Page

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.

The Bet EMA CrossOver Auto Strategy, Specs & Requirements for NinjaTrader 8

The EMA CrossOver Strategy is one of the simplest, for ease of use and understanding. This simple strategy has been enhanced with a third EMA as a filter for taking a long or a short entry. This EMA filter helps reduce unwanted entries. Also, we have added an algorithm to adjust the fast EMA period, this may reduce lag time on entering a position. This algorithm reviews the last entry to determine if the entry was lagging and then reduces the fast period time to allow for quicker entries.

With advanced software it has become easier to develop utilities that enhances an EMA crossover strategy. Using these utilities with an exponential moving average crossover becomes obvious and easy. We this advancement we are able reduce potential negative entries while managing risk.

Through the use of NinjaTrader® 8 and a high-speed internet connection we have developed utilities that may locate an EMA crossover point. The system looks for the fast EMA to crossover the slow EMA providing that the crossover is either above or below the EMA Filter Line, then the system tags the entry with an arrow in the direction of the entry. Then the strategy calculates the filters below:

- EMA Filter, a crossover above the filter for long entry, a cross over below the filter for a short entry
- Chart Angle filters, use this filter to reduce unwanted entries when the market is ranging.
- Momentum filter, use this filter to reduce unwanted reversals.
- Use Fast EMA Calculation, this will change the Fast EMA period dynamically to reduce the lag time for faster entries.
- NinjaTrader's ATM, the system uses NinjaTrader Advance Trade Management for entries
- Advanced Algorithm self-adjusts to changing frequency of the market to reduce the need to make daily adjustments.

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*
- ***Tick replay must be enabled.***

==**The EMA CrossOver Strategy uses NinjaTrader ATM**==

Overview of BET EMA CrossOver Auto Strategy 4.0

1. **Tool Bar Buttons**
   a. **Move Text;** Clicking this will move the text to the next corner.
   b. **Arm Long;** Clicking this button will arm the strategy for a long entry.
   c. **Arm Short;** Clicking this button will arm the strategy for a short entry.
   d. **Version Strategy Name;** this area will display the current version and if the indicator mode is on.
   e. **ATM Name;** This will display the current ATM name. *If you leave **None** as the ATM name the system will act like an indicator and not take entries.*
2. **Chart Button, Close ATM**; Clicking this button will close the current ATM entry 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.

Chart Icon display and Legend

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. **Red Line;** Stop Time Line, this line will be displayed whenever the stop time has begun based on the stop time property. Only when the stop time ends will the strategy end and then wait for the start time to run again**.**

3. **Short Entry Down Arrow**; this arrow will be displayed whenever a short entry is made.
4. **Long Entry Up Arrow**; this arrow will be displayed whenever a long entry is made.
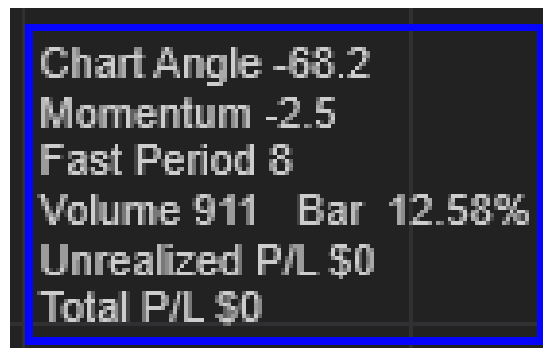
Information Box

1. Chart Angle, the angle determined by the sum of the close of the last few bars on the screen. Where 0 is the middle of the screen and would be considered flat or a ranging market.
2. Momentum is calculated by subtracting the closing price from the price at a previous point in time tick by tick and averaged.
3. Fast Period is the calculated period after the last crossover/under. If the calculate box is checked this number will go down or up based on where the newest high or low is compared to the cross. In order to reduce lagging entries, the number will change to get closer to the newest high or low when an entry is detected.
4. Volume of the current bar
5. Unrealized profit is calculated during market entries.
6. Total P/L is calculated after market entry has finished and may NOT have all commissions calculated

So How Does It Work?
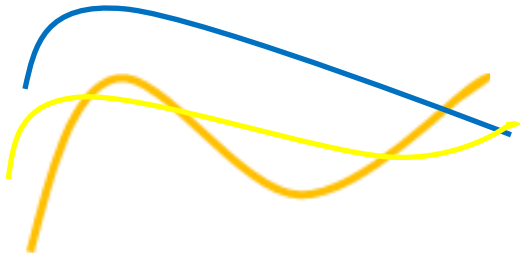
When the **fast** EMA (orange)crosses above the **slow** EMA (blue) and the crossover is above the Filter EMA (yellow) then this triggers an entry Long, at this point the strategy calculates chart angle, momentum & chart frequency algorithm e.g. "price action changes from high to low and velocity speed". If all this is correct then an entry Long is made.

