

Tyrannosaurus

Trend Following Trading System



Risk Disclaimer

If you cannot abide by these disclaimers and are unwilling to accept full responsibility for your actions, please do not trade.

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Additional disclaimer:

FUTURES AND OR STOCK TRADING CAN INVOLVE HIGH RISKS WITH THE POTENTIAL FOR SUBSTANTIAL LOSSES. HOWEVER, YOU CAN ALSO GAIN LARGE Winnings AS WELL.

HYPOTHETICAL OR SIMULATED PERFORMANCE RESULTS HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE AN ACTUAL PERFORMANCE RECORD, SIMULATED RESULTS DO NOT REPRESENT ACTUAL TRADING. ALSO, SINCE THE TRADES HAVE NOT ACTUALLY BEEN EXECUTED, THE RESULTS MAY HAVE UNDER OR OVER-COMPENSATED FOR THE IMPACT, IF ANY, OF CERTAIN MARKET FACTORS, SUCH AS LACK OF LIQUIDITY.

SIMULATED TRADING PROGRAMS IN GENERAL ARE ALSO SUBJECT TO THE FACT THAT THEY ARE DESIGNED WITH THE BENEFIT OF HINDSIGHT. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE THE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN.

TradeStation Installation

Importing the TradeStation code is simple.

- Click on file and select Import/Export Easy Language.
- Click on Import Easy Language File (ELD, ELS or ELA).
- Browse to the location of the file.
- Click import.

Once the code is imported you need to change one setting.

- Open a chart and select insert strategy.
- Select Trend System One and Ok.
- Then click properties for all and select the General Tab.
- On bottom left change Maximum number of bars the study will reference to 76.

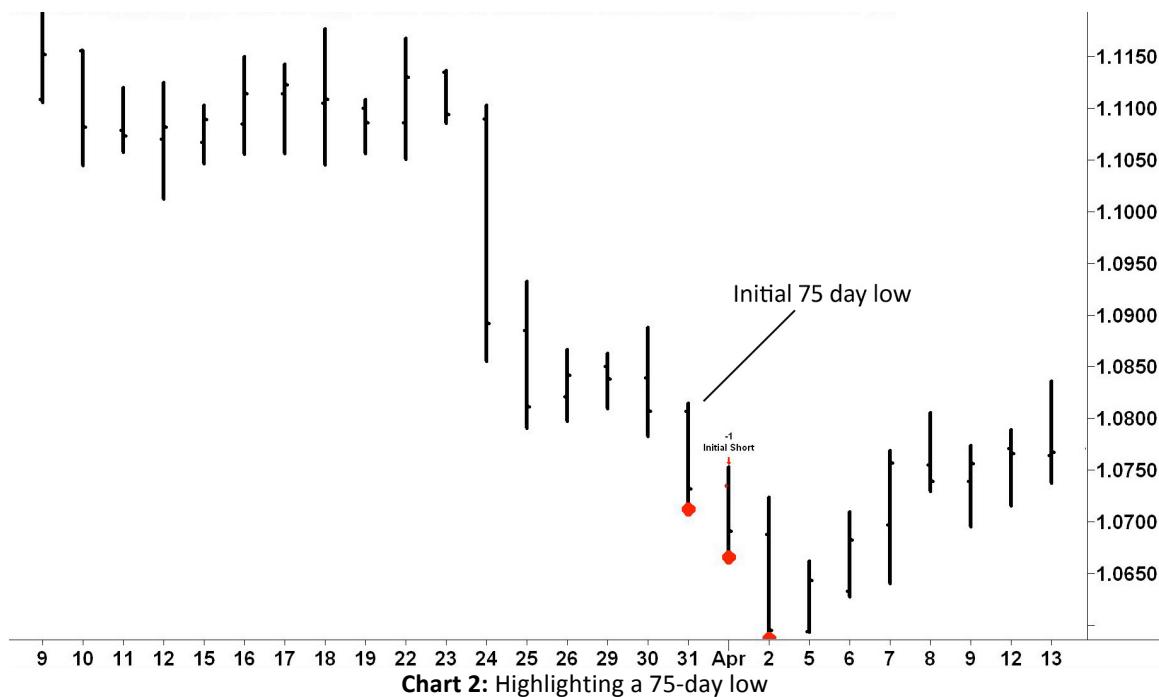
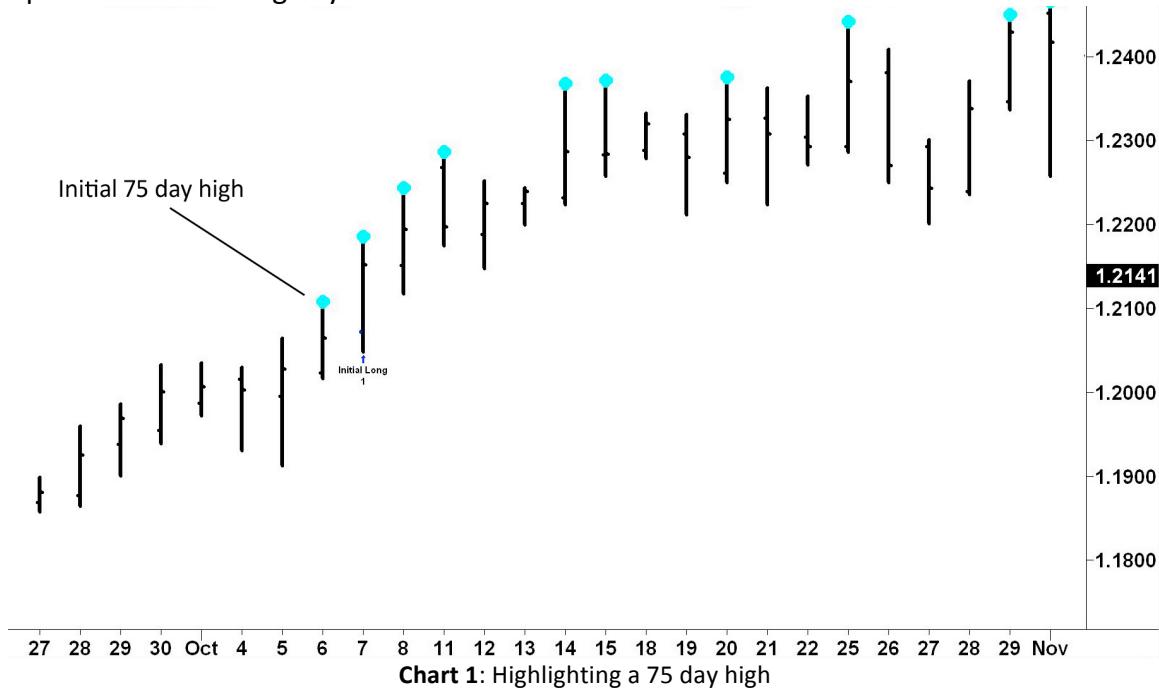
Symbols to Use for Charting

