InterChart Tools
TradeGate

InterChart Tools TradeGate

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by Richey Enterprises and Ward Systems Group Inc.

InterChart Tools TradeGate

Publisher

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Intraday Indicators
The Allow Trades by Time of Day and Block Trades by Time of Day indicators are stored in the Time Flags category in NeuroShell Trader.

Daily Indicators
The Allow Trades by Date and Block Trades by Date indicators are stored in the Day and Date Flags category in NeuroShell Trader.

2 Where to Find Example Charts

The charts for the InterChart Tools Time Date Gate examples described in this help file are installed in the "InterChart Tools TradeGate" subfolder of the NeuroShell Trader folder on your computer.

3 Overview

Why You Need TradeGate Indicators

TradeGate indicators match your trading system with the best time/date to trade based on volatility.

About Volatility

For any dataset and algorithm combination there is only one ideal volatility. That doesn't mean that you have a guarantee of profit. It just means that at some level of volatility, your algorithm will deliver its best performance.

Generally, if the volatility gets too wild, your formulas can't cope. They get triggered to enter a trade but the direction will change so quickly that you can't profit. On the other end of the scale, price is moving so slowly and minimally that there is a balance between the bulls and bears and the balance lacks conviction on both sides. The chart is waiting for one of them to get tired and back off. Then the issue will move but the direction will be set by chance.

You may observe that price volatility and volume volatility have a probable relation with time of day as well as each other. To tilt the odds in your favor we have created the InterChart Tools TradeGate add-on.

These indicators are meant to enhance your trading system, not to serve as an entire trading systems by themselves.

This NeuroShell Trader add-on includes the following indicators:

Intraday Indicators - Included in the Trader Time Flags Category

Allow Trades by Time of Day
Block Trades by Time of Day

The Allow Trades by Time of Day indicator allows your Trading Strategy to enter a trade only during the best time of day as determined by equity returned and the optimizer.

The Block Trades by Time of Day indicator stops your Trading Strategy from initiating a trade at a time of day which generates more loss than gain.

Daily Indicators - included in the Trader Day & Date Flags Category

Allow Trades by Date
Block Trades by Date

These indicators perform the same function as the intraday versions but trades are restricted/allowed by dates rather than time of day.

Use the NeuroShell Trader Optimizer

The indicators are designed to have the parameters set by the optimizer. For specific information, see How to Use TradeGate Indicators.

Cascade Indicators
The indicators may be cascaded. For example, if you want to find not only the best time to buy a security, but also the second best time, you can enter several copies of the Allow Trades by Time of Day indicator in the Long and Short Entry tabs of the Trading Strategy wizard. You can also add several copies of the Allow and Block indicators in a prediction.

Mixing Indicators
If you have an intraday chart, you can use both the Allow Date and Allow Time of Day indicators to determine the best days AND the best times to trade You can find the least favorable dates/times using the corresponding Block indicators.

4 Indicators

List of Indicators

Allow Trades by Date for daily and intraday charts

Block Trades by Date for daily and intraday charts

Allow Trades by Time of Day for intraday charts

Block Trades by Time of Day for intraday charts

4.1 Allow Trades by Date

Category: Day & Date Flags

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Parameters

Name	Setting	Default
First Date	1-31	1
Consecutive Days	1-28	5
Date Variable	Date	

Calculations

First Date refers to the calendar date when trades are allowed to begin. This value may be optimized.

Consecutive Days refers to the number of days trading is allowed. For example, if the First Date is the 15th of the month, the Consecutive Days is set to 5, the count begins on the 15th and continues until the 19th of the month. Trading would be allowed between the 15th and 19th of the month. Trading would be blocked beginning on the 20th of the month until the 15th of the following month. This value may be optimized.

Date Variable is a reference to the date used to calculate the indicator. This value may not be optimized.

4.2 Block Trades by Date

Category: Day & Date Flags

Developed by Richey Enterprises - InterChart Tools

Parameters

Name	Setting	Default
First Date	1-31	1
Consecutive Days	1-28	5
Date Variable	Date	

Calculations

First Date refers to the calendar date when the block begins. This value may be optimized.

Consecutive Days refers to the number of days the block is effective. For example, if the First Date is the 15th of the month, the Consecutive Days is set to 5, the count begins on the 15th and continues until the 19th of the month. Trading would be blocked between the 15th and 19th of the month. Trading would be allowed on the 20th of the month and continue until the 15th of the following month. This value may be optimized.

Date Variable is a reference to the date used to calculate the indicator. This value may not be optimized.

4.3 Allow Trades by Time of Day

Category: Time Flags

Developed by Richey Enterprises - InterChart Tools

Parameters

Name	Setting	Default
Start Hour	0-23	9
Start Quarter Hour	0-3	2
Duration Hours	0-23	1
Duration Quarters	0-3	2
Date Variable	Date	

Calculations

Start Hour refers to the **hour when trades are allowed to begin**. This value may be optimized.

Start Quarter Hour is a number that represents the specific 15 minute quarter hour is added to Start Hour to determine the exact time when trading is allowed to begin. 0 refers to the beginning of the hour until 14 minutes after the hour, 1 refers to minutes 15 to 29 minutes, 2 refers to 30 to 44 minutes, and 3 refers to 45 minutes to 59 minutes. This value may be optimized.

Duration Hours refers to the **total number of hours trading is allowed**. For example, if Duration Hours is set to 5 and Start Hour is set to 10, and Start Quarter Hour is set to 0, trading could begin at 10 a.m. and continue until 3 p.m. Trades would be blocked beginning at 3:01 pm until 9:59 am the next trading day. If Duration Hours is set to 5 and Start Hour is set to 10, and Start Quarter is set to 3, trading would be allowed beginning at 10:45 am and continue until 3:45 pm. Trades would be blocked beginning at 3:46 pm and continue until 10:44 am the next trading day. This value may be optimized

Duration Quarter is a number that represents the specific 15 minute quarter hour that may be added to Duration Hours to designate the **total amount of time trading is allowed**. 0 refers to the beginning of the hour until 14 minutes after the hour, 1 refers to minutes 15 to 29 minutes, 2 refers to 30 to 44 minutes, and 3 refers to 45 minutes to 59 minutes. This value may be optimized.

Date Variable is a reference to the date used to calculate the indicator. This value may not be optimized.

Related Topics:

Examples - Block Intraday Trades

Block Trades by Time of Day

4.4 Block Trades by Time of Day

Category: Time Flags

Developed by Richey Enterprises - InterChart Tools

Parameters

Name	Setting	Default
Start Hour	0-23	9
Start Quarter Hour	0-3	2
Duration Hours	0-23	1
Duration Quarters	0-3	2
Date Variable	Date	

Calculations

Start Hour refers to the **hour when trades are blocked**. This value may be optimized.

Start Quarter Hour is a number that represents the specific 15 minute quarter hour is added to Start Hour to determine the exact time when trading is blocked. 0 refers to the beginning of the hour until 14 minutes after the hour, 1 refers to minutes 15 to 29 minutes, 2 refers to 30 to 44 minutes, and 3 refers to 45 minutes to 59 minutes. This value may be optimized.

Duration Hours refers to the **total number of hours trading is blocked**. For example, if Duration Hours is set to 5 and Start Hour is set to 10, and Start Quarter Hour is set to 0, trading is blocked beginning at 10 a.m. and continuing until 2 p.m. Trades would be allowed beginning at 2:01 pm until 9:59 am the next trading day. If Duration Hours is set to 5 and Start Hour is set to 10, and Start Quarter is set to 3, trading would be blocked beginning at 10:45 am and continuing until 2:45 pm. Trades would be allowed beginning at 2:46 pm and continuing until 10:44 am the next trading day. This value may be optimized

Duration Quarter is a number that represents the specific 15 minute quarter hour that may be added to Duration Hours to designate the **total amount of time trading is blocked**. 0 refers to the beginning of the hour until 14 minutes after the hour, 1 refers to minutes 15 to 29 minutes, 2 refers to 30 to 44 minutes, and 3 refers to 45 minutes to 59 minutes. This value may be optimized.

Date Variable is a reference to the date used to calculate the indicator. This value may not be optimized.

Related Topics:

Examples - Block Intraday Trades

Allow Trades by Time of Day

5 How to Use TradeGate Indicators

In a Trading Strategy, the Time of Day indicators will optimize to a firm start time and duration on intraday charts. The Date indicators will do the same for daily charts.

Two Methods for Utilizing the Indicators Trading Strategies

1. Optimize First then Add Indicators

Optimize your chart until you get the best result. Next, go back to the rules tabs in the Trading Strategy wizard and lock the parameters found by the optimizer. Be sure these parameters match those found in the Rules tab of the Detailed Analysis button at the end of the Trading Strategy wizard. Also lock the rule itself so it isn't thrown out by the optimizer.

Next, add the Block Trades indicator to each of the rule tabs that you are using in your original Trading Strategy. Set the TimeGate indicator to optimize the rule parameters. Optimize only that control. View the result.

You can do the same with the Allow Trades indicators.

Cascade Controls
You can add second and third TimeGate rules to find the second and third best trade times/dates.

Examine the results of the optimization that used a Time Gate indicator. Lock the rule and parameters in that rule.

Set parameters for the second rule that don't cross the times/dates from the first rule and optimize those parameters.

2. Include Indicators in Initial Optimization

Alternately, you may include the TradeGate indicators before the initial optimization of the strategy. The results will be different.

Predictions

In a prediction, the usage rules are different. You may include both a Block and Allow indicator as net inputs. The Indicators will have the effect of suggesting a positive or negative bias during certain times of day to the neural net. The net will weigh these suggestions against those presented by the other variables and act accordingly.

The TradeGate indicators are most powerful during the 23 hour trading day for Futures or the 24 hour trading day for FOREX.

Best Practice

Create and optimize a strategy or prediction. Lock in the final parameters so there's nothing to optimize.

Now add a Time indicator to intraday systems or a Date indicator to daily systems and re-optimize.

The TradeGate indicators will allow the optimizer to remove failing times or dates from the strategy/prediction.

If you don't lock the post optimization values for your original trading system, the optimizer will re-tune the parameters and with the help of the TradeGate indicators; it will probably curve fit the chart.

6 Range Bar Considerations

The Time of Day versions of the indicators are not effective for range bars which represent trading activity for a user-specified minimum price range rather than a time stamp. The same restriction applies to volume bars.

You can use the the Block Trades by Date and Allow Trades by Date indicators with range bars.

7 Examples

7.1 Block Daily Trades

InterChart Tools TradeGate Indicator: Block Trades by Date

The following example enhances a basic Trading Strategy by blocking trading on dates where volatility is not favorable for the original trading rules.

Step 1: Create Our Initial Trading Strategy

This example begins with an RSI reversal trading system for the NASDAQ E-Mini.

