

VSTOPS ProTrader

Strategy Template for  NINJA TRADER®
Architects of Electronic Trading Innovation



"Plan, test & trade your own strategy"

User Guide

VSTOPS ProTrader

Strategy Template and Indicator Package

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Introduction to VSTOPS ProTrader

Thank you for purchasing the VSTOPS ProTrader strategy template for NinjaTrader. All PowerZone Trading tools are designed to be fast, reliable and perform in volatile intraday markets. If you are having difficulties using any of these tools, please contact us so we may help you get the most out of this custom package. It is our hope that this strategy template will help you spot unique opportunities in the markets and become a more profitable trader.

The VSTOPS ProTrader strategy template is designed to help you build profitable day or swing trading systems and to harness the power of automated trading. VSTOPS Pro Trader is not a black box system but a template for creating robust short-term trading strategies. You can customize this system from a basic stop-and-reverse strategy to one that employs complex multi-exit money management tactics. You can even reverse the entry logic to fit different market conditions.



The logic for the strategy is based on the popular VSTOPS indicator package. Using VSTOPS, traders can spot trends and manage trades to take and protect profits as trends continue. While the exact volatility calculations are not disclosed, traders can customize the settings of the VSTOPS indicator and barcolor utility (included with the VSTOPS ProTrader package) to see exactly when a trade will take place and at what price...long before the trade occurs.

The VSTOPS Pro Trader strategy template allows traders to define exactly what type of trades to take (scalp, day or swing), what time of day they want to trade, as well as dollar amounts for risk and profit goals. Traders can make use of back testing and optimization techniques to quickly determine if their ideas would have been profitable in the past and to maximize the potential of their strategy in the future.

Plan, test and trade your own strategy!

WARNING: VSTOPS Pro Trader is *NOT* a plug and play strategy. This tool is intended for self directed traders who are willing to invest the time and research to create successful trading systems using the VSTOPS logic. Each trader should customize VSTOPS ProTrader to fit his or her unique trading style, risk tolerance, markets and goals.

VSTOPS ProTrader Installation

Once you have successfully subscribed to VSTOPS ProTrader strategy template, we will activate a license that is tied to your unique Machine ID number and email you two download links: one for **VSTOPS 2.0**, the indicator behind the strategy template, and one for **VSTOPS ProTrader**, the strategy template. (Please note: if you are a current VSTOPS or VSTOPS 2.0 user and have purchased the VSTOPS ProTrader Upgrade package, we will only send the link for VSTOPS ProTrader).

Please begin installation of the PowerZone Trading VSTOPS ProTrader strategy template for NinjaTrader by completing the following steps:

1. Install PowerZone Trading VSTOPS 2.0 Indicator Package

- a) Note* NinjaTrader 7 will have to be closed during the set-up wizard
- b) Click on the download link
- c) When prompted, click "Run"
- d) If prompted again, click "Run"
- e) Follow the instructions for the VSTOPS set-up wizard

2. Install PowerZone Trading VSTOPS ProTrader Strategy

- f) Click on the second download link
- g) When prompted, click "Run"
- h) If prompted again, click "Run"
- i) Follow the instructions for the VSTOPS ProTrader set-up wizard

3. Invalid licenses

If you change computers or significantly upgrade your existing one, you may need a new license for VSTOPS to work correctly. Please e-mail info@powerzonetrading.com for a new license.

4. Trouble with installation

- a) If you have trouble installing NinjaTrader or updating NinjaTrader, please contact www.ninjatrader.com.
- b) If you have trouble installing VSTOPS ProTrader, please contact info@powerzonetrading.com. We will provide email support and telephone support if needed to ensure your software is properly installed.

The VSTOPS ProTrader Strategy Template is now ready to use!

[Please Note: please read the "Chart Setup" section of the user guide to prevent unintentional strategy activation.]

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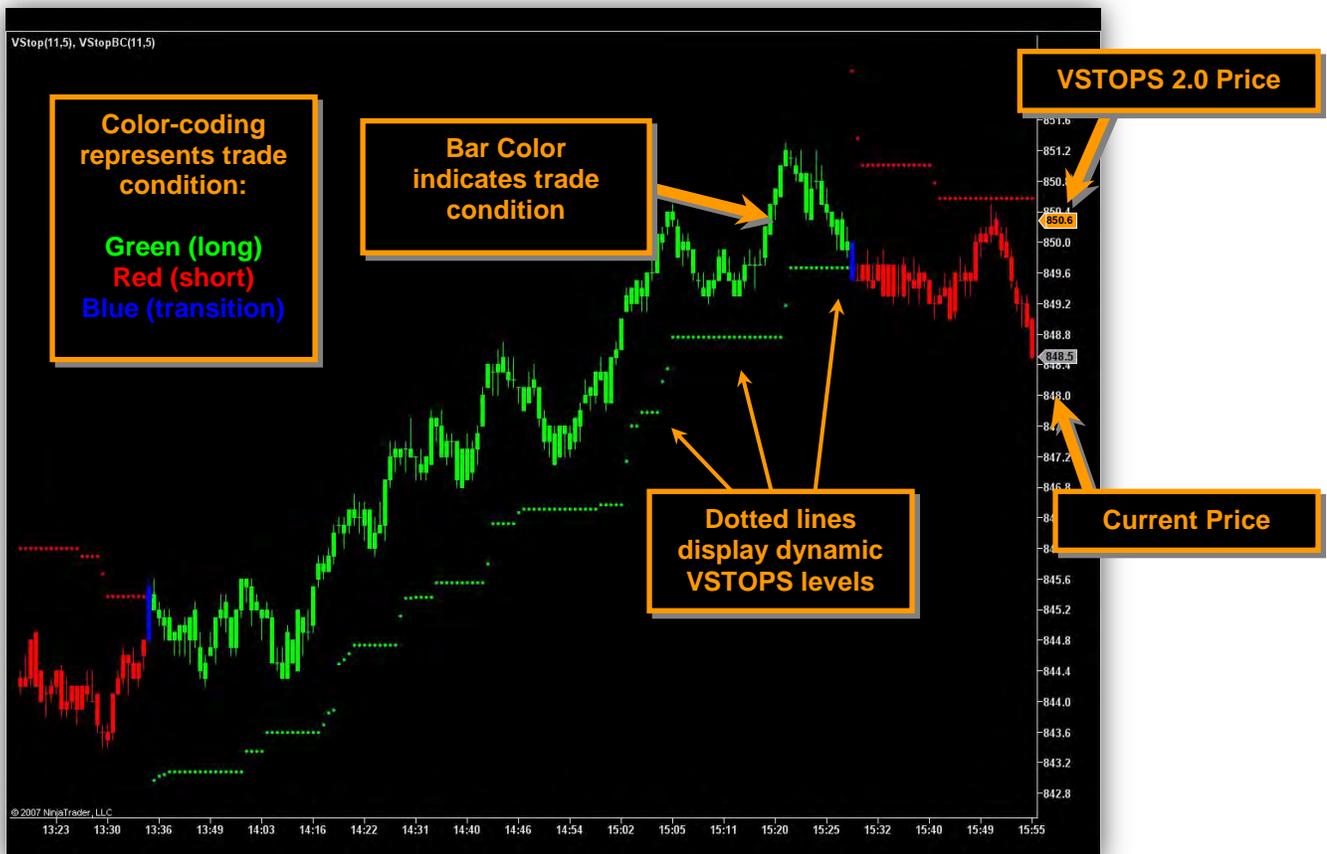
VSTOPS 2.0 Indicator and Barcolor Utility

At the core of the VSTOPS ProTrader strategy template is the VSTOPS 2.0 Indicator and Barcolor utility. While the strategy will function without these indicators, the volatility calculations from these tools form the logic behind the VSTOPS ProTrader entries. These indicators can be used to predict exactly where the strategy will enter and reverse trades. For this reason, we have included as part of the VSTOPS ProTrader package.

