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**Risk Disclosure** Futures trading contains substantial risk and is not for every investor. An investor could potentially lose all or more than the initial investment. Risk capital is money that can be lost without jeopardizing ones' financial security or lifestyle. Only risk capital should be used for trading and only those with sufficient risk capital should consider trading. Past performance is not necessarily indicative of future results.

Reversal entries are not governed by, trends, ranging or choppy markets. In fact, none of this matter. The only things we need to know, will the market reverse sometime and can we catch it.

As technology has advanced it has become easier to develop software utilities that may detect a reversal and locate this entry based on Price Action, Market Profile, Chart Angle and Direction Probability.

Through the use of NinjaTrader® 8 and a high-speed internet connection we have developed utilities that may locate a reversal entry. The system looks for the highest high and lowest low over past bars, then the system tags the entry with a line that is proportional to your entry settings. Then the strategy calculates:

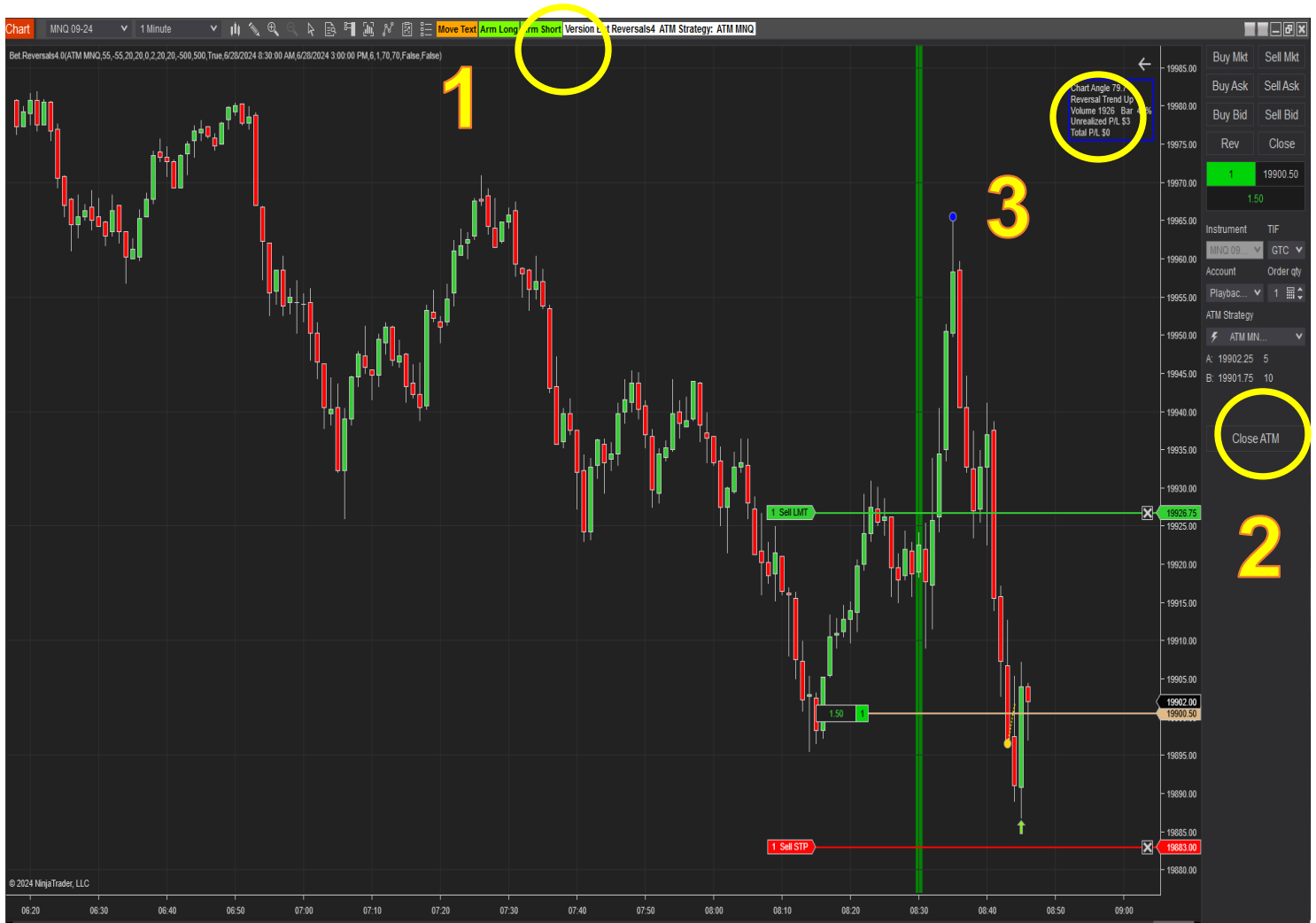
- Chart Angle
- Trend Direction Probability
- Price Action Trader Module
- Momentum tracker
- Conforms to Strategy Analyzer
- Very fast

The system will use this data and other filter settings to determine an entry.