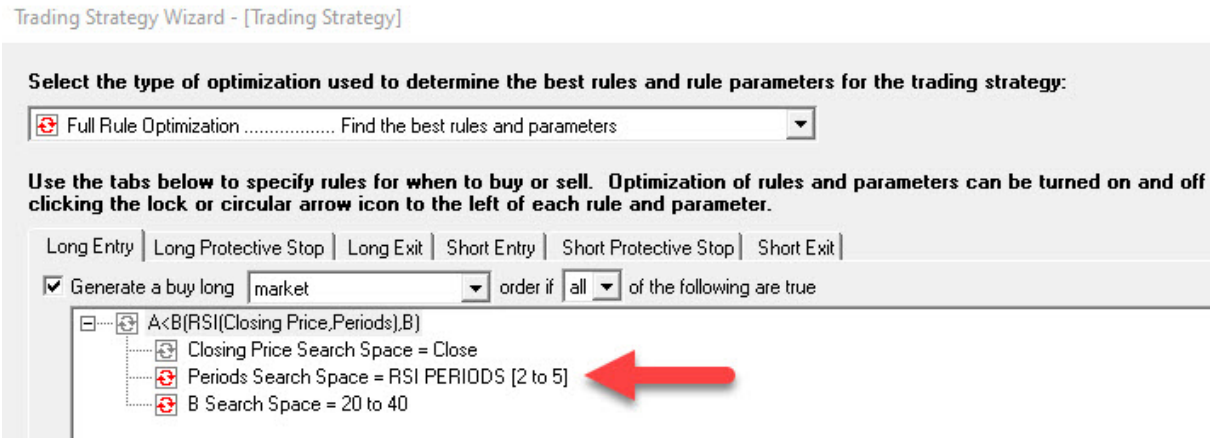
The initial trading rules are as follows:

Long Entry
Buy Long when RSI < 30

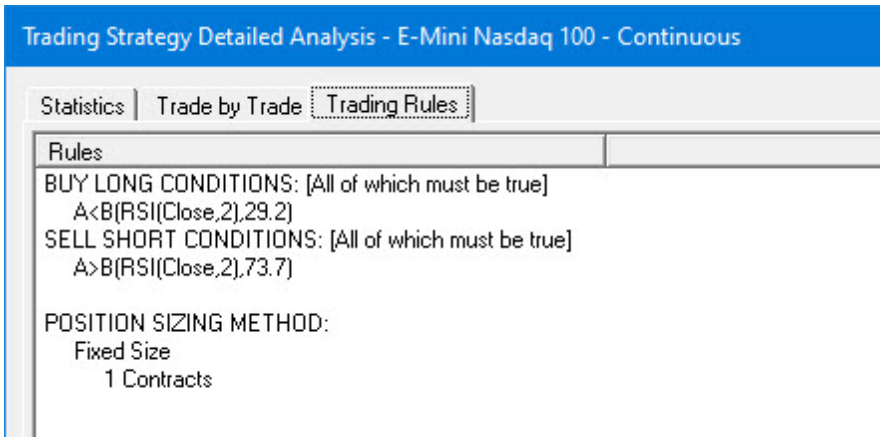
Short Entry
Cover Short when RSI < 70

We linked the number of RSI periods in both the Long and Short Rules. Linking the RSI periods creates a symmetrical trading system. (Watch the Trader video "Setting Optimization Ranges" to learn how to link parameters.)

We set the optimization range for the Long Entry threshold value from 20 to 40 and set the Short Entry range from 60 to 80.



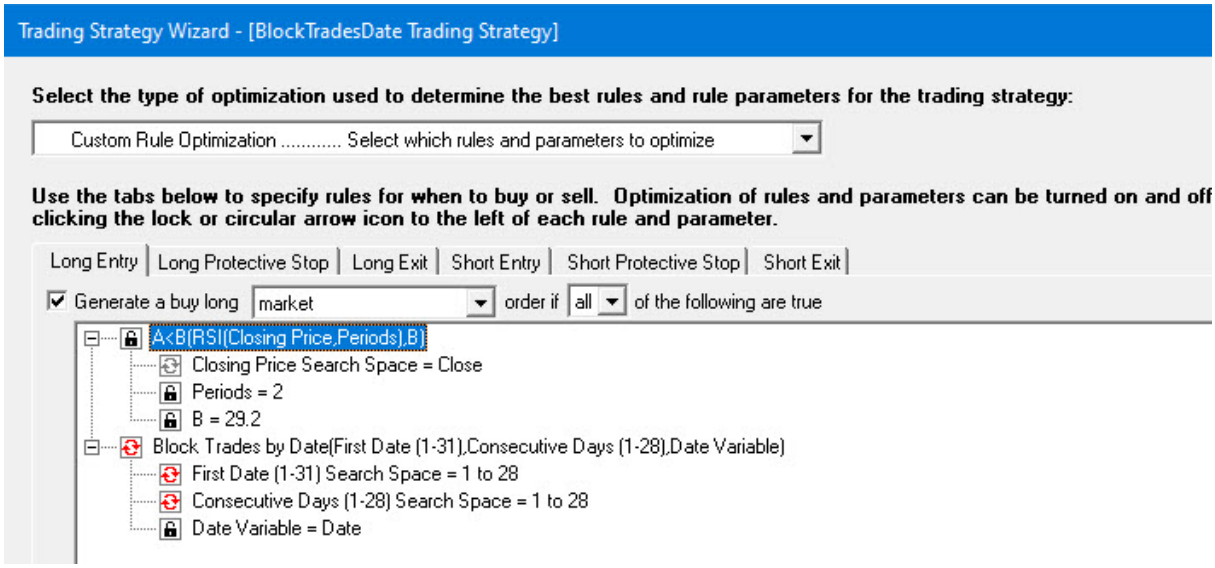
After optimization, the resulting rules are as follows:



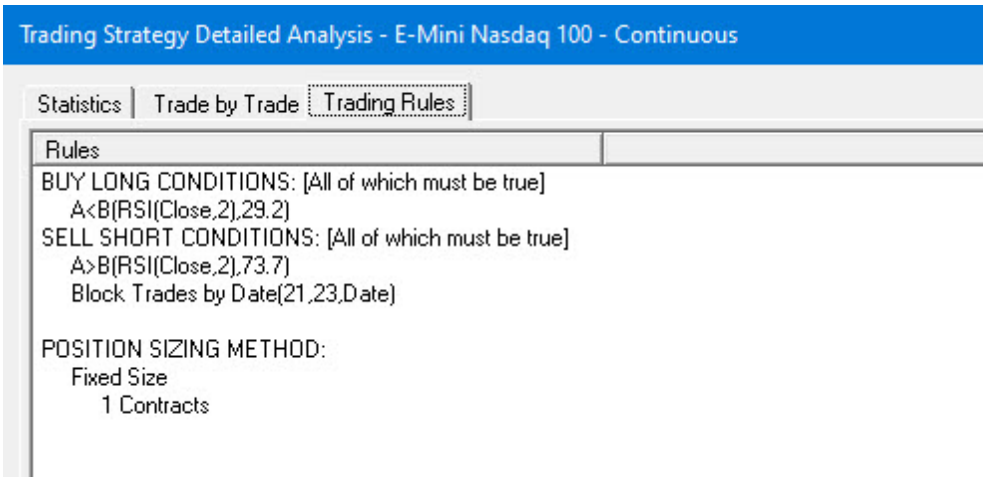
The RSI Trading System produced a net profit of $43,551.

Step 2: Find Dates When RSI Trading Strategy Should Not Trade

To eliminate dates when trading is not favorable for this RSI Trading System, we locked the RSI rule and parameters from the original RSI Trading Strategy and added a Block Trades by Date indicator to the Long and Short Entry tabs of the Trading Strategy wizard. The setup is displayed below.

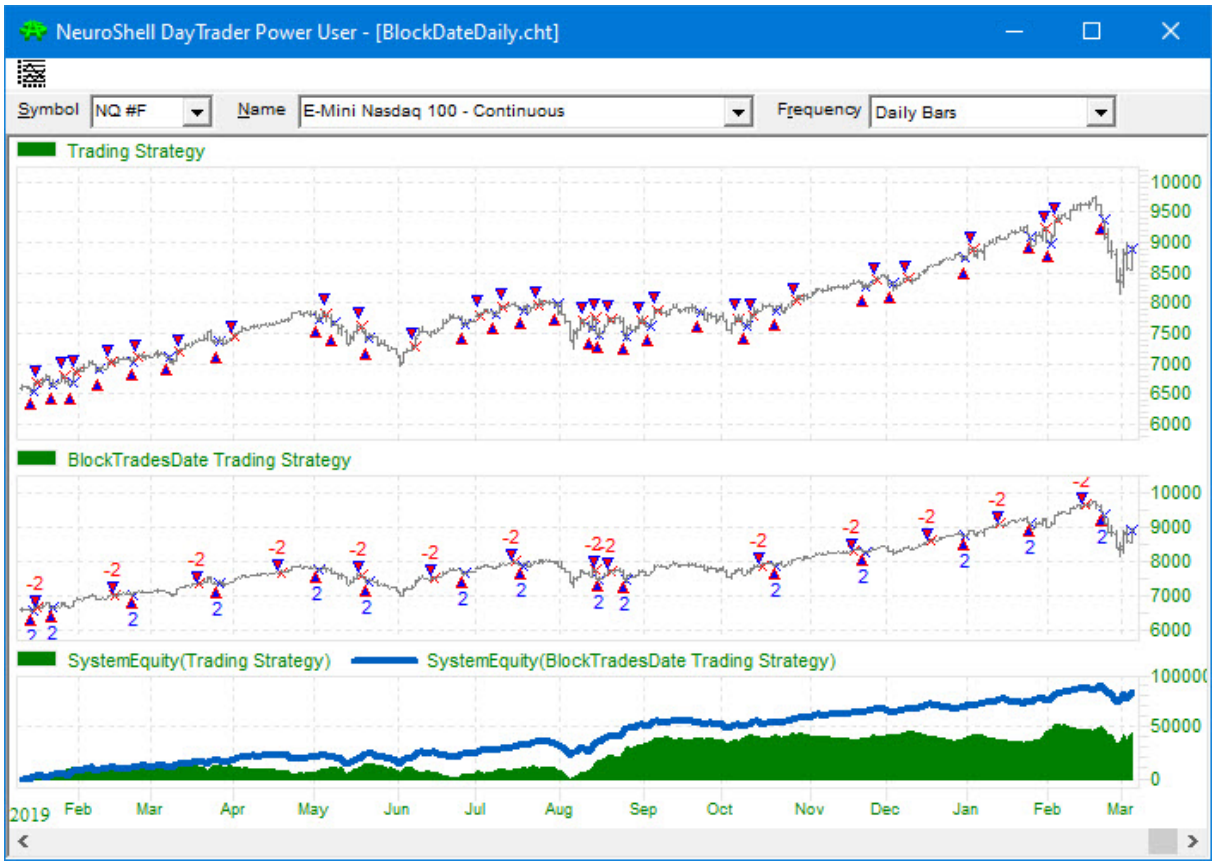


Below are the final trading rules for the combination system. Note that the Trader's optimizer eliminated the Block Trades by Date Rule for Long Entries, but kept the Block for Short Entries.



