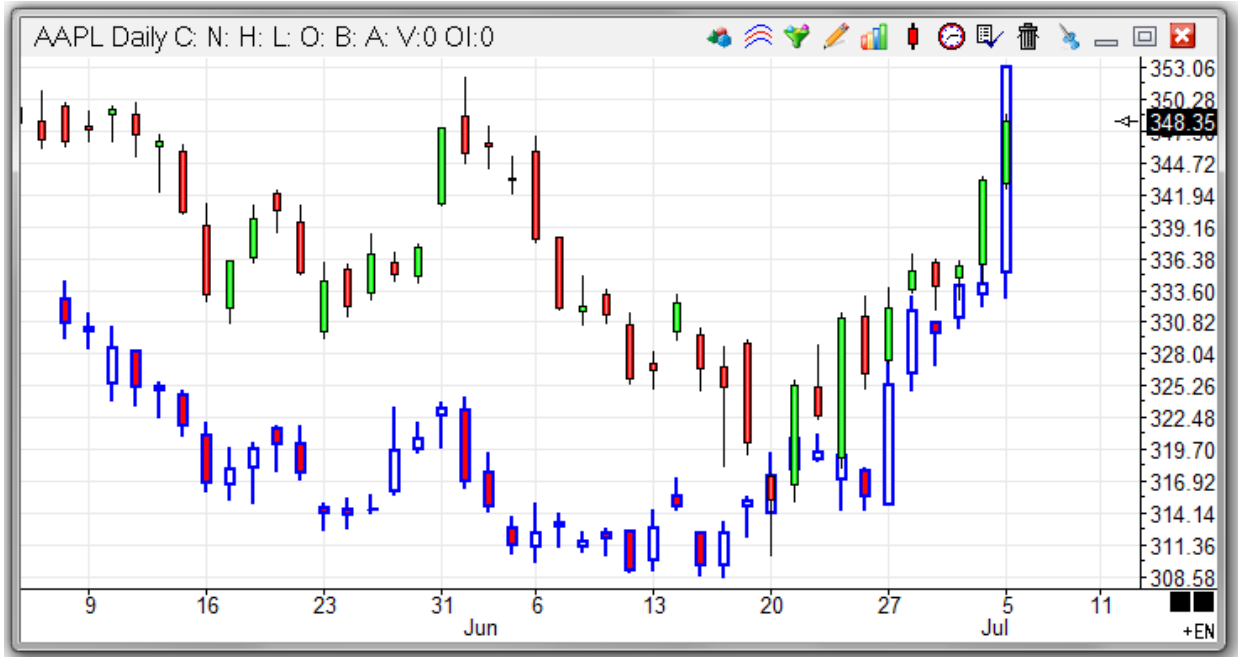


# Overlay

Overlay Charts can be applied to a Host chart, using the Overlay Chart study. This allows you to look at 2 or more different charts in the same chart window. Overlay Charts can also be subtracted or divided to create Spread Charts and Ratio Charts. The original chart is called the 'Host' chart. An Overlay chart is placed on the Host chart just like studies are placed on a chart. The Overlay charts become 'Chart Objects' of the Host chart. The Properties of Overlay Charts, Spread Charts, and Ratio Charts can be accessed by clicking the Chart Objects button.



In this example the blue and red chart line is the Overlay which in this case is Microsoft (MSFT).