PowerZone Trading VSTOPS 2.0 indicator provides an innovative method of calculating stop levels based on market activity. This package includes both an indicator and a bar color utility that work together to give traders an objective method of determining a trading condition, as well as providing definitive stop prices. VSTOPS 2.0 uses an extremely fast filter to determine market volatility and step-up stop levels to help traders protect profits.

The VSTOPS 2.0 trading indicator is an updated and enhanced version of the original VSTOPS package that was first released in 2005. You can now sync VSTOPS 2.0 exactly to tick values and it has been redesigned to have a smoother response to market spikes, eliminating the potential for false signals and improving the predictability of the signals.

The VSTOPS 2.0 Indicator displays a dotted line representing the current stop level, which appears below the current price for long conditions and above the current price for short conditions. As price continues into a trend, the indicator recalculates these stops, moving them closer to the direction of the current price. The exact VSTOPS 2.0 level can be viewed on the price axis or by selecting the “show data box” icon and clicking on the current bar.



This indicator uses a color-coding system to quickly identify the condition of the market and can be customized using the input settings. By default, green represents long conditions, red represents short conditions and blue represents a transition (between long and short). As price transitions between conditions, a blue dot appears at the point where price penetrated the stop level. In many cases, this represents the end of a price move and a change in the trend.

The *VSTOPS PRO BarColor* utility uses identical logic to the indicator. This study color codes the bars to match the indicator condition but will not display the level of the VSTOPS itself. It is important to exactly match the inputs of the indicator and the bar color. While the bar color is a useful trading tool, some traders prefer to use only the indicator and rely on standard bar or candlestick charts.

You can adjust the settings of the VSTOPS PRO 2.0 indicator to fit a particular market or chart interval. The two settings that affect the performance of the indicator are the *Period* and the *StandardDV*. The *Period* represents the amount of historical data that will be used in the calculation. Larger values use more data but will react more slowly to the market (even with longer lookbacks, this is still a very fast indicator). Conversely, settings that are too small will become rather jittery. The *StandardDV* alters the distance of the VSTOPS 2.0 from the price. The *StandardDV* input is adjustable in small increments; i.e. 3.5, 3.6, 3.7, etc. to allow for fine tuning.

RoundToTick (true/false) allows traders to adjust the VSTOPS price to an exact tick. This can be helpful when trading symbols such as E-minis.

VSTOPS 2.0 Indicator Settings

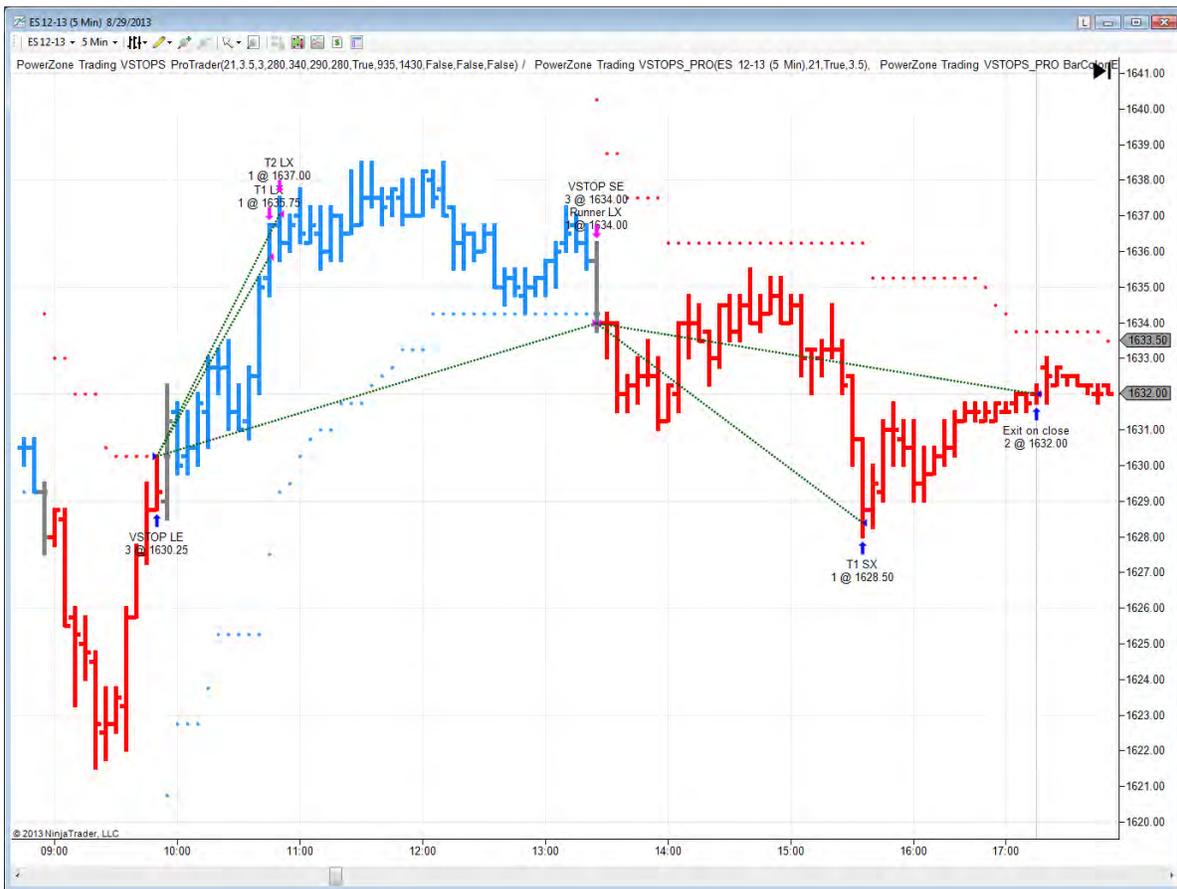
The settings for the VSTOPS PRO 2.0 and VSTOPS PRO BarColor 2.0 are as follows:

NAME	VALUE	DESCRIPTION
Parameters		
Period	11	<i>Statistical lookback period</i>
RoundToTick	False	<i>True = rounds VSTOPS to nearest tick, False = uses fractions</i>
StandardDV	5	<i>Number of standard deviations to draw VSTOPS</i>
General		
Auto Scale	True	<i>Include the indicator plot as part of the chart range</i>
Calculate on bar close	False	<i>Indicator values are calculated at the close of a bar</i>
Displacement	0	<i>Displace the indicators by n bars</i>
Display in Data Box	False	<i>Exclude the indicator plot from the data box</i>
Label	VStop	<i>Indicator explanation</i>
Panel	1	<i>The index of the chart panel (1-10)</i>
Price markers(s)	True	<i>Paint price markers at y-axis</i>
Misc		
ChangeColor	 Blue	<i>Indicator color for transitional condition</i>
LongColor	 Lime	<i>Indicator color for long condition</i>
ShortColor	 Red	<i>Indicator color for short condition</i>

The VSTOPS ProTrader Strategy can be used in the NinjaTrader Strategy Analyzer or be inserted directly into a chart.

If using VSTOPS PRO Trader on an active chart, please use caution and make sure that a Sim account is enabled during testing; otherwise the strategy could trigger live trades and you could enter unintentional positions!

One of the strengths of the VSTOPS ProTrader strategy is that it can answer important questions that many traders have about the VSTOPS indicator such as, **"Which VSTOPS settings are most profitable?"** and **"What are the best chart intervals to trade?"** Using NinjaTrader's powerful backtesting and optimization engine provides answers to these questions and takes the guesswork out of trading. While this user guide covers the basic framework for testing and optimizing, it is recommended that you spend some time learning the features of the NinjaTrader Strategy Analyzer to get the most out of this strategy template. Accurate testing and responsible optimization will greatly improve the probability of profitable trading with this – or any other – strategy.