The combination of the RSI Trading rules and the Block Trades by Date indicators produced a net profit of $83,315.

The Trading Strategies and equity curves for both systems are displayed in the chart below.



7.2 Block Intraday Trades

InterChart Tools TradeGate Indicator: Block Trades by Time of Day

The following example demonstrates how a TradeGate indicator can enhance a Trading Strategy by blocking trading during times where volatility is not favorable for the base trading system.

Step 1: Build the Basic System Based on Volume Divergence

The Negative Volume Index provides a measure of market direction relative to price level for periods of declining volume. The Positive Volume Index does the same for increasing volume. Both of these indicators are based on the theory that the buying and selling of smart investors occurs on quiet, declining volume days, while the buying and selling of unsophisticated investors occurs on dramatic, increasing volume days.

The model is centered around the divergence between these two indicators. Divergence is calculated by subtracting the Positive Volume Index from the Negative Volume Index.

After optimization, the resulting trading rules are as follows:

BUY LONG CONDITIONS:

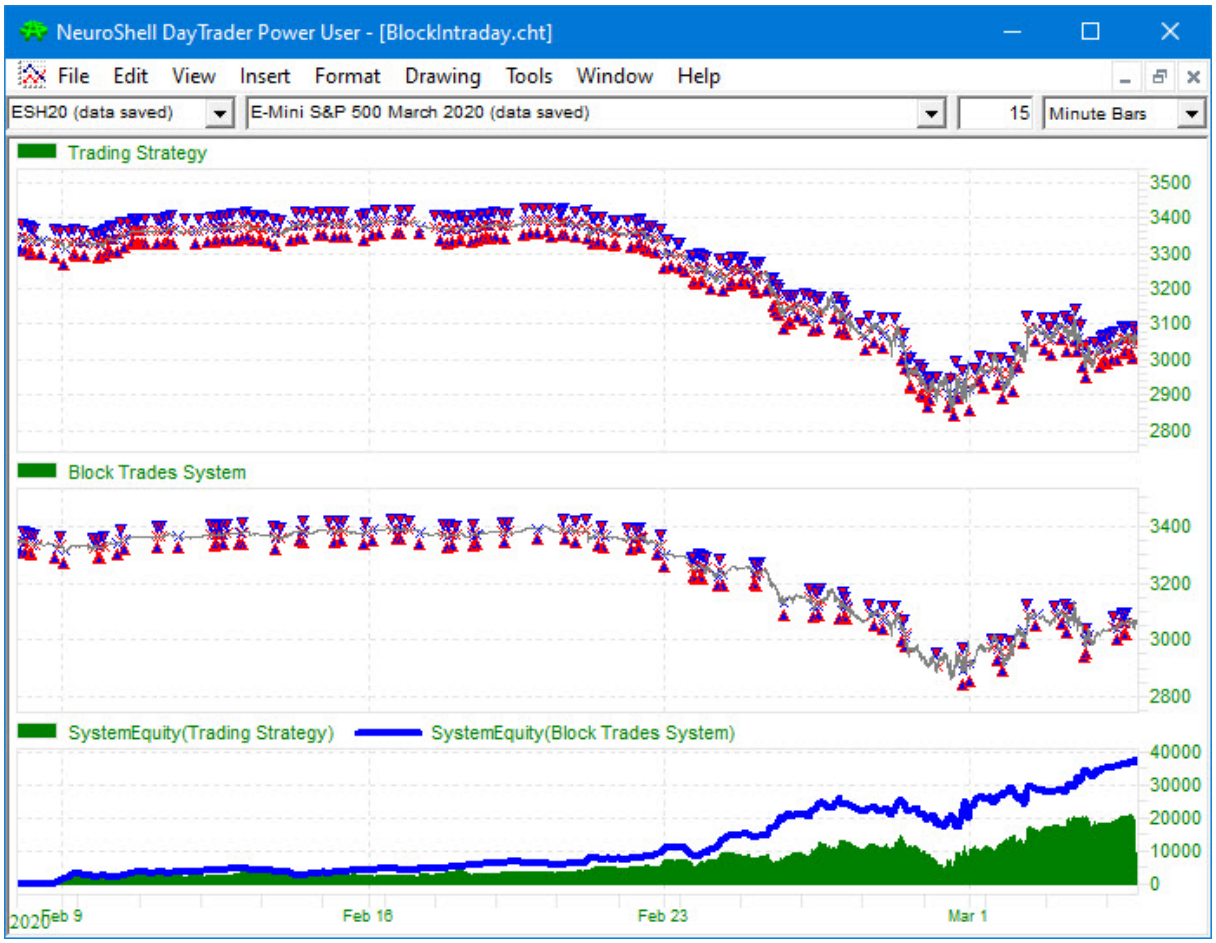
A > B (Sub (NegVolIndex (Close,Volume, 5), PosVolIndex (Close, Volume, 5)), 0)

SELL SHORT CONDITIONS:

A <= B (Sub (NegVolIndex (Close,Volume, 5), PosVolIndex (Close, Volume, 5)), 0)

The Trading Strategy is set to trade one contract of the E-Mini S&P 500.

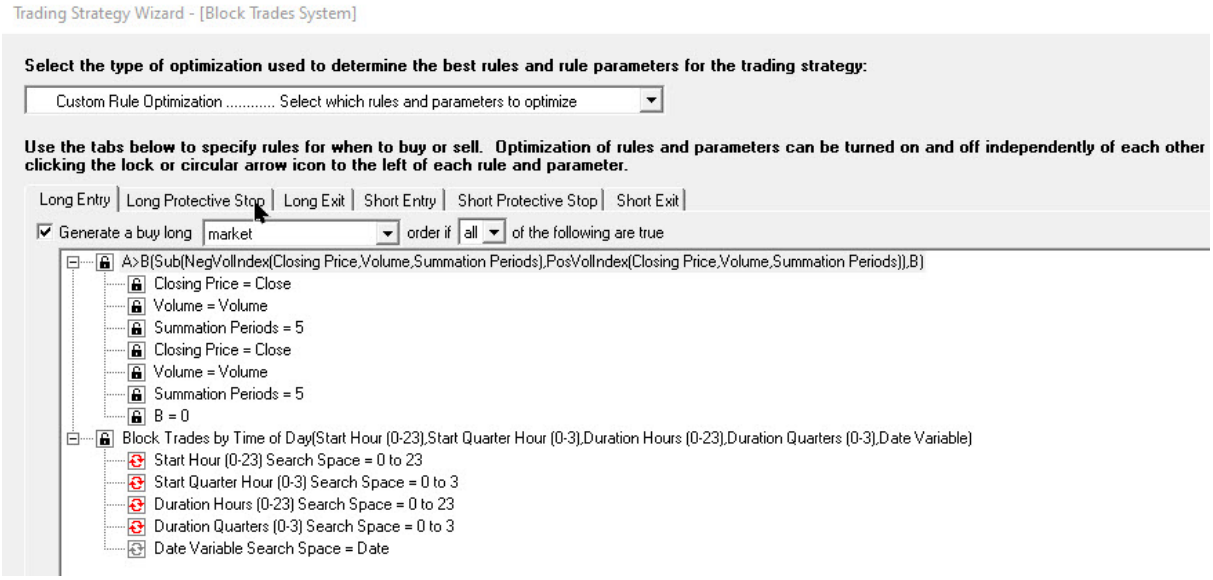
The original divergence system resulted in a System Equity of $19,918 as seen on the green equity curve.



Step 2: Find Times when the Divergence Trading Strategy Should Not Trade

In an effort to find times best suited to this particular Trading Strategy, we added Block Trades by Time of Day indicators to both the Long Entry and Short Entry tabs in the Trading Strategy wizard. (Since this is a reversal system, there are no exit conditions.)

The original trading rules are locked as seen in the image below, so only the times in the Block Trades indicators will be optimized in this Trading Strategy.



The BlockTrades version resulted in a System Equity of $36,899 as seen on the blue equity line in the above chart.

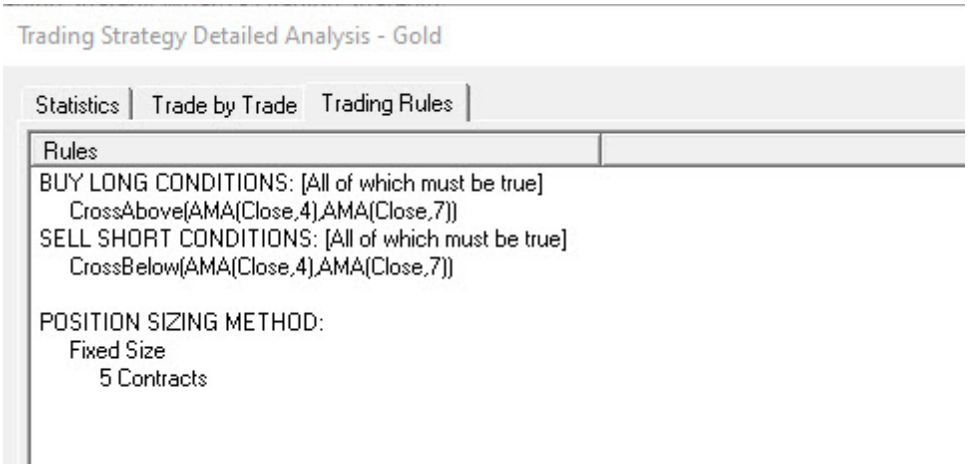
7.3 Allow Time and Date

InterChart Tools TradeGate Indicators: Allow Trades by Time and Allow Trades by Date

This intraday chart demonstrates how to combine a search for the best time to trade and the best dates to trade.