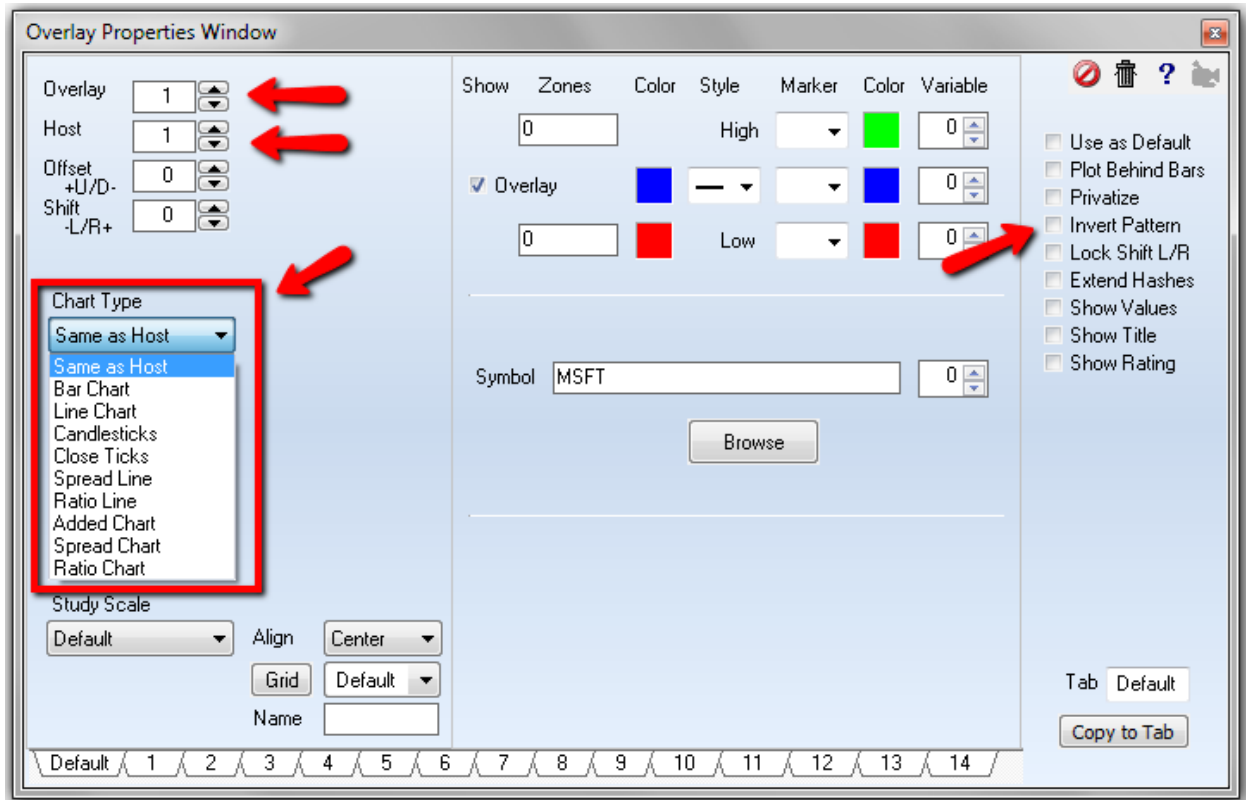
## Overlay History

Creating custom symbols with the Custom Symbols form often is a simple spread or ratio, and yet lacks any back history. If the same formula can be expressed in the Overlay study to do the spread or ratio, then you will be able to get some back history. Create the overlay, and when it displays it makes the calculations by loading the chart files and syncing the data bars. Ensign has the answer because it plots the spread or ratio on the chart.

The Overlay automatically writes the spread or ratio calculations out as an Ensign chart file. The file written will always be the name Overlay, with the chart time frame for an extension, in the same folder as the source data. Use Windows Explorer to rename the Overlay file to be the symbol you use for your custom symbol. Then you have some back history for your custom symbol chart.

## Properties

- **Use as Default** - Save the current settings as the default for all subsequent Overlay charts.
- **Privatize** - Hides the study settings and prevents others from opening the properties window.
- **Invert Pattern** - Invert the overlay chart upside down. Inverted overlays will be drawn using the 2nd color, instead of the 1st color.
- **Lock Shift L/R** - Prevent the overlay from being dragged left or right (synched with the Host chart).
- **Extend Hashes** - Doubles the width of the open and close hash marks on each Overlay bar.
- **Show Values** - Display the Overlay chart values in the studies window (at the left edge of the chart).
- **Show Title** - Display the Overlay chart symbol on the chart (top left corner).
- **Overlay** - Multiplier value of the Overlay chart, an entry of 1 will show the original data values to double the price for example use an entry of 2.
- **Host** - Multiplier Value of the underlying Host chart, an entry of 1 will show the original data values.



## Symbol Prefix

Symbols from other vendors can be selected by adding a 2 character prefix and a vertical line. The prefix tags are the same 2 characters that show on the feed buttons at the bottom of a quote page. Example: Use ES| to specify the overlay symbol is an eSignal symbol when the host chart is from another vendor. IB| would select an Interactive Brokers symbol.

- **Offset U/D** - Enter a fixed offset number. The offset number will be added or subtracted the Overlay chart to shift the chart either up or down. For example, entering a value of -500 will cause all chart prices in the Overlay chart to be reduced by 500 points.
- **Shift L/R** - Enter a shift number. This allows you to shift the Overlay bars to the left or right.
- **Location** - The Overlay can be plotted in the main Chart window, or in sub-windows 1 through 8, or in the Volume window.