When the fast EMA crosses below the slow EMA this triggers an entry Short, and at this point the strategy looks at all the filters as above to determine if an entry Short entry should be made.
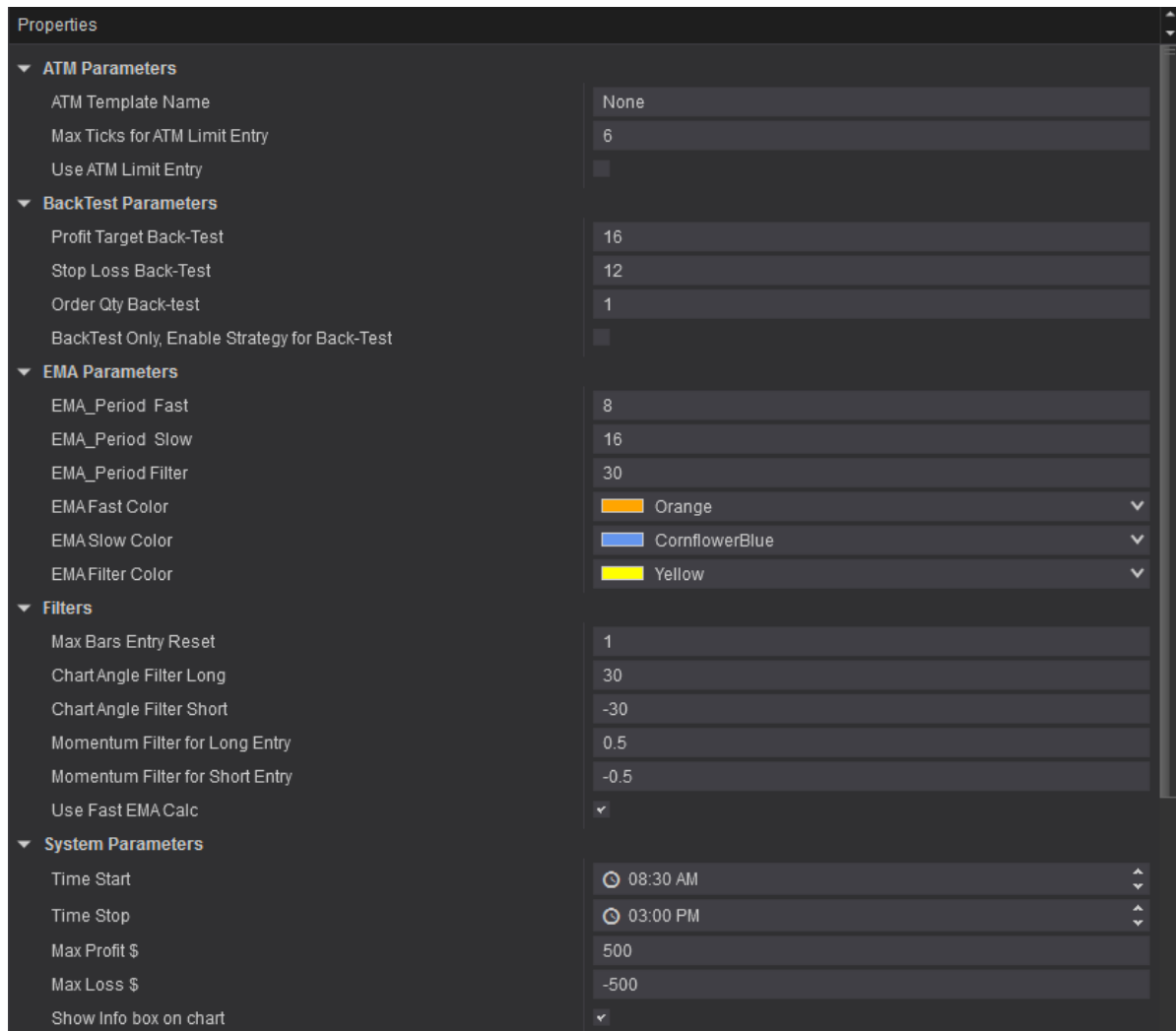

Figure 1

Figure 2
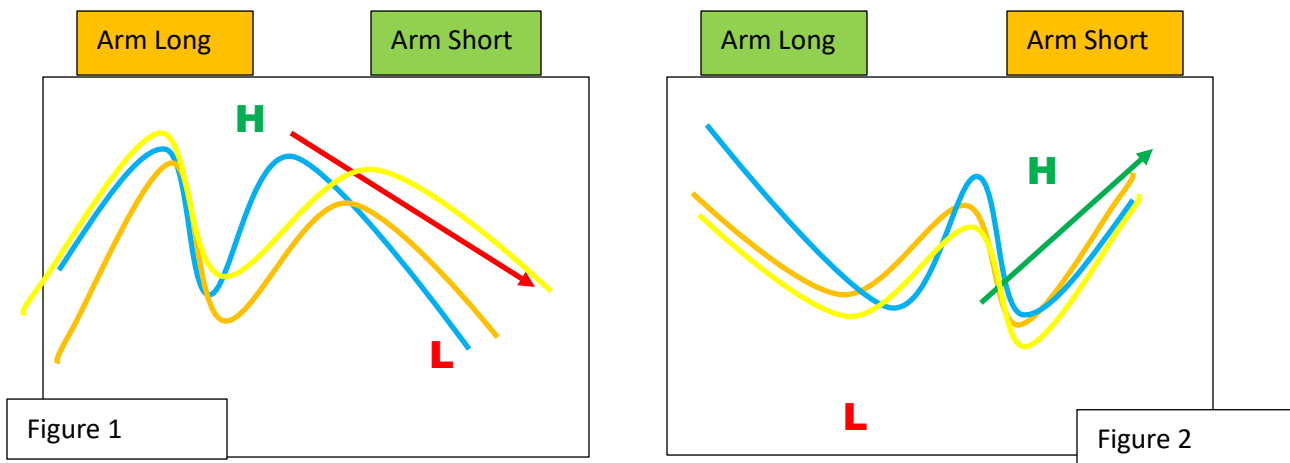
How do we use this strategy?