There are several inputs that allow for customization of the strategy based on the VSTOPS indicator settings. When first inserting the strategy on an intraday chart, the defaults will create a day trading strategy (meaning it will not hold overnight positions) that will follow the VSTOPS indicator state and enter trades between 9:35am and 3:30pm. When applied to a daily chart, the strategy will act as a stop and reverse (meaning it will always be either long or short).

Most likely, the default settings of the VSTOPS ProTrader Strategy will not be very profitable; this is to be expected. **Don't be discouraged if the first thing you see is a losing strategy...you'll be able to improve this!** The strategy can be customized to fit many different trading styles, markets and timeframes with simple adjustments.

The following pages provide a description of the settings and trading tactics that are available within the strategy template.

VSTOPS Settings

These settings allow the strategy to define the VSTOPS calculation and are identical to the inputs in the indicator and barcolor utility. These values will have the largest immediate effect on the performance of the strategy since they define the location of all trade entries and, possibly, trade exits as well. Both values can be optimized (described in a later section) to establish the most profitable VSTOPS settings.

Period - represents the amount of historical data that will be used in the calculation. Larger values use more data but will react more slowly to the market. Conversely, settings that are too small will become jittery.

StandardDV - alters the distance of the VSTOPS 2.0 from the price. This input is adjustable in small increments; i.e. 3.5, 3.6, 3.7, etc. to allow for fine tuning.

Money Management

Each input in this section defines the trade exit strategy and how the position(s) are handled during the trade. If any input ending in "...Amount" is set to zero, the strategy will completely disable, or ignore, this type of exit

BreakEvenAmount - sets the dollar amount (per lot, contract or share) after which a stop market order will move up to the original entry price of the trade. The "breakeven" trading tactic is used to protect profits once the *BreakEvenAmount* is initially reached during the trade. A breakeven stop is often set to be equivalent to the first profit target (*ProfitTarget1Amount*) when splitting a trade position.

ProfitTarget1Amount - defines the dollar amount of the first profit target. This places a limit order at the defined profit goal that becomes active as soon as the trade is initially entered. If used as a single profit target (i.e. *ProfitTarget2Amount* = 0), it will split the position in half (if trading 4 contracts, it will exit 2 contracts) until the final VSTOPS stop is reached and the remainder of the position is closed out. If the VSTOPS exit is turned off (ex. *UseVSTOPSExit* = false) it will exit the entire position at the *ProfitTarget 1* level.

ProfitTarget2Amount - defines the dollar amount of the second profit target and must be greater than the first profit target (*ProfitTarget1Amount*). When used with the first VSTOPS exit (ex. *ProfitTarget1Amount* = 300, *ProfitTarget2Amount* = 600 and *UseVSTOPSExit* = true), one-third of the initial position will be closed out when price reaches the first profit target of \$300, one-third will be closed out if the second profit target is reached at \$600 profit and the final third would be closed out on the next VSTOPS transition point.

StopLossAmount - when set to values greater than zero, this establishes the dollar value (per lot, contract or share) of a protective stop loss order. This order is placed below the entry price and will immediately close the entire position if this level of loss is reached at any point during the trade.

TradeSize - This represents the initial contracts, shares or size that the system will trade.

MONEY_MANAGEMENT	
BreakEvenAmount	0
ProfitTarget1Amount	0
ProfitTarget2Amount	0
StopLossAmount	0
TradeSize	1
UseVSTOPSExit	True
PERF_SWITCHES	
AllowOverNightTrades	False
IntradayEntryOnOpen	False
ReverseLogic	False
TIME_FILTERS	
IntradayEndTime	1530
IntradayStartTime	935
VSTOPS_SETTINGS	
Period	21
StandardDV	3.5
General	
Account	Sim 101
Calculate on bar close	False
Enabled	True
Input series	ES 12-13 (5 Min)
Label	PowerZone Trading VSTOPS ProTrader
Maximum bars look back	TwoHundredFiftySix
Min. bars required	20
Historical Fill Processing	
Fill type	Default
Slippage	0
Order Handling	
Exit on close	True
Exit on close seconds	30
Sync account position	False
Order Properties	
Time in force	Gtc

UseVSTOPSExit - {*True* or *False*} acts as a switch to enable or disable the strategy from exiting on a VSTOPS stop transition (i.e. a blue bar). When set to true, it allows the strategy to exit on a stop order as soon as a VSTOPS stop level is reached. This should only be set to false when the stoploss and profit target(s) are enabled (ex. neither *StopLossAmount* nor *ProfitTarget1Amount* is set to zero) and a bracket exit is desired. A simple bracket exit creates two static orders on either side of the trade; once one gets filled, the other is automatically cancelled.

Performance Switches

Each of these settings is a true/false switch that defines how the strategy will perform during specific conditions.

AllowOverNightTrades - {*True* or *False*} When used on intraday charts, this switch defines the strategy as a day trading strategy (***False***) that closes all positions at the end of the session, or as a swing trading strategy (***True***) that holds positions overnight and possibly over several days. On daily charts or greater, this switch will have no effect on strategy performance.

IntradayEntryOnOpen - {*True* or *False*} When set to ***True***, this switch allows the strategy to immediately open intraday positions in the direction of the current VSTOPS once the time filter allows trading to begin (ex. if it is 9:00 a.m. and *IntraDayStartTime* = 900). When set to ***False***, it waits for the first VSTOPS transition to take intraday trades. On daily charts or greater, this switch will have no effect on strategy performance.

ReverseLogic - {*True* or *False*} - This switch allows the strategy logic to be completely reversed. In most cases, this should be set to ***False*** to allow the normal VSTOPS logic to define the trading rules. When set to ***True***, the VSTOPS logic will be reversed, and buy stop orders will be replaced by sell limit orders and vice versa.

Time Filters

These settings define the intraday time when trading can take place using 24 hour time notation (ex. 1600 = 4:00pm). On daily charts or greater, these settings will have no effect.

IntradayEndTime – The intraday time that defines the point after which no trades will be entered (ex. if set to 1530, no trades will be entered after 3:30pm). Please note, this is not the same as when intraday trades will be closed, which is defined by the setting "Exit on Close".

IntradayStartTime – The intraday time when trading begins (ex. 930 = 9:30 a.m., the open of the US equities markets).

General {NinjaTrader Settings}

Account - Sets the account for which the strategy will trade against. **Please use caution and make sure that a Sim account is enabled during testing, otherwise the strategy could trigger live trades!**

Calculate on bar close - {*True* or *False*} When true, values are calculated at the close of a bar; otherwise values are calculated on each incoming tick. It is recommended that this is set to False.

Enabled - {*True* or *False*} This is the final "safety" that will activate the strategy. The default value for this setting is false and it must be changed to True in order to display the strategy on the chart.

Input Series - The current chart settings that the data that the strategy will use.

Label - Text definition of the strategy.

Maximum bars look back - The maximum number of bars used for calculating the strategy values.

Min. bars required - The minimum number of bars required for the strategy to calculate.

