JAM Higher Timeframe Pack
(Free Edition)

User Documentation v3.11

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Contents

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1.0 Welcome

Thank you for downloading the JAM Higher Timeframe (HT) Pack (Free Edition).

This Pack contains a Simple Moving Average (SMA) indicator that displays the SMA of a higher bar interval chart/RadarScreen on a lower bar interval chart/RadarScreen. In TradeStation you can already do this by using multiple datastreams, third-party DLLs or by using estimated calculations. But these solutions all have drawbacks – some can't be used in RadarScreen, some can't be backtested, some are very complex, some can mess up the formatting of your charts and some calculations are just wild guesses. The JAM HT Pack resolves all these problems by doing all the complex calculations within a single, simple (but very clever) indicator.

If you like this free indicator then you can purchase further Higher Timeframe indicators. Go to the JAM Strategy Trading website and see the latest list of Higher Timeframe indicators that are available.

http://www.JamStrategyTrading.com/HTPack.htm

When you purchase any version of the JAM HT Packs you will receive an updated copy of this Higher Timeframe SMA indicator that runs more than twice as fast as this free version.

Those who like to write their own strategies can also purchase the Higher Timeframe functions so that they can do their own Higher Timeframe calculations. Higher Timeframe functions are especially useful because they allow multiple tick intervals to be used, they do away with complex and slow DLLs, and they enable the use of IntrabarOrderGeneration (IOG).

Good trading.

JAM Strategy Trading
December 2008

p.s. Version 3 works in a different way from Version 2, which worked in a different way from Version 1. If you have downloaded previous versions then make sure you read this documentation and understand the different inputs.

2.0 Installation

Please go to the JAM Strategy Trading Free Stuff webpage

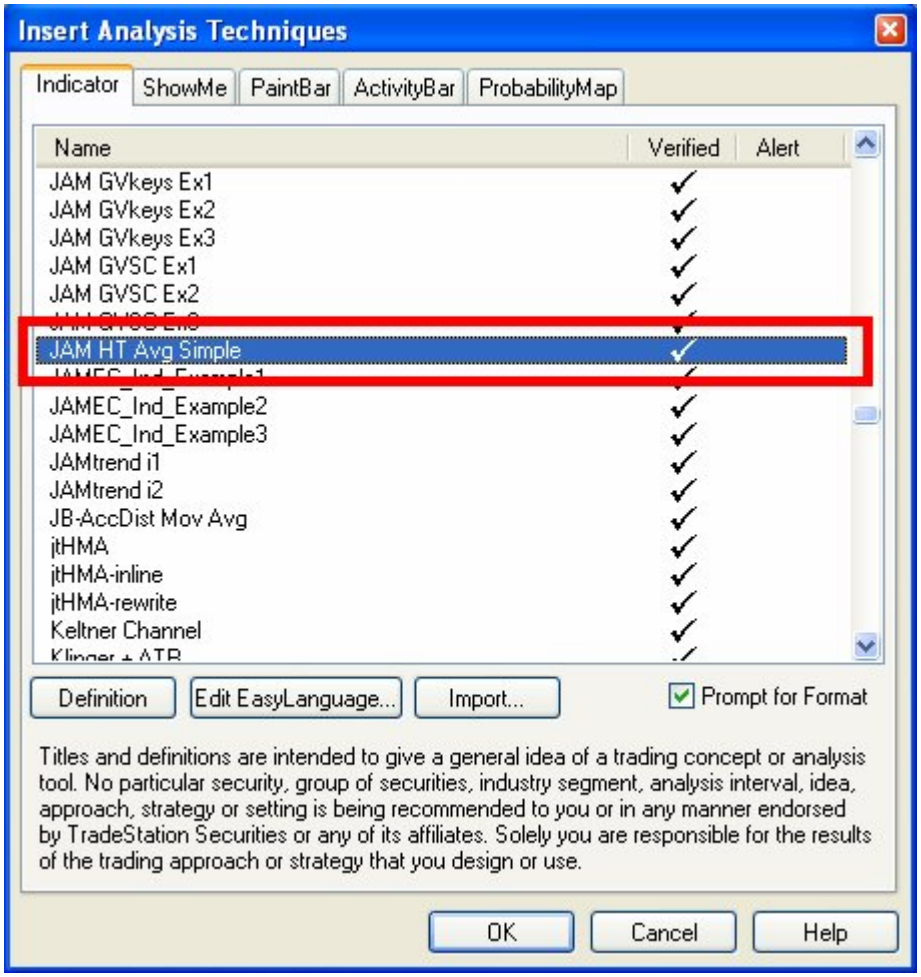
http://www.JamStrategyTrading.com/FreeStuff.htm

and click on the 'Download JAM HT Pack (Free Edition)' link.