### Specifications and Minimum Requirements;

- NinjaTrader® 8 desktop
- High Speed Internet Connection
- Broker Account
- Developed and Tested for Futures Traders
- ES, MES, NQ, MNQ, RTY, M2K, YM, MYM, M2K & OTHERS
- *We have not tested for FOREX or Stocks*
- Live connection with Ask and Bid volume & price data supported "NinjaTrader Continuum works" others may need subscription support.
- **The BET Reversals Automated Strategy will only work with;**
- **Chart only**
- *Tick Bars*
- *Time Bars "Seconds and Minutes"*
- *Volume Bars*
- *And others*
- ***Tick replay must be enabled.***

## Overview of BET Reversals Auto Strategy 4.0



### 1. Tool Bar Buttons

- a. Text Button; Clicking this button will move the Blue Box Text Data #3 to each corner
- b. Arm Long; Clicking this button will arm the strategy for a long entry and start calculating lower line length.
- c. Arm Short; Clicking this button will arm the strategy for a short entry and start calculating upper line length.
- d. ATM Strategy Name; this area will display the current ATM that will be used for the entry. **The buttons will turn green when armed.**

2. **Chart Button, Close ATM;** Clicking this button will close the ATM that has entered into the market without stopping and closing the strategy. Using the "system" close button will disable the strategy and close all positions.

### 3. Blue Information Box; This box displays information about the current bar.

#### Current Bar

Chart Angle  
Momentum  
Reversal Trend  
Volume, Bar percentage complete  
Unrealized P/L \$  
Total P/L \$

**TIP;** Changing the Chart label font size font will change the font size in the Blue Data Box.

#### Blue Information Box



Chart Angle 84.39  
Momentum -14.25  
Reversal Trend Up  
Volume 9234 Bar 32.67%  
Unrealized P/L \$0  
Total P/L \$0

- Chart Angle, the calculation of price, volume and velocity.
- Momentum, the calculation of the amount of price change over time.
- Key Reversal Trend, the calculation of prior close vs. the current close over the current low or high and x bars from the low or high.
- Volume, current bar volume
- Bar%, current bar percentage complete
- Unrealized P/L, current raw money calculation while in the market
- Total P/L, current money from all market entries. **Note**, may not include fees.



1. **Green Line**; Start Time Line, this line will be displayed whenever the start time has begun based on the start time property. Only when the start time begins does the strategy begin to look for entries.
2. **Short Entry Down Arrow**; this arrow will be displayed whenever a short entry is made.
3. **Upper Bar Line**, this line sets a possible long entry, the bar passing above this line can trigger a long entry. (Displayed only when the Arm Long button is on).
4. **Long Entry Up Arrow**; this arrow will be displayed whenever a long entry is made.

5. **Lower Bar Line**; this line sets a possible short entry, the bar passing below this line can trigger a short entry. (Displayed only when the Arm Short button is on).
6. **Low Bar Dot**; this dot is displayed under the lowest bar, based on the Low Bar Period in the strategy properties.
7. **High Bar Dot**; this dot is displayed over the highest bar, based on the High Bar Period in the strategy properties.
8. **Red Line**; End Time Line, this line will be displayed whenever the end time has begun based on the end time property. Only when the end time begins does the strategy stop looking for entries.

### Blue Information Box 1



### So How Does It Work?

Let's say we are on the MNQ at the start of the day 8:30 CME time. Both Buttons, Long and Short are armed. We have set the parameters of the strategy to begin at 8:30 am CME time and End at 3:00 pm CME time.

We set the current parameters as follows;

Chart data series set at 1 minute

Chart Angle Long	55
Chart Angle Short	-55
Momentum Long	11
Momentum Short	-11
Bar Line Upper Ticks	20
Bar Line Lower Ticks	20
High Bar Period	20
Low Bar Period	20

The day has started and we are following the chart on the market.

**Blue Information Box 1 displays;**

Chart Angle	79.7
Momentum	24.75
Reversal Trend	Up



The prior Bar is pinned as the lowest bar and a line is drawn showing the 20 ticks from the close of the prior bar to above the start of the new bar; "this is our bounce line". The strategy is now looking for a reversal long.

The data on the current bar meets the conditions in the properties for an entry long. The system determines that the current bar was not going in the right direction and the angle was incorrect so it waited for the next bar to test.

The next bar is now above the 20-tick lower line setting we had set in the parameters; "the bounce line". The strategy now sets an entry long with the ATM we had set in the parameters and we are now in the market.

As a result, the strategy calculates the highest and lowest bar in a sequence as defined in the parameters, then sets a test line at a distance defined in the parameters "bounce line". When the current bar passes the test line and satisfies all of the filter criteria then an entry is made.



## BET Reversals Properties, Presets for MNQ 9/24

Properties	
▼ ATM Parameters	
ATM Template Name	ATM MNQ
Max Ticks for ATM Limit Entry	6
Use ATM Limit Entry	<input type="checkbox"/>
▼ BackTest Parameters	
BackTest Only, Disable ATM Enable Strategy Market Entry	<input type="checkbox"/>
Profit_Target Reversals BackTest Only	70
Stop_Loss_Target Reversals BackTest Only	70
Order_Quantity BackTest Only	1

### 1. ATM Parameters,

- a. **ATM Template Name**; the name of the ATM you want to use. This will display in the Text Box on the Tool Panel above the chart.  
**NOTE: You must spell the name exactly as it was spelled in the ATM manager or the system will not find it. TIP: you can leave the ATM name to "None", the system will still operate and show entries, but it would be up to you to make that entry.**
- b. **Max Ticks for ATM Limit Entry** (1-100); Tick setting for ATM limit entry, this will set the ATM limit X ticks away from the current market position.
- c. **Use ATM Limit Entry**; Checking this box will cause an ATM limit to entry at x tick away from market position. **NOTE: A limit entry may NOT go into the market depending on market position at the time of the limit entry and care should be taken to cancel the entry if needed.**