**Chart Type** The method of displaying the Overlay: Bar, Line, Candlesticks, and Close Ticks just change the display of the chart. Spread Line, Ratio Line, Added, Spread, and Ratio Charts will change the way the overlay is calculated. Example a spread will subtract the Overlay from the Host and return a value.

- **Same as Host** - The overlay will be plotted the same as the host.
- **Bar Chart** - The overlay will be plotted as a Bar Chart.
- **Line Chart** - The overlay will be plotted as a Line Chart.
- **Candlesticks** - The overlay will be plotted as a Candlestick chart.
- **Close Ticks** - The overlay will be plotted as a Close Ticks only chart.
- **Spread Chart** - The overlay will be subtracted from the Host chart.
- **Ratio Chart** - The overlay will be divided into the Host chart.
- **Added Chart** - Each component of both charts are added together to make a new bar. Example, both Open prices are added to produce a new Open price. Both High prices are added together to produce a new High price.

### Chart Scale

- **Host** - The overlay will be scaled on the same scale as the Host chart.
- **Hidden** - The overlay will have its own scale.
- **Shown** - The overlay will have its own scale, and will display its scale values.
- **Don't Plot** - The overlay data will be on the chart, but will not be visible. This is most useful if the data from the Overlay is being accessed by an ESPL custom program. The Overlay data is available for ESPL calculations, but is not plotted or visible on the host chart.

Note: Do not set the chart scale to 'Host' if the Overlay chart data is not trading in a similar price range. Otherwise, the Overlay chart will be plotted outside the chart window and will not be visible. Double-click on the chart scale numbers (right edge of the chart) while viewing a chart to switch the scale numbers between the overlay chart and the host chart. The color of the scale numbers will match the color of the overlay bars.

- **Overlay Alignment** – The alignment of the overlay data can be shifted to the left or right by 1 screen pixel. This might be desirable if the Overlay bars are covered by the Host bars.

## Study Lines

- **Show** - Place a check mark in the 'Show' check box to display or hide the Overlay.
- **Zones** - Optionally enter some price Zone values. If the price of the Overlay rises above or below the 'Zones' values, then the Markers and Colors for the High and Low Zone areas will be used. This allows you to plot unique colors and markers when the Overlay reaches a certain value.
- **Color** - Click the square color boxes to select colors for the Overlay and Inverted Overlay.
- **Style** - Select an Overlay line Style from the drop-down list box.
- **Marker** - Optionally select a Marker for the Overlay.
- **Color** - Click the square color boxes to select marker colors.
- **Global** - Optional Save the values of the Overlay into Global Variables (which can be accessed by other studies).

## Grid Lines

If the Overlay is plotted in a study sub-window, the grid line color, style, and different grid levels can be selected.

## Keyboard Commands

The following keyboard keys can be used to adjust the scaling and height of the Overlay chart.

- Press the UP and DOWN Arrow keys on the keyboard to move the Host chart bars up or down.
- Press the LEFT and RIGHT Arrow keys on the keyboard to adjust the vertical height of the Host bars.
- Press SHIFT-UP Arrow and SHIFT-DOWN Arrow to move the Overlay chart bars up or down.
- Press SHIFT-LEFT Arrow and SHIFT-RIGHT Arrow to vertically adjust the Overlay bars height.

## Spread Charts

A Spread Chart is created by subtracting an Overlay chart from a Host chart. Spread charts can be opened in two ways.

1. Enter Symbol--Symbol in the Charts panel (example: IBM--MSFT.D). Note: There are 2 minus signs that separate the symbols. The first symbol will be the host, the second symbol will be the overlay spread symbol. Enter the Time Frame after the 2nd symbol.
2. Add the Overlay study object to a Host chart, then specify the overlay 'Chart Type'. Open the Properties window for the Overlay, and then select 'Spread Line' or 'Spread Chart' from the 'Chart Type' drop-down list to cause the Overlay chart to be subtracted from the Host. For example, to display a spread chart of IBM minus MSFT, first display the IBM chart as the Host, then click the Studies button and select 'Overlay Chart'. Enter MSFT in the 'Symbol' entry box. Select 'Spread Chart' as the Chart Type and then click OK. The resulting spread calculation will be displayed on the Host chart as either a Line or as Spread Bars. Optional multipliers or price offsets can be entered in the 'Parameters' panel to adjust the value of the Host and Overlay chart data.

