

Dynamic Support and Resistance

Three chart prices are used to calculate Support and Resistance lines. Typically the High, Low, and Close prices of a daily range are used. However, this DY0 example will use 3 different prices which are related to the 1st session open. The 3 prices will be the session open price, and the high and low of the 1st hour.

Formula

Pivot = (High Price + Low Price + Open Price) / 3

Range = High Price – Low Price

4R [4th Resistance] = 2R + Range

3R [3rd Resistance] = 1R + Range

2R [2nd Resistance] = Pivot + Range

1R [1st Resistance] = Pivot + (Pivot - Low)

H [1st Hour High]

P [Pivot Price]

L [1st Hour Low]

1S [1st Support] = Pivot - (High-Pivot)

2S [2nd Support] = Pivot - Range

3S [3rd Support] = 1S – Range

4S [4th Support] = 2S – Range

The screenshot shows the configuration window for the 'Dynamic S & R Lines' study. The settings are as follows:

- Study Name: Dynamic S & R Lines
- Study Location: Chart
- Marker Location: Study Value
- Label Location: Column 2
- Grid Tab: Default
- Study Scale: Chart Scale
- Variables File: Ensign
- Message Location: None
- Message Text: (empty)
- Font: True (black), False (green), Panel (red), (yellow)
- Sound: Silent (selected), Beep, WAV, Copy to Clipboard, Sound once per bar
- WAV file: (empty)
- Trading System: Price (Last), Quantity (0), Commission (0)

The table below shows the variables and expressions used in the study:

Category	Variable	Selection #1 & #3	Op. [#]	Selection #2 & #4	Offset	Show Marker	Color
Chart Value	58 High60	= #2 Minute High after 1st Open		60	0	<input type="checkbox"/>	
		{			0	<input type="checkbox"/>	
A	Chart Value	[High60] := 60 Minute High after 1st Open				<input type="checkbox"/>	
B	Chart Value	[Low60] := 60 Minute Low after 1st Open				<input type="checkbox"/>	
C	Expression	[Open1] := Session 1 Open				<input type="checkbox"/>	
D	Function	[Pivot] := Simple Average([Open1], 3)				<input checked="" type="checkbox"/>	Study Value Pivot
E	Expression	[S1] := (2 * [Pivot]) - [High60]				<input checked="" type="checkbox"/>	Study Value S1
F	Expression	[S2] := [Pivot] - ([High60] - [Low60])				<input checked="" type="checkbox"/>	Study Value S2
G	Expression	[R1] := (2 * [Pivot]) - [Low60]				<input checked="" type="checkbox"/>	Study Value R1
H	Expression	[R2] := [Pivot] + ([High60] - [Low60])				<input checked="" type="checkbox"/>	Study Value R2

A – Save the high of the 1st hour following the 1st session open in a variable named High60. The duration of the period is the #2 selection which is 60 minutes in this example.

B – Save the low of the 1st hour following the 1st session open in a variable named Low60.

C – Save the open of the 1st session in a variable named Open1.

D – Calculate the Pivot by averaging [Open1], [High60], and [Low60]. The 3 variables used are adjacent to each other with Open1 being first on the variable list. This is an important relationship because the function averages adjacent variables with the variable which is 1st in the list being named in the function parameter. The quantity of 3 comes from the Op. [#] field.

E – Calculate 1st Support.

F – Calculate 2nd Support.

G – Calculate 1st Resistance.

H – Calculate 2nd Resistance.

The line labels use Label Location Column 3 so they show in the right side margin.