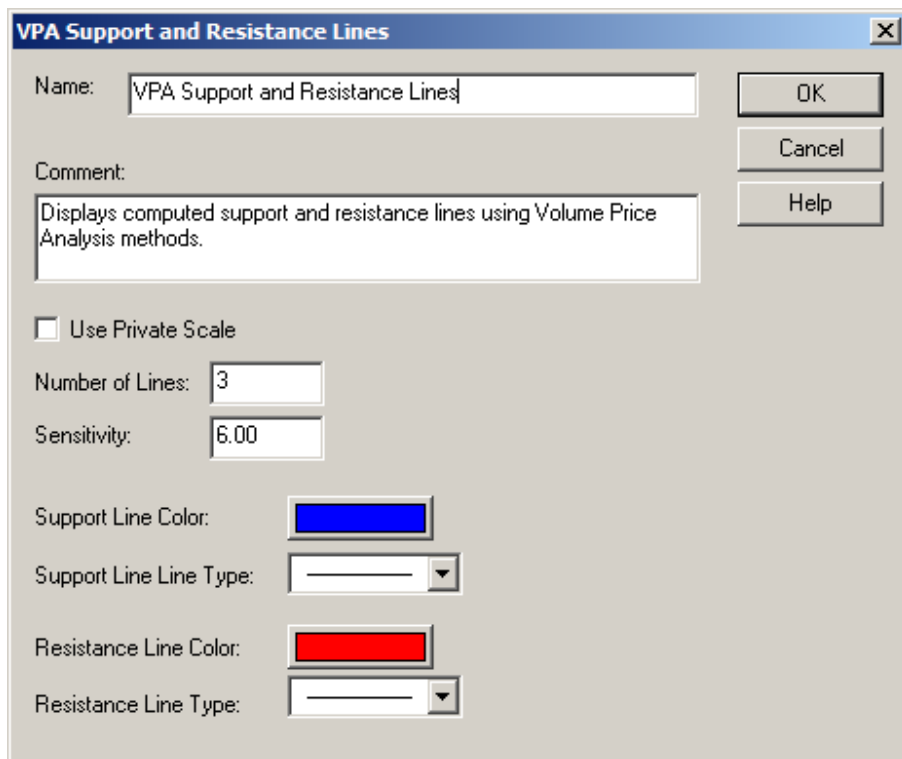


# HGSi Support And Resistance Lines Indicator

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## INTRODUCTION

This document provides detailed information about the HGSi VPA Support and Resistance Lines Indicator. These lines are computed internally using the ZigZag indicator against the stocks's daily high and low values.



The screenshot shows a dialog box titled "VPA Support and Resistance Lines". It contains the following fields and controls:

- Name:** A text box containing "VPA Support and Resistance Lines".
- Comment:** A text box containing "Displays computed support and resistance lines using Volume Price Analysis methods."
- Buttons:** "OK", "Cancel", and "Help" buttons are located on the right side.
- Use Private Scale:** A checkbox that is currently unchecked.
- Number of Lines:** A text box containing the value "3".
- Sensitivity:** A text box containing the value "6.00".
- Support Line Color:** A color selection box showing a blue color.
- Support Line Line Type:** A dropdown menu showing a solid line.
- Resistance Line Color:** A color selection box showing a red color.
- Resistance Line Line Type:** A dropdown menu showing a solid line.

**Number of Lines:** Controls how many Support & Resistance line pairs the indicator will draw. The pairs are computed off the high and low peaks in the ZigZag indicator.

**Sensitivity:** Controls the ZigZag percentage setting. It is a measure of how much the stock has to change direction before the ZigZag changes direction. The higher the number the more extreme the stock has to change direction before a support or resistance peak is detected.

**Support and Resistance Line Color/Type:** Controls the color and line type for the drawn support and resistance pairs. The line's color is always relative to the most recent day in the chart and doesn't actually apply to the line's role in the past. If the line is above the last close in the chart it will be drawn as a resistance line, if it is below the last close it will be drawn as a support line.

**NOTE:** As a result of using the ZigZag indicator this indicator cannot be used to evaluate the stock in the past. The values the indicator would have shown on a day in the past are not the same as it will show today. The support and resistance lines it draws only apply to the last day on the chart.