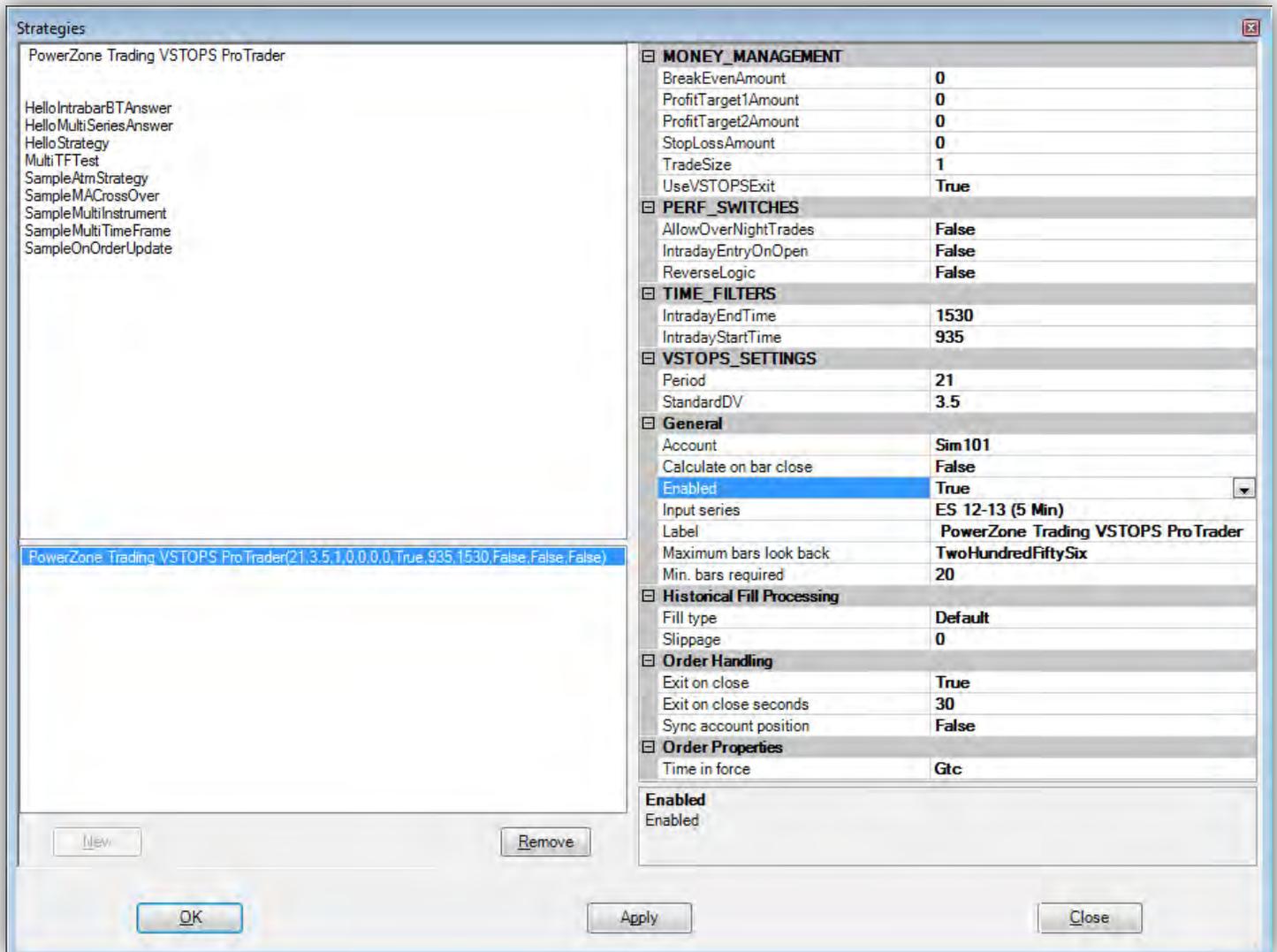
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Historical Fill Processing {NinjaTrader Settings}

These settings define how historical data is processed during backtesting.

Fill Type - the fill algorithm used for backtesting.

Slippage - the amount of slippage calculated in ticks per order fill.



Order Handling {NinjaTrader Settings}

Exit on close - {True or False} When True, the strategy exits all positions on session close.

Exit on close seconds - Triggers the exit on close this many seconds prior to the session close.

Sync account position - {True or False} Attempts to synchronize the account position(s) to the strategy position(s) on strategy enable.

Order Properties {NinjaTrader Settings}

Time in force - Defines how long the trade orders will be active and may vary by broker (ex. GTC = good till cancelled, Day = active during the current day, etc.)

Chart Setup

Once a chart is set up with the VSTOPS ProTrader, it can be saved as a template or in a workspace to remain correctly formatted thereafter. Creating and formatting a VSTOPS ProTrader chart from scratch can be accomplished using the visual guide on the following page and the directions below:

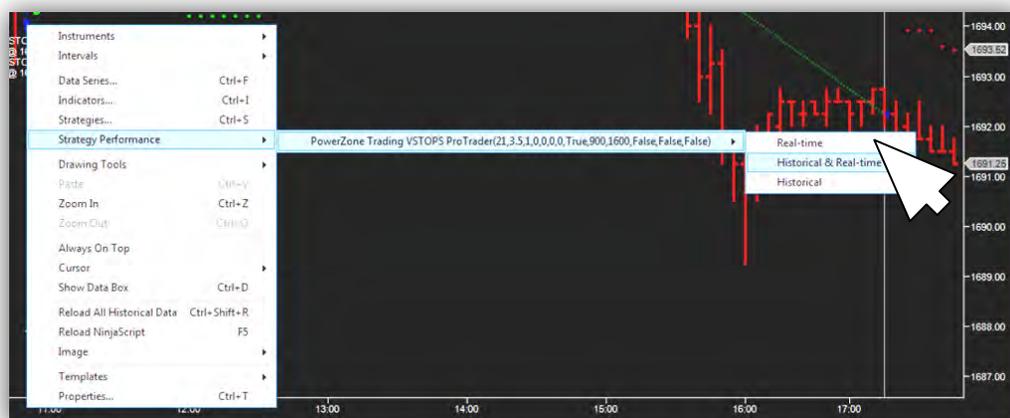
1. **Create a new NinjaTrader Workspace** (optional): open Control Center > File > Workspaces > New Workspace.
2. **Create a new NinjaTrader Chart:** File > New > Chart > select a tradable Data Series > click the New button and change setting to the desired interval (ex. for a 5-minute chart: Type = Minute and Value = 5), change the Data to load to the desired amount of historical data, and then click OK.

3. **Insert the VSTOPS_Pro indicators:** While the chart is highlighted, click on the Indicators icon  > select "PowerZone Trading VSTOPS_PRO" and "PowerZone Trading VSTOPS_PRO BarColor" from the list of indicators > click the New button > Click OK. [**Please note:** *These indicators appear at the very top of the indicator list and not alphabetically*]. The VSTOPS indicators should now appear on the chart.

4. **Insert the VSTOPS ProTrader Strategy:** While the chart is highlighted, click on the strategies icon  [**Please note:** *Chart Trader must be disabled in order to insert a strategy*] > select "PowerZone Trading VSTOPS_ProTrader" from the list of indicators > click the New button > Set Account to a SIM account > Set Enabled = True > Click OK.

Warning: Please use caution and make sure that a Sim account is enabled during testing; otherwise the strategy could trigger live trades and you could enter unintentional positions.

5. **Activate Indicator License** (if not already activated): the first time the indicator or strategy is inserted onto a chart, you may be prompted to email the computer ID for license verification. This process can take up to one business day and will be confirmed by email. Once activated, the VSTOPS ProTrader is ready to use for the duration of the licensing period.
6. **View Strategy Performance Report:** Use a right mouse click anywhere on the active chart > choose Strategy Performance from the list > Choose VSTOPS ProTader Strategy > Historical & RealTime. This should display a mutli-tab performance report. [**Don't be discouraged if the first thing you see is a losing strategy...you'll be able to improve this!** The strategy is designed to fit many different trading styles, markets and timeframes; it will require adjustments.]



7. **To Change or Revise the Strategy Settings:** While the chart is highlighted, click on the strategies icon > select "PowerZone Trading VSTOPS_ProTrader > Set Enabled = false > click the Apply button > Adjust the strategy settings as necessary > Set Enabled = true > click OK Button.

