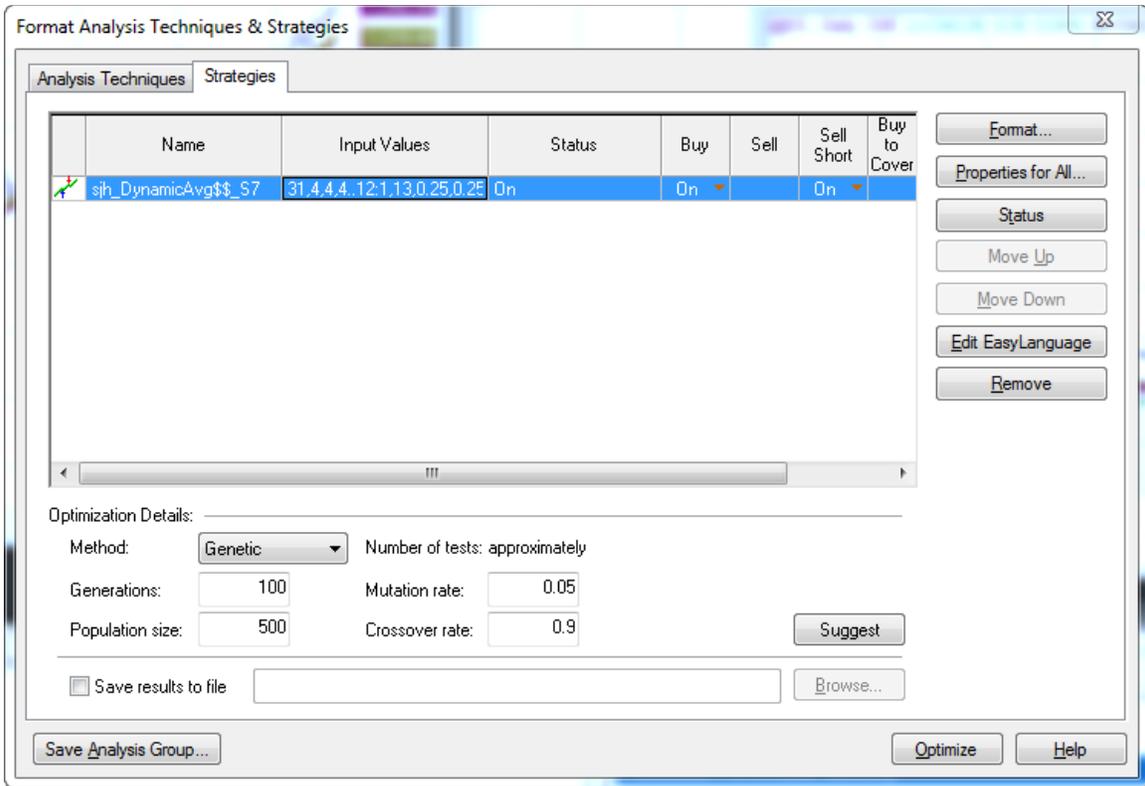
Figure 3.5: Click the Optimize Button

After you click the Optimize button, this is what I call "let 'er rip!" While the tests are running, go do something else. Leave the computer alone to do its work.
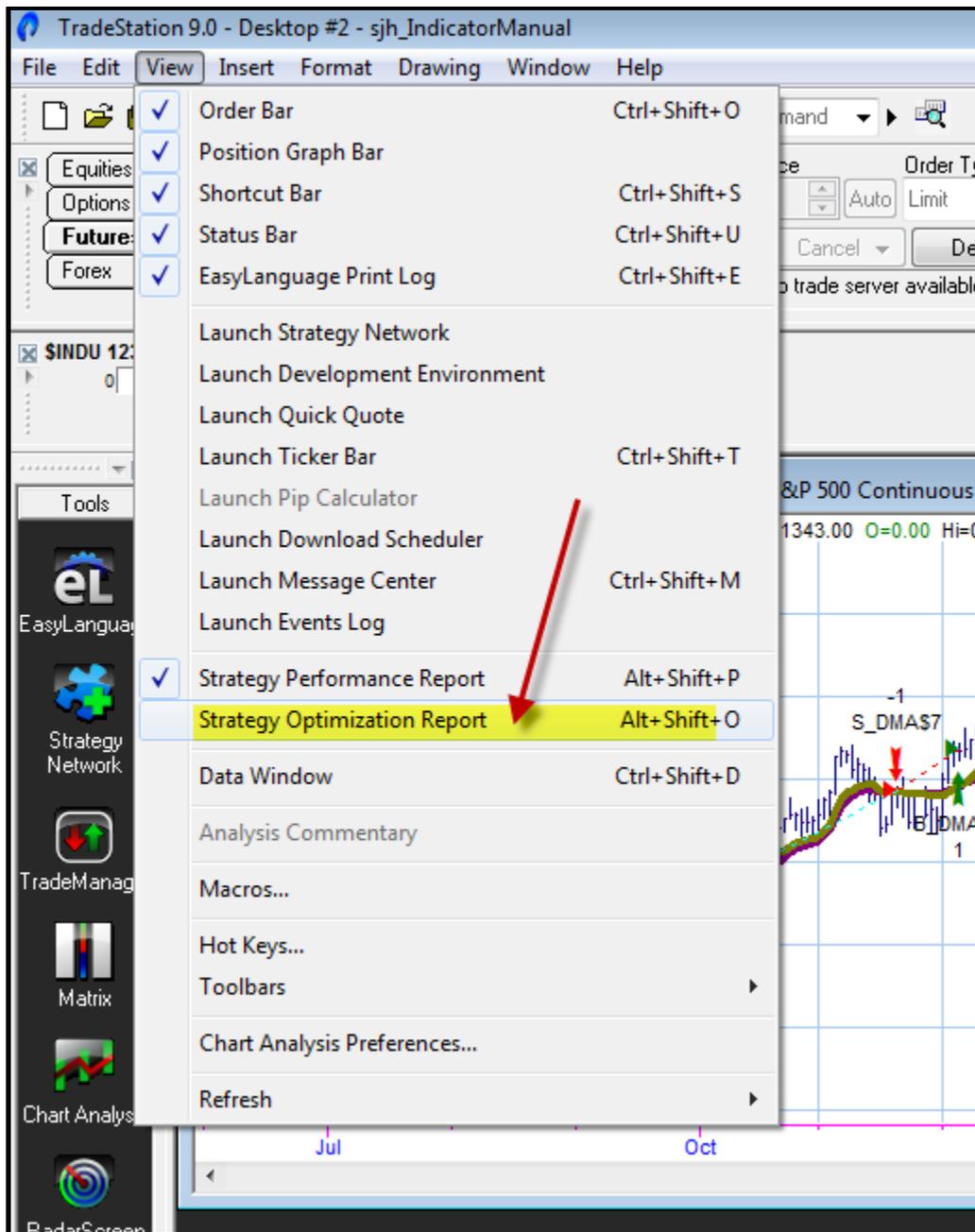
Figure 3.6: View ⬧ Strategy Optimization Report

Also, as soon as the optimization finishes, before you do anything else, go to **View → Strategy Optimization Report**, (Figure 3.6), and save the report. Otherwise, it will disappear and all the time you waited and all the work you did will be gone. It disappears very quickly, so do this step first thing.

To interpret and analyze your results refer to my article "The Clustering Effects of Good Optimization."

The next figure shows the DMA Strategy on a chart, with its associated indicator. Notice that a Strategy shows buys and sells, while an indicator does not. You cannot optimize an indicator; optimization only makes sense on a strategy.
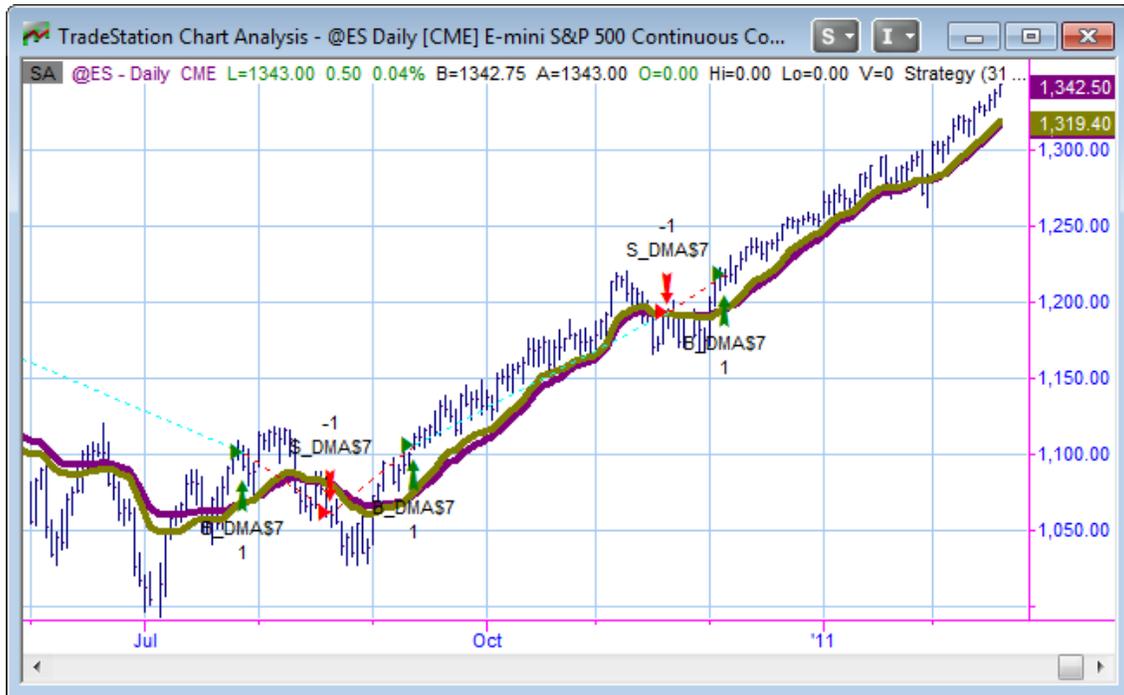
Figure 3.7: DMA Strategy on a Chart of the E-Mini S&P

The next figure shows the **Strategy Performance Report** that is associated with the strategy on Figure 3.7. It is very long, so I've only presented part of it here.

Note that I have not optimized the inputs for this example. I have simply used the same values I have been using with this strategy since 1991. You can work with it and optimize it and come up with your own results.

Figure 3.8: Strategy Performance Report

Latest Version of Dynamic Moving Average Strategy

The latest version of the DMA Strategy has some new components in it. The inputs address setting filters for the DMA, so that the trade is not taken until certain conditions become true.

Here are the inputs for version 11.02, also referred to as DMABufferAngle :

```
INPUTS:
  j_Key(2047),            // your password key
  j_P1(4), {OHLC = 1234}  // 1=open, 2=high, 3=low, 4=close for fast
                          moving average
  j_P2(4), {OHLC = 1234}  // 1=open, 2=high, 3=low, 4=close for fast
                          moving average
  L1(8),                  // length of fast moving average
```

```
L2(13),                        // length of slow moving average
j_T1(0.25),                    // scaling factor for fast mav
j_T2(0.25),              // scaling factor for fast mav
j_Precision(2),       // Number of decimals of precision for
                         calculations
j_AngLen(10),         // Nbr of bars for Angle Line
j_AngleAbove(2),      // Angle must be more than this to take trade
j_BufferAbove(4),     //only trade if crossover is > this buffer above
j_BufferBelow(4)      //only trade if crossover is > this buffer below
;
```

These values are essentially the same as the previously listed inputs with the exception of the last 4 input values. These new input values are to allow you to force the market to move in your direction before you take the trade. This can be very valuable in choppy markets, where you might just want to stay in the same position you were originally in until the market actually starts to trend.

The values j_AngLen and j_AngleAbove are specific to the Angle drawn on the last n number of bars on the chart. The values j_BufferAbove and j_BufferBelow are specific to forcing a buffer around price that must be exceeded before taking the trade.

j_AngLen is the number of bars on which to calculate the angle of the line. j_AngleAbove is the number of the angle which must be exceeded before taking the trade. For instance, if you want to use the last 10 bars to draw a line, and you want it to slope more than 2 degrees before you consider the trade, then you would specify j_AngLen = 10 and j_AngleAbove = 2.

j_BufferAbove is the size of the buffer, in percent, which must be exceeded on an upward move before allowing the move. Correspondingly, j_BufferBelow is the percentage size of the downward move which must be exceeded before allowing the trade.

And in the newest version

In the newest version of the DynamicAverageBufferAngle Strategy I have added one more input. This value, called j_UseOpenOrClose allows you to choose whether the buy or sell order is executed on the Close of This Bar, or on the Open of the Next Bar.

To select Open of Next Bar, set the input value to 0 (zero).

To select Close of This Bar, set the input value to 1.

This was a user request and consequent modification.

And in another newer version

In the latest version (12.05Buffer) I have simplified the inputs and decision making so that it only takes a trade if price goes beyond a multiplier (which you input) times a tick beyond the signal value. So, if the signal to buy ES is given at 1305.00, and you specify the multiplier to be 1, the strategy will wait until price exceeds 1305.00 by one tick before it places the order.

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In this version you would want to optimize the above standard inputs as well as the multiplier value (which should be an integer).

Yet newer still (version 13.02.27)

In this version of the Dynamic Average Histogram I have added an input (j_Data2(0)) that has two possibilities for its value. If you use 0 (zero) that means there is no second data symbol on the chart; if it is 1 (one) that signifies that there is a second symbol or second timeframe on the chart. For instance, I use a 1-minute chart overlaid with a 5-minute chart.

I like to see things at a glance, so I wanted to quickly visualize how the Histogram of the 1-minute chart compares to the Histogram of the 5-minute chart. Are they in agreement, or are they in divergence? So, now if the input value is 1, that tells me that both symbols are on the chart and to plot two histograms.

You can have them on two subgraphs or overlaid on one subgraph just by clicking and dragging the indicator.

Plotted below in Figure 3.9 is a chart of the two ES symbols with the Histograms in two subgraphs.

Figure 3.9: Double Histogram in Two Subgraphs

Notice that for the top subgraph I have used magenta and darkcyan for the indicator's colors, while on the bottom subgraph I am using red and darkgreen. That way, when I overlay them (in the next figure) I can quickly tell them apart. So, now let's look at a chart where they are overlaid. See Figure 3.10 below.

Figure 3.10 Double Histogram in One Subgraph

This is a handy new embellishment for me. It shows me when both the 1-minute and 5-minute (or any timeframes of your choosing) are in agreement.

Keep in mind that selecting 0 (zero) for this input tells me that there is no second datastream and turns off the feature.

CHAPTER 4: Dynamic Moving Average Histogram

Once upon a time, a student of mine asked me to make my DynamicMovingAverage easier to read. He said that he couldn't see the crossovers. So, I programmed the histogram version of the indicator so that he could readily see where the DMA crossed over zero line. To make it even more obvious, I turned the portion of the line that was greater than zero to **green**, and the portion below zero to **red**. That way, he could easily read the crossovers.

That's how the DMAHistogram indicator was born.

It turns out that the Histogram is actually more useful that just reading crossovers. If you will look closely at the indicator in Figure 4.1 and ask yourself my favorite question ("What is true?"), you will find that there are other things to read in this indicator.

Figure 4.1: DMAHistogram Indicator

In this figure (4.1) I have left the DynamicMovingAverage on the chart so you can compare it to the Histogram version. It is much simpler to read red and green.

Additionally, I provided inputs with which you can add any of the available averages to the DMAHistogram. There are times you might wish to adjust your trading to not only the crossovers of the DMA, but to the DMAHistogram's crossover of its own moving average. So, by adjusting the values of the j_WhichAverage input from 1 to 6, you can choose different moving averages as follows:

```
j_Which =
      1        Harmonic Mean
      2        Simple Moving Average
      3        Exponential Moving Average
      4        Weighted Moving Average
      5        Sunny's Dynamic Moving Average
      6        sjh_Solar09 Proprietary Average
      7        MACD
```

The j_Avg value has two purposes. If you set it to 0, then the average is not plotted. If you set it to any other positive number, that number is used as the length of the moving average.

Figure 4.2: Moving Average of the DMAHistogram turned on

Figure 4.3 DMAHistogram on MultiCharts

If this isn't enough, you can add a horizontal line at the zero value, so you can't possibly miss the crossover. It looks like Figure 4.3 with the zero horizontal line.
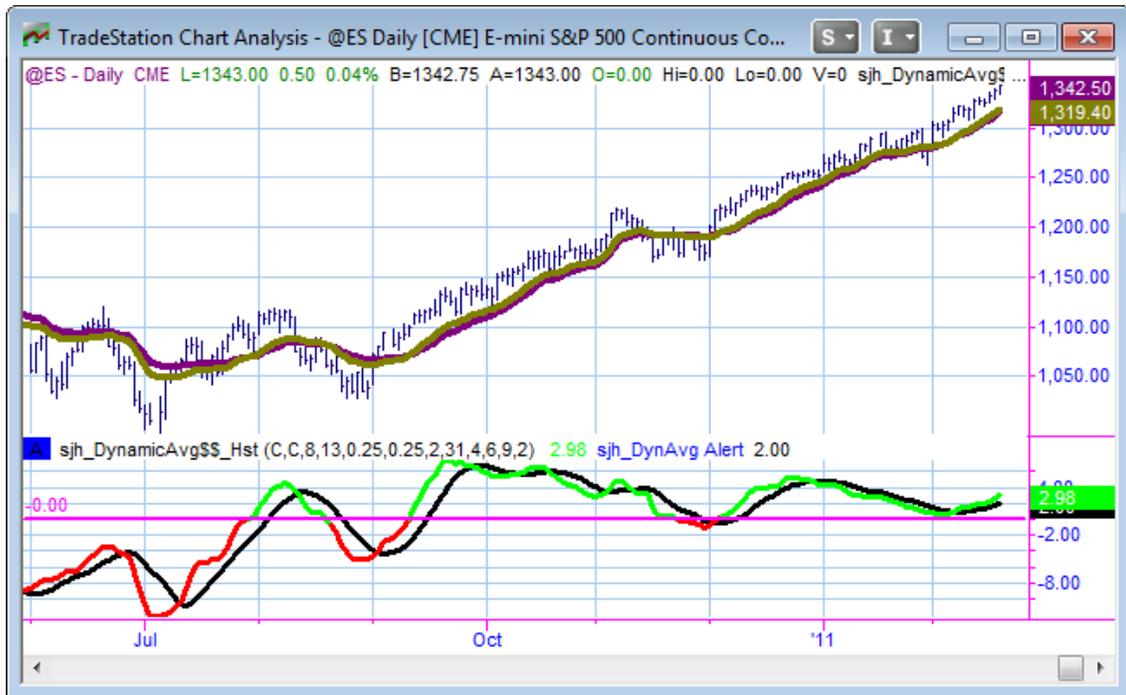
Figure 4.4: DMA Histogram with Zero Line

Now, you might notice some more true things about the DMAHistogram. To make it a lot easier, I have put a vertical dotted line marker at every significant high and low turning point. Notice how well the turning points of the market match most of the turns in the histogram.
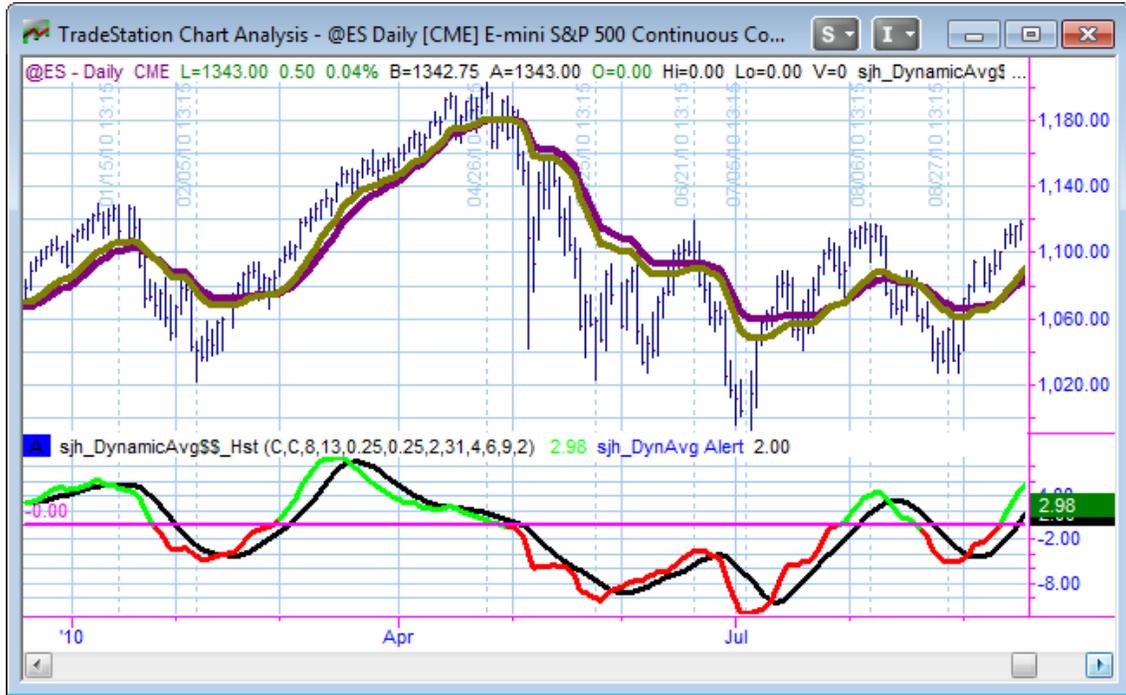
Figure 4.5: DMA Histogram with turning points marked by Vertical Lines

Example Uses:

1. You can use this indicator to show divergence.
2. You can use this indicator to show crossovers of the zero line, when the red line turns to green and vice versa.
3. You can use this indicator to show early crossovers, as when the yellow line is on top of the colored line showing a bearish situation and when the yellow line is on the bottom of the colored line showing a bullish situation.
4. You can tell weak moves from strong moves using the value of the moving average, with high values showing strong moves.

Yet newer still (version 13.02.27)

In this version of the Dynamic Average Histogram I have added an input (j_Data2(0)) that has two possibilities for its value. If you use 0 (zero) that means there is no second data symbol on the chart; if it is 1 (one) that signifies that there is a second symbol or second timeframe on the chart. For instance, I use a 1-minute chart overlaid with a 5-minute chart.

I like to see things at a glance, so I wanted to quickly visualize how the Histogram of the 1-minute chart compares to the Histogram of the 5-minute chart. Are they in agreement, or are they in divergence? So, now if the input value is 1, that tells me that both symbols are on the chart and to plot two histograms.

You can have them on two subgraphs or overlaid on one subgraph just by clicking and dragging the indicator.

Plotted below in Figure 4.6 is a chart of the two ES symbols with the Histograms in two subgraphs.
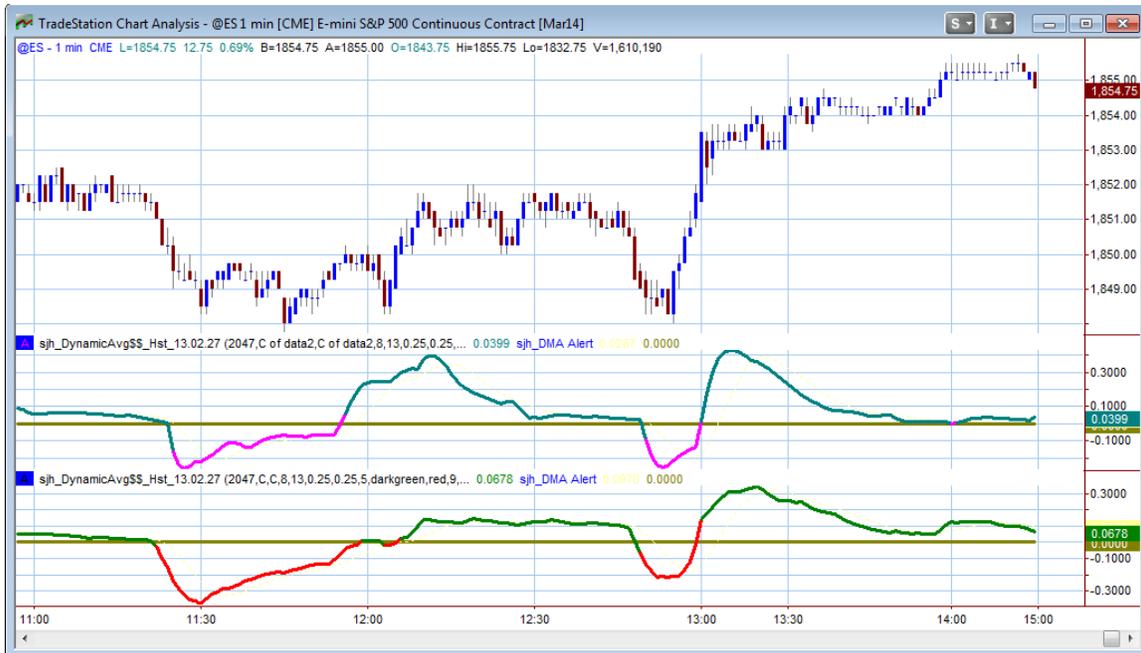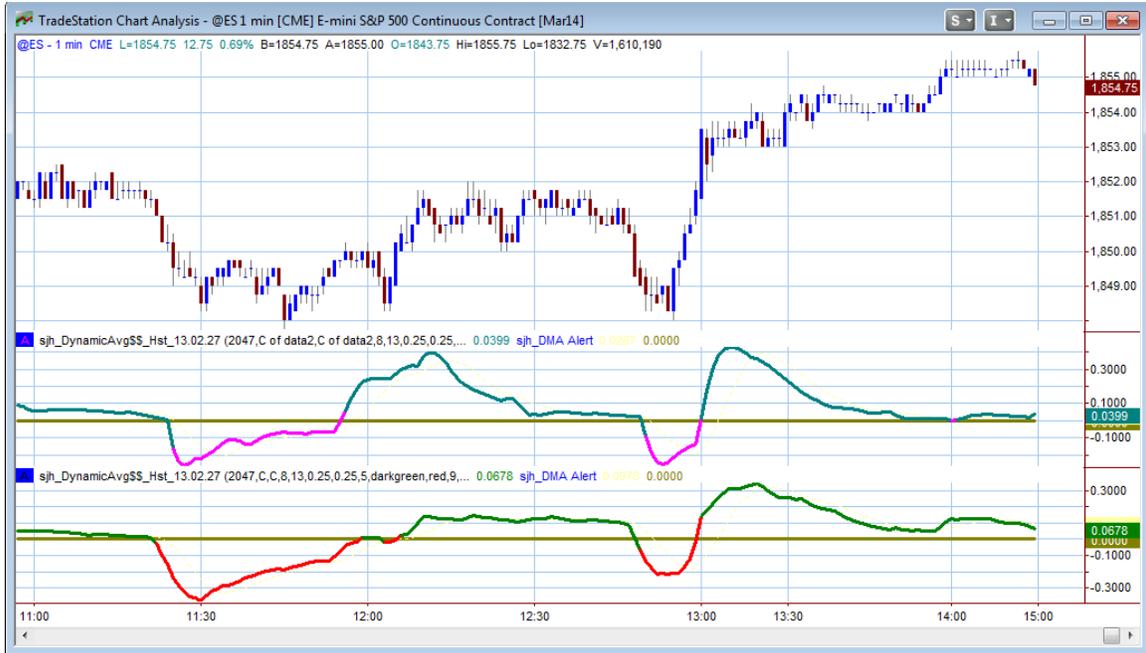
Figure 4.6: Double Histogram in Two Subgraphs

Notice that for the top subgraph I have used magenta and darkcyan for the indicator's colors, while on the bottom subgraph I am using red and darkgreen. That way, when I overlay them (in the next figure) I can quickly tell them apart. So, now let's look at a chart where they are overlaid. See Figure 4.7 below.

Figure 4.7 Double Histogram in One Subgraph

This is a handy new embellishment for me. It shows me when both the 1-minute and 5-minute (or any timeframes of your choosing) are in agreement.

Keep in mind that selecting 0 (zero) for this input tells me that there is no second datastream and turns off the feature.

CHAPTER 4A: Dynamic Moving Average for RadarScreen

Another client asked me to make the output of the histogram available in RadarScreen, which would permit sorting and ordering stocks to find the best trading opportunities. What a great idea! So, here's what the indicator looks like on RadarScreen.

Symbol	Interval	Description	Last	Net Chg	Volume Today	sih DMA...	sih DMA ...	SDMA	Dir	MidAngle	DifAngle
ANET	Daily	Arista Networks	314.07	-1.48	176,472	298.50	296.33	Bullish	//	59.55	20.23
ARE	Daily	Alexandria R.E.	168.26	-0.14	372,774	166.75	166.39	Bullish	/\	1.07	-1.08
Watch List											
ETHUSD	Daily	Ethereum / US [	2,122.25	50.70	84,356	1,920.78	1,890.49	Bullish	/\	85.62	-31.67
NFLX	Daily	Netflix Inc	556.38	1.07	2,102,689	534.18	531.32	Bullish	//	65.54	44.13
TRV	Daily	The Travelers Co	151.82	0.17	437,981	151.06	150.81	Bullish	//	0.12	0.03
Dow Jones Industrial Average											
$INDU	Daily	Dow Jones Indu:	33,690.89	-109.71	595,897	32,996.98	32,871.95	Bullish	//	89.52	85.16
AAPL	Daily	Apple Inc	131.53	-1.47	60,254,975	126.20	125.79	Bullish	//	43.81	25.08

Figure 4A.1—RadarScreen DMA_H indicator

This one bears some explanation. You are already accustomed to looking at the Gold and Purple lines of the DMA, which are displayed numerically in the first two columns of the "sjh_R_DMA_21.04.03" indicator above. The next two columns of this indicator

xxxxxxxxxxxxxxxxxxxxxxxxxxxxx

CHAPTER 5A: DynamicMovingAverage Function

This function is able to be used to create your own indicators and strategies based on the math in my DynamicMovingAverage.

These are the inputs:

- j_Key(2047),   // your password
- j_Vendor("TS"),   // TS means TradeStation; MC means MultiCharts
- j_Price1(C),   // C is for close, but you can use ANY input
- j_Price2(C),   // C is for close, but you can use ANY input
- j_L1(8),   // Length of first DMA average (seed value)
- j_L2(13),   // Length of second DMA average (seed value)
- j_T1(0.25),   // Smoothing factor for first line (I just leave it at 0.25)
- j_T2(.25),   // Smoothing factor for second line (I just leave it at 0.25)
- j_SmoothLength(9),   // Over how many bars to smooth the indicator
- j_Indic(" "),   // Reserved for later use
- j_Precision(4)   // How many decimals of precision to round to

CHAPTER 5: SunnyBands Indicator

The SunnyBands Indicator is another off shoot of my **DynamicMovingAverage (DMA)** indicator. This one was designed to allow me to investigate the **Excursions from the DMA**, both favorable and adverse. The "bands" are Average True Ranges away from the DMA.

I found by research, testing, and lots of looking at charts, that the best settings for the SunnyBands bands, is 1.2 ATRs and 2.0 ATRs. You can change the values to anything you find works for you, through the inputs.

These bands are NOT like Bollinger Bands. In Bollinger Bands, John uses **Standard Deviations** away from a **moving average**. Standard Deviations tell the market where is "should" go; **ATRs** (which I use) ask the market where it has been and **is going**. And the moving average is the <u>one with the most whipsaw</u>. **My DMA is smooth and dances seamlessly with the market**.

With my indicator, **two things are unique**. Primarily, the **DMA is unlike** anyone else's moving average. My DMA calculates its own lengths dynamically within the program. Then, on top of that, the market moves about as much as it usually moves, which led me to use **Average True Range** to measure how much it usually moves.

NOTES:

1. As of 10/22/2021 I have added features to allow for Commentary and WalkForward features in SunnyBands. These features allow you to see the information for any bar you click on with Commentary turned on.
2. As of 7/6/2011 I added code to print some very important values (to my personal trading) on the right-hand edge of the chart. These new features are shown below in the section called **Addendum**.
3. As of 7/15/2011 I added the ability to choose colors for the Bands themselves. I found that I like to overlay 1-minute bands and 5-minute bands and needed to be able to differentiate them. So, I've added 2 inputs: j_TopColor and j_BotColor. See Figure 5.1.

Figure 5.1—SunnyBands without Commentary turned on

Figure 5.2—SunnyBands with Commentary turned on

Notice in the Commentary window to the right of the chart that the text changes color depending on circumstances. For instance, the word Close is darkgreen if the current price is up from the previous price and red if it is down.

The UIB (Upper Inner Band) is the teal color of the chart band, and likewise for the outer bands which are darkgreen.

The MidAngle turns color like Close: it's red if the angle is down and darkgreen if the angle is up.

The DMAGold line is gold and the DMAPurple is purple.

I love to make things visually pleasing and informative, and this is my latest effort.

In the Figures above, I have set the number of Average True Ranges for the inner bands equal to 1.2. and the ATRs for the OuterBands to 2.0. That means, roughly, that a point is plotted one point two (1.2) times the true range of the average last n number of bars away from the DMA and 2.0 times the range for the Outer Bands.

Basically, if the range of the last n (let's say 9) bars was 5 points, then the band would be plotted 6 points above and 6 points (1.2 * 5 = 6) below the value of the DynamicMovingAverage for the inner bands.

More specifically, with varying inputs you can plot a different amount of ATRs above the fast-moving average than the amount of ATRs below the slow-moving average. This makes sense because the market usually moves downward faster and farther than it moves upward. That's why I have allowed for different values for the upper and lower bands.