We will start the intra-day with both Arm Long and Arm Short buttons set on "green".

As the day continues and we see the EMAs continue to cycle in a sinusoidal wave, we will leave both arming buttons on "green" to take advantage of this rhythm "as seen in both figures". But if the rhythm changes and continues to go one direction we may choose to disarm the long or short depending on the Filter EMA position.

BET EMA CrossOver Properties, Presets for ES 3/24

Properties

- ▼ **ATM Parameters**
  - ATM Template Name .... None
  - Max Ticks for ATM Limit Entry 6
  - Use ATM Limit Entry .... ☐
- ▼ **BackTest Parameters**
  - Profit Target Back-Test 16
  - Stop Loss Back-Test 12
  - Order Qty Back-test 1
  - BackTest Only, Enable Strategy for Back-Test . ☐
- ▼ **EMA Parameters**
  - EMA_Period Fast 8
  - EMA_Period Slow 16
  - EMA_Period Filter 30
  - EMA Fast Color .... 🟧 Orange ▾
  - EMA Slow Color .... 🟦 CornflowerBlue ▾
  - EMA Filter Color .... 🟨 Yellow ▾
- ▼ **Filters**
  - Max Bars Entry Reset 1
  - Chart Angle Filter Long 30
  - Chart Angle Filter Short .... -30
  - Momentum Filter for Long Entry 0.5
  - Momentum Filter for Short Entry .... -0.5
  - Use Fast EMA Calc .... ☑
- ▼ **System Parameters**
  - Time Start .... 🕐 08:30 AM
  - Time Stop .... 🕐 03:00 PM
  - Max Profit $ 500
  - Max Loss $ .... -500
  - Show Info box on chart .... ☑

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: <u>You must spell the name exactly as it was spelled in the ATM manager or the system will not find it.</u> 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:** <u>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.</u>
   d.

2. **Back-Test parameters,**

   a. **Profit Target** in Ticks, this is where you would set your profit target for the strategy.
   b. **Stop Loss Target** in Ticks, this is where you set your stop loss target for the strategy.
   c. **Order Qty,** (1- 32000) The total number of orders to be placed in the market.
   d. **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 bypass Arm Long or Short buttons, Time Start and Stop, Max Profit and Loss 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.

3. **EMA Parameters,**
   a. *EMA Fast Period;*(6-100) this sets the period for the EMA Fast line.
   b. *EMA Slow Period;*(1-100) this sets the period for the EMA Slow line.
   c. *EMA Filter Period;*(1-100) this sets the period for the EMA Filter line. Set the filter to a slower period than above, 30 or greater.
   d. *EMA Fast Color*, Changes to color of the line. TIP: Set this to Transparent to remove the line from the chart.
   e. *EMA Slow Color*, Changes to color of the line. TIP: Set this to Transparent to remove the line from the chart.
   f. *EMA Filter Color,* Changes to color of the line. **TIP:** Set this to Transparent to remove the line from the chart.

4. **Filters**
   a. **Max Bars Entry Reset**, (0-10) the maximum number of bars to wait before attempting to enter the market again.
   b. **Chart Angle Filter Long,** this setting will help reduce unwanted entries long. If the chart angle is less the 30 then the chart would be considered flat and the market is ranging.
   c. **Chart Angle Filter Short,** this setting will help reduce unwanted entries long. If the chart angle is less the -30 then the chart would be considered flat and the market is ranging.
   d. **Momentum Filter Long Entry**, most markets will have a different momentum pattern, MES typically will have a max momentum of 10, this would be considered volatile for this market. A smaller number as a filter would be used to help prevent going into the market on a reversal.
   e. **Momentum Filter Short Entry,** most markets will have a different momentum pattern, MES typically will have a max momentum of -10, this would be considered volatile for this market. A smaller number as a filter would be used to help prevent going into the market on a reversal.

f. **Use Fast EMA Calc,** Checked, this will run an algorithm to calculates the difference from the last entry to current new high and low as well as price change & velocity then determines if the Fast EMA Period needs to be faster in order to reduce a lag entry. Uncheck this will turn the algorithm off.