VSTOPS Indicator Setup

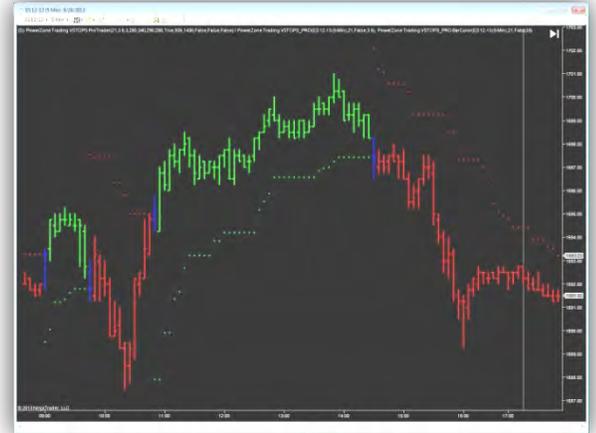
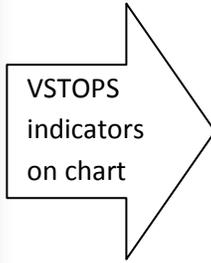
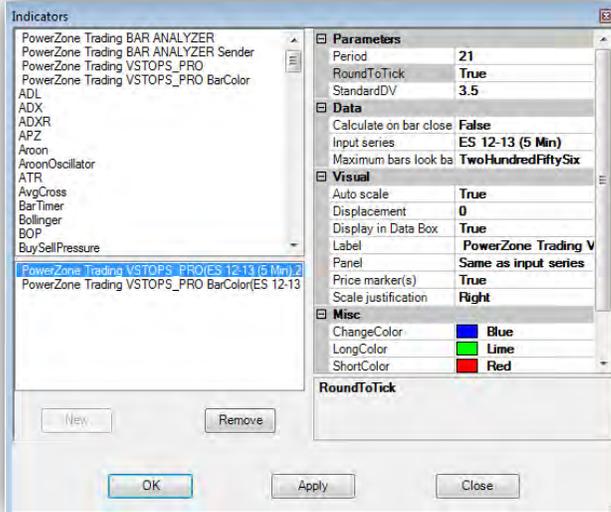
Chart Setup Step #1

Click on title bar:  add New: **PowerZone Trading VSTOPS_PRO**
PowerZone Trading VSTOPS_PRO BarColor

Match Settings between VSTOPS PRO indicator and barcolor

Example Settings: **Period = 21, RoundToTick = True, StandardDV = 3.5**

Chart displays VSTOPS dots and color bar



VSTOPS Strategy Setup

Chart Setup Step #2

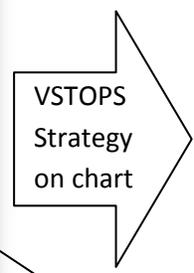
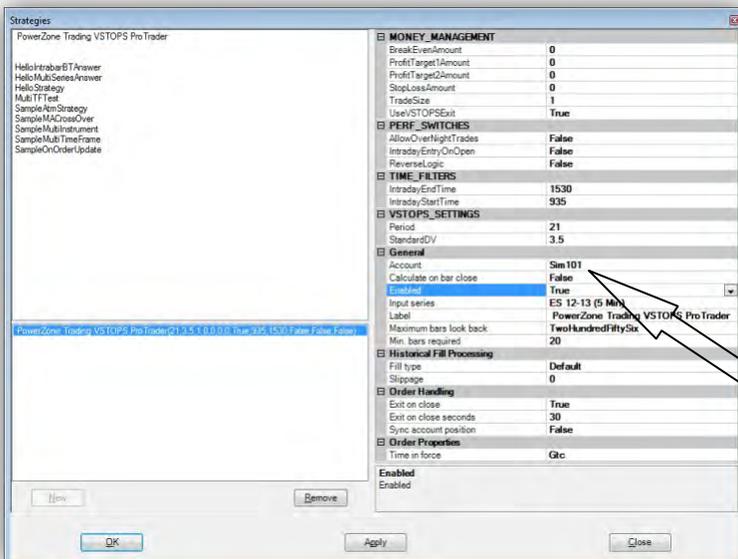
Click on title bar:  add New: **PowerZone Trading VSTOPS ProTrader**

Match Settings between indicator and Strategy: **Period = 21, StandardDV = 3.5**

Settings: **Account = Use SIM account for testing or choose account to autotrade**

Enabled = True (this activates the strategy)

Chart displays VSTOPS strategy entries and exits



WARNING: Use SIM account for testing, Enabling the strategy will trigger auto trades

Backtesting and Optimization

One of the biggest advantages of using a strategy is the ability to backtest and optimize to determine which combination of settings would provide the best results. *Backtesting* involves applying the strategy to historical data to verify how it would have performed during a specified time period. *Optimizing* entails entering a range for a specified setting and letting the computer "do the math" to figure out what input would have performed the best. A *multi-variable optimization* can do the math for 2 or more variables combined to determine what levels together would have achieved the best outcome.

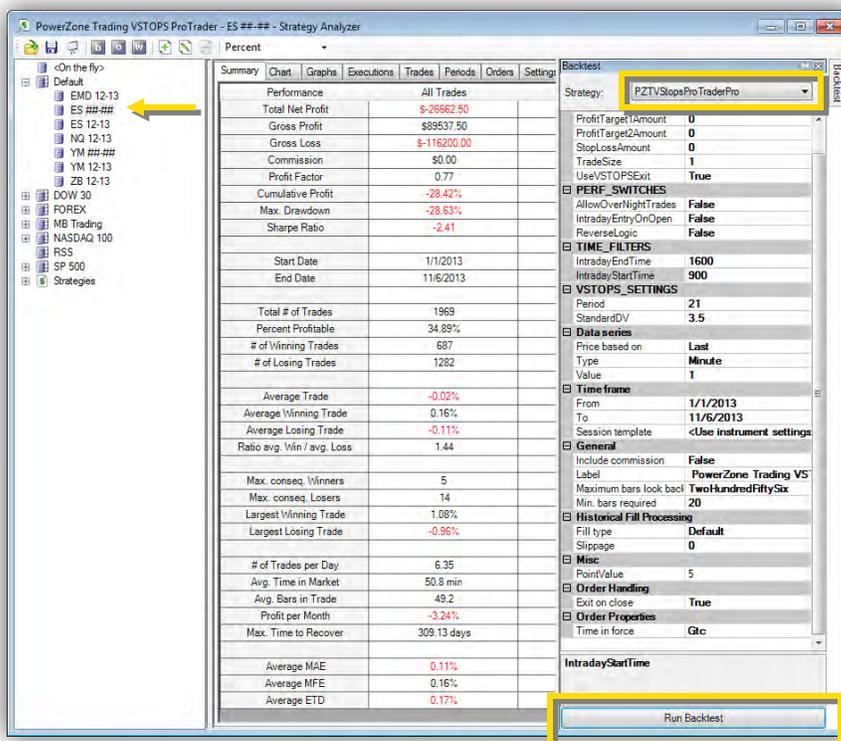
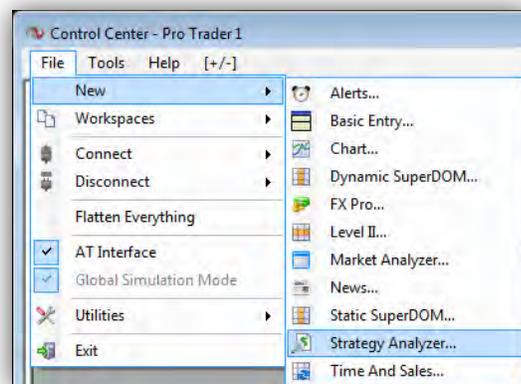
While we can insert the VSTOPS ProTrader strategy into an active chart and generate a performance report, this is not the best way to backtest or optimize the system. These tasks are much better suited for the NinjaTrader Strategy Analyzer. In this section, we will go through a step-by-step example to illustrate how VSTOPS ProTrader can be backtested and optimized. This is intended as a basic introduction to using the NinjaTrader Strategy Analyzer with the VSTOPS ProTrader strategy template; please do NOT interpret this as any type of trading or testing advice. We leave it up to you to determine the best strategy settings, markets, data intervals and process to use when conducting your own strategy testing.