Step 1: Create the Base Trading Strategy: Adaptive Moving Average Crossover (AMA)

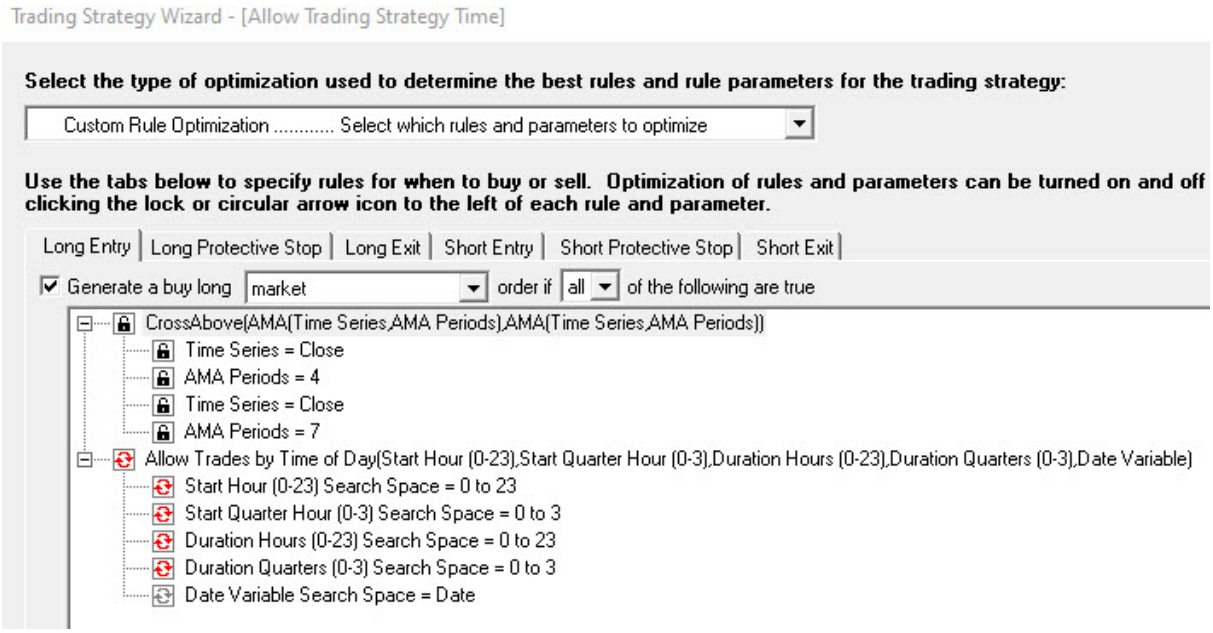
This example begins with a Trading Strategy for the COMEX Gold futures contract that uses a crossover of two different Kaufman's Adaptive Moving Averages (AMA) for the buy/sell rules. The Trader's optimizer selected 4 and 7 period Adaptive Moving Averages for the first Strategy which generated $23,948 in net profit.



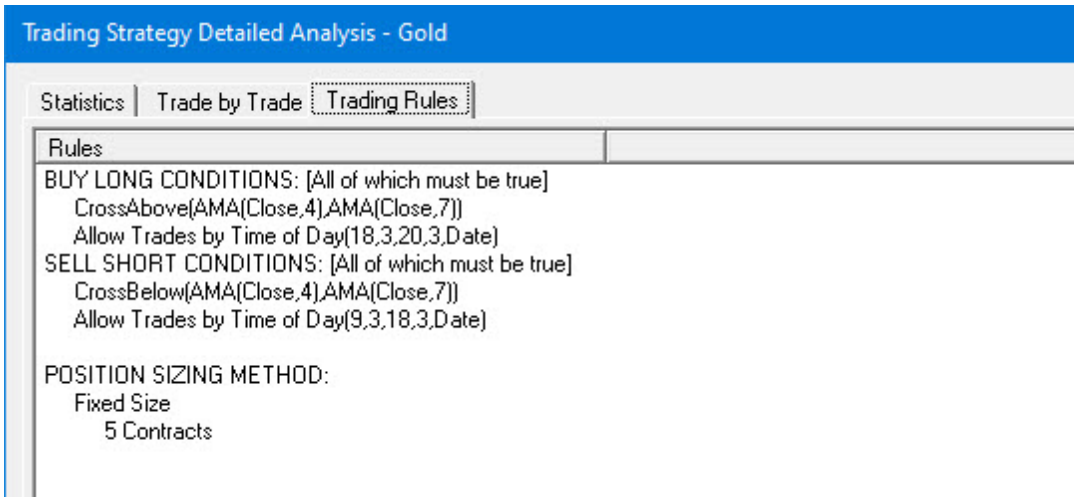
Step 2: Find the Best Time to Trade the AMA System

In an effort the improve the original trading system, we locked the rules from the original Trading Strategy and added the Allow Trades by Time of Day indicator from the Time Flags category. This indicator finds a time period where some level of volatility works with the original trading system to deliver its best performance.

The Start Hour and Start Quarter Hour parameters in the indicator look for the hour and corresponding quarter hour when trading can begin. The Duration Hours and Duration Quarters parameters determine the length of time after the start time when trading is allowed.



The resulting trading rules are shown below:



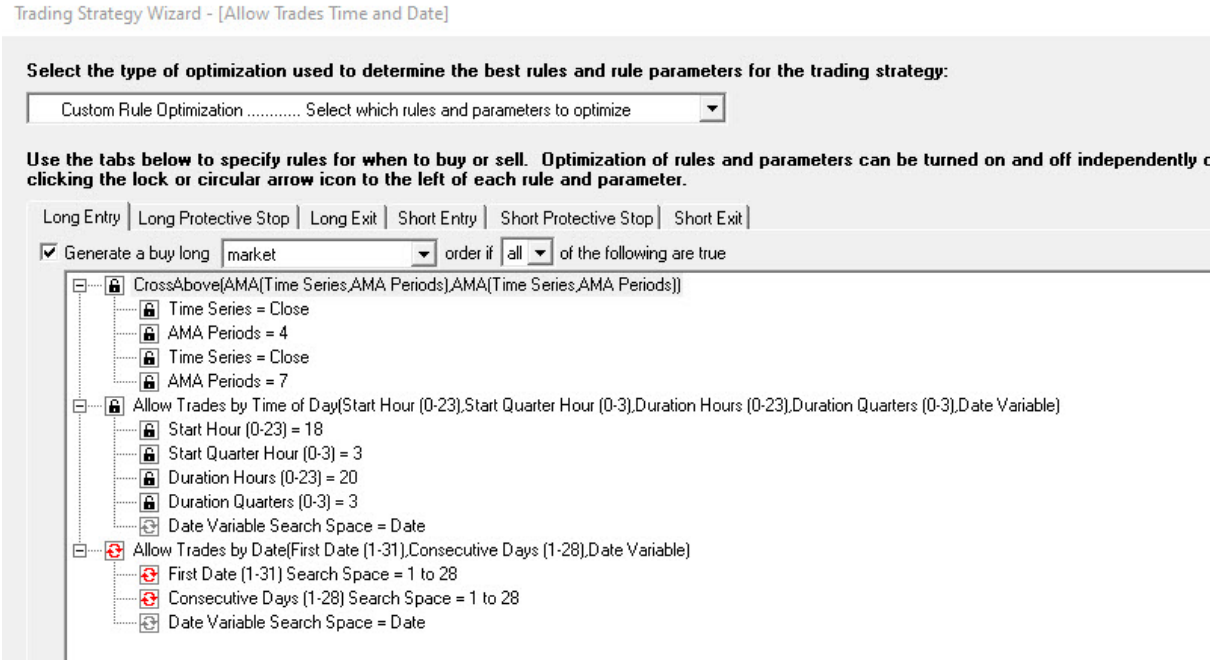
Long Entry
The Cross Above AMA rule may begin trading at 6:45 pm as noted by the parameters 18 (1800 hours or 6 pm) and 3 (last quarter hour).
Trading can continue until 2:45 pm the next day as noted by the parameters 20 (hours) and 3 (last quarter hour).

Short Entry
The Cross Below AMA rule may begin trading at 9:45 am as noted by the parameters 9 (0900 hours or 9 am) and 3 (last quarter hour).
Trading can continue until 3:45 pm as noted by the parameters 18 (hours) and 3 (last quarter hour).

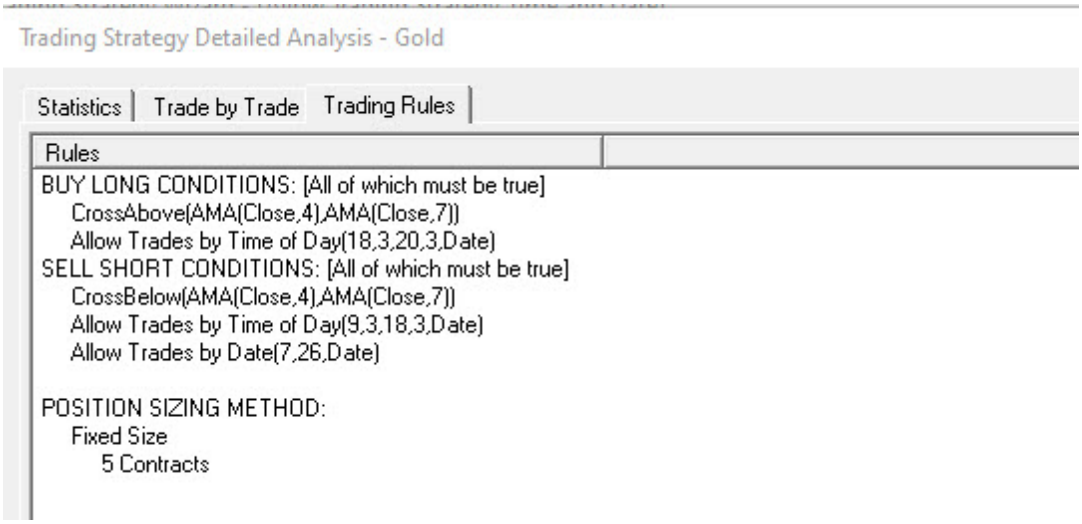
The enhanced Trading Strategy resulted in a profit of $32,448, which represents an increase of $8,500 from the original Strategy.

Step 3: Find the Best Dates to Trade the System

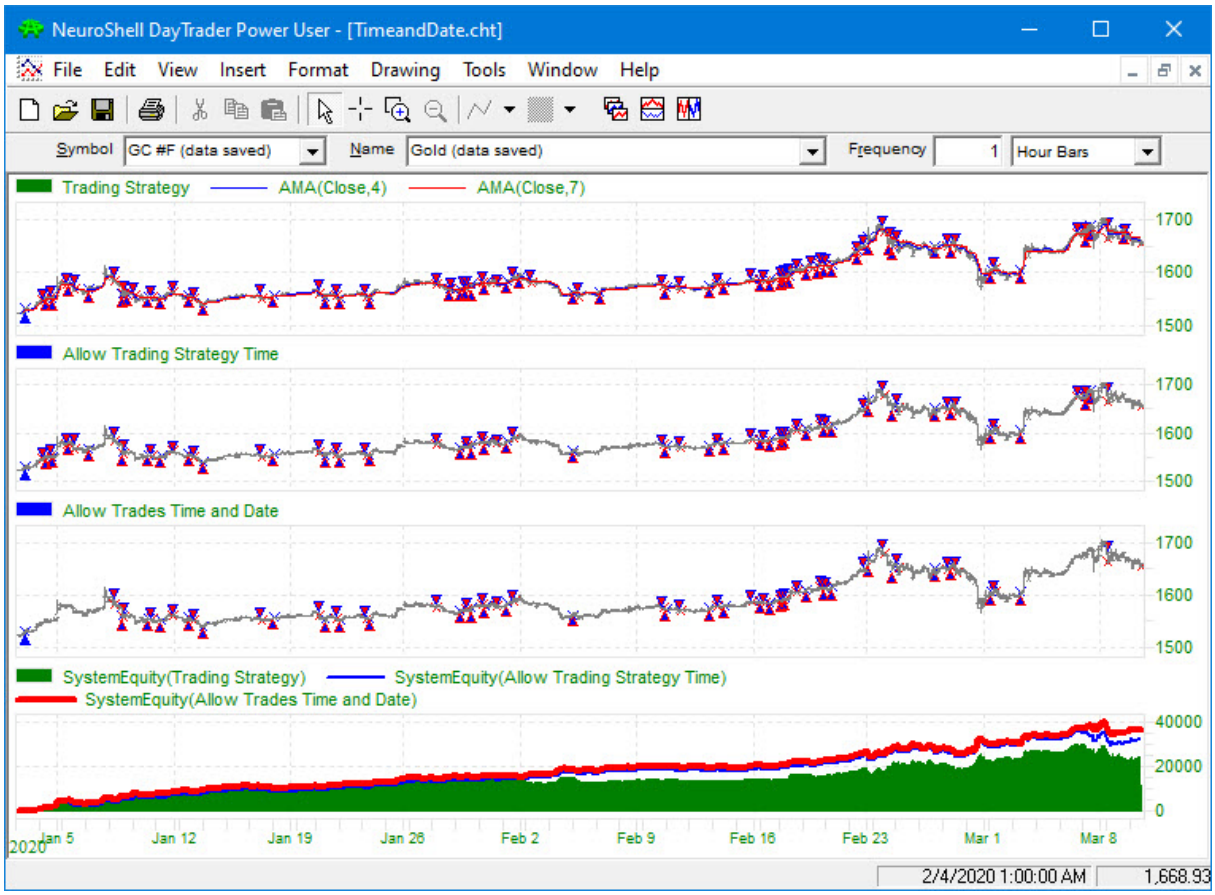
Next we wanted to determine if there are better dates to trade the system we found in Step 2. We added Allow Trades by Date indicators to locked down versions of the Long and Short Trading conditions from Step 2.