### 2. Back-Test parameters,

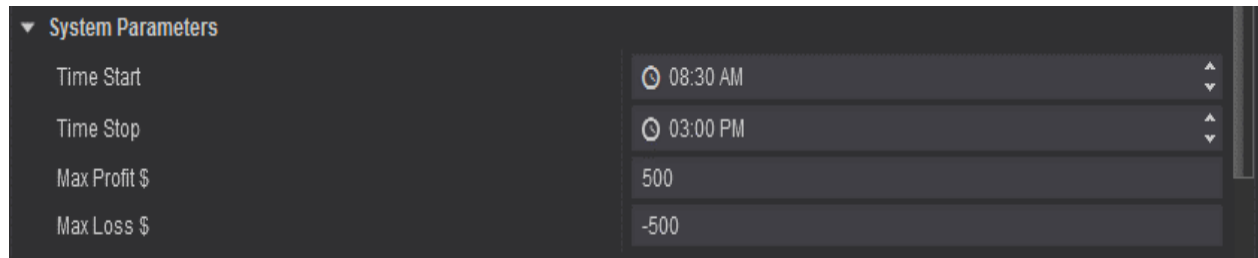
- a. **Back-Test Only**, Checkbox, pre-set Unchecked, checking this box will setup the Automatic Strategy to run on the **System Analyzer** only. The analyzer will not use ATM and requires historical tick data that is less accurate than the Real Market Data. The program will not allow the box to be checked if a Chart window is opened.
- b. **Profit Target** in Ticks for back test, this is where you would set your profit target for back-testing.
- c. **Stop Loss Target** in Ticks for back test, this is where you set your stop loss target for back-testing.

General Parameters	
Chart Angle in Degrees Long	55
Chart Angle in Degrees Short	-55
Momentum Filter Long	11
Momentum Filter Short	-11
Bar Line Length Upper in Ticks	20
Bar Line Length Lower in Ticks	20
High Bar Period	20
Low Bar Period	20
Max Bar Wait for Entry	2
Max Bars Entry Reset	0
Show Text box on chart	▼

### 3. General Parameters,

- a. **Chart Angle Long Filter**, (-500, 500) This filter sets the chart angle for entry Long.
- b. **Chart Angle Short Filter**, (-500, 500) This filter sets the chart angle for entry Short.
- c. **Momentum Filter Long**, this filter sets the momentum for a Long entry. Note, setting this to 0 would bypass the filter.
- d. **Momentum Filter Short**, this filter sets the momentum for a Short entry. Note, setting this to 0 would bypass the filter.
- e. **Bar Line Length Upper in Ticks** (1-100) preset 20, this line is part of the entry calculations for the current bar. If the last bar is the Lowest bar, a line is drawn from the close of the last bar to x ticks above the current bar. The current bar must be equal (=) or greater (>) than the bar line in order for an entry long. Setting this lower can make a faster entry but may also cause a false entry. Setting this to zero (0) will bypass this filter.
- f. **Bar Line Length Lower in Ticks** (1-100) preset 20, this line is part of the entry calculations for the current bar. If the last bar is the Highest bar, a line is drawn from the close of the last bar to x ticks below the current bar. The current bar must be equal (=) or greater (>) than the bar line in order for an entry short. Setting this lower can make a faster entry but may also cause a false entry. Setting this to zero (0) will bypass this filter.
- g. TIP; "It's all about the Bounce" The lines are used to minimize the bar bounce; at high volatility the bar may bounce greater than 10 points and we do not want to get caught in the wrong direction so be liberal with this setting.





#### 4. System Parameters,

- a. **Time Start**, preset 8:30 AM, this time setting is based on your time settings in Tools/General/Time Zone and is required for the strategy. When the start time has begun a vertical line is drawn on the chart as an indicator.
- b. **Time Stop**, preset 3:00 PM, this time setting is based on your time settings in Tools/General/Time Zone and is required for the strategy. When the stop time has begun a vertical line is drawn on the chart as an indicator.
- c. **Max Profit**, (raw market income) preset \$500, when the maximum profit has been reached or exceeded the strategy will stop all entries. When this happens a green text box will appear in the middle of the chart. You can reset this by disabling the strategy then re-enabling the strategy.
- d. **Max Loss**, (raw market loss) preset -\$500, when the maximum loss has been reached or exceeded the strategy will stop all entries. When this happens a red text box will appear in the middle of the chart. You can reset this by disabling the strategy then re-enabling the strategy. Note; Calculated Total P/L in the blue data box is raw market income/loss and may not include commissions and broker fees.