We begin by opening a new Strategy Analyzer window by going to the control panel: File > New > Strategy Analyzer. This opens a new Strategy Analyzer window.

The next step is to choose the instrument or symbol to test; this can be found on the left most pane of the Strategy Analyzer window. In this example, we'll choose the Emini S&P by clicking and highlighting it in the white selection box. It remains highlighted in grey even after you move from this section to indicate it is the active data symbol.

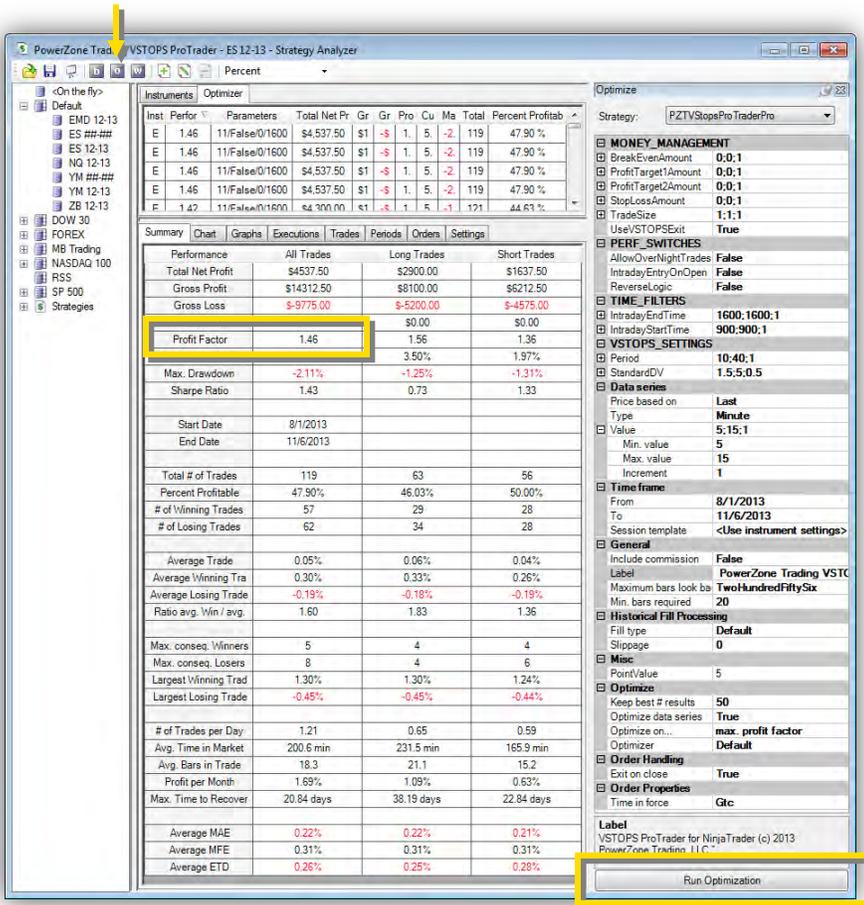
Next, we'll click the BackTest tab on the far right edge of the window. This opens a new section with a button at the top that allows you to choose which strategy to backtest. Choose, "PZTVSTOPSPROTrader" and the adjustable settings for the strategy will appear just below. We then click the "Run Backtest" button at the bottom of this section. There will be a short pause as the Strategy Analyzer calculates the performance of the basic strategy prior to any adjustments or optimizations.

The strategy performance report should now appear with the new data filled in; it displays a variety of trade metrics in the central part of the window... this example shows an initial loss for the strategy using the current settings. Click the tabs along the top edge to get additional information detailing the performance of the strategy on this particular set of data. The "Chart" tab can be a particularly useful tool to visualize the location of trades on a standard price bar chart.



We'll definitely want to improve on this! To do so, we'll switch to optimization by clicking on the small "o" button that appears in dark gray along the menu at the very top of the Strategy Analyzer window (or Ctrl + O).

Once in optimization mode, things look pretty much the same except the tab along the far right edge of the window now reads "optimization". We'll start the optimization process by defining the range of time and changing the time settings using three months of data. To do this, we'll change Time Frame settings *from= 8/1/2013* and *to=11/6/2013*. Most traders choose to use much more data in their testing, for now we'll keep it small to minimize the time it takes to run optimizations.



The values for each setting now display as three numbers separated by a semi colon (ex. *Time Frame Value = 5;15;1*). This represents the minimum optimization range value; the maximum value of the range; and the increments used for each iteration. In the *Time Frame Value* example above, this means that the value starts at 5 and goes up to 15 in increments of 1. For values that you do not wish to change, the min and max settings should be the same (ex. 900;900;1 would keep the value at 900 for the entire optimization process).

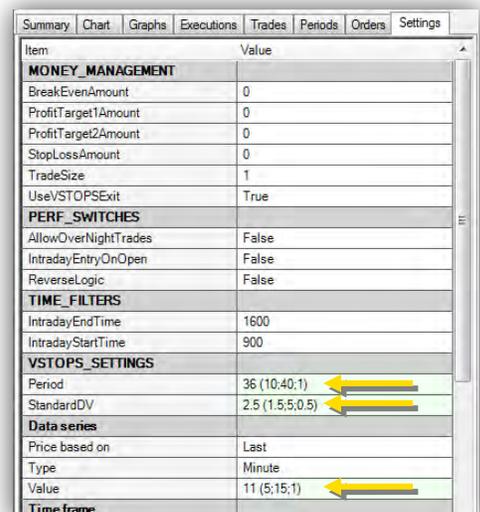
In our example, we'll start with a stop and reverse day trading strategy by optimizing both the VSTOPS settings and the intraday minute interval of the symbol:

Period = 10 ; 40 ; 1
StandardDV = 1.5 ; 5 ; 0.5
Optimize Data Series = True
Data Series Minute Value = 5 ; 15 ; 1

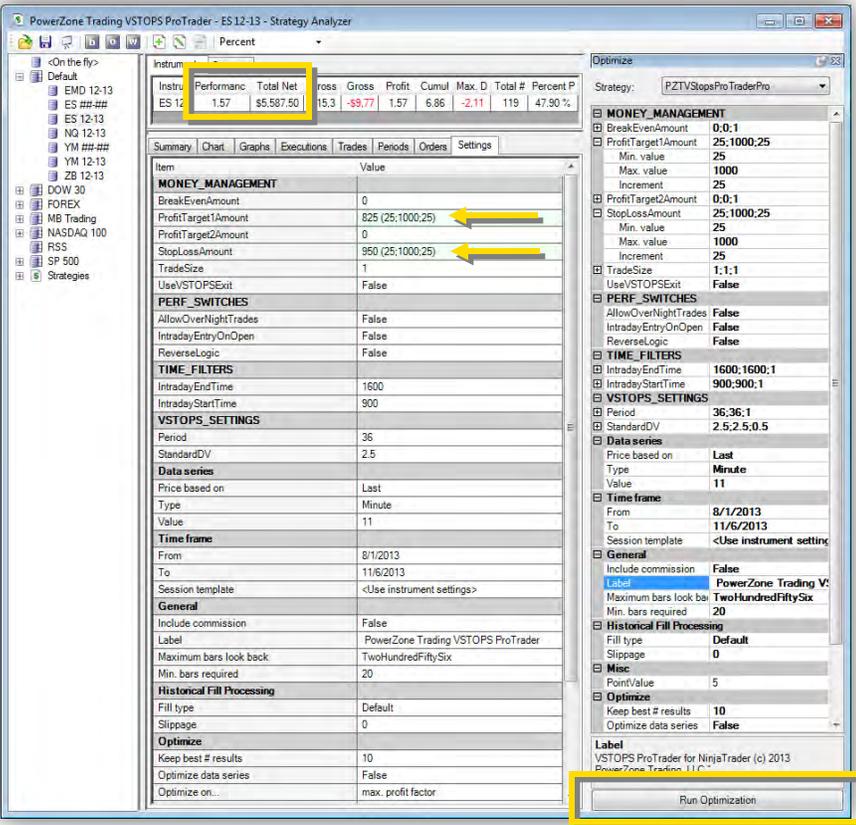
Once you click the "Run Optimization" button, the optimization engine starts. Since this is a multi variable optimization, it may take a few minutes to complete (a progress bar appears on the bottom of the control panel showing the amount of time left in the optimization).