The optimized Trading Strategy removed the Allow Trades by Date Rule from the Long Conditions but kept the indicator in the Short Conditions.



The profits increased to $37,184.00 when we added the Allow Trades by Date to the previous Trading Strategy. The red System Equity line represents the final Trading Strategy.



7.4 Cascade Indicators

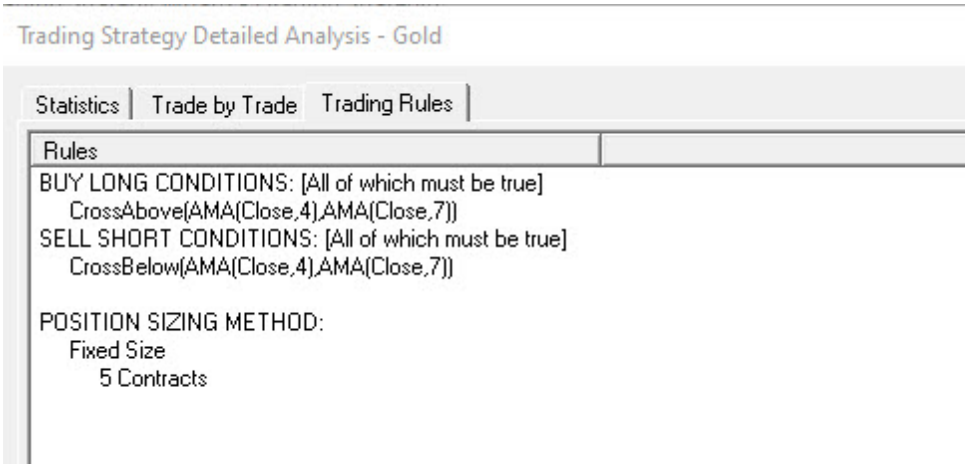
InterChart Tools TradeGate Indicators: Cascade Indicators

This intraday chart demonstrates how to combine a search for the best time to trade as well as the second best time to trade.

Steps 1 and 2 are a repeat of the steps from the Allow Time and Date example.

Step 1: Create the Base Trading Strategy: Adaptive Moving Average Crossover (AMA)

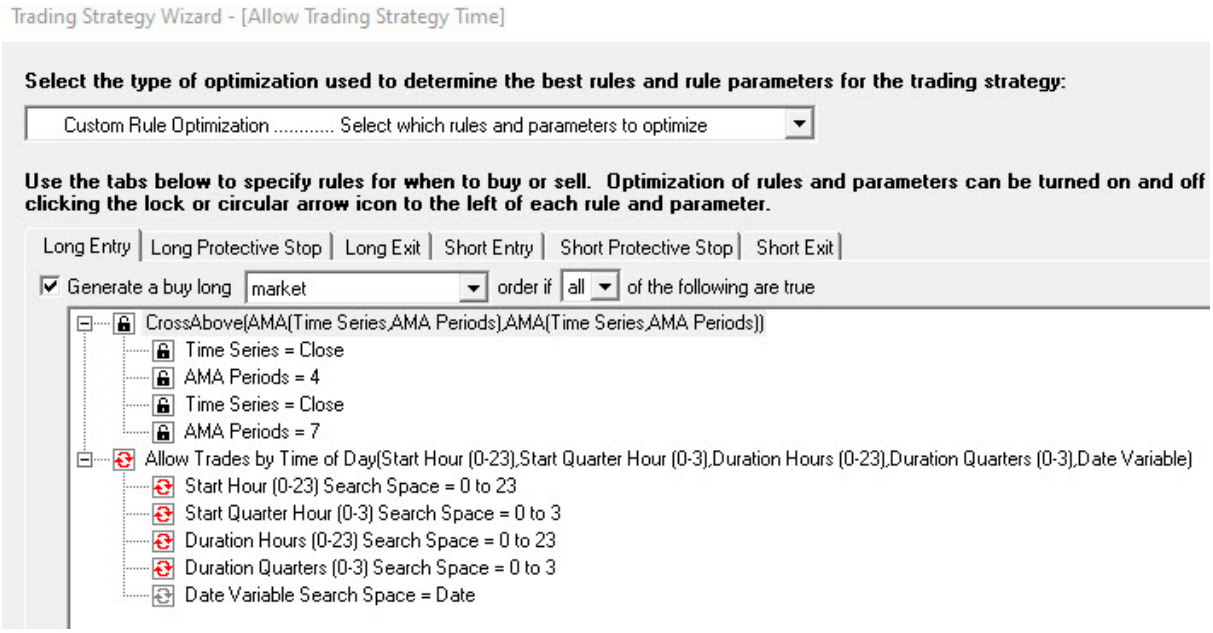
This example begins with a Trading Strategy for the COMEX Gold futures contract that uses a crossover of two different Kaufman's Adaptive Moving Averages (AMA) for the buy/sell rules. The Trader's optimizer selected 4 and 7 period Adaptive Moving Averages for the first Strategy which generated $23,948 in net profit.



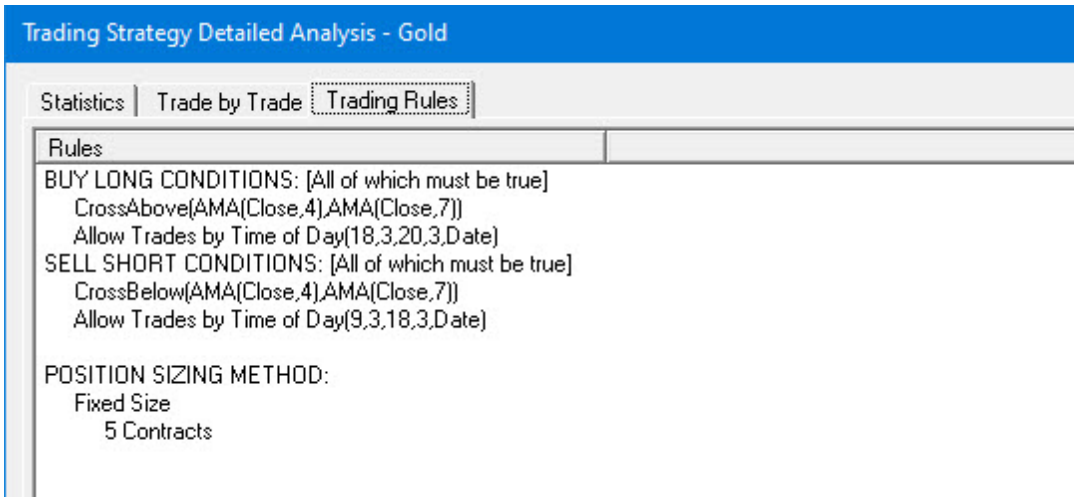
Step 2: Find the Best Time to Trade the AMA System

In an effort the improve the original trading system, we locked the rules from the original Trading Strategy and added the Allow Trades by Time of Day indicator from the Time Flags category. This indicator finds a time period where some level of volatility works with the original trading system to deliver its best performance.

The Start Hour and Start Quarter Hour parameters in the indicator look for the hour and corresponding quarter hour when trading can begin. The Duration Hours and Duration Quarters parameters determine the length of time after the start time when trading is allowed.



The resulting trading rules are shown below:



Long Entry
The Cross Above AMA rule may begin trading at 6:45 pm as noted by the parameters 18 (1800 hours or 6 pm) and 3 (last quarter hour).
Trading can continue until 2:45 pm the next day as noted by the parameters 20 (hours) and 3 (last quarter hour).

Short Entry
The Cross Below AMA rule may begin trading at 9:45 am as noted by the parameters 9 (0900 hours or 9 am) and 3 (last quarter hour).
Trading can continue until 3:45 pm as noted by the parameters 18 (hours) and 3 (last quarter hour).

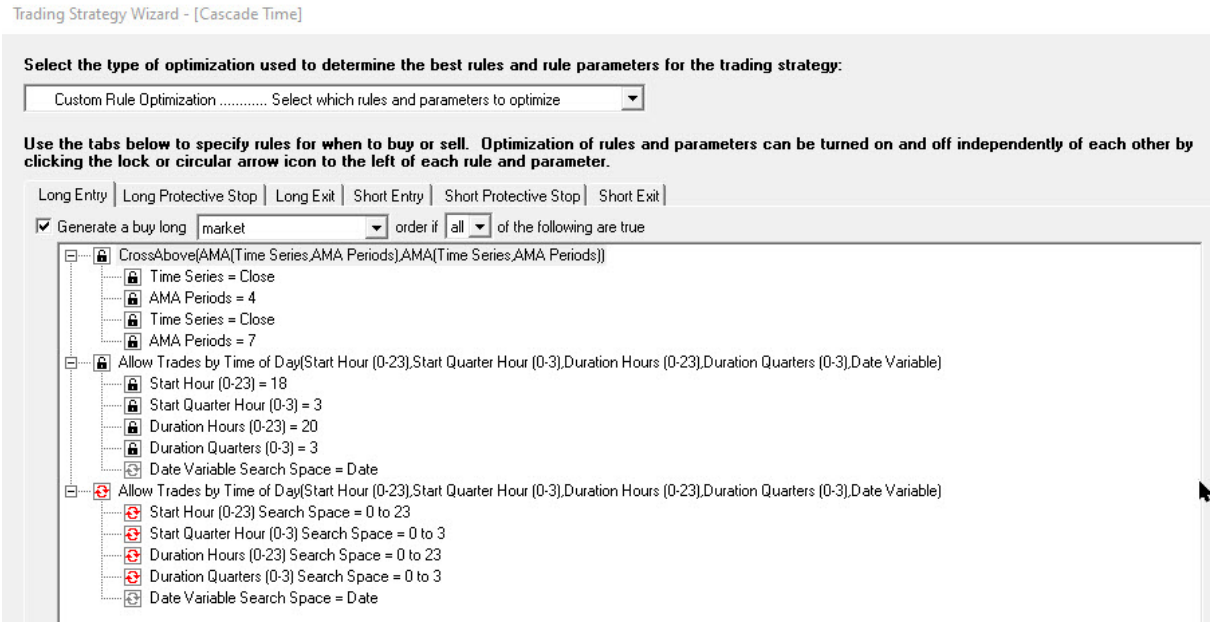
The enhanced Trading Strategy resulted in a profit of $32,448, which represents an increase of $8,500 from the original Strategy.