5. **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 is raw market income/loss and may not include commissions and broker fees***
    e. **Show Info Box on Chart,** Checked will show the info box with related data on the chart in the lower right-hand corner. Unchecked will turn off the visual display.
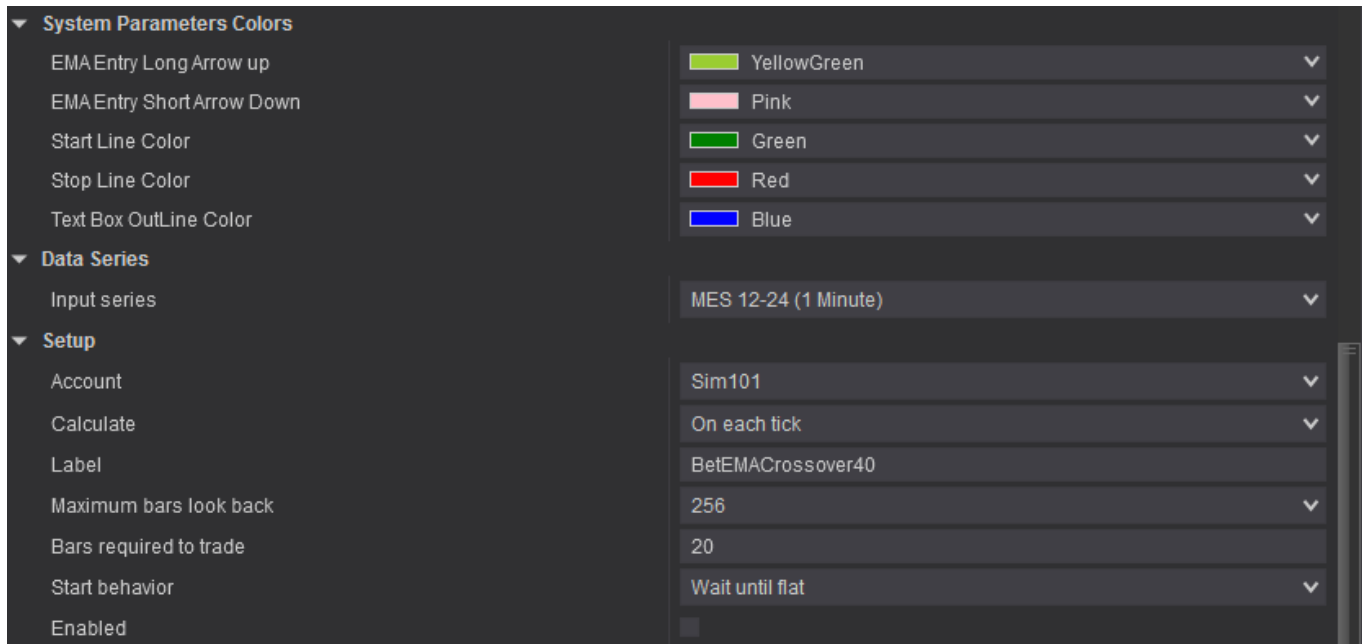
6. **System Parameters Colors,**
    a. **EMA Entry Long Arrow up,** Changes to color of the arrow up. **TIP:** Set this to Transparent to remove the arrow up from the chart.
    b. **EMA Entry Short Arrow Down,** Changes to color of the arrow down. **TIP:** Set this to Transparent to remove the arrow down from the chart.
    c. **Start Line Color** Changes to color of the line. **TIP:** Set this to Transparent to remove the line from the chart.
    d. **Stop Line Color,** Changes to color of the line. **TIP:** Set this to Transparent to remove the line from the chart.

7. **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.

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	✔
Exit on session close seconds	30
Stop & target submission	Per entry execution ⌄
Order properties	
Set order quantity	Strategy ⌄
Time in force	GTC ⌄
	template

Order Properties
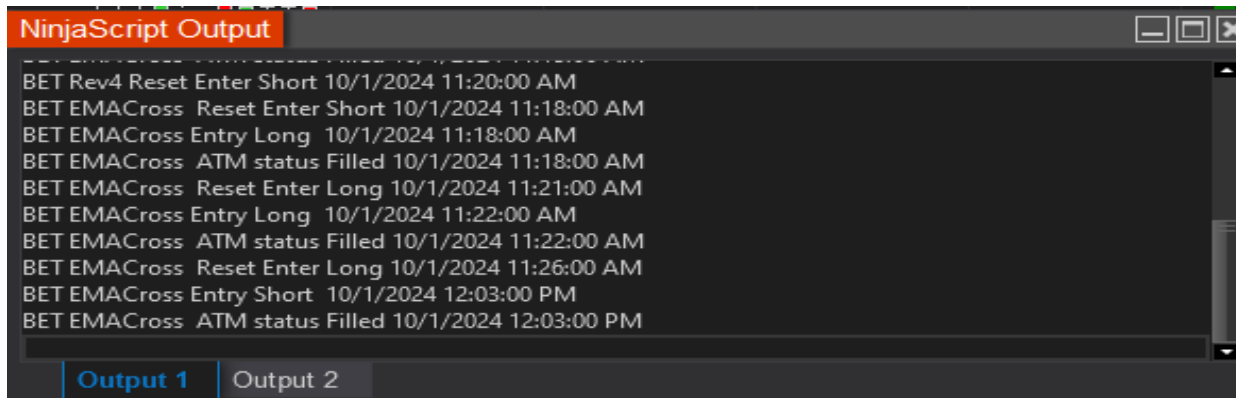
1.   Set order quantity, preset Strategy, the quantity is part of the ATM system and should not be changed here.