Installation is very simple:

1. Open the JAMHTPACKFREE.ELD file you have just downloaded. This will install the indicator and function into TradeStation.

The indicator is called 'JAM HT Avg Simple'.

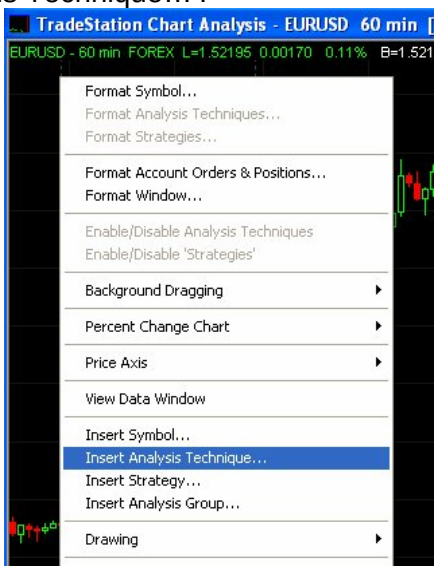


3.0 Using the Indicator

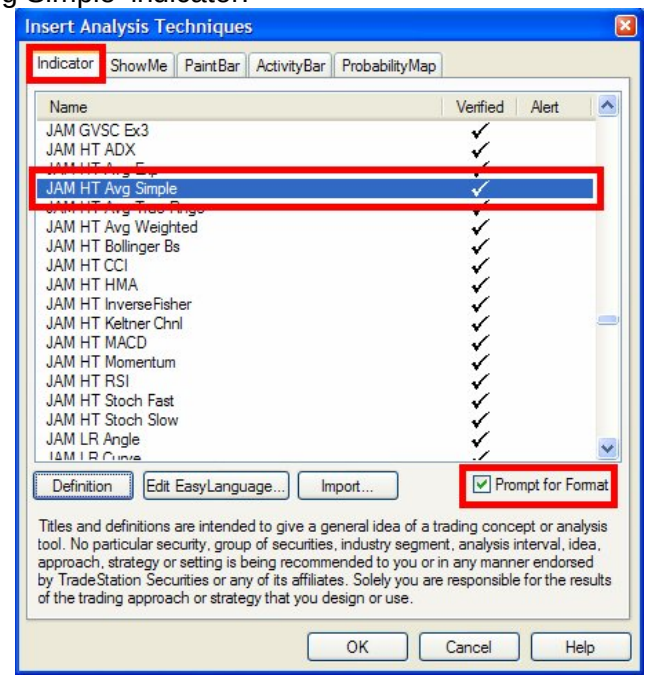
After you have installed the indicator you can apply it to a chart.

The indicator is called ‘JAM HT Avg Simple’.

Create a chart, then apply the indicator by right clicking on the chart and choosing ‘Insert Analysis Technique…’.



Then on the next page, make sure that you are on the ‘Indicator’ tab and select the ‘JAM HT Avg Simple’ indicator.



Make sure that the ‘Prompt for Format’ box is ticked, then click OK.

On the next page, make sure you are on the 'Inputs' tab. From here you can change the settings for the indicator.

Price
The *Price* input is the same as standard TradeStation indicators, and would normally be set to 'Close'.

This Free Edition only accepts an input of Close (other inputs can be used but will produce incorrect results). If you purchase a copy of the HT Pack then all of the indicators accept multiple inputs other than just 'Close' e.g. (High+Low)/2.

Length
The *Length* input is the same as a standard SMA. It is setting the number of bars over which the SMA should calculate.

HTBarInterval
The *HTBarInterval* input sets the bar interval of the higher timeframe calculation. So, if you are on a tick chart and set *HTBarInterval* to '60' then it means calculate a 60 *tick* chart. If you are on a minute chart and set *HTBarInterval* to '60' it means calculate for a 60 *minute* chart.

The default value of '0' means 'the same as the current chart'. Leaving the default values as they are makes the indicator behave the same as its equivalent TradeStation indicator.

HTBarInterval must either be 0 (meaning 'the same') or higher than the bar interval of the current chart. If *HTBarInterval* is set lower than the current chart's bar interval then it assumes '0'.

HTBarInterval must also be a direct multiple of the current chart's bar interval. i.e. if the chart is a 5 minute chart then the *HTBarInterval* must be 10, 15, 20 etc. If it is set to, say, 17 then it will be rounded down to the nearest direct multiple. In this example 17 will be rounded down to 15.