The results of this optimization are show above and we can see that this had a positive impact on the performance of the VSTOPS ProTrader strategy. It now shows a profit factor greater than one (meaning it is profitable) on the three months of data that we have selected. **We've been able to answer important questions about which VSTOPS setting and chart interval may be the most profitable!**

The chart at the right shows the settings tab after the optimization was completed. The best performing values are highlighted in green. For this test, the optimal VSTOPS settings were a **Period=26** and a **StandardDV=2.5** when applied to an **11-minute chart**.



Now, we'll add money management to the strategy to improve performance and provide more responsible risk management. For this example, we'll keep the values from the previous optimization as constants and add a profit target and a stop loss. This test will show the results of a simple bracket exit instead of the stop-and-reverse logic of the first test. The advantage to adding money management exits is that we can better define our maximum loss potential through use of a protective stop loss. In this case, we want to ensure that we never take a loss (per single contract) greater than \$1,000. Likewise, we'll employ a profit target to exit the trade if it moves in our favor (the VSTOPS exit will be turned off). We'll use the same optimized values from the previous step with the following optimization ranges:



Values from Previous Optimization
Period = 36 ; 36 ; 1
StandardDV = 2.5 ; 2.5 ; 1
Optimize Data Series = False
Data Series Minute Value = 11 ; 11 ; 1

New Optimization Test Settings
UseVSTOPSExit = False
ProfitTarget1Amount = 25 ; 1000 ; 25
StopLossAmount = 25 ; 1000 ; 25

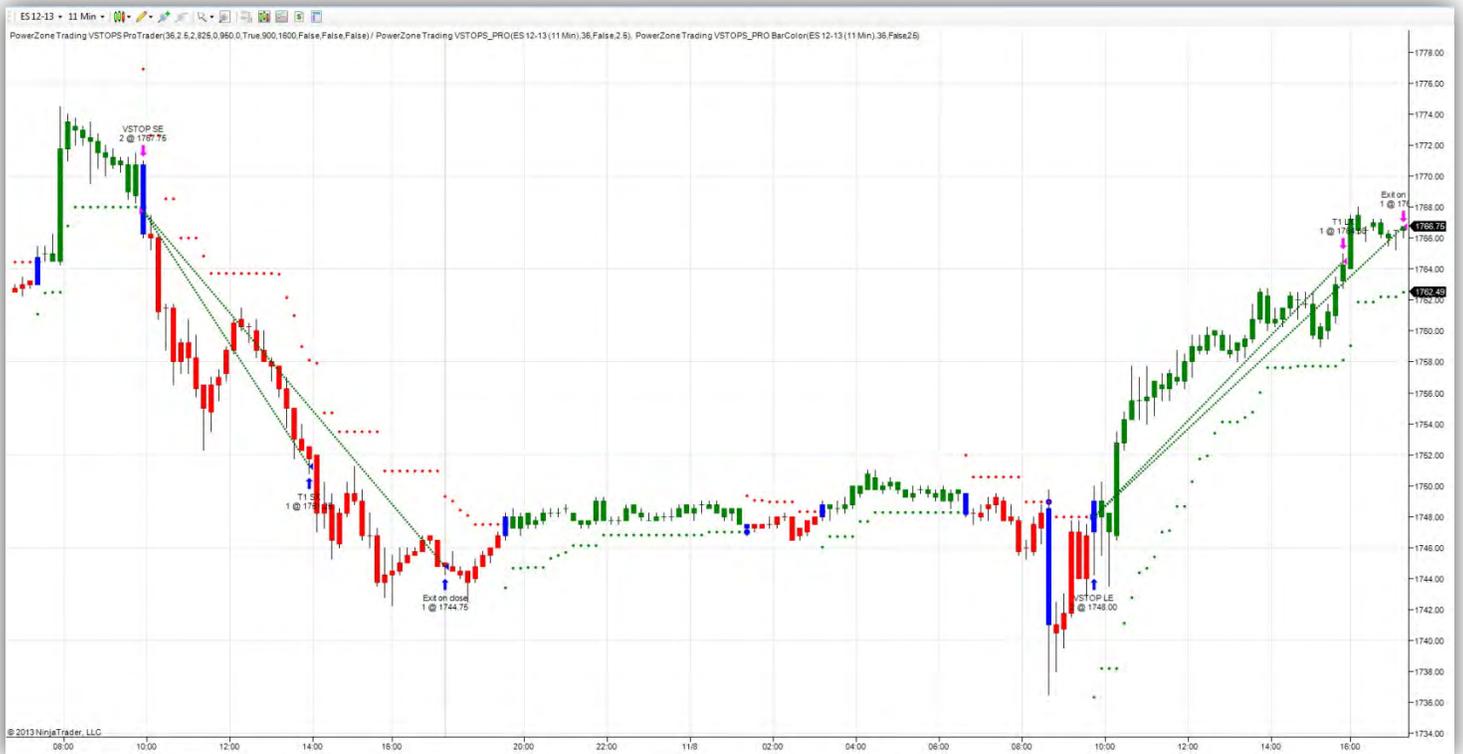
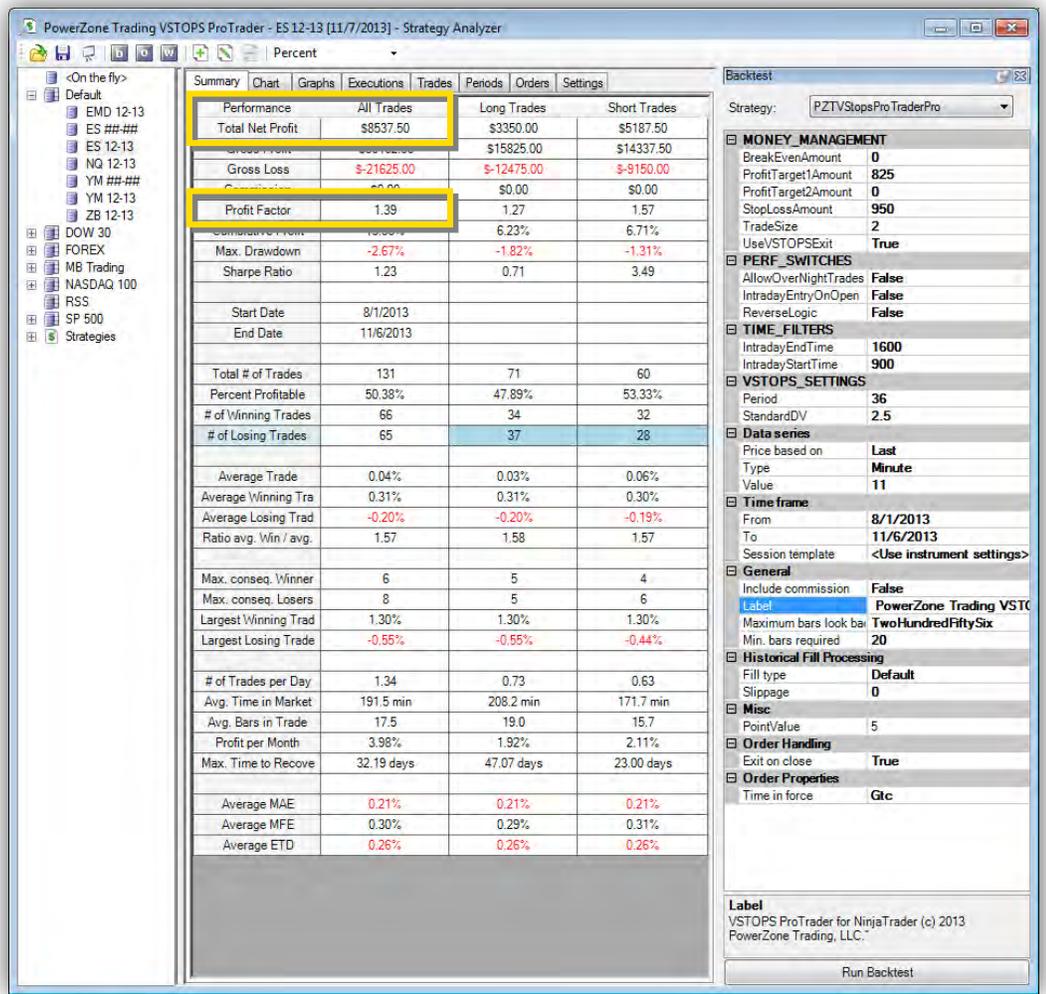
The settings tab on this report shows an improved profit factor when using a stop loss value (*StopLossAmount*) of \$950 and a profit target (*ProfitTarget1Amount*) of \$825. These results can help define the necessary size of a trading account help to position size the strategy. The Maximum Drawdown metric is also important in assessing the viability of the strategy since this metric measures the greatest overall loss during the trading period. The