2.   Time in force, preset to Day, this is set internally, but you may change it to fit your needs, **don't forget to save your setting as a template.**

Monitor the System with Ninja Script Output

You can monitor the automated system functions and errors using the NinjaTrader 8
NinjaScript Output window.
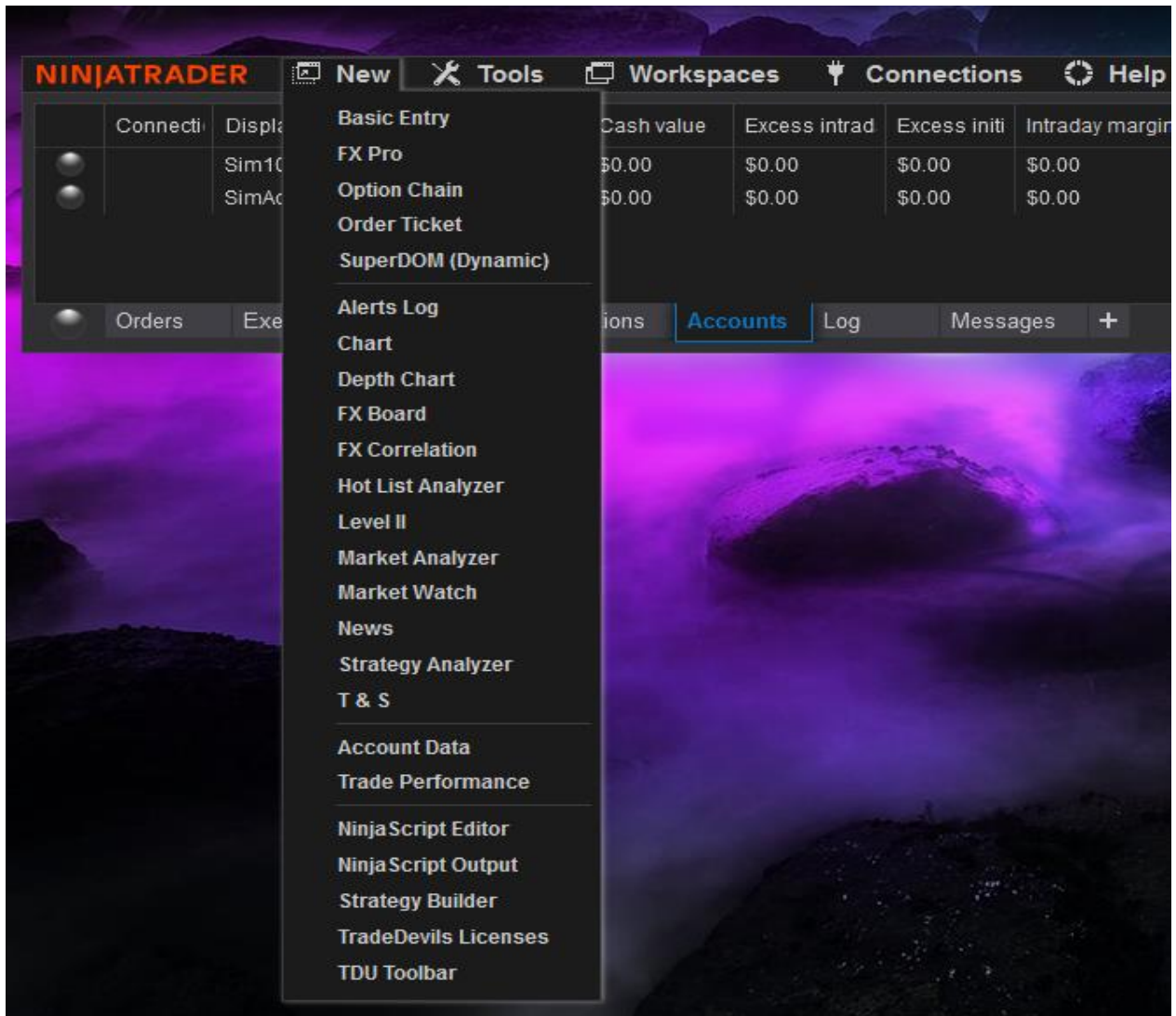
On the NinjaTrader 8 main screen, go to New, then Ninja Script Output, select and click,
this will open up the Ninja Script Output window.

Above is the Ninja Script Output window after the BET EMA CrossOver has loaded.

Information that maybe displayed; all with time date stamp

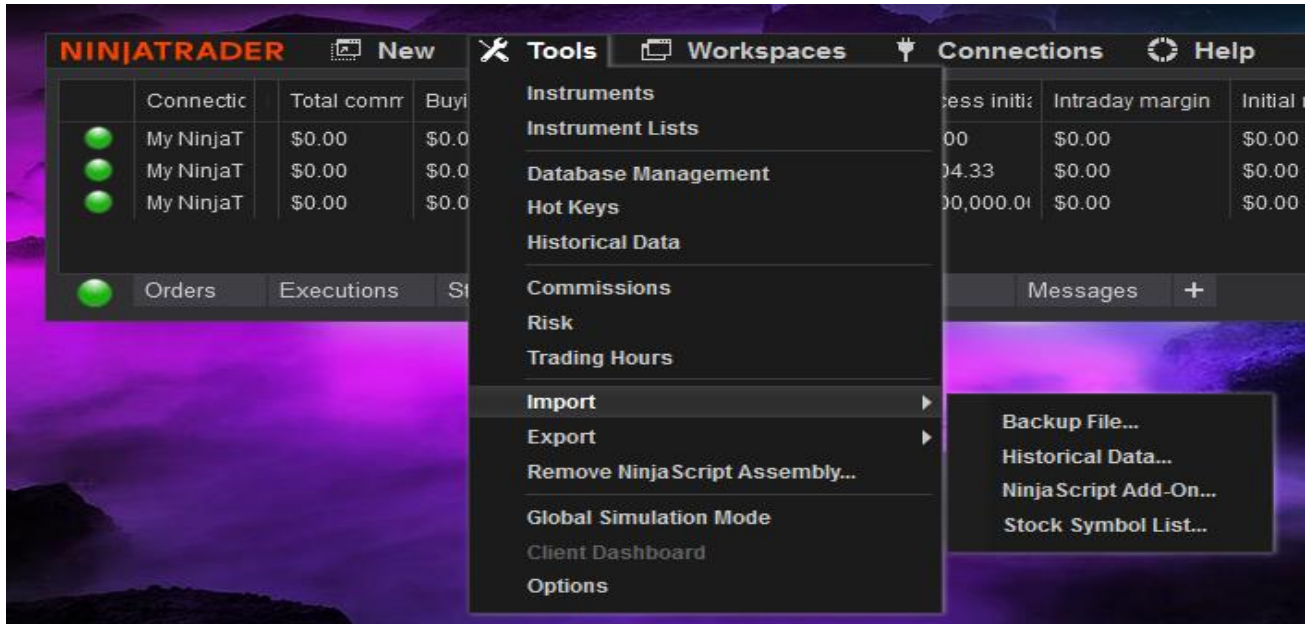BET EMA Cross Entry Long, when long button is armed