HTConvertTo
The *HTConvertTo* input converts the data from the current timeframe to a higher timeframe. "" (blank) means 'the same as the current chart'. So if the current chart is a tick chart, then setting *HTConvertTo* to "" means you want to calculate for a higher timeframe *tick* chart. If the current chart is a minute chart, "" means you want to

calculate for a higher timeframe *minute* chart. If you are currently working on a tick chart and want to calculate for a minute chart then you set *HTConvertTo* to “Minute”. *HTConvertTo* can be set as follows:

“”	the same as the current chart
“Minute”	convert to a minute chart
“Daily”	convert to a daily chart
“Weekly”	convert to a weekly chart
“Monthly”	convert to a monthly chart
“Yearly”	convert to a yearly chart

More information about the specifics of conversions is given in *Appendix B*.

Several examples are given in Section 4.

DisplayType
The ‘DisplayType’ input can be set to ‘1’, ‘2’ or ‘3’.

A ‘DisplayType’ of ‘1’ plots the values of the SMA every higher timeframe interval.

‘2’ plots the SMA every single bar. This shows the value of the higher timeframe SMA at each point on the lower timeframe chart.

'3' is a 'stairstep' plot. It plots the value of the SMA every higher timeframe interval, but maintains the plot at that level until the next plot.

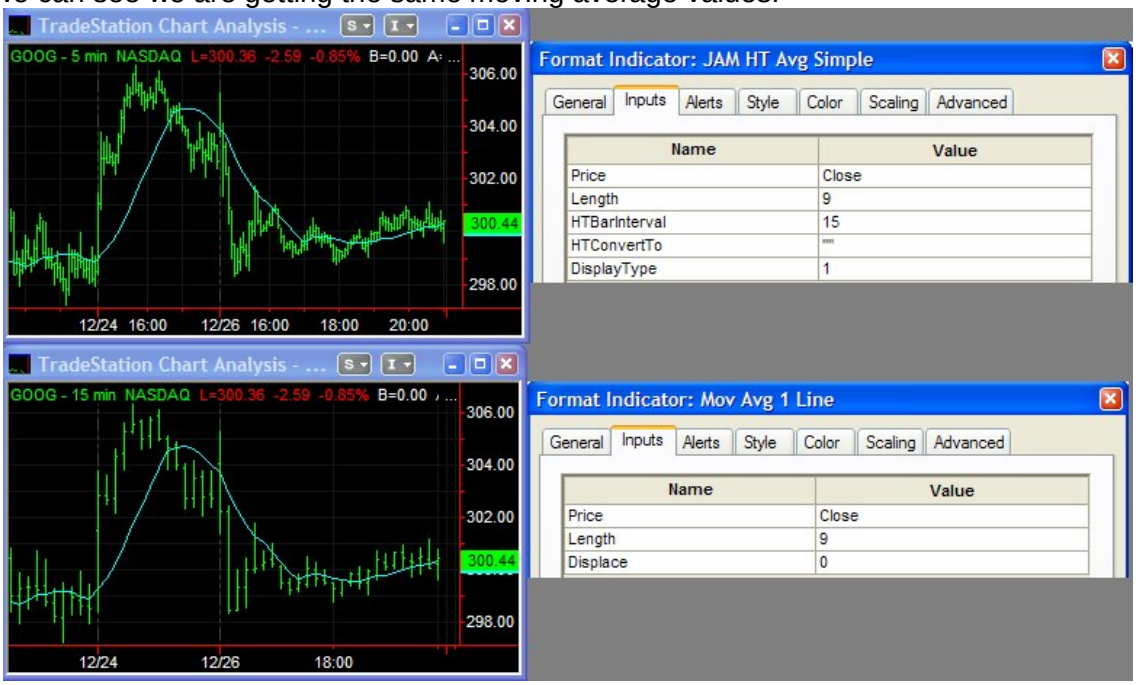
4.0 Examples

When using Higher Timeframe indicators it is **extremely important you have enough data in your chart**. If you're calculating a 21 period SMA then you will need at least 21 bars in your chart. But if you are on a 5 minute chart and you want to calculate a 21 period SMA for a 60 minute chart then you will need to have at least 252 (60/5*21) bars of data. Make sure you have enough bars in your chart and that 'Load Additional Bars' is set high enough in RadarScreen, or you will end up with the wrong results.

If using tick data this is even more important. The HT indicators use the start of the session as a reference point. If you do not have enough data in your chart/RadarScreen to cover the start of the session then the results may be incorrect.