For backtesting purposes use symbol that provides the most data. The following symbols were used:

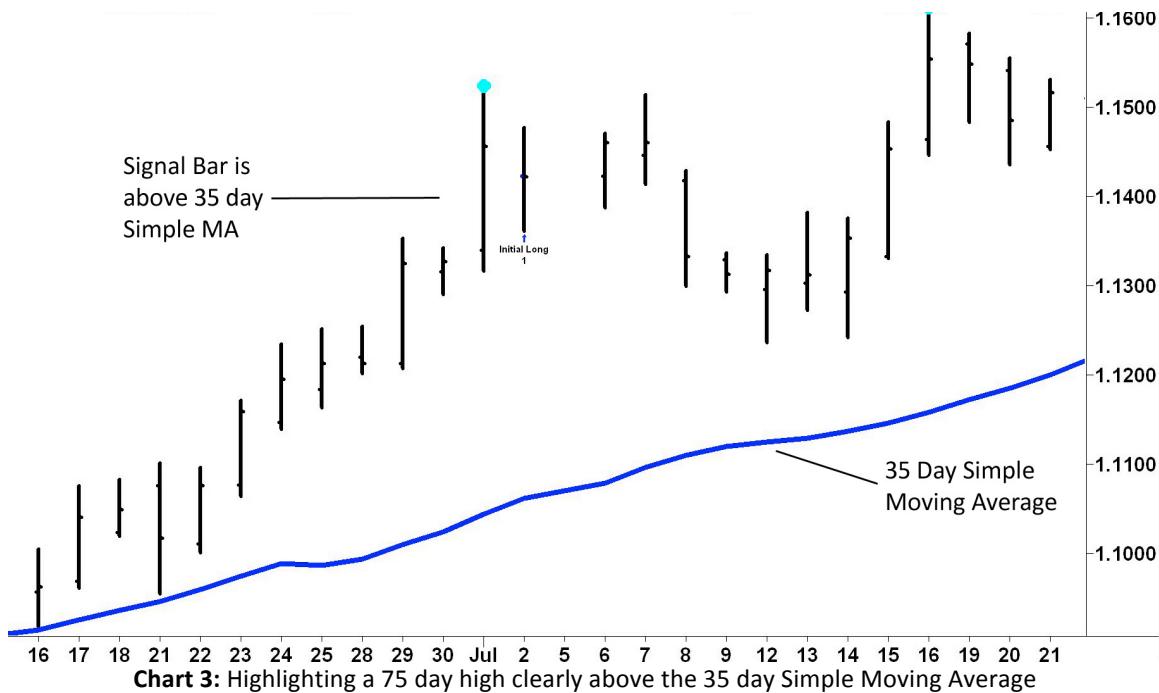
Market	Symbol
Japanese Yen	@JY.C
Swiss Franc	@SF.C
British Pound	@BP.C
Dollar Index	@DX
Corn	@C.C
Wheat	@W.C
Soybeans	@S.C
Sugar	@SB
Coffee	@KC
Euro Currency	@EC.C
Natural Gas	@NG.C
Crude Oil	@CL.C
Heating Oil	@HO.C
Ten Year Notes	@TY.C
US Bonds	@US.C
Five Year Notes	@FV.C
Eurodollars	@ED.C
Gold	@GC.C
Feeder Cattle	@FC.P

Initial Trade Signals

The base system signals are 75-day highs and lows. Positions are established market on open of the following day.



Once a 75-day high or low is spotted check to make sure the low (in case of a long position) and high (in case of a short position) do not breech a 35-day simple moving average. This is done to prevent re-entries on volatile days.



Review chart below and to see the importance of this filter. The market makes a new high and then sells off. Without the filter an automated system will exit the position and then re-enter the trade on the next day.