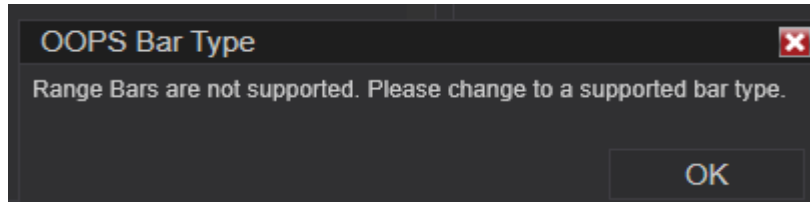
- a. **Bar Line Upper Color**, Changes to color of the line. **TIP:** Set this to Transparent to remove the line from the chart.
- c. **Bar Line Lower Color**, Changes to color of the line. **TIP:** Set this to Transparent to remove the line from the chart.
- d. **Dot Color High**, Changes to color of the dot. **TIP:** Set this to Transparent to remove the dot from the chart.
- e. **Dot Color Low**, Changes to color of the dot. **TIP:** Set this to Transparent to remove the dot from the chart.
- f. **Arrow Color Long**, Changes to color of the arrow. **TIP:** Set this to Transparent to remove the arrow from the chart.
- g. **Arrow Color Short**, Changes to color of the arrow. **TIP:** Set this to Transparent to remove the arrow from the chart.
- h. **Start Line Color**, Changes to color of the line. **TIP:** Set this to Transparent to remove the line from the chart.
- i. **Stop Line Color**, Changes to color of the line. **TIP:** Set this to Transparent to remove the line from the chart.

Category	Parameter	Value
Data Series	Input series	MNO 09-24 (1 Minute)
	Account	Playback101
Setup	Calculate	On each tick
	Label	Bet.Reversals4.0
	Maximum bars look back	256
	Bars required to trade	20
	Start behavior	Wait until flat
	Enabled	<input type="checkbox"/>

## System Parameters

1. Data Series, this is the instrument that has been picked for the chart and that the system will use for all entries and calculations.
2. Account, Simulated or Live accounts are picked here
3. **Calculate, preset **On Each Tick**, the system needs to be on each tick or it will not function correctly.**
4. Label, preset is the strategy name, and may be erased or changed. This will remove or change the text on the upper right-hand corner of the chart.
5. Maximum bars to look back, preset 256, Changing this will affect the way the system loads and how long it takes to update.
6. Bars required to trade, preset 20, 20 is a good number and there is not any reason that it should be changed.
7. Start behavior, preset Wait till Flat, it benefits the system to wait for all market entries to be done prior to running the automated strategy.
8. **Enable check box**, preset Unchecked, check this box and apply to start the strategy and run.