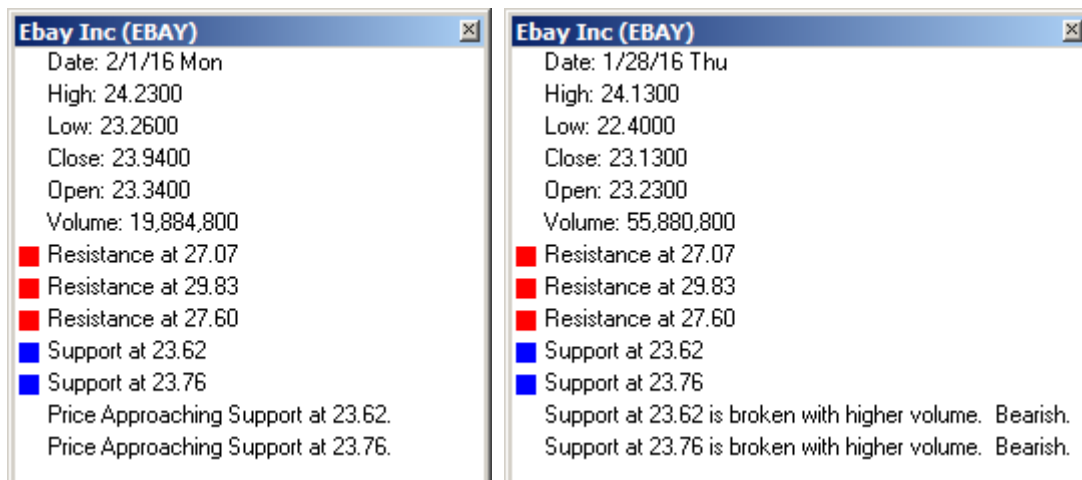
When this indicator is added to a chart view, the data window (shown below) will display text notes signaling various events. The crosshair in the charting enables you to see these events in the past as well as for the most recent day.

If the historical day's close crosses a support or resistance line and the day's volume on the crossover day is greater than the 90 DMA Volume, the crossing is reported in the data window:

- Resistance at XXX crossed with higher volume. Bullish.
- Resistance at XXX crossed with lower volume. Caution is advised.
  
- Support at XXX is broken with higher volume. Bearish.
- Support at XXX is broken with lower volume. Caution is advised.