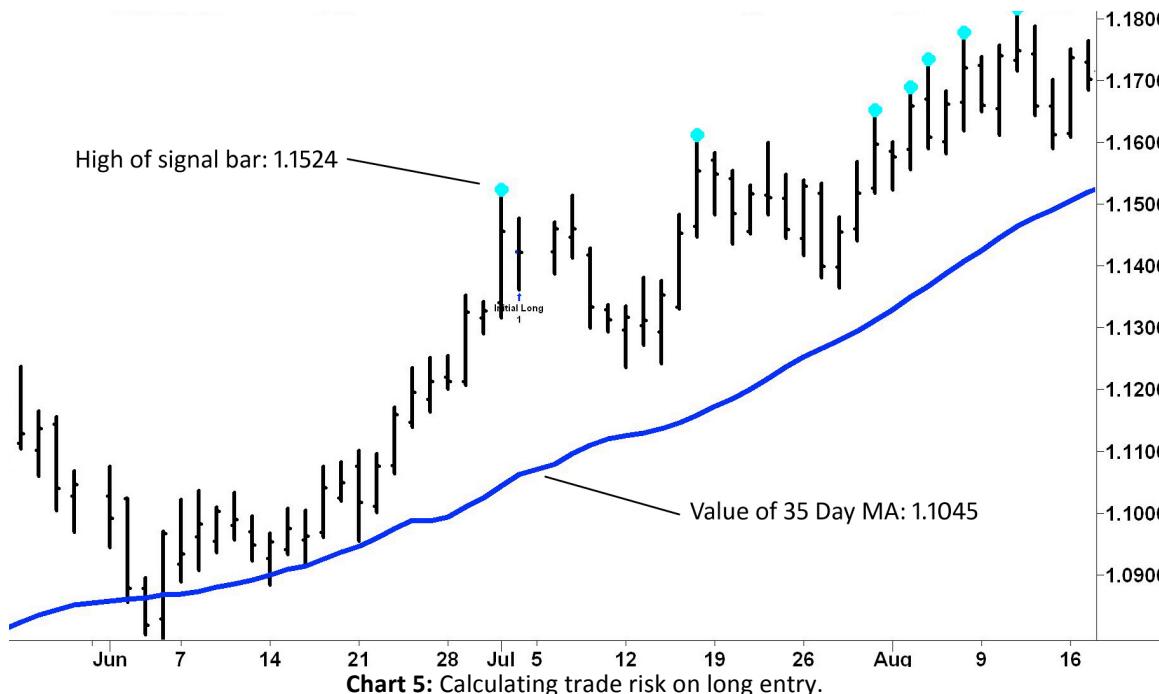


Trade Risk

Once a signal bar is spotted you need to set trade risk. Trade risk is critical and is used for position sizing and exit criteria.

Long Trade Example

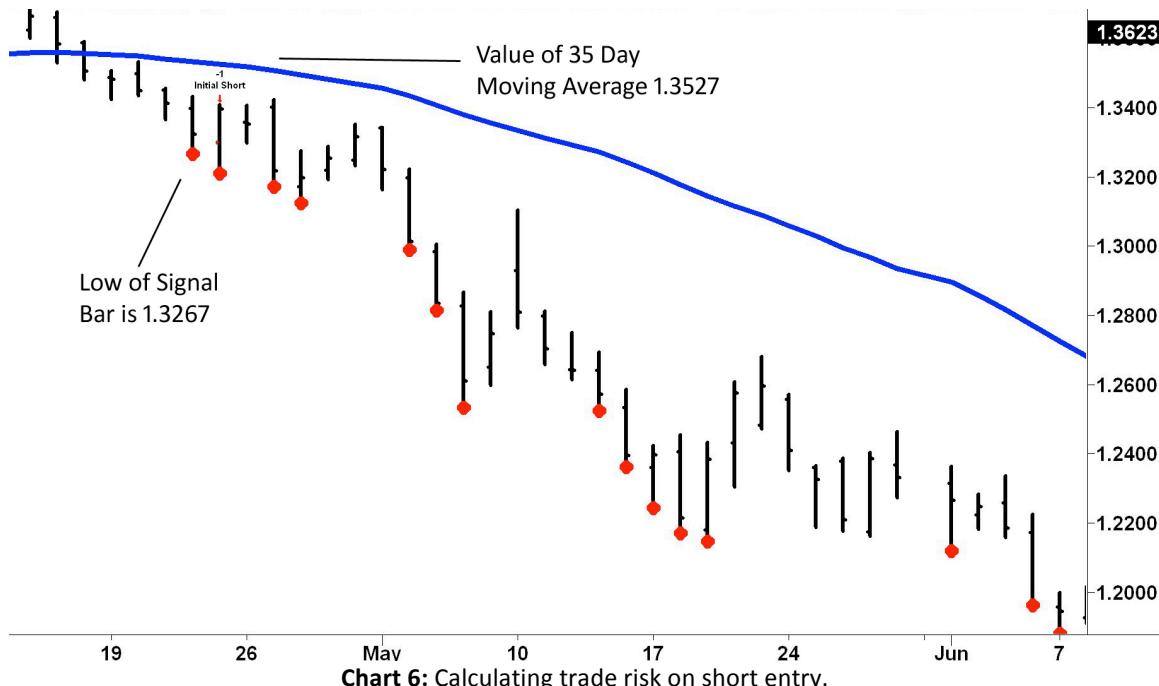
For long trades trade risk is the difference between the high of the signal bar and the 35-day moving average.



Trade risk:	High of signal bar – 35-day simple moving average
Trade risk:	1.1524 – 1.1045
Trade risk:	479 points, in dollars (479 * \$12.50) = \$5,987.50
Example is Japanese Yen. Point value of Yen is \$12.50	

Short Trade Example

For short trades trade risk is the difference between the low of the signal bar and the 35-day moving average.



