

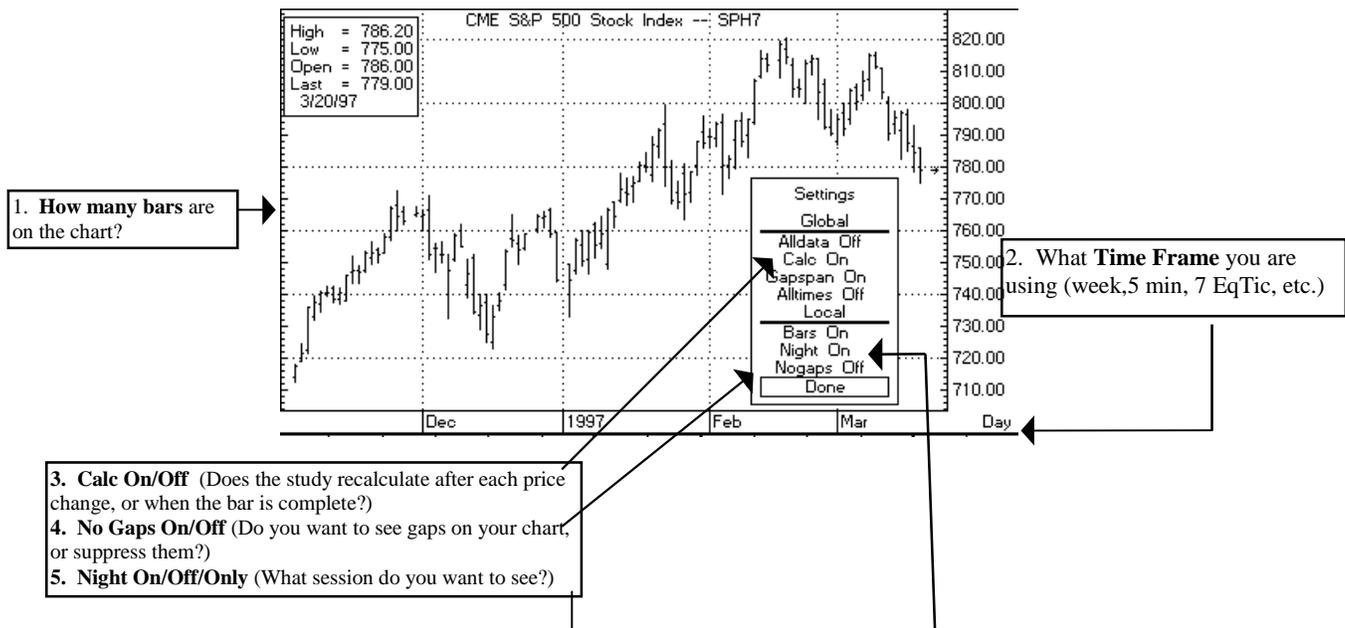
# The Chart Function in Aspen Graphics® for Windows®

## When do I need to use the Chart function in a formula?

There are three instances when you will need to use the Chart function when writing your formula:

- 1) You want to display the values from a study in a quote page.
- 2) To set alarms on formulas or studies - Since you can set specific parameters like time frame, the Chart function allows you to reference historical data, and therefore set alarms on formulas and studies that reference past bars.
- 3) To mix time bases in a chart - The Chart function makes it much easier to display two studies with different time bases, such as a 60 minute RSI and a daily RSI, together in one chart.

## When you display a study in a chart, some parameters for the study are implied in the chart:



A quote page or an alarm has no way of knowing these things unless you use the Chart function to define these parameters!

## How do you use the Chart function?

The Chart function is a *shell* which surrounds a function or formula.

1. Write the function or formula as you normally would. (A list of Aspen's preprogrammed functions is on p. 8-6 of the Aspen Graphics Users Guide)
2. Put the Chart function "around it" for your specific parameters.