BET EMA Cross Entry Short, when short button is armed
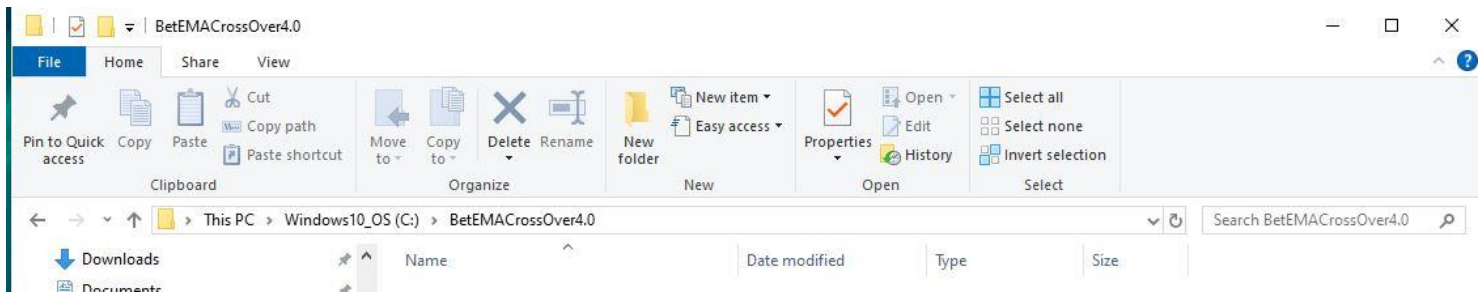
BET EMA Cross Entry Long and Short Reset

BET EMA Cross type errors

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

Installation of Bet EMA CrossOver 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 EMA CrossOver 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.

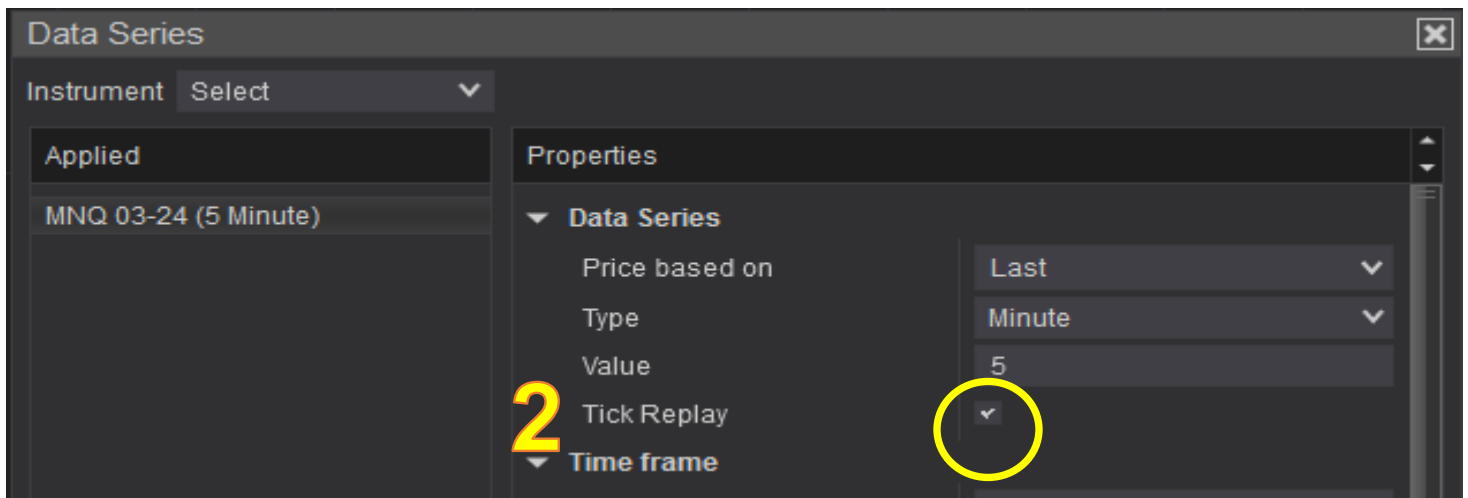**For more information on installing add-on; go to link below**

https://ninjatrader.com/support/helpGuides/nt8/NT%20HelpGuide%20English.html ?using_3rd_party_add-ons.htm