Putting the SunnyBands on a Chart

As before, to place this indicator on your chart, simply go to **Insert → Indicator** and locate the indicator named **sjh_I_SunnyBands**. Click **OK**. Then go to **Format → Analysis Techniques** and set the inputs values as shown in Figure 5.3. From time to time, I make alterations to my indicators, enhancing them and improving them. If these numbers don't exactly match your indicator, then it maybe you have a newer and improved version.
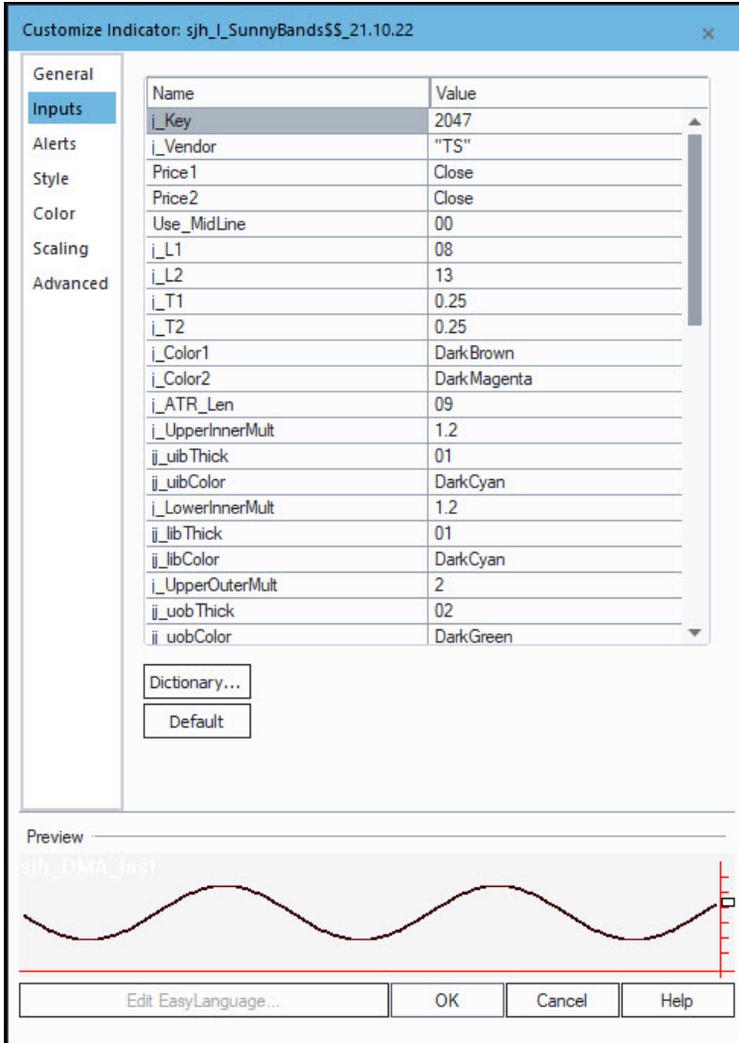
Figure 5.3—Inputs to SunnyBands

Figure 5.1 shows SunnyBands on a TradeStation window. Also, Figure 5.4a shows SunnyBands, but with a black background.

Figure 5.4—SunnyBands on a Black Background

The next figure (Figure 5.5) shows two SunnyBands charts overlaid on one chart. This chart shows 1-minute bars and 5-minute bars (hidden) so you can see the interplay of the two. Notice that the 5-minute Bands are colored DarkCyan, and that the 5-minute DMA is Magenta and DarkGreen. Notice how the inner SunnyBands follow the outer SunnyBands in much the same way that price follows the single SunnyBands. Again, we watch for values hitting the upper bands and then moving to the opposite bands.

Figure 5.4—Overlaid SunnyBands (1-min and 5-min)

Figure 5.4a—SunnyBands in MultiCharts
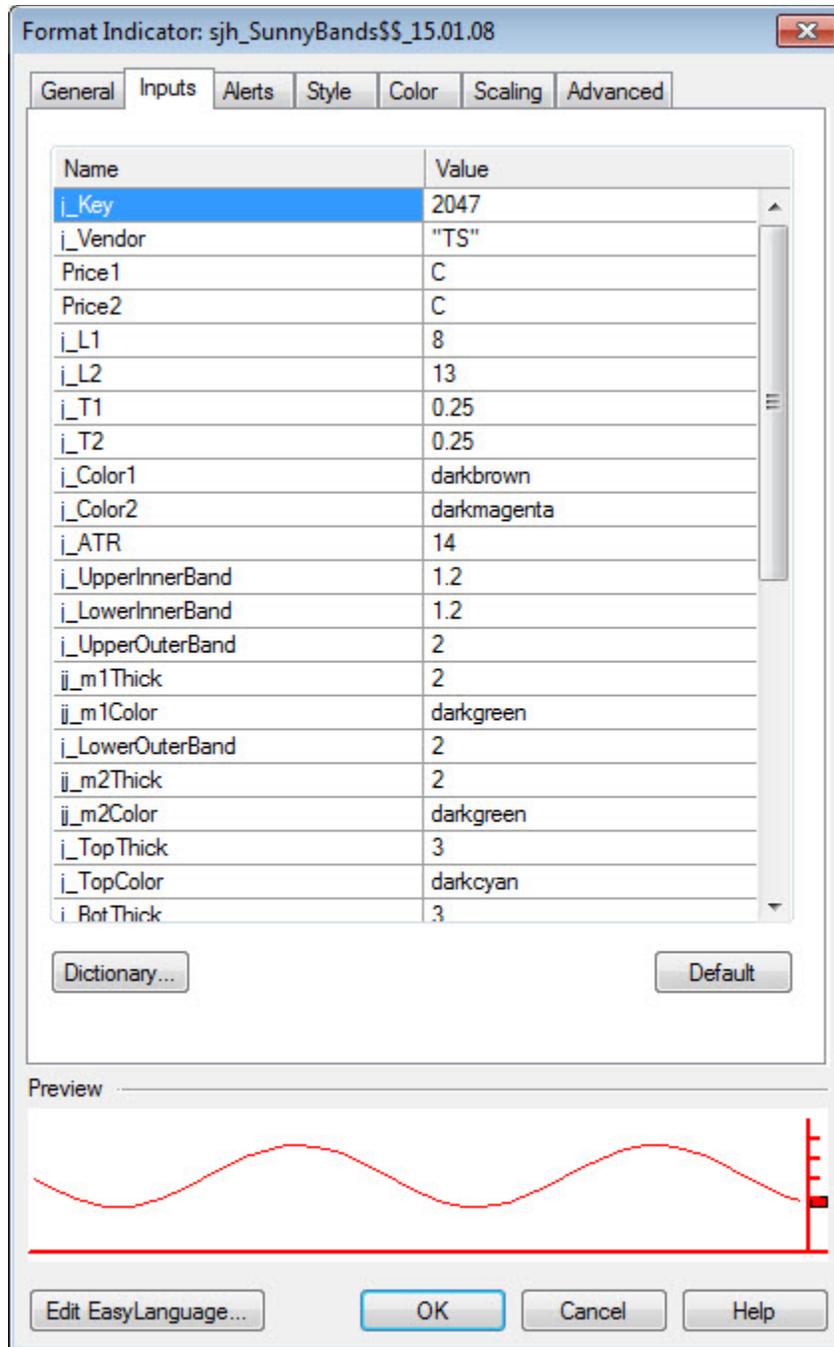
Figure 5.5 Format SunnyBands

This indicator essentially has the same inputs as the DynamicMovingAverage, although it does have a few extras. Next, I'll show you the inputs.

Input Values for the SunnyBands (version 7)

```
INPUTS:
j_Key(1348),            //Password Key
Price1(C),              //Price for Fast DMA (O, H, L, C)
Price2(C),              //Price for Slow DMA (O, H, L, C)
j_L1(8),                //Length of Fast DMA
j_L2(13),               //Length of Slow DMA
j_T1(0.25),             //Smoothing Factor for Slow DMA line
j_T2(0.25),             //Smoothing Factor for Slow DMA line
j_Color1(14),           //Color of Fast DMA
j_Color2(12),           //Color of Slow DMA
j_ATR(14),              //Length of Average True Range
j_m1(1.5),              //Number of ATRs above
j_m2(1.5),              //Number of ATRs below
j_TopThick(3),          //Thickness of Upper Band Line
j_TopColor(DarkGray),   //Color of Upper Band
j_BotThick(3),          //Thickness of Lower Band Line
j_BotColor(DarkGray),   //Color of Lower Band
j_DMAFastThick(2),      //Thickness of Fast DMA Line
j_DMASlowThick(2),      //Thickness of Slow DMA Line
j_Indic("")             //Password for SunnyBands Future use
```

Indicators can't be optimized, but for finding the best fits with this indicator you should experiment with different values for j_L1 and j_L2 as well as j_T1 and j_T2. The other important values for experimenting are j_ATR (try values from 5 to 15), and j_m1 and j_m2. Just look for the best visual fit.

Input Values for the SunnyBands (version 11)

```
INPUTS:
j_Key(2047),            //user's password key
j_Vendor("TS"),         //"TS"=TradeStation; "MC"=MultiCharts
Price1(C),              //Open, High, Low or Close
Price2(C),              //Open, High, Low or Close
j_L1(8),                //Length of Fast DMA
j_L2(13),               //Length of Slow DMA
j_T1(0.25),             //Smoothing Factor for Fast DMA line
j_T2(0.25),             //Smoothing Factor for Slow DMA line
j_Color1(14),           //Color of Fast DMA
j_Color2(12),           //Color of Slow DMA
j_ATR(14),              //Length of Average True Range
j_UpperBand1(1.2),      //Number of ATRs above for first band
j_LowerBand1(1.2),      //Number of ATRs below for first band
j_UpperBand2(2),        //Number of ATRs above for second band
jj_m1Thick(2),          //Thickness of 2nd Band upper
j_LowerBand2(2),        //Number of ATRs below for second band
jj_m2Thick(2),          //Thickness of 2nd Band lower
j_TopThick(3),          //Thickness of Upper Band Line
j_TopColor(black),      //Color of Upper Band
j_BotThick(3),          //Thickness of Lower      Band Line
j_BotColor(black),      //Color of Bottom Bnad
j_DMAFastThick(2),      //Thickness of Fast DMA Lines
j_DMASlowThick(2),      //Thickness of Slow DMA Lines
j_Indic(""),            //Password of Future Use
j_Precision(2),         //How many decimal places to use in calculations,
```

```
j_LRLength(5),          //How many bars to average linear regression angle?
j_SwitchForexCommission(false),
                        //reserved for future use
o_jKey(0),              //Output variable
j_SwitchOff(1 {1=TextOn}),
                        //Switch Text On or Off
j_DisplaceText(1)       //Integer Value to Increase or Decrease Time
                        Forward/Back to place texts
;
```

Inputs for Version 5r.01.08 of SunnyBands

```
INPUTS:
j_Key(2047),            //user's password key
j_Vendor("TS"),         //"TS"=TradeStation; "MC"=MultiCharts
Price1(C),              //Open, High, Low or Close
Price2(C),              //Open, High, Low or Close
j_L1(8),                //Length of Fast DMA
j_L2(13),               //Length of Slow DMA
j_T1(0.25),             //Smoothing Factor for Fast DMA line
j_T2(0.25),             //Smoothing Factor for Slow DMA line
j_Color1(14),           //Color of Fast DMA
j_Color2(12),           //Color of Slow DMA
j_ATR(14),              //Length of Average True Range
j_UpperInnerBand(1.2),  //Number of ATRs above for first band
j_LowerInnerBand(1.2),  //Number of ATRs below for first band
j_UpperOuterBand(2),    //Number of ATRs above for second band
jj_m1Thick(2),          //Thickness of 2nd Band upper
jj_m1Color(green),      //Color of Upper Outer Band
j_LowerOuterBand(2),    //Number of ATRs below for second band
jj_m2Thick(2),          //Thickness of 2nd Band lower
jj_m2Color(green),      //Color of Lower Outer Band
j_TopThick(3),          //Thickness of Upper Band Line
j_TopColor(cyan),       //Color of Upper Band
j_BotThick(3),          //Thickness of Lower   Band Line
j_BotColor(cyan),       //Color of Bottom Band
j_DMAFastThick(2),      //Thickness of Fast DMA Lines
j_DMASlowThick(2),      //Thickness of Slow DMA Lines
j_Indic("0000"),        //Password of Future Use
j_Precision(2),         //How many decimal places to use in
                          calculations,
j_LRLength(5),          //How many bars to average linear regression angle
j_SwitchForexCommission(false),
                        //reserved for future use
o_jKey(0),              //Output variable
j_SwitchOff(1 {1=TextOn}),
                        //Switch Text On or Off
j_DisplaceText(1)       //Integer Value to Increase or Decrease Time
                        Forward/Back to place texts
j_TurnOnCurrentPrice(0), //Shows the value of the current price and its
                          level if 1, otherwise do not show
j_BarsDisplace(1),      //How many bars to the right to displace text if
                          number is positive, to the left if negative
j_Printing(0),          //Print diagnostics in the EasyLanguage Output
                          Bar if 1, otherwise no printing
j_TextColor(black)      //Color to make the "Diff" text (should be
                          opposite of the background color; you can't
                          see black text on a black background)
;
```

Inputs for Version 22.11.09 of SunnyBands

```
Inputs:
 Int    j_Key                  (2047),
 String j_Vendor               ("TS"),
 Double Price1                 (Close),
 Double Price2                 (Close),
 Int    Use_MidLine            (01),            // New MidLine filter
 Double j_L1                   (08),
 Double j_L2                   (13),
 Double j_T1                   (0.25),
 Double j_T2                   (0.25),
 Int    j_Color1               (DarkBrown),     //Color of Gold DMA Line
 Int    j_Color2               (DarkMagenta),   //Color of Purple DMA
Line
 Int    j_ATR_Len              (09),
 Double j_UpperInnerBandMult   (1.2),
 Int    jj_uibThick            (01),
 Int    jj_uibColor            (DarkCyan),
 Double j_LowerInnerBandMult   (1.2),
 Int    jj_libThick            (01),
 Int    jj_libColor            (DarkCyan),
 Double j_UpperOuterBandMult   (2.0),
 Int    jj_uobThick            (02),
 Int    jj_uobColor            (DarkGreen),
 Double j_LowerOuterbandMult   (2.0),
 Int    jj_lobThick            (02),
 Int    jj_lobColor            (DarkGreen),
 Int    j_DMAFastThick         (02),            //Thickness of Fast DMA
Lines
 Int    j_DMASlowThick         (02),            //Thickness of Slow DMA
Lines
 Int    j_Precision            (04),            //How many decimal
places to use in calculations,
 Int    j_SmoothLength         (03),            //Length for Smoothing
Function
 Int    j_LRLength             (03),            //How many bars to
average linear regression angle?
 Bool   j_SwitchForexCommission (FALSE),
 //Switch on the Forex Commission Band?
 Int    j_SwitchOff            (00 {01=TextOn 02=File 03=DMA}),
 //Switch Text On or Off
 // 1=On, 0=Off, 2=Print to File (text at end of chart), 3=Leave
Purple/Gold only
 Int    j_TurnOnCurrentPrice   (00),            //1=On, 0=Off
 Int    j_BarsDisplace         (02),
 //Number of Bars to Displace CurrentPrice Text
 Int    j_Printing             (00),            //1=on, 0=off, 2=file
(Printing values in Print Log)
 Int    j_TextColor            (Black),         //write misc text in
this color

 Bool   InputDefsInCmtry       (FALSE),
 String Error_Sound            ("C:\OME_Files\mySounds\ahooga.wav"),
 // Need a fully qualifed path, filename and extension.
 String Error_Note
 ("If you hear this sound then CHECK THE PRINT LOG")
 ;
```

```
Inputs:
 Bool   doReport          (FALSE),
 String File_Path         ("C:\OME_Files\"),
 String File_Name         ("SS_Stats"),
 String File_Ext          (".csv")
 ;
```

Analyzing the SunnyBands

Notice, back in Figure 5.1, that price rarely moves outside of the SunnyBands, either top or bottom. We can also pretty much say that price will follow the band line, in the extreme, until it "changes its mind" and decides to go in the other direction. A reversal generally comes when price moves away from the band and crosses back over the SunnyBand. In the case of a short signal, the green/blue bars become red and fall back within the upper band (UOB). In the case of a long signal, the red bars become green and sneak back up within the lower bands (LOB).

I have many students who swear by this indicator. Here are a few examples:

"Nice Bands! This morning I did a couple of quick MES buys and sells. Then I bought into an upward moving ES [signaled by the DMA_H]. Followed it to the top [SunnyBand]. Closed. Sold short at the top [SunnyBand.] Followed it to the bottom [SunnyBand]. A $4,000 account (what I had moved to the Futures account) returned about $2,000. **Doesn't get any better than that!**". - *Don M.*

"I made $5,772 on the first day of my free trial of SunnyBands. It told me exactly where the turns were, even with the high volatility today. You are one of the very few people that allows test drives. It's nothing short of amazing!" -*Aaron R.*

Example Uses:

1. You can use this indicator to show the typical movement of the market. Generally, the market will stay within 1.5 ATRs of the DMA. When the market is making an out-of-the-ordinary move it moves beyond the grey lines.
2. You can use this indicator to show crossovers of price with the bands, to find extreme movements. When price is above the DMA it can be bullish; when price is below the DMA is can be bearish.
3. You can use this indicator to show when price crosses below the lower band and then returns back through the lower band, it can be bullish. Likewise, when price crosses above the upper band and then returns back through the upper band, it can be bearish. I use the bands in this instance as profit taking stops.
4. As long as price remains in the lower half of the band it can be considered bearish. When price then crosses over the midline it could be used as a stop. Likewise, as long as price remains in the upper half of the band it can be considered bullish. When price comes back down and crosses over the midline it could be used as a stop.

Addendum

The newest feature (as of 7/6/2011) in SunnyBands is a feature to print the values of the bands on the far right-hand edge of the chart. In order to see these values, you must leave blank space at the end of the chart. I put 15 extra bars of space on my chart. You do this by going through the **Format → Window → Space to the Right** command sequence.
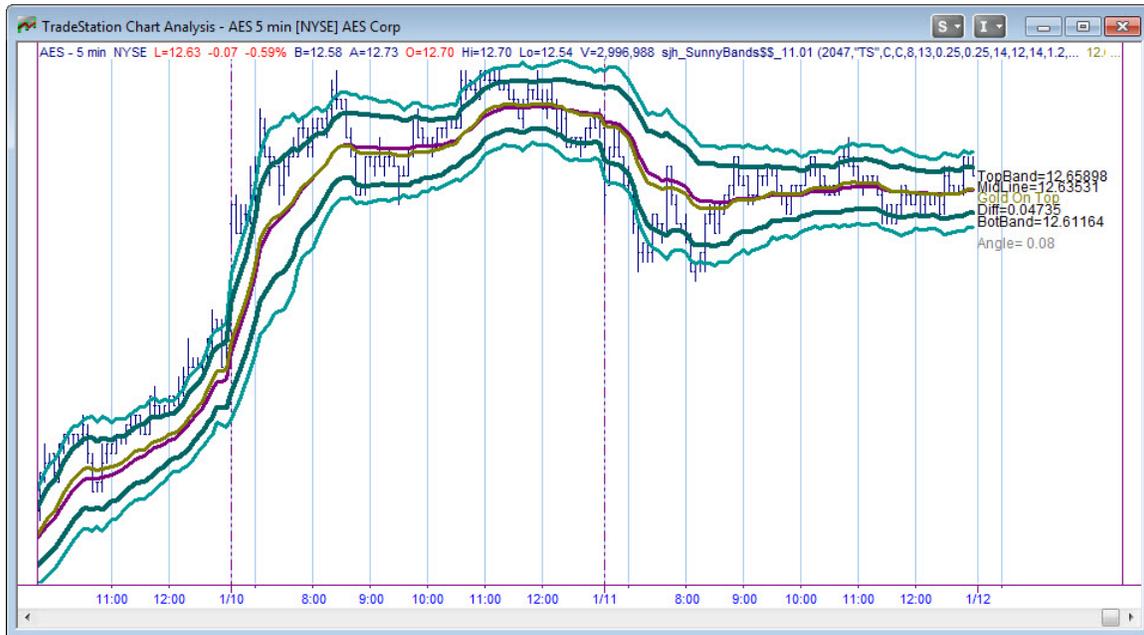
Figure 5.7—New SunnyBands (version 11)

The chart in Figure 5.75 below is the main configuration I use for my own trading. On this chart you can see (1) the PaintBar Indicator (**DaySessions**) that highlights the day session a different color from the night session, (2) the **Pennants** showing breakout areas and congestion, (3) the **SunnyBands** which are green and cyan, on either side of the SunnyDynamicMovingAverage (SDMA), which is purple and gold. I also use my indicator **DayDividers**, which draws the dashed vertical lines that appear at each end of the chart and my **PHW** indicator[2] which draws yellow circles on the ideal turning points. You can change the times of their trigger through input values, but I have them set to the open and close of the day session. It makes it easier for me to read my charts.

---

[2] PHW dots are on the ideal turning points, which can only be determined AFTER THE FACT. One cannot determine whether a turn has happened until after it actually occurs. Thus, these dots, while a great help to keep you honest about where you should be trading, do not give trading signals before the turn actually happens.

Figure 5.75—My Default Trading Screen

The newest addition to the SunnyBands is the text written to the right of the data. In order to view this text you must first allow for Space to the Right. Having done that, you will see either "Gold on Top" or "Purple on Top" in green or red respectively, to the right of the last closing price. This tells you at a glance what position the DMA is in. It is especially helpful when the lines are close together. The next new feature is in three parts: "Top = ", "Diff = " and "Bot = ". These texts are followed by numbers telling you the value of the top band, the spread between the two bands, and the value of the bottom band, all as of the last bar on the chart.

Since price tends to revert to the mean, the "Diff" value is very important to me. It tells me how many points are possible in a move that goes from the top band back down to the bottom band, or from the bottom band up to the top band. And, if price is moving strongly, and thus not likely to move beyond the midline, then half of the Diff is a potential move. Keep this in mind when choosing the timeframe of your trading chart.

If you think of any features you'd like to see, just email me your suggestions.

NOTE: One thing I have noticed about TradeStation's calculations, in the course of watching charts form tick-by-tick: a smoothing such as my DMA is not smooth unless refreshed often.

For instance, the next figure shows the SunnyBands & DMA after the accumulation of many ticks without refreshing.

Figure 5.8—Without Refreshing

Figure 5.8—After Refreshing

It's slight, but you can see that in Figure 5.5 the Bands "wiggle" at the right hand edge, but after refreshing (Figure 5.6) the Bands are again smooth. It is more evident on the lower Band.

How I Trade with This Indicator

For ideas on how to **trade** with SunnyBands, please see the next chapter.

Notes from User Sessions

This indicator is the Dynamic Moving Average with bands above and bands below the moving averages, placed at *n* Average True Ranges above and below the averages. For the inner band, n = 1.2; for the outer band, n = 2.0.

These bands are far superior to Bollinger Bands or Keltner Channels, which are calculated on Standard Deviations and ATRs largely because they are based on my proprietary DMA.

I don't look for these bands to "squeeze." Rather, I look for price to ride the band for a while and then move away from it.

The top band is calculated from the gold average, while the bottom band is calculated from the purple average. Next, here's the crowning glory: In my own trading I use a 1-minute chart and a 5-minute chart overlaid on a single chart. I make it so the 5-minute chart is in a hidden subgraph. Then I put SunnyBands on Data1 and SunnyBands on Data2, so that I can see the 1-minute SunnyBands forming within the 5-minute SunnyBands. It's like seeing the interaction of larger and smaller waves. It's a little challenging to see, but if you look closely you'll see Gray SunnyBands inside of DarkCyan SunnyBands.

The 1-minute DMA is gold and purple, while the 5-minute DMA is green and red. Notice what happens when the 1-min SunnyBand touches the 5-min SunnyBand! Now, don't get these confused with Bollinger Bands. Mine use ATR (Average True Range) which tells where the market is actually going, not Standard Deviation which tells where the market "should" go.

AND mine uses my proprietary DMA (Dynamic Moving Average) which avoids much of the whipsaw-- unlike an Exponential Moving Average, which whips all over the place.

Figure 5.9—SunnyBands

Figure 5.10—Bollinger Bands

Figure 5.11—Keltner Channel

Figure 5.12—Keltner Channel vs SunnyBands (Keltner = dotted lines)

Notice in figures 5.9 thru 5.12 how SunnyBands hugs price and the other indicators do not. SunnyBands gives a clear picture of when to go short and when to go long. The others don't.

CHAPTER 5A: SunnyBands Strategy Ideas

TRADING IN THE FINANCIAL MARKETS INVOLVES A RISK OF LOSS. THIS DOCUMENTATION AND OTHER CONTENT PRODUCED BY MONEYMENTOR ARE FOR INFORMATIONAL OR EDUCATIONAL PURPOSES ONLY AND DO NOT CONSTITUTE TRADING OR INVESTMENT RECOMMENDATIONS OR ADVICE.

The SunnyBands Indicator, as depicted above, can be used as a strategy. However, I have not as yet been able to code the strategy rules into an automated strategy, but I'm working on it. To use it like I use it, you have to put on your thinking cap and follow a set of rules. And, you must watch the market as it ticks and forms bars. There is much to be said for the "intuition" that comes from learning how the market moves by watching it, especially with the SunnyBands on the chart, over many, many weeks, months or years. You'll "see" things after you have spent considerable time with the indicator. My students are always coming up with new and different observations on how to use SunnyBands.

If you want to play basketball and consistently shoot the ball into the hoop, you must practice. It isn't automated, it is learned from a long time of practicing. If you want to be a downhill skier, you have to practice. You can't even stand up the first time you get on the skis. It takes time. So, it is with SunnyBands. I have traded with SunnyBands for 35 years of my 42-year career. It and my DMA_Histogram are the only things I use to determine when to place trades.

NOTES:

As of 6/20/2012 I have added code to print some very important values (for my personal trading methods). The inner SunnyBand (1.2 ATRs by default) (default color = dark teal) is called the Inner SunnyBand. There is now code to delineate this band and give its value, both top and bottom. The outer SunnyBand is called the Outer SunnyBand (2.0 ATRs by default) and is colored dark green by default. Its values are also printed on the chart. I use these values as stops and limit entries in my own trading.

How I Trade SunnyBands

Remember that all I say is for your **education only**. I am not suggesting that you trade like I do. I am not suggesting that my trading method will ever make a profit, or not make a loss. Trading is not for everyone. You can and will lose money. If you do trade, only do so with money you can afford to lose. That said, here is what I do.

To begin with, I trade a chart with **1-minute bars, overlayed with 5-minute bars**. I showed you how to do that in the previous chapter, "Chapter 5, SunnyBands Indicator." I watch the wave within the wave of the two SunnyBands indicators. This wave within a wave is a fractal. You might Google "fractal."

NOTE: TradeStation has a "bug" which does not allow for these overlaid indicators to be scaled properly when using Chart Dragging. In that case, I use two separate charts, one 1-minute and the other 5-minutes.

NOTE: If you want to use the overlay of 2 charts, they must both be on the same scale.

First, I put the PaintBar "**sjh_PB_DaySession**" on my chart. That way I can easily see which session I'm in. By default, Session 1 (or the day session) bars are colored blue for up bars and red for down bars. In the after-hours (or night) session, the bars are colored green for up bars and magenta for down bars. In telling you how I trade in the text that follows, I will refer to up bars as blue/green and down bars as red/magenta.

Next, I put the "**BingTicks**" indicator on my chart. BingTicks (see Chapter 18) plays a small sound file (.wav) with every change in the market. It can be very noisy, but it tells me what the market is doing and how fast. In the input parameters I specify a high-pitched sound for the UP sound, a low-pitched sound for the DOWN sound, and for the SIDEWAYS sound I usually choose "Click.wav." So, I have binging and bonging going on all day long.

When the sounds come very close together, and are mostly all binging, I know the market is moving very fast upward. Similarly, when the sounds are predominantly bongs and are coming fast, I know the market is moving quickly downward. If the sounds are infrequent, I know that there are very few trades taking place and that the market is therefore thinly traded. I can walk away from my monitor and still listen to what the market is doing. What it doesn't tell you is anything about the distance of the moves. It doesn't tell you anything about price.

Thirdly, I put my ShowMe indicator "**sjh_SM_CurrentPrice**" on the chart. This little indicator puts a dot or a cross at the end of the chart at the current price. It focuses my attention on exactly where the current price is. If you use the most recent version the dot turns red when price is moving down and green when price is moving upward. I like to sit and watch the moving dot; it trains my neurology as to price activity. This is where intuition is born. The dot is shown on the chart in Figure 5A.3; it's darkred, indicating that price was moving down.

The fourth thing I do is put **SunnyBands** on my chart. Actually, I already have 1-minute and 5-minute bars both on the chart and I want to put on two sets of SunnyBands. I make the first set different colors from the second set. (For instance, I use teal for the 1-minute band and cyan for the 5-minute band). Then I click and drag the second SunnyBands (on the 5-minute chart) up to the 1-minute chart and drop them there.

Next, I **hide** the 5-minute bars. To do this you go to **Format → Symbol** and choose Data2 (the 5-minute bars), click on **Format** and then click on the **Scaling** tab. (See Figure 5A.1).
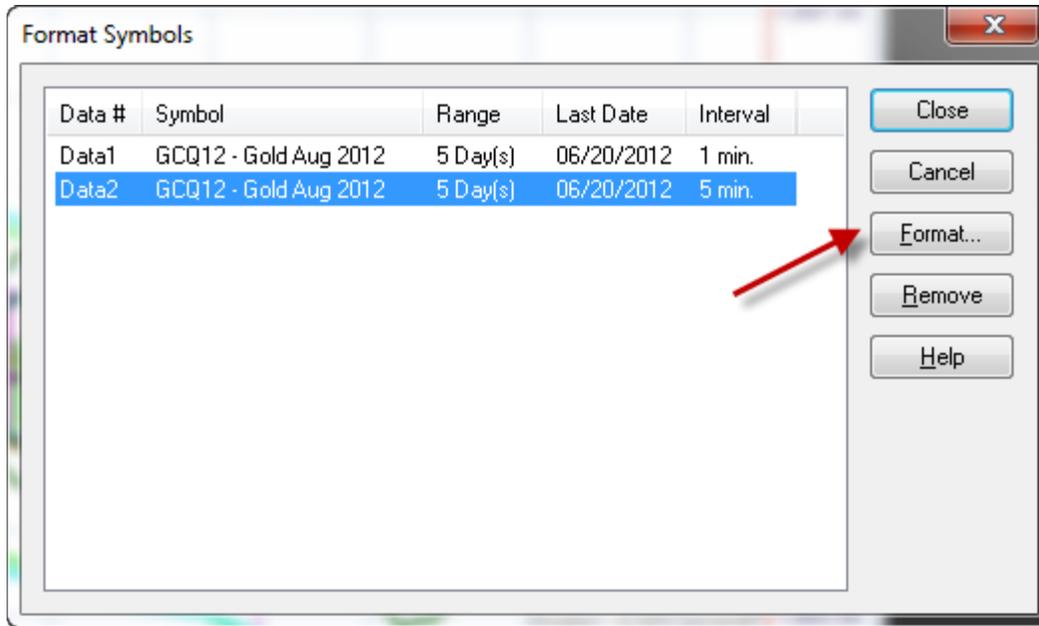
Figure 5A.1—Format Data Stream 2

Under that tab you click on the roller beside Sub-graph (where it probably says "1") and pull down to "Hidden." See Figure 5A.2.

Now you should have a chart with 1-minute bars showing, and two sets of SunnyBands (of differing colors). Mine looks like this: (Figure 5A.3). See below.

NOTE: Creating this chart and following this process is available in a video on YouTube at www.YouTube.com/. Or you can **search** for Sunny Harris and/or TradeStation.
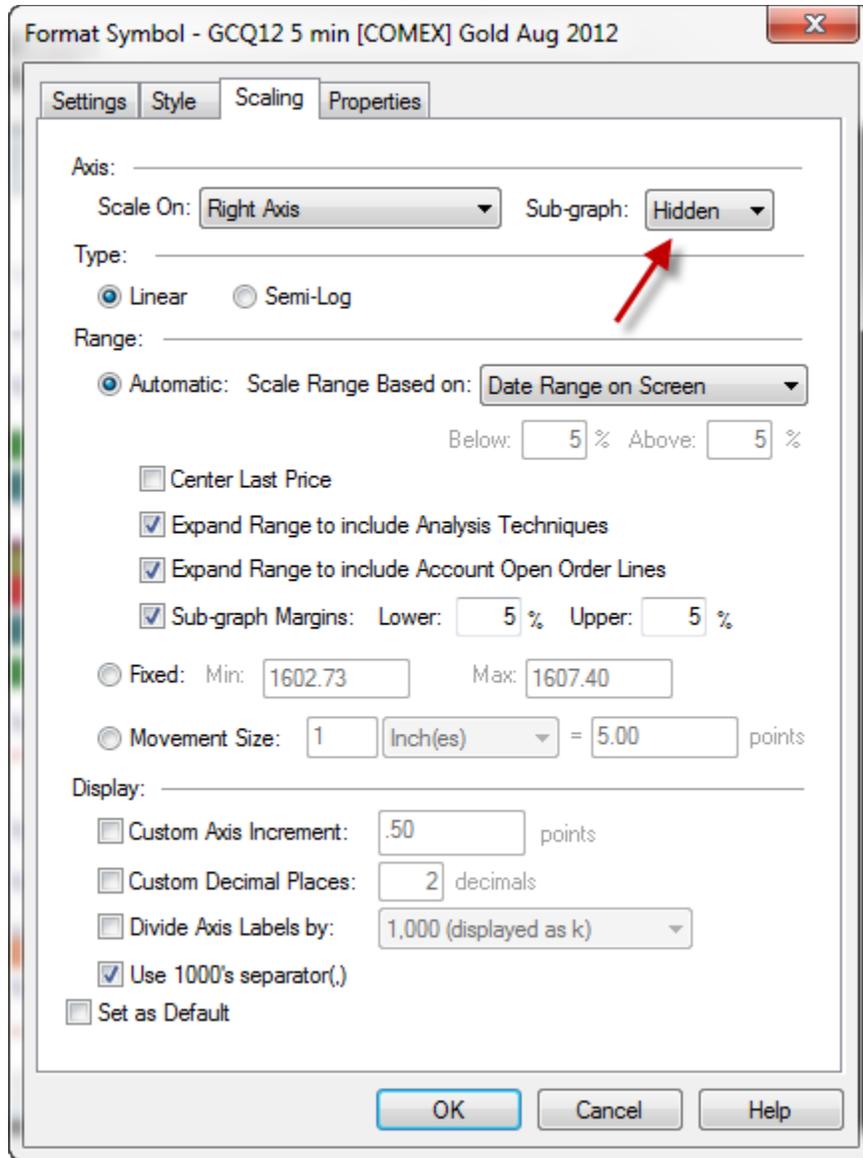
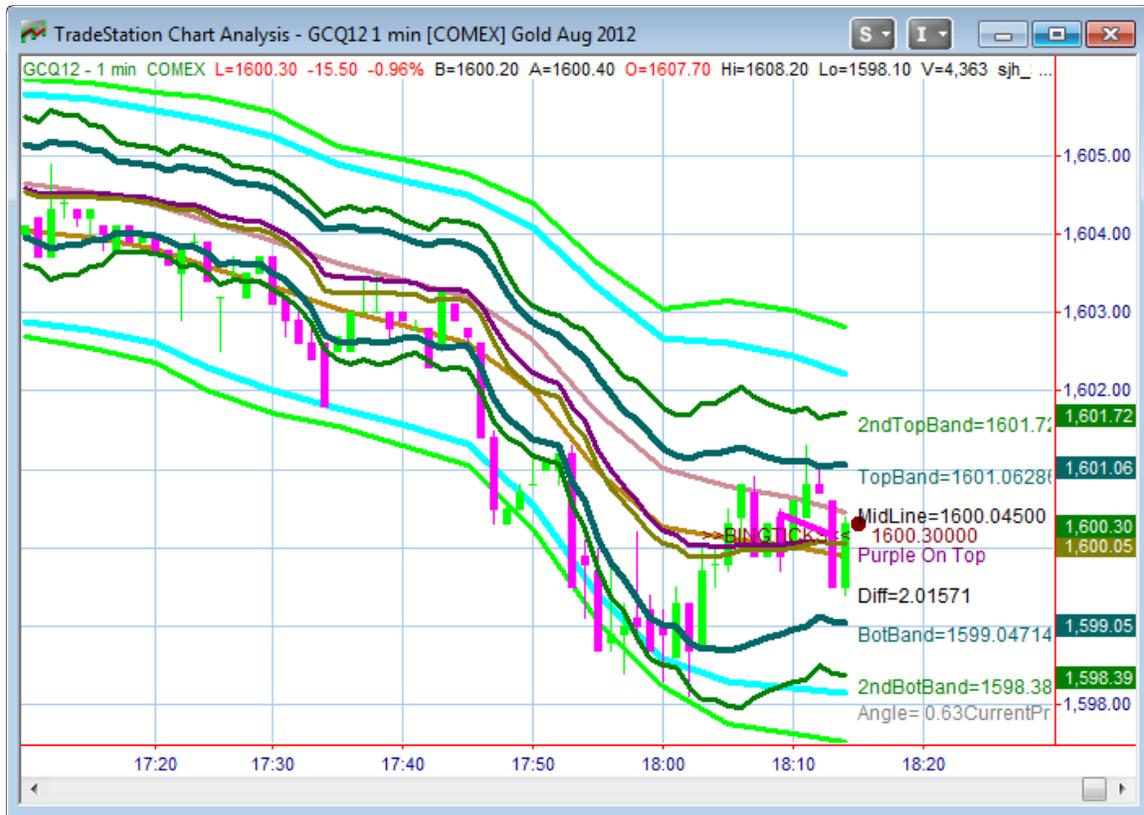*Figure 5a.2—Hiding the longer term bars*

Figure 5a.3—Double SunnyBands on Gold Futures (1-minute & 5-minute)

Once you have your chart ready, we are ready to talk about my trading rules.