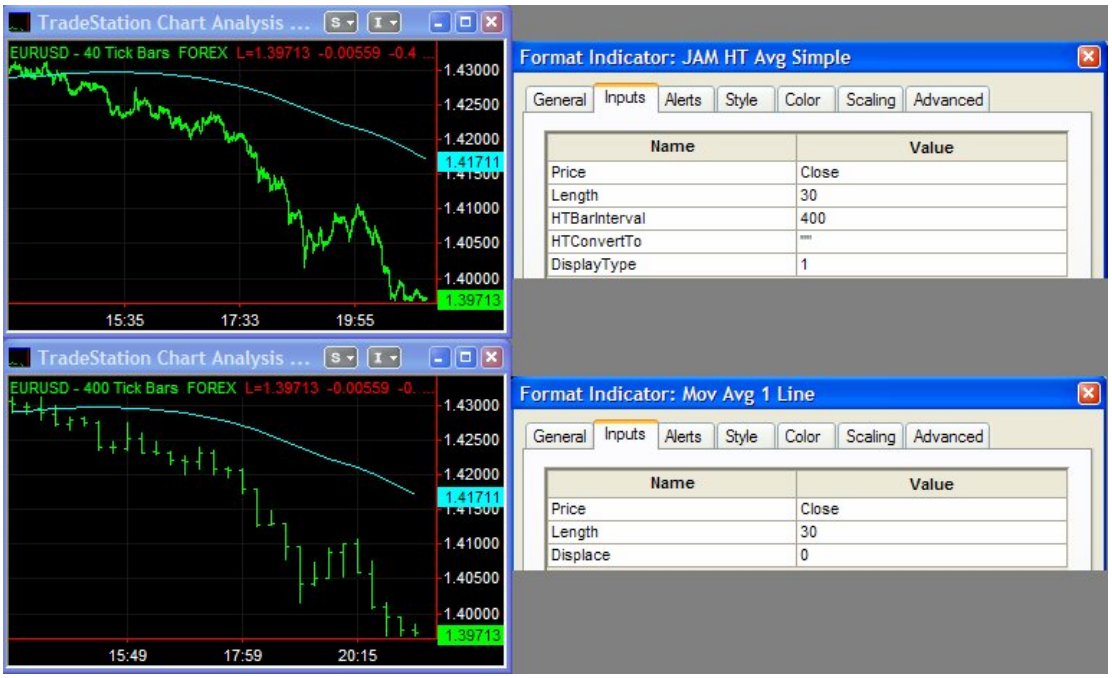
Example 1

In this first example, the 'JAM HT Avg Simple' indicator has been applied to a 5 minute chart of Google. The *Price* input is set to 'Close', the *Length* '9', the *HTBarInterval* '15' and *HTConvertTo* "". This means calculate the SMA for a 15 minute chart. So if we look at a 15 minute chart with the standard TradeStation 'Mov Avg 1 Line' indicator applied we can see we are getting the same moving average values.



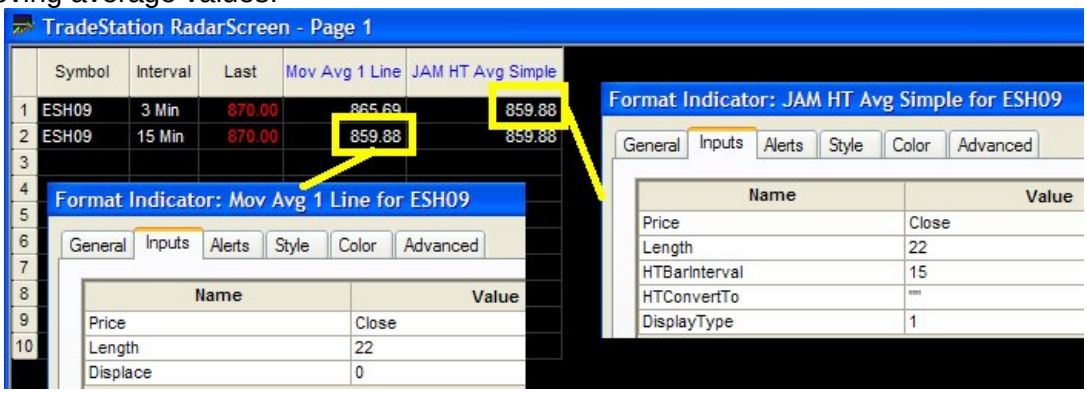
Example 2

This second example uses a chart of EURUSD. The Higher Timeframe indicator has been applied to a 40 tick chart. The *Length* is set to '30', the *HTBarInterval* '400' and the *HTConvertTo* "" (blank). These settings mean calculate the SMA for a 400 tick chart. So if we look at a 400 tick chart with the standard TradeStation 'Mov Avg 1 Line' indicator applied with the same length we can see we are getting the same moving average values.