Setting up Tick Replay

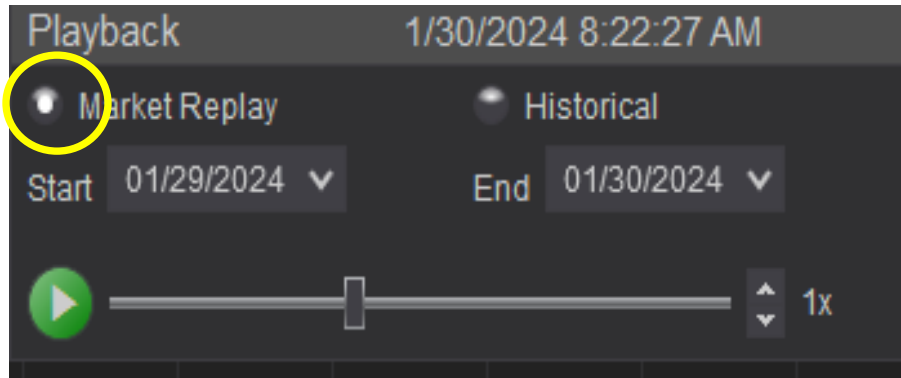**1.** Main Menu Tools, Go to Options, Go to Market Data, Click on Show Tick Replay
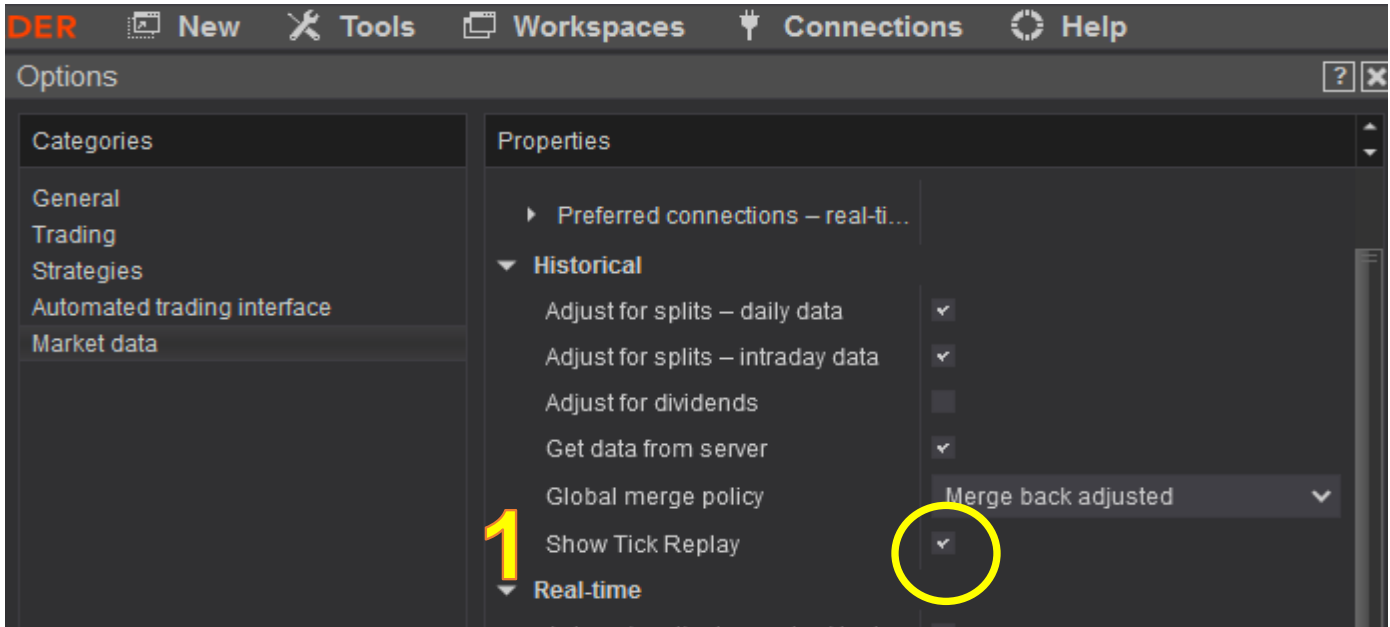
2. Go to New, Chart, Data Series, select Instrument, then Check Tick Replay

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 <u>you must use Market Replay</u> 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

1. Use the pull-down menu to find the strategy you want to test "Bet.EMA.CrossOver.4.0"
2. Check the Back Test Only Box, and set your Profit Target and Stop Loss Target.
   For help using the Strategy Analyzer use the below link;

   https://ninjatrader.com/support/helpGuides/nt8/NT%20HelpGuide%20English.html?backtest_a_strategy.htm