Trade risk:	35-day simple moving average – Low of signal bar
Trade risk:	1.3527 – 1.3267
Trade risk:	260 points, in dollars ($260 * \$12.50 = \$3,250.00$)
Example is Japanese Yen. Point value of Yen is \$12.50	

Money Management

The system will set appropriate number of contracts based on trade risk as identified above. There are (3) three software inputs to help control risk. These are explained below.

'Mmagement'

The first variable in the code is MMagement. This allows you to turn on/off money management components of TradeStation code. Appropriate choices for this field are true or false. When set to false the code will execute one contract to each trade signal. It will not size trades according to risk. Furthermore, the risk on each trade can be more than you are willing to trade. The variables discussed below allow the user to control their risk.

Using money management also ensures that you treat all markets the same. Larger contracts such as currencies will generate more profit when trading one contract versus a contract of Corn, for example. When you equalize risk you treat all markets the same, using the same risk tolerances for each.

'Max_Risk'

Inside TradeStation code you will see a user defined input called 'max_risk', which defaults to \$4,000. The system code will ignore entries where trade risk is greater than \$4,000. You can set the trade risk to a level that works for your account equity. However, be advised that the TradeStation code will ignore any signal where trade risk is greater than the value set in this field.

'Mini_Conversion'

After setting the 'max_risk' variable you want to pay attention to the Mini Conversion field. This field can be changed to accommodate the use of Mini and/or Micro markets. See below for examples on how to use Mini and Micro Contracts.

Mini and Micro Contracts

Many markets have mini or micro contracts available. Data on these issues is sporadic even though volume is decent enough to trade. In these cases we recommend using trade data (for the TradeStation code) of the large contract, but you execute the trade on the mini. For example, a trader trading Corn futures would use the data from the large contract of Corn for the TradeStation code, but execute for the Mini contract.

Micros and Minis will work inside the system through a variable called mini_conversion. Using Corn as an example, it takes 5 Corn futures to equal one large Corn. Setting the mini_conversion to 5 will size the trade for the Mini (On the Chart and in the Trade Station TradeManager tab). This will keep you from missing entries that might be too expensive with the large contract, but are appropriately risked for smaller contracts.

Popular Mini & Micro Markets

Market	Mini or Micro	Conversion
Corn	Mini	5
Soybeans	Mini	5
Wheat	Mini	5
Euro Currency	Micro	10
Euro Currency	Mini	2
Japanese Yen	Micro	10
Japanese Yen	Mini	2
Swiss Franc	Micro	10
British Pound	Micro	10
Australian Dollar	Micro	10
Canadian Dollar	Micro	10
S&P 500	Mini	5
NASDAQ 100	Mini	5
Crude Oil	Mini	2
Heating Oil	Mini	2
RBOB Gas	Mini	2
Natural Gas	Mini	4
Gold	Mini	3
Silver	Mini	5

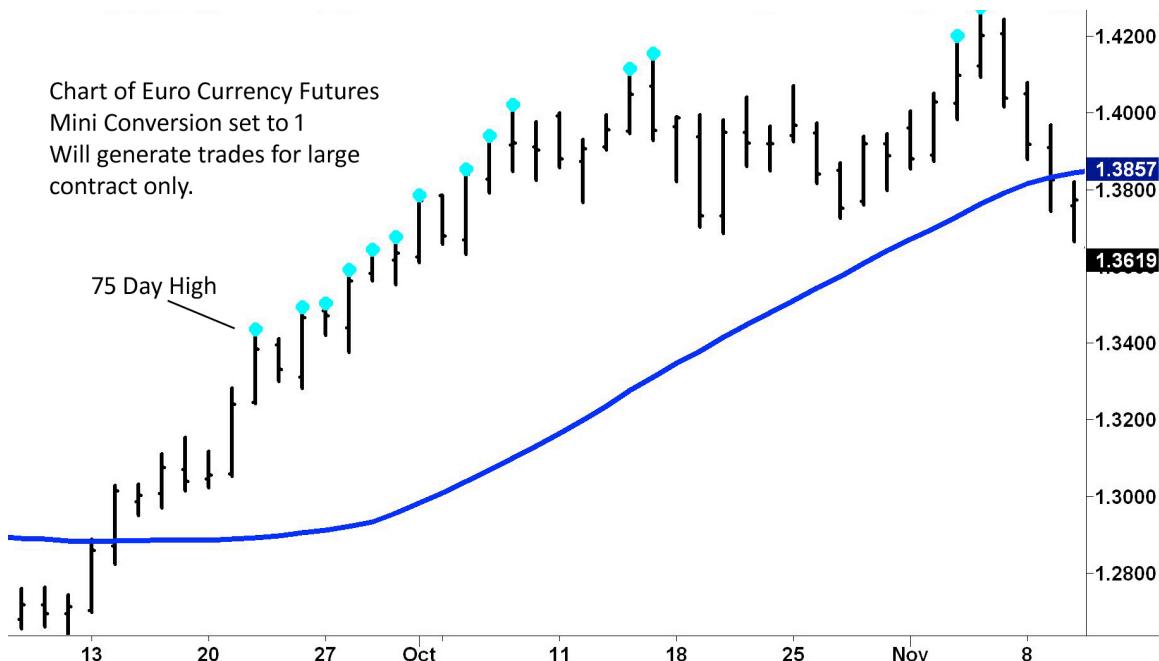


Chart 7: Showing mini conversion set to 1 so the TradeStation code only generates trades for large contracts. The trade signal is too expensive and trade is ignored.