The Chart function (p. 8-11 of the Aspen Graphics User's Guide) looks like this:

**chart(function/formula [-1] , barwidth , bartype , numbers , nogaps , night )**

↓	↓	↓	↓	↓	↓	↓
Write your function or formula, including all parameters.	<u>Calc On</u>	<u>How many tics, bars or days</u> you want in each bar.	<u>Type of bar</u>	<u>How many bars to be used in the chart;</u>	<u>Nogaps</u>	<u>Night</u>
	If you <i>don't</i> want the chart to recalculate <i>after each trade</i> omit this, and the chart() func. will recalculate when bar is completed.	tics = 1 mins = 1-1439 days = 1-7, 30, 90, 365	tick = 0 min = 1 day = 2	100 is optimal	off = 0 on = 1	All sessions=1 Nights only=2 Days only=3 Use NIGHT=ON/OFF from SETUP.TXT=0

## EXAMPLES: Using the Chart( ) Function

### *To display a study value on a quote page:*

Suppose you wanted to pipe the values of an ADX study into a quote page.

If this were a chart, you'd want to specify the following parameters:

- \* you want 14 periods in the ADX study
- \* you want CalcOn
- \* you want the closing price on a daily bar
- \* you want Nogaps On
- \* you want the Night session off

In the Formula Listing, enter this formula (you can choose another name):

**ADX\_DAY(series)=chart(adx(\$1,14)[-1],1,2,100,1,3)**

Now go to your quote page or window and format the appropriate cell like this:

**ADX\_DAY(\$1)**

When you enter a symbol in your quote page or window, you'll now see the daily ADX value for that symbol.

### Displaying a Formula in a Quote Window

You can quote the value of a formula by formatting the name of the formula in a quote window. For instructions on how to format a quote window, see the Quote chapter of the Aspen Graphics User's Guide. Some examples of formatting a formula in a quote window are shown below.

<i>If the formula looks like this in the Formula Listing...</i>	<i>...it should be formatted like this in a Quote window...</i>	<i>...because...</i>
weekhigh=chart(ibm.high,7,2,100,1,1)	weekhigh	All of the information needed is provided in the formula, there are no variables.
ticTheta=(\$1.Theta)*\$1.qty	ticTheta(\$1)	The \$1 is a variable, holding the place for an instrument that will be specified later.
SPREAD=\$1-\$2	SPREAD(\$1,\$2)	There are two variables in the formula, so we leave room for the two variables we'll be specifying later.

In addition, some formulas require the chart function chart( ) around them when being formatted in a quote window. These are formulas that specify a time frame (like the weekhigh formula above) or formulas that calculate over a number of periods (like rsi, stochastics and the 21-day high formula below).

21DayHi=rmax(\$1.high,21)	chart(21DayHi(\$1)[-1],1,2,100,1,1)	The formula will work fine in a chart as written because it uses the chart's frame-of-reference (time frame, chart settings, etc.). In a quote page, a frame-of-reference needs to be supplied. This is done with the chart( ) function.
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### ***To set an alarm on a study:***

Suppose you want to be alerted when the momentum on SPH6 is greater than 0.5 or less than -.5, using the parameters below:

- \* you want 10 periods in the momentum study
- \* you want CalcOn
- \* you want the closing price of a 60 minute bar
- \* you want Nogaps off
- \* you want All trading sessions displayed

You could enter a formula in the Formula Listing like this:

**MOMNTM(series)=chart(if(mom(\$1,10)>0.5 or mom(\$1,10)<-0.5,1,0)[-1],60,1,100,0,1)**

Set the Alarm on this formula by bringing up a **Main Menu**, selecting **Alarms**, then selecting **Add Alarm** and entering the following **Trigger Condition**:

**MOMNTM(SPH6)==1**

### ***To mix time bases in a chart:***

If you want to **view a study in two different time frames** (to "screen out" minor trend reversals), you can write a study using the chart( ) function and overlay it on the study in your chart.

To view **both** an hourly and a daily RSI on an hourly bar chart:

1. Bring up an hourly bar chart, split the window and put an RSI study in the lower window.
2. Enter the following formula in the Formula Listing:

**DAILY\_RSI(series)=chart(rsi(\$1,14)[-1],1,2,100,1,1)**

3. Bring up a **Study Menu**, go to **Formulas...**, select [ ] **Add a Study**, and then choose **DAILY\_RSI**.