## Errors



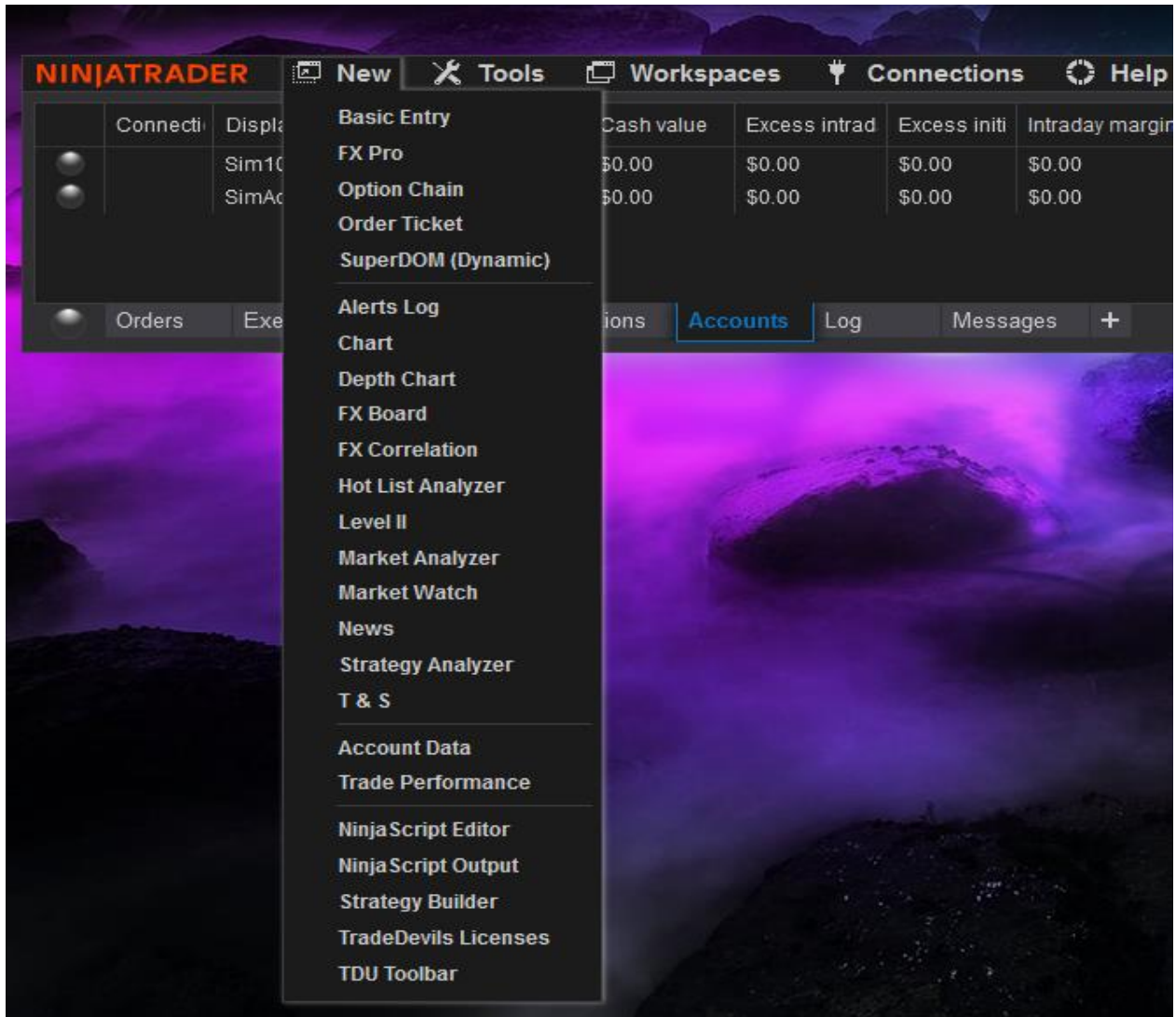
Error screens that may pop up,

If you try to run an unsupported bar type you will get the above error.

All other errors will be entry and ATM errors that will either be reported to the output screen or in the case of an ATM error Check ATM Spelling it will be both a pop up and reported to the output screen.

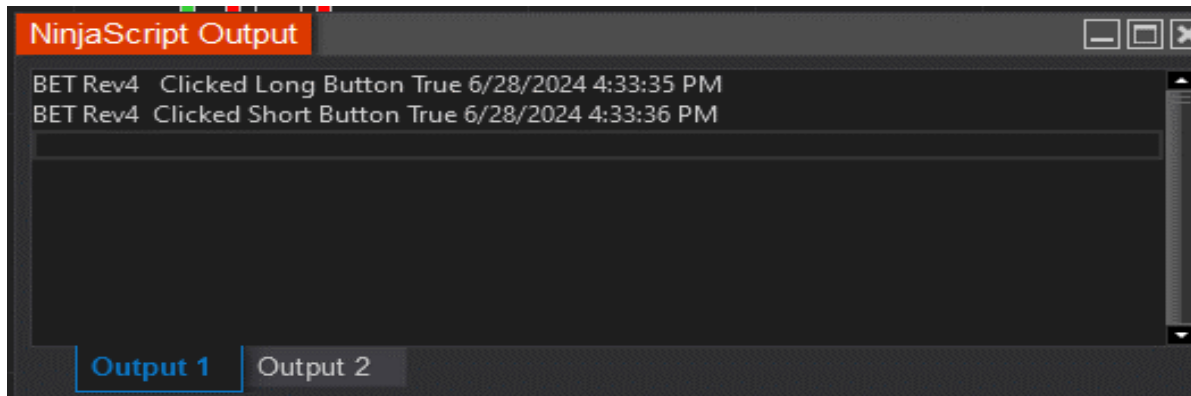
### Monitor the System with NinjaScript Output

You can monitor the automated system functions and errors using the NinjaTrader 8 NinjaScript Output window.



On the NinjaTrader 8 main screen, go to New, then Ninja Script Output, select and click, this will open up the NinjaScript Output window.





Above is the NinjaScript Output window after the BET MACD has loaded.

Information that maybe displayed; all with time date stamp

BetRev ATM status

BetRev ATM errors

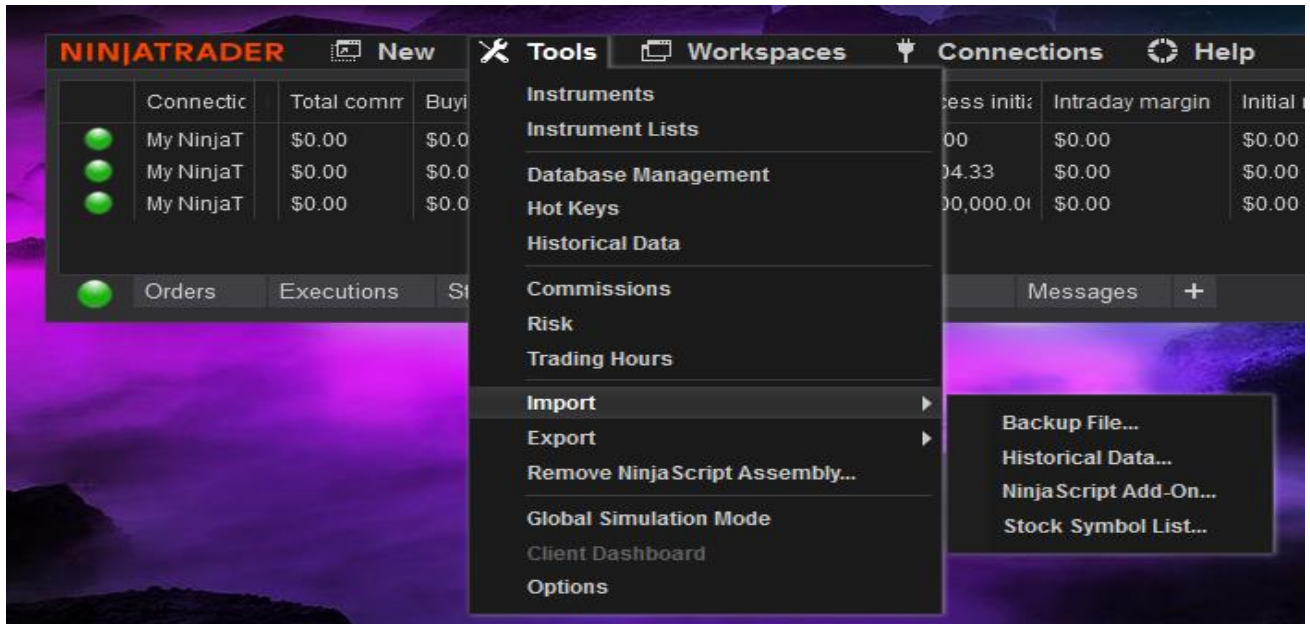
BetRev Entry Long, when long button is armed

