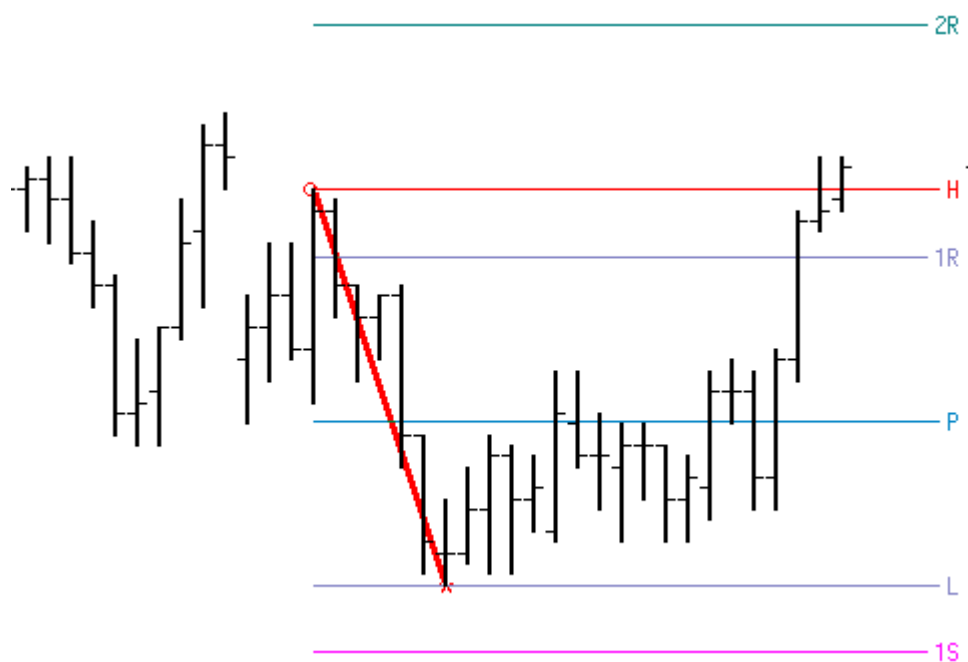


## Support & Resistance

The Support and Resistance tool uses specified chart prices to calculate Support and Resistance lines. The High, Low, and Close prices of a daily range are often used as 3 input prices. To apply the Support and Resistance tool on a chart click the Support and Resistance button. The cursor will change to a pencil while in the draw mode. Click on the 1st point from a high point (usually the High of a bar), then click on the 2nd point. The 2nd point should be the Low of the bar or trading range. Now click on the 3rd point. The 3rd point is the point where the market is currently trading, or the Closing point of the range. Click the left mouse button once to mark the 3rd point.



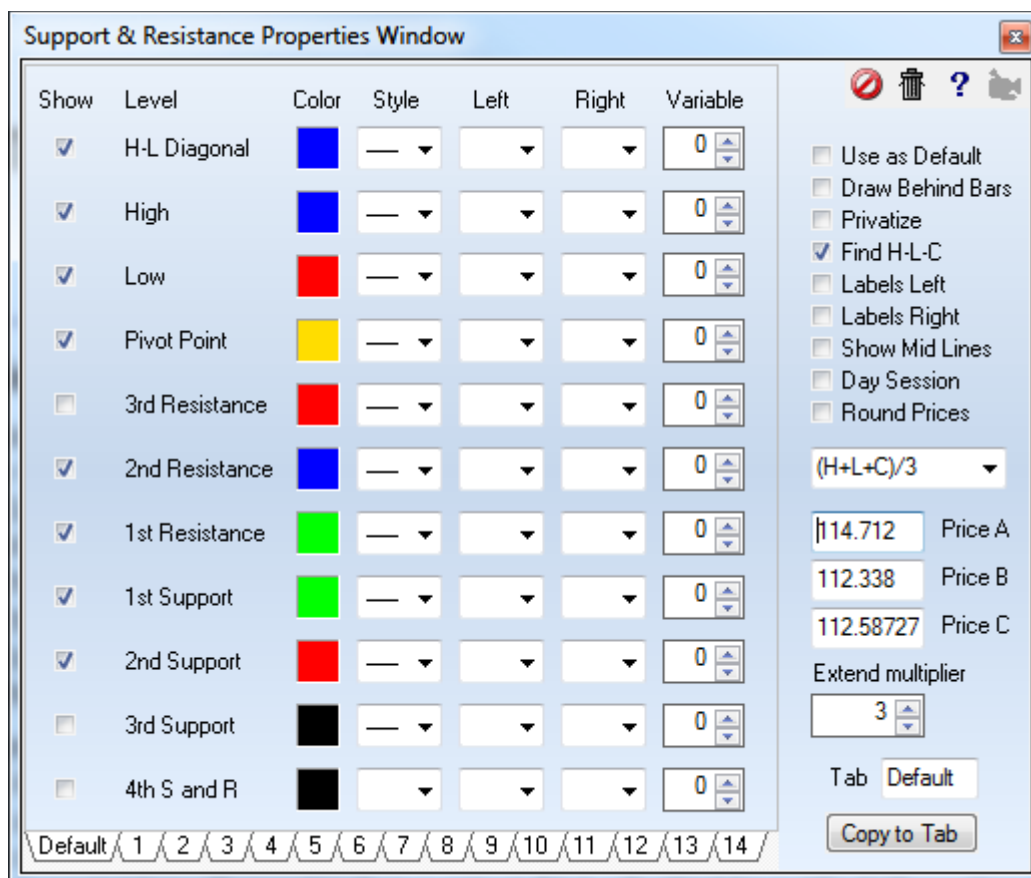
Place a check mark on the tools' property form in the 'Find H-L-C' box to automatically find the Pivot value using the indicated prices in the drop-down list box. The drop-down list box allows you to choose a few variations on which prices to use for the Pivot calculation. Make sure that you place a check mark in the 'Find H-L-C' box if you want to use the prices indicated in the drop-down list box. Example, if you select  $(H+L+C+O)/4$  from the listbox, the tool will auto-find these prices for you.