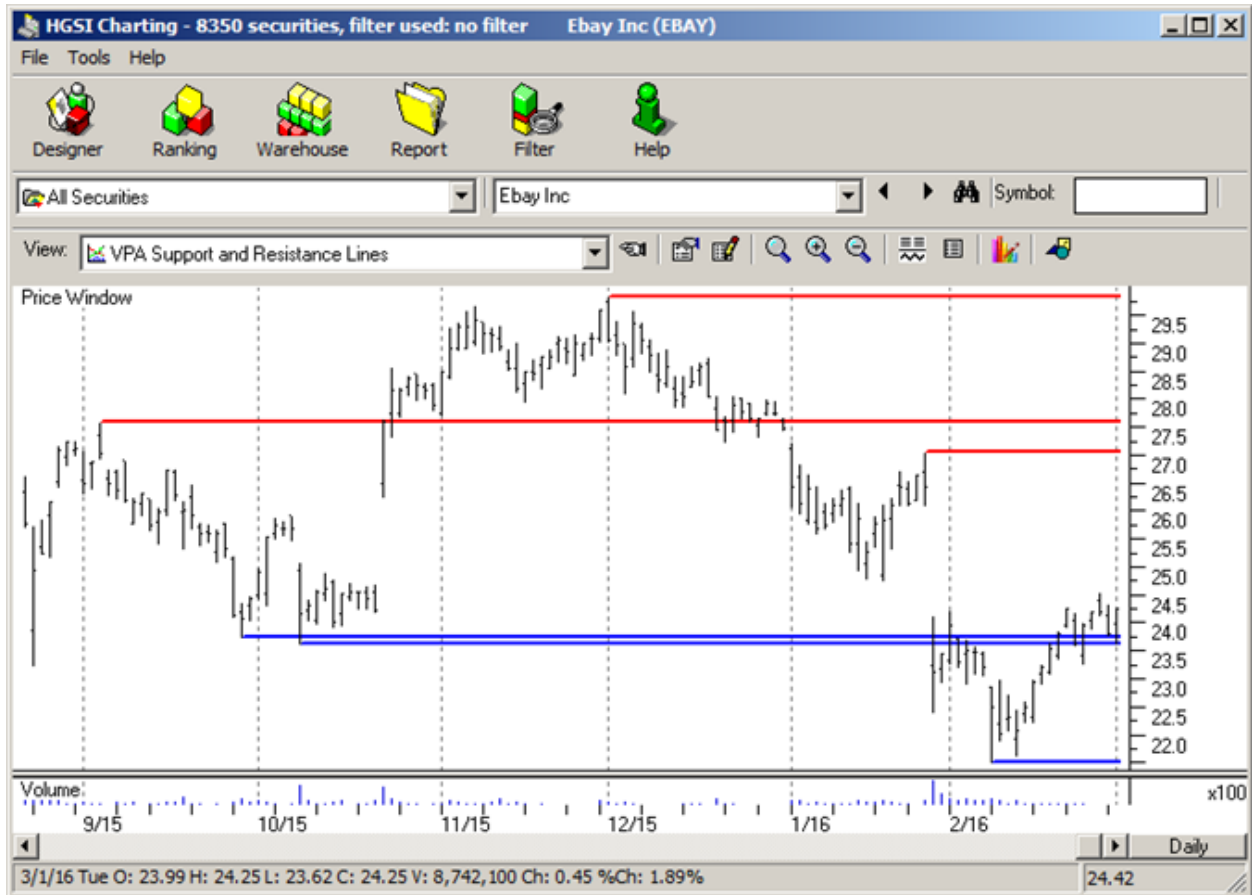
If the day in the past's close is within 3% of the S&R line it is considered "close" and if the slope of the 3 day linear regression on the 5 DMA close for that day is pointing in the right direction, the data window will report "Price Approaching support or resistance"