Example 3

In this example, the Higher Timeframe indicator has been applied to a 3 minute RadarScreen of ESM08 . The *Price* input is set to 'Close', the Length '22', *HTBarInterval* is '15' and *HTConvertTo* is "". So if we look at a line set to 15 minutes with the standard TradeStation 'Mov Avg 1 Line' indicator applied we can see we are getting the same moving average values.

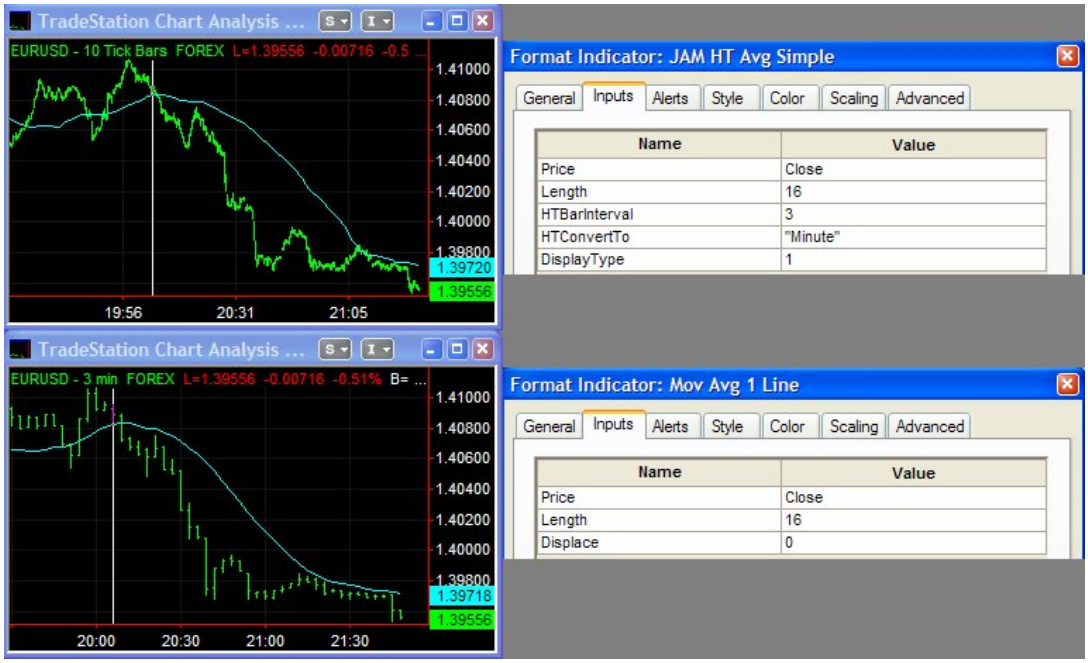


Example 4

In this example, we will plot a minute based SMA on a tick chart. When plotting minute data on tick charts we can only estimate the value of the SMA. The accuracy of the calculation is dependent on the size of the tick bars on the current chart (the smaller the tick bars, the more accurate the calculation) and the size of the minute bars we are converting to (the higher the minute value, the more accurate the calculation).

To convert tick data to minute data we set *HTConvertTo* to "Minute". Then *HTBarInterval* is set to '3'. So we are saying 'convert from a tick chart to a 3 minute chart'.

So if we look at a 3 minute chart with the standard TradeStation 'Mov Avg 1 Line' indicator applied we can see we are getting approximately the same moving average values.



Note that his is just a single point in time and the accuracy can vary significantly.