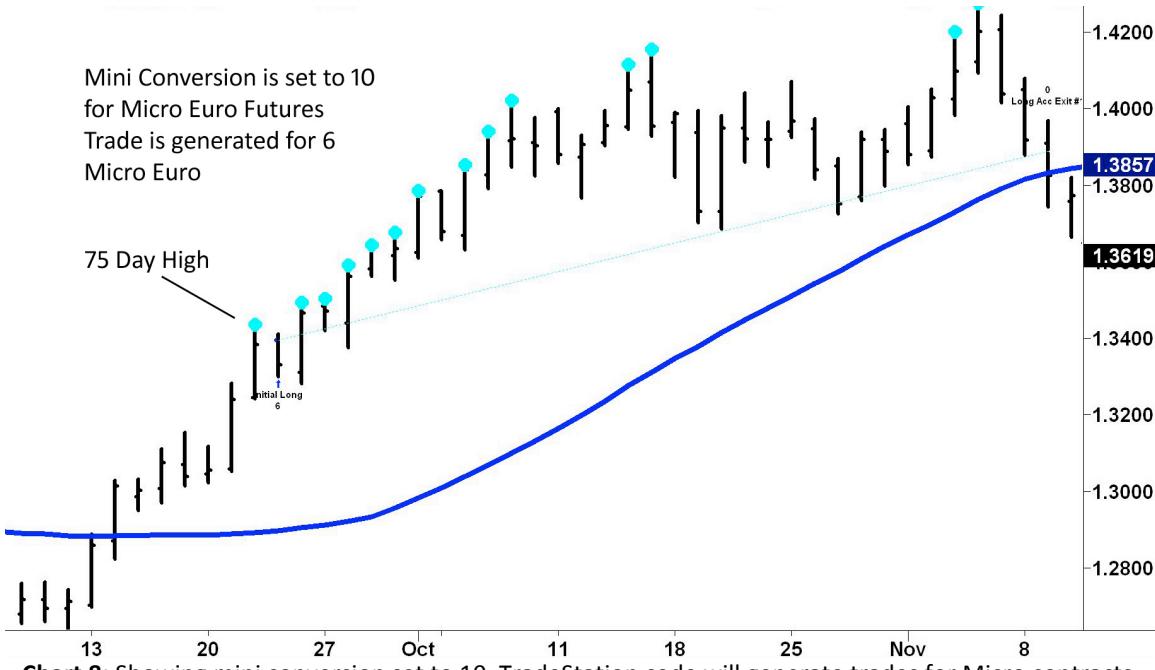


Chart 8: Showing mini conversion set to 10. TradeStation code will generate trades for Micro contracts.

Risk to Account Equity

TradeStation will not dynamically position size for you based upon your entire trading equity. It looks at markets individually, not in terms of your entire portfolio. It is recommended that you risk a fixed percent of your total trading equity on each position. You can enter that number in the Max_risk field. You can change your entry in Max_risk as trading equity increases or decreases. For instance today you have a \$100,000 account risking 3% would enter \$3,000 in the max risk field. If tomorrow you have \$99,000 you would enter 3% of that amount or \$2,970.

Trade Exits

The system exits on a simple moving average. The length of the moving average depends on the profit generated on the trade. Initially the exit moving average is set to 35 days, and is dropped down to 30 and then 25.

Recall the trade_risk calculation from earlier; we use this to determine when to shorten the moving average.

In the TradeStation code you will see this referred to as profit_multiple. The profile_multiple is calculated the following way:

- 1.) For long trades, take the distance from today's high to the trade entry.
- 2.) For short trade, take the distance from today's low to the trade entry.
- 3.) Divide this value by the trade_risk calculated when the trade began.

The exit moving average is moved down per the following schedule:

Profit Multiple	Moving Average Length	Text Shown on TradeStation Screen
Less than 1	35	Long/Short Primary Exit
Greater than 1 but less than 2	30	Long/Short Acc Exit #1
Greater than 2	25	Long/Short Acc Exit #2

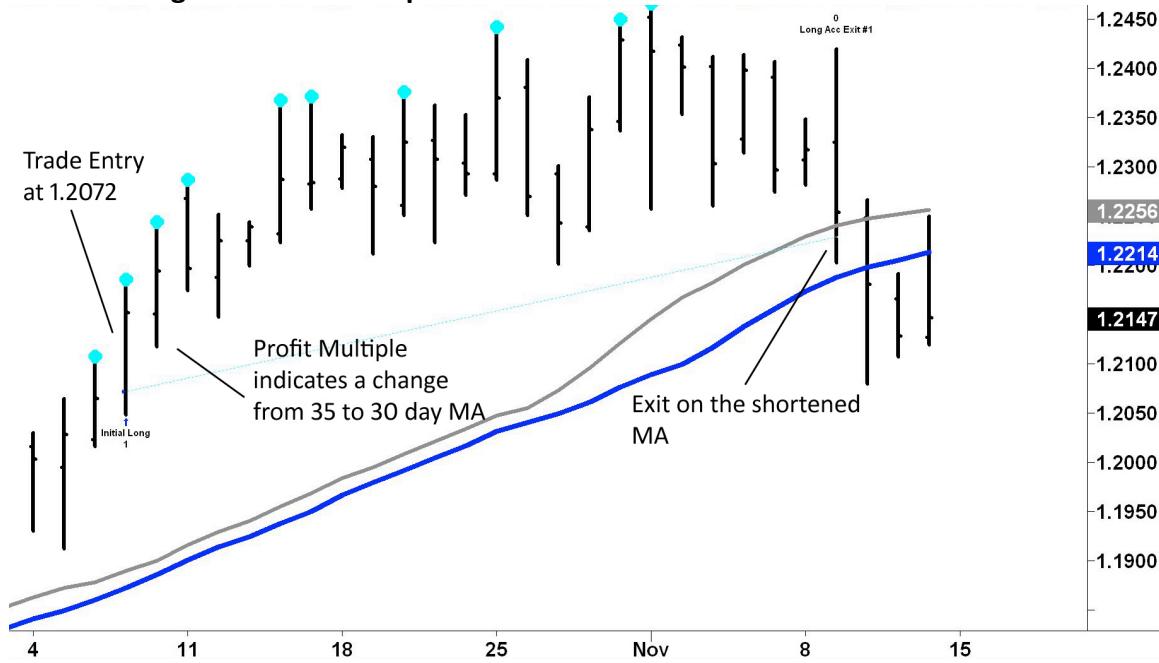
Once the moving average is adjusted down, it cannot move back up. For instance, if the moving average length drops from 35 to 30, it will not go back to 35 for the duration of this trade. **This accelerated profit exit is executed to protect profits.**