BetRev Entry Short, when short button is armed

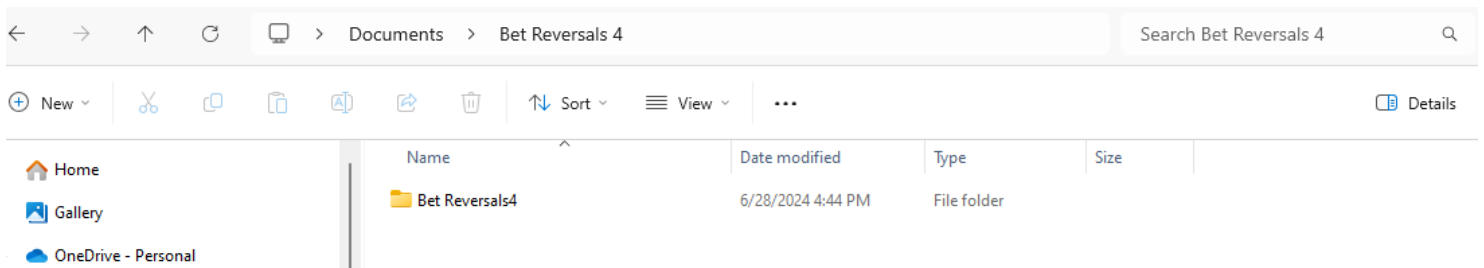
BetRev Entry Long and Short Reset

**TIP:** Right click on the window and set "Always On Top" this will keep the window from being minimized.

### Installation of Bet Reversal 4.0 Strategy



On the main window, Click Tools, go to Import, then click on Ninja Script Add-On



Next go to the file area where you downloaded the Bet Reversals 4.0 Strategy.

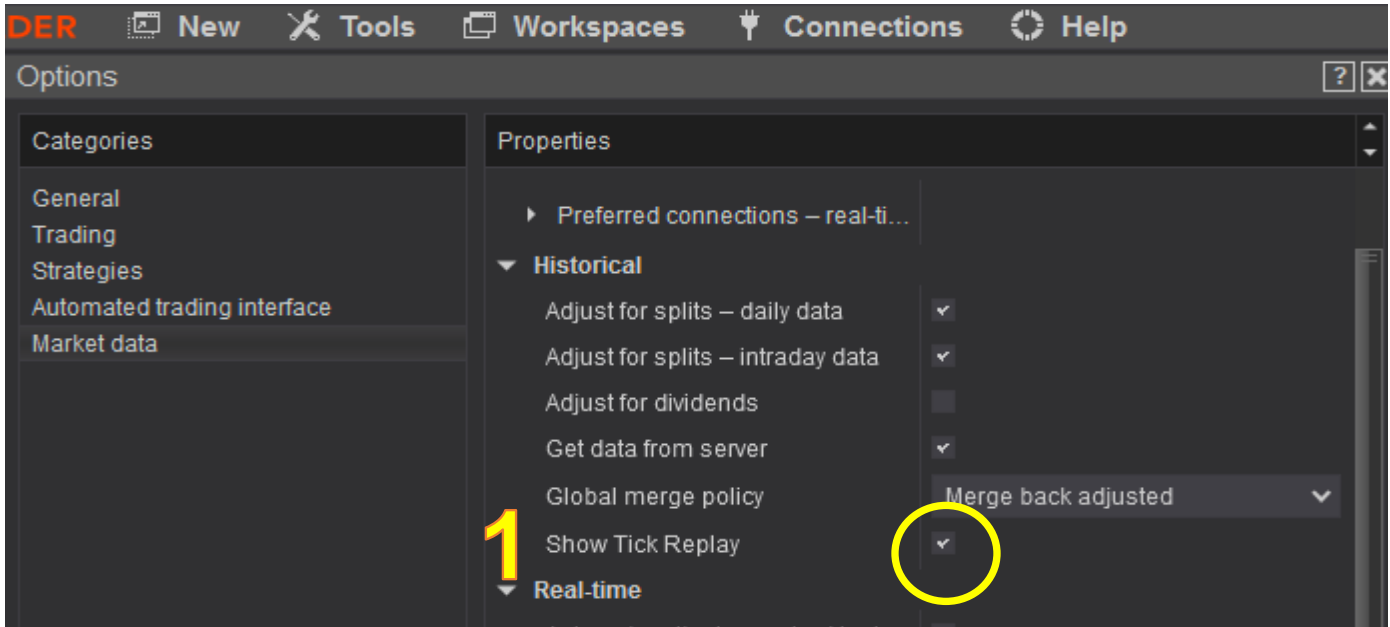
Then Click on the file name, this will open up the file to display a ZIP file. Next double click the zip file and this will start the installation process.