Step 3: Find the Second Best Time to Trade the AMA System

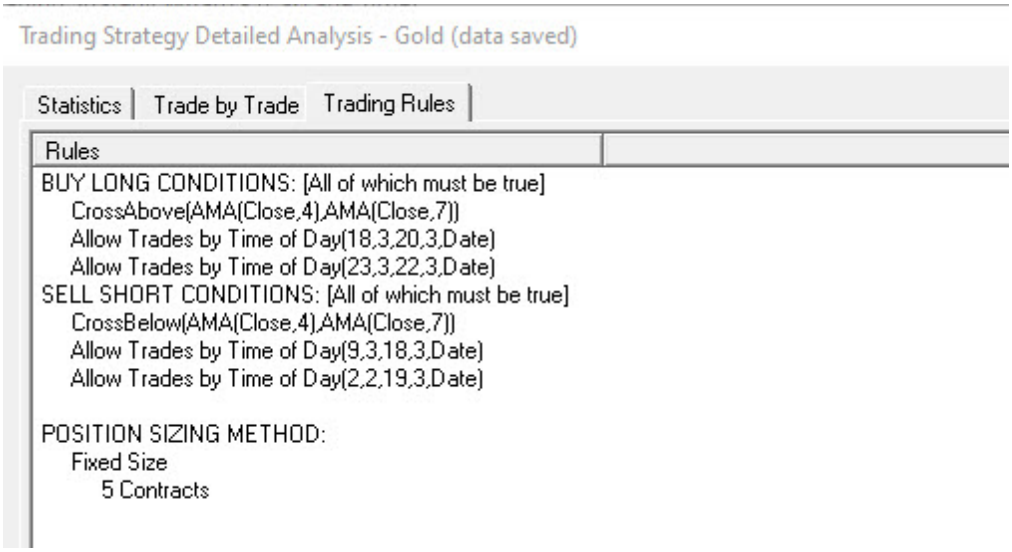
We locked the trading rules found in Steps 1 and 2 above and added another copy of the Allow Trades by Time of Day in order to search for a time range outside of the range found in Step 2 that may add some additional profit.

We set the Long Entry tab to generate a market order if "all" of the following are true.

Note that we did not "lock" the third rule so it had to be included in the final trading system. The optimizer could decide whether to keep this rule.

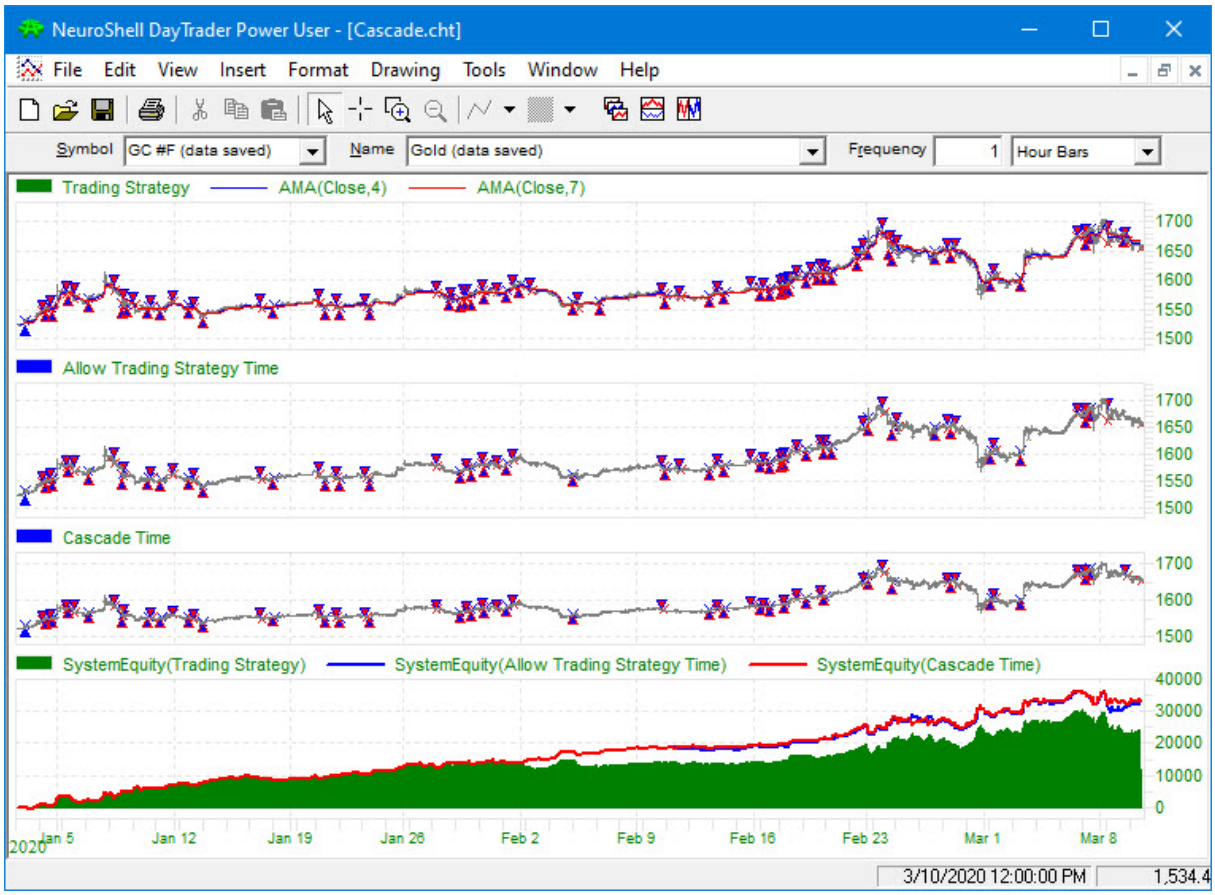


The final set of trading rules for the Long and Short side kept the additional Allow rule as noted in the picture below.



The Long Side added a second trading window from 11:45 pm to 9:45 pm the following day. The Short Side added a trading window from 2:30 am to 9:45 pm.

The profits increased from $32,448 in Step 2 to $33,552 when we added an extra Allow rule as marked by the red equity curve on the chart below.



7.5 Cascade Duration

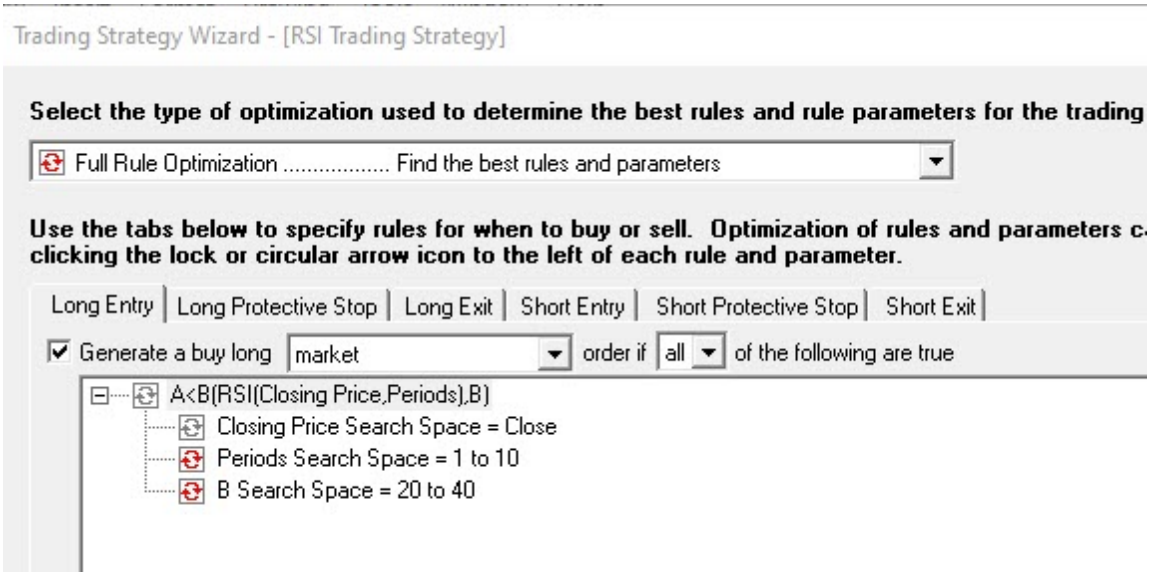
InterChart Tools TradeGate Indicators: Cascade Duration

This intraday chart demonstrates how to combine two block indicators to rule out two different periods for trading.

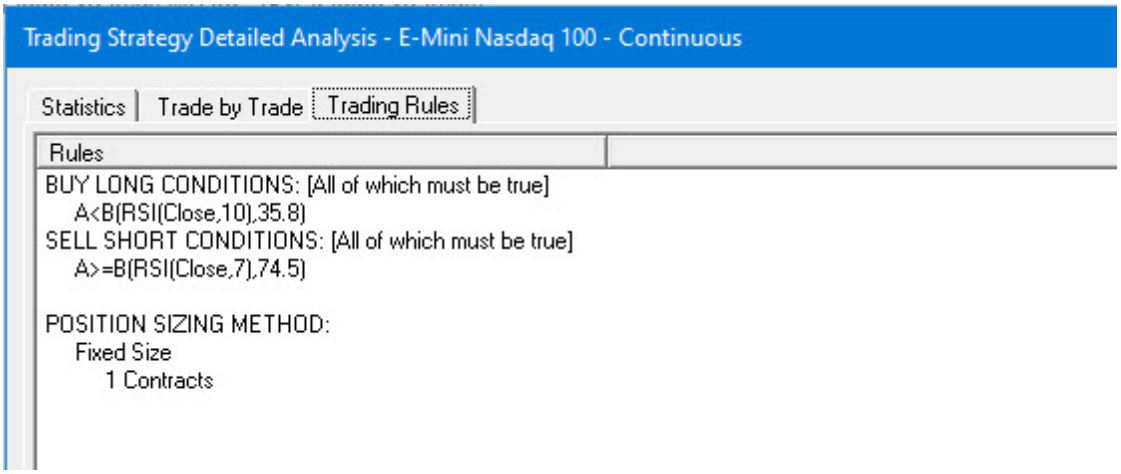
Step 1: Create the Base Trading Strategy: RSI Trading Rules

We begin with a standard RSI Trading Strategy that is a simple reversal system.