Sunny's SunnyBands Trading Rules

Here's what **I** do. Don't trade anything with money you can't afford to lose. All traders lose money; they don't always tell you about it.

1. Take Setup from 5-min (LT) Charts
2. Take Entries from 1-min Charts (Best done with overlaid charts or two separate charts).
3. Enter Long when LT chart is red/magenta & below lower Primary SunnyBand, and Short-Term chart is also red and below lower Primary SunnyBand
4. Take Profit when Attractor is reached, or Upper Outer SunnyBand on Long-Term chart is penetrated upward and then back downward on red bar
5. When the DMA is "long" (gold on top and purple on the bottom) the bias is to the upside. Therefore, don't expect a short trade to drop further than the midline.
6. If the DMA is flat, stay w the first entry of the flat period until the DMA finds a direction.
7. If I got a short signal (blue/green going up turns to red below Band) and blue/green continues on up, reverse and go long. This will likely be strong.
8. The opposite is true for Shorts
9. **Wait for it!** Don't jump ahead of trades before they form.
10. Wait for Proof (i.e., move in the expected direction)

11. There is always another trade
12. Take Your Losses FAST and let your profits ride

PRIMARY RULES

1. If flat or short, watching red bars go down to lower band. When bars turn green and pierce lower band and go back upward, I go Long.
2. If Long or Flat, watch green bars go upward until they pierce the Upper Band, turn red and go back downward., then I go Short.

INTERMEDIATE RULES

1. Channel Trading. If DMA is flat (AbsValue(Angle < 6.0), then we will be countertrend trading, moving from band to midline and back.
2. IF same as rule 1 above, only take profits at midline.

ADVANCED RULES

1. If trading Channel, and you exited at the midline and price exceeds H of exit bar, re-enter Long.
2. If trading Channel, and you exited at the midline and price exceeds L of exit bar, re-enter Short.

These are the rules from inside the SunnyBands code:

These are the rules I gave to my programmer, at the onset of our project to automate SunnyBands into a stand-alone system:

```
{======================================================================}
{===== RULES & THOUGHTS ON USING SUNNYBANDS ==========================}
{======================================================================}
{
All these rules are "typical" and not hard and fast rules.

INITIAL:
Only one position on at a time. ie Don't buy shares and then buy again
and then sell both positions.

FIRST RULES:

Purple DMA on top means price movement is Bearish. Price is falling and
below the Top SunnyBand.

Gold DMA on top means price movement is Bullish. Price is rising and
above the Bottom SunnyBand (SBand).

SECONDLY:

LONGS:
Watch the mostly Red Candles going down. When they get below the Lower
SBand, watch for them to change to Green and rise above the Lower inner
or outer SBand. When the Green Candle penetrates the Lower Band take a
Long Position.
```

```
SHORTS:
Watch the mostly Green Candles going up. When they get up to the Upper
SBand, watch for them to change to Red and fall back below the Upper
SBand. When the Red Candle penetrates the Upper Band, take a Short
Position.

THIRDLY:
a. If you are Short and candles begin rising against your position, wait
for a Green candle to rise above the Upper SBand.
    If it penetrates above, abandon your short position and go Long.
b. If you are Long and candles begin falling against your position, wait
for a Red candle to fall below the Lower SBand. If it penetrates below,
abandon your long position and go Short.

FOURTH:
a. If Short and Red Candle touched DMA and next bar is Green Candle,
reverse and go Long
  b. As long as candles are below Top Band AND Below DMA, stay Short
  c. Stay Short while candles are moving down and touching or below
Bottom Band
  d. If Green Candle forms Above Bottom Band go Long

FIFTH:
  a. Watch the slope of the DMA Lines.
1. If the lines are "flat" (LinearRegAngle of last 5 bars), then we only
"Expect" price to come up/go down to the DMA, and not all the way back to
the SBand.

===============================}
```

IMPORTANT NOTES

When you trade, either with real money or in simulation mode, it is a good policy to always use stops. Stops prevent you from holding bad trades for extended periods (while you are wishing). Stops help you to get out of losing trades quickly. The market can always "blow through" your stop if the market is moving quickly (like in the period 8/19/15 through 8/26/15). Nevertheless, it is important to have them, especially if you are a beginner.

REMEMBER, when using stops, to take them out of the market when you are hit, and when you open a new trade. If you leave the stop in place and forget about it, you can have the stop hit when you are not expecting it, at some later time. Let's say you enter the market at 2100 and put a stop underneath at 2090. Then, you exit the trade at 2200 for a profit and forget about the stop. Later on, you aren't trading at all and the market dips down to 2090 and automatically gets you short. You didn't mean to get short, you just forgot about the stop. So, don't forget them!

Now let's talk about stops.

Setting Stops with SunnyBands

I use the SunnyBands themselves to set my stops.

Let's look at a chart to illustrate this concept. Take a peek at Figure 5a.4 below.

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If I were to enter the market going long at the green bar which penetrates the Outer Bottom Band at about 8 bars to the left of the right-hand edge, I would set the stop at the lower SunnyBand, right after the trade was established. Once the market had passed the DMA, I would raise the stop to the "Midline" value at the DMA (Dynamic Moving Average). If then the trade continued up above the upper band, I would move the stop up to the upper band.

Figure 5a.4—Setting Stops

CHAPTER 5B: SUNNYBANDS FUNCTION

One of my more astute students/clients has asked for a way to access the values inside the SunnyBands indicator so he can write his own systems around the SunnyBands. In response I've written this function using **NumericRef** variables so the function returns not only the function value itself, but eight other values as well. NumericRef variables all start with the letter "o" and return values from inside the function.

Input Values for the SunnyBands Function

```
INPUTS:
    j_Key( Numeric ),                //== User's Password
    j_Vendor( String ),              //== Vendor: "TS" or "MC"
    Price1( Numeric ),               //== O, H, L, C
    j_L1( Numeric ),                 //== Length for DMA Gold Line (I use 8)
    j_L2( Numeric ),                 //== Length for DMA Purple Line (13)
    j_T1( Numeric ),                 //== Smoothing Factor (I use 0.25)
    j_T2( Numeric ),                 //== Smoothing Factor
    j_ATR( Numeric ),                //== Length of Average True Range
    j_Precision( Numeric ),          //== How many Decimals of Precision
    oUpperInnerBand( Numericref ),   //== Output of UpperInnerBand Value
    oLowerInnerBand( Numericref ),   //== Output of LowerInnerBand Value
    oUpperOuterBand( Numericref ),   //== Output of UpperOuterBand Value
    oLowerOuterBand( Numericref ),   //== Output of LowerOuterBand Value
    oMidline( Numericref ),          //== Output of DMA Midline Value
    oAngle( Numericref ),            //== Output of Angle of DMA
    oDMAGold( Numeric ),             //== Output of DMA Gold Line Value
    oDMAPurple( Numeric )            //== Output of DMA Purple Line Value
    ;
```

How I Use the SunnyBands Function

Let's say I want to use the function in a Strategy, to see if price is penetrating the SunnyBands lines. The following is just a sample, a beginning, of what the code might look like:

```
INPUTS:
    j_Key(3880);            //=== Client's j_Key Password

VARIABLES:
    oUpperInnerBand( 0 ),   //=== Value of Upper Inner SunnyBand returned
    oLowerInnerBand( 0 ),   //=== Value of Lower Inner SunnyBand returned
    oUpperOuterBand( 0 ),   //=== Value of Upper Outer SunnyBand returned
    oLowerOuterBand( 0 ),   //=== Value of Lower Outer SunnyBand returned
    oMidline( 0 ),          //=== Value of Midline of DMA
    oAngle( 0 ),            //=== Value of LinearRegressionAngle of DMA
    oDMAGold( 0 ),          //=== Value of the Gold Dynamic Moving Average
    oDMAPurple( 0 )         //=== Value of the Purple Dynamic Moving Average
    ;

  Value1 = sjh_f_SunnyBands14.07.30
  (2047, "TS", C, 8, 13, 0.25, 0.25, 14, 2,
   oUpperInnerBand,
```

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```
      oLowerInnerBand,
      oUpperOuterBand,
      oLowerOuterBand,
      oMidline,
      oAngle,
      oDMAGold,
      oDMAPurple
      )
      ;

//=== IF previous bar was above SBand & this bar is below:
If C[1] > oUpperOuterBand AND C[0] < oUpperOuterBand
    THEN
    Buy 1 contract next bar at market;
```

It's only an example, not a real system, but you should get the idea for a jumping off point.

CHAPTER 6: PHW Indicator

I initially created this indicator to show "what is possible." I knew I couldn't get more money out of a chart that was possible, so what is possible? How much is the maximum amount of dollars you can squeeze out of a particular symbol?

This indicator is called **sjh_PHWIndicator**$$. (Also has _R to denote RadarScreen version, and numbers and possibly letters to denote version. i.e. sjh_PHWIndicator$$_11.07a.)

NOTES:

1. As of 7/4/2011 I have added two new inputs to the end of the input string. These input variables are used to position the text written on the LastBarOnChart. These values show you the Ideal, Buy & Hold and PHW values. Please jump down to the input descriptions to read about these new values.
2. In order for the indicator to plot values it needs additional bars to be loaded. Read about this above by clicking here. Otherwise, it won't plot and you'll call me to say it is broken. ☺
3. Also, remember that the input value SwingPercent should be set to larger and smaller fractions, depending on the data compression of the chart. For instance, a daily chart might need a value of 0.01 for the dots to show up, while a 5-minute chart might use a value like 0.0001. These values are not set in stone; you'll need to experiment to get the dots to look right.

Introduction

If the chart only moves in one direction, then buy-and-sell is the best approach. If the chart moves up and down rhythmically, then it is **tradable**. And, if it does have a rhythm, how much is the maximum amount of profit potentially generated by these swings? These ideas lead to my PHW Indicator.

So, I dubbed it "Potential Hourly Wage" and started calculating.

In essence, this indicator finds all the ideal pivots and marks them. Of course, it can't mark them before they happen, so that makes it a lagging indicator. I never meant for it to be predictive (there's no such thing); I use it for two things: research and confirmation.

When I'm creating an indicator I want to see how closely it matches the yellow PHW dots. When I'm actually trading it, I want to see how close I come to the yellow PHW dots with my entries. And when I'm doing research, I use PHW on RadarScreen to find the most tradable symbols.

The PHW Indicator with its yellow dots and calculations is shown in Figure 6.1. Notice that in addition to plotting yellow dots, the indicator prints out the following calculations:

- Date Span for the data
- Ideal # of Trades if you caught every high and low in this percent retracement

- Ideal Profit if you caught every high and low
- PHW Profit = 40% of the Ideal Profit
- Buy & Hold Profit = amount you would have made by buying on the first day of this data and holding 'til the end

Along with the **PHW indicator**, there is another indicator, made exclusively for use with RadarScreen. The RadarScreen version of the PHW Indicator is called **sjh_PHWIndicator$_R**. It is shown in Figure 6.2.

The RadarScreen indicator differs from the plotting indicator, in that nothing is plotted. The RadarScreen indicator simply writes numbers in columns on a RadarScreen page. The sjh_PHWIndicator$_R writes three columns of numbers that represent the ending Potential Hourly Wage figure for the symbol in question, plus the Most Recent High and Most Recent Low.

The value of the RadarScreen version of this PHW indicator is often different from the TradeStation charting value. This is because RadarScreen depends on you to "Load additional data for accumulative calculations." The more "bars back" you designate, the more time it takes RadarScreen to calculate. Make your selections for this setting under **Format Indicator**. If you do not load additional bars, RadarScreen calculates only for the LastBar. In Figure 6.2 below, I have loaded 51 bars of additional data. The PHW calculation is in the second column from the right.

Figure 6.1a—PHW Indicator on a TradeStation window
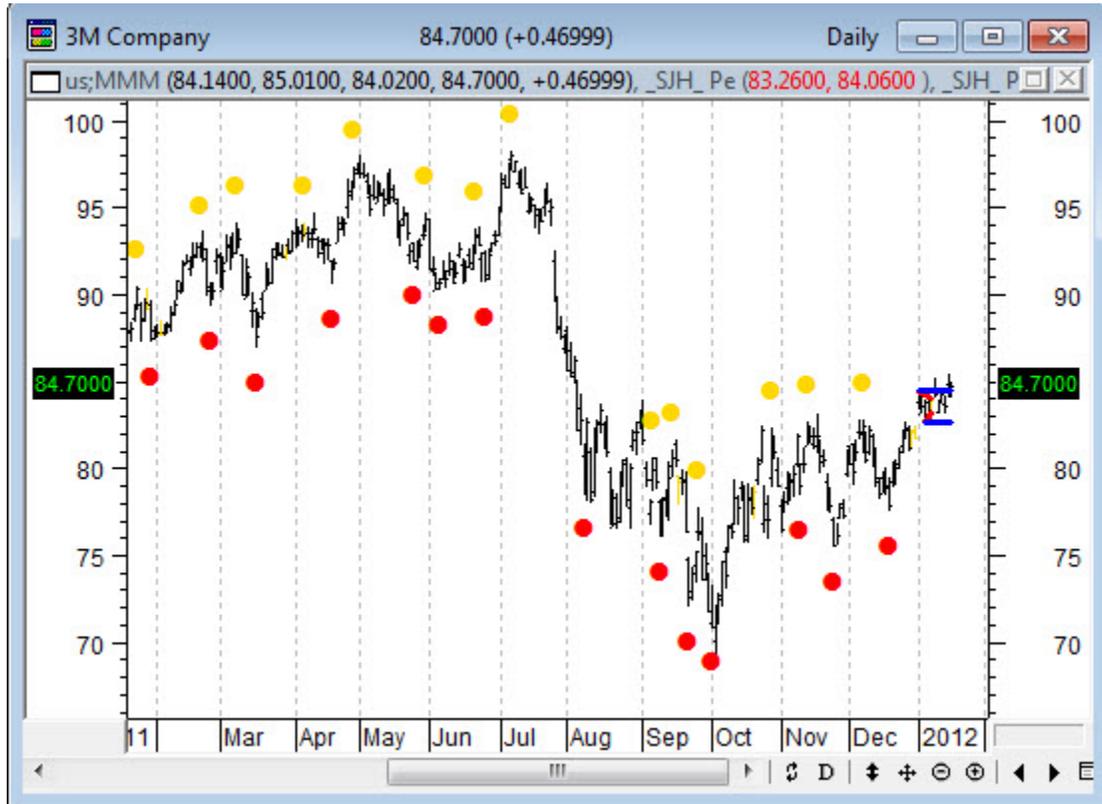
Figure 6.1b—PHW Indicator on a MultiCharts window

Figure 6.1c—PHW Indicator on a MetaStock window

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Input Values

```
INPUTS:
SwingPercent(0.01),          //percent retracement for each swing
jEquity(0),                  //
                             0 = do not plot equity curve;
                             1 = plot equity curve
jBuySell(0),                 //
                              0  = calculate buys & sells;
                             -1  = calculate sells only;
                              1  = calculate buys only
jTextN(1),                   //default value = 1
                             0 = Do not plot the text values at each pivot
                             1 = Plot the text values at each pivot
j_Key(31),                   //password key given upon purchase of license
j_FirstCalcDate(1000101)     //first date to begin calculations
j_LastCalcDate(1100601),     //last date at which to end calculations
j_Thick(3),                  //thickness of the yellow dots
j_Color(Yellow),             //color of the yellow dots
j_EquityColor(DarkGreen),    //color of the equity curve line
j_EquityWidth(3),            //width of the equity curve line
j_TextIncrement(.25),        //value to increment position of next text
                             line
j_Position(H {O, H, L, C})   //price at which to position first line of
                             text
;
```

The next figure shows the **RadarScreen** output for the PHW Indicator. It is named sjh_PHWIndicator_R.

I have sorted this page by the highest PHW first. I find that very valuable in picking which stocks I want to trade. To me, the most tradable stocks are the ones with the highest PHW, or most opportunity for trading.

```
The indicator for charting and the indicator for RadarScreen are sold
separately.
```


Figure 6.2: RadarScreen of PHW Indicator for TradeStation

Figure 6.3—PHW on a MultiCharts Market Scanner

In writing my 6th book, "Grading the Gurus," I use the PHW Indicator in each and every test. (And I use FileAppend to print the results of each stock to a file on my C: drive.) Before I can know whether a system I am testing is any good, I must know what the potential profit for each symbol is. If stock XYZ can only make $600 in the years under question, then we can't expect any system designer to do better than that. Likewise, if the designer only makes $100 with his system, when the PHW is $600, it doesn't qualify as a very good system.

Example

Here is a chart of the 15-minute EMini (@ES) showing the PHW dots. I have set the last two inputs to position the text conveniently on the chart. I found the values that worked best by experimentation. To get the values below the last prices on this chart I had to set j_Position to (Low-20). To get the text spread out and not written on top of each other I set j_TextIncrement to 3.

Figure 6.4: PHW on 15-minute chart

Figure 6.4.1—PHW on MultiCharts

The other value that is important to this chart is the SwingPercent. In this example I have it set to 0.005. The small value is due to the fact that this is a 15-minute chart and the swings in that timeframe are quite small.

Bars Back

To calculate the PHW Indicator, you must tell TradeStation or MultiCharts how many bars to use in the calculations. If you calculate PHW on 50 5-minute bars you will most certainly get a different result than if you use 50 daily bars.

And, if you want long-term PHW result on 5-minute bars, you might want to use 1000 bars for your calculations.

To be precise, you should know how many 5-minute bars are in a trading day, or how many 15-minute bars are in a trading day, etc. Further, if you are using daily bars on your chart, you need to know how many trading days are in a month, or in a year.

This isn't exactly easy.

I don't worry about it. When I'm using the PHW Indicator on RadarScreen, all I really want to know is how stock "A" compares to stock "B" or to all other stocks. I'm simply looking for stocks with high PHW values to indicate that the stock is tradable. I want a stock (or future, or mutual fund) that oscillates. If it goes only one direction for a long time, then it should be considered for investing; if it goes up and down again and again, then you can consider trading this instrument for short and long trades.

	Symbol	Interval	Last	Net Chg	Net %Chg	Bid	Ask	High	Low	Volume Today	BH	Ideal	PHW Total	N#Trades
1	S&P 500 Index (501)													
2	GOOG	Daily	719.00	9.02	1.27%	0.00	0.00	718.66	706.78	2,067,249	718.28	3994.68	1597.87	60.00
3	PCLN	Daily	640.73	-2.62	-0.41%	0.00	0.00	649.30	638.05	724,462	640.73	3228.96	1291.58	60.00
4	ISRG	Daily	512.39	2.08	0.41%	0.00	0.00	517.82	509.55	298,277	512.36	3062.40	1224.96	79.00
5	MA	Daily	453.36	-0.14	-0.03%	452.00	460.88	454.99	450.74	477,070	452.98	2854.29	1141.72	76.00
6	AAPL	Daily	701.05	1.27	0.18%	0.00	0.00	702.33	696.42	13,339,381	701.91	2277.41	910.96	63.00
7	AIG	Daily	34.24	-0.51	-1.47%	34.24	34.37	35.15	34.24	25,219,968	34.40	2014.59	805.84	56.00
8	BLK	Daily	182.74	0.02	0.01%	182.33	240.00	183.75	181.57	669,637	182.74	1908.93	763.57	75.00
9	CMG	Daily	341.20	-5.62	-1.62%	340.27	342.06	347.97	340.25	594,867	341.54	1880.07	752.03	68.00
10	FSLR	Daily	23.23	-0.01	-0.04%	0.00	0.00	23.95	22.60	5,901,514	23.15	1837.73	735.09	61.00
11	CF	Daily	218.51	-1.90	-0.86%	218.61	220.00	223.00	217.41	784,034	219.81	1690.61	676.24	74.00
12	AMZN	Daily	259.00	1.00	0.39%	0.00	0.00	260.50	257.00	2,216,148	258.75	1517.01	606.80	72.00
13	AZO	Daily	357.76	0.38	0.11%	355.00	370.00	358.75	353.38	709,736	357.84	1483.59	593.44	74.00
14	NFLX	Daily	56.25	-0.77	-1.35%	0.00	0.00	58.32	55.82	4,330,382	56.06	1323.39	529.36	65.00
15	GS	Daily	119.69	-0.21	-0.18%	119.00	122.25	120.36	118.75	3,036,262	119.88	1310.66	524.26	60.00
16	CRM	Daily	156.29	-1.87	-1.18%	156.05	156.56	158.00	155.83	1,505,675	156.29	1254.77	501.91	78.00
17	ICE	Daily	140.37	-0.03	-0.02%	112.29	178.75	141.15	139.18	529,251	140.37	1225.10	490.04	73.00

Figure 6.5—PHW Indicator on RadarScreen

In the figure above, you can see in the yellow column that I have sorted the data from the highest PHW to the lowest PHW. That shows me the most tradable stocks.
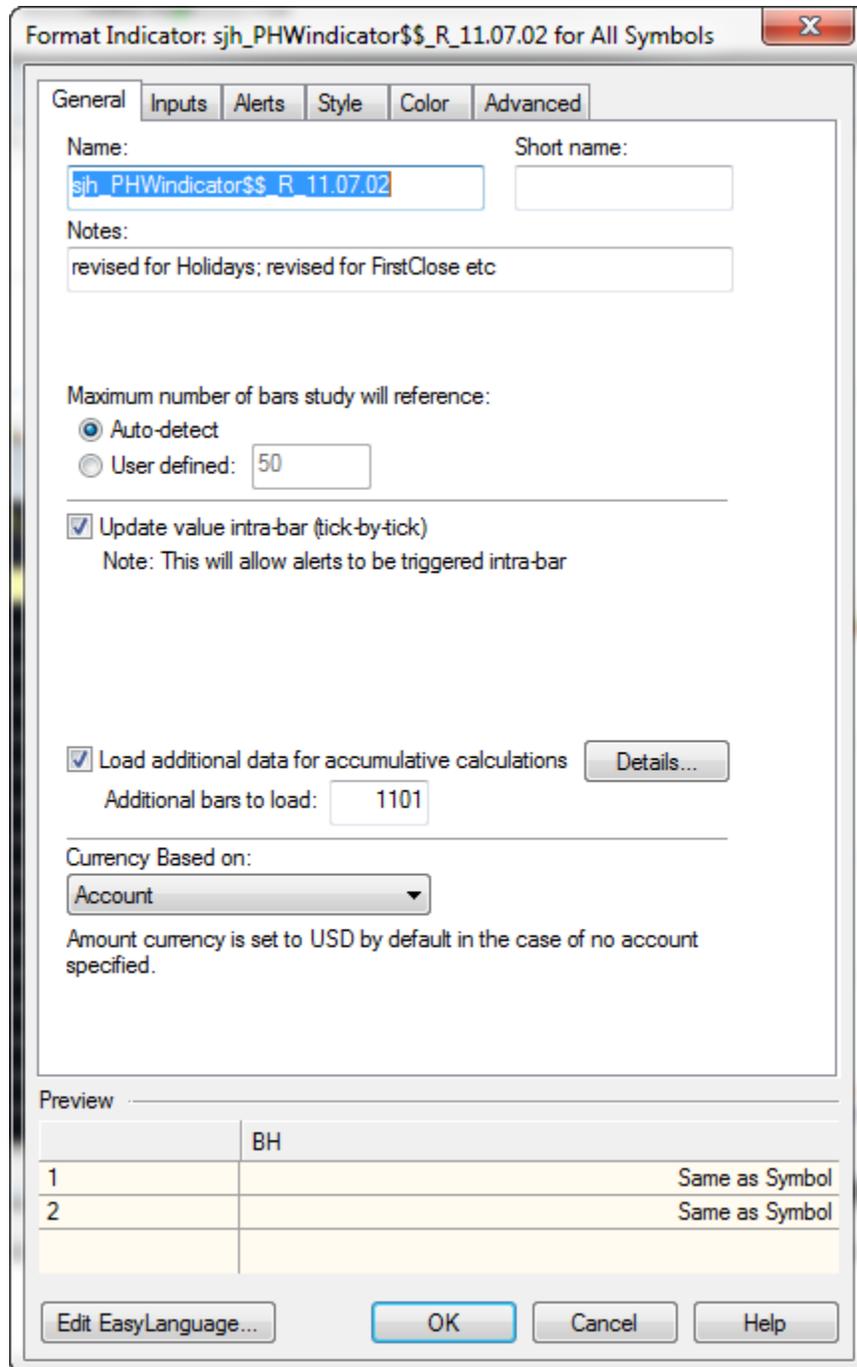
Figure 6.6—Load Additional Data

How I Trade With This Indicator

I do not use PHW to place trades. I use this indicator to draw the ideal dots on charts, and in the RadarScrreen version I use the PHW values to find the most tradeable stocks/commodities. A symbol

with a high PHW is more tradable than one with a low PHW. A low PHW would indicate that the symbol does not have lots of changes, but is rather a symbol that is a buy-and-hold candidate. Symbols with high PHWs have lots of opportunities to go long and short.

CHAPTER 7: sjh_ExitStrategies

I used to try TradeStation's different exit settings one at a time, and never came to any great conclusions as to which setting really worked. Then, like my **AllAverages** indicator/strategy, I decided to put them all in one place so I could run optimizations and find out what really worked. The result is this single strategy, which you can add on to any other strategy(ies) and optimize until you find something that works for you.

Introduction

TradeStation provides several exit settings through EasyLanguage which are activated using the Set commands. The possibilities include:

- Setbreakeven
- Setdollartrailing
- Setexitonclose
- Setpercentrailing
- Setprofittarget
- Setstopcontract
- Setstoploss
- Setstopposition
- Setstopshare

To make life easier, I coded them all into a single strategy where they can be turned off and on by using the inputs. As a result, you can optimize this strategy (which is really just a signal component) to find the most optimal exit strategy. If you were to try this using TradeStation's Set commands, it would take you all week to find the best fit, trying one exit at a time.

Input Values

```
j_Key                     { your password value }
j_Vendor                  { TS=TradeStation, MC=MultiCharts,
MS=MetaStock }
ShareOrPosition           { pass in 1 for per share basis, 2 for
                          position basis }
ProfitTargetAmt(0)        { pass in 0 if you don't want a profit target,
                          or a number for the dollar amount of your
                          profit target}
StopLossAmt(0)            { pass in 0 if you don't want a stop loss, a
                          number for the dollar amount of your StopLoss
                          }
BreakevenFloorAmt(0)      { pass in 0 if you don't want a breakeven
                          stop, a number for the dollar amount of your
                          BreakevenFloor amount. }
```

```
DollarTrailingAmt(0)          { pass in 0 if you don't want a dollar
                                trailing stop }
PctTrailingFloorAmt(0)        { pass in 0 here and/or in next input if you
                                don't want a percent trailing stop }
PctTrailingPct(0)             { pass in 0 here and/or in previous input if
                                you don't want a percent trailing stop; else
                                pass in 50 for 50 percent }
ExitOnClose(false)            { pass in true if you want to exit the
                                position at the close of the day, else pass in
                                false. CAUTION: We recommend that you set this
                                to TRUE only for back-testing, if at all; in
                                automated execution, the exit order will NOT
                                be filled at the close of the day; instead,
                                the order can be sent into the extended
                                session as a limit order. }
j_StdDev(0)                   //if > 0 length for stddev stop amount. 1
                                stddev stop length x
j_NextOpen(0)                 //set to 1 to use Open of next bar (day)
j_NextProfit(0)               //set to 1 to use Next Profitable Bars
j_TrendChange                 //0=false, n=number of bars to determine trend
j_LongExitAfterBars           //exit long positions after n number of bars
                                have passed
j_ShortExitAfterBars          //exit short positions after n number of bars
                                have passed
```

Components

ShareOrPosition

ShareOrPosition = 1

SetStopShare is used if you set the value of ShareOrPosition to 1.

SetStopShare is a reserved word that sets the way built-in stops calculate the exit order prices. Each built-in stop reserved word has a parameter for the amount of profit or loss desired, SetStopShare is simply a switch that changes the behavior of the built-in stops so that the exit order is calculated on a per share/contract basis, otherwise the exit order is calculated on a total position basis.

SetStopShare is synonymous with **SetStopContract**.

If SetStopShare, SetStopContract, and SetStopPosiiton are used multiple times, even in different strategies applied to the same chart, the last reference is controlling.

Example 1

When used with the SetStopLoss built-in exit strategy, SetStopShare sets the exit order based on a per share/contract basis.

(If you held 1000 shares of the MSFT and set a $0.25 stop loss amount, you would exit $0.25 from your entry price with a $250 loss. ($0.25 x 1000 shares))

Example 2

When used with a Forex symbol, such as EURUSD, a share refers to a lot (typically consisting of 100,000 units).

```
Buy 1 share next bar at market;
SetStopShare;
SetStopLoss(.001);
```

This example enters into a position of 1 lot size (100,000 units) and then attempts to exit based on a stop loss of .001 per unit, which for this Forex symbol would be a stop loss of $100 for the lot (.001 * 100,000 units).

ShareOrPosition = 2

SetStopPosition is used if you set the value of ShareOrPosition to 2.

SetStopPosition is a reserved word that sets the way built-in stops calculate the exit order prices. Each built-in stop command has a parameter for the amount of profit or loss desired, SetStopPosition is simply a switch that changes the behavior of the built-in stop command so that the exit order is calculated on a total position basis, verses a per share/ per contract basis, set by the SetStopContract or SetStopShare switches.

SetStopPosition is the default setting for all built-in set commands.

If SetStopShare, SetStopContract, and SetStopPosition are used multiple times, even in different strategies applied to the same chart, the last reference is controlling.

Example

When used with the SetStopLoss built-in exit strategy, SetStopPosition sets the exit order based on the whole position number of shares basis.

(if you held 1000 shares of the MSFT and set a $250 stop loss amount, you would exit $0.25 from your entry price with a $250 loss. ($250 / 1000 shares))

ProfitTargetAmt

```
ProfitTargetAmt = 0 means "Off"
ProfitTargetAmt = any positive number is the amount of profit to set as a
target.
```

Setting the Profit Target is accomplished with the SetProfitTarget reserved word.

SetProfitTarget is a built-in stop reserved word that enables you to specify the amount of profit you are looking to capture on a total position basis, or a one contract or one share basis. Within a strategy an

order to close your entire position is generated once the profit target amount has been reached. Whether the profit target amount is based on a position or per share/contract basis is determined by your setting to the first parameter, ShareOrPosition.

When used with an automated strategy where orders are being generated into the real-world, the profit exit limit order is immediately sent into the market to be filled. If you lose internet connectivity, your profit target is still active, but your strategy can longer generate additional orders.

Normally strategies generate orders on the close of the bar for execution on the next bar, SetProfitTarget allows you to generate orders and exit on the same bar as the bar of entry, this is especially useful when working with longer duration bars, (e.g. 30-min, 60-min, daily, weekly, monthly).

Examples

When used with the SetStopPosition reserved word, the Amount parameter sets the stop loss as a dollar amount for the entire position based on the total number of shares or contracts in the current open position. (if you held 500 shares of MSFT and specified $200 profit amount, you would exit $0.40 from your entry price.)

```
SetStopPosition;
SetProfitTarget(200);
{SetStopPosition is the default setting and is optional)
```

When used with the SetStopShare or SetStopContract reserved words, the Amount parameter sets the profit as a one share or one contract amount. (if you held 500 shares of MSFT and specified $0.60 profit amount, you would exit .60 from your entry price with a $300 profit.)

```
SetStopShare;
SetProfitTarget(.60);
(SetStopShare and SetStopContract are synonymous and both work for stock,
futures, options, etc.)
```

Orders Generated

Limit Order to Sell (Long Exit) or Limit Order to Buy to Cover (Short Exit)

StopLossAmt

If you set **StopLossAmount** to 0, this stop will not be used.

The Stop Loss Amount is accomplished with the **SetStopLoss** reserved word.

SetStopLoss is the reserved word for setting up this input variable.

SetStopLoss is a built-in stop reserved word that enables you to specify the amount of money you are willing to risk either on a total position basis, or a one contract or one share basis. Within a strategy an order to close your entire position is generated once the stop loss amount has been reached. Whether

the stop loss amount is based on a position or per share/contract basis is determined by set stop reserved words: SetStopPosition, SetStopShare, or SetStopContract

When used with an automated strategy where orders are being generated into the real-world, the stop exit order is monitored and the order held on your computer, once the Stop Loss amount is reached, a market order is generated and sent to be executed. If you lose internet connectivity, you no longer have a working stop.

Normally strategies generate orders on the close of the bar for execution on the next bar, SetStopLoss allows you to generate orders and exit on the same bar as the bar of entry, this is especially useful when working with longer duration bars, (e.g. 30-min, 60-min, daily, weekly, monthly).

Examples

When used with the SetStopPosition reserved word, the Amount parameter sets the stop loss as a dollar amount for the entire position based on the total number of shares or contracts in the current open position. (if you held 500 shares of MSFT and specified $200 stop loss amount, you would exit $0.40 from your entry price.)