## Adjusting Support and Resistance Lines

Re-selecting the lines will activate the ability to move the lines. Click the mouse on either of the first two points to activate the lines. Square Bullet marks will highlight the three original points. Place the mouse on any of the square bullet marks and drag the lines to a new location.

## Properties

Click the Chart Objects button, select Support & Resistance, then click the Properties button to open the Properties window for the tool.



- **Find H-L-C** - Place a check mark in the 'Find H-L-C' box to automatically find the Pivot value using the indicated prices in the drop-down list box. The drop-down list box allows you to choose a few variations on which prices to use for the Pivot calculation. Make sure that you place a check mark in the 'Find H-L-C' box if you want to use the prices indicated in the drop-down list box. Example, if you select  $(H+L+C+O)/4$  from the list box, the tool will auto-find these prices for you.
- **Labels Left/Right** - Place a check mark in the 'Labels Left' box to print the labels on the Left of the lines. Place a check mark in the 'Labels Right' box to print the labels on the Right of the lines. Place a check mark in the 'Show Mid Lines' box to plot midpoint lines between the specified lines.
- **Day Session** - Use only the Day Session chart bars for the calculation.
- The **Price** boxes can be used to enter specific prices for the 3 entry points. Increase the 'Extend Multiplier' to make the lines longer. Support and Resistance lines are plotted based on the calculated Pivot point. The lines indicate possible support and resistance levels. Watch for support and resistance on the lines. NOTE: The first 4 Support and Resistance lines can be accessed by the Alerts Trading System draw tool.

## Formula

- $Pivot = (High\ Point + Low\ Point + Close\ Point) / 3$  (example)
- $Range = High\ Point - Low\ Point$
  
- $4R$  [4th Resistance] =  $2R + Range$
- $3R$  [3rd Resistance] =  $1R + Range$
- $2R$  [2nd Resistance] =  $Pivot + Range$
- $1R$  [1st Resistance] =  $Pivot + (Pivot - Low)$
- $H$  [Yesterday's High]
- $P$  [Pivot Price, i.e. Midpoint]
- $L$  [Yesterday's Low]
- $1S$  [1st Support] =  $Pivot - (High - Pivot)$
- $2S$  [2nd Support] =  $Pivot - Range$
- $3S$  [3rd Support] =  $1S - Range$
- $4S$  [4th Support] =  $2S - Range$

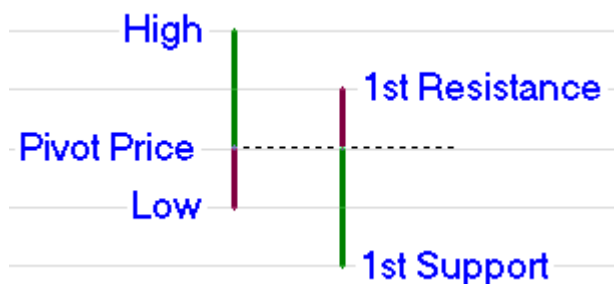
## Pivot Price

The pivot price is always contained within the range of the High and the Low points. When the formula for the Pivot is  $(High + Low + Close) / 3$  then the Pivot will be in the middle third of the High-Low range. The highest pivot price would be when the Close is at the High, wherein the Pivot is at 66.7% of the daily range. The lowest pivot price would be when the Close is at the Low, wherein the Pivot would be at 33.3% of the daily range. The illustration shows the maximum extremes of the pivot price for the oft used formula of  $Pivot = (H + L + C) / 3$ .



## 1st Support and 1st Resistance

The 1st Support and 1st Resistance levels are created by inverting the daily range vertically about the pivot point. I guess that is where the pivot point gets its name. This illustration shows the effect of pivoting the 1st bar which is shown in two colors to illustrate the part that is above the pivot and the part that is below the pivot. The 2nd bar is the 1st bar inverted about the pivot point, and it shows where the 1st Support and the 1st Resistance levels come from.



## 2nd Support and 2nd Resistance

These two levels are calculated by adding the daily range to the pivot price and subtracting the daily range from the pivot price. The daily range is shown graphically as the vertical blue lines above and below the pivot price.



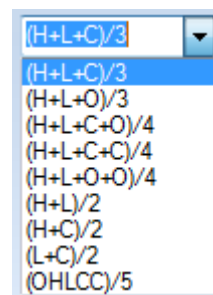
## 3rd Support and 3rd Resistance

These two levels are similar to the 2nd S&R levels. The daily range is added to the 1st Resistance level and subtracted from the 1st Support level. The graphical illustration of this is shown using the orange lines to measure the daily range.



## Other Formulas

There are other variations of the above theme for calculating Support and Resistance levels. The most common variation is to use a different formula for the Pivot Price. Ensign Windows supports the following variations through the use of the drop down listbox to select the Pivot Price formula. The most commonly used formula for the Pivot is the  $(H+L+C)/3$  selection.



Other formula may look different that what has been presented in this article. More often than not, algebraic rearrangement of the formula terms simplify the formulas to those given in this article.