Long Entry: RSI < 30 (set range 20 to 40)
Short Entry: RSI > 70 (set range 60 to 80)

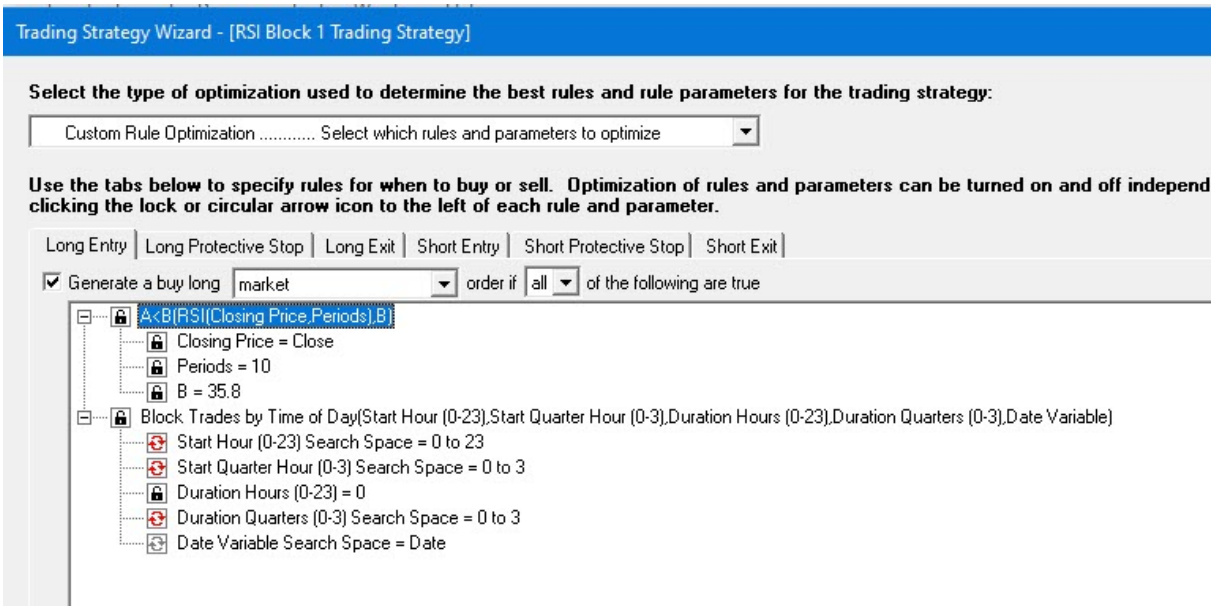


The Trader's optimizer set the following conditions.

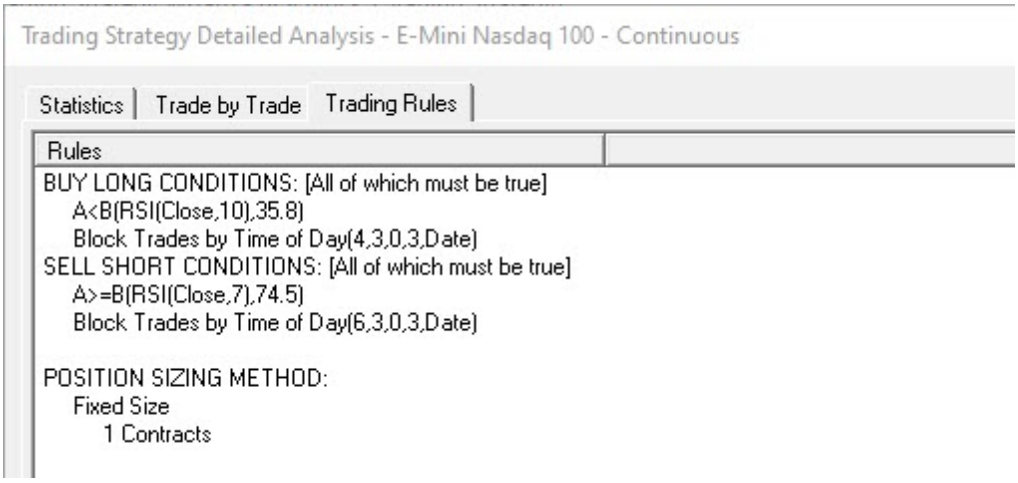


Step 2: Optimize When Not to Trade the RSI System

We locked the RSI rule itself and the parameters found in the base trading system and added a Block Trades by Time of Day indicator from the Time Flags category. We locked the Duration parameter in the Block Trades indicator so the optimizer would find the first "No Trade" period.



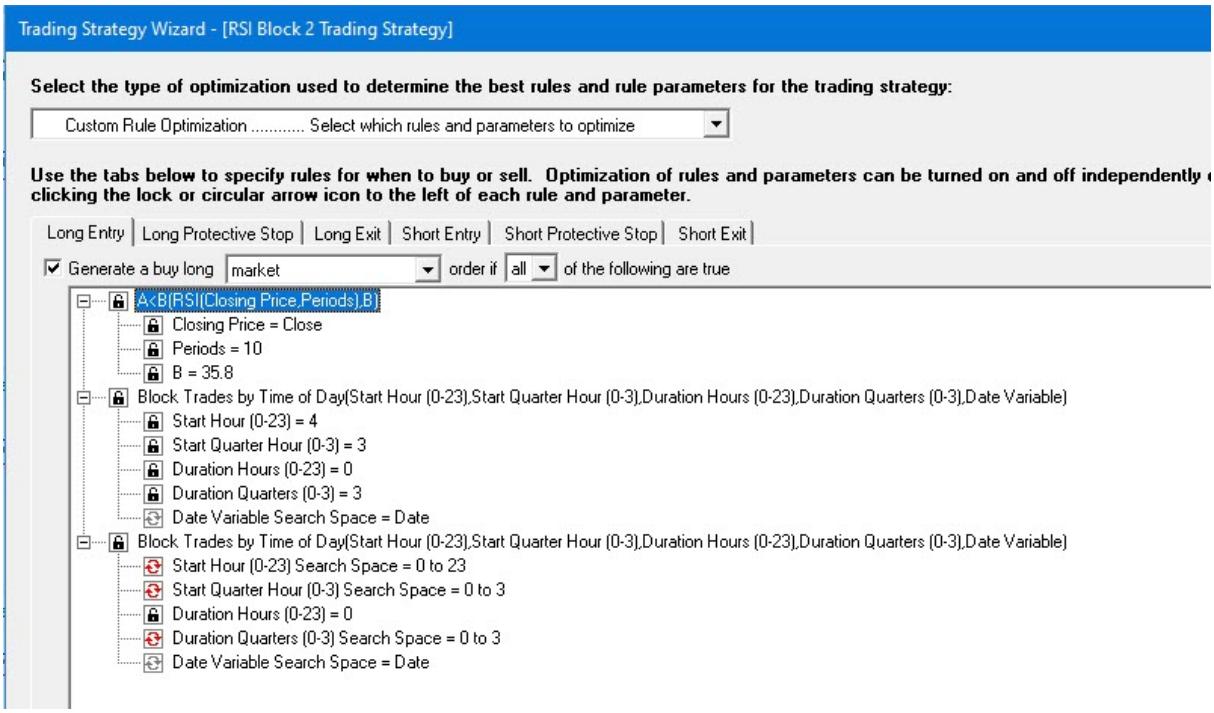
The results are below:



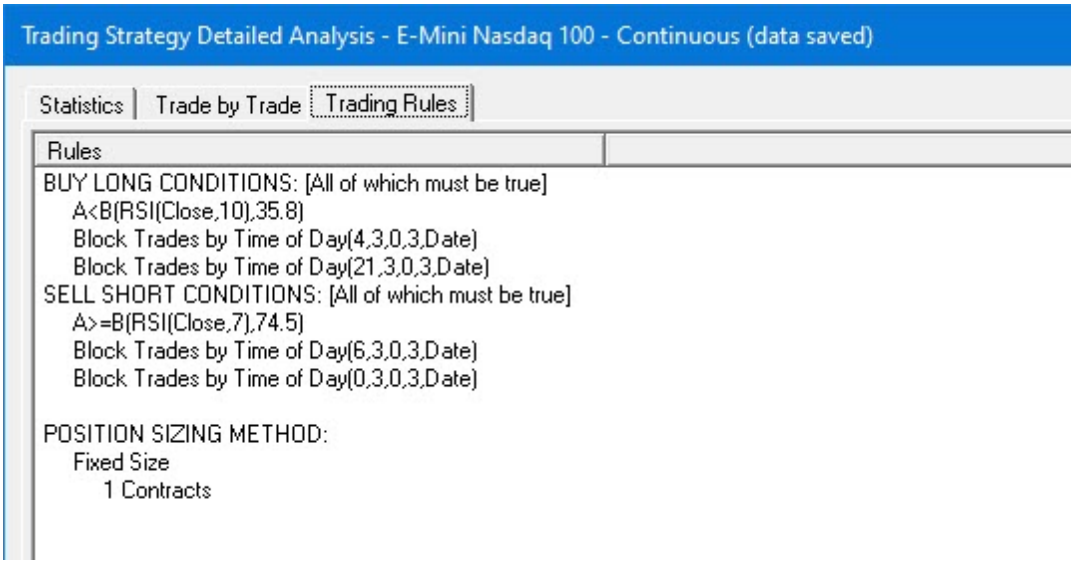
When trading the RSI system, block the following periods:
Long Entry: Block trades starting at 4:45 am until 5:30 am.
Short Entry: Block trades starting at 6:45 am until 7:30 am.

Step 3: Optimize Again to Find a Second Period to Block Trades

In this step we locked the RSI base rule and the first Block rule along with all rule parameters. We added another Block rule and locked the duration period and optimized the other parameters.