For more information on installing add-on; go to link below

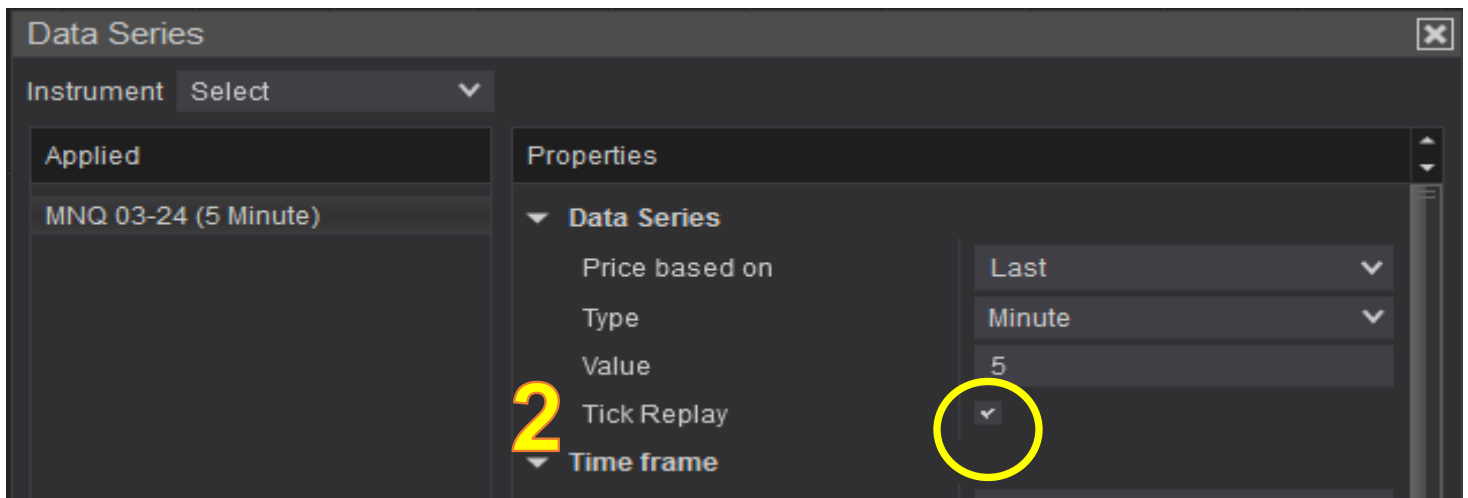
[https://ninjatrader.com/support/helpGuides/nt8/NT%20HelpGuide%20English.html?using\\_3rd\\_party\\_add-ons.htm](https://ninjatrader.com/support/helpGuides/nt8/NT%20HelpGuide%20English.html?using_3rd_party_add-ons.htm)

### Setting up Tick Replay

1. Main Menu Tools, Go to Options, Go to Market Data, Click on Show Tick Replay



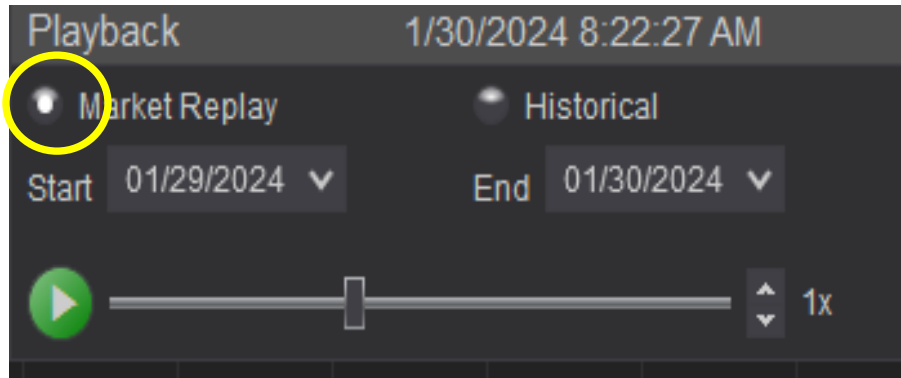
2. Go to New, Chart, Data Series, select Instrument, then Check Tick Replay



NinjaTrader® Tick Replay Support

<https://ninjatrader.com/support/helpGuides/nt8/NT%20HelpGuide%20English.html?tick-replay.htm>

## Using Play Back



It is a requirement that when you use Playback you must use Market Replay with Tick Replay set. If not, the data may not populate and no entries will be taken. The program requires tick by tick data to calculate its' entries and exits, without this data the program will not know how to respond.

### Using Strategy Analyzer

The screenshot shows the 'Settings' window for the Strategy Analyzer. It is divided into several sections: General, ATM Parameters, BackTest Parameters, General Parameters, and System Parameters. Four yellow annotations are present: a circle around the 'Backtest' dropdown in the General section (labeled '1'), a circle around the 'Profit\_Target Reversals BackTest Only' field (labeled '2'), a large circle around the 'Chart Angle in Degrees Long' and 'Short' fields (labeled '3'), and a circle around the 'Time Start' and 'Time Stop' fields (labeled '4').