Long Trade Exit Example

Date	Open	High	Low	Close	35-Day Moving Average	Trade Entry	Trade Risk	High-Entry	Profit Multiple	Exit Ma
10/7/2010	1.2072	1.2186	1.2049	1.2152	1.1873	1.2072	0.0199			
10/8/2010	1.2151	1.2244	1.2118	1.2194				0.0172	0.86	35
10/11/2010	1.2268	1.2287	1.2175	1.2197				0.0215	1.08	30
10/12/2010	1.2188	1.2252	1.2148	1.2225				0.0180	0.90	30
10/13/2010	1.2225	1.2244	1.22	1.2239				0.0172	0.86	30
10/14/2010	1.2232	1.2368	1.2224	1.2287				0.0296	1.49	30
10/15/2010	1.2283	1.2372	1.2258	1.2284				0.0300	1.51	30
10/18/2010	1.2288	1.2333	1.2279	1.232				0.0261	1.31	30
10/19/2010	1.2308	1.2331	1.2212	1.228				0.0259	1.30	30
10/20/2010	1.2261	1.2376	1.2251	1.2325				0.0304	1.53	30
10/21/2010	1.2327	1.2363	1.2224	1.2308				0.0291	1.46	30
10/22/2010	1.2304	1.2353	1.2272	1.2293				0.0281	1.41	30
10/25/2010	1.2293	1.2442	1.2287	1.237				0.0370	1.86	30

10/26/2010	1.2381	1.2409	1.2251	1.2227				0.0337	1.69	30
10/27/2010	1.2293	1.2301	1.2202	1.2243				0.0229	1.15	30
10/28/2010	1.2239	1.2371	1.2236	1.2338				0.0299	1.50	30
10/29/2010	1.2346	1.245	1.2337	1.2429				0.0378	1.90	30
11/1/2010	1.2452	1.2466	1.2258	1.2417				0.0394	1.98	30
11/2/2010	1.2424	1.2432	1.2354	1.2401				0.0360	1.81	30
11/3/2010	1.2402	1.2412	1.2261	1.2303				0.0340	1.71	30
11/4/2010	1.2328	1.2414	1.2315	1.2398				0.0342	1.72	30
11/5/2010	1.2391	1.2407	1.2275	1.2297				0.0335	1.68	30
11/8/2010	1.2307	1.2349	1.2282	1.2317				0.0277	1.39	30
11/9/2010	1.2325	1.242	1.2203	1.2254	TRADE EXIT AT 1.2229			0.0348	1.75	30

Chart of Long Trade Exit Example



Short Trade Exit Example

Date	Open	High	Low	Close	35-Day Moving Average	Trade Entry	Trade Risk	Low Entry	Profit Multiple	Exit Ma
9/23/2010	80.045	80.395	79.915	80.247	82.328	80.045	2.283			
9/24/2010	80.44	80.47	79.465	79.599				0.5800	0.25	35
9/27/2010	79.53	79.755	79.395	79.554				0.6500	0.28	30
9/28/2010	79.77	80.01	79.055	79.212				0.9900	0.43	30
9/29/2010	79.165	79.21	78.825	78.905				1.2200	0.53	30
9/30/2010	78.98	79.25	78.62	78.938				1.4250	0.62	30
10/1/2010	78.99	79.015	78.22	78.313				1.8250	0.80	30
10/4/2010	78.24	78.72	78.24	78.658				1.8050	0.79	30
10/5/2010	78.825	78.9	77.88	77.967				2.1650	0.95	30
10/6/2010	77.945	78.15	77.52	77.62				2.5250	1.11	30
10/7/2010	77.705	77.94	77.15	77.642				2.8950	1.27	30
10/8/2010	77.65	77.99	77.36	77.563				2.6850	1.18	30
10/11/2010	77.15	77.785	77.05	77.664				2.9950	1.31	30
10/12/2010	77.815	78.17	77.435	77.588				2.6100	1.14	30
10/13/2010	77.51	77.54	77.17	77.287				2.8750	1.26	30
10/14/2010	77.185	77.185	76.475	76.881				3.5700	1.56	30
10/15/2010	76.975	77.355	76.335	77.268				3.7100	1.63	30
10/18/2010	77.255	77.865	77.125	77.137				2.9200	1.28	30
10/19/2010	77.31	78.57	77.13	78.421				2.9150	1.28	30
10/20/2010	78.59	78.61	77.28	77.414				2.7650	1.21	30
10/21/2010	77.32	77.87	77.07	77.634				2.9750	1.30	30
10/22/2010	77.74	77.965	75.85	77.685				4.1950	1.84	30
10/25/2010	77.55	77.65	76.875	77.303				3.1700	1.39	30
10/26/2010	77.51	78.04	77.24	77.91				2.8050	1.23	30
10/27/2010	77.905	78.51	77.76	78.377				2.2850	1.00	30
10/28/2010	78.205	78.265	77.36	77.503				2.6850	1.18	30
10/29/2010	77.42	77.96	76.9	77.457				3.1450	1.38	30
11/1/2010	77.105	77.625	76.965	77.481				3.0800	1.35	30
11/2/2010	77.385	77.495	76.81	76.892				3.2350	1.42	30
11/3/2010	76.89	77.375	75.235	76.623				4.8100	2.11	25
11/4/2010	76.53	76.63	75.76	76				4.2850	1.88	25
11/5/2010	75.935	76.785	75.935	76.691				4.1100	1.80	25
11/8/2010	76.69	77.3	76.515	77.164				3.5300	1.55	25
11/9/2010	77.38	78.02	76.83	77.584				3.2150	1.41	25
11/10/2010	77.855	78.34	77.65	77.77				2.3950	1.05	25
11/11/2010	77.795	78.435	77.585	78.356				2.4600	1.08	25
11/12/2010	78.265	78.64	77.94	78.04	TRADE EXIT AT 78.180			2.1050	0.92	25