```
SetStopPosition;
SetStopLoss(200);
```

When used with the SetStopShare or SetStopContract reserved words, the Amount parameter sets the stop loss as a one share or one contract amount. (If you held 500 shares of MSFT and specified $0.60 stop loss amount, you would exit .60 from your entry price with a $300 loss.)

```
SetStopShare;
SetStopLoss(.60);
```

(SetStopShare and SetStopContract are synonymous and both work for stock, futures, options, etc.)

Orders Generated

Market Order to Sell (Long Exit) or Market Order to Buy to Cover (Short Exit)

BreakEvenFloorAmt

If you set BreakEvenFloorAmt to 0, this setting will not be used. If you set it to a positive number, that amount will be used for the floor amount.

SetBreakeven is the reserved work with which this input is implemented.

SetBreakEven is a built-in stop reserved word that allows you to exit a position at the breakeven point, once a specified profit floor has been reached. The profit floor can be specified on a total position basis, or a one contract or one share basis. Whether the profit target amount is based on a position or per

share/contract basis is determined by set stop reserved words: SetStopPosition, Setstopshare, or Setstopcontract. SetBreakEven does not factor in commissions or slippage.

Example

Exit all shares or contracts in all positions at the breakeven point if the position has been up at least $25.00 in profit at some point.

```
SetBreakEven(25);
```

Exit all shares or contracts in all positions at the breakeven point if the position has been up at least $0.25 from the entry price.

```
SetStopShare;
SetBreakEven(.25);
```

DollarTrailingAmt

If you set DollarTrailingAmt to 0, this feature will not be used. If you set it to a positive number, that amount will be used as the trailing dollar amount.

SetDollarTrailing is a reserved word is used to set a trailing stop to exit a position based on a specified dollar Amount that trails the greatest position profit. A stop order is generated at the calculated price based on the trailing Amount.

SetDollarTrailing(Amount);

Amount is the greatest open position profit that you are willing to give back.

To place a dollar risk trailing stop at $5 below the greatest share price, use:

```
ShareOrPosition = 1 and
DollarTrailingAmt = 5
```

As the price rises in a long position, so does the placement of the stop. It is maintained at a stop value $5 below the greatest share price.

PctTrailingFloorAmt

Setting PctTrailingFloorAmt = 0 or PctTrailingPct =0 causes this feature to be ignored; setting it to a positive number less than or equal to 100 sets the percent trailing floor amount. Its corresponding variable is PctTrailingPct, which sets the percent amount of the profit you are willing to lose.

SetPercentTrailing is a built-in stop reserved word is used to specify the amount of the maximum open position profit you are willing to lose (as a percent) as well as the profit level that must be reached in order for the stop to take effect. The position or contract/share is closed out when the specified percentage of the maximum profit is lost.

```
SetPercentTrailing ( PctTrailingFloorAmt, PctTrailingPct );
```

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PctTrailingFloorAmt is a numeric expression representing the amount of profit to be reached before the stop takes effect. **PctTrailingPct** is the percent of the profit you are willing to lose.

Example

In order to place a percentage based trailing stop that exits a position once it has returned 15% of the maximum equity earned after the position has made $500, you would use:

```
ShareOrPosition = 1 and
PctTrailingFloorAmt = 500 and
PctTrailingPct = 15
```

PctTrailingPct

See above explanation. These two parameters work together.

ExitOnClose

Set this value either to True or False. If False, then this feature is ignored. If True, then the reserved word SetExitOnClose will be used.

SetExitOnClose is a built-in stop reserved word used to place an order to exit all shares or contracts in all positions on the close of the last bar of the trading session on an intra-day chart.

For historical simulations, SetExitOnClose generates a market order on the bar close event of the last intra-day bar for each day in the chart. When used in an automated strategy placing real-world orders, SetExitOnClose generates a limit order into the post market trading session, (if one exists), otherwise a market order is generated for the open of the next regular session day.

SetExitOnClose by default uses the closing session time specified by the custom session settings of the chart.

j_StdDev

j_StdDev set to a number greater than 0, sets the number of standard deviations away to use as a stop.

Typically price doesn't move more than about 2-3 standard deviations away from its average. Generally it moves more like 1 or 2 standard deviations.

Thus, when I'm optimizing this parameter, I generally set it to test from 0 to 3 in steps of .05. That makes for lots of tests, but it will likely find something in that range that fits.

j_NextOpen

This value allows you to exit on the open of the next bar. If you set it to 0, it is ignored; if you set it to 1, it means true and thus take the exit.

I optimize this value from 0 to 1 by 1.

j_NextProfit

This value allows you to exit on the next profitable bar. If set to 0, this exit is ignored; if set to 1 it is true, which means to exit as soon as there is a profit (not including this bar).

I optimize this value from 0 to 1 by 1.

j_TrendChange

This value is set to 0=false; or nbr=# of bars. Exit if the Trend Changes over the next n number of bars. For instance, set it to 3 to exit if the trend changes over the next 3 bars.

j_LongExitAfterBars

This values is set to 0 for false, or nbr = # of bars. If a positive number, then exit after this number of bars. For instance, set it to 5 to exit Long trades after 5 bars have passed.

j_ShortExitAfterBars

This values is set to 0 for false, or nbr = # of bars. If a positive number, then exit after this number of bars. For instance, set it to 5 to exit Short trades after 5 bars have passed.

Example

Here is an example of some settings for the ExitsStrategies:

Name	Value
j_Key	2047
j_Vendor	"TS"
ShareOrPosition	1 {1=share, 2=posn}
ProfitTargetAmt	1500
StopLossAmt	750
BreakevenFloorAmt	450
DollarTrailingAmt	1700
PctTrailingFloorAmt	500
PctTrailingPct	7
ExitOnClose	false
j_StdDev	2
j_NextOpen	0 {1=true}
j_NextProfit	0 {1=true}
j_TrendChange	3 {0=false; nbr=# of bars}
j_LongExitAfterBars	5 {nbr bars exit after}
j_ShortExitAfterBars	7

Figure 7.1—Sample Inputs for ExitStrategies

CHAPTER 8: CPC Index

Introduction

When I was an early trader (more than 30 years ago) I thought Net Profit was all you needed to measure a system's worth. Then I discovered Average Trade size, and then Profit Factor, and then ….

It went on and on. It was next to impossible to compare system A to system B. There are things to consider like how much money it takes to make the profit. Does it take $10,000 to make $10,000 or $50,000 to make $10,000? One is 100% profit, while the other is 20% profit. And, is the Average Trade large enough to cover commission and slippage?

I spent many years listening to gurus and reading books and going to seminars, looking for all the answers.

John Bollinger (of Bollinger Bands fame) said that <u>both</u> the Profit Factor and the Ratio of Average Win to Average Loss must be 2.0 or greater, and that the Percent Profitable should be 50% or more. Well, that would be a rare system indeed.

Finally, after much thinking and research, I used my mathematical brain, and combined Profit Factor, Ratio and Percent Profitable into one equation that answered most of the problem. I found that if you multiply all three of them together you get an index that gives you a really good idea whether a system is tradable. I called this my "Cardinal Profitability Construct" or **CPC** for short.

Here's the equation:

```
CPC Index = ( Percent Profitable ) * ( Profit Factor ) * (Ratio of Avg
Win to Avg Loss)
```

These values are easily found on the Strategy Performance Report in both TradeStation and MultiCharts. See Figures below.

Figure 8.1 —TradeStation Performance Report

Notice in Figure 8.1 that 1.03 x .3571 x 1.85 are the inputs to the equation. The solution is thus CPC = 0.68 (truncated).

If you have read my book "Trading 102—Getting Down to Business," you will remember my commentary about the value of the CPC Index in Chapter 9. In short, my rule of thumb is that any system I might consider trading must have a CPC Index of 1.2 or greater. Clearly, the system represented by the Performance Report above does not pass this test—0.68 is well below 1.2. Nevertheless, many people would jump into a system like the one above because it showed a Total Net Profit over $2,000. But, more importantly, the CPC Index doesn't pass, the Avg. Trade Net Profit is not greater than $100 and over the long-term, this system will not work over time. The CPC Index is invaluable for independently comparing systems.

Rather than calculate this index by hand over and over I decided to write the formula in EasyLanguage.

A little problem arose: you can't calculate profit in an indicator. You must be in a strategy to calculate profit. So, the CPC Index is a strategy. But, it doesn't buy or sell anything; it just uses the profit statistics to calculate the index and print the details in the EasyLanguage Output Window, in the Print Log. This feature is even more valuable when using MultiCharts, because the statistics we need are in two different locations in their output. The MultiCharts System Performance looks like this:

Strategy Performance Summary			
	All Trades	Long Trades	Short Trades
Net Profit	$45.96	$202.39	($156.43)
Gross Profit	$227.65	$221.45	$6.2
Gross Loss	($181.69)	($19.06)	($162.63)
Adjusted Net Profit	($108.76)	$89.88	($233.54)
Adjusted Gross Profit	$141.61	$122.41	$1.82
Adjusted Gross Loss	($250.36)	($32.54)	($235.36)
Select Net Profit	$22.15	$138.44	($116.29)
Select Gross Profit	$163.7	$157.5	$6.2
Select Gross Loss	($141.55)	($19.06)	($122.49)
Account Size Required	$131.8	$11.94	$162.63
Return on Account	34.87%	1695.06%	(96.19%)
Return on Initial Capital	0.05%	0.2%	(0.16%)
Max Strategy Drawdown	($179.57)	($55.39)	($234.52)
Max Strategy Drawdown (%)	(0.18%)	(0.06%)	(0.23%)
Max Close To Close Drawdown	($131.8)	($11.94)	($162.63)
Max Close To Close Drawdown (%)	(0.13%)	(0.01%)	(0.16%)
Return on Max Strategy Drawdown	0.26	3.65	(0.67)
Profit Factor	1.25	11.62	(0.04)
Adjusted Profit Factor	(0.57)	3.76	(0.01)
Select Profit Factor	1.16	8.26	(0.05)
Max # Contracts Held	1	1	1
Slippage Paid	$0	$0	$0
Commission Paid	$0	$0	$0
Open Position P/L	$25.82	n/a	$25.82
Annual Rate of Return	0.03%	0.11%	(0.09%)

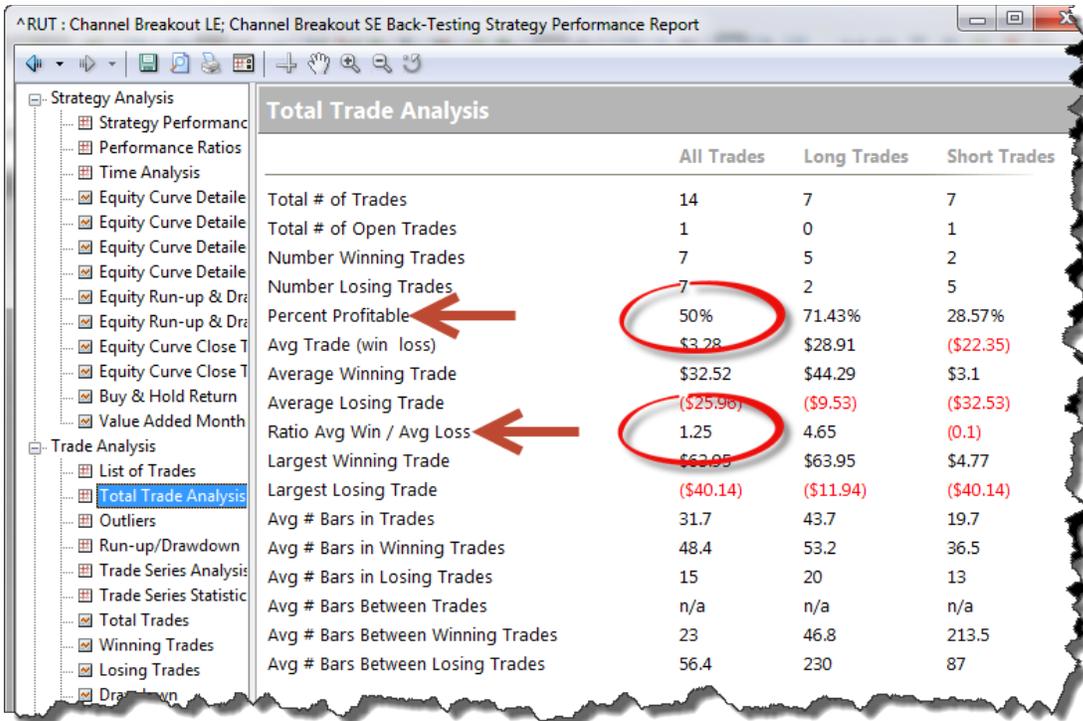*Figure 8.2—First page of MultiCharts Performance Summary*

Figure 8.3—Second Page of MultiCharts Performance Report

InputValues

```
j_Key(0),        // password key specific to each user
j_Vendor(""),    // text value of your software vendor
j_Indic(""),     // text value for this indicator specific to each user
o_jKey(0)        // output value (proprietary)
```

None of these values is optimizable. You have to put in the values I give you when you license the software, but none of them matters to you as a user. They are essentially identifications internal to the software.

The output of this index is not on a chart; rather, it is printed in the EasyLanguage Output Bar, in the area called the Print Log, at the bottom of your workspace. Here's what it looks like:

(Enlarged)

Or

(The whole thing)

Figure 8.1—CPC Index Output

The values, from left to right, are:

- Date
- Time
- Gross Profit
- Gross Loss
- Total Net Profit (TNP)
- CPC Index
- Joe Krutsinger's Profit to Drawdown ratio
- Mathematical Expectation
- Average Trade
- Average Win
- Average Loss
- Number of Wins
- Number of Losses
- Percent Profitable
- Profit Factor
- Ratio of Avg Win to Avg Loss

This output is convenient for another reason: you don't have to look at the Strategy Performance Report, which often gets in the way.

Before I leave this subject let me remind you that the Average Trade value is VERY important. Even if you have a system that makes $20,000 in a year, you need to look at the Average Trade size. If it took 800 trades each making $25 to get to $20,000, it is an impossible system to trade in real life. A trade of $25 theoretically is impossible to catch in real life. Slippage will kill you and you'll never really catch that $25.

A Clever Mathematical Concept

To disguise the simplicity of multiplying these three numbers together, I could substitute the original values as they are calculated and then reduce the equation to its simplest form.

The components are Percent Profitable, Ratio of Avg. Win to Avg. Loss, and Profit Factor.

These in turn are defined as follows:

Percent Profitable =

Number of Winning Trades divided by Total Number of Trades.

Let's represent this in an equation like this: P = NW / NT.

Ratio of Avg. Win to Avg. Loss

Average Winning Trade (W) divided by Average Losing Trade (L).

Let's represent this in an equation like this: R = W / L.

Or

= (Gross Profit / # Winning Trades) / (Gross Loss / # Losing Trades)

= (GP / NW) / (GL / NL)

Profit Factor =

Gross Profit divided by Gross Loss.

Let's represent this in an equation like this: PF = GP / GL.

Further Obfuscation

Gross Profit is the sum of all Winning Trades

Gross Loss is the sum of all Losing Trades

Reducing the Equation

Let us now put all these equations together and do some factoring and reducing and see what the formula looks like then.

(Nbr Wins) / (Total Nbr Trades) * (Gross Profit)/(# Winning Trades)/Avg Losing Trade   * (Sum of all Winning Trades) / (Sum of all Losing Trades)

= NW / NT * (GP / NW) / (GL / NL) * GP / GL

$= (GP^2 * NL) / (NT * GL^2)$

CHAPTER 9: Pennants Finder

Introduction

Some people like to trade breakouts, rather than moving averages. This indicator was designed for a client who preferred to trade breakouts. The indicator marks areas of congestion with little triangles that show the top value and bottom value to use for breakouts.

Input Values

```
j_Key(0),       // password key specific to each user
j_Indic("0"),   // text value for this indicator specific to each user
TriLen(4),      // length of the congestion triangle, in bars
jLines(1),      // 1=draw the support & resistance lines; 0=don't draw
                   them
jNums(1),       // 1=write the S&R numbers on the chart; 0=don't write
                   them
j_Wid(3),       // Width (thickness) of the lines to be drawn
j_Above(1.01),  // Factor above the High to write the numbers
j_Below(.99);   // Factor below the Low to write then numbers
```

Here's what the Pennants look like on a chart:
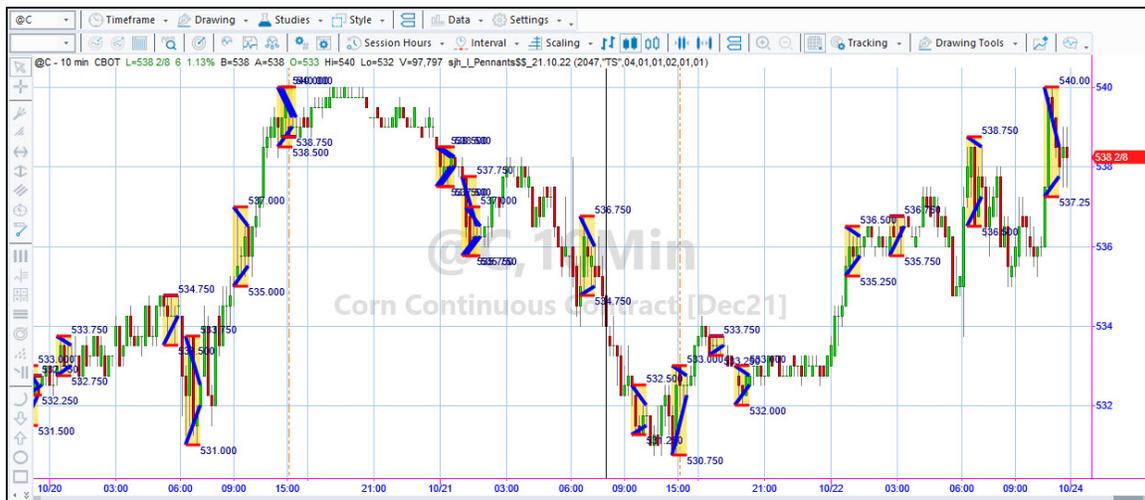
Figure 9.1—Pennants

The pennants are blue sloping lines with red horizontal lines on top of and underneath them. They are highlighted in translucent yellow.

The corresponding nu

How I Trade With This Indicator

The way I trade this indicator is to buy (or sell) the breakouts above (or below) the little horizontal red lines. Then, if the market comes back to the support or resistance I get out. Otherwise, I wait for the next pennant and move the stops up (or down).

When I use this indicator in conjunction with my SunnyBands, I watch for price to come down to the little red lines (or up to if we're in a long situation) and hit the upper or lower SunnyBands, and I take my profits and wait for another trade.

CHAPTER 10: Solar09

Introduction

This indicator is based on weighted moving averages. It is very simple, but powerful. It turns red when the market is moving downward and green when the market is moving upward. That's about all there is to it. Like all moving averages, it is a slightly lagging indicator.

Input Values

```
j_Key(1234),           //personal password Sunny gives you
price(Close),          // which price field to use: Open, High, Low or
                       Close
length(21),            // length of the moving average
upcolor(DarkGreen),    // color to paint upward moving average
downcolor(DarkRed),    // color to paint downward moving average
colorDeltaBar(1),      // =0 >> off; =1>>color the bar where the moving
                       average changes color
j_Offset(0),           // offset the moving average number of bars
j_Key(0),              // password key given upon purchase of license
j_Indic("000000000")   // text password for Solar09
```

Indicator on a Chart

Simply insert the sjh_I_Solar09 indicator on your chart, of whatever symbol, using **Insert ➔ Indicator** or **Alt+C**. Nothing will appear initially, until you set the proper input values, as above. Figure 10.1 shows the indicator on a chart of the Dow.

Figure 10.1—Solar09 Indicator on Chart of Dow Jones daily

The next chart, Figure 10.2, shows the Solar09 indicator with the input value ColorDeltaBar set to a color number. This turns on the painting of the transition bar. If ColorDeltaBar is equal to 0, the bar does not get highlighted. If any positive number, the number specifies the color for the bar. (See Appendix A for color values).

Figure 10.2—Solar09 Indicator with Bar set to 1 (on) which means black.

If you set the input value j_Offset to a positive number, the plot of the moving average will move back in time that many bars. If you set j_Offset to a negative number, the plot will be moved that many bars into the future.

CHAPTER 11: Solar09 Strategy

Most indicators can be turned into strategies. The Solar09 Indicator is no exception.

Introduction

The Solar09 Strategy is simply an interpretation of the Solar09 Indicator. This configuration simply takes a trade when the moving average changes color.

The picture of the indicator on a chart is deceiving. It looks better than it is. The problem with the indicator/system is that a trade can't be placed until the next bar. The line doesn't turn colors until after a bar is completed. Nevertheless, it is amazingly accurate.

There are several Solar Systems (Solar03, Solar05, Solar07, and Solar09 so far). Each has a little bit different tweak on the filters and triggers that set off the trade. While all are based on the red and green line shown above, each Solar System has a different way of finessing the market. Some use MACD, some ADX, some Pennant Formations, some Linear Regression, etc. You'll have to decide for yourself, based on your style and your favorite markets, which is best for you.

Input Values

```
INPUTS:
j_Key(1234),            // personal password Sunny gives you
j_price(4),             // you may choose Open, High, Low or Close based
                        on the respective values 1, 2, 3, or 4 (i.e.,
                        4=close)
length(21),             // length of the moving average
j_Key(0),               // password key given upon purchase of license
j_Indic("00000000000")  // text password for Solar09
```

Because this is a strategy, the value for length can be optimized. The input value for j_price can also be optimized from 1 to 4, for open, high, low or close.

The other values are not appropriate for optimization.

Examples
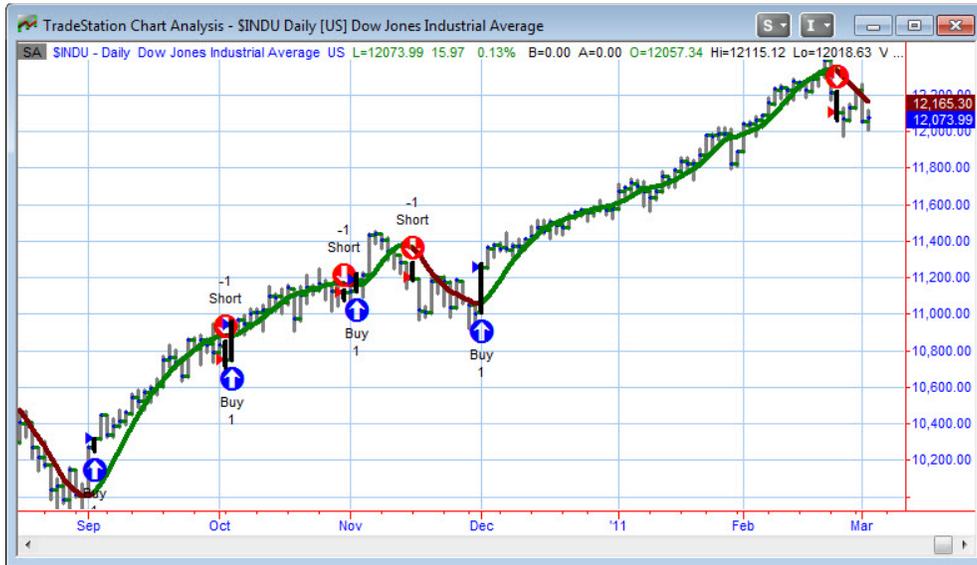
Figure 11.1—the Solar09 Strategy on a Chart

The best optimization for the Solar09 strategy on the @ES daily contract, for the past year, is in choosing a fast average (length = 5) and using the Open of the bars to calculate. This is shown in Figures 11.2 and 11.3 below.
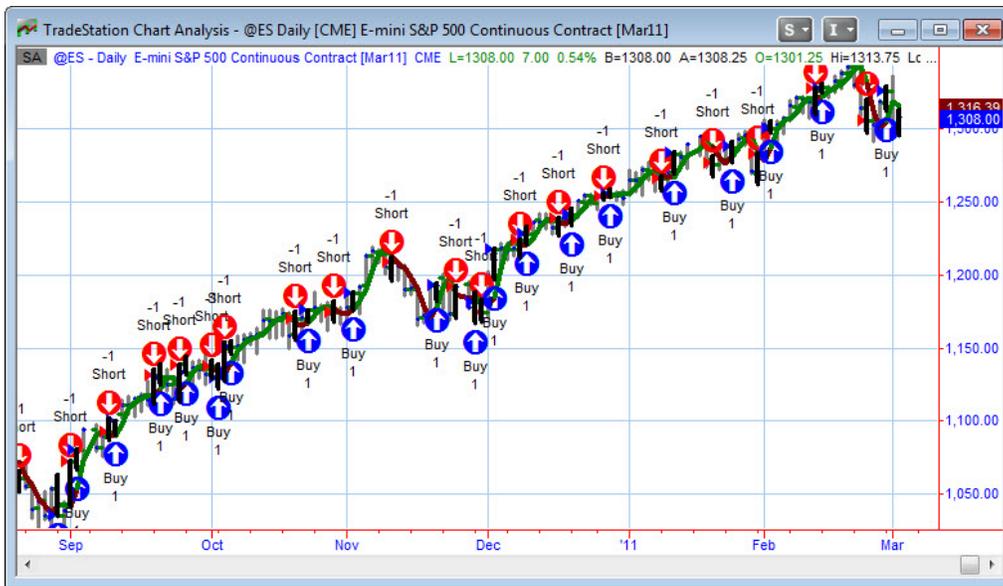

Figure 11.2—Optimized Solar09 Strategy

TradeStation Performance Summary			
	All Trades	**Long Trades**	**Short Trades**
Total Net Profit	$12,580.00	$10,877.50	$1,702.50
Gross Profit	$28,550.00	$15,937.50	$12,612.50
Gross Loss	($15,970.00)	($5,060.00)	($10,910.00)
Profit Factor	1.79	3.15	1.16
Roll Over Credit	$0.00	$0.00	$0.00
Open Position P/L	($875.00)	($875.00)	$0.00
Select Total Net Profit	$8,917.50	$10,877.50	($1,960.00)
Select Gross Profit	$24,887.50	$15,937.50	$8,950.00
Select Gross Loss	($15,970.00)	($5,060.00)	($10,910.00)
Select Profit Factor	1.56	3.15	0.82
Adjusted Total Net Profit	$4,235.53	$5,534.52	($4,746.38)
Adjusted Gross Profit	$23,337.51	$12,281.19	$8,809.69
Adjusted Gross Loss	($19,101.97)	($6,746.67)	($13,556.06)
Adjusted Profit Factor	1.22	1.82	0.65
Total Number of Trades	56	28	28
Percent Profitable	53.57%	67.86%	39.29%

Figure 11.3—Solar09 Strategy Performance Report

It is left to the reader to choose their own values for their time frames and instruments.

CHAPTER 12: AllAverages Indicator

Mother is the necessity of invention, I've always told my kids. And that's what led me to this indicator. I wanted to see how each of the different types of moving averages compared to each other—profit wise. And I got tired of having to go back and forth putting this average and then that average on my chart, all with different names.

So, I put all the averages in one indicator, and subsequently in one strategy, to make it quick and easy to plot any average from one place, and to test any moving average from one place and compare profitability by optimization.

Introduction

While you can't evaluate which average is "best" in the indicator format, you can easily look at them and choose the one you visually prefer. And, it's very easy when all you have to do is specify a different number, and not add and delete differently named indicators with different parameters. In this indicator, it's all in one place. All you need do is choose "WhichAvg" and you can even say how many of them to plot on the chart as long as it's one, two or three.

I think the first time I got frustrated with all the different moving averages was when I realized I could easily plot a 2 line moving average and look for crossovers, but I couldn't plot a 2 line Exponential Moving Average without putting two different indicators on the chart. That's what got me started on this indicator.

Input Values

```
INPUTS:
j_Key(2044),            //jKey password
j_WhichAvg              // (1 {1=H, 2=S, 3=X, 4=W, 5=DMA, 6=S9, 7=KAMA}),
                        // 1 = Harmonic Mean Moving Average
                        // 2 = Simple Moving Average
                        // 3 = Exponential Moving Average
                        // 4 = Weighted Moving Average
                        // 5 = Sunny's Dynamic Moving Average
                        // 6 = Sunny's Solar09 Moving Average
                        // 7 = Kaufman's Adaptive Moving Average
j_Many(1),              // 1, 2, or 3 moving averages
j_Item(4),              // O, H, L, C = 1, 2, 3, 4
j_L1(9),                // length of moving average 1
j_1Color(darkbrown),    // color of average 1
j_1Thick(2),            // thickness of line for average 1
j_1Style(2),     // style of line for average 1 (ie: solid, dash, dot…)
j_T1(0.25),             // smoothing factor for average 1 calculations
j_Precision1(5),        // nbr of digits for calculations (ie 5 decimal
                        places)
j_L2(18),               // length of moving average 2
j_2Color(darkmagenta),// color of average 2
j_2Thick(2),            // thickness of line for average 2
```

```
j_2Style(2),              // style of line for average 2
j_T2(0.25),               // smoothing factor for average 2 calculations
j_Precision2(5),          // number of decimals in calculations for average
j_L3(20),                 // length of moving average 2
j_3Color(darkgreen),,     // color of average 1
j_3Thick(2),              // thickness of line for average 1
j_3Style(2),              // style of line for average 1 (ie: solid, dash,
dot…)
j_T3(0.25),               // smoothing factor for average 1 calculations
j_Precision3(5),          // nbr of digits for calculations (ie 5 decimal
                          places)
j_Displace(0),            //
j_DisplaceText(5)         //
                          ;
```


Figure 12.1--Inputs

PAGE 133
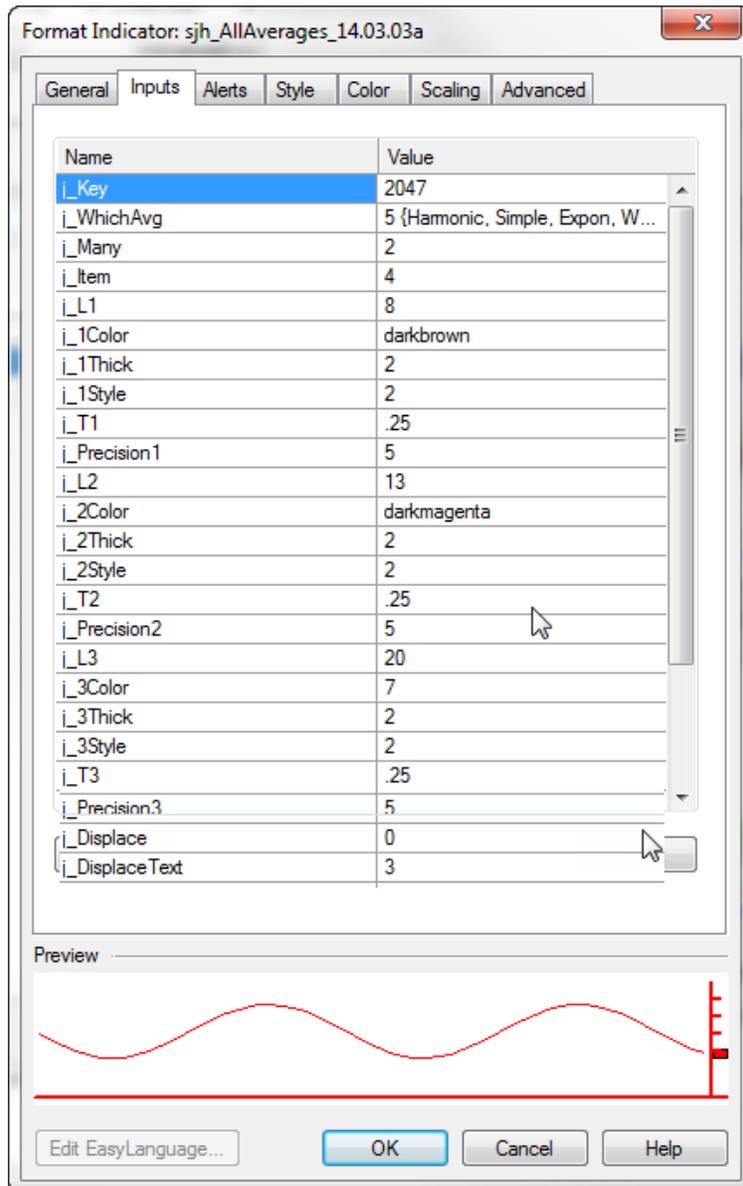
Examples

A chart won't show the simplicity and flexibility of this indicator. But, here it is anyway for you to see what three moving averages from sjhAllAverages looks like on a chart. If you'll notice at the last bar on the chart there is a little set of numbers. Those numbers are the lengths of each of the three moving averages.

Figure 12.2—AllAverages with 3 simple moving averages selected

CHAPTER 13: AllAverages Strategy

Mother is the necessity of invention, I've always told my kids. And that's what led me to this indicator. I wanted to see how each of the different types of moving averages compared to each other—profit wise.

So, I put all the averages in one indicator, and subsequently in one strategy, to make it quick and easy to plot any average from one single place, and to test any moving average from one place and compare profitability by optimization.

Just by optimizing on the input value you can test all six types of moving average at once.

Introduction

You could compare each type of moving average to one another by testing all the parameters, one at a time, on each type average, one average at a time. I didn't like this technique. It seemed far too tedious and prone to error.

Since you can't optimize an indicator, and since you can only tell "which is best" by measuring profitability, I wrote a strategy that would take an input to specify which average to use, and then I could optimize that input over all the averages to find the most profitable one.

Input Values

These are the input values for the Strategy. The indicator is essentially the same.