Maximum Drawdown could be considered the worst case scenario if the strategy were to encounter a string of consecutive losses.

The final step in our example is combining the VSTOPS exits from the first optimization test with the stop loss and profit targets from the second test. This creates a version of the VSTOPS ProTrader strategy that begins with 2 contracts and splits the position once the profit target is reached. The remaining position exits on a VSTOPS transition stop. The goal of this methodology is to take profits once the trade has shown significant movement but remain in the trade if the trend continues. The stop loss will exit the entire position (two contracts) if the trade moves strongly against us. To conduct this test, we go back to BackTest mode (Ctrl + B) and enter the values that were acquired during the two optimizations:

ProfitTarget1Amount = 825
StopLossAmount = 950
TradeSize = 2
UseVSTOPSExit = True
Period = 36
StandardDV = 2.5
Data Series Minute Value = 11

The following report shows the historical results of the combined strategy. It shows an increase in total net profit (mostly due to the increased position size) and, although we see a slight decrease in profit factor, we now have a more tradable strategy since we have a protective stop loss in place. These positive results suggest that further optimizations will continue to improve the performance of the strategy. Other possibilities for future optimizations include editing the trading times, holding overnight trades, adding a second profit target, opening trades immediately at the open...and this list continues. It is also beneficial to review the charts to gain information from individual trades as this can create ideas that will improve the strategy settings or help this to become a more tradable strategy.



A discussion of backtesting and optimization would not be complete without a stern warning about the negative effects of *over-optimization*, or curve fitting a strategy. Over-optimization creates systems that look good on paper only. With enough optimizing, virtually any trading system could show close to 90% profitability (a performance metric known as percent profitable) but it would not be realistic. Curve fitting is the use of optimization to create the highest number of winning trades at the greatest profit on the historical data used in the testing period. Though it looks impressive in backtesting results, curve fitting leads to unreliable systems since the results are essentially custom-designed for only that particular data and time period.

When testing an idea on historical data, it is beneficial to reserve a time period of historical data for testing purposes. The initial historical data on which the idea is tested and optimized is referred to as the in-sample data. The data set that has been reserved is known as out-of-sample data. This "clean" set is an important part of the evaluation process because it provides a way to test the idea on data that has not been a component in any optimization. As a result, the idea will not have been influenced in any way by the out-of-sample data and you will be able to determine how well the system might perform on new data; i.e. in real life trading.

The Strategy Analyzer also allows for walk-forward testing which utilizes out-of-sample data in this analysis. A full discussion of walk forward analysis falls outside the scope of this user guide, but you can find detailed information on this in the NinjaTrader help guide or by simply clicking the "F1" key while using the Strategy Analyzer.

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The VSTOPS ProTrader strategy template can easily be autotraded once it has been thoroughly tested. Please keep in mind that learning to test a strategy takes time and patience. Just because a strategy performs well on historical data does not necessarily mean it will perform identically in real trading. It is strongly recommended to test strategies not only on historical data, but on real-time data as well through sim trading or with minimal contract/lot sizes to ensure the strategy is performing as intended. Since the logic for the strategy resides on your computer, any data interruptions or disabling the strategy may leave active orders in the market. In other words, if the strategy is not running on an active account it cannot manage existing trades.

Assuming you have thoroughly tested your settings, the steps to automating a strategy are identical to loading the strategy on an active chart as described in the section on "Chart Setup." The only difference is that you will need to specify which account to trade in the VSTOPS ProTrader strategy settings and then enable it. You should be able to track live orders through the positions tab on the NinjaTrader control panel.



When I insert the strategy on a chart, no trades show up. How can I fix this?

The strategy must be enabled in order to display or generate trades. Setting the user input "Enabled" to TRUE will activate* the strategy. [**If you do not intend to autotrade a live account, make sure you are using a sim account*].

How much can I change this strategy?

Quite a lot actually. While the trade entries are tied to the VSTOPS indicator, you can change the values to find the ideal entry points. You can also reverse the logic and trade in the opposite direction as the standard VSTOPS logic...this allows a change from trend following to counter trend trades. There are also several custom exit options (including profit targets, hard stop losses, stops that follow VSTOPS logic, stop-and-reverse exits and split position exits that can use several of the previous exit options).

How hard is it to create a profitable VSTOPS ProTrader strategy if I have never worked with system trading?

While no programming is required, there is a learning curve. Taking some time to review the user guide and online training videos will help jump start your strategy building and shorten the learning process. VSTOPS ProTrader provides much of the framework to speed up the process of strategy design, testing and automation. If you are willing to do some homework, we are convinced that you can create a profitable trading model.

Can you show me performance reports to prove that the strategy is profitable?

Sure, but this can be misleading. Keep in mind that you can create amazing performance reports using historical data...this does not always mean that these results could be achieved in real trading. We expect users to "do their homework" and adjust the strategy based on their particular trading style, risk tolerances and markets. We do not intend for users to simply plug in values that we give them and start trading...this is a trading tool, not a black box system.

Can you show me settings from your strategy or results from your trading account?

No...VSTOPS ProTrader is intended to be a tool for self directed traders, system traders and aspiring system traders. We are not financial advisors and do not intend for you to follow our exact trades.

Do you provide a trial?

Sorry, we do not provide a demo or trial of the software. As with any trading system, planning and testing takes time and we do not want traders to feel rushed through the process with a short trial period. We do provide several subscription options that include monthly, annual or lifetime durations. If you are unsure if this is the right product for you, we recommend that you start with a monthly subscription. In this way, you can try VSTOPS ProTrader for one month and cancel your subscription if you do not wish to continue.

Will the VSTOPS ProTrader Strategy always match the VSTOPS indicator?

No, but It will match the indicator about 98% of the time. While the logic is identical, strategies and indicator sometimes behave differently because indicators do not have to fill trade orders. There are instances where the strategy may not report a fill (price exceeding a VSTOPS transition) while the indicator shows that price reached a transition point and changes condition although this does not occur often.

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