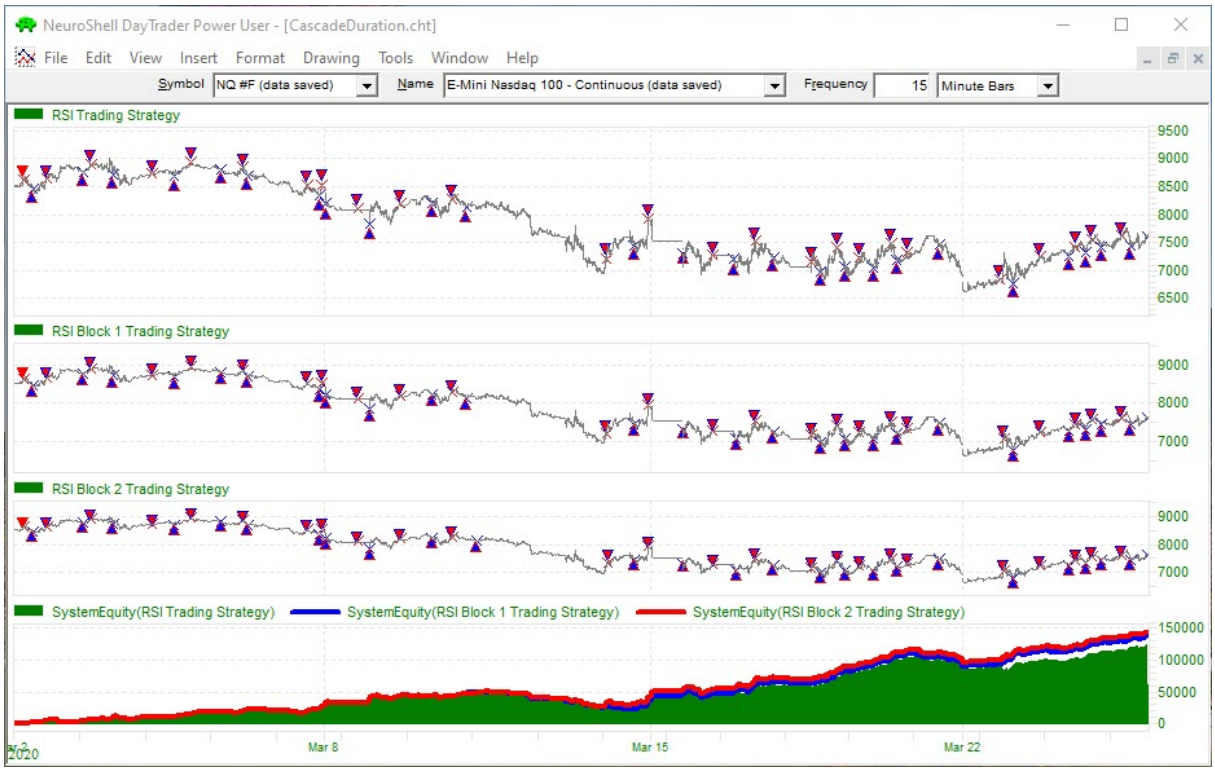


The results are below:



Additional blocked trading periods:
Long Entry: Block trades starting at 9:45 pm until 10:30 pm
Short Entry: Block trades starting at 12:45 am until 1:30 am

The three different Trading Strategies are displayed on the chart below:



The Net profit for the original RSI Trading System is $123,165. The RSI Block 1 trading system generated $137,165 in profit. The addition of the second blocked time period raised the the net profits to $144,125.

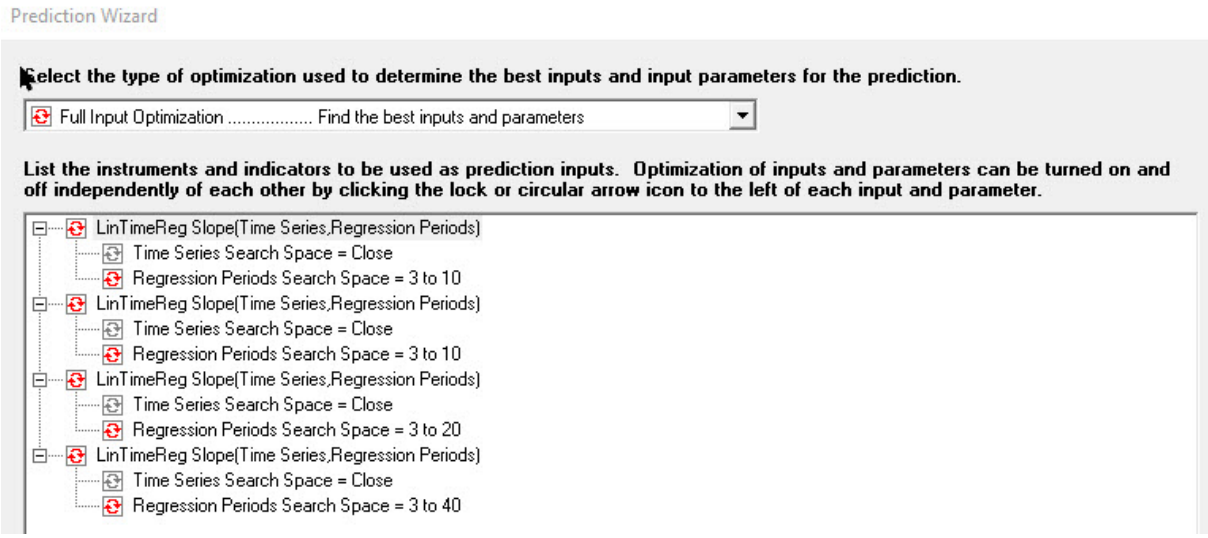
7.6 Prediction with Block

InterChart Tools TradeGate Indicators: Prediction with Block

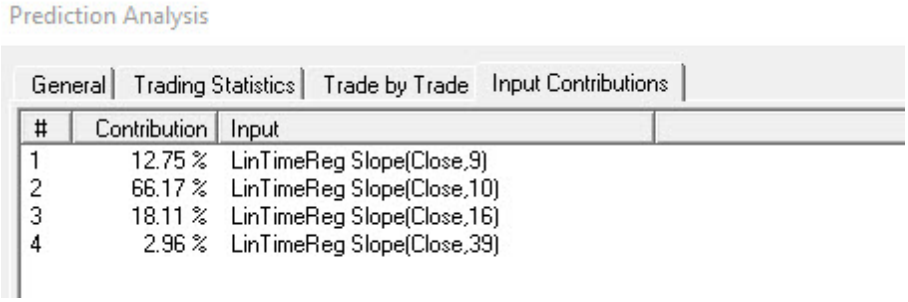
This daily chart shows how to include a Block and Allow Trades by Date indicators with other inputs to a prediction.

Step 1: Build the Basic Prediction Using Several Regression Indicators

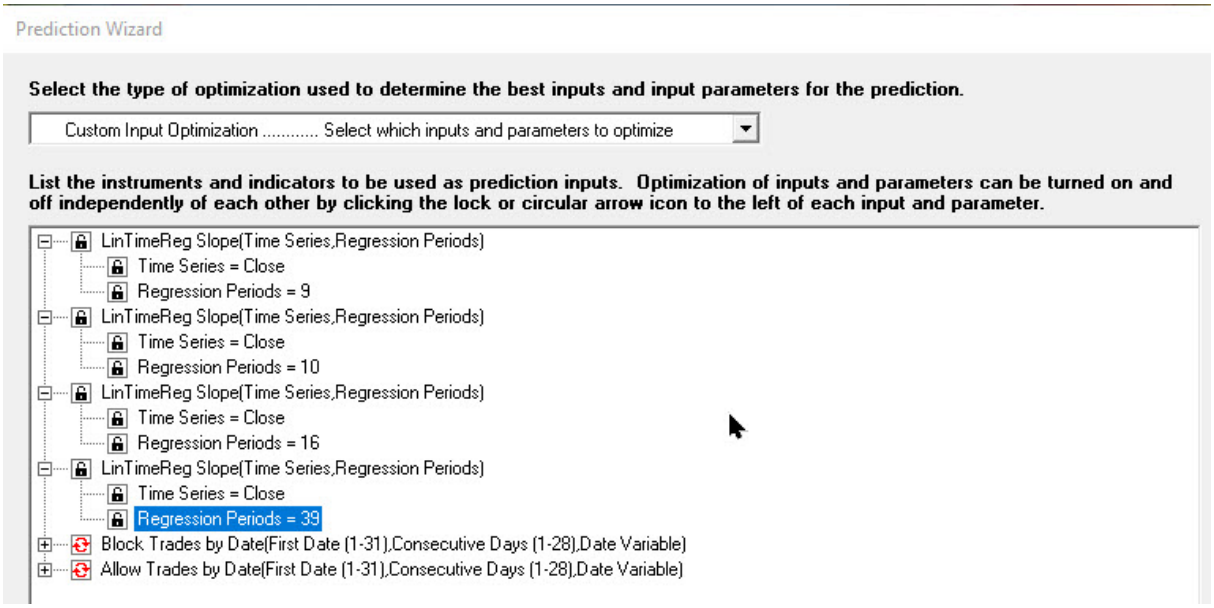
The original prediction uses four Linear Time Regression indicators as inputs. We let the optimizer find the number of regression periods for each indicator. The setup appears below.

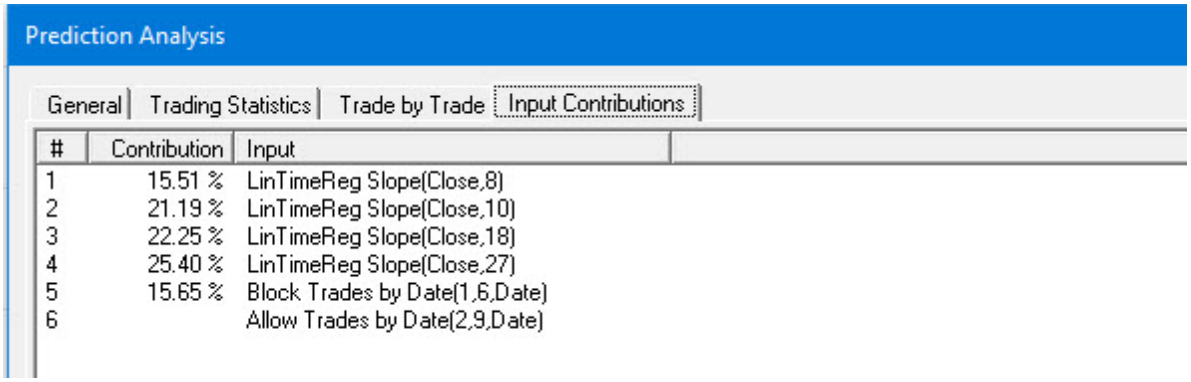


Detailed analysis of the prediction shows that the optimizer put more emphasis on the shorter time frames.



Step 2: Lock Original Inputs and Add Block/Allow Indicators

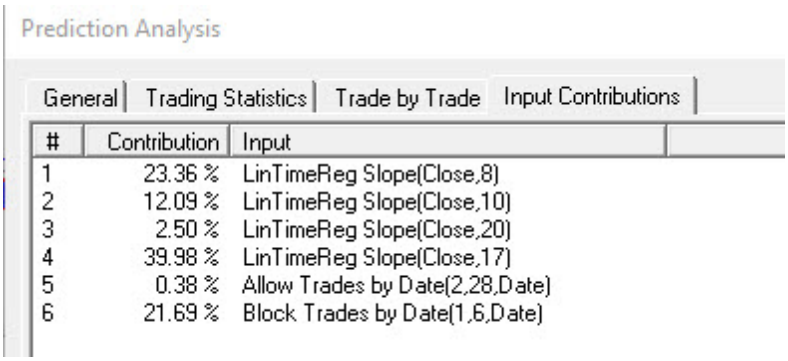




Note that the optimizer chose the Block Trades by Date indicator and removed the Allow Trades indicator.

Step 3: Additional Option

Rather than locking the inputs in the original prediction, you could allow all of the inputs to be optimized at the same time. The results are below.



Step 4: Examine the Results

The original model generated a net profit of $2525.40 compared to $2662.90 for the TradeGate model. The model that combined all of the inputs during optimization generated $2719.6 in profits.

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