```
INPUTS:
  j_L1(8),
  j_L2(13),
  j_NAvg1(1 {1-6;Which Avg to Use}),
  {
        1       Harmonic Mean
        2       Simple Moving Average
        3       Exponential Moving Average
        4       Weighted Moving Average
        5       Sunny's Dynamic Moving Average
        6       sjh_Solar09 Proprietary Average
        7       Kaufman's AMA (KAMA)
  }

  j_NAvg2(1),
  j_NOHLC1(1) ,
  j_NOHLC2(1) ,
  j_Key(0),
  j_Indic("")
        ;
```

The lengths, j_L1 and j_L2 are the lengths of the two moving averages to plot, or to test.

The input value j_NAvg1 tells me which type of average to use for the first moving average. You specify any value from 1 to 7 to designate the average. Any other value is meaningless.

The input value j_NAvg2 tells me which type of average to use for the second moving average.

So, you see, you could choose the first line to be an Exponential Average, and the second to be a Simple Moving Average – or any of the combinations you wish.

The input values j_NOHLC1 and j_NOHLC2 tell me what bar value to use for each of the moving average lines. You may specify them as follows:

```
1       Open
2       High
3       Low
4       Close
```

The nice thing about making them numeric inputs is that you can **optimize** on them as well.

The inputs j_Key and j_Indic are for password protection. When you purchase a license to use the software, I'll give you these values. They are unique to you.

There are no pictures to show with this indicator. It is all about the optimization. The simple moving average, the exponential moving average, the weighted moving average, all look just like their counterparts in TradeStation. The whole reason for this strategy is so you can optimize to find which type moving average works best (makes the most profit) on your particular symbol and timeframe.

Chapter 14: Color the Day & Night Sessions

This PaintBar is for coloring the day session different from the night session. This routine is called **sjh_PB_DaySession**.

I like knowing, in 24-hour traded symbols, whether I am looking at the day session or the night session, at just a glance. I don't like to have to think about it. Typically, in the eMini, there is lower volume in the night session. In fact, I find it is significantly lower and the moves are generally much smaller. This is important to know. And, I like setting my Neurology to key instantly off the color variations. That's why I color the night sessions differently from the day sessions.

Latest Version: sjh_PB_DaySession_14.09.02

Introduction

When I'm trading, and under stress, even while following my system rules, I can get easily sidetracked and sometimes confused. And, if the phone rings and someone redirects my thoughts, I can look back at the computer screen and not relate to what I'm seeing.

So, my mantra is to keep it simple. Make everything obvious. And, one of the techniques is to color-code things. For instance, I like to keep my DynamicMovingAverage purple and gold. That way, whenever I look up, if I see purple and gold lines crossing I know it's my DMA.

Likewise, with the availability of 24-hour trading, I can enter or exit a trade any time of the day or night. And especially when I'm analyzing historical charts I like to make it easy to see what part of the day or night I'm looking at.

Input Values

As with all my indicators, the parameter that will turn off and on the indicator is the j_Key value.

```
INPUTS:
j_Key(31),              // Set to your password value given by Sunny
j_Vendor("TS"),         // TS=TradeStation, MC=MultiCharts, GN=Genesis,
                        MS=MetaStock, NJ=NinjaTrader
j_DayColorUp(Blue),     // Color Day Session Up Bars
j_DayColorDn(Red),      // Color Day Session Down Bars
j_NiteColorUp(Green),   // Color Night Session Up Bars
j_NiteColorDn(Magenta),    // Color Night Session Down Bars
j_OpenTime(0630),       // Local opening time of day session
j_CloseTime(1315)       // Local closing time of day session (begin nite
                        session)
;
```

It's pretty self-explanatory. You specify the color you want the Day Session bars to be painted. In this example I've chosen Blue. Then you choose the color you want the night, or Second Session bars to be

painted. Then, with OpenTime and CloseTime you specify the times the Day Session opens and closes. The routine assumes if it's not the Day Session, then the rest of the bars are in the night session.

Example

Figure 14.1—PB_DaySession: Blue and Red are Day Colors

Blue and red bars are in the day session. Green and magenta bars are in the night session. The curvy lines on the chart are from my DynamicMovingAverage (DMA).

Using this PB_DaySession helps set your Neurology to instantly key in to which session you are trading in.

Chapter 15: SunnyBars

This is another one of those inventions born of necessity. I wanted to see how larger and diminishing volume effected the movement of the markets.

This indicator is actually a set of **PaintBars**. There are <u>three</u> routines: sjh_SunnyBarsBodyVolume, sjh_SunnyBarsTop, and sjh_SunnyBarsBot. The first routine paints the body of the candle, with the width of the candle being dependent on the volume. The next two routines paint the top and bottom wicks of the candle. To get a full SunnyBar you must put all three PaintBars on the chart.

It looks like this:

Figure 15.1—Notice that Wider SunnyBars have more volume

Notice the higher volume bars are wider than the lower volume bars.

NOTE: The symbol on the chart must be in OHLC bar configuration, not in candlesticks.

Introduction

Back in the olden days I used to favor an indicator called EquiVolume by Richard Arms. It fell out of favor as market software became taken over by larger concerns than his, and the indicator dropped off the common lists.

Because I couldn't find this indicator on TradeStation, I created my own. This indicator, SunnyBars, is a combination of candlesticks the way I see them, and the concept of making higher volume bars wider, and lower volume bars more narrow.

NOTE: These bars must be put on a chart of OHLC bars. The indicator won't show up on a Candlestick chart. The candles will overwrite the SunnyBars.

Input Values

There are only two inputs to the PaintBar Indicator SunnyBarsVolume, and they are your **j_Key** password key, given to you by me, and changed from time to time to protect my proprietary software, and the **length** of the Average to use for the Volume.

 The Bottom and Top paintbars, which paint the wicks, have another input parameter, and that is to specify the width of the blue wicks. That value can go from 0 to 6. I like to set mine to 3.

The next figures show the input values for each of the three (3) routines necessary to completely paint SunnyBars. Remember, SunnyBars is a combination of three PaintBars.
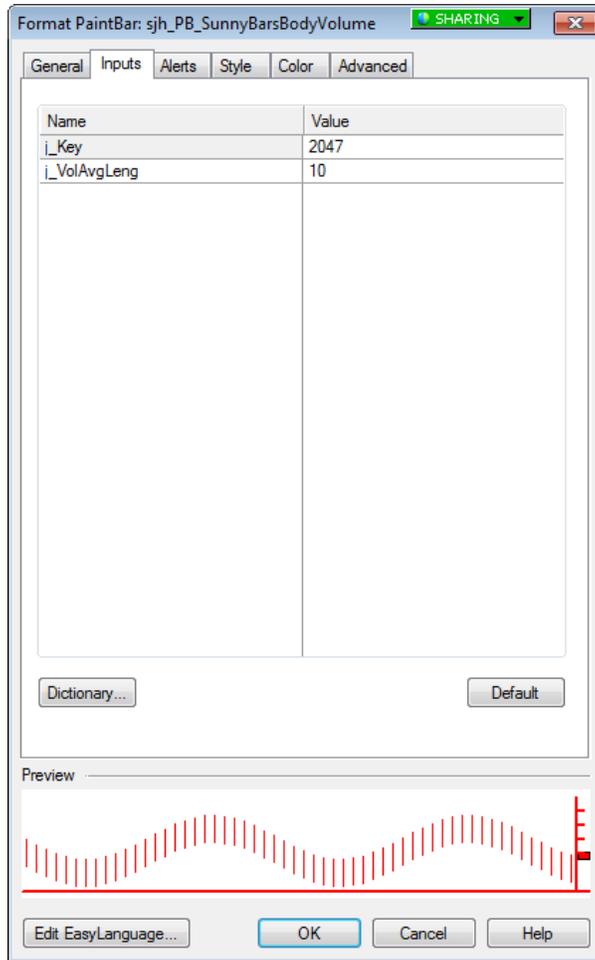
Figure 15.2—Inputs for SunnyBars Body Volume PaintBar
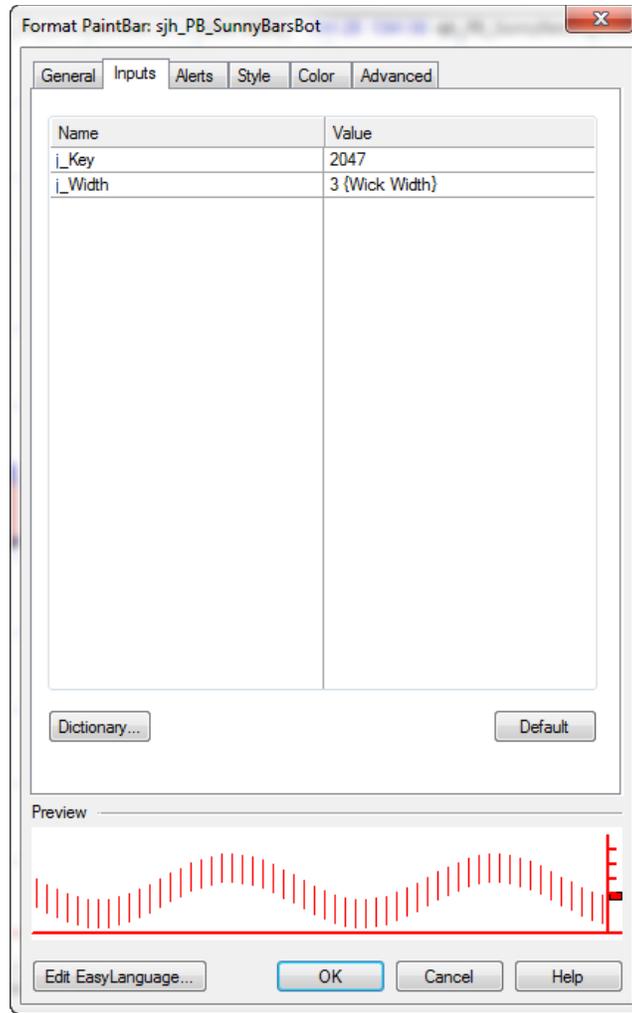
Figure 15.2—Inputs for SunnyBars Bottom and Top are the same

Figure 15.3—SunnyBars: Narrow and Wide bars denote volume

Note in the figure above, that there are two really wide bars (when compared to the rest of the bars). The widest green bar, is just after noon and is indicative of a blow off top. The widest red bar occurs just after 13:00, and is a blow off as well, this time on the bottom. Notice how price tends to reverse after these really thick bars.

Chapter 16: TimeSeriesForecast & RVI

Introduction

The Time Series Forecast (TSF) indicator is based on linear regression calculations using the Least Squares method. Linear regression is a statistical tool used to predict future market values relative to past values. TSF attempts to "predict" the future value of a market by determining the upward or downward bias of a trend and extending that calculation into the future. For example, if prices are trending up, TSF attempts to logically determine the upward bias of the price relative to the current price and extend that calculation forward. When the market price is above the indicator, the trend is considered up. When the market price is below the indicator, the trend is considered down. Additionally, many analysts believe when prices rise above or fall below the indicator line, prices will likely pull back to the line. The TSF indicator also monitors the current trend to determine if a change in direction occurred.

The Time Series Forecast indicator is similar to the Linear Regression indicator with the exception of two significant differences. The first difference is that TSF plots its line forward (to the right of the chart) by the number of bars specified by the j_BarsForward input. The second difference is the default Length input value used for the TSF is much shorter because the plot line is extended forward. A larger Length input would create a grossly exaggerated plot and would not be as reliable as a shorter-term length when analyzing trends and price activity.

TradeStation's built-in indicator lags price movement. My version is the inverse of TradeStation's indicator, and does a great job of plotting price movement in advance of movement. You will notice that when my indicator is at a top, the market will be making a bottom. And, when my indicator is at a bottom, the market will be making a top.

On the RVI indicator it is just the opposite. Tops show tops, and bottoms show bottoms.

Inputs

```
INPUTS:
  j_Price(Close),
  j_Length(9),
  j_BarsForward(5),
  j_BarPlus(7),
  j_Color(blue),
  j_Thick(3)
  ;
```
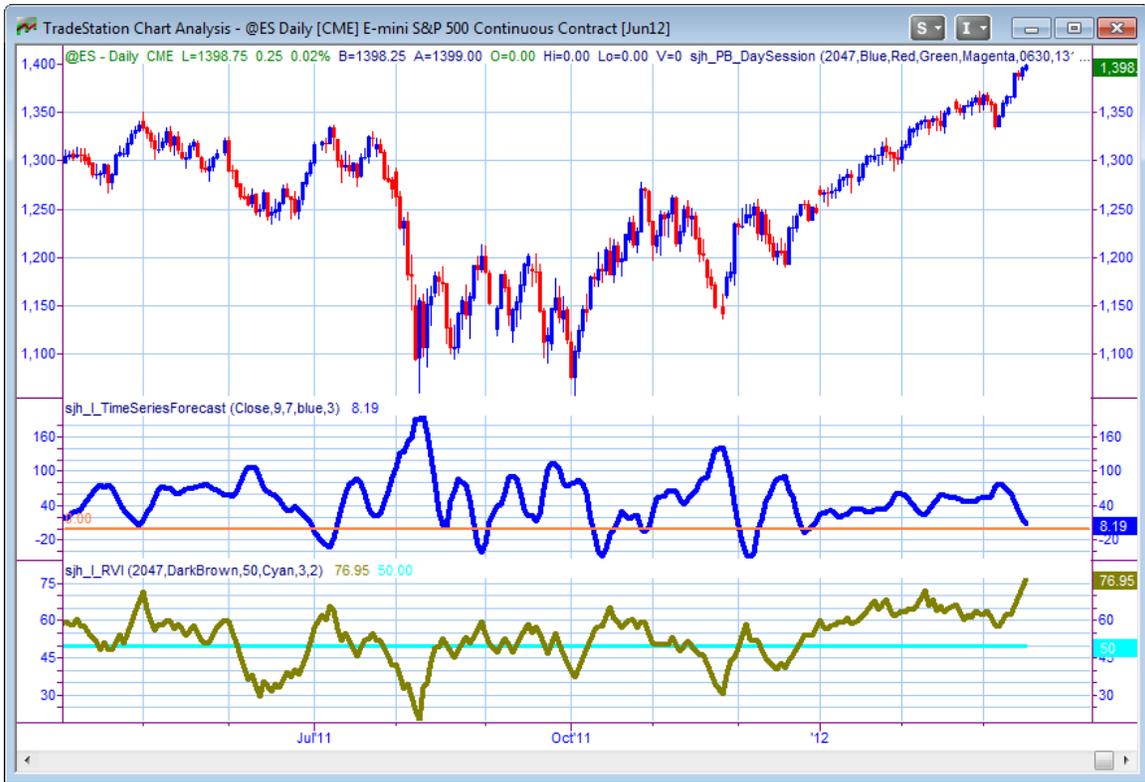
Figure 16.1—TimeSeries and RVI

Chapter 17: CloseLastTrade

When I am doing research into how a trading system fares, and compares to other trading systems, I like to have all the open trades closed, as of the last bar on the chart. There might be a trade of several thousand dollars left open otherwise, and its values would not be counted into the Performance Report statistics.

Introduction

This is a simple routine, in the form of a Strategy. All you need to do is add it to the list of Signals/Strategies at the end of the list. It will then close all open trades at the end of the chart.

Input Values

There are no inputs for this strategy.

Examples

Let's say the last trade on your strategy is a buy, and that it happened a month ago (or say 20 bars ago), and that the market had been going up ever since. Then, the Strategy Performance Report would not report this beautiful, long, profitable trade in the statistics for your system. Instead, the trade would be left currently open, and would not be part of the profit and stats reported.

If you included the CloseLastTrade strategy, however, in your list of Signals, as the last signal, then it would close that final trade at the last bar on the chart, and it would now appear as part of the statistics.

CHAPTER 18: BingTicks

To some it sounds like incessant notice, but to us traders the sound of the bing and the bong of this indicators is soothing! This little indicator does nothing except play a small .wav file with each tick of the market. I put it on a 1-minute chart of whatever I am trading.

Introduction

Back in the olden days, when all trading was done on the floor of an exchange, using open-outcry only, the cacophony on the floor was thrilling. You could almost hear the waves of excitement as the market got hotter and cooled down. You could tell which way the market was going based on the din of the floor.

Now that much of our trading takes place on computers (aka "upstairs"), the emotion of the noise has subsided. However, there is one way to recapture that excitement and to read the level of activity based on sound. And that is to listen to the frequency of the up and down ticks through my little sjh_BingTicks indicator.

With each tick of the market, with every trade, sjh_BingTicks plays a small sound file from your harddrive. I use a "bing" for up trades, and a "bonk" for down trades. So, not only do I get a sense of frequency, I get a feel for direction. Further, I use a "click" for sideways trades.

Input Values

```
INPUTS:
  j_Key(31),
  // Play this sound when trade is up:
  j_UpSound("C:\Sounds\Blip.wav"),
  // Play this sound when trade is down:
  j_DownSound("C:\Sounds\Bonk.wav"),
  // Play this sound when trade is sideways:
  j_SideSound("C:\Sounds\Click.wav"),
  //Play this sound near market close:
  j_ClosingSound("C:\Sounds\ClosingBell.wav"),
  //Closing Time to Ring the Closing Bell:
  j_ClosingTime(1313)
  ;
```

Examples

Remember to have a folder on your C:\ drive that matches your inputs, and a wave file matching each input, otherwise no sound will play.

For instance, if in the second through fifth inputs you use "D:\Sounds\xxx.wav" then the sounds must be located on your D:\ drive. Be sure that you name the wav file exactly as it is named on your computer. If the file on your computer is "Blip" remember that it is different from "blip."

In the original incarnation of this indicator, there were no inputs. I used it to simply play the sounds for my one trading instrument, the S&P 500. But then I began trading the other futures contracts and the Forex markets with the same "speed-trading" frequency. When that started, I needed to be able to differentiate between which chart was binging and where the action was taking place. So, I made the indicator flexible so I could hear one sound on the S&P and a different sound on the other markets.

I also like the "ClosingBell" to ring 2 minutes before closing time, to remind me to exit any trades I don't want to hold overnight. TradeStation signifies 1:13 pm as 1313.

The next picture shows the inputs for the indicator.

If you need some sound files, just go to the **downloads** section of MoneyMentor.com https://www.moneymentor.com/downloads.html and pick from a few that I have made available, which work well for trading sounds. Keep in mind if you download your own sounds, a small file works best for fast moving markets. The sound must play very quickly and not interfere with the next sound, because ticks come in very fast. Make sure you use small sound files. (.wav)
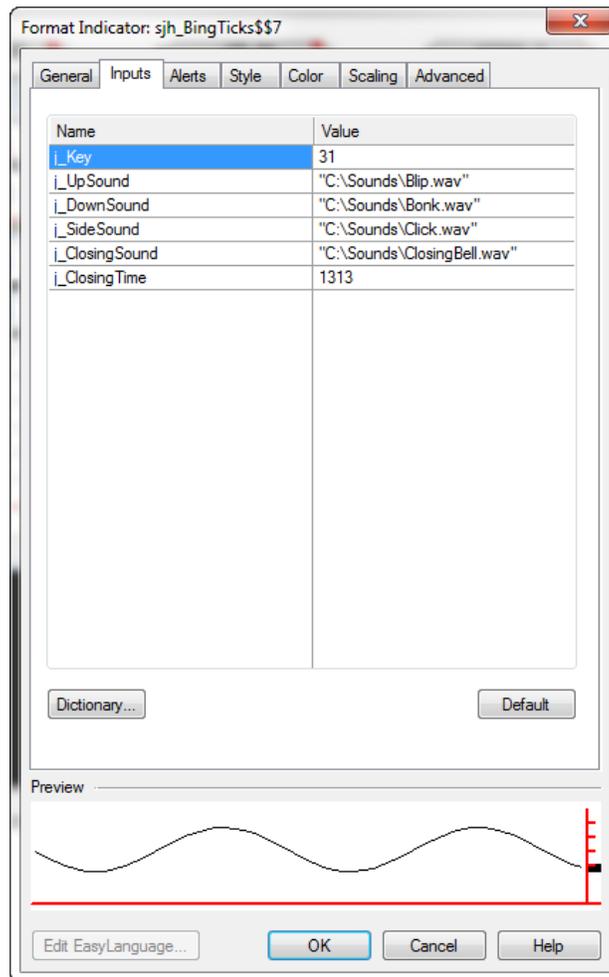
Figure 18.01—Format Indicator Menu Panel

I like to use different sounds for different contracts. That way I can hear when one is going down and the other going up without even looking at the monitor. I often trade Gold and the EMini S&P. For the Gold contract I use the following settings:

Name	Value
i_Key	2047
i_UpSound	"C:\Sounds\C7x400.wav"
i_DownSound	"C:\Sounds\Buzz.wav"
i_SideSound	"C:\Sounds\Click.wav"
i_ClosingSound	"C:\Sounds\ClosingBell.wav"
i_ClosingTime	1358

Figure 18.02—BingTicks settings for Gold contract

For the EMini contract I use these settings:

Name	Value
i_Key	2047
i_UpSound	"C:\Sounds\Blip.wav"
i_DownSound	"C:\Sounds\Doiipp.wav"
i_SideSound	"C:\Sounds\Click.wav"
i_ClosingSound	"C:\Sounds\ClosingBell.wav"
i_ClosingTime	1313

Figure 18.03—BingTicks settings for EMini contract

Notice in Figures 18.02 and 18.03 that the Closing Time is different for each contract. Gold closes at 1400 while the EMini closes at 1315. I give myself 2 minutes warning by using the settings above.

CHAPTER 19: What Time Is It?

This indicator helps me keep track of whether the market is moving fast or slowly, and whether the server is still feeding me data or not.

Introduction

There are times when I am not totally sure whether the market is still open or not. Sometimes the datafeed (Heaven forbid!) goes down. Sometimes my network goes down. Because of unforeseen events like these, and to keep me always on my toes, I wrote this little indicator.

All it does is print the time and the current price of the market on the right-hand edge of my chart. It updates with every tick of the market.

Input Values

As with all my indicators, the parameter that will turn off and on the indicator is the j_Key value.

```
INPUTS:
  j_Key(2047),
  j_Price(C),
  j_TimeColor(DarkRed)
  ;
```

Examples

Here is a chart with the indicator in place. Notice the time and price at the right-hand edge of the data.
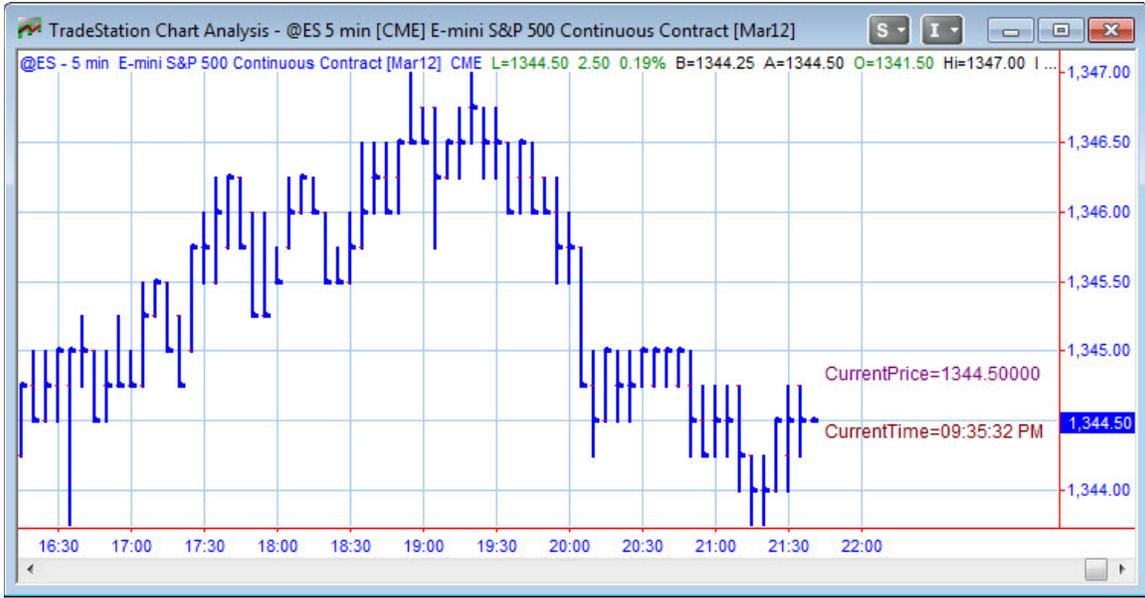
Figure 19.1—Time and Price

CHAPTER 20: ShowMe Current Price

Current Version: 11.01

Sometimes when I'm looking at several charts, back and forth, back and forth, I lose track of the bouncing prices. So many things to see and to process! I must be on the alert for instantaneous reaction to market conditions.

So, to make it easy for myself, I wrote a little routine to put a colored dot (larger than the little closing price cursor) so that I could readily find the Current Price.

By default it used to be blue. But, with version 11.01 I have added the capability to have a green colored dot for upticks and a red colored dot for downticks. (Or, you may select the up and down colors of your choice.) Actually, I like darkgreen and darkred.

There used to be no inputs for this routine, but now that I allow you to select colors, you must tell me which colors you like. You may use RGB colors to choose anything you wish. Oh, and it puts the current price right beside the dot, which also changes with every tick.

I also have an input for how far away to place the dot. That's called j_BarsDisplace.

So, here are the current inputs:

```
INPUT:
  j_Key(2047),              //Password Key Value
  j_UpColor(DarkGreen),     //Up Tick Color
```

```
j_DnColor(DarkRed),          //Down Tick Color
j_BarsDisplace(2);           //Bars away to place the dot
```

CHAPTER 21: Close Trades It's Friday

There are no inputs to this routine, either. It's either on the chart or it's not.

The back-story on this indicator lies again in my need to be always on my toes and ready for the next trade. In my excitement for trading, I often forget that the day is Friday, and it surprises me when the market closes for the weekend. So, I made an indicator that writes an alert all over the screen when it's Friday.

Trust me, it helps.
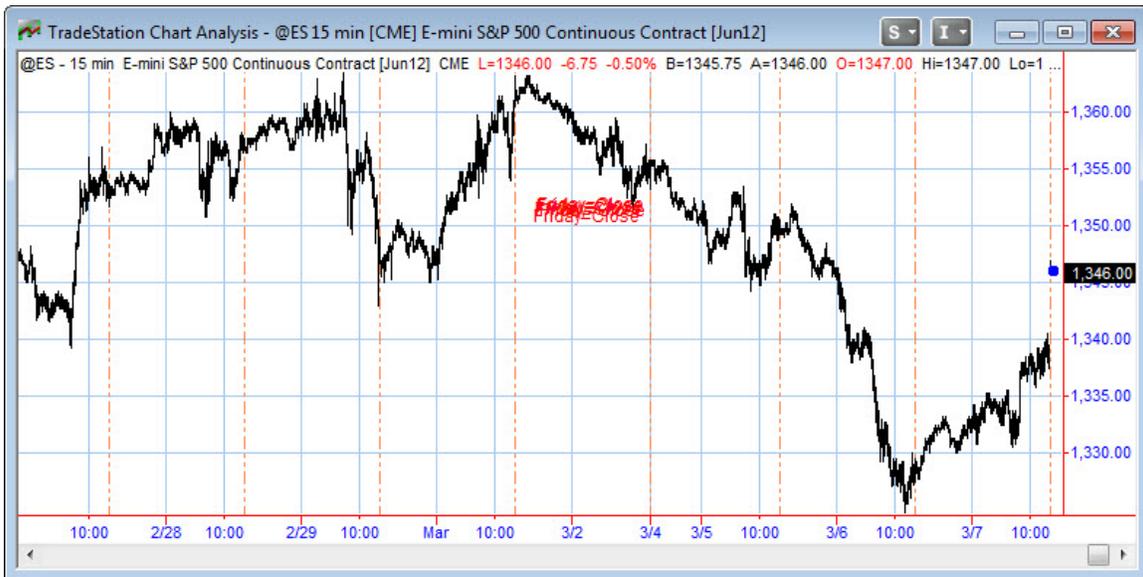
CHAPTER 22: Candlestick Pattern Alerts

Rather than trust my recognition and memory of candlestick patterns, I wrote a set of indicators that tell me when certain patterns appear on the chart. In fact, there are several indicators. They are:
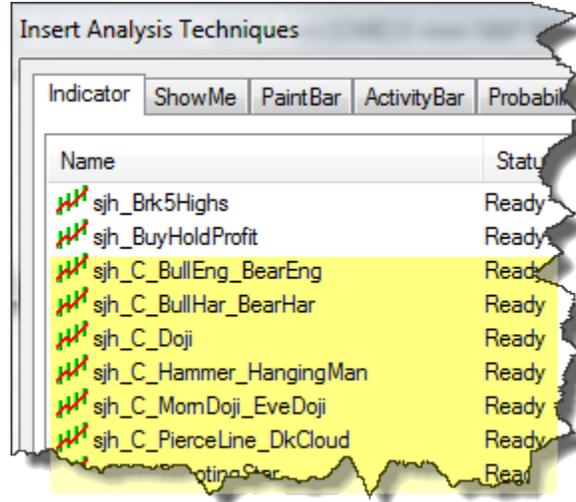
Figure 22.1—Candlestick Routines Listing

One of the nicest features of having these indicators is that they have Alerts in them. If you have the indicator or your chart and set Alerts On, then you will be notified each time one of these patterns occurs.

Figure 22.2 shows three sample indicators on a chart. You'll see the words "BBEnglf" indicating Bullish/Bearish Engulfing pattern. Also shown are the words "EveDoji" to show an Evening Doji pattern. The other pattern on the chart is "BearHarami" showing the Bearish Harami pattern.
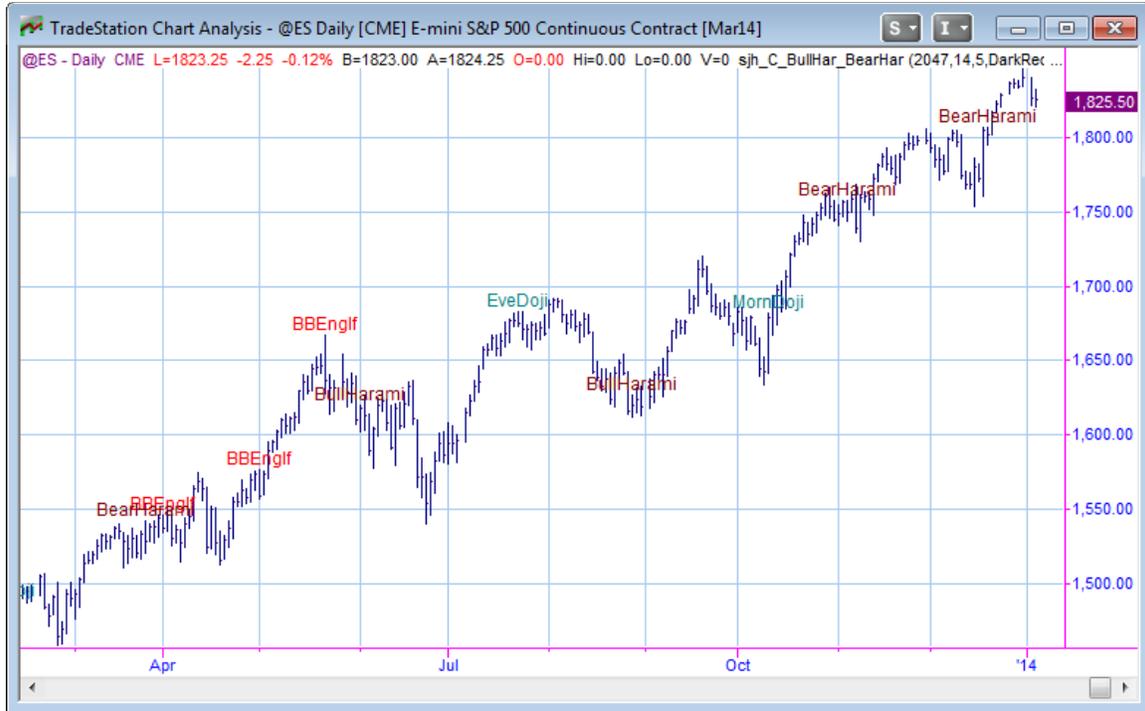
Figure 22.2-Candlestick Indicators all on one chart

These routines each start with a "C_" to denote that they are referring to Candlesticks. Each routine has as its first input, the j_Key password value. Be sure to use the value I gave you when you first licensed the product.

Here is the list of Indicators currently available (hyperlinks for ease of use):

- sjh_C_BullEng_BearEng
- sjh_C_BullHar)BearHar
- sjh_C_Doji
- sjh_C_Hammer_HangingMan
- sjh_C_MornDoji_EveDoji
- sjh_C_PierceLine_DkCloud
- sjh_C_ShootingStar

It should be fairly apparent from the names what the routine does; BullEng stands for Bullish Engulfing, BullHar stands for Bullish Harami. The rest are obvious.

Bullish Engulfing and Bearish Engulfing Patterns
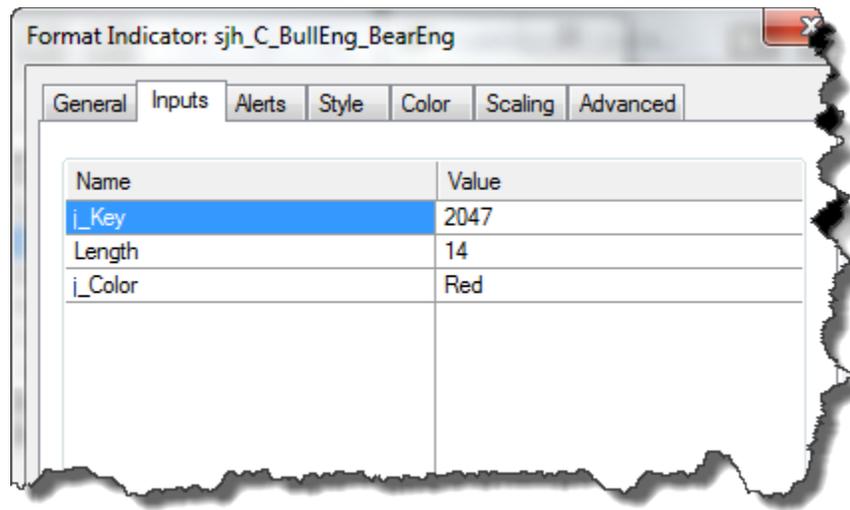
Figure 22.3—Bullish and Bearish Engulfing Inputs

This routine is named sjh_C_BullEng_BearEng. It stands for Bullish Engulfing and Bearish Engulfing Patterns.

The different candlestick patterns are shown in different colors on a chart. On the chart in Figure 22.2 I have included all the patterns I have available, rather than show lots of different charts.

These are the Inputs and their descriptions:

```
INPUTS:
  j_Key(2047),  //Your individual password (given by me)
  Length(14),   //Length of Exponential Moving Average of Closes
  j_Color(Red)  //The color to make the text on the chart
  ;
```
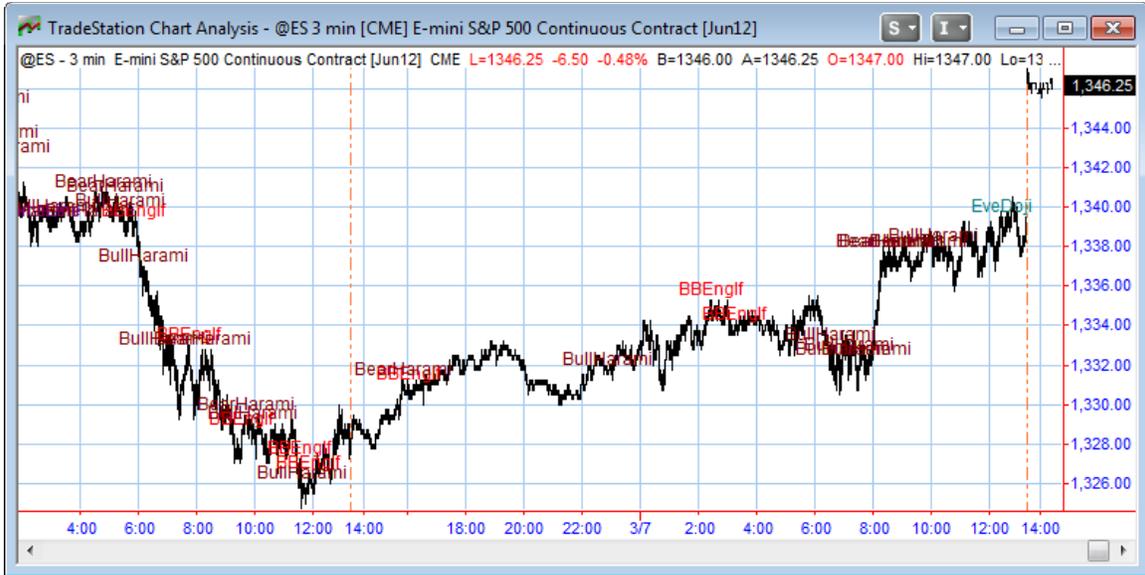
Figure 22.4—Bullish Engulfing and Bearish Engulfing Candlestick Patterns
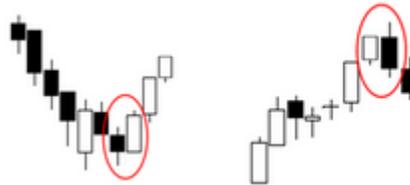
Figure 22.5—Bullish Engulfing Pattern and Bearish Engulfing Pattern

A reversal pattern that can be bearish or bullish, depending upon whether it appears at the end of an uptrend (bearish engulfing pattern) or a downtrend (bullish engulfing pattern). The first day is characterized by a small body, followed by a day whose body completely engulfs the previous day's body.

Bullish Harami, Bearish Harami
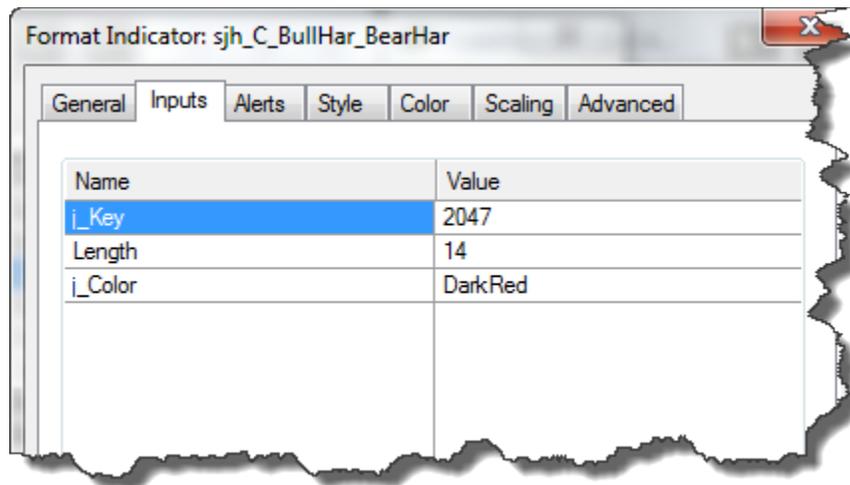
Figure 22.6—Bullish and Bearish Harami Candlestick Patterns

These are the Inputs and their descriptions:

```
INPUTS:
  j_Key(2047),  //Your individual password (given by me)
  Length(14),   //Length of Exponential Moving Average of Closes
  j_Color(Red)  //The color to make the text on the chart
  ;
```


Figure 22.7—Harami Pattern

Figure 22.7, above, shows you what the candle pattern looks like on a chart.

A Harami is a two day pattern that has a small body day completely contained within the range of the previous body, and is the opposite color.

Figure 22.4—Bullish Harami and Bearish Harami Candlestick Indicator
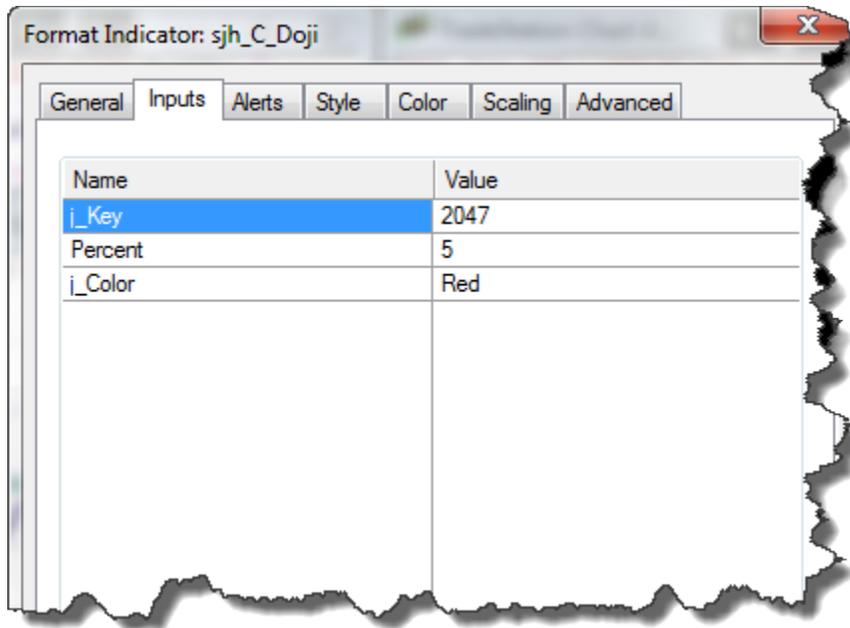
Doji

Figure 22.8—Inputs for Doji Candlestick Indicator

```
INPUTS:
  j_Key(2047),  //Your individual password (given by me)
  Percent(5),   //Percent multiplier for difference between open and close
  j_Color(Red) //The color to make the text on the chart
  ;
```
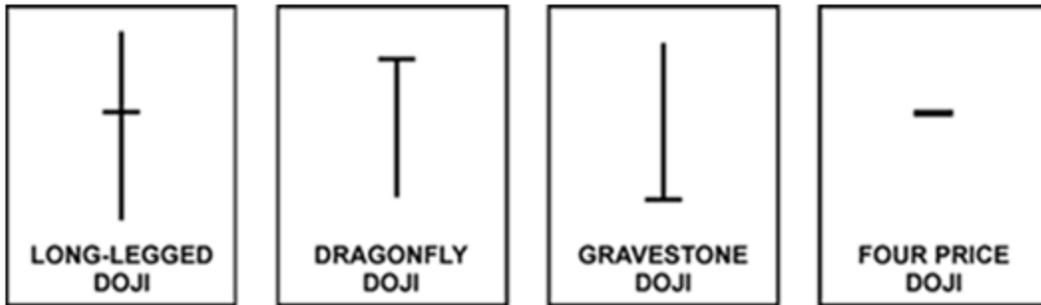

Figure 22.9—Doji Patterns

Figure 22.10—Doji Candlestick Indicator

Dojis form when a security's open and close are virtually equal. The length of the upper and lower shadows can vary, and the resulting candlestick looks like, either, a cross, inverted cross, or plus sign. Dojis convey a sense of indecision or tug-of-war between buyers and sellers. Prices move above and below the opening level during the session, but close at or near the opening level.

Hammer, Hanging Man
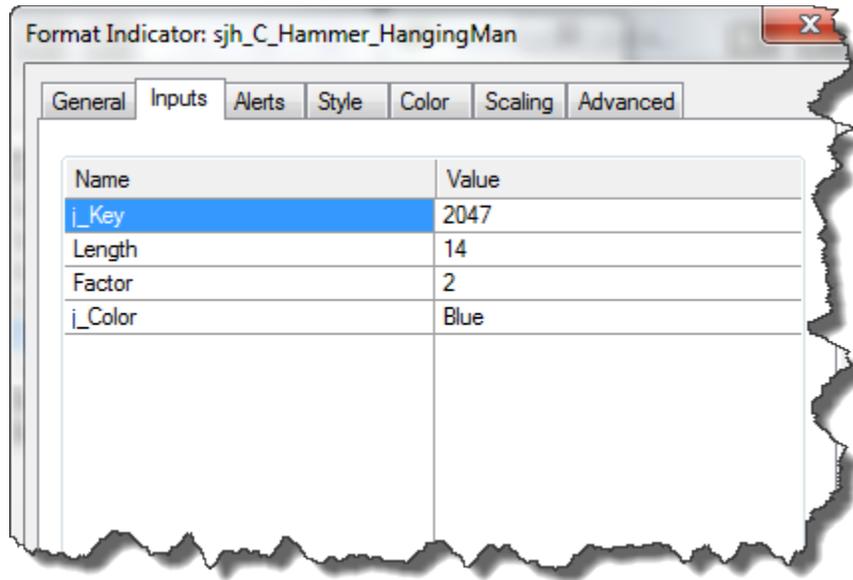
Figure 22.11—Hammer and Hanging Man Candlestick Patterns

These are the Inputs and their descriptions:

```
INPUTS:
    j_Key(2047),            //Your individual password (given by me)
    Length(14),             //Length of Exponential Moving Average of Closes
    Factor(2),              //Multiplier of body size
    j_Color(Red)            //The color to make the text on the chart
    ;
```


Figure 22.12—Hammer Pattern

Figure 22.13—Hanging Man Pattern
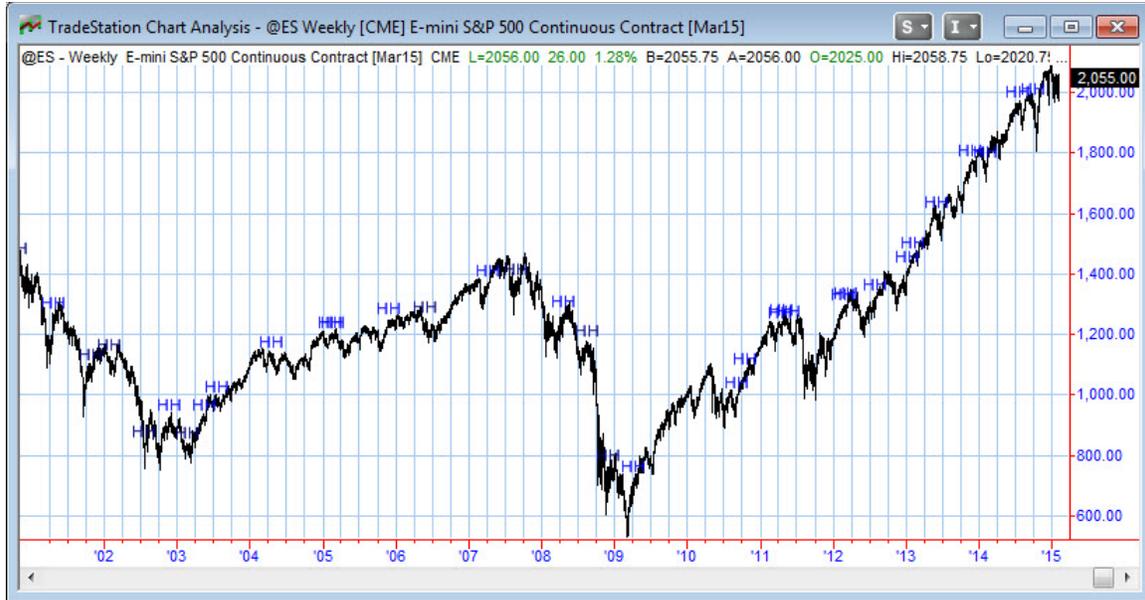
Figure 22.14—Hanging Man and Hammer Indicator

Hammer candlesticks form when a security moves significantly lower after the open, but rallies to close well above the intraday low. The resulting candlestick looks like a square lollipop with a long stick. If this candlestick forms during a decline, then it is called a Hammer.

Hanging Man candlesticks form when a security moves significantly lower after the open, but rallies to close well above the intraday low. The resulting candlestick looks like a square lollipop with a long stick. If this candlestick forms during an advance, then it is called a Hanging Man.

Morning and Evening Doji Star
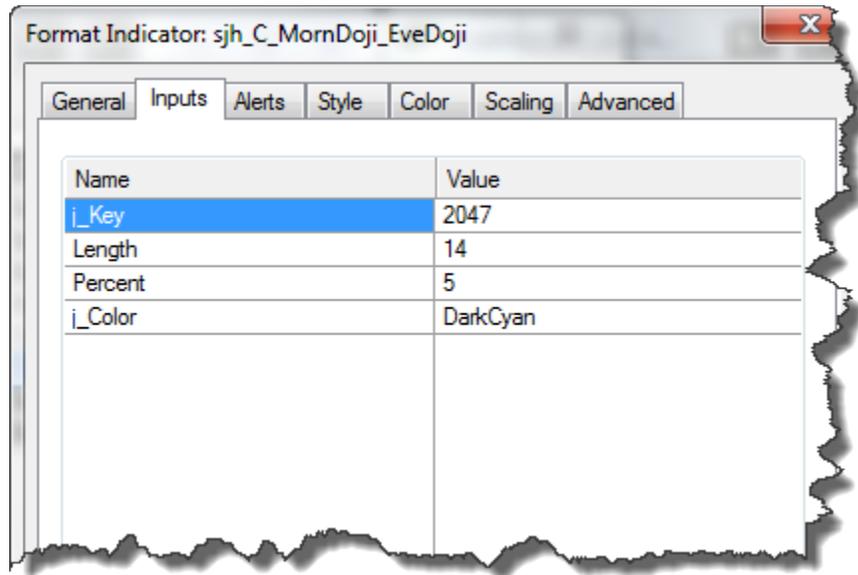
Figure 22.15—Inputs for the MonringDoji-Evening Doji Indicator

These are the Inputs and their descriptions:

```
INPUTS:
  j_Key(2047),          //Your individual password (given by me)
  Length(14),           //Length of Exponential Moving Average of Closes
  Percent(5),           //Multiplier of body size
  j_Color(DarkCyan)     //The color to make the text on the chart
  ;
```

Here's what the candle pattern looks like:

Figure 22.16—Morning Doji Star and Evening Doji Star
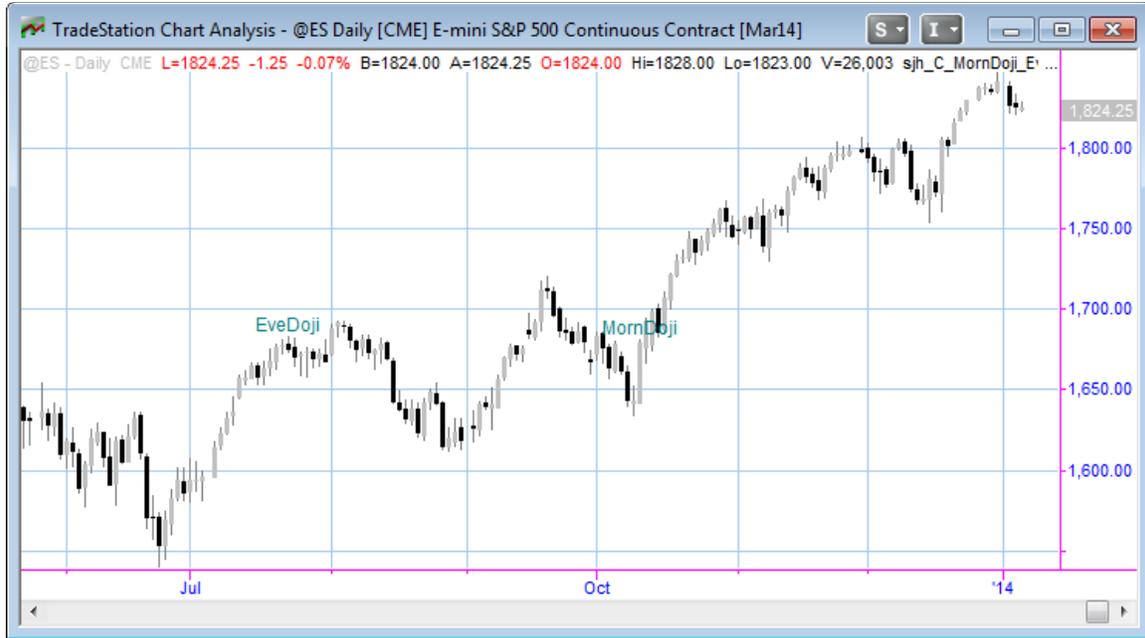
Figure 22.17—Morning and Evening Doji Stars

Morning Doji Star: A three day bullish reversal pattern that is very similar to the Morning Star. The first day is in a downtrend with a long black body. The next day opens lower with a Doji that has a small trading range. The last day closes above the midpoint of the first day.

Evening Doji Star: A three day bearish reversal pattern similar to the Evening Star. The uptrend continues with a large white body. The next day opens higher, trades in a small range, then closes at its open (Doji). The next day closes below the midpoint of the body of the first day.

Pierce Line, Dark Cloud

Xxx

INPUTS:

INPUTS:

>   j_Key(2047 {CHG THIS}),
>
>   Length(9) ,
>
>   j_Color(DarkMagenta)
>
>   ;

Piercing Line

A black candlestick followed by a white candlestick that opens lower than the black candlestick's low, but closes 50% or more into the black body. *Interpretation: A bottom reversal signal*

Dark Cloud Cover:
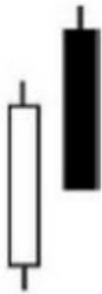
A long white body followed by a black body. The following black candlestick opens higher than the white candlestick': high and closes at least 50% into the white candlestick's body. *Interpretation: A bearish reversal signal during an untrend.*
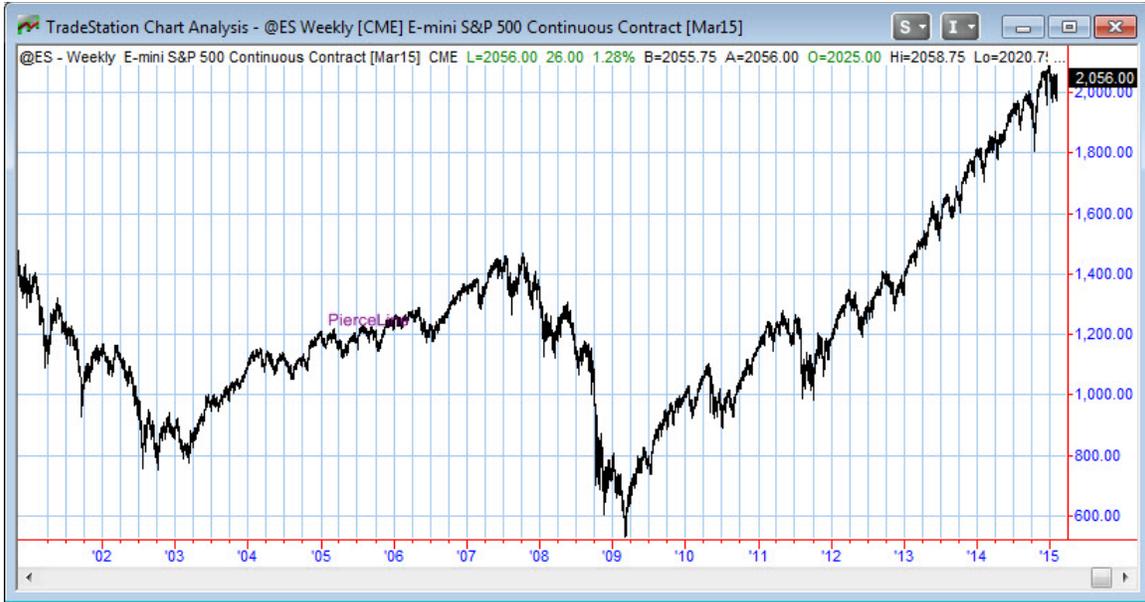
Shooting Star

Marked by "SS", the Shooting Star.....
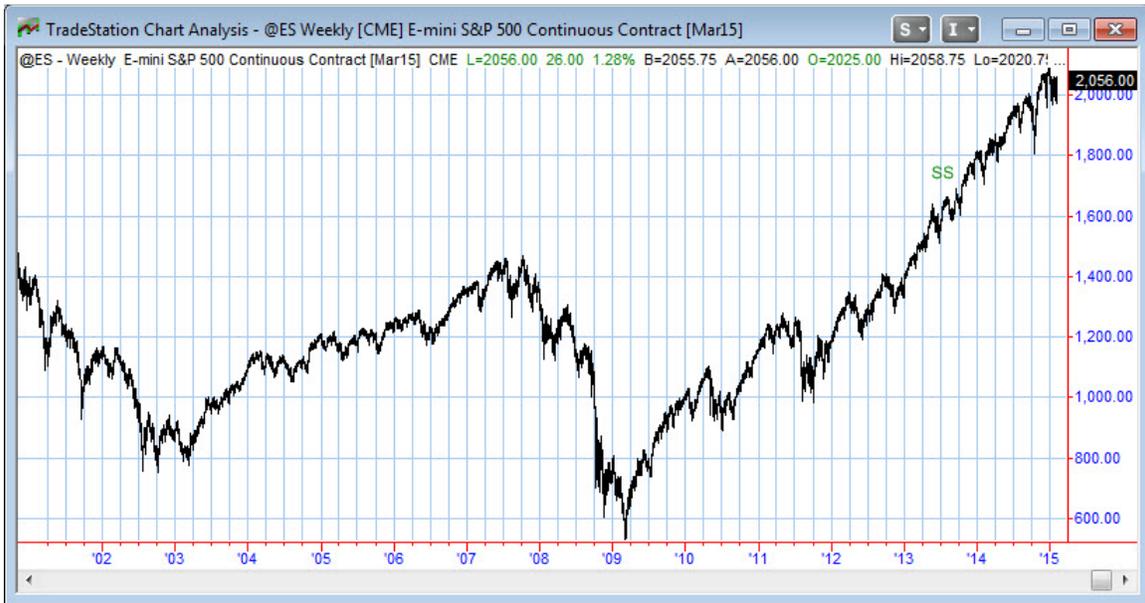
CHAPTER 23: Day Open/High/Low Lines

Plots horizontal lines at the Open, High and Low of each day.

Figure 23.1—Day Open High Low Lines

```
INPUTS:
  j_Key(2047),
  OpenColor( Blue),
  HighColor( DarkGreen),
  LowColor( Red),
  DataNum(  1  {DataStream Nbr} ) ,
  j_TLSize(2),
  j_OpenSession1(0630),
  j_CloseSession1(1315),
  j_OpenSession2(1500),
  j_CloseSession2(0630)
  ;
```

You may specify the color and thickness of the horizontal lines over prices on the chart. In the chart in Figure 23.1 Green designates the highest high of the day, while Red is the lowest low of the day. Likewise, the Blue bar shows you the Opening price of the day.

Putting a line for the closing price just makes a confusing jumble. I have an indicator we fondly call the Bouncing Ball—but it's official name is sjh_SM_CurrentPrice. This ShowMe puts a dot on the current price at the right hand edge, where trades are taking place.

Writing this page makes me think of another indicator I could write: sjh_SM_AllCloses, which could put a dot on all the final closes for every day. That way you could combine these two indicators and not make a messy chart. Glad you thought of it. Thanks.

CHAPTER 24: Days of the Week

Colors bars during each day of the week a different color. I.e. Monday is brown, Tuesday is blue, Wednesday is green…

You may pick any color you wish through the Input values you select.

Figure 24.1—On a Daily Chart every bar is a different color

While this makes for a colorful chart, on a daily basis this isn't the best use of this indicator. Sure, if you memorize the colors associated with each day you can tell at a glance what day of the week it is.

But, wait for the next chart where the symbol is @ES on a 30-minute chart. In this chart you can see the section that is Monday, the next colored section is Tuesday etc. This way it is pretty handy.

A regular chart just shows you the date on the X-Axis, but this indicator allows you to tell at a glance what day it is. This comes in really valuable when you are trying to see patterns and to see which day of the week is the most profitable.

Figure 24.2—On this 30-minute chart you can easily identify the days of the week

Below are the Inputs to the PaintBar indicator. You may specify any of TradeStation's colors or

```
INPUTS:
  j_Key(2047),              //Your Password Key
  j_1Color(Blue),           //Monday
  j_2Color(Red),            //Tuesday
  j_3Color(Green),          //Wednesday
  j_4Color(DarkBrown),      //Thursday
  j_5Color(Magenta),        //Friday
  j_6Color(Cyan),           //Saturday
  j_7Color(DarkGray)        //Sunday
  ;
```

CHAPTER 25: Label the Days of the Week

INDICATOR NAME: *sjh_DaysOfWeek*
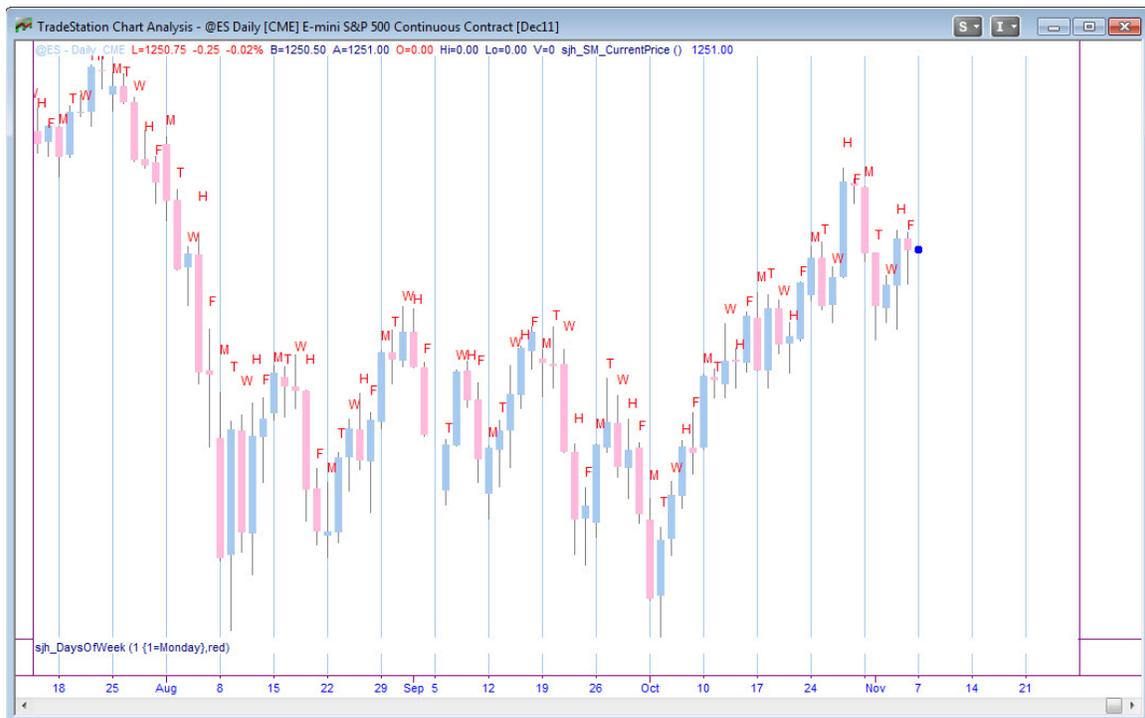
Figure 25.1—Letters designating the day of the week

Sometimes colors just aren't enough. So, this indicator puts a little letter on the top of each bar, with a letter designating the day of the week.

It's kinda hard to see in this little font, but the letter on top of each bar tells the day of the week. The letters I've chosen are:

```
M       Monday
T       Tuesday
W       Wednesday
H       Thursday
F       Friday
S       Saturday
U       Sunday
```

There is apparently some unpublished limit on the number of text characters you can put on your chart. Notice that the first chart below is of daily bars, and it works fine. But, when you start using intraday charts, you must limit then number of days on the chart or it won't put the little letters on the chart.

This next chart shows an intraday chart (15-minutes) with the day labels successfully placed. However, if I tried to plot 20 days back, no labels would appear. Hmmm.

Figure 25.2—Day of Week letters above the bars

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CHAPTER 26: Paint DMAV Crossover

INDICATOR NAME: SJH_DMACrossOver

Paints the bar where the Dynamic Moving Average crosses over. More accurate than eyeballing it.