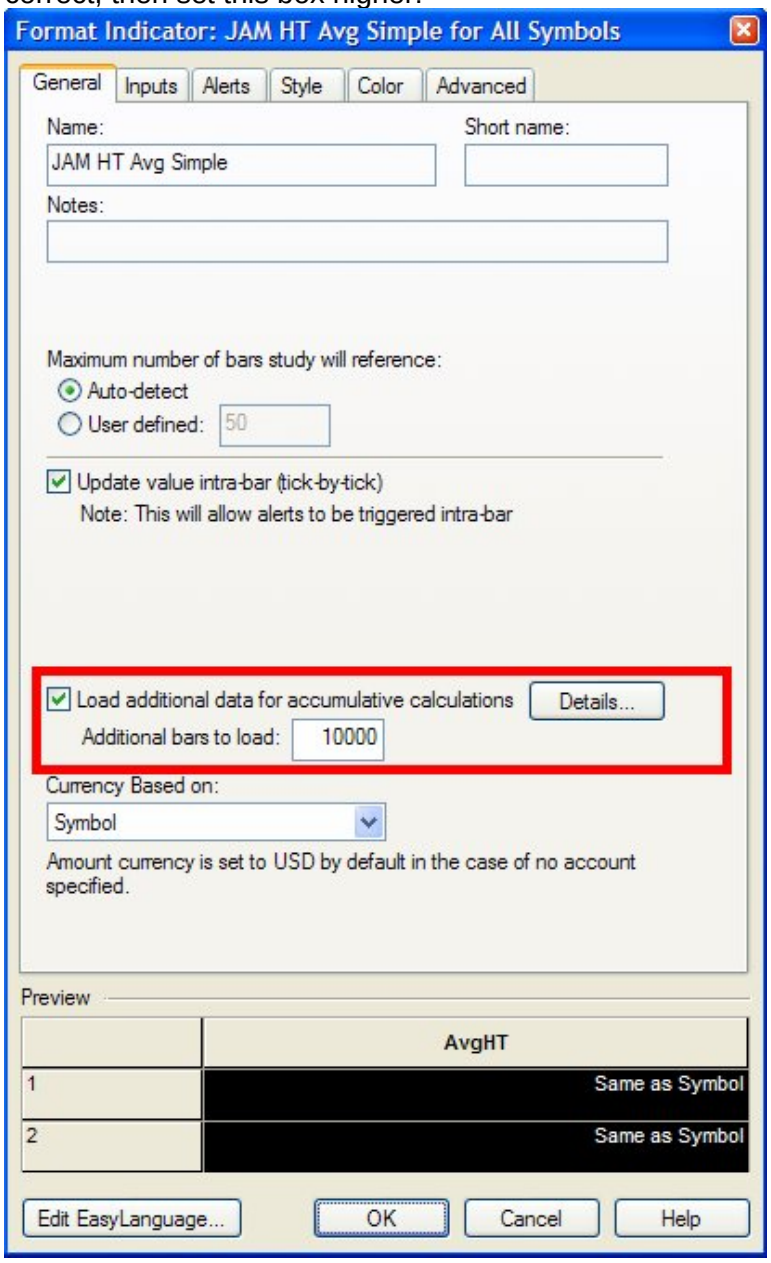
Example 5

In this final example, we are using a 60 minute chart of GBPUSD. The Higher Timeframe indicator has had its *HTConvertTo* input set to "Daily", and the *HTBarInterval* set to '1'. This tells the indicator to calculate the moving average for a one day chart. If we look at a Daily chart of GBPUSD with the standard TradeStation 'Mov Avg 1 Line' indicator applied we can see we are getting the same moving average values.

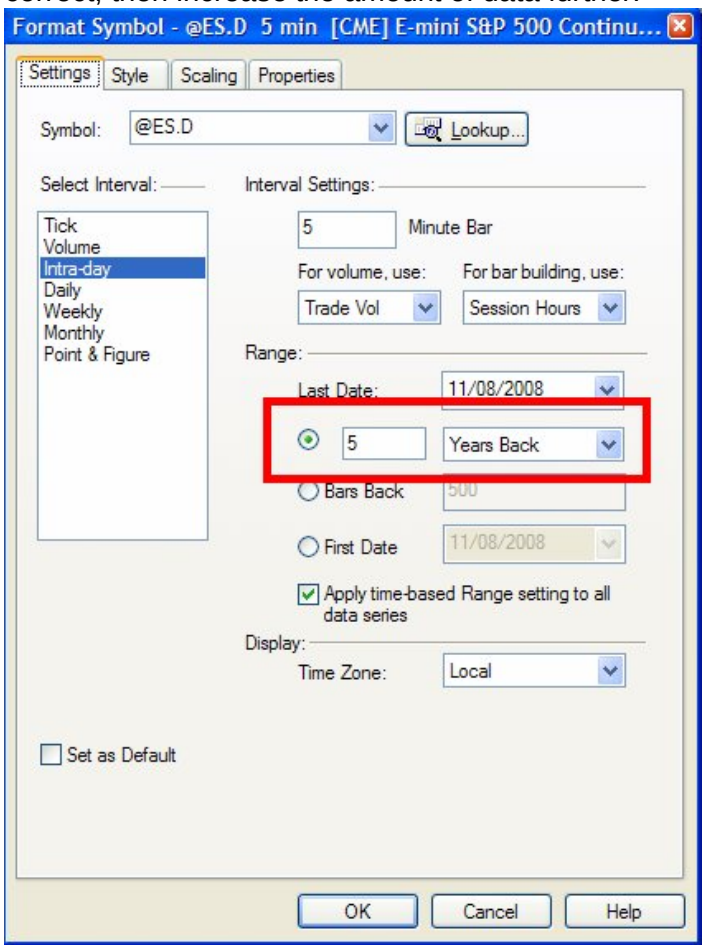
5.0 Questions & Answers

The following are the most common questions asked about HT Pack indicators.