Chart of Short Trade Exit Example

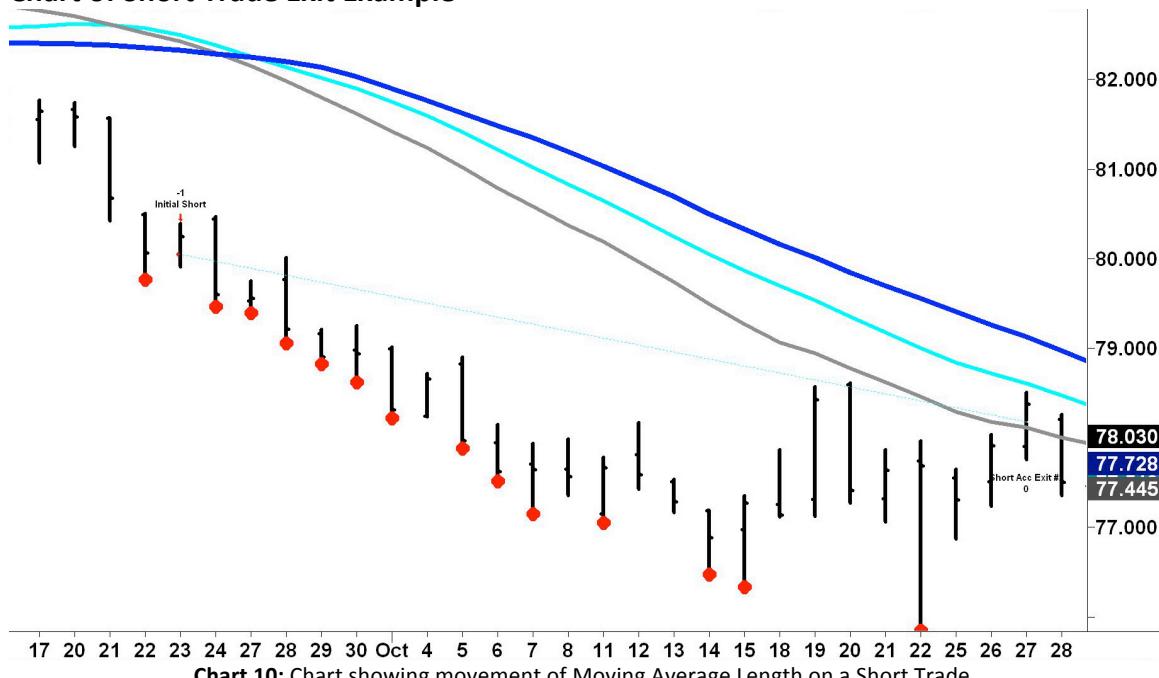


Chart 10: Chart showing movement of Moving Average Length on a Short Trade.

What to Expect

Your success or failure with any trading system involves the ability to withstand volatile and unexpected pressures from the markets. It is wise to know what to expect from the Trex system and how it behaves in periods of volatility. That way you can mentally prepare yourself for future trading.