3. 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.
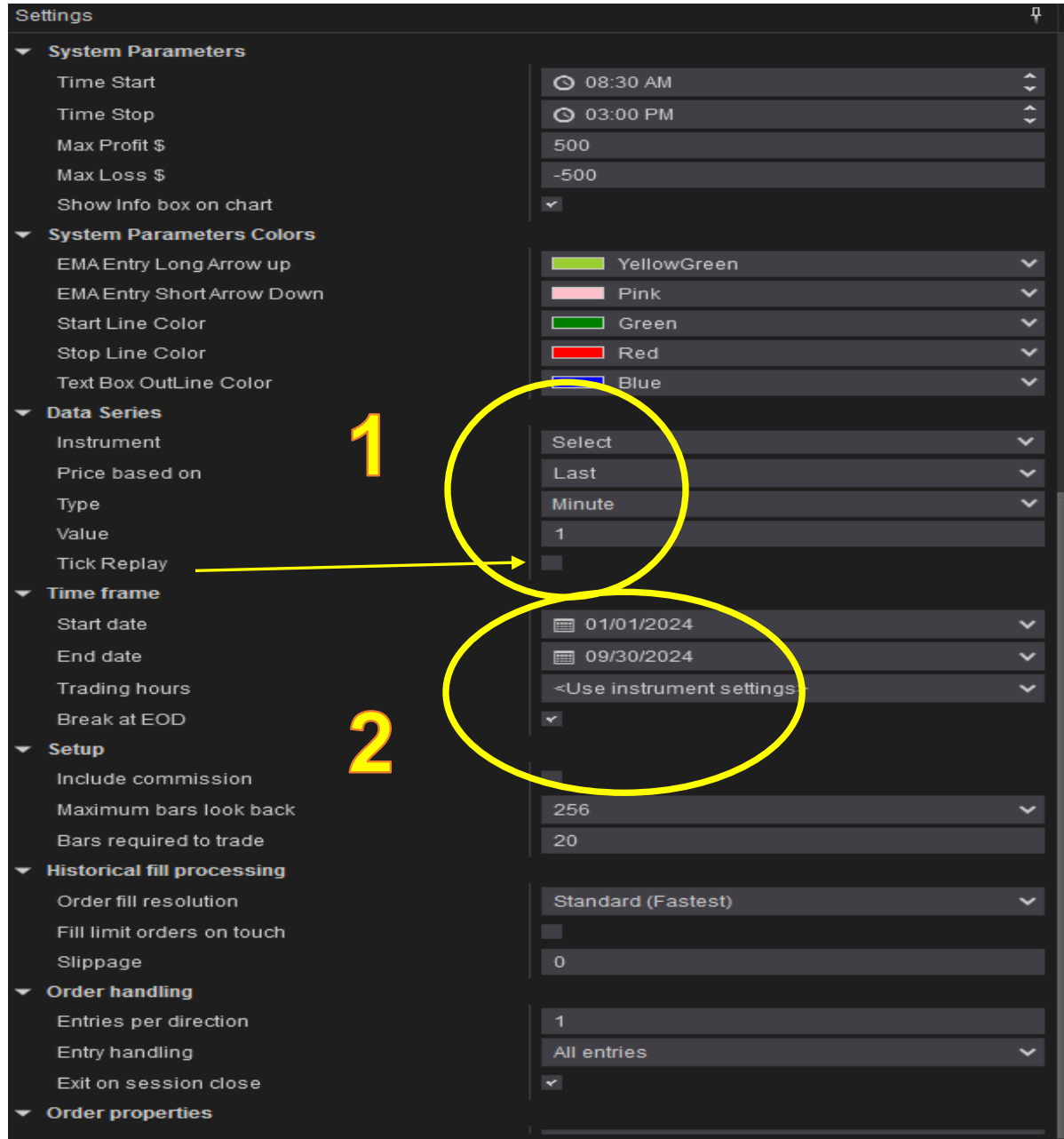
1. Select the instrument you want to test and **type;** you must use **Tick Replay** or it will not work correctly.
2. Start and end dates, the larger the span the longer it will take to process.
   TIP; if you open Ninja Script Output window you will be able to see trade resets happening with long, 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 may help the EMA CrossOver strategy find better entries. *We test this weekly!*

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Bet EMA CrossOver 4.0 2023 2024 Basic Properties Configuration for testing								9/27/2024
Instrument		**MNQ**	**NQ**	**MES**	**ES**	**RTY**	**YM**	
Data Series	Last							
Type	Chart	Tick	Tick	Tick	Tick	Tick	Tick	
Value		2000 ticks	2000 ticks	2000 ticks	2000 ticks	500 ticks	500 ticks	
Profit Target		80 ticks	75 ticks	16 ticks	16 ticks	18 ticks	16 ticks	
Stoploss		60 ticks	55 ticks	12 ticks	12 ticks	12 ticks	12 ticks	
Arm Long	User	Yes	Yes	Yes	Yes	Yes	Yes	
Arm Short	User	Yes	Yes	Yes	Yes	Yes	Yes	
SMA Fast Period		8	8	8	8	8	8	
SMA Slow Period		16	16	16	16	16	16	
EMA Period Filter		35	30	25	25	25	25	
Max Bars Entry Reset		1	1	1	1	1	1	
Chart Angle Long Filter		40	40	20	20	30	40	
Chart Angle Short Filter		-40	-40	-20	-20	-30	-40	
Momentum Long Filter		10	15	1	1	2	12	
MomentumShort Filter		-10	-15	-1	-1	-2	-12	
Time Start	User							
Time Stop	User							
Max Profit	User							
Max Loss	User							
Average Total Entries per Day		11	10	20	22	6	15	
Colors	User							
Calculate On each Tick		On Each Tick						