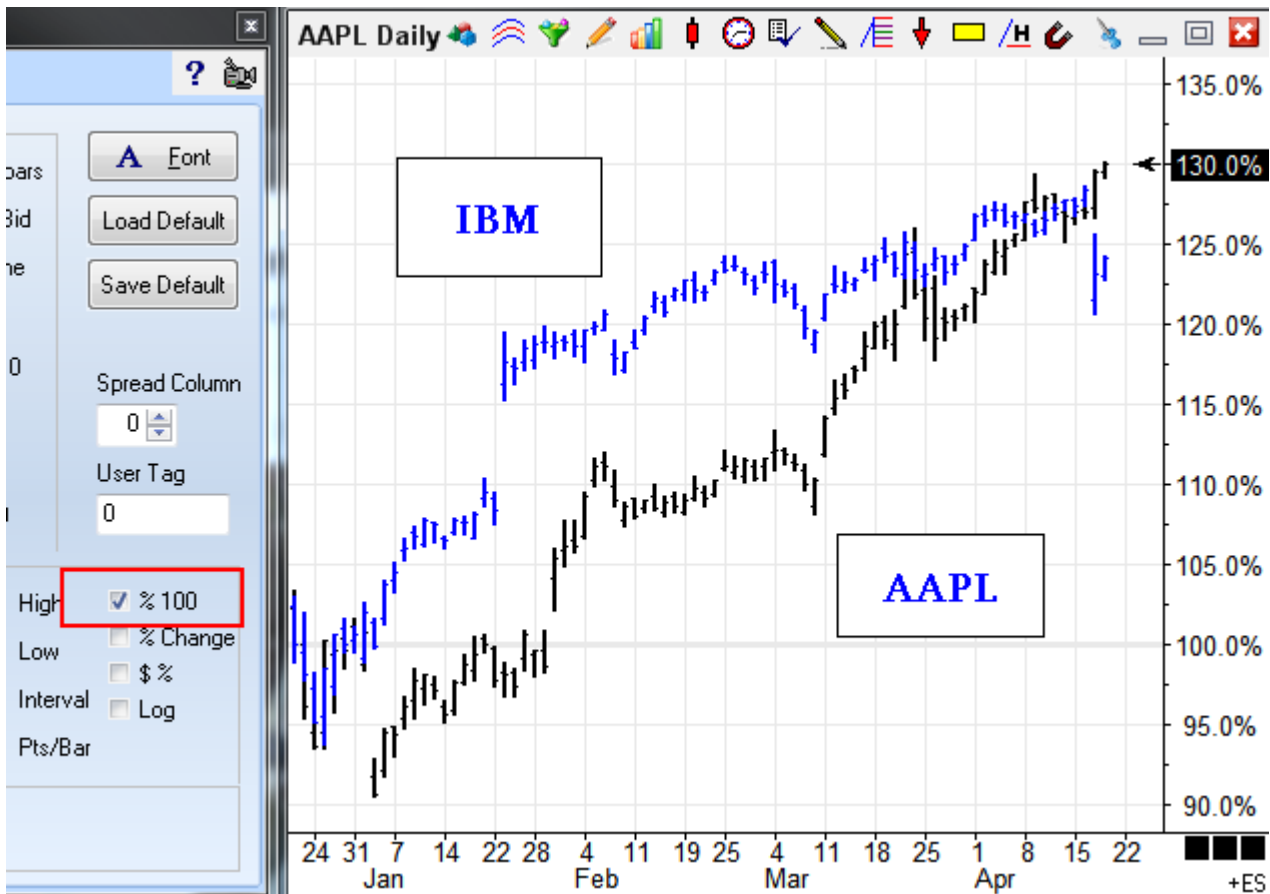
Note: The selections of 'Spread Chart' and 'Ratio Chart' will plot as bars, where open prices give a specific point for the open evaluation, close prices give the close evaluation, and then the high and low of the bars is the maximum or minimum evaluations from the pairings. This is the best reconstitution of the bar range that we can assemble after the fact from the bar history.

## Ratio Charts

A Ratio Chart is created by dividing an Overlay chart into a Host chart. Select 'Ratio Line' or 'Ratio Chart' from the 'Chart Type' drop-down list to cause the Overlay chart to be divided into the Host. For example, to display a Gold and Silver ratio chart do the following. The following example divides the July 2007 Silver chart into the June 2007 Gold chart. First display the GC M7 chart as the host, then click on the Studies button and select Overlay Chart. Enter SI N7 in the 'Chart' entry box. Select 'Ratio Chart' as the Chart Type and then click OK. The resulting ratio calculation will be displayed on the Host chart as Ratio Bars. Optional multipliers or price offsets can be entered in the 'Parameters' panel to adjust the value of the Host and Overlay chart data.