- Price Approaching Resistance at XXX
- Price Approaching Support at XXX

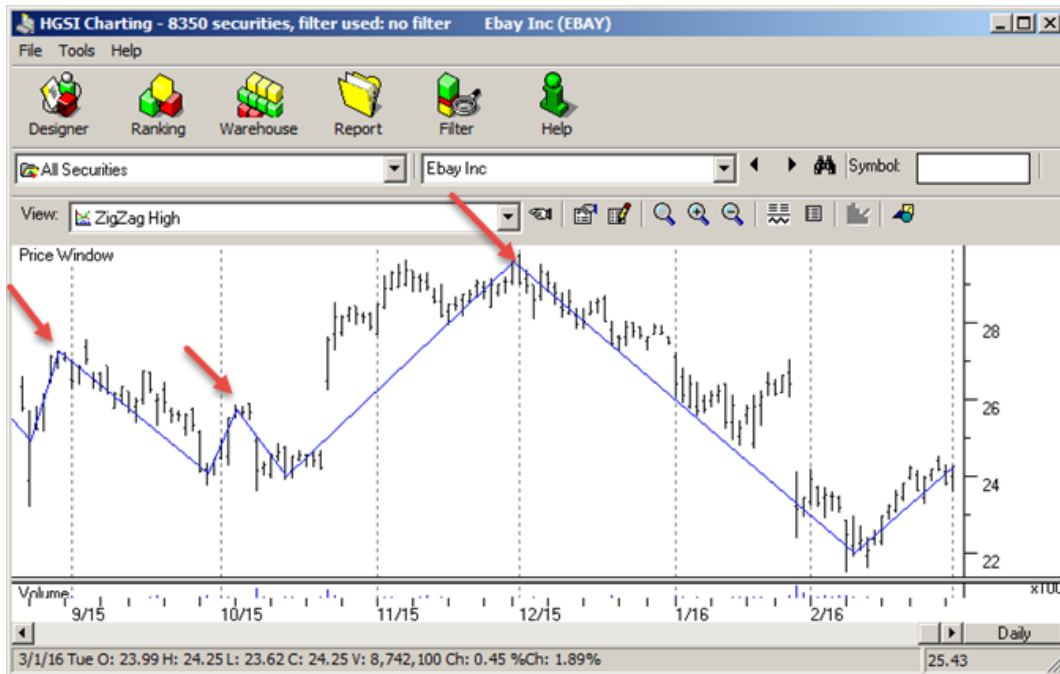


## EXAMPLE OF COMPUTING SUPPORT & RESISTANCE LINES

The VPA Support and Resistance Indicator has options for two parameters: *Number of Lines* and *Sensitivity*. In this example the number of lines is set to 3 and the Sensitivity is 6.00.

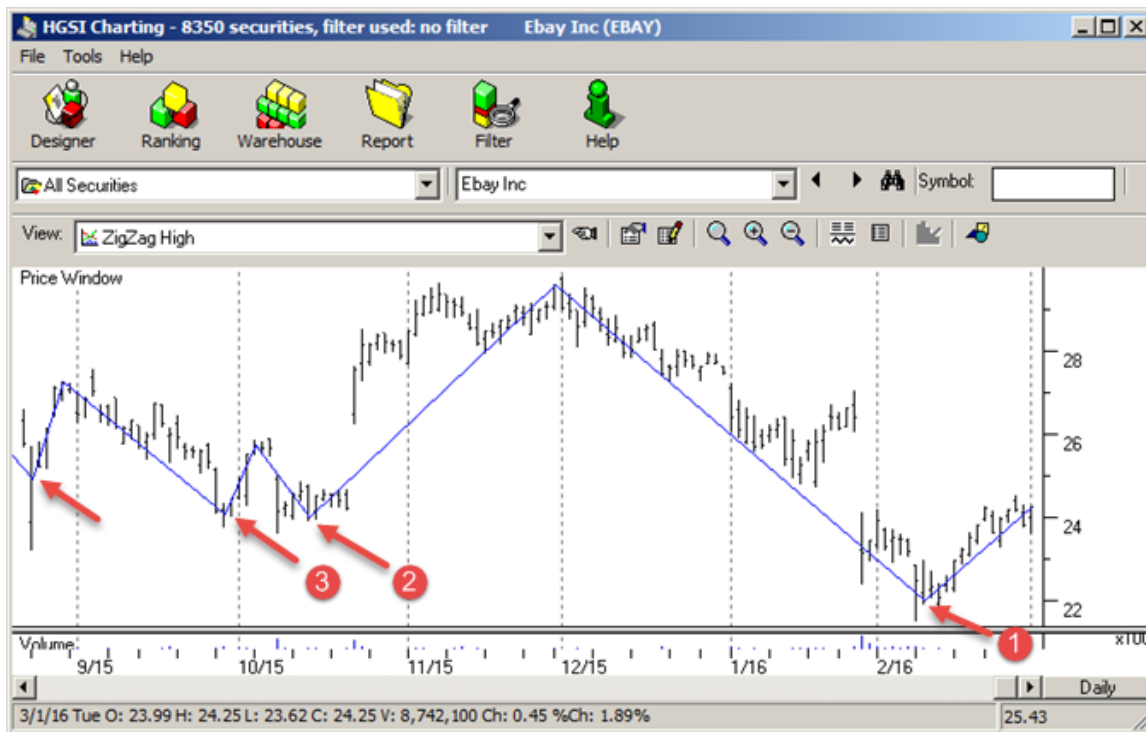


To draw these lines, two Zig-Zag indicators are computed for the chart (shown below). The first Zig-Zag uses the Sensitivity as the Zig-Zag's percentage setting and is computed against the stock's high price. Every time this Zig-Zag transitions from upward to downward is considered a support point.