```
INPUTS:
  j_Key(2047),   //user password key
  j_Vendor("MC"),//vendor: MC=MultiCharts, TS=TradeStation
  j_Indic(" "),  //reserved for future use
  j_Price1(C),   //OHLC
  j_Price2(C),   //OHLC
  j_L1(8),       //fastma
  j_L2(13),      //slowma
  j_T1(0.25),    //smoothing factor for FastMAV
  j_T2(0.25),    //smoothing factor for SlowMAV
  j_Color1(RGB(000,102,102)),  //color of FastMAV plot line
  j_Color2(RGB(204,102,102)),  //color of SlowMAV plot line
  j_Thick1(4),   //thickness of FastMAV plot line
  j_Thick2(4),   //thickness of SlowMAV plot line
  j_Precision(2) //decimals of precision for calculations
  ;
```


Figure 26.1—ShowMe DMA Crossover points

CHAPTER 27: SunnyBands MidAngle

Plots the linear regression angle of the SunnyBands lines. The sharp peaks do a great job of pinpointing turning points in market movement.

CHAPTER 28: Using Sunny's Ultimate-F Spreadsheet

Ralph Vince's seminal work on portfolio compounding is thoroughly described in his books. He has several, and I list them in order of publication below. With each book his work becomes more and more complex, so beware. Also, know that his work is highly mathematical in nature, and not all can understand what he is trying to communicate.

Ralph Vince's Books:
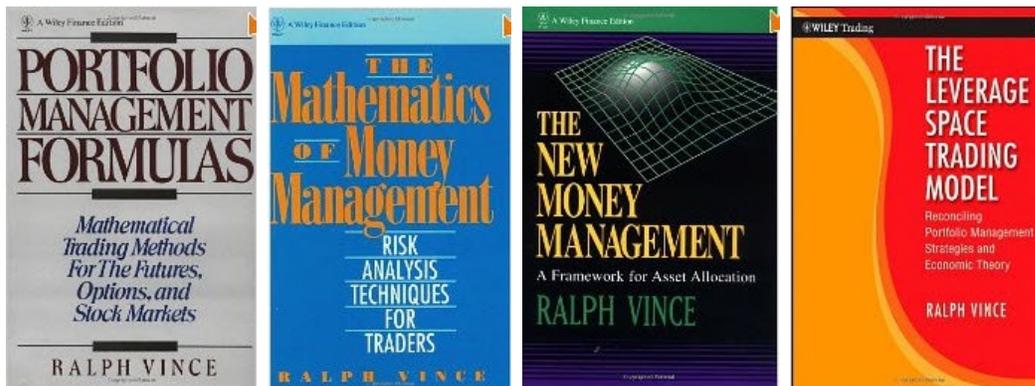
These books are shown in order of publication, from left to right, as Vince developed his theories. It is also true that as the books progress the concepts become more complex. The first book, "Portfolio Management Formulas," does a great job of explaining with a fair amount of simplicity, his overall concepts. It introduces **optimal-f** and its accompanying formulae, and the raison d'etre.

Ralph's **optimal-f** concept is basically that there is a single fraction which is the best divisor for compounding your profits. Any other number will either give you less total profits or will blow up in your face. He explains why being on the wrong side of the bell curve, when figuring this fraction, will result in large drawdowns and ultimate ruin. He also demonstrates the necessity for calculating the optimal fraction that will give you the highest returns.

Importantly, Ralph states that one must remember that *any attempt to compound a losing system will not turn it into a winning system*. So, you must first have a string of wins, or a hypothetical strategy that produces a string of wins before computing your **optimal-f** makes any sense.

Once you have a string of winning and losing trades that results in a net winning portfolio, you can then set out to compute your **optimal-f**. If you have trouble with Vince's explanations, I can give you a lesson in how it works. I even have a spreadsheet I've constructed to calculate Vince's **optimal-f**.

Sunny's Ultimate-F

Now, on to my Ultimate-F. Why and how is it different from Vince's optimal-f? Glad you asked. The problem with Vince's **optimal-f** is that it is highly likely that you will, at some point on this greatly compounded equity curve, hit a huge (I mean huge) drawdown that will wipe you out. Especially if you have been taking any of the profits out of your account to live on. The chart in Figure 28.01 shows an equity stream trading one contract at a time of the EMini S&P, never trading more than one contract.
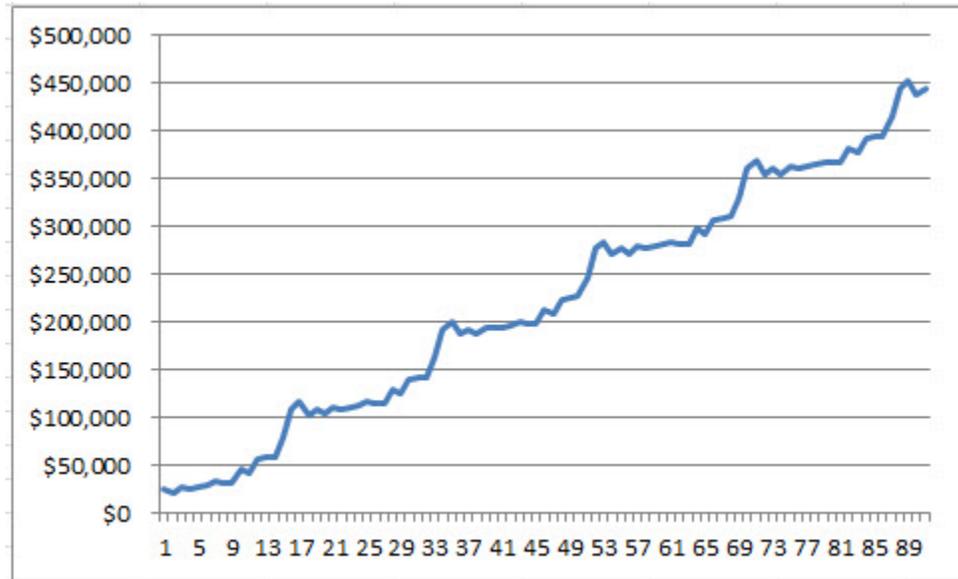
Figure 28.01—Unit Equity Curve

Notice the Y-Axis scale on the left side of the chart. It goes from 0 to $500,000, and is scalar, not semi-log. The top profit trading 1 unit contract with this method is about $450,000.
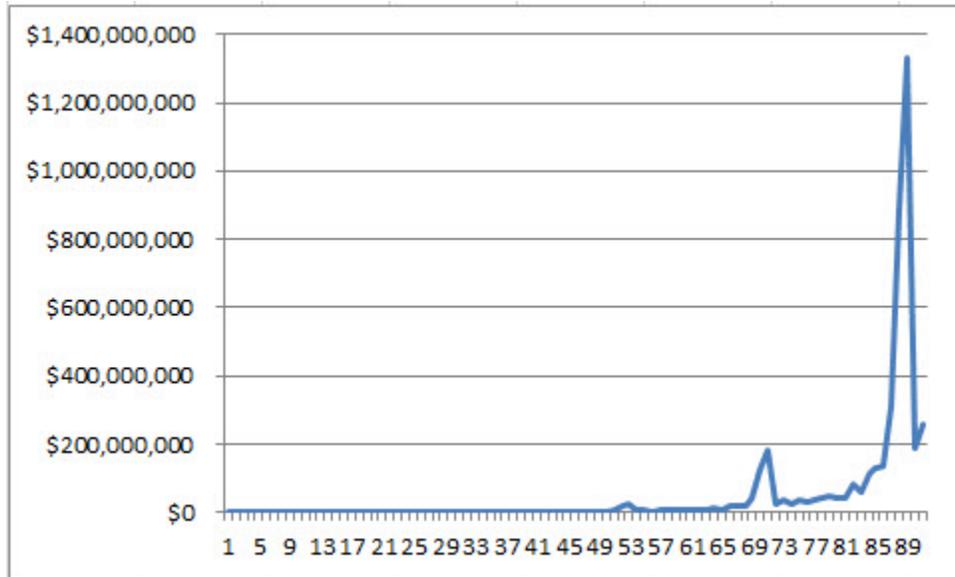
Figure 28.02—Ralph Vince's optimal-f Equity Curve

Again, notice the Y-Axis scaling on the chart in figure 28.02. Again, sit is scalar, and you can see the marked drawdown using **Vince's optimal-f** method of compounding. What if you had taken some of the profits off the table just before that last big spike and then hit a drawdown of a billion dollars?
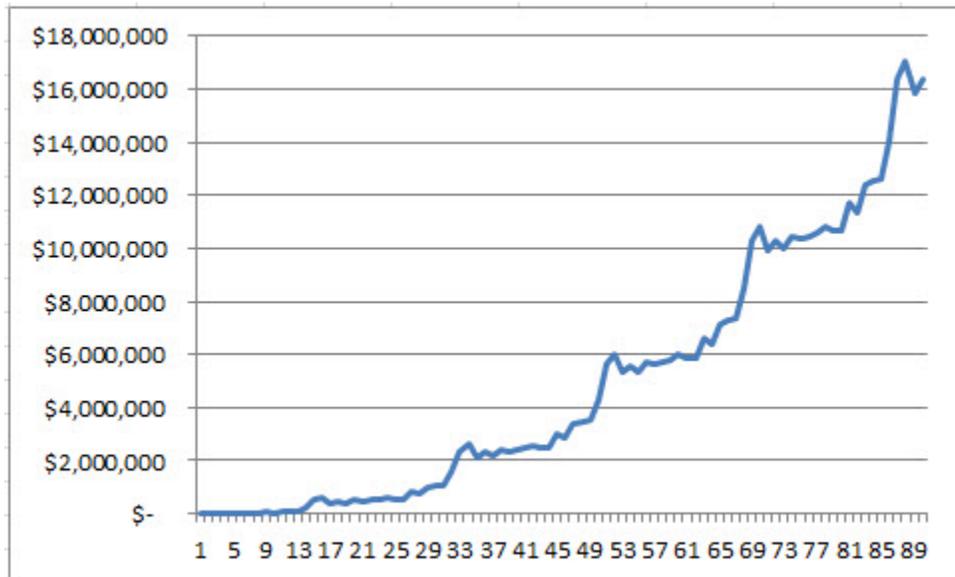
Figure 28.03—Ultimate-F Equity Curve

The chart in figure 28.03 shows my Ultimate-F calculations at work. Notice that while the profit is astronomically greater than trading unit contracts ($450k vs $18 million) that the drawdown is negligible.
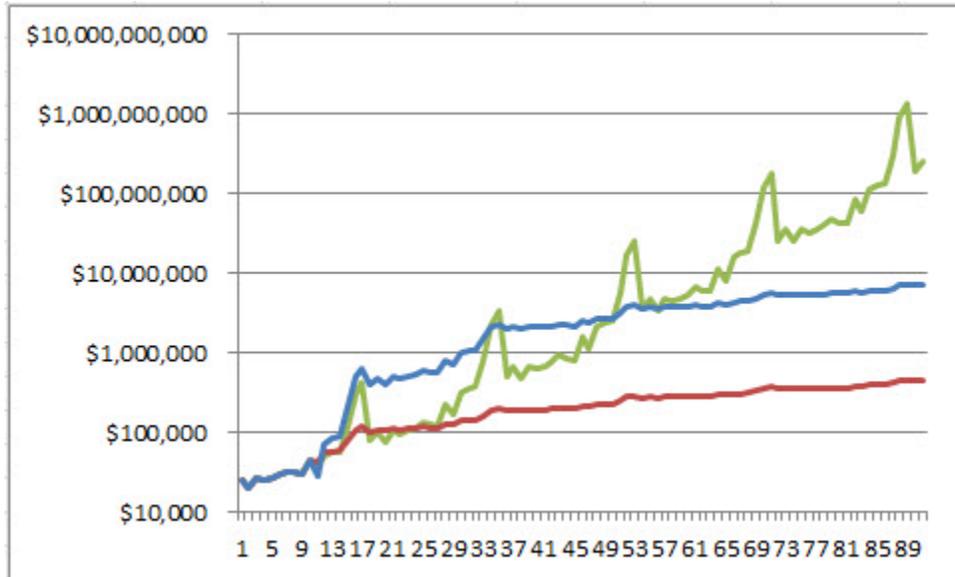
Figure 28.04—All Three Equity Curves Together on One Chart: Logarithmic

The chart in figure 28.04 is scaled logarithmically. It shows all three methods on one chart. It doesn't really have the impact of a scalar chart, as the drawdown for the optimal-f method looks acceptable in this chart. The spike only shows when you are looking at real dollars. But, at least you can see the dramatic difference in the end results on this chart.
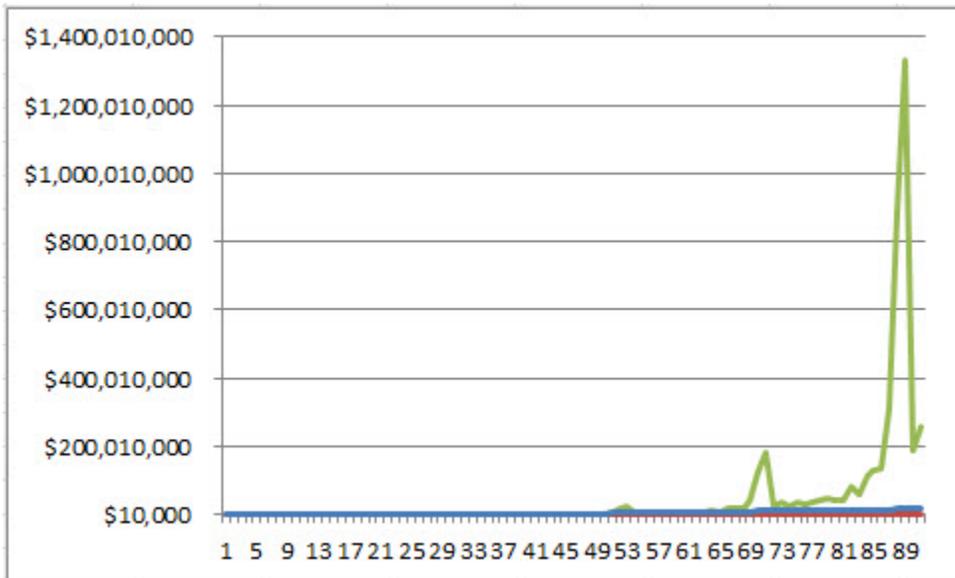
Figure 28.05—All Three Equity Curves Together on One Chart: Scalar

The chart above, in figure 28.05 shows all three methods on scalar scaling. Here you can see what would happen in real life with Ralph's optimal-f compounding method. The only problem is that the half million in profit from my Ultimate-F method hardly shows on a scalar chart because of the billions of dollars from the optimal-f method.

I hope you can see the import of the three comparisons. Basically, I'm telling you that trading 1 contract all the time doesn't get you very far, very fast. I'm also telling you that using Ralph Vince's optimal-f will give you about 90% assurance that you will encounter 100% ruin. And, I'm also saying that I found the error in Vince's calculations, and they are implemented in my Ultimate-F spreadsheet, which avoids most of the heavy drawdown and yet still significantly increases the return.

So, now, how do you use my **Ultimate-F** spreadsheet? That's next.

Using Sunny's Ultimate-F Spreadsheet

There are only a few cells in this spreadsheet which are unlocked, and available for you to use. The rest of the cells are locked so that you cannot accidentally change them and thereby ruin the proprietary equations.

Here are the cells you will need to change:

- Column C: where you will input your trades, either actual or historical through testing. In column C you will put each trade's profit or loss, one trade at a time.

- Cell C7: Starting Balance. Here you put the amount of the starting balance either of your hypothetical account, or your actual account.

- Cell E7: Trial Ultimate-F. This cell is very important. You will substitute several different values in this cell until you come up with the best fit, and maximum results, for your string of wins and losses. Do not use any values here that would be less than the margin requirement if you are trading futures, or the amount to purchase shares of stock if trading equities.

- Cell E8: Minimum Number of Contracts. This cell allows you to start trading with a different number of contracts than one. Normally, this cell would have a 1 in it. But, if you already know that you are going to start trading with, say, 5 contracts, because you have enough in your account to do so, you would put a 5 in this cell.

- That's it. No other cells can be changed.

- Scroll the spreadsheet down until you get at the end of the list of trades you entered. The last cell in Column C will contain your most recent trade. In that same row, in Column E, will be then number of contracts to take on your next trade. In the same row, in Column G, will be the Ultimate-F compounded equity for these trades.
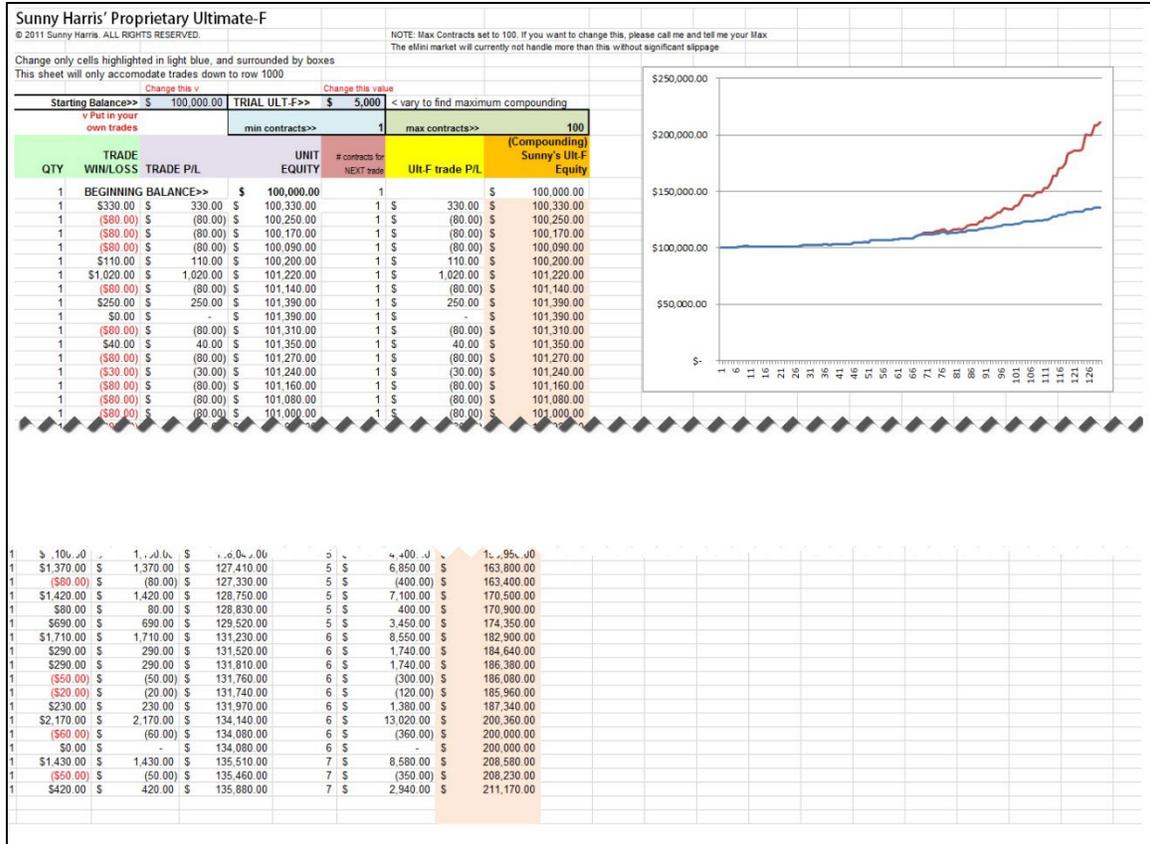
Figure 28.06—Sunny's Ultimate-F Spreadsheet

The spreadsheet in Figure 28.06 is split, because it is very long. Note that this method, for this string of real trades, only trades one contract for a long time. After the string of trades becomes appropriately profitable, the compounding begins. Note in column E that it goes 5, then 6, then 7 contracts. The compounding method is proprietary, but it ends up with $135,880 for the unit trading total (1 contract at a time) and $211,170 for the compounded result. It is not huge, because this system was minimally profitable. But, nevertheless, with Ultimate-F compounding you make $75,290 more than with unit trading. That is, you make 50% more!

Take a look at the chart, to the right of figure 28.06. You can see the red line is the Ultimate-F compounded results. They go along about the same for the first half of trading. Then it takes off and the compounding makes impressive results.

CHAPTER 29: Colors and my Color Function

Sometimes I want more colors for my indicators that are possible in the standard TradeStation set of colors. My function *sjh_f_Colors* can be used in Inputs or called from within your routines. The calling sequence is:

sjh_f_Colors(j_Vendor, ColorName);

        where j_Vendor is "TS" for TradeStation and "MC" for MultiCharts
        and ColorName is one of the following values:

- "azure"
- "chartreuse"
- "orange"
- "burntorange"
- "goldenrod"
- "rose"
- "springgreen"
- "violet"
- "solaryellow"
- "solarteal"
- "teal2"
- "lightteal"
- "darkteal"
- "cyanish"
- "darkcyan"
- "greypink"
- "solarpinkish"
- "solartaupe"
- "brickred"
- "lightbrown"

These colors are in this order because it is the order in which I created them. The colors that start with "solar…" are my favorite colors, with solar which relates to sun, which relates to Sunny!

Of course, the TradeStation legacy colors are always available. This function is provided free of charge to members of my website, www.moneymentor.com. All others, it's $45.

Let's say you are an intermediate trader, and you are using SunnyBands. Very smart of you. Like me you want to overlay two data streams of different timeframes, with two sets of SunnyBands. (I have a video on my YouTube channel that teaches you how to do this.) If you lay the two SunnyBands on top of each other without changing the colors, you'll have a sea of unreadable indicators. So, I use darkgreen for the faster timeframe SunnyBand's outer band color. But I use springgreen for the outer band of the slower time frame.

Likewise, I use darkteal for the inner bands of the faster data and solarteal for the inner bands of the slower data.

I like the two charts overlayed. It makes trading decisions easier for me. I can, at a glance, spot where the 1-minute SunnyBands is within the 5-minute SunnyBands. It's all about fractals.

Just for your edification, here is what my EMini trading chart looks like.

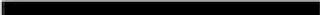FIGURE 29.01—Colors differentiating 2 sets of SunnyBands
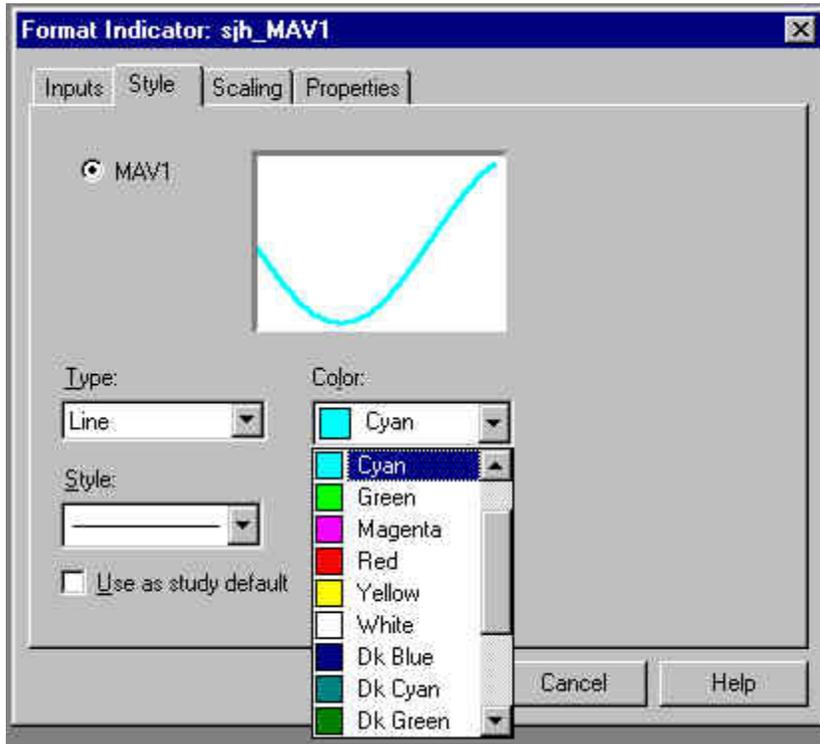
APPENDIX A

Line Thicknesses

Line Thickness or Width

Figure x.x

Thickness Value	Sample
0	————————————
1	▬▬▬▬▬▬▬▬▬▬
2	▬▬▬▬▬▬▬▬▬▬
3	▬▬▬▬▬▬▬▬▬▬
4	▬▬▬▬▬▬▬▬▬
5	▬▬▬▬▬▬▬▬
6	▬▬▬▬▬▬▬
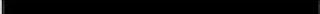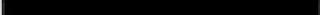
Color Values

Number	Color	TradeStation 4.0	TradeStation 2000i and later
1	Black	Tool_Black	Black
2	Blue	Tool_Blue	Blue
3	Cyan	Tool_Cyan	Cyan
4	Green	Tool_Green	Green
5	Magenta	Tool_Magenta	Magenta
6	Red	Tool_Red	Red
7	Yellow	Tool_Yellow	Yellow
8	White	Tool_White	White
9	Dark Blue	Tool_DarkBlue	DarkBlue
10	Dark Cyan	Tool_DarkCyan	DarkCyan
11	Dark Green	Tool_DarkGreen	DarkGreen
12	DarkMagenta	Tool_DarkMagenta	DarkMagenta
13	Dark Red	Tool_DarkRed	DarkRed
14	Dark Brown	Tool_DarkBrown	DarkBrown
15	Gray	Tool_Gray	Gray
16	Light Gray	Tool_LightGray	LightGray

Some of my favorite color values:

```
//===== Gold:            RGB(153, 102, 000)
//===== BrightGold:      RGB(255, 153, 000)
//===== Purple:          RGB(102, 000, 102)
//===== Teal:             RGB(000, 102, 102)
//===== Steel:           RGB(102, 102, 102)
//===== DarkSteel:       RGB(051, 051, 051)
//===== RichGreen:       RGB(000, 102, 000)
//===== LimeGreen:       RGB(102, 204, 051)
//===== ESBlue:          RGB(000, 051, 255)
//===== Pink:             RGB(255, 000, 153)
```

Some of my favorite sounds

ChampagneShort	400x75	500x75	625x75		
750	1000	ahooga	beep	beep_01	beep_04
Boing	boink	bong2	burp	buzz	Bonk
C5x050	C5x100	C5x200	C5x400	Blip	Bong2
ChampagneShort	Chime	Chord	click	clock	ClosingBell
ClosingBell	Corkpop	ding	doiipp	down	du_da
electric	FastMarket	eMiniUP	eMiniDN		beep_05
G4x050	G4x100	G4x200	G4x400		beep_06
G6x050	G6x100	G6x200	G6x400		
goldUP	goldDOWN				
hiC	hiE				
lowC	lowE				
midC	midE				
ringin	ringout	Rlipp	rolldown	Scrape	
SOUND104	SOUND105				
sparkle	Squatt	startgun	tada		up

THE LIST

1. **sjh_I_DMA** (Dynamic Moving Average) Indicator
2. **sjh_S_DMA** (Dynamic Moving Average) Strategy
3. **sjh_DMA Hist** (Dynamic Moving Average Histogram) Indicator
4. **SunnyBands** (DMA + ATRs on either side)
5. **sjh_PHW** (Potential Hourly Wage) Indicator
6. **sjh_Pennants** (identifies areas of congestion)
7. **sjh_CPC** Index (calculates Sunny's single system measure)
8. sjh_RedLiteGreenLite (for RadarScreen)
9. **sjh_Exits$** (optimizable Exits Strategies)
10. **sjh_AllAverages$** (optimizable averages)
11. **sjh_WhatTimeIsIt** (plots/prints the time of the current bar in progress)
12. **sjh_DaySessions** (paints the day session bars a different color)
13. **sjh_ExipirationFriday** (paints the 2nd Thursday and 3rd Friday a different color)
14. **sjh_DaysOfWeek** (paints any day of the week a different color)
15. **sjh_SunnyBars** (Bars with more volume are painted wider; and open, high, low close are differentiated by colors)
16. **sjh_PrintStatistics** (prints the significant stats, from the Performance Report, in the PrintLog, so you don't have the Performance Report hovering over your plot area.
17. **sjh_UltimateF** (calculates the number of contracts to place for the next trade based on Sunny's UltimateF compounding theories)

Days of Week

DynamicMovingAverage for Charting

This picture displays the difference between my indicator and those of others. Notice the arrows pointing to potential areas of whipsaw that other indicators generally lose money on, and my DMA avoids.

DynamicMovingAverage for RadarScreen

	Symbol	Interval	Last	Net Chg	Net %Chg	High	Low	Volume Tod...	sjh_DynamicAvg$$_R7		
									sjh_DMA1	sjh_DMA2	Diff
62	BK	5 Min	30.60	0.47	1.56%	30.70	30.20	5,117,084	30.54	30.50	-0.04
63	BLL	5 Min	36.10	0.10	0.28%	36.23	35.89	668,912	36.03	35.98	-0.05
64	BMC	5 Min	48.93	0.57	1.18%	49.29	48.44	1,117,124	48.92	48.84	-0.08
65	BMS	5 Min	32.65	0.22	0.68%	32.76	32.34	679,321	32.55	32.50	-0.05
66	BMY	5 Min	25.41	0.01	0.04%	25.52	25.27	7,026,314	25.41	25.39	-0.02
67	BRCM	5 Min	42.36	1.40	3.42%	42.20	41.32	9,973,296	41.87	41.83	-0.04
68	BRK.B	5 Min	85.00	1.64	1.97%	85.25	83.41	4,604,179	84.76	84.67	-0.09
69	BSX	5 Min	7.30	0.28	3.99%	7.19	7.01	10,518,882	7.13	7.12	-0.01
70	BTU	5 Min	65.26	2.12	3.36%	65.30	63.46	2,980,771	64.55	64.46	-0.09
71	BXP	5 Min	93.73	1.28	1.38%	94.01	93.04	1,468,826	93.63	93.76	0.12
72	C	5 Min	4.70	0.00	0.11%	4.73	4.66	407,172,557	4.68	4.68	0.00
73	CA	5 Min	24.74	0.36	1.48%	24.78	24.48	2,617,245	24.64	24.66	0.02
74	CAG	5 Min	23.01	0.24	1.05%	23.09	22.77	3,816,661	22.99	22.99	0.01
75	CAH	5 Min	41.14	0.65	1.60%	41.30	40.50	1,906,400	41.00	40.97	-0.03
76	CAM	5 Min	59.31	1.64	2.84%	59.82	57.78	2,915,769	59.28	59.28	0.00
77	CAT	5 Min	102.02	1.45	1.44%	102.64	101.14	4,624,274	101.99	102.12	0.13
78	CB	5 Min	60.02	0.43	0.73%	60.15	59.51	1,295,385	59.84	59.88	0.04
79	CBG	5 Min	24.79	0.58	2.38%	24.96	24.39	1,800,945	24.78	24.78	0.00
80	CBS	5 Min	23.46	1.43	6.50%	23.65	22.17	16,851,730	23.25	23.25	0.00
81	CCE	5 Min	26.57	0.57	2.19%	26.60	25.94	4,045,067	26.32	26.29	-0.03

Page 1

Dynamic Moving Average Strategy

TradeStation Strategy Performance Report - @ES Daily (2/20/2001-2/18/2011)

Account (US Dollar)   All

Display: Column View

TradeStation Performance Summary   Collapse ⌃

	All Trades	Long Trades	Short Trades
Total Net Profit	$38,537.50	$15,825.00	$22,712.50
Gross Profit	$101,662.50	$44,775.00	$56,887.50
Gross Loss	($63,125.00)	($28,950.00)	($34,175.00)
Profit Factor	1.61	1.55	1.66
Roll Over Credit	$0.00	$0.00	$0.00
Open Position P/L	$6,212.50	$6,212.50	$0.00
Select Total Net Profit	$18,162.50	$20,162.50	($2,000.00)
Select Gross Profit	$76,950.00	$44,775.00	$32,175.00
Select Gross Loss	($58,787.50)	($24,612.50)	($34,175.00)
Select Profit Factor	1.31	1.82	0.94
Adjusted Total Net Profit	$6,494.46	($3,416.93)	($4,526.25)
Adjusted Gross Profit	$79,477.92	$32,356.65	$36,774.73
Adjusted Gross Loss	($72,983.47)	($35,773.58)	($41,300.98)
Adjusted Profit Factor	1.09	0.90	0.89
Total Number of Trades	62	31	31
Percent Profitable	33.87%	41.94%	25.81%
Winning Trades	21	13	8
Losing Trades	41	18	23
Even Trades	0	0	0
Avg. Trade Net Profit	$621.57	$510.48	$732.66
Avg. Winning Trade	$4,841.07	$3,444.23	$7,110.94
Avg. Losing Trade	($1,539.63)	($1,608.33)	($1,485.87)
Ratio Avg. Win:Avg. Loss	3.14	2.14	4.79
Largest Winning Trade	$24,712.50	$6,075.00	$24,712.50
Largest Losing Trade	($4,337.50)	($4,337.50)	($2,850.00)
Largest Winner as % of Gross Profit	24.31%	13.57%	43.44%
Largest Loser as % of Gross Loss	6.87%	14.98%	8.34%
Net Profit as % of Largest Loss	888.47%	364.84%	796.93%
Select Net Profit as % of Largest Loss	418.73%	464.84%	(70.18%)
Adjusted Net Profit as % of Largest Loss	149.73%	(78.78%)	(158.82%)
Max. Consecutive Winning Trades	2	4	2
Max. Consecutive Losing Trades	4	6	10
Avg. Bars in Total Trades	39.92	47.29	32.55
Avg. Bars in Winning Trades	70.05	71.00	68.50
Avg. Bars in Losing Trades	24.49	30.17	20.04
Avg. Bars in Even Trades	0.00	0.00	0.00
Max. Shares/Contracts Held	1	1	1
Total Shares/Contracts Held	63	32	31
Account Size Required	$16,025.00	$10,137.50	$19,625.00
Total Slippage	$0.00	$0.00	$0.00
Total Commission	$0.00	$0.00	$0.00
Return on Initial Capital	38.54%		
Annual Rate of Return	3.33%		

Performance Summary | Trade Analysis | Trades List | Periodical Returns | Performance Graphs | Trade Gra ◄ ►

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Dynamic Moving Average Histogram

The red and green line, with the black moving average line crossing over it, is the DMAHistogram. The chart in the upper subgraph is the standard DMA. The lower subgraph shows the DMAHistogram.

SunnyBands

The moving averages in the center are the sjh_DynamicMovingAverages, the purple and the gold smoothed lines. The gray bands on either side show the input-specified Average True Ranges away from the DMA. They do a magnificent job of containing the movement of the markets and thus showing the user likely turning points.

The markets typically don't move farther than they typically move. So, if you view market movements by calculating Average True Range, that shows you how far the markets typically move. In my calculations, I use 1.5 as the multiplier, to show one-and-a-half ATRs away from the DMA average. When price gets to that extreme, and begins a turn back, that's a perfect time to take profits, or change the direction of your trading.

sjh_PHW

PHW stands for "Potential Hourly Wage" which was the genesis of my indicator.

This indicator shows Yellow Dots at significant turning points on the chart. It also calculates the Ideal Profit and Loss if the program had been able to actually take those trades, and the PHW (which is 40% of the actual) along with the Buy & Hold amount, the Ideal Number of Trades, and shows the date ranges over the analysis in question.

sjh_Pennants

Locates areas of congestion. Notice how the market generally has extended moves after a period of congestion.

sjh_CPC Index

In combination with a Strategy, including the CPC Strategy generates a line in the PrintLog, at the bottom of the chart, which prints out the CPC Index and all the relevant component statistics.

>>CPC$$_S 11050021315 GP= 57112.50 GL=-37762.50 TNP= $19350.00 CPC= 1.48 JKRatio= 1.24 ME= 220.84 AvgTrade= 624.19 AvgWin= 5192.05 AvgLoss=-1888.13 #Wins= 11 #Losses= 20 %P= 0.35 PF= 1.51 Ratio= 2.75
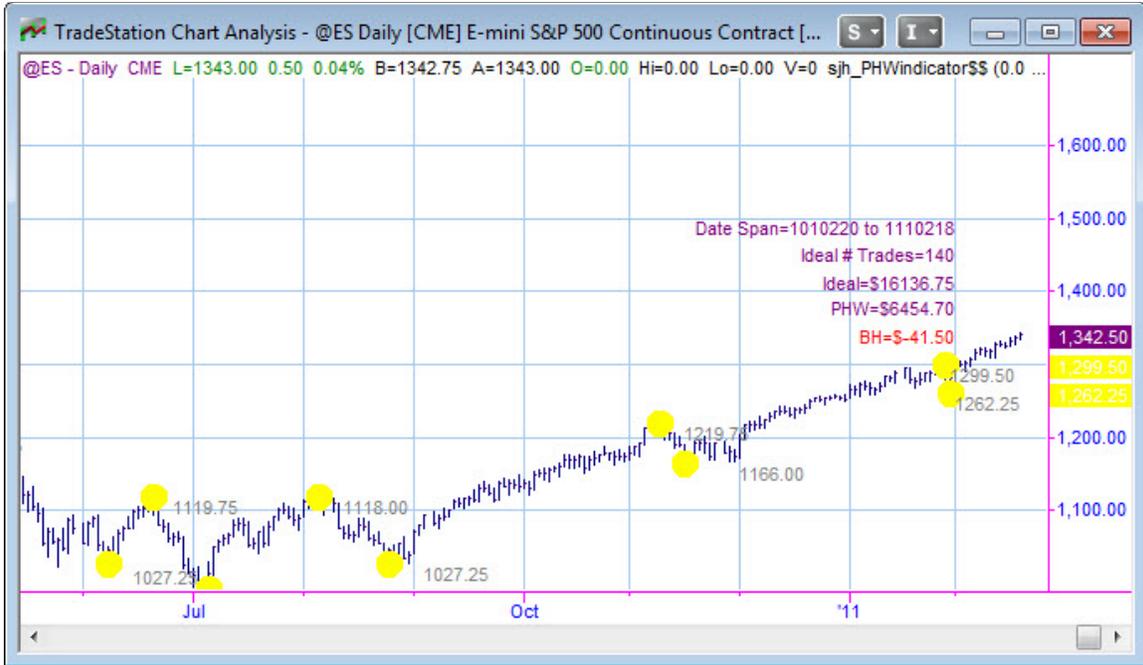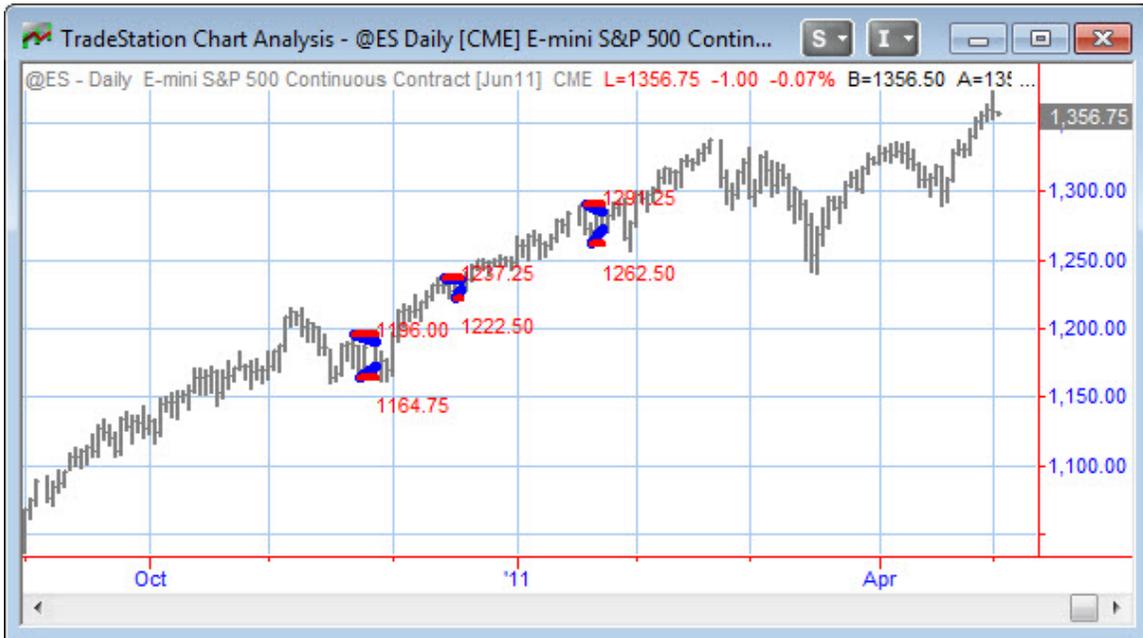
>>CPC$$_S 11103011300 GP= 246.21 GL=-115.52 TNP= $ 130.69 CPC= 1.51 JKRatio= 1.59 ME= 14.19 AvgTrade= 21.78 AvgWin= 61.55 AvgLoss= -57.76 #Wins= 4 #Losses= 2 %P= 0.67 PF= 2.13 Ratio= 1.07

sjh_RedLiteGreenLite

Works only on RadarScreen. Shows periods where three different time compressions are positioned at this point in time. When all three are lined up, there's a high probability of a significant move coming.

sjh_Exits

There is no picture of the Exits on a chart. The important thing to know about this Strategy is that you can optimize several parameters at once, in combination with your own trading strategy, to find the best Exits settings. The inputs are shown below.
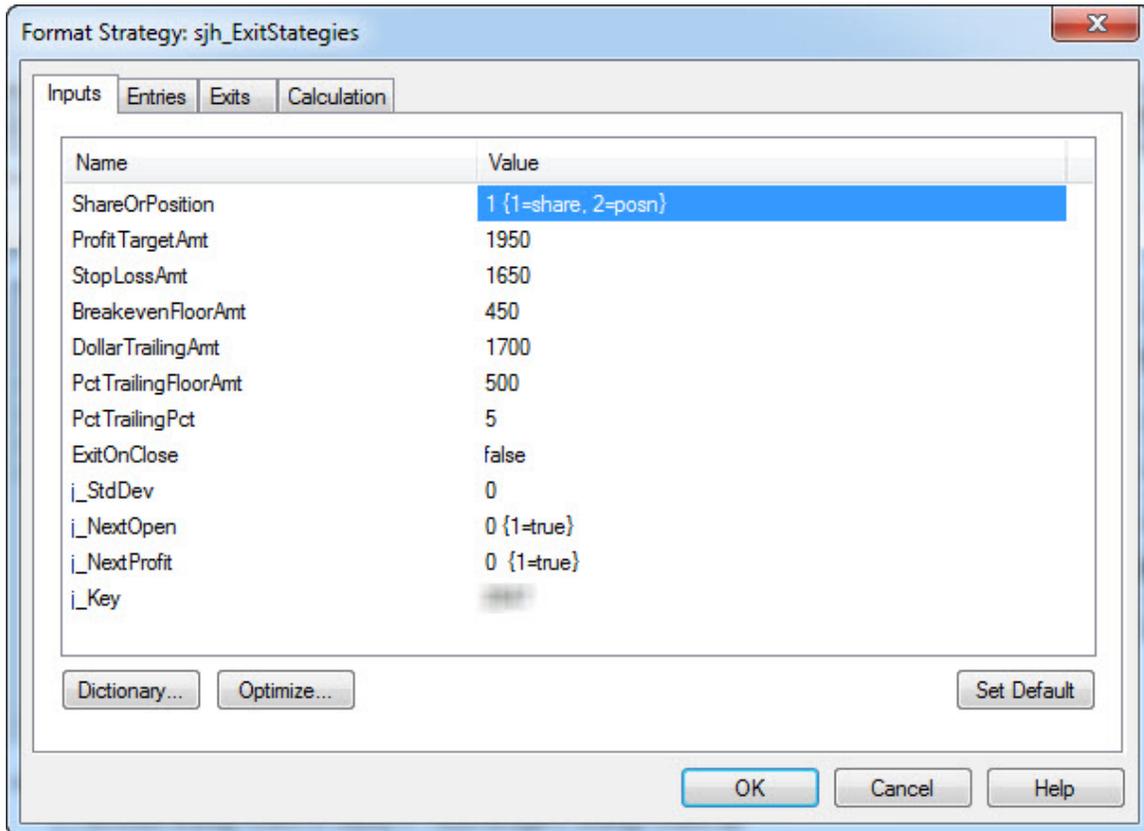
sjh_AllAverages

sjh_AllAverages comes in both Indicator and Strategy formats. The indicator allows one the facility of plotting one, two or three moving averages on a chart, from any of the following types:

```
1   =       HarmonicMean
2   =       Simple MAV
3   =       Exponential MAV
4   =       Weighted MAV
5   =       sjh_DMA Dynamic Moving Avg
6   =       sjh_Solar09 Avg
7   =       MACD
8   =       KAMA (Kaufman)
```

Visual inspection will tell you which average you prefer.

The Strategy format for this Indicator allows not only visual inspection, but the independent assessment using TNP (Total Net Profit) to compare the success of one indicator against another.

It is very convenient to optimize the parameter which chooses the best form of moving average for the stock, forex, or futures contract you are trading. (Or whatever other instrument you may choose).
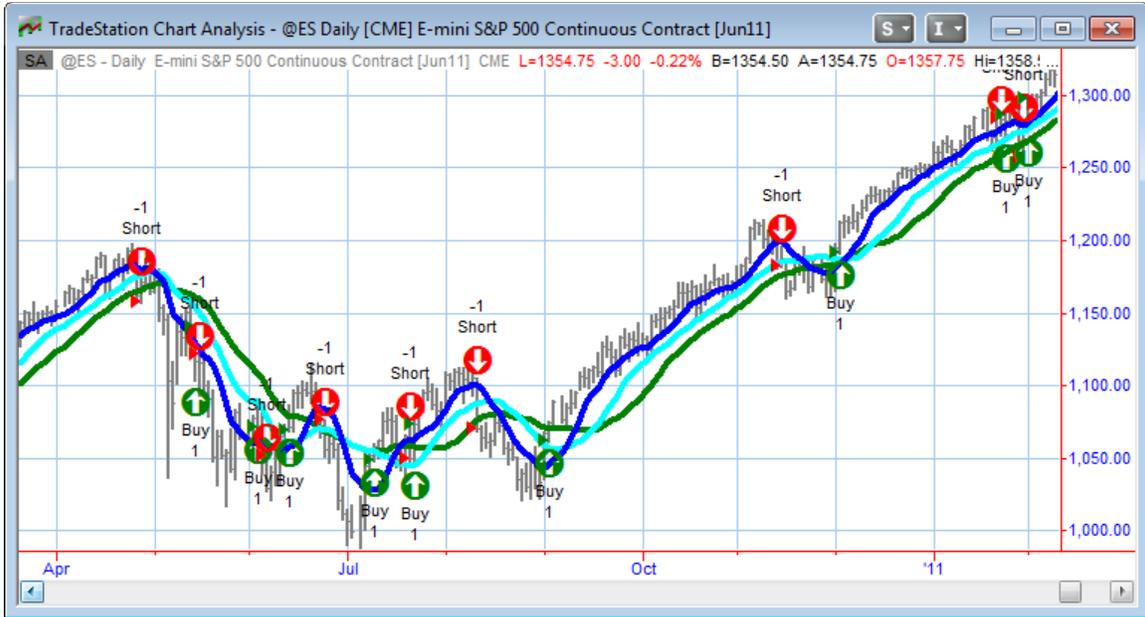
sjh_WhatTimeIsIt Indicator

This is something I made for myself to monitor whether or not I'm still receiving data. Sometimes you sit there and nothing seems to be moving, and then you wonder if your datafeed has gone down. This is what I use for easing my mind. This indicator prints date, time and current price at the last bar on the chart. As long as the time is changing, I'm ok. Of course, you need to set Space to the Right to 40 or so.
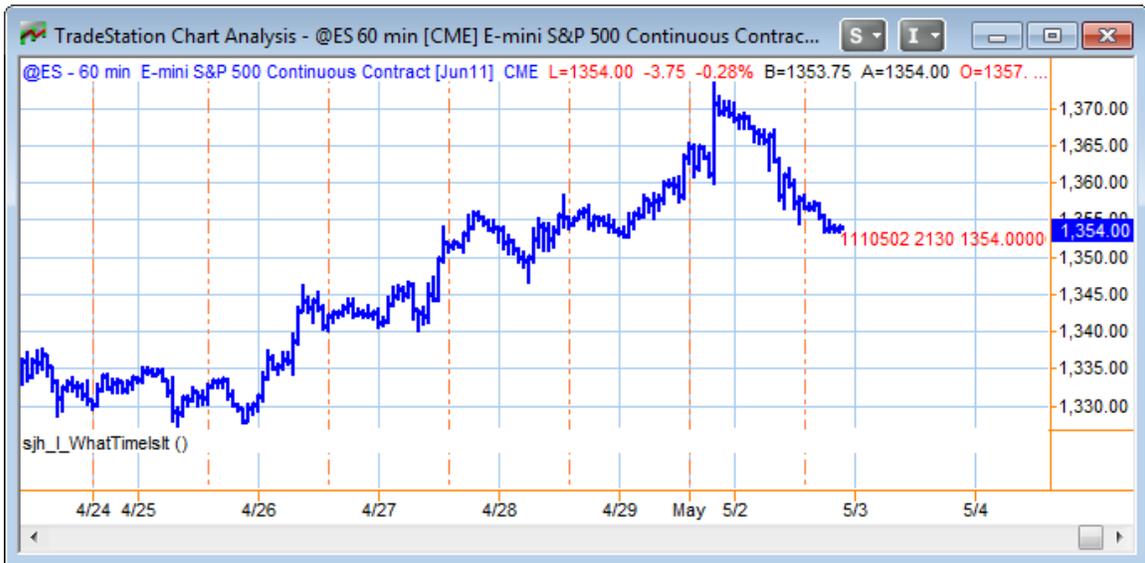
sjh_DaySessions

When trading the EMini 24-hour contract, but especially when trading FOREX, I need something to tell me what time of day I'm working in. It is definitely useful to know when trading real-time, but even of greater important when I'm looking at an historical chart. The Day Session bars are painted blue (or a color of your choice) and the Extended Session bars are green (or another color of your choice.)

Notice that the "down bars" are red in the daytime and magenta at night.

sjh_Expirations Friday
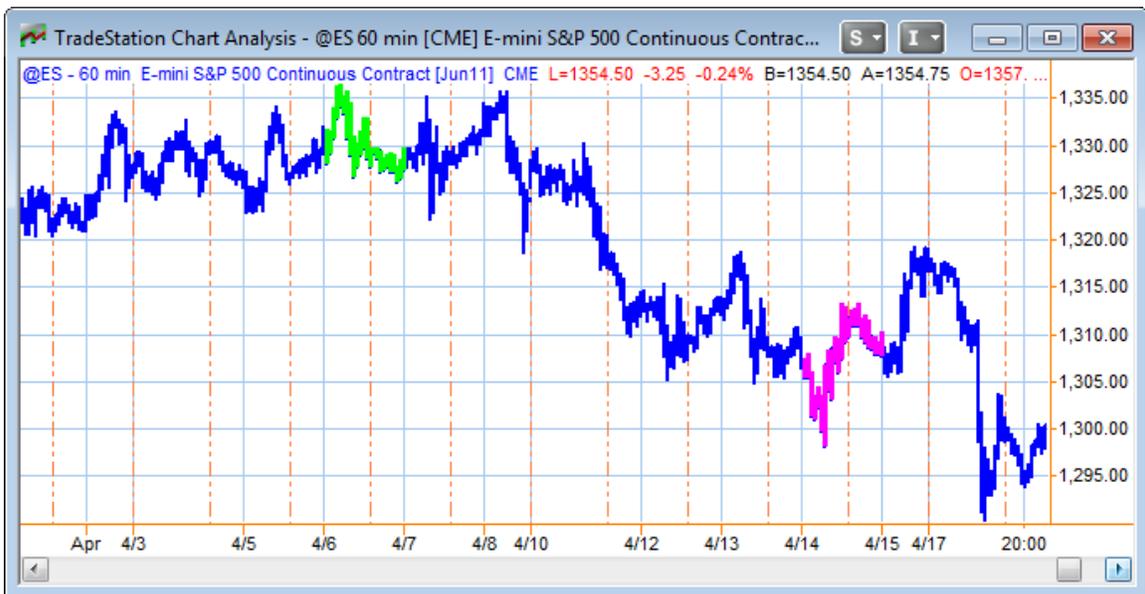
When trading fast and furiously, I can sometimes forget what day of the week it is, and of especial import, whether it is RollOver day on my futures contracts. On the chart above, Expiration Friday is highlighted in magenta bars. But, more importantly, RollOver Thursday is marked in green bars. That's the day you'll change from ESM11 to ESU11 in your trading.

SunnyBars

This strange looking chart is packed with information. You can see the Open, High, Low and Close in Candlestick formations, but these candles have wider (thicker) bodies depending on how much volume was present during that bar's move.

Notice that while the body of the bar changes width with the volume, the extrema (high and low) of the candle do not change width. That makes it easy to tell when there's a thinly traded day, and when there's a high volume day (or bar).

sjh_PrintStatistics

Maybe it's just me, but the Strategy Performance Report appears in front of my other charts and it annoys me. So, I coded an indicator to print all the necessary statistics in the PrintLog window at the bottom of the Desktop, so I can see what is important, and get the Performance Report off the screen.

Date= 1110502 | Time= 1315 | NetProfit= $ 19350.00 | Symbol= @ES | Day of Week= 1 | CPC Index= 1.48 | %P= 35.48% | Ratio= 2.75 | ProfitFactor= 1.51 | NumTrades= 31 | Act. Size Req.= 15625.00

This data is all delivered in the PrintLog window at the bottom of the TradeStation Desktop. I much prefer it to the big, full-of-detail TradeStation Performance Report that stays on top of all your charts.

sjh_Ultimate-F

Originally based on theories developed by Ralph Vince, this function compounds the number of contracts to be traded on the next trade. Ralph's original work had a flaw in it: eventually, after enough compounding, the system typically hit maximum drawdown and exploded (hit its maximum Risk of Ruin). I found the error in the math and changed the concept to incorporate my ideas and came up with a much safer, yet still astounding compounding function. Pictured below are two charts: one that trades one contract with each trade, and the second that trades compounded quantities based on Ultimate-F. You can see for yourself the tremendous difference.
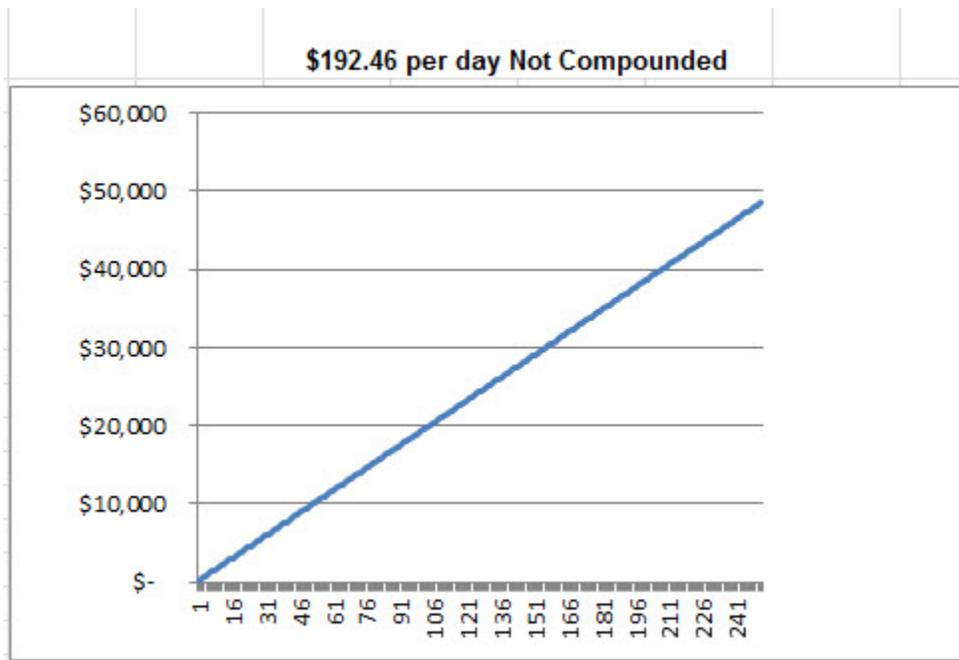
Figure—Trading One Contract at a Time
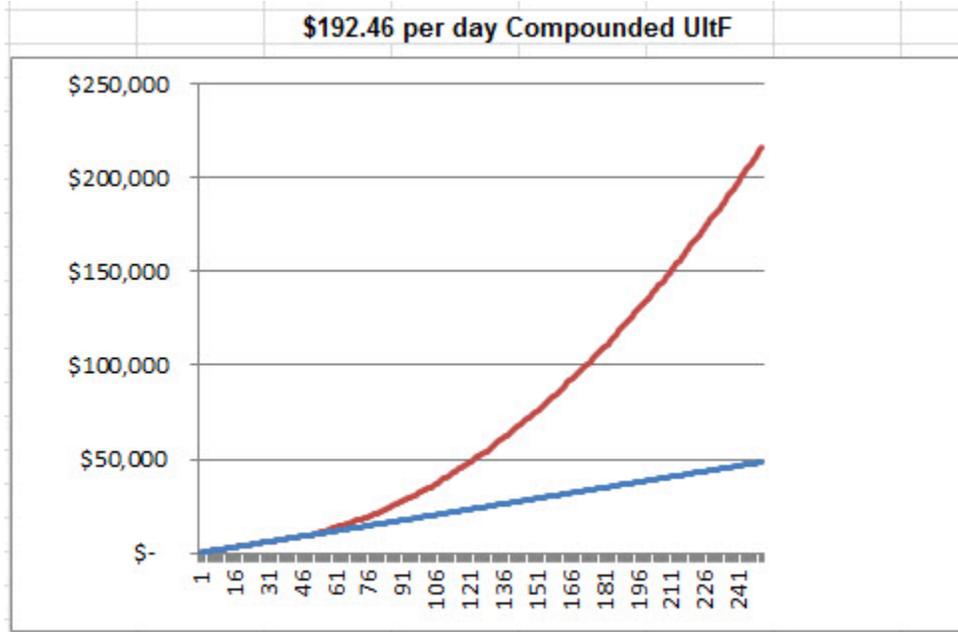
Figure—Letting Ultimate-F Compound the Number of Contracts to Trade

Appendix C: Using CrossLoop to Connect

Rather than duplicate 20 pages of pictures and instructions from my website, let me simply give you the link to go get this part of the manual. As CrossLoop matures, and changes, I will be making up-to-date changes to the website.

If you'll simply jump to http://www.moneymentor.com and click on **Downloads** (on the left side, vertical, yellow menu). From there, simply choose the CrossLoop link.

Appendix D: Downloading DIS data from "TradeStation Made Easy!"

1. Go to www.moneymentor.com website
2. Look on the left side, in the yellow panel,

Figure D.01—MoneyMentor.com

3. There you will see "**HOME** → followed by **TradeStation Made Easy! (TSME)**. (The specific area is circled by a red circle.)
4. Click on the link called "TradeStation Made Easy!" That will take you to this page:

Figure D.02—Data for DIS is here

5. Again you will see a red circled area, with a teal arrow pointing to it. What I want you to notice is the line that says "Data for DIS download is here."

6. Now there is a trick. If you simply click on the hyperlink ("here") you will get the following screen:

Figure D.03—DIS data

7. What the heck good is that? Do I expect you to type in all that data? NO! Definitely not. Instead, I expect you to go back one level and instead of clicking on the hyperlink, I want you to **RIGHT-CLICK** on the hyperlink. This should look like:

Figure D.04—Save Link As

8. As soon as the menu box pops up with "**Save link as**…" in it, left-click on those words and select a place to save the data file.
9. The datafile will be named something like "**DISdata**" and will be of type "**Text Document**."
10. I like to save my data to the **Desktop**, or to a folder I have previously named something like "**SJH_Stuff**". That way I can always find it later when I need it.
11. You now have the data on your computer. What to do with it now?
12. NOW, you must get the data imported into TradeStation so you can chart it.
13. At the top of the TradeStation screen there is a little icon, right beside the symbol search box (it says "Type a symbol/command"). Next to that there is a down arrow and beside that a right arrow. Then there is the little icon I want you to use.
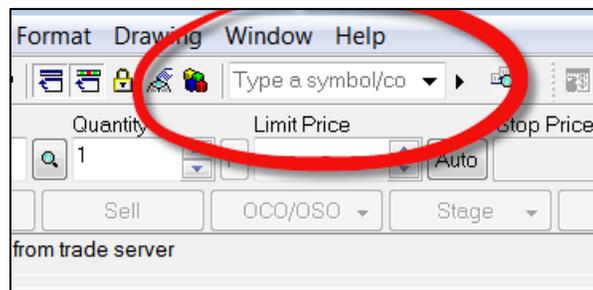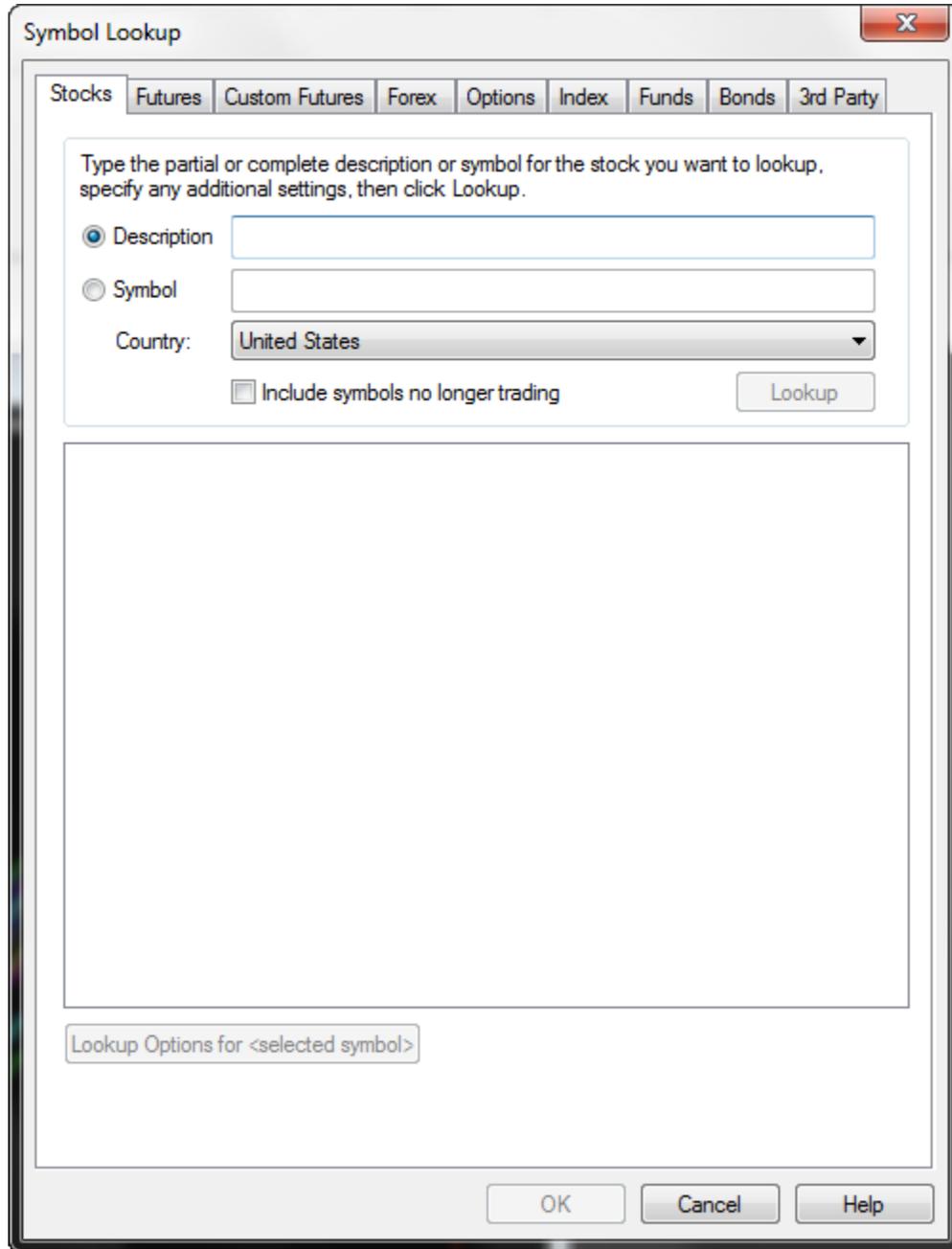

Figure D.05—Type a symbol/command

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14. If you hover over the icon, you will see the words "Symbol Lookup." That's how you'll know it's the right icon.

Click on the icon and it will bring up the following box:

Figure D.06—Symbol Lookup

15. I want you to go all the way over to the right, to where it says "3rd Party" on the tab. Clicking on that tab brings up another window.
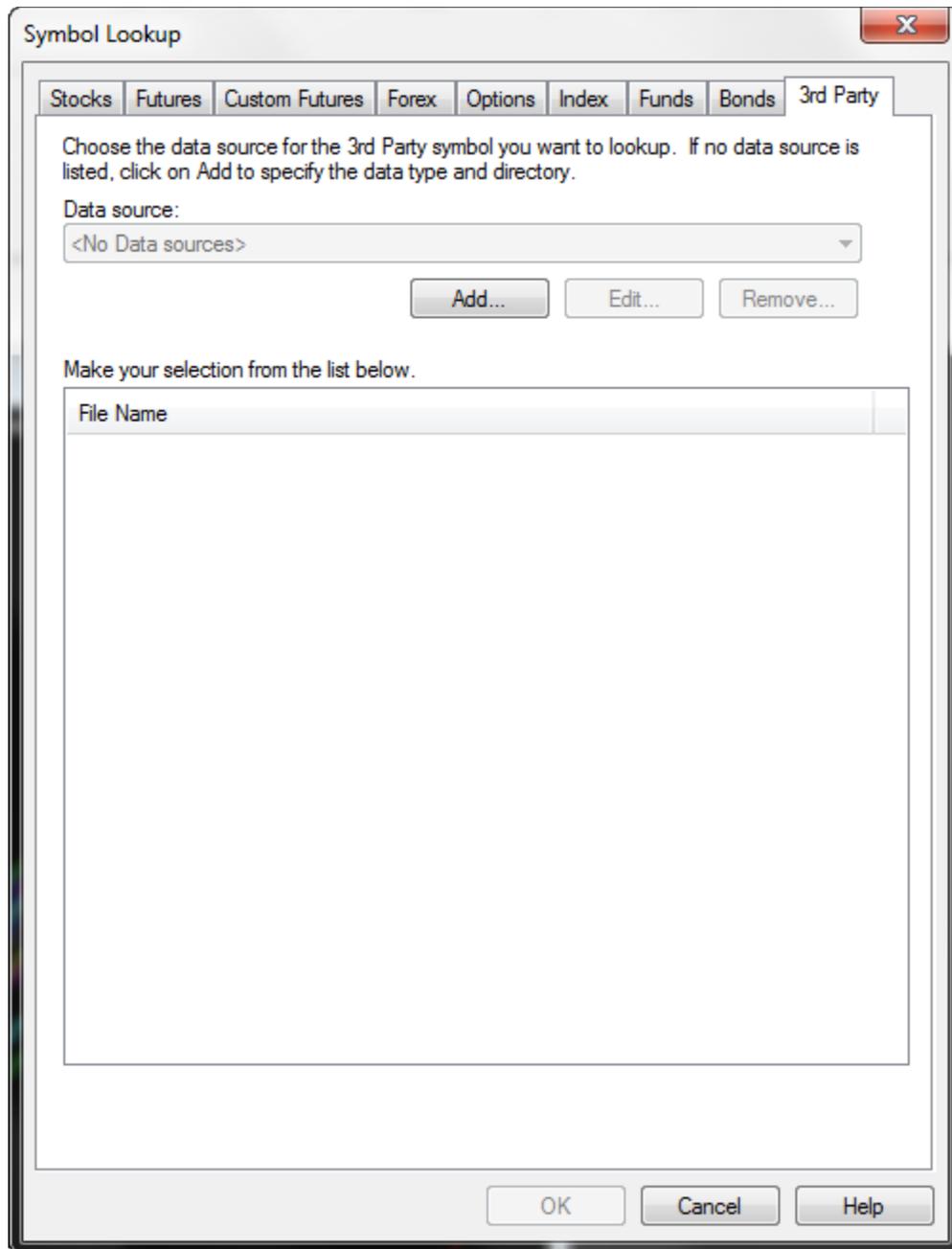
Figure D.07—Data Source

16. From this window you need to look at the "Data source" area. Right under that you will see a button that says "Add." Click on Add. Another little box will pop-up. See below.
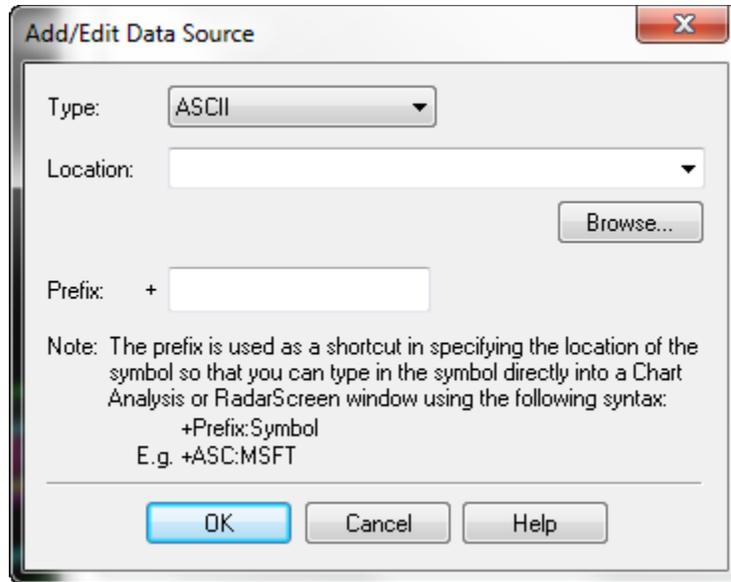
Figure D.08—Ascii Data Source

17. Now you have to tell TradeStation where to find the data on your computer. We already know it is ASCII (text) format, so just leave that alone. Click on **Browse** now, and it will bring up a window with folders on your computer.
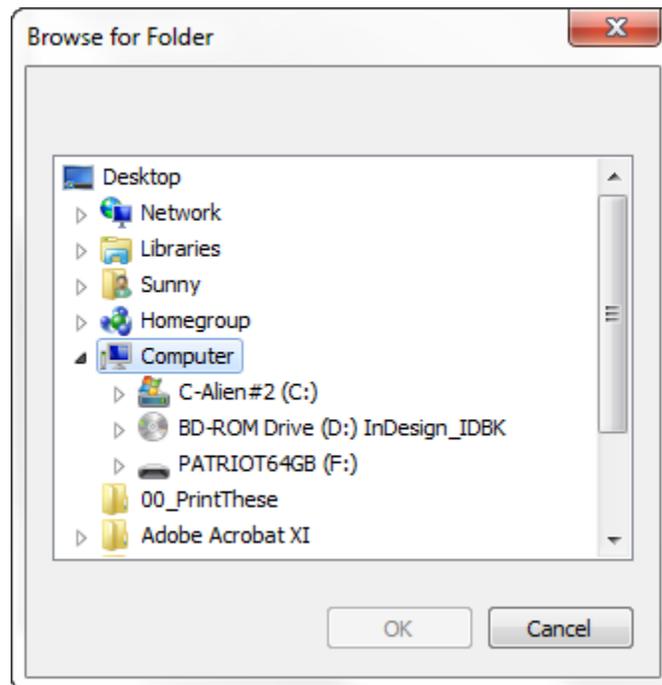

Figure D.08—Browse for Folder

18. This is an image from my computer. Now, we have to remember where we put the data. I put mine in a folder called **Downloads** so it would be easy to find. Where did you put yours? Just **Browse** to that location.
19. Next, in the Prefix box (with a "+" symbol in front of it) type ASC.
20. Then, click **OK**.
21. Next you should see a list (see below) of lots of ASCII files located on your computer. All you have to do is scroll down to the one named **DISDATA.txt** and click on **OK**.
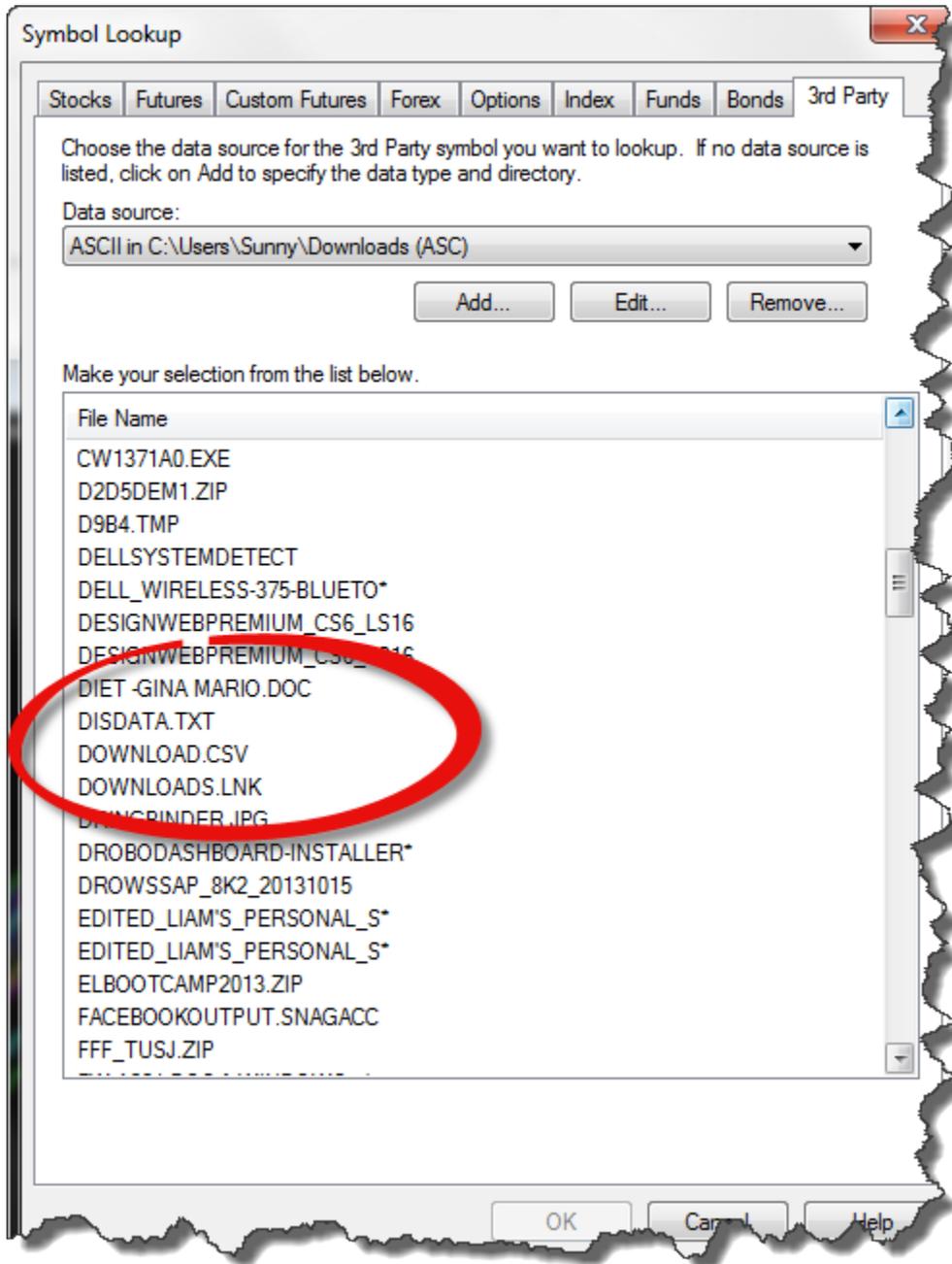

Figure D.09—Looking for DISDATA.TXT

22. One of two things should happen now. Either, (a) your data will display on your chart, or (b) you will have to tell TradeStation that the data is **DAILY** data. If nothing but an error message shows on your chart, then you need to go up to the <u>top of the window</u> where all the icons are and pick the one that looks like a little watch. (See below). **Click on that** and choose DAILY.

Figure D.10—The little clock icon

23. Now you should have a chart.

Best of skill trading.

Sunny