1. **The value of a moving average on a 700 tick RadarScreen doesn't match the value being produced by the JAM HT indicator on a 100 tick RadarScreen with the *HTBarInterval* input set to 700.**
   99% of differences are down to there being a lack of data available for the JAM HT indicator. Right click on the JAM HT indicator column in RadarScreen and choose 'Format JAM HT Avg Simple for All Symbols…' and make sure the 'Additional bars to load:' box is set high enough. If it doesn't make the average correct, then set this box higher!



2. **The value of a moving average on a 100 minute chart doesn't match the value being produced by the JAM HT indicator on a 1 minute chart with the *HTBarInterval* input set to 100.**
   99% of differences are down to there being a lack of data available for the JAM HT indicator. Right click on the chart and choose 'Format Symbol…' and under the settings tab increase the amount of data. If it doesn't make the average correct, then increase the amount of data further!



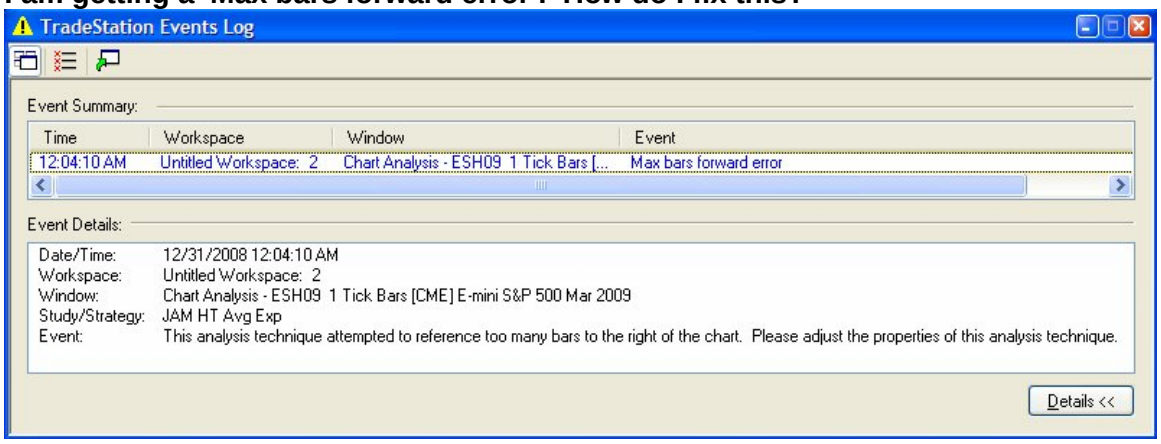
3. **I've tried increasing the amount of data in my Chart/RadarScreen but I'm still getting incorrect results.**
   The first thing to try is to increase the amount of data! If that doesn't work then try pressing 'Ctrl-R' on your Charts/RadarScreens. This reloads the data from TradeStation and fixes any errors you may have in your local data cache.

4. **The indicator on a volume chart doesn't match the higher volume bar chart.**
   TradeStation has a strange way of calculating Volume/Share bars. Sometimes 1+1=2, sometimes 1+1=2.5, sometimes 1+1=3. There's just no way to know. So you can't accurately calculate higher volume bars (though they should be fairly close).