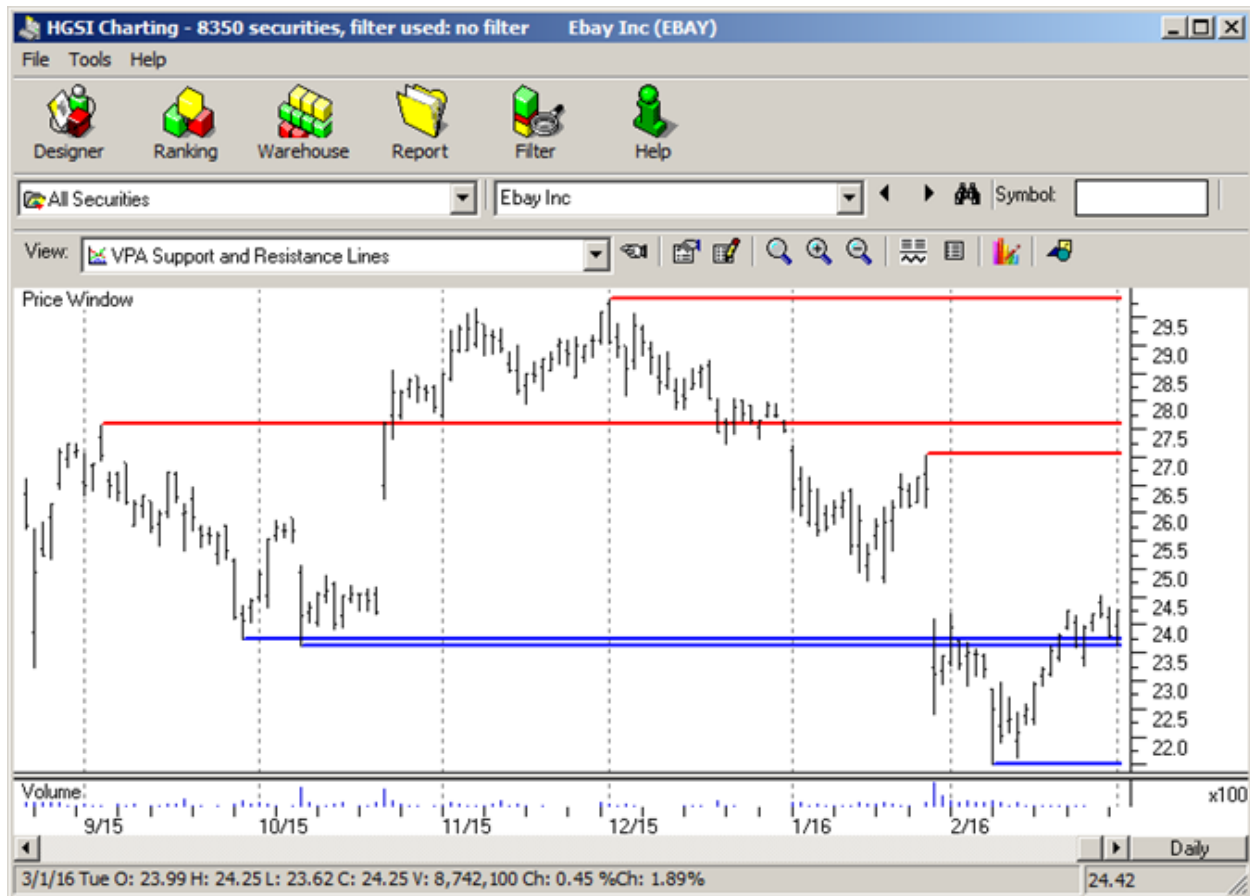


The most recent support points are taken up to the number of lines specified in the indicator settings, in this case the 3 rightmost arrows.

The Zig-Zag indicator is then recomputed using the same percentage but the stock's low. This time the resistance points are when the Zig-Zag transitions from downward to upward. The 3 most recent resistance line points are taken for resistance lines.



These six lines become the support and resistance lines.



Because Support & Resistance lines have a dual nature depending on the current stock price, the indicator draws these lines using colors based on the most recent day of the chart and not what actually caused it to be included.

If the most recent Zig-Zag point is the day before the last period it will be skipped when computing pivot points, so there are no one day/period pivots.

It is also important to understand that the Zig-Zag uses the entire chart to compute its pivot points, so on the date in the past where the chart is now showing a pivot point would not have been present on the chart until the close of the next day. You cannot back-test the Zig-Zag results and as a result you will not have known a new Support & Resistance line was created until after the day has past.