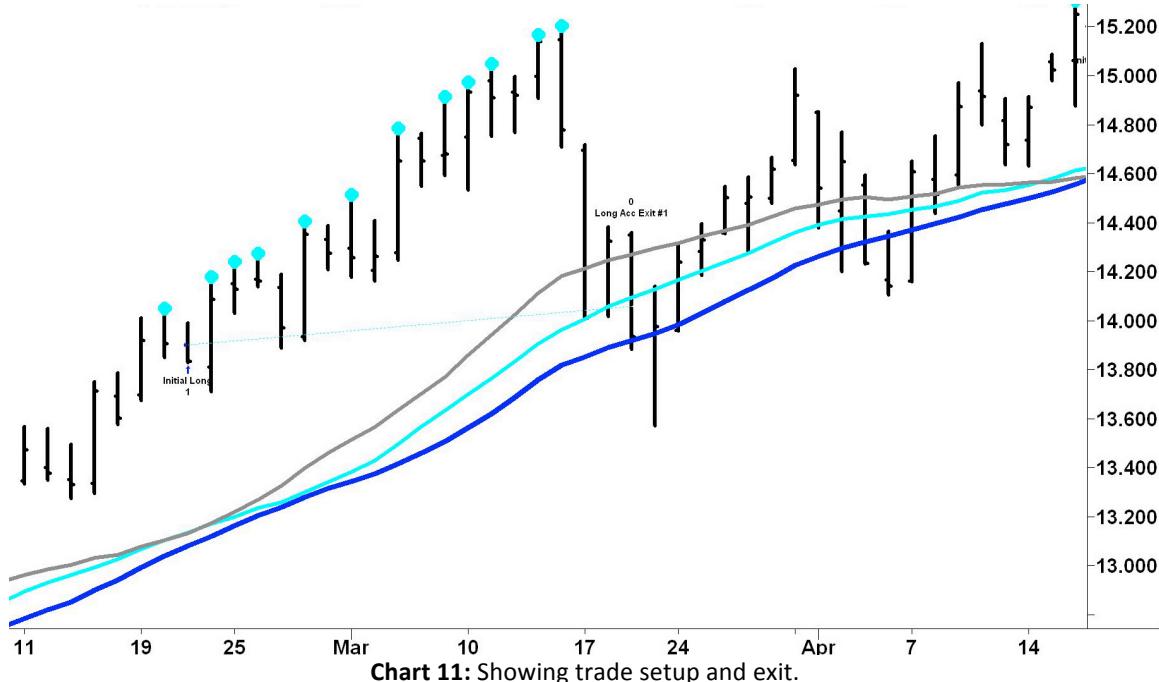


Chart 11: Showing trade setup and exit.

The chart above shows a 75-day entry. Immediately after entry the market takes off in your direction giving you substantial profits. The stop is adjusted to the profit stop, and the market falls back. Profits are gone and you're left with a breakeven or slightly positive trade. This can be frustrating, but at least you know it can happen.

The system will re-buy at a new 75-day high. So if the market makes a subsequent new high, the system will re-buy. At the re-entry all stops are reset back to initial levels and the trade needs to create profits before stops are adjusted. You should be seeing the logic.

The chart below shows the entire trade. You can see the initial entry and stop. The secondary entry happens about two weeks later and the trade is held until stopped out on the 25-day moving average.

Although exiting the first position was frustrating, failure to pull the trigger on the second would have left substantial profits on the table.

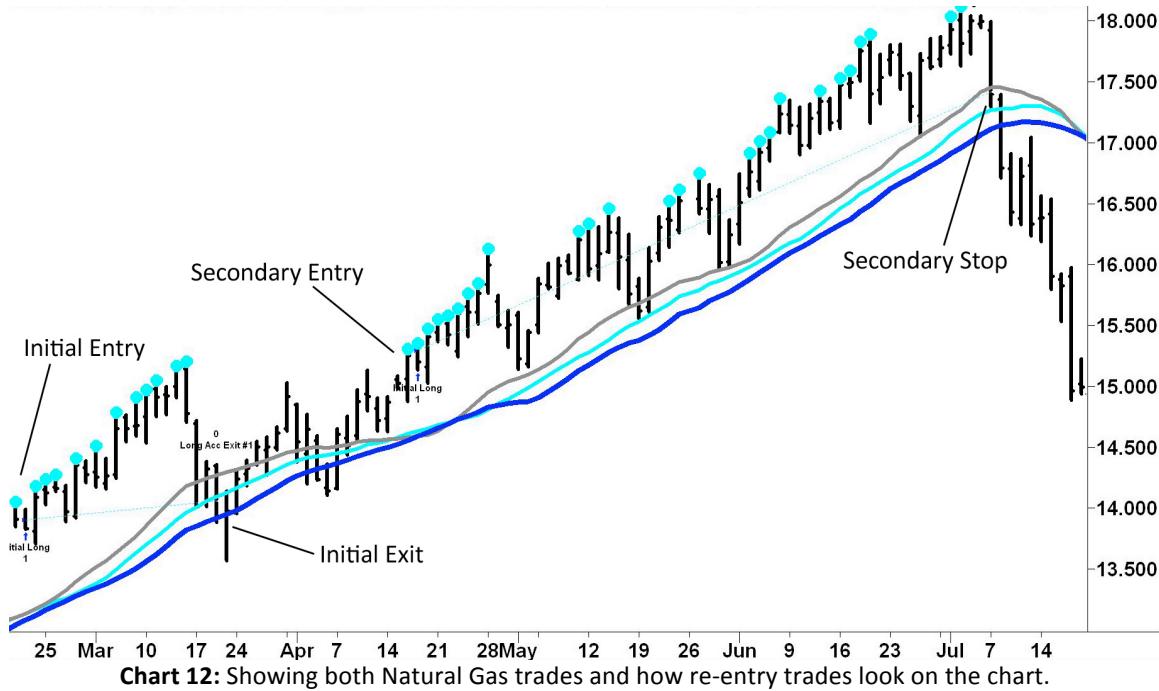


Chart 12: Showing both Natural Gas trades and how re-entry trades look on the chart.

It is also possible to have a string of losing trades that happen before a profitable trade takes off. It is critical that you select a diversified basket of markets to track and trade. Winners will offset losers—that is the long run logic for the system to be successful. Becoming married to one market or sector will create an unstable return profile. Be aware, and be nimble. **Good luck and good trading!**

If you have any questions drop us an email: info@trendfollowing.com.