Section	Parameter	Value
General	Backtest type	Backtest
	Strategy	Bet.Reversals4.0
ATM Parameters	ATM Template Name	None
	Max Ticks for ATM Limit Entry	6
	Use ATM Limit Entry	<input type="checkbox"/>
BackTest Parameters	BackTest Only, Disable ATM Enable Strategy Market Entry	<input checked="" type="checkbox"/>
	Profit_Target Reversals BackTest Only	70
	Stop_Loss_Target Reversals BackTest Only	70
	Order_Quantity BackTest Only	1
General Parameters	Chart Angle in Degrees Long	55
	Chart Angle in Degrees Short	-55
	Momentum Filter Long	11
	Momentum Filter Short	-11
	Bar Line Length Upper in Ticks	20
	Bar Line Length Lower in Ticks	20
	High Bar Period	20
	Low Bar Period	20
	Max Bar Wait for Entry	2
System Parameters	Max Bars Entry Reset	0
	Show Text box on chart	<input checked="" type="checkbox"/>
	Time Start	08:30 AM
	Time Stop	03:00 PM
	Max Profit \$	500
	Max Loss \$	-500

1. Use the pull-down menu to find the strategy you want to test "Bet.Reversals 4.0"
2. Check the Back Test Only Box, and set your Profit Target and Stop Loss Target. (The Strategy Analyzer will not back-test ATM based strategies). For help using the Strategy Analyzer use the below link;

[https://ninjatrader.com/support/helpGuides/nt8/NT%20HelpGuide%20English.html?backtest\\_a\\_strategy.htm](https://ninjatrader.com/support/helpGuides/nt8/NT%20HelpGuide%20English.html?backtest_a_strategy.htm)

**3 & 4** You can make whatever adjustments to these parameters and the analyzer will respond. If you are unsure what to do review the properties configuration settings for the basics.

The screenshot shows the configuration window for Bars Edge Trader. The settings are as follows:

- Data Series:** Instrument: MNQ 09-24, Price based on: Last, Type: Minute, Value: 5, Tick Replay:
- Time frame:** Start date: 06/03/2024, End date: 06/27/2024, Trading hours: <Use instrument settings>, Break at EOD:
- Setup:** Include commission: , Maximum bars look back: 256, Bars required to trade: 20
- Historical fill processing:** Order fill resolution: Standard (Fastest), Fill limit orders on touch: , Slippage: 0
- Order handling:** Entries per direction: 1, Entry handling: All entries, Exit on session close:
- Order properties:** Set order quantity: Strategy, Time in force: DAY

A 'Run' button is located at the bottom right of the window. The word 'template' is visible in the bottom right corner of the settings area.

1. Select the instrument you want to test and **type**, “**this is very important**”, the only types that will work are Seconds, Minutes, Ticks and Volume, any others will not work. You must use **Tick Replay** or it will not work correctly.
2. Start and end dates, the larger the span the longer it will take to process.  
**TIP**; if you open Ninja Script Output window you will be able to see trade resets happening with long, short, time and dates of the trades. If you do not see anything you will need to change your configuration. This can take several minutes.

## Properties configuration settings for Futures Markets, MNQ, NQ, MES, ES, RTY & YM

The attached configuration settings are some we have used and are available for your reference. We wanted to give you a starting point for a few of the futures instruments so you may experiment and develop a configuration that best suits your needs and experience. **By no means do we guarantee the results of these settings.**

**TIP:** If you are not seeing the performance you were hoping for, try changing the Data Series Value of the chart "Time, Ticks or Volume" slightly e.g. (from 10 minutes to 9 minutes) this will change the frequency of the high and low bars in the series and may improve your performance. Also, we will change the High and Low Bar period to increase or decrease the number of trades depending on market conditions. *We test this weekly!*

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Bet Reversals 4.0 Basic Properties Configuration for testing		6/10/2024					
Instrument		MNQ	NQ	MES	ES	RTY	YM
Data Series	Last						
Type	Minute						
Value		5 Min	5 Min	5 Min	5 Min	10 Min	10 Min
ATM Target		75 ticks	70 ticks	12 ticks	16 ticks	26 ticks	45 ticks
ATM Stop		50 ticks	60 ticks	10 ticks	12 ticks	16 ticks	30 ticks
Arm Long		Yes	Yes	Yes	Yes	Yes	Yes
Arm Short		Yes	Yes	Yes	Yes	Yes	Yes
ATM Template Name	User						
Max Ticks for ATM Limit Entry	User	6	6	6	6	6	6
Use ATM Limit Entry	User						
Chart Angle Long		70	65	30	35	30	50
Chart Angle Short		-70	-65	-30	-35	-30	-50
Momentum Long		11	11	5	5	3	11
Momentum Short		-11	-11	-5	-5	-3	-11
Bar Line Length Upper		20	20	2	2	2	10
Bar Line Length Lower		20	20	2	2	2	10
High Bar Period		10	20	10	10	10	10
Low Bar Period		10	20	10	10	10	10
Max Bars Wait for Entry		2	2	2	2	2	2
Max Bars Entry Reset		0	0	0	0	0	0
Time Start	User						
Time Stop	User						
Max Profit	User						
Max Loss	User						
Max Bars Entry reset		0	0	0	0	0	0
Show Text on Chart	User						
Average Total Entries per Day		4	4	5	3	3	4
Colors	User						
Calculate On each Tick		On Each Tick					