## % Scale for Stock Comparison

The Overlay can display what is called '% Change Charts'. One of the symbols will be the host chart. The other symbols are added as Overlays to the chart. The Anchor point will be the first bar on the chart. Change the host chart to the % 100 Scale selection on its chart property form which shows when you press CTRL+P keys.

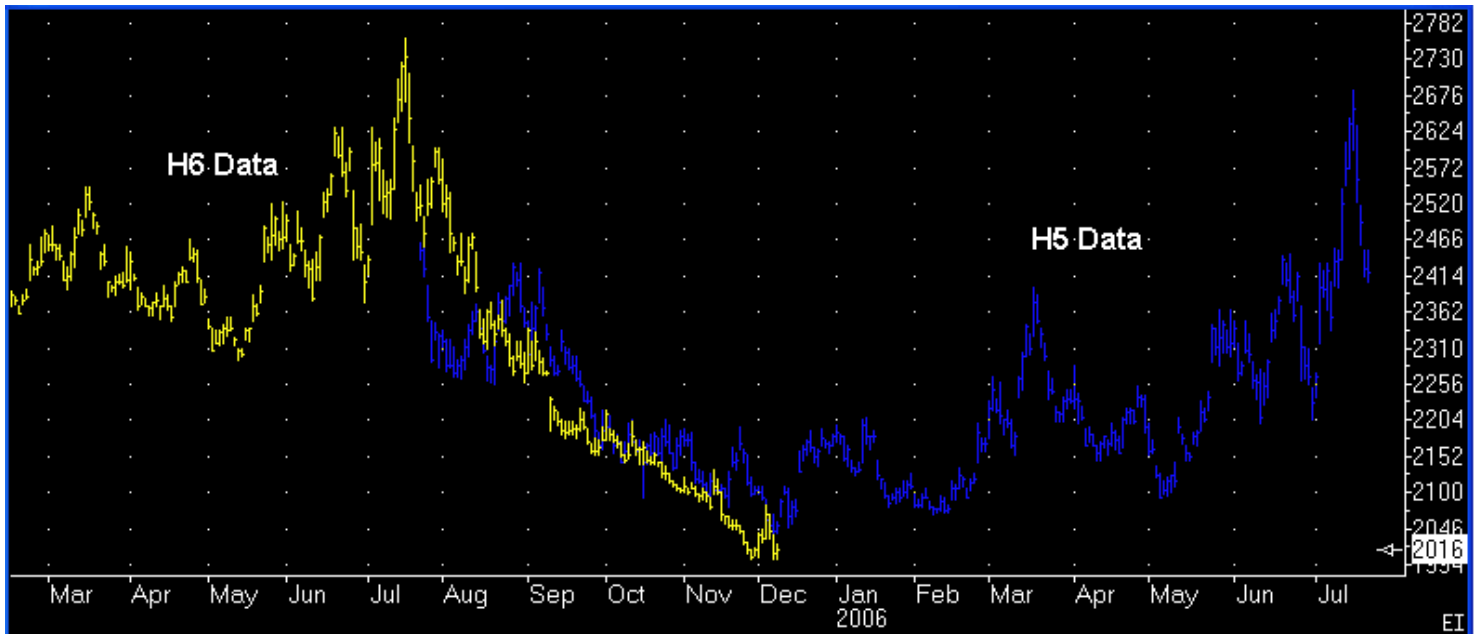


In the example, AAPL has risen 30% since January 15<sup>th</sup>. IBM (shown in blue) has risen 24%.

## Overlay prior year's daily image

Data from two different contract years can be shown overlaid together. For example, if the C H6 has some dates back in H5, then the two files can be synched. However, the H5 data on the chart is aligned back a year ago. All is not lost, however, in that the overlay can be forward shifted using the Shift L/R parameter on the overlay form. Forward shift the H5 data by +255 so the 2005 dates are offset to show in the 2006 place.

Here is example of C H6 as host in yellow, and overlay of C #F continuation chart in blue, but offset +255 so the July 2005 peak is shown aligned with July 2006.



Let me point out one trick. On the overlay property form have the Lock Shift L/R box unchecked. Then on the chart, double click on the scale to change the scale to the overlay color. This indicates the overlay will be operated on instead of the host. Now you can drag left/right on the chart and slide the overlay horizontally. This is how I aligned the July 2005 peak to be in the July 2006 position. When it is in position, double click on the scale again to return to the host chart.