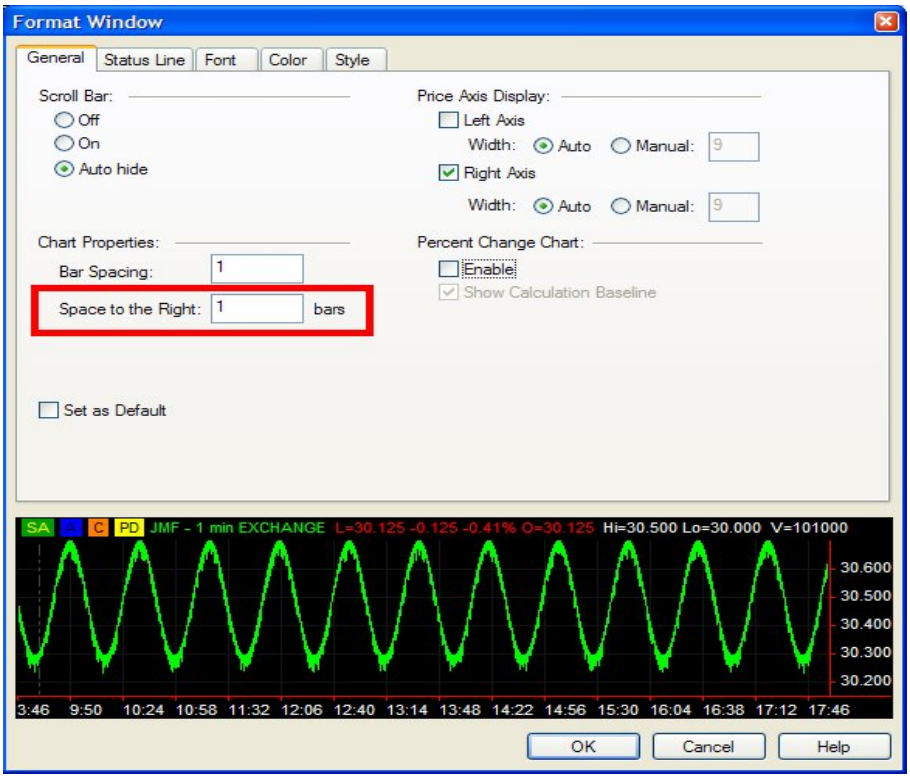
5. **When plotting a Daily/Weekly/Monthly/Yearly SMA on a tick/minute chart the SMA doesn't match that of an SMA on the higher timeframe chart.**
   Daily data doesn't match intraday data! It's as simple as that. The indicator values are different because you are calculating them with different OHLC data.

6. **I'm using a *Price* input of 'High' in the HT indicator but it is producing incorrect results.**
   Price inputs other than 'Close' are not available in this Free Edition. If you purchase the full HT Pack then you will be able to use other price inputs.

7. **I am getting a 'Max bars forward error'. How do I fix this?**



All HT indicators need to plot one bar into the future. Therefore, the 'Space to the Right' setting needs to be '1' or greater.



Right click on your chart and choose ‘Format Window…’ and make sure ‘Space to the Right’ is at least ‘1’.

Please vote for these Enhancement Suggestions in the TradeStation forums:

https://www.tradestation.com/Discussions/Topic.aspx?Topic_ID=35175
https://www.tradestation.com/Discussions/Topic.aspx?Topic_ID=37159
https://www.tradestation.com/Discussions/Topic.aspx?Topic_ID=51594
https://www.tradestation.com/Discussions/Topic.aspx?Topic_ID=42854
https://www.tradestation.com/Discussions/Topic.aspx?Topic_ID=29465

Appendix A

Things to know about conversions

Converting between timeframes (such as from minute to daily, or daily to weekly) is fairly complex and will sometimes produce unexpected results. This section attempts to explain some of the differences to describe the assumptions coded within the HT Pack.

This table shows the quality of the conversions.

		Higher (slow) Timeframe						
		Tick	Volume	Minute	Daily	Weekly	Monthly	Yearly
Lower (fast) TimeFrame	Tick	Exact	-	Approx.	Exact*	Exact*	Exact*	Exact*
	Volume	-	Approx.	Approx.	Exact*	Exact*	Exact*	Exact*
	Minute	-	-	Exact	Exact*	Exact*	Exact*	Exact*
	Daily	-	-	-	Exact	Exact	Exact	Exact
	Weekly	-	-	-	-	Exact	Exact	Exact
	Monthly	-	-	-	-	-	Exact	Exact
	Yearly	-	-	-	-	-	-	Exact

Exact – Exact means just that – 100% correct data conversions. So, using the chart above, we can see that converting from a lower-timeframe tick chart to a higher-timeframe tick chart (the top left corner where 'Tick' and 'Tick' meet) will produce 100% accurate conversions.

Approx. – There results are just approximations, and should not be relied on if accuracy is your goal. The accuracy of converting from tick bars to minute bars depends on the bar interval of the tick bar (the lower the better), the bar interval of the minute bar (the higher the better) and the volume of the underlying instrument (the higher the better). The problem with Volume/Share bars is the way they are defined by TradeStation. It just isn't possible to accurately convert Volume/Share bars to higher timeframes, though they should be reasonable.

Exact* - Converting from intraday (tick/minute) data to daily/weekly/monthly/yearly data is dependent on the underlying symbol. For FX Spot data the results will be 100% accurate. Problems come when dealing with Stocks and Futures. This is because the prices on intraday charts do not necessarily match those on daily charts. (If you go look at a chart of GOOG and compare the OHLC of a Daily chart with the OHLC of a 60 minute chart for the same day, you will see the difference). So, whilst the HT Pack is accurately converting data from intraday to daily+, the actual data is different. So you will get different results.

